Clean Earth of Alabama, Inc. Glencoe, Alabama EPA I.D. Number ALD 981 020 894

FACT SHEET

A draft renewal of the Alabama Hazardous Waste Management and Minimization Act (AHWMMA) permit has been prepared for the Clean Earth of Alabama, Inc. facility. This hazardous waste facility is located in Glencoe, 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 Clean Earth of Alabama, Inc.'s ability to comply with the hazardous waste management requirements of the AHWMMA, as amended. Clean Earth of Alabama, Inc. 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 last permit renewal.

II. PROCEDURES FOR REACHING A FINAL DECISION

The Alabama Department of Environmental Management (ADEM or Department) is proposing to issue Clean Earth of Alabama, Inc. a permit renewal for treatment and storage of hazardous waste.

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 June 20, 2025, which is the date of publication of the public notice in major local newspaper(s) of general circulation, and will end on August 4, 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

Clean Earth of Alabama, Inc. is a facility that handles the storage and management of both hazardous and non-hazardous industrial waste by utilizing processes that involve liquids fuel blending, liquids, sludges and solids consolidation, lab pack management, crushing of paint cans and separate

collection of liquids and solids, shredding, and waste trans-shipment for any materials not suitable for the processes mentioned above. Clean Earth of Alabama, Inc. provides services to various industries, such as ink, adhesive, automotive and automotive parts manufacturers, paint and coating manufacturers and operations, petroleum refiners or re-refiners, metal machining, printing, and solvent cleaning operations, high-tech industries (e.g. microchip producers, electronic equipment and accessory manufacturers), household hazardous wastes, retail operations (e.g. consumer and commercial goods and materials), universities, colleges, and research institutions, healthcare operations (e.g. pharmaceuticals), and other hazardous and non-hazardous waste facilities. The proposed permit will contain provisions for hazardous waste storage and treatment in containers and tanks.

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 an RCRA Facility Assessment (RFA) of all SWMUs to be conducted at the facility. The RFA for Clean Earth of Alabama, Inc. 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





HAZARDOUS WASTE FACILITY PERMIT

PERMITTEE: Clean Earth of Alabama, Inc.

ADDRESS: 402 Webster Chapel Road

Glencoe, Alabama 35905

EPA ID/PERMIT NUMBER: ALD 981 020 894

UNITS PERMITTED: Storage in containers (Four Units)

Treatment in containers (Two Units)

Storage and Treatment in tanks (Six Units)

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 HAZARDOUS WASTE PERMIT

Permittee:Permit Number:ALD 981 020 894OWNER:Identification Number:ALD 981 020 894

Clean Earth of Alabama, Inc.

402 Webster Chapel Road Glencoe, Alabama 35905 Etowah County

OPERATOR:

Clean Earth of Alabama, Inc.

402 Webster Chapel Road Glencoe, Alabama 35905 Etowah County

Pursuant to the Alabama Hazardous Wastes Management and Minimization Act (AHWMMA), <u>Code of Alabama</u>. 1975, Section 22-30-1, <u>et. seq.</u>, as amended, and attendant regulations promulgated thereunder by the Alabama Department of Environmental Management (ADEM or the Department), a permit is issued to Clean Earth of Alabama, Inc. for the facility located in Glencoe, Alabama, at latitude N 33° 55' 13.63' and longitude W 85° 54' 15.08'.

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 Rule"). 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 March 25, 2024 as modified by subsequent amendments dated September 17, 2024, January 30, 2025, April 4, 2025, and May 23, 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 Rules 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 <<DATE>> and shall remain in effect until <<DATE>> unless revoked and reissued, or terminated under ADEM Admin. Code Rules 335-14-8-.04(2) and 335-14-8-.04(4) or continued in accordance with ADEM Admin. Code Rule 335-14-8-.05(2).

Alabama Department of Environmental Management	Date Sign	ned

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Documents Incorporated By Reference:

Part A and Part B Permit Application submitted on March 25, 2024, as modified by subsequent amendments dated September 17, 2024, January 30, 2025, April 4, 2025, and May 23, 2025.

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. Operating Units

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).

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:

- 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 Section C-2 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 Table C-2-1 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:

- 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 V 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

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.

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

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 <u>Code of Alabama 1975</u>, §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.

- "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.
- "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.
- "Mixed waste", for the purposes of this permit, means a solid waste that is a mixture of hazardous waste (as defined in ADEM Admin. Code Rule 335-14-2-.01(3)) and radioactive waste (as defined in 10 CFR 61.2). The radioactive component of mixed waste is subject to regulation by the Atomic Energy Act (AEA)/Nuclear Regulatory Commission (NRC). The non-radioactive chemically hazardous component of mixed waste is subject to regulation by the AHWMMA and ADEM Admin. Code Division 335-14.
- "Miscellaneous unit", for the purposes of this permit, means a hazardous waste management unit where hazardous waste is treated, stored, or disposed of and that is not a container, tank, surface impoundment, pile, land treatment unit, landfill, incinerator, boiler, industrial furnace, underground injection well with appropriate technical standards under 40 CFR Part 146, containment building, corrective action management unit, unit eligible for a research, development and demonstration permit under ADEM Admin. Code Rule 335-14-8-.06(4); or staging pile.
- "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.

"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).

"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.

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.

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

PART II

GENERAL FACILITY CONDITIONS

II.A. GENERAL WASTE ANALYSIS

- 1. The Permittee shall comply with all requirements set forth under ADEM Admin. Code Rule 335-14-5-.02(4) and shall follow the procedures in the WAP described in Section C of the permit application.
- 2. The Permittee shall utilize the methods specified in Section C of the permit application for the analysis of any of the wastes listed in Part A of the permit application.

 Modification of the WAP shall require a modification of this permit pursuant to ADEM Admin. Code Rule 335-14-8-.04(2).
- 3. The Permittee shall subject samples from incoming waste shipments to the fingerprint parameters identified in Section C of the permit application.
- 4. The Permittee shall classify waste as non-conforming when the receiving analysis does not match the information contained in the accompanying manifest, profile, and/or equivalent information described in Section C of the permit application.
- 5. Before storing, treating, or disposing of a hazardous waste stream, the Permittee shall obtain a detailed chemical and physical analysis of a representative sample of the waste, as described in Section C of the permit application.

II.B. SECURITY

- 1. The Permittee shall comply with the security provisions set forth under ADEM Admin. Code Rule 335-14-5-.02(5) and as described in Section F-1 of the permit application.
- 2. In order to comply with ADEM Admin. Code Rule 335-14-5-.02(5), the hazardous waste storage areas of the facility shall remain fenced with at least a six-foot high chain link fence. The fence shall be kept in good condition. All entrances to the permitted hazardous waste management areas shall be closed and locked when security and/or operations personnel are not present.
- 3. The Permittee shall maintain signs along the perimeter fence of the permitted hazardous waste management areas. The signs shall read "Danger Unauthorized Personnel Keep Out". At least one sign must be legible from a distance of at least 25 feet from any approach to each area (ADEM Admin. Code Rule 335-14-5-.02(5)(c)).

II.C. GENERAL INSPECTION REQUIREMENTS

- 1. The Permittee shall comply with all requirements of ADEM Admin. Code Rules 335-14-5-.02(6) and 335-14-5-.09(5),
- 2. The Permittee shall follow the inspection procedures and schedules, as described in Section F-2 of the permit application.
- 3. The Permittee shall remedy any deterioration or malfunction (of equipment or structure(s)) discovered during any inspection as required by ADEM Admin. Code Rule 335-14-5-.02(6).

4. Records of inspections shall be maintained at the facility as required by ADEM Admin. Code Rule 335-14-5-.02(6).

II.D. PERSONNEL TRAINING

The Permittee shall conduct personnel training as required by ADEM Admin. Code Rule 335-14-5-.02(7). This training program shall follow the procedures and outline, described in Section H of the permit application. The Permittee shall maintain training documents and records at the facility as required by ADEM Admin. Code Rules 335-14-5-.02(7)(d) and 335-14-5-.02(7)(e).

II.E. GENERAL REQUIREMENTS FOR IGNITABLE, REACTIVE, OR INCOMPATIBLE WASTE

- 1. The Permittee shall comply with all requirements for ignitable, reactive, or incompatible wastes set forth under ADEM Admin. Code Rule 335-14-5-.02(8).
- 2. "No Smoking" signs must be conspicuously placed wherever there is a potential hazard from ignitable waste.

II.F. LOCATION STANDARDS AND UNIT MAINTENANCE

- 1. The Permittee shall comply with all location standards set forth under ADEM Admin. Code Rule 335-14-5-.02(9).
- 2. If changes are made to the design or operation of a hazardous waste management or treatment unit, these changes must receive approval by the Department before they are implemented, and may require permit modification pursuant to ADEM Admin. Code Rule 335-14-8-.04(2).

II.G. PREPAREDNESS AND PREVENTION

1. Required Equipment

The Permittee shall comply with ADEM Admin. Code Rule 335-14-5-.03(3) and, at a minimum, shall equip the facility with the equipment set forth in the Contingency Plan, Section G of the permit application.

2. Testing and Maintenance of Equipment

The Permittee shall test and maintain the equipment specified in the Contingency Plan, Section G of the permit application, as necessary to assure its proper operation in time of emergency as required by ADEM Admin. Code Rule 335-14-5-.03(4).

3. Access to Communication or Alarm System

The Permittee shall maintain access to the communications or alarm system as required by ADEM Admin. Code Rule 335-14-5-.03(5).

4. Arrangements with Local Authorities

The Permittee shall maintain arrangements with state and local authorities as required by ADEM Admin. Code Rule 335-14-5-.03(8). The Permittee shall develop and maintain a

Preparedness and Prevention Plan providing information on the type, approximate quantities and locations of hazardous wastes within the facility. The Plan shall be provided to state and local authorities in both hard copy format and in appropriate electronic format that is most useful to emergency responders. Updated copies of the Plan shall be provided to reflect significant changes in operations (*e.g.*, significant changes in waste streams and/or volumes, facility design changes, etc.). If state or local officials refuse to enter into preparedness and prevention arrangements with the Permittee, the Permittee must document this refusal in the operating record.

5. Required Aisle Space

The Permittee shall maintain aisle space to allow the unobstructed movement of personnel, fire protection equipment, spill control equipment, and decontamination equipment to any area of facility operation in an emergency (ADEM Admin. Code Rule 335-14-5-.03(6)).

II.H. CONTINGENCY PLAN

1. Implementation of Plan

The Permittee shall immediately carry out the provisions of the Contingency Plan, Section G of the permit application) and follow the emergency procedures as required by ADEM Admin. Code Rule 335-14-5-.04(2) whenever there is a fire, explosion, or release of hazardous waste or hazardous constituents which threatens or could threaten human health or the environment.

2. Copies of Plan

A copy of the Contingency Plan and all current revisions to the plan must be maintained at the facility and submitted to all local police departments, fire departments, hospitals, and state and local emergency response teams that may be called upon to provide emergency services, as described in Section G of the permit application, and as required by ADEM Admin. Code Rule 335-14-5-.04(4).

3. Amendments to Plan

The Permittee shall review and immediately amend, if necessary, the Contingency Plan, as required by ADEM Admin. Code Rule 335-14-5-.04(5).

4. Emergency Coordination

The Permittee shall comply with the requirements of ADEM Admin. Code Rule 335-14-5-.04(6) concerning the emergency coordinator as specified in the Contingency Plan, Section G of the permit application.

II.I. RECORDKEEPING AND REPORTING

1. Operating Record

The Permittee shall maintain a written operating record at the facility in accordance with ADEM Admin. Code Rule 335-14-5-.05(4).

2. Availability, Retention, and Disposition of Records

The Permittee shall comply with the Availability, Retention, and Disposition of Records at the facility in accordance with ADEM Admin. Code Rule 335-14-5-.05(5).

3. Biennial Report

The Permittee shall comply with the biennial report requirements of ADEM Admin. Code Rule 335-14-5-.05(6).

II.J. CLOSURE

1. Performance Standard

The Permittee shall close the permitted hazardous waste management areas, as required by ADEM Admin. Code Rules 335-14-5-.07(2), 335-14-5-.09(9), 335-14-5-.10(8), and in accordance with the Closure Plan, Section I of the permit application.

2. Amendment to Closure Plan

The Permittee shall amend the Closure Plan as required by ADEM Admin. Code Rule 335-14-5-.07(3)(c).

3. Notification of Closure

As required by ADEM Admin. Code Rule 335-14-5-.07(3)(d), the Permittee shall notify the Department at least 60 calendar days prior to the date closure activities are initiated at either unit.

4. Time Allowed for Closure

The Permittee shall comply with the requirements of ADEM Admin. Code Rule 335-14-5-.07(4). After receiving or treating the final volume of hazardous waste, the Permittee shall complete closure activities in accordance with the schedule specified in the Closure Plan, Section I of the permit application.

5. Disposal or Decontamination of Equipment, Structures, and Soils

The Permittee shall decontaminate or properly dispose of all facility equipment, structures, and soils as required by ADEM Admin. Code Rule 335-14-5-.07(5), unless otherwise specified in ADEM Admin. Code Rules 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-.19(1) through (3), 335-14-5-.23(6), 335-14-5-.24, or 335-14-5-.30(3) and as specified in the Closure Plan, Section I of the permit application.

6. Certification of Closure

The Permittee shall certify that each individual unit has been closed in accordance with the specifications presented in the Closure Plan, Section I of the permit application, and as required by ADEM Admin. Code Rule 335-14-5-.07(6). The Permittee shall maintain copies of this closure certification in the facility operating record as required by ADEM Admin. Code Rule 335-14-5-.05(4).

II.K. POST-CLOSURE

If at closure not all waste and contaminated equipment, structures, and soils at a unit can be removed or decontaminated, the Permittee shall close the unit as a landfill and perform post-closure care as specified in ADEM Admin. Code Rules 335-14-5-.09(9)(b), 335-14-5-.10(8)(b), 335-14-5-.11(9)(b), 335-14-5-.12(9)(b), 335-14-5-.13(11), 335-14-5-.14(11), 335-14-5-.19(1) through (3), 335-14-5-.23(6)(b), 335-14-5-.24(4), or 335-14-5-.30(3)(b).

1. Post-Closure Care Period

The Permittee shall begin post-closure care at all units, where closure by removal is not achieved, after completion of unit closure and shall continue for the duration of the post-closure period. The post-closure care shall continue for a period of 30 years after the closure of each hazardous waste management unit, unless shortened or extended pursuant to ADEM Admin. Code Rule 335-14-5-.07(8). Each post-closure care period is initiated upon certification by an Alabama-registered Professional Engineer and upon acceptance by the Department pursuant to ADEM Admin. Code Rule 335-14-5-.07(6), that closure has been completed and waste has been left in place.

2. Post-Closure Security

The Permittee shall maintain security at the facility during post-closure care period in accordance with the post-closure plan included in the permit application.

3. Amendment to Post-Closure Plan

The Permittee shall amend the Post-Closure Plan in accordance with ADEM Admin. Code Rule 335-14-5-.07(9), whenever necessary.

- 4. The Permittee shall maintain continuous compliance with the following:
 - a. Post closure care of property. (ADEM Admin. Code Rule 335-14-5-.07(8))
 - b. Notice to local land authority and in deed to property. (ADEM Admin. Code Rule 335-14-5-.07(10))

II.L. LAND DISPOSAL RESTRICTIONS

1. General Restrictions

ADEM Admin. Code Chapter 335-14-9 identifies hazardous wastes that are restricted from land disposal and defines those limited circumstances in which an otherwise prohibited waste may continue to be placed on or in a land treatment, storage or disposal unit. The Permittee shall maintain compliance with the requirements of ADEM Admin. Code Chapter 335-14-9. Where the Permittee has applied for an extension, waiver, or variance under ADEM Admin. Code Chapter 335-14-9 the Permittee shall comply with all restrictions on land disposal under this Part once the effective date for the waste has been reached pending final approval of such a land disposal permit application.

2. Land Disposal Prohibitions and Treatment Standards

- a. A restricted waste identified in ADEM Admin. Code Rule 335-14-9-.03 may not be placed in a land disposal unit without further treatment unless the requirements of ADEM Admin. Code Rules 335-14-9-.03 and/or .04 are met.
- b. The storage of hazardous wastes restricted from land disposal under ADEM Admin. Code Chapter 335-14-9 is prohibited unless the requirements of ADEM Admin. Code Rule 335-14-9-.05 and Section C of the permit application are met.

II.M. ORGANIC AIR EMISSION REQUIREMENTS

1. General Introduction

a. Process Vents and Equipment

Phase I Organic Air Emission Standards consist of ADEM Admin. Code Rules 335-14-5-.27 and 335-14-5-.28 for hazardous waste treatment, storage, and disposal (TSD) facilities. ADEM Admin. Code Rule 335-14-5-.27 contains emission standards for process vents associated with distillation, fractionation, thin-film evaporation, solvent extraction, and air or steam stripping operations that process hazardous waste with an annual average total organic concentration of at least ten (10) parts per million by weight (ppmw). ADEM Admin. Code Rule 335-14-5-.28 contains emission standards that address leaks from specific equipment (i.e., pumps, valves, compressors, etc.) containing or contacting hazardous waste with a total organic concentration of at least ten-percent by weight.

b. Tanks, Containers, Surface Impoundments and Miscellaneous Units

The Phase II Organic Emission Standards consist of ADEM Admin. Code Rule 335-14-5-.29 for hazardous waste treatment, storage, and disposal facilities, including certain hazardous waste generator standards for accumulating waste on-site in RCRA permit—exempt (90-day) tanks and containers. In general, under these standards air emission controls must be used for tanks, surface impoundments, containers, and miscellaneous units that contact hazardous waste containing an average organic concentration greater than 500 ppmw at the point of origination determined by the procedures outlined in ADEM Admin. Code Rule 335-14-5-.29.

2. Notification of New Units

a. Process Vents and Equipment

Prior to constructing any equipment with process vents subject to the requirements of ADEM Admin. Code Rule 335-14-5-.27, or installing any additional equipment subject to the requirements of ADEM Admin. Code Rule 335-14-5-.28, or prior to modifying the current process such that existing equipment previously not subject to the requirement of ADEM Admin. Code Rule 335-14-5-.28 the Permittee shall supply the specific Part B information required pursuant to ADEM Admin. Code Rules 335-14-8-.02(15) and 335-14-8-.02(16) as applicable, and shall obtain a permit modification in accordance with

the requirements of ADEM Admin. Code Rule 334-14-8-.04(3) and Condition I.J of this permit.

b. Tanks, Containers, Surface Impoundments, Miscellaneous Units

Prior to installing any tank, container, surface impoundment or miscellaneous unit subject to ADEM Admin. Code Rule 335-14-5-.29, or modifying an existing process waste handling or tank or container such that the unit(s) will become subject to ADEM Admin. Code Rule 335-14-5-.29, the Permittee shall obtain a permit modification under ADEM Admin. Code Rule 335-14-8-.04(3), and provide specific Part B application information required under ADEM Admin. Code Rules 335-14-8-.02(5) –thru (8) and 335-14-8-.02(18), as applicable, with the modification request.

II.N. WASTE REJECTION NOTIFICATION

The Permittee shall notify the Department in writing of all hazardous wastes that are rejected after arrival at the facility. If the discrepancy is not resolved within fifteen (15) calendar days after receiving the waste the Permittee must submit a letter to the Department describing the discrepancy and attempts to resolve it along with a copy of the manifest and the applicable waste profile. If the discrepancy is not resolved within twenty-five (25) calendar days after receiving the waste, the Permittee must ship the rejected waste immediately to an alternate facility or back to the original generator and submit a *Waste Rejection Report* to the Department. The Waste Rejection Report shall include the following information:

- 1. The EPA Identification Numbers, name and addresses of the facility, the names of generator and transporter;
- 2. The reason and the date the facility rejected the waste;
- 3. A description and the quantity of each hazardous waste rejected by the facility with copies of the manifest(s) or shipping papers; and,
- 4. The certification (as required by ADEM Admin. Code Rule 335-14-8-.02(2)(d)) signed by the owner or operator of the facility or his or her authorized representative.

II.O. MANIFEST SYSTEM

The Permittee shall comply with the requirements of ADEM Admin. Code Rules 335-14-5-.05(2), 335-14-5-.05(3), and 335-14-5-.05(7).

- 1. Use of the Manifest System
 - a. [RESERVED]
 - b. If the Permittee receives hazardous waste accompanied by a manifest, the Permittee must:
 - i. Sign and date each copy of the manifest acknowledging receipt of the waste:

- ii. Note any significant discrepancies in the manifest as described in ADEM Admin. Code Rule 335-14-5-.05(3)(a);
- iii. Immediately give the transporter at least one copy of the signed manifest;
- iv. Within 30 days after delivery, send a copy of the manifest to the generator;
- v. Paper manifest submission requirements are provided in ADEM Admin. Code Rule 335-14-5-.05(2)(a)2(v); and
- vi. Retain a copy of each manifest for at least three years from the date of delivery.
- c. When the decision is made to accept the waste shipment for storage, treatment, and/or disposal at the facility (after the waste shipment has been inspected, sampled, and analyzed), the Permittee shall place the proper handling code on the manifest, as described in Section C of the permit application.
- d. The Permittee may stage a waste shipment for up to 72 hours after the shipment has been received (in accordance with Condition II.O.1.b.i. of this permit) before placing the waste into a permitted treatment, storage, or disposal area, as described in Section C of the permit application.

2. Manifest Discrepancies

- a. Upon discovering a significant discrepancy (as defined by ADEM Admin. Code Rule 335-14-5-.05(3)(a)), the Permittee must attempt to reconcile the discrepancy with the generator or transporter.
- b. If the discrepancy is not resolved within 15 calendar days after receiving the waste, the Permittee must immediately submit to the Department a letter describing the discrepancy and attempts to reconcile it, a copy of the manifest or shipping paper at issue, and a description of what resolution(s) occurred. If a discrepancy is not resolved within 15 calendar days, the waste must be rejected back to the generator in accordance with ADEM Admin. Code Rule 335-14-5-.05(3) within 10 calendar days.

3. Unmanifested Waste Report

a. If the Permittee accepts for treatment, storage, or disposal any hazardous waste from an off-site source without an accompanying manifest, or without an accompanying shipping paper as described in ADEM Admin. Code Rule 335-14-4-.02(1)(e)2., and if the waste is not excluded from the manifest requirement, then the Permittee must prepare and submit a single copy of the report to the Department within 15 days after receiving the waste. [Note: Hazardous waste which arrives at the facility with other manifested hazardous waste and which is accepted for treatment, storage or disposal at the facility, but which is not included on a manifest, shall be reported as unmanifested waste pursuant to this

Condition. Hazardous wastes which are not accepted for treatment, storage, or disposal at the facility are subject to the waste rejection reporting requirements contained in Condition II.N. of this permit.] (ADEM Admin. Code Rule 335-14-5-.05(7)).

- b. The unmanifested waste report must be submitted to the Department. Such report must be designated "Unmanifested Waste Report" and include the following information:
 - i. The EPA Identification Number, name and address of the facility;
 - ii. The date the facility received the waste;
 - iii. The EPA Identification Number, name and address of the generator and the transporter, if available;
 - iv. A description and the quantity of each unmanifested hazardous waste the facility received;
 - v. The method of storage for each hazardous waste;
 - vi. The certification signed by the owner or operator of the facility or his or her authorized representative; and
 - vii. A brief explanation of why the waste was unmanifested, if known.

4. Waste Acceptance

The Permittee shall not accept (*i.e.*, assign handling codes) any shipment of waste until the waste analysis has confirmed that the waste matches the waste profile, that the facility is authorized to manage the waste, and all manifest discrepancies are resolved pursuant to ADEM Admin. Code Rule 335-14-5-.05(3).

II.P. LOADING OF OUTGOING WASTES VIA RAILCAR (RESERVED)

II.Q. CONSTRUCTION COMPLIANCE SCHEDULE FOR PROPOSED UNITS

All proposed units, whether simultaneously constructed or not, are subject to the following conditions:

- 1. Actual, physical onsite construction of all proposed units must be initiated within two (2) years of the date of the issuance of this permit;
- 2. Detailed construction drawings of all proposed units must be submitted for the Department's review at least 60 calendar days before the initiation of construction;
- 3. The Permittee must meet all "Certification of Construction" requirements of Permit Condition I.C.13.;
- 4. The Permittee must meet all cost estimates and financial assurance requirements of Permit Conditions I.H. and I.I.

PART III

MANAGEMENT IN CONTAINERS

III.A. PERMITTED OPERATIONS

The Permittee may operate the units and processes described in Table III.1. and Table III.2. of this permit, subject to the terms of this permit. Operation of any process or unit not listed in Table III.1. and Table III.2. of this permit, operation of any process in a unit or area other than that for which the process is listed, or exceedance of any capacity listed therein, for the treatment, storage, or disposal of hazardous waste is prohibited.

III.B. WASTE IDENTIFICATION

- 1. The Permittee may store and treat the hazardous wastes, listed in Part A of the permit application, in containers at the facility, subject to the terms of this permit. The storage of any hazardous waste not listed in Part A of the permit application is prohibited.
- 2. The Permittee shall not store mixed waste in containers at the facility.

III.C. STORAGE IN CONTAINERS

- 1. The Permittee shall maintain and operate the container storage area in accordance with the procedures specified in Section D-1 of the permit application.
- 2. The container storage capacity is distributed throughout the container storage area as shown in Table III.1 of this permit, and as described in Section D-1 of the permit application. The maximum quantity of hazardous waste stored in each unit or containment area shall not exceed the capacity listed in Table III.1. of this permit.
- 3. The maximum combined quantity of hazardous and non-hazardous waste stored in a given area shall not exceed ten times the capacity of the containment system for that area. Individual containers should not be stored in an area with a volume that exceeds the capacity of the containment system for that area.
- 4. The sampling and staging of drums shall not exceed 72 hours. All containers that are to be fingerprinted or are awaiting analysis shall be segregated from other containers in the container storage area. Each container shall be marked with the date of receipt.

III.D. TREATMENT IN CONTAINERS

The Permittee shall treat hazardous wastes in containers only in the container processing areas listed in Table III.2 of this permit and as described in Section D-1 of the permit application.

III.E. CONDITION OF CONTAINERS

If a container holding hazardous waste is not in good condition (*e.g.*, severe rusting, apparent structural defects) or if it begins to leak, upon discovery the Permittee shall immediately transfer the hazardous waste from such container to a container that is in good condition or otherwise manage the waste in compliance with the conditions of ADEM Admin. Code Rule 335-14-5-.09(2).

III.F. COMPATIBILITY OF WASTE WITH CONTAINERS

The Permittee shall assure that the ability of the container to contain the waste is not impaired, as required by ADEM Admin. Code Rule 335-14-5-.09(3).

III.G. MANAGEMENT OF CONTAINERS

- 1. The Permittee shall manage containers as required by ADEM Admin. Code Rule 335-14-5-.09(4) and Section D-1 of the permit application.
- 2. A container holding hazardous waste must always be closed during storage, except when it is necessary to add, remove, sample, or inspect the waste.
- 3. A container holding hazardous waste must not be opened, handled, or stored in a manner that may rupture the container or cause it to leak.
- 4. Adequate aisle space will be maintained at all times, as shown in Section D-1 of the storage permit application, and as necessary to provide adequate access for emergency equipment and inspection.
- 5. Containers having a capacity greater than or equal to 30 gallons shall not be stacked over two containers high at any time.
- 6. An appropriate hazardous waste label will be affixed to each container, as specified in Section D-1 of the permit application. The label will include, at a minimum, the date the container was received (or other information that provides a clear indication of the beginning date of the staging period for the container) and all appropriate EPA hazardous waste numbers associated with the hazardous waste in the container as specified in ADEM Admin. Code Rules 335-14-2-.03 and 335-14-2-.04 (or other information that provides a clear indication of the type(s) of hazardous waste in the container and the hazard(s) associated with that waste).

III.H. CONTAINMENT

- 1. The Permittee shall maintain the containment systems of the container storage and treatment areas in accordance with the requirements of ADEM Admin. Code Rule 335-14-5-.09(6)(b) and as specified in Section D-1 of the permit application.
- 2. The Permittee shall maintain an impervious base that is free of cracks, gaps, or other deterioration on all containment system surfaces that may be exposed to hazardous wastes or hazardous constituents (or releases of hazardous wastes or hazardous constituents), except as otherwise provided by ADEM Admin. Code Rule 335-14-5-.09(6)(c).

III.I. INSPECTIONS

The Permittee shall conduct weekly inspection of areas where containers are stored or handled to detect leaking containers and deterioration of containers or containment systems, to ensure proper labeling, and to ensure stacking is no more than two high as specified in Permit Condition III.G.5. and as required by ADEM Admin. Code Rule 335-14-5-.09(5). The Permittee shall note the number and capacity of hazardous waste containers present.

III.J. SPECIAL REOUIREMENTS FOR IGNITABLE OR REACTIVE WASTES

- 1. The Permittee shall not locate containers holding ignitable or reactive waste within 15 meters (50 feet) of the facility's property line as required by ADEM Admin. Code Rule 335-14-5-.09(7).
- 2. The Permittee shall take precautions to prevent accidental ignition or reaction of ignitable or reactive waste and follow the procedures specified in Section F of the permit renewal application and as required by ADEM Admin. Code Rule 335-14-5-.02(8).

III.K. SPECIAL REQUIREMENTS FOR INCOMPATIBLE WASTE

The Permittee shall separate containers of incompatible wastes as specified in Section F-5d of the permit application.

- 1. Incompatible wastes, or incompatible wastes and materials, must not be placed in the same container unless the Permittee is in compliance with ADEM Admin. Code Rule 335-14-5-.02(8)(b).
- 2. The Permittee shall not place hazardous waste in an unwashed container that previously held an incompatible waste or material.
- 3. The Permittee must document compliance with Conditions III.K.1. and III.K.2. of this permit as required by ADEM Admin. Code Rule 335-14-5-.05(4) and place this documentation in the operating record.
- 4. The Permittee shall separate containers of incompatible wastes as required by ADEM Admin. Code Rule 335-14-5-.09(8)(c).

III.L. CLOSURE

- 1. Following the receipt of the final volume of hazardous wastes, the Permittee shall close the container storage and treatment areas in accordance with the requirements of the Closure Plan, Section I of the permit application and of ADEM Admin Code Rules 335-14-5-.07(2) and 335-14-5-.09(9).
- 2. If at closure not all waste and contaminated structures and soils at a unit can be removed or decontaminated, the Permittee shall close the container storage or treatment unit as a landfill and perform post-closure care as specified in ADEM Admin. Code Rules 335-14-5-.09(9)(b) and 335-14-5-.14(11).

TABLE III.1
STORAGE IN CONTAINERS

UNIT NAME	PERMITTED STORAGE CAPACITY (gallons)	CONTAINMENT CAPACITY (gallons)	DESCRIPTION OF UNIT (Section¹)	LOCATION OF UNIT (Figure ¹)
Building #1Containment Area No. 1	72,160 (liquid)	14,650.43 (liquid)	Section D-1	Appendix L-1-1
Building #1Containment Area No. 2	8,800 (liquid)	1,489.30 (liquid)	Section D-1	Appendix L-1-1
Building #1Containment Area No. 3	8,800 (liquid)	1,590.87 (liquid)	Section D-1	Appendix L-1-1
Building #2	83,710 (liquid) 14,138 (solid)	24,095 (liquid)	Section D-1	Appendix L-1-1
Building #3	63,360 (liquid) 98,967 (solid)	11,463.57 (liquid)	Section D-1	Appendix L-1-1
Building #4	46,860 (liquid)	20,014.05 (liquid)	Section D-1	Appendix L-1-1
TOTAL CONTAINER TREATMENT CAPACITY	283,690 (liquid) 113,105 (solid)	73,303.22 (liquid)		

1. Location in permit application containing description (text) or location (figure) of unit.

TABLE III.2

TREATMENT IN CONTAINERS

TREATMENT PROCESS (Code ²)	UNIT(S) PERMITTED	PERMITTED TREATMENT CAPACITY (pounds per hour)	DESCRIPTION OF PROCESS (Section¹)	LOCATION OF PROCESS (Figure ¹)	DESCRIPTION OF UNIT (Section¹)	LOCATION OF UNIT (Figure ¹)
T04	2 shredders	15000	Section D-1	APPENDIX D- 1-4	Section D-1	APPENDIX D-1-4
TOTAL CONTAINER TREATMENT CAPACITY		15000				

- Location in permit application containing description (text) or location (figure) of unit. Treatment process codes as defined in ADEM Admin. Code R. 335-14-5-Appendix I. 1.
- 2.

PART IV

MANAGEMENT IN TANKS

IV.A. PERMITTED OPERATIONS

The Permittee may operate the units and processes described in Table IV.1. or Table IV.2. of this permit, subject to the terms of this permit. Operation of any process or unit not listed in Table IV.1. or Table IV.2. of this permit, operation of any process in a unit or area other than that for which the process is listed, or exceedance of any capacity listed therein, for the treatment, storage, or disposal of hazardous waste is prohibited.

IV.B. WASTE IDENTIFICATION

- 1. The Permittee may store and treat the hazardous wastes listed in Part A of the permit application in tanks at the facility, subject to the terms of this permit. The storage or treatment of any hazardous waste not listed in Part A of the permit application is prohibited.
- 2. The Permittee shall not store or treat mixed waste in tanks at the facility.

IV.C. STORAGE IN TANKS

- 1. The tank storage capacity is distributed among the various tanks and tank farms as shown in Table IV.1. of this permit, and as described in Section D-2 of the permit application. The maximum quantity of hazardous waste stored in each unit or containment area shall not exceed the capacity listed in Table IV.1. of this permit.
- 2. The Permittee shall maintain and operate the tank storage areas in accordance with the procedures specified in Section D-2 of the permit application and in ADEM Admin. Code Rule 335-14-5-.10.
- 3. The maximum combined quantity of hazardous and non-hazardous wastes stored in a given area shall not exceed ten times the capacity of the containment system for that area. The maximum combined quantity of hazardous and non-hazardous wastes stored in an individual tank in a given area shall not exceed the capacity of the containment system for that area.

IV.D. TREATMENT IN TANKS

- 1. The Permittee shall comply with the tank treatment process and capacity restrictions listed in Table IV.2. of this permit.
- 2. The Permittee shall ensure that the structural integrity of tanks, and processes of treatment are in accordance with Section D-2 of the permit application and ADEM Admin. Code Rule 335-14-5-.10.
- 3. The Permittee shall not substitute dilution of chemicals for treatment, except as allowed by ADEM Admin. Code Rule 335-14-9-.01(3).

- 4. The Permittee shall ensure that all chemical reactions have sufficiently occurred to prevent subsequent uncontrolled reactions before the process is stopped.
- 5. The Permittee shall manage all treatment residues in accordance with all applicable provisions of ADEM Admin. Code Divisions 335-13 and/or 335-14.
- 6. The Permittee shall enter records of all treatment activities, including hazardous waste numbers and descriptions, quantities, method(s) of treatment, and date(s) of treatment, into the operating record for each batch of waste treated.

IV.E. INSTALLATION REQUIREMENTS

The tank system must be installed in accordance with Section D-2 of the permit application and ADEM Admin. Code Rule 335-14-5-.10(3).

IV.F. GENERAL OPERATING REQUIREMENTS

- 1. The Permittee shall comply with the tank-operating requirements of ADEM Admin. Code Rules 335-14-5-.02(6), 335-14-5-.10(2), 335-14-5-.10(5)(a), 335-14-5-.10(5)(b), 335-14-5-.10(5)(c), and 335-14-5-.10(6)(b).
- 2. Each tank will be labeled or marked with all appropriate EPA hazardous waste numbers associated with the hazardous waste(s) in the tank as specified in 335-14-2-.03 and 335-14-2-.04 (or other information that provides a clear indication of the type(s) of hazardous waste(s) in the tank and the hazard(s) associated with that waste).

IV.G. SECONDARY CONTAINMENT REQUIREMENTS

The Permittee shall maintain the secondary containment systems for all storage and/or treatment tanks and for all ancillary equipment as specified in Section D-2 of the permit application and in accordance with the requirements of ADEM Admin. Code Rule 335-14-5-.10(4).

IV.H. INSPECTIONS

- 1. The Permittee shall inspect each tank system (to include the ancillary equipment and secondary containment) and the area surrounding each tank as specified in Section D-2 of the permit application and in accordance with the requirements of ADEM Admin. Code Rule 335-14-5-.10(6).
- 2. The Permittee must document weekly in the operating record of the facility the results of inspection required by Condition IV.H.1 of this permit.

IV.I. RESPONSE TO LEAKS OR SPILLS

The Permittee shall comply with the requirements of ADEM Admin. Code Rule 335-14-5-.10(7).

IV.J. SPECIAL REQUIREMENTS FOR IGNITABLE OR REACTIVE WASTES

The Permittee shall comply with the requirements specified in Section F-5e of the permit application and in accordance with the requirements of ADEM Admin. Code Rule 335-14-5-.10(9).

IV.K. SPECIAL REQUIREMENTS FOR INCOMPATIBLE WASTES

The Permittee shall comply with the requirements specified in Section F-5f of the permit application and in accordance with the requirements of ADEM Admin. Code Rule 335-14-5-.10(10).

IV.L. CLOSURE

- 1. Following the receipt of the final volume of hazardous waste, the Permittee shall close the tank in accordance with the Closure Plan contained in Section I of the permit application and in accordance with the requirements of ADEM Admin. Code Rule 335-14-5-.10(8).
- 2. If at closure not all contaminated soils can be practically removed or decontaminated, the Permittee shall close the tank as a landfill and perform post-closure care as specified in ADEM Admin. Code Rule 335-14-5-.10(8)(b).

TABLE IV.1.

STORAGE IN TANKS

UNIT NAME	QUANTITY	PERMITTED STORAGE CAPACITY (Gallons)	CONTAINMENT CAPACITY (Gallons	DESCRIPTION OF UNIT (Section¹)	LOCATION OF UNIT (Figure ¹)
Tanks 1 through 6	6 x 15,000 gallons	90,000	40,504.92	Section D-2	APPENDIX D-2- 2
Total Tank Storage Capacity		90,000	40,504.92		

^{1.} Location in permit application containing description (text) or location (figure) of unit.

TABLE IV.2

TREATMENT IN TANKS

TREATMENT PROCESS (Code ¹)	QUANTITY	PERMITTED TREATMENT CAPACITY (gallons)	DESCRIPTION OF PROCESS (Section ²)	LOCATION OF PROCESS (Figure ²)	DESCRIP TION OF UNIT (Section ²)
T01	6 x 15,000 gallons	90,000	APPENDIX D-2-	APPENDIX D-2-	Section D-
			8	2	2

Treatment process codes as defined in ADEM Admin. Code Rule. 335-14-5-Appendix I. Location in permit application containing description (text) or location (figure) of unit. 1.

^{2.}

PART V

SOLID WASTE MANAGEMENT UNIT AND AREAS OF CONCERN IDENTIFICATION AND EVALUATION

V.A. APPLICABILITY

The Conditions of this Part apply to:

- 1. The solid waste management units (SWMUs) and areas of concern (AOCs) identified in Table V.2., which require investigation and/or remediation;
- 2. The SWMUs/AOCs identified in Table V.3., which require no further investigation under this permit at this time;

3. **RESERVED**

- 4. The SWMUs/AOCs identified in Table V.5, which require Interim Measures and/or Source Removal;
- 5. The SWMUs/AOCs identified in Table IX.7, which require a Corrective Measures Implementation (CMI) Plan;
- 6. Any additional SWMUs or AOCs discovered during the course of groundwater monitoring, field investigations, environmental audits, or other means; and,
- 7. 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. Assurance of financial responsibility for completion of such off-site corrective action will be required.

V.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 ConditionV.A.6. 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 Rule 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 V.A.6.

- 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 V.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 Rule 335-14-8-.02(5)(b)19.
 - 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 soil analyses, air, groundwater data, and/or surface water data).
- 4. Based on 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 V.D.1. immediately upon receiving notification of the Department's determination.

V.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 V.A.6. or SWMUs or AOCs identified in Permit Condition V.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 V.D. immediately upon receiving notification of the Department's determination.

V.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 V.A.1, V.B.4, and V.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).
- 5. Except as provided by Permit Condition V.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 Conditions V.B. and V.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, which 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 V.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;
- 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 V.G.

V.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 Rule 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 V.E.3., the Permittee shall demonstrate financial assurance for completing the approved remedy, except for federal and state facilities.
- 5. The Permittee shall submit to the Department the CMI Plan for the SWMUs/AOCs listed in Table V.7 for review and approval within 120 calendar days from the effective date of this permit.

V.F. INTERIM MEASURES (IM)

- 1. IM Work Plan(s)
 - 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 V.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 V.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 V.G.
 - e. The Permittee shall submit IM WPs for the SWMUs and AOCs listed in Table V.5 of this permit to the Department for review and approval. The IM WPs shall be submitted within 180 days from the effective date of this permit.

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 Rule 335-14-5-.06(12), which is achieved through IM, shall be in accordance with ADEM Admin. Code Rule 335-14-8-.04(2) and Permit Condition V.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;
 - 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 V.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.

V.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 therefore. 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 V.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 Rule 335-14-8-.02(2).
- 5. All submittals shall be provided by the Permittee in accordance with Permit Condition I K

V.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 V.H.I. 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.



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.

Master List of known SWMUs/ AOCs at the facility:

SWMU/AOC NUMBER	SWMU/AOC NAME	POTENTIAL LY AFFECTED MEDIA
1	Storm Drain Inlet	None
2	Pumping Station near Tank Farm	None
3	Tank Farm Containment Area	None
3A	Truck Loading/Unloading Area	None
4	Drum Storage Area (Building #1)	None
5	Drum Emptying Vat #1(Building #1)	None
6	Drum Emptying Vat #2 (Building #1)	None
7	Drum Emptying Vat #3 (Building #1)	None
8	Dispersing Tub #1(Building #1)	None
9	Dispersing Tub #2 (Building #1)	None
10	Dispersing Tub #3 (Building #1)	None
11	Dispersing Tub #4 (Building #1)	None
12	Roll-off Box (Building #1)	None
13	Generator Storage Building (Building #4)	None
14	Plant Laydown Area	None
15	Drum Reclaiming Area (Quonset Hut) (Building #2)	None
16	Vehicle Maintenance Area (Quonset Hut) (Building #2)	None
17	Drum Emptying Vat #4 (Building #1)	None
18	Drum Emptying Vat #5 (Building #1)	None
19	Dispersing Tub #5 (Building #1)	None
20	Hazardous Waste Compaction Units (Building #4)	None
21A	Hazardous Waste Container Storage Areas (Building #4)	None
21B	Hazardous Waste Container Storage Areas (Building #4)	None
21C	Hazardous Waste Container Storage Areas (Building #1)	None
22	Hazardous Waste Bulk Storage Building (Building #3)	None
23	Non-hazardous Waste Container Storage Area (Building #2)	None
24	Non-hazardous Solid Waste Mixing Pit (Quonset Hut) (Building #2)	None
25	Shredder 1 (Building #2)	None
26	Shredder 2 (Building #2)	None

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):

SWMU/AOC NUMBER	SWMU/AOC NAME	POTENTIALLY AFFECTED MEDIA
None at this time		



The following Solid Waste Management Unit (SWMU) and/or Area 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	POTENTIALLY AFFECTED MEDIA
1	Storm Drain Inlet	None
2	Pumping Station near Tank Farm	None
3	Tank Farm Containment Area	None
3A	Truck Loading/Unloading Area	None
4	Drum Storage Area (Building #1)	None
5	Drum Emptying Vat #1 (Building #1)	None
6	Drum Emptying Vat #2 (Building #1)	None
7	Drum Emptying Vat #3 (Building #1)	None
8	Dispersing Tub #1 (Building #1)	None
9	Dispersing Tub #2 (Building #1)	None
10	Dispersing Tub #3 (Building #1)	None
11	Dispersing Tub #4 (Building #1)	None
12	Roll-off Box (Building #1)	None
13	Generator Storage Building (Building #4)	None
14	Plant Laydown Area	None
15	Drum Reclaiming Area (Quonset Hut) (Building #2)	None
16	Vehicle Maintenance Area (Quonset Hut)((Building #2)	None
17	Drum Emptying Vat #4 (Building #1)	None
18	Drum Emptying Vat #5 (Building #1)	None
19	Dispersing Tub #5 (Building #1)	None
20	Hazardous Waste Compaction Units (Building #4)	None
21A	Hazardous Waste Container Storage Areas (Building #4)	None
21B	Hazardous Waste Container Storage Areas (Building #4)	None
21C	Hazardous Waste Container Storage Areas (Building #1)	None
22	Hazardous Waste Bulk Storage Building (Building #3)	None
23	Non-hazardous Waste Container Storage Area (Building #2)	None
24	Non-hazardous Solid Waste Mixing Pit (Quonset Hut) (Building #2)	None
25	Shredder 1 (Building #2)	None
26	Shredder 2 (Building #2)	None

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 action under other programs, such as MMRP, CERCLA, etc.:

SWMU/AOC NUMBER	SWMU/AOC NAME	POTENTIALLY AFFECTED MEDIA
None at this time		



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 Interim Measures (IM) and/or Source Removal:

SWMU/AOC NUMBER	SWMU/AOC NAME	POTENTIALLY AFFECTED MEDIA
None at This Time		



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 – IV of this permit:

SWMU/AOC NUMBER	SWMU/AOC NAME	POTENTIA LLY AFFECTED MEDIA
2	Pumping Station near Tank Farm	None
3	Tank Farm Containment Area	None
3A	Truck Loading/Unloading Area	None
21A	Hazardous Waste Container Storage Areas (Building #4)	None
21B	Hazardous Waste Container Storage Areas (Building #4)	None
21C	Hazardous Waste Container Storage Areas (Building #1)	None
22	Hazardous Waste Bulk Storage Building (Building #3)	None
23	Non-hazardous Waste Container Storage Area (Building #2)	None
25	Shredder 1 (Building #2)	None
26	Shredder 2 (Building #2)	None

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 Corrective Measure Implementation (CMI) Plan:

SWMU/AOC NUMBER	SWMU/AOC NAME	POTENTIALLY AFFECTED MEDIA
None at This Time		



PART VI

CORRECTIVE MEASURES IMPLEMENTATION

VI.A. APPLICABILITY

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

VI.B. GENERAL CONDITIONS

1. The Permittee is required to perform corrective measures for the SWMUs and AOCs identified in Condition VI.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, Corrective Measures Studies (CMSs), and Corrective Measures Implementation (CMI) Plans approved by the Department, as noted in Table VI.1.

2. Remedial Cleanup Levels

Upon approval, pursuant to Condition V.E., of the CMI Plan 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 VI.B.1. and/or VI.C. of this permit, the Permittee shall comply with the general groundwater monitoring requirements of this permit.

4. Land Use Controls

Where required pursuant to Conditions VI.B.1 and VI.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 VI.B.5 and VI.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 calendar 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.

5. Survey Plat

For corrective measures where residual concentrations of contaminants will remain inplace 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 VI.B.5.a. of this permit 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 VI.B.5, the Permittee must:

- a. Record in the probate judges 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.
- c. Maintain the environmental covenant described in Permit Condition VI.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 VI.B.1 and/or VI.C., of this permit, will be conducted in accordance with ADEM Admin. Code Rule 335-14-5-.02(5) and as prescribed in the approved CMI Plan.

8. Inspection

Where corrective measures addressed in Conditions VI.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 VI.B.6. Inspection provisions shall be as prescribed in the approved CMI Plan.

VI.C. AREA SPECIFIC CONDITIONS (RESERVED)

VI.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
- e. Projected work for the next period and impacts to the approved schedule.

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 VI.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 Rule 335-14-8-02(2)(d) by the Permittee and an Alabama-registered 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;
 - 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 for each monitoring 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 VI.B.
- b. If at any time the Permittee determines that any remedy selection specified in Condition VI.B. or VI.C. of this permit no longer satisfies the applicable requirements of ADEM Admin. Code Rule 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 Rule 335-14-8-.04.

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 independent professional engineer registered in the State of Alabama 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.

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 Corrective Measures:

Applicable SWMU/AOC NAME	CMS/CMI Plan	Approval Date
None at This Time		



PART VII

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 335-14-508(3)(b), 335-14-508(5)(b), and 335-14-508(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 Rule 335-14-804(2).	At least 60 calendar days prior to a proposed change in facility design or operation.
II.Q.1	Actual, physical onsite construction of all proposed units must be initiated.	Within two (2) years of the date of the issuance of this permit
II.Q.2	Submit detailed construction drawings of all proposed units for the Department's review.	At least 60 calendar days before the initiation of construction
V.B.1.	Notify the Department, in writing, of the discovery of any additional AOCs.	Within 15 calendar days of discovery.

PERMIT CONDITION	ITEM	DUE DATE
V.B.2.	Notify the Department, in writing, of the discovery of any additional SWMUs.	Within 15 calendar days of discovery
V.B.3.	Submit a SWMU Assessment Report (SAR) for each SWMU identified under V.B.2.	Within 90 calendar days of notification.
V.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.
V.D.7.	Submit RFI progress reports.	Monthly basis beginning in the second month following the initiation of the RFI.
V.D.8	Submit RFI Report.	Within 60 calendar days from the completion of investigation activities.
V.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.
V.E.4.	Demonstrate financial assurance for completing the approved remedy.	Within 60 calendar days after this Permit has been approved.
V.F.1.	Submit IM Work Plan.	Within 30 calendar days upon notification by the Department.
V.F.3.	Submit IM Report.	Within 90 calendar days of completion of IM.
VI.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.
VI.B.6.a.	Record environmental covenant.	No later than the submission of the survey plat required in Condition VI.B.5.

PERMIT CONDITION	ITEM	DUE DATE
VI.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 VI.B.5.
VI.D.3.	Begin Submitting Corrective Measures Effectiveness Reports.	Annually beginning 180 calendar days following the Department's approval of the Final CMI Report.
VI.D.4.	Submit a Final Report of Corrective Measures (FRCM).	Within 90 calendar days following attainment of cleanup levels or goals.





April 4, 2025

Ms. Marwa Sabeeh Alabama Department of Environmental Management 1400 Coliseum Blvd. Montgomery, Alabama 36110-2400 VIA DROPBOX

Re: Hazardous Waste Permit Renewal Application

Comments on DRAFT Permit and Modification to Containment in Building #1

Clean Earth of Alabama, Inc. EPA ID No. ALD 981 020 894 402 Webster Chapel Road Glencoe, Alabama 35905

Dear Ms. Sabeeh:

EME Environmental Solutions, LLC d/b/a Env. is pleased to submit Comments on the DRAFT Permit and Modification to Containment in Building #1 on behalf of Clean Earth of Alabama, Inc. (CEA).

Comments

Clean Earth of Alabama, Inc. has no comments on the DRAFT Permit received by email on February 27, 2025.

Modification to Containment in Building #1

As previously discussed with ADEM representatives, CEA is modifying the application to moves the containment areas for Group 1A/Group 5B and Group 1B/Group 5A wastes from the east and of Building #1 to the west end of that building. Moving those containment areas will allow CEA the ability to store a larger quantity of those wastes should operations dictate the need. The design of those two containment areas will be the same as described in the Consolidated Permit Application dated December 31, 2024 for the containment area in the east end of Building #1. Additional containment will no longer be added to the east end. Modifications are detailed in Revised Drawing D-1.

Enclosed with this letter are:

Revised page C-2 showing change to text. Revised page F-14 showing change to text.

Also enclosed is a consolidated Part B Renewal Application dated April 4, 2025, that has been updated to include the modifications discussed above. That Application includes:



Revised Application Cover

Revised page C-2. Revised page F-14.

Revised Figure A1¹ — Appendix A-1-1 USGS Topographic Map.
Revised Figure A2 — Appendix A-1-2 Site Plan and RCRA Limits.
Revised Figure B2 — Appendix B-2-1A USGS Topographic Map.
Revised Figure B6 — Appendix B-2-1B Site Topographic Map.

Revised Figure B4 — Appendix B-2-4 Wind Rose.

Revised Figure B8 — Appendix B-2-6 Site Plan and RCRA Limits.

Revised Figure B12 - Appendix B-2-10 Internal Roads.

Revised Figure D1 — Appendix B-2-10 As-Built Plans for Clean Earth of Alabama, Inc.

Revised Figure F1 — Appendix F-1-1 Site Plan and Entrance/Exit Gates.

Revised Figure F2 — Appendix F-3-1 Evacuation Routes and Assembly Points.

Revised Figure F3 — Appendix F-3-3 Locations of Emergency Equipment.

Revised Figure F4 — Appendix F-4-1 Loading and Unloading Areas.

Revised Figure G2 — Appendix G-1-2 Site Plan and RCRA Limits.

Revised Figure G3 — Appendix G-5-2 Locations of Emergency Equipment.

Revised Figure G4 — Appendix G-7-4 Evacuation Routes and Assembly Points.

— Appendix L-1-1 Solid Waste Management Unit Locations.

Please feel free to contact me at 713-805-2321 if you have any questions.

Sincerely,

Ellen Hofmann-Haynie Senior Project Manager

cc: Doyle Crawford – Clean Earth of Alabama, Inc.

Bryan Jones – Clean Earth of Alabama, Inc. Keith Lowman – Clean Earth of Alabama, Inc.

¹ Except for Figure D-1, the only changes to Figures is to show the location of containment structures in Building #1.

Hazardous Waste Permit Renewal Application

EPA Identification #: ALD981020894

CleanEarth ...

Clean Earth of Alabama, Inc. 402 Webster Chapel Road Glencoe, Alabama 35905

March 25, 2024

Revised: 09/17/2024 12/30/2024 04/04/2025

Prepared on Behalf of Clean Earth of Alabama, Inc. By:



Prepared for:

Clean Earth of Alabama, Inc. 402 Webster Chapel Road Glencoe, Alabama 35905

ORGANIZATION OF THE APPLICATION

Hazardous Waste Permit Renewal Application Clean Earth of Alabama, Inc. Glencoe, Alabama Permit No. ALD 981 020 894

INTRODUCTION: This Hazardous Waste Permit Renewal Application is organized into fourteen (14) standalone sections (A – N) that follow the Alabama Department of Environmental Management's (ADEM) *Regulatory Completeness Checklist For Hazardous Waste Storage, Treatment And Disposal Facilities* and guidance. For completeness, topics that appear on ADEM's checklist – but that are not applicable to the Clean Earth of Alabama, Inc.'s Glencoe site – are included herein along with text stating why they are not applicable to this Site. Accordingly, this permit renewal application should be complete in responding to all of ADEM's checklist items and in the order they are listed. Links below will direct you to each section of the renewal permit application.

SECTIONS OF THE APPLICATIONS

SECTION A	RCRA SUBTITLE C SITE IDENTIFICATION FORM
SECTION B	GENERAL FACILITY DESCRIPTION
SECTION C	WASTE CHARACTERISTICS
SECTION D	PROCESS INFORMATION
SECTION E	GROUNDWATER MONITORING
SECTION F	PROCEDURES TO PREVENT HAZARDS
SECTION G	CONTINGENCY PLAN
SECTION H	PERSONNEL TRAINING
SECTION I	CLOSURE PLAN
SECTION J	OTHER FEDERAL LAWS
SECTION K	CERTIFICATION
SECTION L	SOLID WASTE MANAGEMENT UNITS
SECTION M	CLOSURE EQUIVALENCY DETERMINATION
SECTION N	REGULATORY COMPLETENESS CHECKLIST FOR HAZARDOUS WASTE STORAGE, TREATMENT AND DISPOSAL FACILITIES



SECTION A RCRA SUBTITLE C SITE IDENTIFICATION FORM

CLEAN EARTH OF ALABAMA



United States Environmental Protection Agency RCRA SUBTITLE C SITE IDENTIFICATION FORM



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□ Y □ N	pur		to 40	0 CFR									Waste Under the Control of the Same Person e Addendum for LQG Consolidation of VSQG
Notification (of LQ(3 Site	Clos	ure f	or a (Centi	ral A	Accum	ulatio	n Are	a (C <i>A</i>	λΑ) (α	optional) OR Entire Facility (required)
\square Y \square N	LQG	Site	Closu	ire of	a Ce	ntra	l Ac	cumula	ation ,	Area (CAA	or E	ntire Facility.
	A.	□ Ce	ntral	Accu	ımula	ation	Are	ea (CA <i>A</i>	۱) or 🗆	Enti	e Fa	cility	
	В. І	Expec	ted c	losur	e dat	te:			m	m/dd	/ууу	y	
	C. 1	Reque	esting	g new	ı clos	ure (date	2:		ı	nm/o	dd/yy	ууу
	D.	Date (close	d :				mm/d	d/yyy	у			
			•										ds 40 CFR 262.17(a)(8)
		2. Not	t in c	ompli	iance	with	n the	e closu	ire pe	rform	ance	stan	dards 40 CFR 262.17(a)(8)

YVN	A		200 40 11		Company of the	
	hazardous seco	ndary material u	ınder 40 CFF	R 260.30,	40 CFR 2	anaging, are managing, or will stop managing 261.4(a)(23), (24), (25), or (27)? If "Yes", you or Managing Hazardous Secondary Material.
ectronic Ma	nifest Broker					
], <u>[</u>]v		complete, and tr				lecting to use the EPA electronic manifest sys- t under a contractual relationship with a haz-
mments (i	nclude item num	ber for each con	nment)			
sion in acco	rdance with a sys	tem designed to	assure that	qualified	person	chments were prepared under my direction or nel properly gather and evaluate the information
sion in acco itted. Based the informa	rdance with a sys l on my inquiry of ation, the informa	tem designed to f the person or p ation submitted	assure that persons who is, to the be	qualified manage st of my k	person the syst nowled	nel properly gather and evaluate the informatem, or those persons directly responsible for ge and belief, true, accurate, and complete. I
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EPA Form 8700-12, 8700-13 A/B, 8700-23

Email

Page <u>6</u> of <u>22</u>

EPA ID Number						
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ADDENDUM TO THE SITE IDENTIFICATION FORM: LQG CONSOLIDATION OF VSQG HAZARDOUS WASTE



ONLY fill out this form if:

• You are an LQG receiving hazardous waste from VSQGs under the control of the same person. Use additional pages if more space is needed.

es if more space is needed.		
VSQG 1		
1. EPA ID Number (if assigned) ALR000067967	2. Name Clean Earth of A	Alabama, Inc.
3. Street Address 203 Webster Chapel Road		
4. City, Town, or Village Glencoe	5. State Alabama	6. Zip Code 35905
7. Contact Phone Number 256.438.8264	8. Contact Name Brad Ph	nillips
9. Email bphillips1@cleanearthinc.com		
VSQG 2		
1. EPA ID Number (if assigned)	2. Name	
3. Street Address		
4. City, Town, or Village	5. State	6. Zip Code
7. Contact Phone Number	8. Contact Name	
9. Email		
VSQG 3		
1. EPA ID Number (if assigned)	2. Name	
3. Street Address		
4. City, Town, or Village	5. State	6. Zip Code
7. Contact Phone Number	8. Contact Name	
9. Email	•	

EPA ID Number						

United States Environmental Protection Agency HAZARDOUS WASTE PERMIT PART A FORM



1	Facility	Permit	Contact
1.	racility	remin	Contact

First Name	e Bryan	MI C.	Last Name Jones
Title EH	HS Director		
Email bj	jones@cleanearthinc.com		
Phone 2	56.666.4927	Ext	Fax

2. Facility Permit Contact Mailing Address

Street Address 402 Webster	Street Address 402 Webster Chapel Road								
City, Town, or Village Glenco	е								
State Alabama Country US Zip Code 35905									

3. Facility Existence Date (mm/dd/yyyy)

4. Other Environmental Permits

A. Permit Type	B. Permit Number								ber		C. Description		

5.	Natı	ıre	of	Bus	siness
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Process Codes and Design Capacities Line Number A. Process Code A. Process Code B. Process Design Capacity C. Process Total Number of Units D. Unit Name	110	racc (aaho'	and	Desig	n Ca	naci	tios														
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EPA ID Number <u>ALD.981.020.894</u> | OMB# 2050-0024; Expires 04/30/2024

						7. Des	scription of H												
Line						B. Estimated Annual						D	PRO	CESSE	S				
No.	A.	EPA	Haza	rdou	s Waste No.	Qty of Waste	C. Unit of Measure				(1) PR	OCE.	SS C	ODE	S			
13	D	0	1	3		500	S	S	0	1	S	0	2	T	0	1	S	0	4
14	D	0	1	4		500	S	S	0	1	S	0	2	T	0	1	S	0	4
15	D	0	1	5		500	S	S	0	1	S	0	2	Τ	0	1	S	0	4
16	D	0	1	6		500	S	S	0	1	S	0	2	T	0	1	S	0	4
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18	D	0	1	8		500	S	S	0	1	S	0	2	T	0	1	S	0	4
19	D	0	1	9		500	S	S	0	1	S	0	2	Τ	0	1	S	0	4
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24	D	0	2	4		500	S	S	0	1	S	0	2	T	0	1	S	0	4
25	D	0	2	5		500	S	S	0	1	S	0	2	T	0	1	S	0	4
26	D	0	2	6		500	S	S	0	1	S	0	2	Т	0	1	S	0	4
27	D	0	2	7		500	S	S	0	1	S	0	2	T	0	1	S	0	4
28	D	0	2	8		500	S	S	0	1	S	0	2	T	0	1	S	0	4
29	D	0	2	9		500	S	S	0	1	S	0	2	Τ	0	1	S	0	4
30	D	0	3	0		500	S	S	0	1	S	0	2	Τ	0	1	S	0	4
31	D	0	3	1		500	S	S	0	1	S	0	2	Τ	0	1	S	0	4
32	D	0	3	2		500	S	S	0	1	S	0	2	Т	0	1	S	0	4
33	D	0	3	3		500	S	S	0	1	S	0	2	T	0	1	S	0	4
34	D	0	3	4		500	S	S	0	1	S	0	2	Τ	0	1	S	0	4
35	D	0	3	5		500	S	S	0	1	S	0	2	Т	0	1	S	0	4
36	D	0	3	6		500	S	S	0	1	S	0	2	Т	0	1	S	0	4
37	D	0	3	7		500	S	S	0	1	S	0	2	Τ	0	1	S	0	4
38	D	0	3	8		500	S	S	0	1	S	0	2	T	0	1	S	0	4
39	D	0	3	9		500	S	S	0	1	S	0	2	Т	0	1	S	0	4
40	D	0	4	0		500	S	S	0	1	S	0	2	T	0	1	S	0	4
41	D	0	4	1		500	S	S	0	1	S	0	2	T	0	1	S	0	4
42	D	0	4	2		500	S	S	0	1	S	0	2	T	0	1	S	0	4
43	D	0	4	3		500	S	S	0	1	S	0	2	Т	0	1	S	0	4
44	F	0	0	1	,	4,000	S	S	0	1	S	0	2	T	0	1	S	0	4
45	F	0	0	2		4,000	S	S	0	1	S	0	2	Т	0	1	S	0	4
46	F	0	0	3	i	4,000	S	S	0	1	S	0	2	Т	0	1	S	0	4
47	F	0	0	4	i	4,000	S	S	0	1	S	0	2	Т	0	1			
48	F	0	0	5		4,000	S	S	0	1	S	0	2	Т	0	1	S	0	4
49	F	0	0	6		500	S	S	0	1	S	0	2	T	0	1			

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51 F 0 0 8	500	S	S	0	1								
52 F 0 0 9	500	S	S	0	1								
53 F 0 1 0	500	S	S	0	1								
54 F 0 1 1	500	S	S	0	1								
55 F 0 1 2	500	S	S	0	1	S	0	2	Т	0	1		
56 F 0 1 9	500	S	S	0	1	S	0	2	T	0	1		
57 F 0 2 0	500	S	S	0	1								
58 F 0 2 1	500	S	S	0	1								
59 F 0 2 2	500	S	S	0	1								
60 F 0 2 3	500	S	S	0	1	S	0	2	T	0	1		
61 F 0 2 4	500	S	S	0	1	S	0	2	Т	0	1		
62 F 0 2 5	500	S	S	0	1	S	0	2	T	0	1		
63 F 0 2 6	500	S	S	0	1	S	0	2	Т	0	1		
64 F 0 2 7	500	S	S	0	1	S	0	2	Τ	0	1		
65 F 0 2 8	500	S	S	0	1	S	0	2	T	0	1		
66 F 0 3 2	500	S	S	0	1								
67 F 0 3 4	500	S	S	0	1								
68 F 0 3 5	500	S	S	0	1								
69 F 0 3 7	500	S	S	0	1								
70 F 0 3 8	500	S	S	0	1								
71 F 0 3 9	500	S	S	0	1								
71 F 0 3 9	500	S	S	0	1								
71 F 0 3 9 72 K 0 0 1	500	S	S	0	1	S	0	2	Т	0	1		
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72 K 0 0 1	500	S	S	0	1								
72 K 0 0 1 73 K 0 0 2	500 500	S S	S S	0	1	S	0	2	Т	0	1		
72 K 0 0 1 73 K 0 0 2 74 K 0 0 3	500 500 500	S S S	S S S	0 0 0	1 1 1	S S	0	2	T T	0	1		
72 K 0 0 1 73 K 0 0 2 74 K 0 0 3 75 K 0 0 4	500 500 500 500	S S S	S S S	0 0 0	1 1 1	S S S	0 0 0	2 2 2	T T T	0 0 0	1 1 1		
72 K 0 0 1 73 K 0 0 2 74 K 0 0 3 75 K 0 0 4 76 K 0 0 5	500 500 500 500 500	S S S S	S S S S	0 0 0 0	1 1 1 1	S S S	0 0 0	2 2 2 2	T T T	0 0 0	1 1 1 1		
72 K 0 0 1 73 K 0 0 2 74 K 0 0 3 75 K 0 0 4 76 K 0 0 5 77 K 0 0 6	500 500 500 500 500 500	S S S S S	S S S S S	0 0 0 0 0	1 1 1 1 1	S S S S	0 0 0 0	2 2 2 2 2	T T T T	0 0 0 0	1 1 1 1		
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92	K	0	2	2
93	K	0	2	3
94	K	0	2	4
95	K	0	2	5
96	K	0	2	6
97	K	0	2	7
98	K	0	2	8
99	K	0	2	9
100	K	0	3	0
101	K	0	3	1
102	K	0	3	2
103	K	0	3	3
104	K	0	3	4
105	K	0	3	5
106	K	0	3	6
107	K	0	3	7
108	K	0	3	8
109	K	0	3	9
110	K	0	4	0
111	K	0	4	1
112	K	0	4	2
113	K	0	4	3
114	K	0	4	4
115	K	0	4	5
116	K	0	4	6
117	K	0	4	7
118	K	0	4	8
119	K	0	4	9
120	K	0	5	0
121	K	0	5	1
122	K	0	5	2
123	K	0	6	0
124	K	0	6	1
125	K	0	6	2
126	K	0	6	9
127	K	0	7	1
128	K	0	7	3
129	K	0	8	3
130	K	0	8	4
131	K	0	8	5
132	K	0	8	6
133	K	0	8	7
134	K	0	8	8

500	S	S	0	1								
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300	3	2	0	1	2	0	2	T	0	1		

125	K	Λ	0	2
135		0	9	3
136	K	0	9	4
137	K	0	9	5
138	K	0	9	6
139	K	0	9	7
140	K	0	9	8
141	K	0	9	9
142	K	1	0	0
143	K	1	0	1
144	K	1	0	2
145	K	1	0	3
146	K	1	0	4
147	K	1	0	5
148	K	1	0	6
149	K	1	0	7
150	K	1	0	8
151	K	1	0	9
152	K	1	1	0
153	K	1	1	1
154	K	1	1	2
155	K	1	1	3
156	K	1	1	4
157	K	1	1	5
158	K	1	1	6
159	K	1	1	7
160	K	1	1	8
161	K	1	2	3
162	K	1		4
163	K	1	2	5
164	K	1	2	6
165	K	1	3	1
166	K	1	3	2
167	K	1	3	6
168	K	1	4	1
169	K	1	4	2
170	K	1	4	3
171	K	1	4	4
172	K	1	4	5
173	K	1	4	7
174	K	1	4	8
175	K	1		9
176	K	1	5	0
177	K	1	5	1
178	K	1	5	6
179	K	1	5	7
180	K	1	5 5 5 5 5	8
181	K	1	5	9
101	17	1	J)

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500	S	S	0	1	S	0	2	Т	0	1			
500	S	S	0	1	S	0	2	Т	0	1			
500	S	S	0	1	S	0	2	T	0	1			

183 K 1 6 9 500 S S 0 1 S 0 2 T 0 1	182 K	1	6	1	500	S	S	0	1	S	0	2	Т	0	1			
184 K 1 7 0 500 S S 0 1 S 0 2 T 0 1		+			500				1					-	1			
186 K 1 7 2 500 S S 0 1 S 0 2 T 0 1		+	\vdash		500	S	S	0	1		0		Т	0	1			
187 K 1 7 4	185 K	1	7	1	500	S	S	0	1	S	0	2	Т	0	1			
188 K 1 7 5 500	186 K	1	7	2	500	S	S	0	1	S	0	2	Т	0	1			
189 K 1 7 6 500 S S 0 1 S 0 2 T 0 1	187 K	. 1	7	4	500	S	S	0	1	S	0	2	Т	0	1			
190	188 K	. 1	7	5	500	S	S	0	1	S	0	2	T	0	1			
191 K 1 7 8 500 S S 0 1 S 0 2 T 0 1	189 K	. 1	7	6	500	S	S	0	1	S	0	2	T	0	1			
192 K 1 8 1	190 K	. 1	7	7	500	S	S	0	1	S	0	2	Т	0	1			
193	191 K	. 1	7	8	500	S	S	0	1	S	0	2	T	0	1			
194 P 0 0 2	192 K	. 1	8	1	500	S	S	0	1	S	0	2	T	0	1			
194 P 0 0 2																		
195	193 P	0	0	1	500	S	S	0	1	S	0	2	T	0	1	S	0	4
196	194 P	0	0	2	500	S	S	0	1	S	0	2	T	0	1			
197 P 0 0 5 500	195 P	0	0	3	500	S	S	0	1	S	0	2	Т	0	1			
198 P 0 0 6	196 P	0	0	4	500	S	S	0	1	S	0	2	Т	0	1			
199 P 0 0 0 7	—	+	0				S	0	1		0	2		0	1			
Solid Registrate Solid Regis			0				S	0	1	S	0	2	T	0	1			
201 P 0 0 9 500 S S 0 1	199 P	0	0				S	0	1									
202 P 0 1 0 0 1 0 0 0 1 0			0						1	S	0	2	Т	0	1	S	0	4
Description		+	0						1									
204 P 0 1 2 500 S S 0 1 S 0 2 T 0 1 S 0 4 205 P 0 1 3 500 S S 0 1 S 0 2 T 0 1 S 0 2 T 0 1 S 0 2 T 0 1 S 0 2 T 0 1 S 0 2 T 0 1 S 0 2 T 0 1 S 0 2 T 0 1 S 0 2 T 0 1 S 0 2 T 0 1 S 0 2 T 0 1 S 0 2 T 0 1 S 0 2 T 0 1 S 0 2 T 0		+																
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207 P 0 1 5 208 P 0 1 6 500 S S 0 1 S 0 2 T 0 1 Image: contract of the contract																		
208 P 0 1 6 209 P 0 1 7 210 P 0 1 8 211 P 0 1 8 211 P 0 2 0 1 212 P 0 2 1 0 1 212 P 0 2 1 0 1 0 1 212 P 0 2 1 0 1 0 1 0 1 212 P 0 2 1 0 0 1 0 0 1 0 0 1 0 0 1 0 0 1 0 0 1 0 0 1 0 0 4 1 0 0 4 1 0 0 1 0 0 1 0 0 1 0 0		_					-			S	0	2	Т	0	1			
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228	P	0	4	0
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311 P 1 9 8	500	S	S	0	1	S	0	2	T	0	1			
312 P 1 9 9	500	S	S	0	1	S	0	2	Т	0	1	_	_	
313 P 2 0 1	500	S	S	0	1	S	0	2	T	0	1	S	0	4
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315 P 2 0 3	500	S	S	0	1	S	0	2	Т	0	1			
316 P 2 0 4	500	S	S	0	1	S	0	2	Т	0	1	S	0	4
317 P 2 0 5	500	S	S	0	1	S	0	2	T	0	1			
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319 U 0 0 2	500	S	S	0	1	S	0	2	T	0	1	S	0	4
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322 U 0 0 5	500	S	S	0	1	S	0	2	T	0	1	_		
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327 U 0 1 0	500	S	S	0	1	S	0	2	Т	0	1	S	0	4
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352	U	0	3	6
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399	U	0	8	6
400	U	0	8	7
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404	U	0	9	1
405	U	0	9	2
406	U	0	9	3
407	U	0	9	4
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474	U	1	6	4
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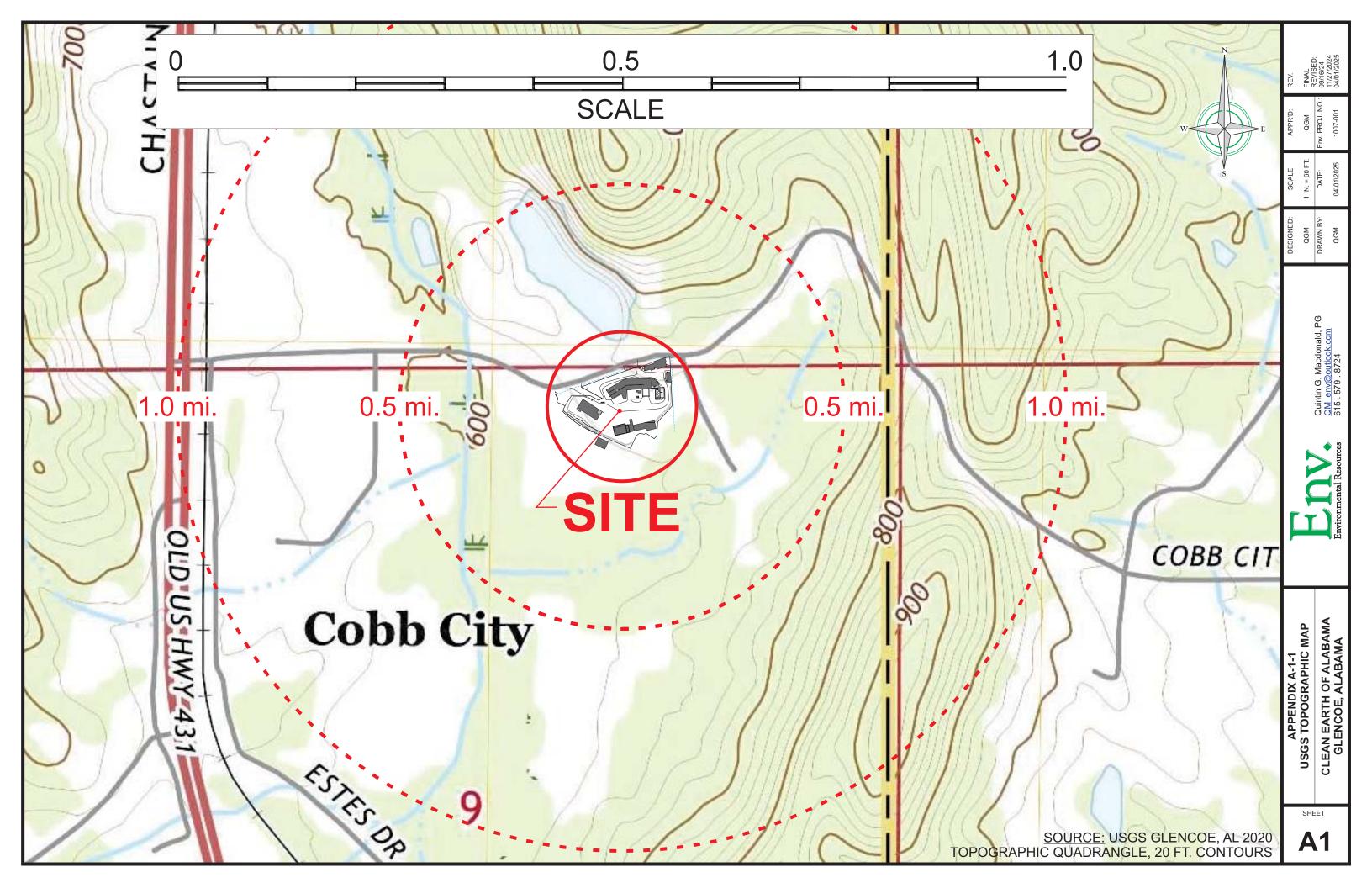
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APPENDIX A-1-1 USGS TOPOGRAPHIC MAP

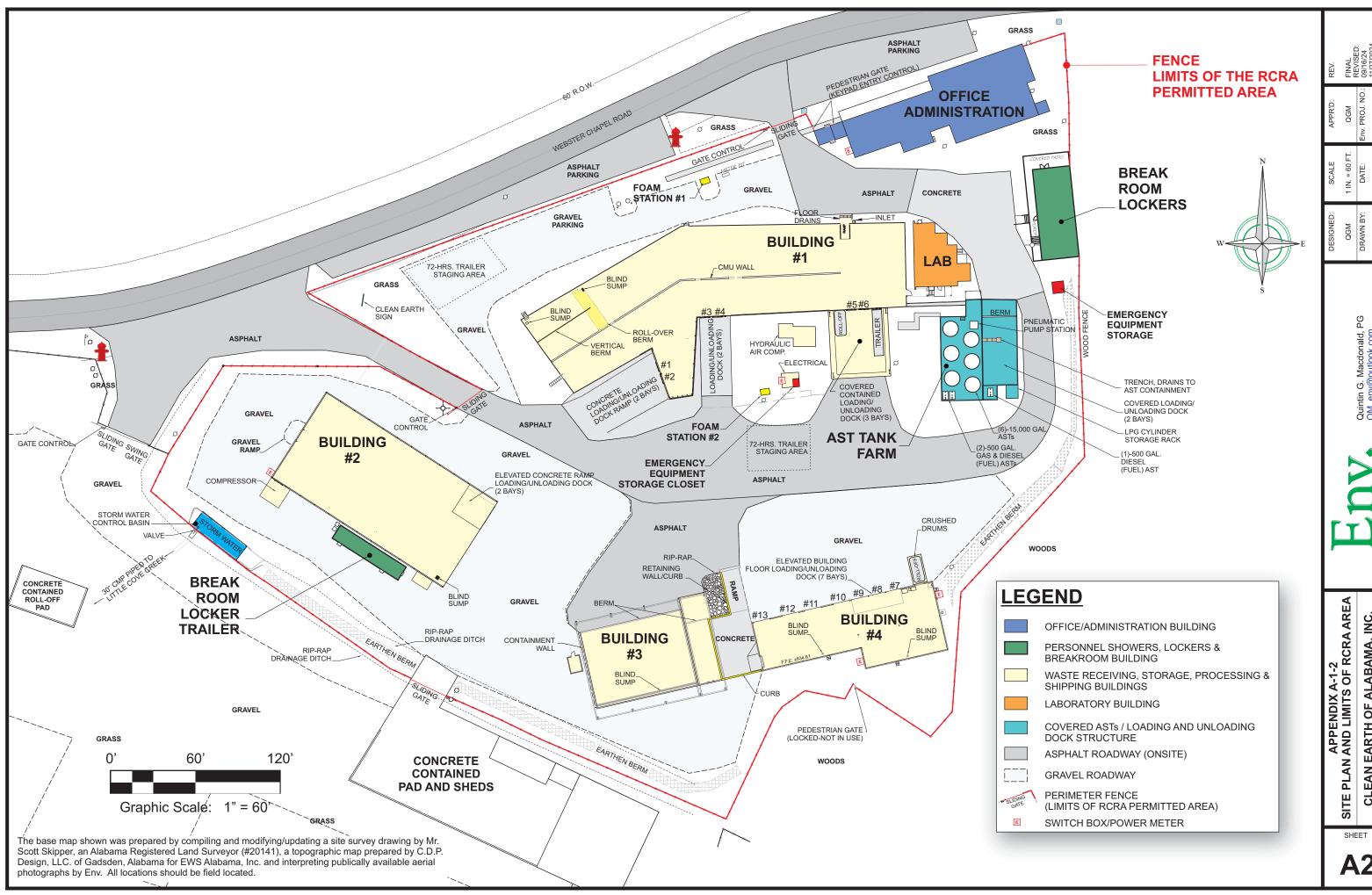
CLEAN EARTH OF ALABAMA





APPENDIX A-1-2 SITE PLAN AND LIMITS OF RCRA AREA CLEAN EARTH OF ALABAMA







CLEAN EARTH OF ALABAMA, INC. GLENCOE, ALABAMA

APPENDIX A-1-3 SITE PHOTOGRAPHS CLEAN EARTH OF ALABAMA





Photo #1: Facility Entrance adjacent to Administration Building.



Photo #2: Facility entrance adjacent to Administration Building and north side of Building #1.



Photo #3: From left to right; Truck gate near Building #2, empty trailer parking and exterior of Building #1 (southern side).



Photo #4: Receiving/Sampling Area in Building #1. This area is currently used for 72-hour placement of containers for sampling. It is proposed to be a permitted Container Storage Area.



Photo #5: Container Storge in Building #1. Containers are stored on pallets.



Photo #6: Paint pour off and paint can crushing operation in Building #1.



Photo #7: Prodeva Paint Can Crusher, Building #1.



Photo #8: Building #2.

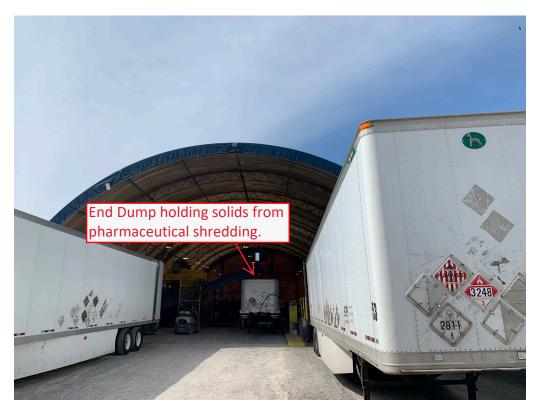


Photo #9: Dock at Building #2.



Photo #10: Building #3. All trailers contain solids.



Photo #11: Storage in Building #3.



Photo #12: Building #4.



Photo #13: Container storage in Building #4.



Photo #14: Container storage and interior of Building #4.



Photo #15: Tanker unloading pad at the Tank Farm.



Photo #16: Area between truck pad and tank farm showing aboveground piping and spill containment.



Photo #17: Tank Farm.



Photo #18: Another view of the Tank Farm.



Photo #19: On-site laboratory.

SECTION B GENERAL FACILITY DESCRIPTION CLEAN EARTH OF ALABAMA



SECTION B - TABLE OF CONTENTS

Hazardous Waste Permit Renewal Application Clean Earth of Alabama, Inc. Glencoe, Alabama Permit No. ALD 981 020 894

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B GENERAL FACILITY DESCRIPTION

B-1 General Description

<u>History</u>

Clean Earth of Alabama, Inc. ("CEA" or the "Facility"), a wholly-owned subsidiary of Clean Earth, LLC, is an existing permitted hazardous waste facility located at 402 Webster Chapel Road in Glencoe, Etowah County, Alabama. A Location Map is provided in <u>Appendix B-1-1</u>. The facility formerly operated as Fisher Industrial Service, Inc. (Fisher), C-MAC Environmental Group, Inc., then as EWS Alabama, Inc. ("EWS"). The Facility was acquired by Clean Earth, LLC in 2016 and has operated as Clean Earth of Alabama, Inc, since then.

The property on which the CEA Facility is located was originally used by Fisher as a hazardous waste transfer facility and later attained interim status in September 1986 as a hazardous waste storage facility, storing waste in containers and tanks. On May 5, 1988, the Alabama Department of Environmental Management (ADEM) formally requested a Part B application for the facility under the Resource Conservation and Recovery Act (RCRA) as amended by the Hazardous and Solid Waste Amendments of 1984 (HSWA) and the Alabama Hazardous Waste Management and Minimization Act. That application was submitted by Fisher on November 8, 1988. A Part B Permit was issued to Fisher on or about October 3, 1991.

A permit modification request was made on August 31, 2005 to change the owner of the facility to C-Mac Environmental Group, Inc. That modification was approved by ADEM on November 18, 2005. On April 6, 2007, ADEM approved a modification changing the name of the facility to EWS Alabama, Inc. (EWS).

A Hazardous Waste Facility Permit renewal was issued to EWS on September 26, 2014 with an expiration date of September 25, 2024. That permit has been modified as follows:

- A Minor Modification of the Hazardous Waste Facility Permit was issued by ADEM on October 14, 2016 in response to an October 4, 2016 Minor Modification request a change in ownership to Clean Earth of Alabama, Inc.
- A Major Modification of the Hazardous Waste Facility Permit was issued by ADEM on April 5, 2018 in response to a request submitted by CEA on October July 5, 2017 and



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amended August 13, 2017 and September 15, 2017. Completed modifications to the Facility approved by the April 2018 Permit Modifications include:

- o Removal of the *Vat and Blending Tubs* and clean closure of those areas.
- o Conversion of The Stabilization Area into a container check-in and storage area.
- o Addition of an area to the existing solids building to increase container storage and update bulk storage.
- o Addition of containment walls to separate the existing corrosive and oxidizer area between each row and addition of individual sumps to collect any spilled materials.
- o Addition of a can and glass crusher system.
- Renaming and repurposing of the former stabilization building as Container Check-In Storage Building, to be used for container check-in and storage, and increasing its storage capacity.
- A Minor Modification of the Hazardous Waste Facility Permit was issued by ADEM on August 1, 2018 to adjust the closure cost estimate.
- A Minor Modification was issued by ADEM on May 31, 2019 renaming buildings as follows:
 - o The Main Warehouse was redesignated as Building #1
 - o The Receiving/Check-In Building (Quonset Hut) was redesignated as Building #2.
 - o The Bulk Container Storage Building was redesignated as Building #3.
 - o The Solids Building was redesignated as Building #4.

This modification also relocated the shredder from Building #4 to Building #2, and proposed to add a second shredder.

- The proposed addition of a second shredder was later determined by ADEM to require a Major Modification, which was issued by ADEM on October 25, 2019.
- A Minor Modification was issued by ADEM on January 14, 2022 revising the shredding unit location in Building #2 and stating that the shredders will operate independently of each other.

Types of Industries Served

Various industries use solvents in their manufacturing and/or maintenance operations and often produce hazardous and non-hazardous waste liquids and solids suitable for use as a fuel substitute. These same and other industries also produce hazardous and non-hazardous organic and inorganic wastes. The various industries and generators serviced by CEA include, but are not limited to:

• Paint and coating manufacturers and operations



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- Ink, adhesive, automotive and automotive parts manufacturers
- Petroleum refiners or re-refiners
- Metal machining, printing, and solvent cleaning operations
- High-tech industries (e.g. microchip producers, electronic equipment and accessory manufacturers)
- Household hazardous wastes
- Retail operations (e.g. consumer and commercial goods and materials)
- Universities, colleges, and research institutions
- Healthcare operations (e.g. pharmaceuticals)
- Other hazardous and non-hazardous waste facilities

Waste Management Processes

There are six processes utilized for managing both hazardous and non-hazardous industrial waste at the CEA Facility. Those processes are:

- Liquids fuel blending;
- Liquids, sludges and solids consolidation;
- Lab pack management:
- Crushing of paint cans and separate collection of liquids and solids;
- Shredding (pharmaceutical waste management): and
- Waste trans-shipment for any materials not suitable for the processes mentioned above.

Liquids Fuel Blending

Liquid wastes that meet certain minimum specifications for heat content and specifications for toxic constituents specified by the USEPA and the end user may be utilized in the liquid fuel blending program. These materials include, but are not limited to:

- Spent solvents that are not otherwise economically recoverable
- Bottoms (residues) from solvent recovery
- Used oils
- Off-specification organic chemicals and inks
- Paint related material
- Ignitable, corrosive and toxic wastes

Consolidation of Solids, Sludges and Liquids

Solids, sludges and liquids with sufficient energy value and concentrations of toxic constituents specified by the USEPA and the end user to be blended into fuels may be consolidated into containers meeting USDOT packaging requirements, including roll-offs, and stored until



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shipped off-site to a permitted facility for use as a supplemental fuel. Those materials may be received in bulk or non-bulk container quantities or as loose packs and lab packs and include, but are not limited to:

- Contaminated personal protective equipment
- Dried Paint and resins
- Tank bottoms
- Wood and other organic debris
- Oily residues
- Cleanup materials (sorbents, rags, etc.)
- Ignitable wastes
- Household hazardous wastes

Materials not capable of being blended into fuels may be consolidated into containers meeting USDOT packaging requirements, including roll-offs, and stored until shipped off-site to a permitted facility for treatment or disposal. Those materials may be received in bulk or non-bulk container quantities or as loose packs and lab packs and include, but are not limited to:

- Spent carbon
- Contaminated personal protective equipment
- Dried Paint and resins
- Tank bottoms
- Wood
- Oily residues
- Cleanup materials (sorbents, rags, etc.)
- Ignitable, corrosive and toxic wastes
- Universal Wastes
- Household hazardous wastes
- Consumer personal care products
- Non-hazardous wastes

Lab Pack Management

Ignitable, corrosive, reactive, toxic and acute hazardous wastes and non-hazardous wastes assembled as lab packs are received for de-packing and repacking, and under limited circumstances for pour off or consolidation. The lab pack wastes are typically off-specification commercial chemical products.



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Crushing of Paint Cans

Paint wastes are received as loose packs for de-packing. There are three (3) hydraulically powered single paint can crushers in operation, and a larger primary unit that can process multiple paint cans that are conveyor fed e.g. Prodeva unit. The paint can crushers can process multiple smaller paint cans (pint) up to a single 5 gallon can. During the paint can crushing operation, the can is crushed and then liquid paint is gravity feed into the consolidation drum and the RCRA empty paint can is discarded.

Shredding (Pharmaceutical Waste Management)

Pharmaceutical wastes include over-the-counter and prescription drugs, medicines and other substances. Less than ten percent of pharmaceutical wastes are regulated as hazardous waste whereby they exhibit the characteristic of ignitability, corrosivity, reactivity, or toxicity, or are off-specification commercial products (e.g. P028, P081, U006, and U115). Pharmaceutical wastes are shipped and received as loose packs or lab packs for de-packing and repacking without pouring off or bulking/consolidation. At the time of this Application, pharmaceuticals are processed through one of the Facility's two shredders. This Application includes the use of the second shredder in the future.

Waste Trans-Shipment

Wastes that are incompatible for consolidation are received into storage then shipped off-site for further management.

In addition to renewing the existing Part B Permit, this Application seeks to:

- Increase the permitted storage capacity of Building #1 to include the existing 72-hour sampling area as a permitted container storage area. Details related to this modification are provided in <u>Section D-1</u> of this Application.
- Modify the permitted storage capacity of Building #2 to allow storage of 1,030 gallons of 55-gallon drums, plus 1 70 cubic yard trailer of solids and 82 330-gallon totes. Details related to this modification are provided in <u>Section D-1</u> of this Application.
- Modify the permitted storage capacity of Building #3 to allow storage of 7 70-cubic yard trailers of solids with up to 96 55-gallons drum equivalents allowed per every two-bay



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trailer area. Details related to this modification are provided in <u>Section D-1</u> of this Application.

- Revise the equipment/process for the shredding of pharmaceutical waste. Details are included in <u>Section D-1</u> of this Application.
- Allow the receipt, for storage and transfer only, of additional reactive (i.e., D003) wastes to include *consumer fireworks* as defined at 27 CFR §555.11. Consumer fireworks are small firework devices designed to produce visible effects by combustion and which must comply with the construction, chemical composition, and labeling regulations of the U.S. Consumer Product Safety Commission, as set forth in 16 CFR §\$1500 and 1507. Some small devices designed to produce audible effects are included, such as whistling devices, ground devices containing 50 mg or less of explosive materials, and aerial devices containing 130 mg or less of explosive materials. Consumer fireworks do not include fused set pieces containing components which together exceed 50 mg of salute powder. Consumer fireworks received will be limited to USDOT Class/Division 1.4 as defined at 49 CFR §173.50. Those wastes will include USDOT Identification Numbers UN0336 and UN0337.
- Allow the receipt, for storage and transfer only, of other USDOT Class/Division 1.4 retail materials such as cap gun ring caps, automatic fire suppression balls, model rocket motors, ammunition primers, aerial flares and marine flares. This is not intended to be an all-inclusive list; however, those receipts will be limited to retail USDOT Class/Division 1.4 wastes. Of note, no ATF license or permit is required to receive or transport those wastes.
- Allow the receipt for storage and transfer only of additional reactive (i.e., D003) wastes to include *small arms ammunition* as defined in 27 CFR §555.11 to mean *small arms* ammunition or cartridge cases, primers, bullets or smokeless propellants designed for use in small arms, including percussion caps, and 3/32 inch and other external burning pyrotechnic hobby fuses. The term does not include black powder. Ammunition received will be limited to USDOT Class/Division 1.4 as defined at 49 CFR 173.50. Those wastes will include only USDOT Identification Numbers UN0362, UN0363, UN0303 or UN0301.

B-2 Topographic Map

B-2a General Requirements

A USGS quadrangle topographic map (USGS Glencoe Quadrangle, 2020) showing the Facility's location and primary onsite structures, the land contours (20 ft. interval) as well as all nearby surface water bodies and blue line streams within 1 mile of the Facility is in <u>Appendix B-2-1A</u>. That figure shows the Facility and surrounding topography of the area. A Facility-specific contour topographic map is also provided in Appendix B (see <u>Appendix B-2-1B</u>). That Topographic Map of the Facility includes 1-foot contours and is sufficient for determining localized surface water



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flow direction(s) across the Facility. Jointly, both contour maps accurately represent the local and area-specific topography, from which surface water drainage and flow patterns can be discerned.

100-Year Floodplain Area

The 100-year floodplain area in the vicinity of CEA is shown on the Flood Hazard Map, which is provided in <u>Appendix B-2-2</u>. The CEA property and surrounding area are designated in an Area of Minimal Flood Hazard. The nearest 100-year floodplain area is approximately 1,100 feet to the west of the Facility. The Surrounding Land Use Zoning Map (see <u>Appendix B-2-3</u>) also identifies flood hazard areas along Little Cove Creek to the north and west of the Facility.

Surface Waters

The Facility slopes to the southwest and there are no surface water bodies located on the CEA property. There are two water bodies located within 1,000 feet of the Facility. Little Cove Creek is located approximately 500 feet to the west of the Facility. A former quarry that has filled with water is located approximately 120 feet north of the Facility. The former quarry is suspected to be hydraulically upgradient of the Facility.

Surrounding Land Use

Appendix B-2-3 is a map of surrounding land use generated from the Etowah County zoning map that is available on their website (Source: https://cityofglencoe.org/wp-content/uploads/2021/05/Glencoe_Zoning_2021_Export.pdf). The Facility is zoned as General Manufacturing (GM), while the surrounding land is either not zoned as it is outside of the Town of Glencoe or it is zoned as agricultural (AG) land. Land use within a 1,000-foot circumference of the Facility is predominantly commercial, light industrial or undeveloped. The nearest residential property is a home located approximately 441 feet to the east/southeast, across Cornelius Drive. To the west/southwest, there is a residence located approximately 800 feet from the Facility that is part of a small subdivision of about 15 homes.

Wind Rose

Appendix B-2-4 contains a wind rose diagram of meteorological data from the nearest wind recording station to the Facility, Birmingham, Alabama. There are several meteorological recording stations in Gadsden, Alabama, however, none of them produce or publish wind rose



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diagrams from their data. The wind rose diagram presented covers wind measurements collected

between August 1, 1942 and February 9, 2024.

Legal Boundaries

A Legal Description of the property is provided in Appendix B-2-5.

Access Control

The perimeter of the active area of the Facility is surrounded by an 8-foot-high, galvanized steel

chain-link-fence topped with three strands of barbed wire. The fence has two electronically

operated locking truck gates and two pedestrian gates located as shown on the Site Plan in

Appendix B-2-6. Additional information on Facility Security is discussed in Section F-1a of this

Hazardous Waste Permit Renewal Application.

Injection and Withdrawal Wells

An EDR Geocheck® Report revealed no injection or withdrawal wells located at, or within 1 mile

of, the CEA Facility. A copy of that report is provided in <u>Appendix B-2-7</u>.

Buildings and Structures

Buildings, structures, and existing Hazardous Solid Waste Management Units (SWMUs) are

shown on the Site Plan in Appendix B-2-6.

An Administrative Office Building is located on the northern portion of the property along Webster

Chapel Road. To the south of that Administrative Office Building on the east is a break area and

an employee Locker Room Building. To the south of the Locker Room Building is the Emergency

Storage Shed and to the west of the Locker Room Building is the Facility Laboratory.

Container Storage Areas (CSAs) at the Facility include Building #1, Building #2, Building #3 and

Building #4. There is one tank system at the CEA Facility located near the northeast central part

of the Facility that contains six (6) 15,000-gallon RCRA-regulated tanks inside a secondary

containment structure. Detailed information related to CSAs and the Tank System are provided in

<u>Sections D-1</u> and <u>D-2</u> of this Hazardous Waste Permit Renewal Application, respectively.

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Several additional smaller structures are present at the Facility, including a security building/guard

shack, an emergency equipment shed, a building that houses air compressors and an electrical

building.

Loading and Unloading

Loading and unloading areas are shown on the Site Plan in Appendix B-2-6, Site Plan. Unloading

and loading take place at Buildings #1, #2 and #4 and at the truck pad located at the tank farm.

Loading only of materials from bulking operations takes place at Building #3. Unloading

operations take place at designated loading/unloading docks that are elevated 3 to 4 feet above the

roadway/dock grade and are paved with concrete. Trucks are scheduled in and out of the Facility

in a manner that ensures that trucks are loaded and unloaded in an uninterrupted and continuous

manner.

Fire Control Facilities

Fire extinguishers are located throughout the CEA Facility and are shown on the drawing in

Section F – Procedures to Prevent Hazards, Appendix F-3-3 of this Application. Fire extinguishers

include multipurpose dry chemical Types A, B, and C, and one Type D portable fire extinguisher.

Type A is capable of extinguishing fires involving ordinary combustible materials such as wood,

cloth, paper, rubber and many plastics; Type B is capable of extinguishing fires involving

flammable liquids, oils, greases, tars, oil base paints, lacquers and flammable gases; and Type C

is capable of extinguishing fires involving energized electrical equipment. Type D is for use on

fires involving combustible metals. All extinguishers comply with National Fire Code standards

for portable fire extinguishers and are inspected after each use or at least monthly.

In addition, two foam stations for firefighting are located near the northcentral and central portions

of the Facility.

Flood Control/Drainage Barriers

Based on area topography, surface water run-on to the Facility is minimal and should not happen

within the various waste processing areas. An earthen berm is present along a portion of the

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southern boundary of the permitted area. As shown on the Flood Hazard Map in <u>Appendix B-2-2</u>, the Facility is not in a floodplain area; furthermore, hazardous waste is stored at elevations that are well above the surrounding land surface.

Runoff Control Systems

Drainage at the CEA Facility is towards the southwest to a Stormwater Retention Pond near the southwest corner of the active area. The Facility's discharge from that pond it regulated under the Alabama Multi-Sector General Permit for Stormwater Discharges from Industrial Facilities.

Location of Hazardous Waste Units

Hazardous waste units at the CEA Facility include four Container Storage Areas (CSAs): Building #1, Building #2, Building #3 and Building #4 and a covered tank farm with secondary containment is located near the northeast central part of the Facility. The Shredder System is in Building #2. The Tank Farm contains six (6) 15,000-gallon RCRA-regulated tanks. The location of Hazardous Waste Management Units is included on the Site Plan in Appendix B-2-6.

Location of Solid Waste Management Units

On May 22-23, 1990, ADEM conducted a Visual Site Inspection (VSI) of the Fisher Industrial Services (Fisher) facility as part of USEPA's Environmental Priorities Preliminary Assessment. Although available records are limited, it appears that EPA issued a report on August 9, 1990 identifying 16 Solid Waste Management Units. Five of the SWMUs were later identified in the Part B Permit as requiring further investigation. The units requiring further investigation were SWMUs 1 (Storm Drain Inlet Near Pumping Sump at Tank Farm), 2 (Pumping Station at the Tank Farm), 3A (Truck Loading/Unloading Area at the Tank Farm), 15 (Drum Reclaiming Area – Quonset Hut – one half) and 16 (Vehicle Maintenance Area – Quonset Hut – one half).

A RCRA Facility Investigation (RFI) Work Plan was submitted to ADEM on January 20, 1998, and subsequently approved. The RFI was conducted and an RFI Report submitted to ADEM on April 28, 1998 by Fisher. On May 4, 1998, ADEM sent a Completeness Determination to the Fisher stating that based on the findings of the RFI, the Department concluded that no further action was required for those SWMUs.



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On April 1-3, 2015, ADEM conducted a VSI and identified nine new SWMUs (SWMUs 17-23).

The RCRA Facility Assessment (RFA) report recommended No Further Action for SWMUs 1, 4,

7, 10-20, and 23. Suggested further actions relating to operations were provided for SWMUs 2

(Pumping Station at the Tank Farm), 3 (Tank Farm Containment Area), 3A (Truck

Loading/Unloading Area at the Tank Farm), 5 (Drum Emptying Vat #1), 6 (Drum Emptying Vat

#2), 8 (Dispersing Tub #1), 9 (Dispersing Tub #2), 21 (Hazardous Waste Container Storage Areas

A-C) and 22 (Hazardous Waste Bulk Storage Building). None of those actions required

investigation of the SWMUs. Table 1 from the ADEM's September 10, 2015 RFA Report is

provided as Appendix B-2-8. SWMU locations from ADEM's 2015 RFA Report are shown on the

drawings in Appendix B-2-9.

Access and Internal Roads

Vehicular access to the Facility is by way of two gates; both off Webster Chapel Road. One gate

leads to an entrance to the north of Building #2 and a second to the west of the

Office/Administration Building. Internal drives make a loop around Building #1 and are paved

with asphalt. A second internal road goes south from the asphalt drive to loading docks at Building

#2. That drive is also paved with asphalt. The surface and drives leading to Buildings #3 and #4

are constructed of compacted gravel.

Internal Roads are shown on the drawing in Appendix B-2-10.

B-3 Location Information

B-3a Seismic Considerations

Not Applicable - This section only applies to new facilities.

B-3b Floodplain Standard

The Facility is not located within a 100-year floodplain; furthermore, hazardous waste is stored

inside buildings and tank farms with secondary containments at elevations that are well above the

surrounding land surface. A Flood Hazard Map is provided in Appendix B-2-2. The closest 100-

year flood plain is located approximately 1,100 feet to the west of the Facility.

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B-4 Traffic Information

A variety of transportation vehicles transport waste to the Facility. Wastes are typically delivered

to the Facility in semi-trucks and trailers (max. 53-feet long trailers), tankers, vacuum trucks, lift-

gate trucks, vans and roll-off boxes. No wastes are received by rail or barge.

Estimated Volume

The estimated volume of waste transported into the Facility is two to ten trucks per day. This

includes a combination of tank trucks and truck trailers

Traffic Pattern

On-site traffic patterns are included on the drawing included on the drawing in Appendix B-2-10.

Parking of automobiles, both visitors and employees, is confined to the parking lot in front of the

administrative office and outside of the perimeter fencing.

Traffic Control

Plant traffic is normally confined to trucks making pickups or deliveries. Traffic control into the

Facility is provided by gates that remain closed except when allowing trucks to enter or leave the

Facility. All transporters must report to the guard shack or office upon arrival. Transporters may

then enter the Facility gates after authorization is granted. All commercial truck traffic for inbound

waste receipt or outbound shipments are scheduled in advance to minimize truck traffic congestion

on the main road into the Facility (Webster Chapel Road) and within the Facility boundary. Only

pre-approved waste transporters and waste streams are allowed to enter the Facility.

Access Road Surfaces

The maximum weight transported into or out of the Facility is 80,000 pounds, the maximum weight

allowed on the highway. All roads to and within the Facility are capable of carrying this load limit.

Traffic Pattern to Facility

The CEA Facility is located at 402 Webster Chapel Road in Glencoe, Etowah County, Alabama.

Commercial vehicles access the CEA Facility from Interstate 59, exit onto I-759E towards

Gadsden and continue 5.4 miles and turn right onto George Wallace Drive for 0.5 miles then

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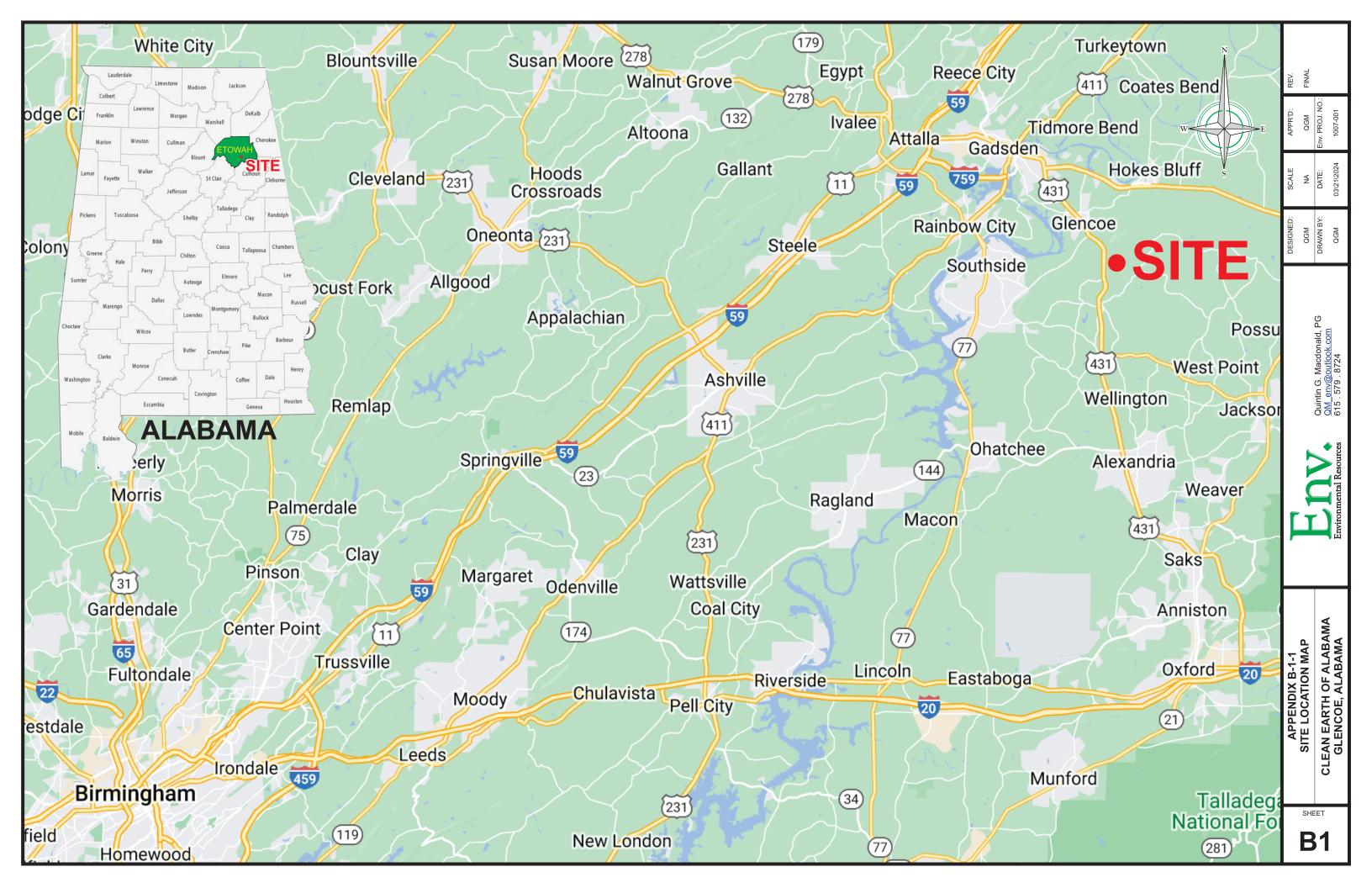
continue straight onto Padenreich Avenue, turn left onto Cloverdale Road for 0.1 miles, turn right onto Paden Road for 1.3 miles, continue onto US-431 Bypass North for 1.2 miles then turn right onto US-431 South US-431 for 4.5 miles and turn left onto Webster Chapel Road.





APPENDIX B-1-1 SITE LOCATION MAP CLEAN EARTH OF ALABAMA

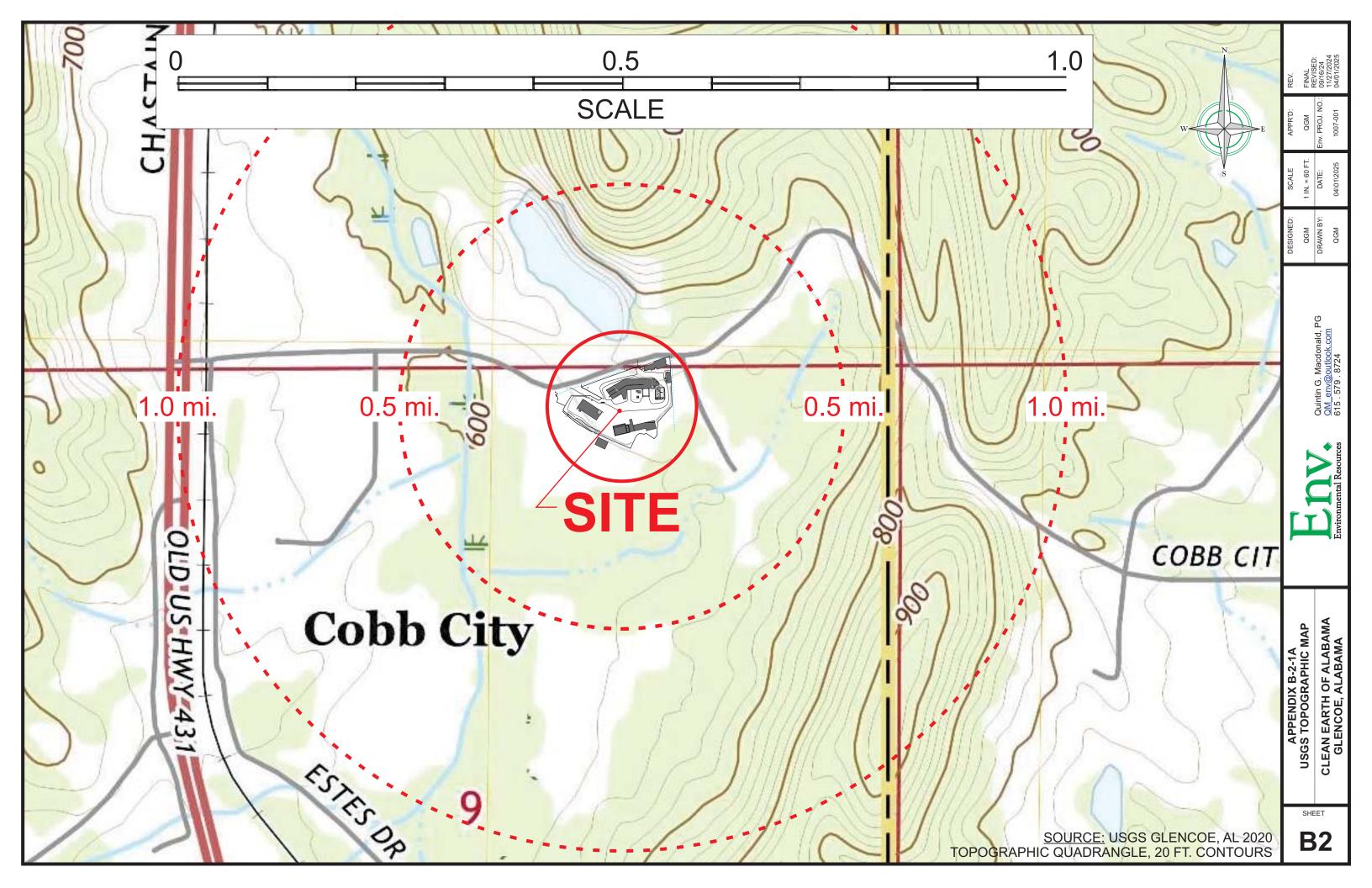




APPENDIX B-2-1A USGS TOPOGRAPHICAL MAP

CLEAN EARTH OF ALABAMA

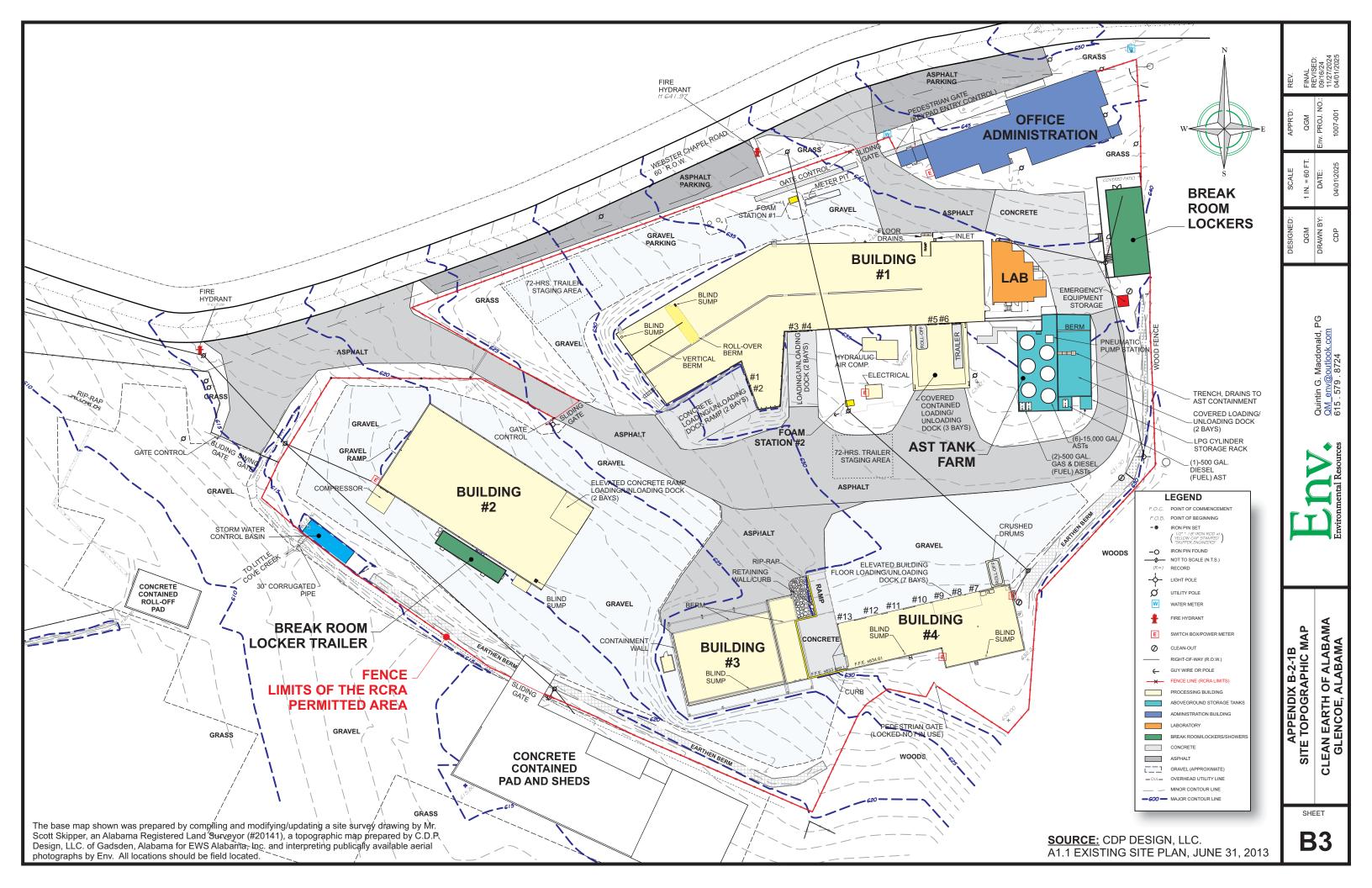




APPENDIX B-2-1B SITE TOPOGRAPHICAL MAP

CLEAN EARTH OF ALABAMA





APPENDIX B-2-2 FLOOD HAZARD MAP CLEAN EARTH OF ALABAMA



National Flood Hazard Layer FIRMette

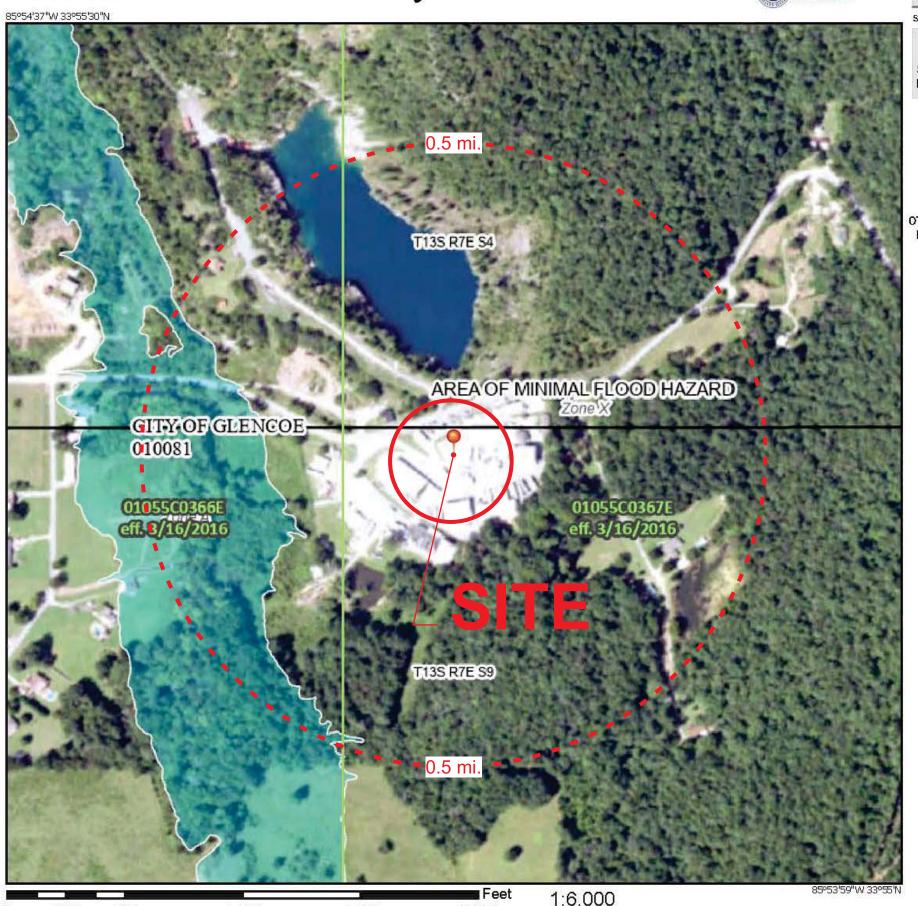
250

500

1,000

1,500





Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

Without Base Flood Elevation (BFE) Zone A, V, A99 With BFE or Depth Zone AE, AO, AH, VE, AR SPECIAL FLOOD HAZARD AREAS Regulatory Floodway

0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile Zone X Future Conditions 1% Annual Chance Flood Hazard Zone X

OTHER AREAS OF

Area with Reduced Flood Risk due to

Levee. See Notes. Zone X FLOOD HAZARD Area with Flood Risk due to Levee Zone D

> NO SCREEN Area of Minimal Flood Hazard Zone X Effective LOMRs

OTHER AREAS Area of Undetermined Flood Hazard Zone D

GENERAL --- Channel, Culvert, or Storm Sewer STRUCTURES | 1111111 Levee, Dike, or Floodwall

(B) 20.2 Cross Sections with 1% Annual Chance 17.5 Water Surface Elevation Coastal Transect Base Flood Elevation Line (BFE) Limit of Study Jurisdiction Boundary --- Coastal Transect Baseline - Profile Baseline FEATURES

Hydrographic Feature

Digital Data Available

MAP PANELS

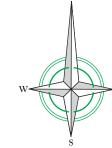
No Digital Data Available Unmapped

The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 2/14/2024 at 2:07 PM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.





APPENDIX B-2-2 FLOOD INSURANCE RATE MAP

SHEET

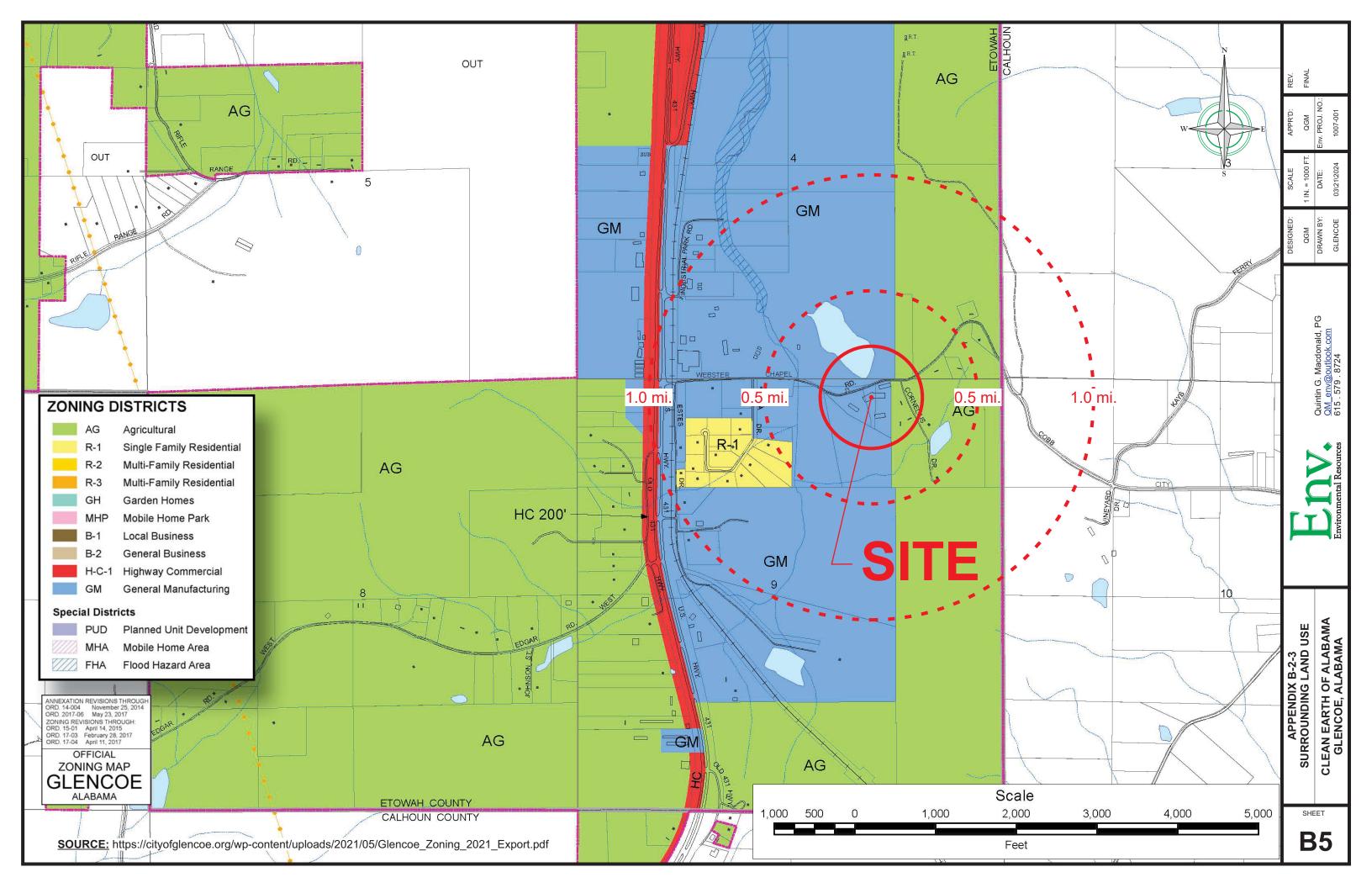
B4

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2,000

APPENDIX B-2-3 SURROUNDING LAND USE ZONING MAP CLEAN EARTH OF ALABAMA

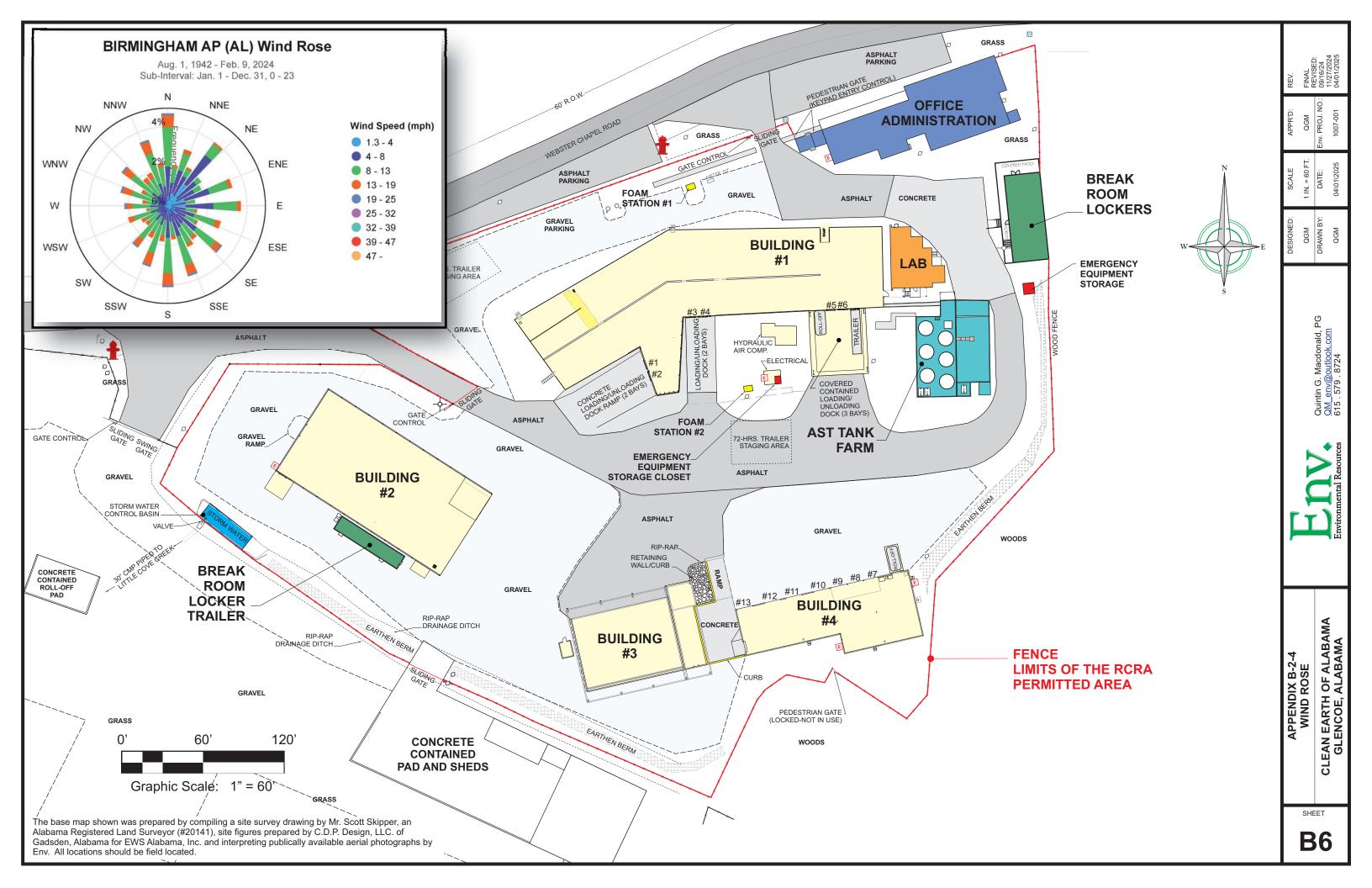




APPENDIX B-2-4 WIND ROSE

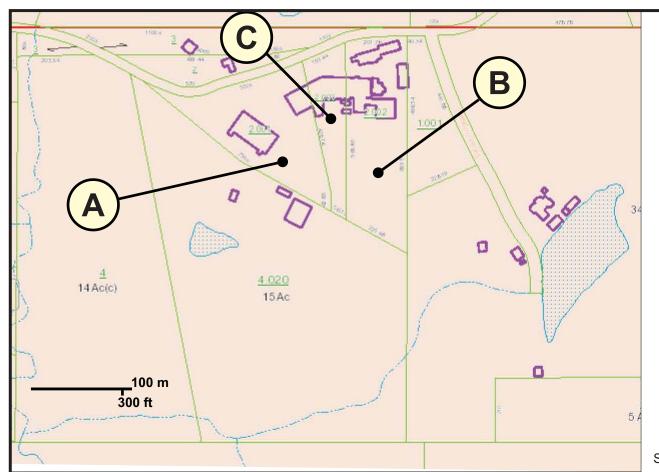
CLEAN EARTH OF ALABAMA



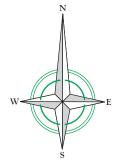


APPENDIX B-2-5 LEGAL DESCRIPTION CLEAN EARTH OF ALABAMA





CleanEarth



Source: Etowah County Parcel Viewer

Legal Description

A Parcel 22-02-09-0-001-002.001

H\S BASE YEAR COM NE COR NW1/4 NE1/4 TH S 30S TO S ROW OF WEBSTER CHAPEL RD TH SW 360S ALONG ROW TO POB TH SW 530S ALONG ROW TH SE'LY 750S TH N 62.83 TH NW 428.76 TO POB LYING IN NW1/4 NE1/4 9-13-7 1464-171,1523-121,D-2001-3856,D-2006-3250484,D-2007-3266574 D-2009-3306725,D-2016-3435371

B Parcel 22-02-09-0-001-002.002

H\S BASE YEAR COM NE COR NW1/4 NE1/4 TH S 30S TO S ROW OF WEBSTER CHAPEL RD BEING POB TH SW 201.76 ALONG ROW TH S 569.63 TH SE 225.48 TH N 693.5 TO POB LYING IN NW1/4 NE1/4 9-13-7 1465-31,D-1997-4412,D-2001-3856,D-2006-3250484 D-2007-3266574,D-2009-3306725,D-2016-3435371

© Parcel 22-02-09-0-001-002.003

H\S BASE YEAR COM NE COR NW1/4 NE1/4 TH S 30S TO S ROW OF WEBSTER CHAPEL RD TH SW 201.76 ALONG ROW TO POB TH SW 153.44 ALONG ROW TH SE 428.76 TH S 62.83 THE SE 56.37 TH N 569.63 TO POB LYING IN NW1/4 NE1/4 9-13-7 1505-45, 1504-47,D-2001-3856,D-2006-3250484,D-2007-3266574 D-2009-3306725,D-2016-3435371

h County Parcel Viewer

APPENDIX B-2-5
LEGAL DESCRIPTION
CLEAN EARTH OF ALABAMA
GLENCOE, ALABAMA

QGM PROJECT NO.:

DATE:

DRAWN BY: QGM

SCALE

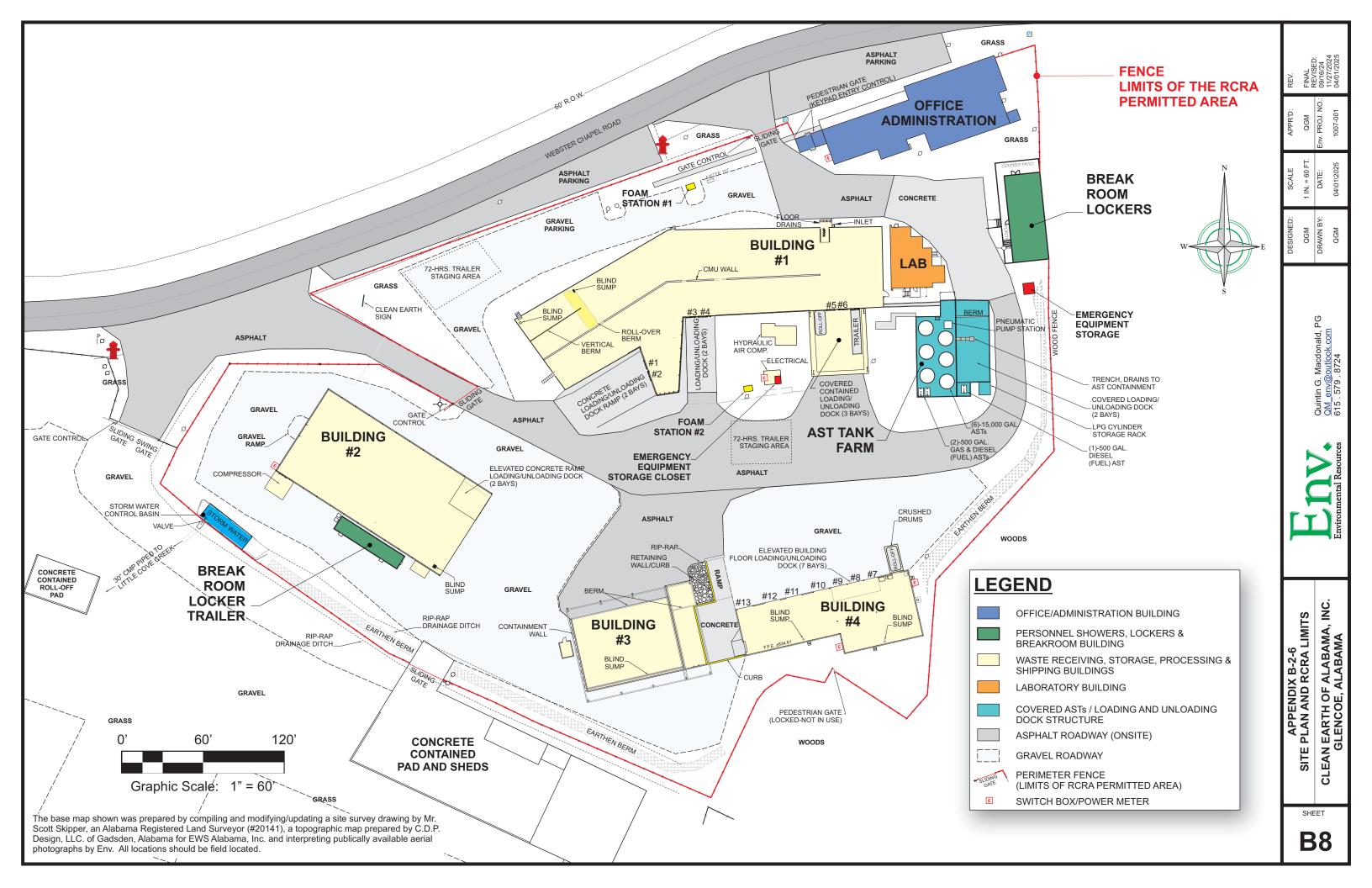
SHEET

B7

APPENDIX B-2-6 SITE PLAN AND RCRA LIMITS

CLEAN EARTH OF ALABAMA





APPENDIX B-2-7 EDR GEOCHECK® REPORT

CLEAN EARTH OF ALABAMA



Clean Earth of Alabama 402 Webster Chapel Road Gadsden, AL 35905

Inquiry Number: 7561938.1s

February 07, 2024

The EDR GeoCheck® Report



6 Armstrong Road, 4th floor Shelton, CT 06484 Toll Free: 800.352.0050 www.edrnet.com

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Thank you for your business.Please contact EDR at 1-800-352-0050 with any questions or comments.

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GEOCHECK® - PHYSICAL SETTING SOURCE REPORT

TARGET PROPERTY ADDRESS

CLEAN EARTH OF ALABAMA 402 WEBSTER CHAPEL ROAD GADSDEN, AL 35905

TARGET PROPERTY COORDINATES

Latitude (North): 33.920452 - 33° 55' 13.63" Longitude (West): 85.90419 - 85° 54' 15.08"

Universal Tranverse Mercator: Zone 16 UTM X (Meters): 601294.6 UTM Y (Meters): 3753682.2

Elevation: 636 ft. above sea level

USGS TOPOGRAPHIC MAP

Target Property Map: 33085-H8 GLENCOE, AL

Version Date: 1972

EDR's GeoCheck Physical Setting Source Addendum is provided to assist the environmental professional in forming an opinion about the impact of potential contaminant migration.

Assessment of the impact of contaminant migration generally has two principle investigative components:

- 1. Groundwater flow direction, and
- 2. Groundwater flow velocity.

Groundwater flow direction may be impacted by surface topography, hydrology, hydrogeology, characteristics of the soil, and nearby wells. Groundwater flow velocity is generally impacted by the nature of the geologic strata.

GROUNDWATER FLOW DIRECTION INFORMATION

Groundwater flow direction for a particular site is best determined by a qualified environmental professional using site-specific well data. If such data is not reasonably ascertainable, it may be necessary to rely on other sources of information, such as surface topographic information, hydrologic information, hydrogeologic data collected on nearby properties, and regional groundwater flow information (from deep aquifers).

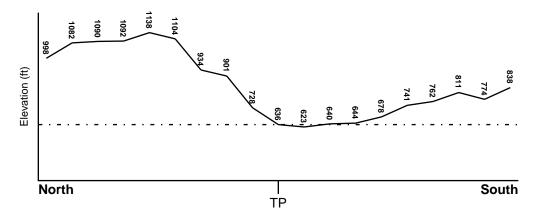
TOPOGRAPHIC INFORMATION

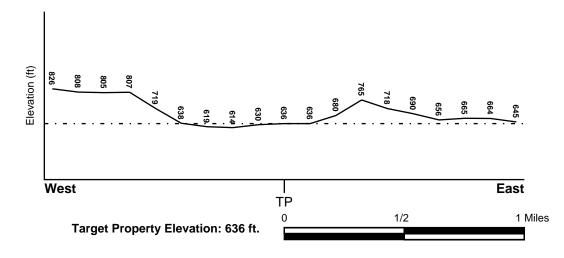
Surface topography may be indicative of the direction of surficial groundwater flow. This information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

TARGET PROPERTY TOPOGRAPHY

General Topographic Gradient: General SSW

SURROUNDING TOPOGRAPHY: ELEVATION PROFILES





Source: Topography has been determined from the USGS 7.5' Digital Elevation Model and should be evaluated on a relative (not an absolute) basis. Relative elevation information between sites of close proximity should be field verified.

HYDROLOGIC INFORMATION

Surface water can act as a hydrologic barrier to groundwater flow. Such hydrologic information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

Refer to the Physical Setting Source Map following this summary for hydrologic information (major waterways and bodies of water).

FEMA FLOOD ZONE

Flood Plain Panel at Target Property FEMA Source Type

Not Reported

Additional Panels in search area: FEMA Source Type

01055C0366D FEMA FIRM Flood data 0100130050B FEMA Q3 Flood data

NATIONAL WETLAND INVENTORY

NWI Quad at Target Property Data Coverage

GLENCOE YES - refer to the Overview Map and Detail Map

HYDROGEOLOGIC INFORMATION

Hydrogeologic information obtained by installation of wells on a specific site can often be an indicator of groundwater flow direction in the immediate area. Such hydrogeologic information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

AQUIFLOW®

Search Radius: 1.000 Mile.

EDR has developed the AQUIFLOW Information System to provide data on the general direction of groundwater flow at specific points. EDR has reviewed reports submitted by environmental professionals to regulatory authorities at select sites and has extracted the date of the report, groundwater flow direction as determined hydrogeologically, and the depth to water table.

LOCATION GENERAL DIRECTION

MAP ID FROM TP GROUNDWATER FLOW

Not Reported

GROUNDWATER FLOW VELOCITY INFORMATION

Groundwater flow velocity information for a particular site is best determined by a qualified environmental professional using site specific geologic and soil strata data. If such data are not reasonably ascertainable, it may be necessary to rely on other sources of information, including geologic age identification, rock stratigraphic unit and soil characteristics data collected on nearby properties and regional soil information. In general, contaminant plumes move more quickly through sandy-gravelly types of soils than silty-clayey types of soils.

GEOLOGIC INFORMATION IN GENERAL AREA OF TARGET PROPERTY

Geologic information can be used by the environmental professional in forming an opinion about the relative speed at which contaminant migration may be occurring.

ROCK STRATIGRAPHIC UNIT

GEOLOGIC AGE IDENTIFICATION

Era: Paleozoic Category: Stratified Sequence

System: Devonian and Silurian Series: Devonian and Silurian

Code: DS (decoded above as Era, System & Series)

Geologic Age and Rock Stratigraphic Unit Source: P.G. Schruben, R.E. Arndt and W.J. Bawiec, Geology of the Conterminous U.S. at 1:2,500,000 Scale - a digital representation of the 1974 P.B. King and H.M. Beikman Map, USGS Digital Data Series DDS - 11 (1994).

SSURGO SOIL MAP - 7561938.1s



SITE NAME: Clean Earth of Alabama ADDRESS: 402 Webster Chapel Road Gadsden AL 35905 LAT/LONG: 33.920452 / 85.90419

CLIENT: EME Environmental Solutions, LLC CONTACT: Ellen Hofmann-Haynie INQUIRY #: 7561938.1s

February 07, 2024 11:33 am DATE:

DOMINANT SOIL COMPOSITION IN GENERAL AREA OF TARGET PROPERTY

The U.S. Department of Agriculture's (USDA) Soil Conservation Service (SCS) leads the National Cooperative Soil Survey (NCSS) and is responsible for collecting, storing, maintaining and distributing soil survey information for privately owned lands in the United States. A soil map in a soil survey is a representation of soil patterns in a landscape. The following information is based on Soil Conservation Service SSURGO data.

Soil N	/lap	ID:	1
--------	------	-----	---

Soil Component Name: Pits

Soil Surface Texture:

Hydrologic Group: Not reported

Soil Drainage Class: Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: Not Reported

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

No Layer Information available.

Soil Map ID: 2

Soil Component Name: Conasauga

Soil Surface Texture: loam

Hydrologic Group: Class C - Slow infiltration rates. Soils with layers impeding downward

movement of water, or soils with moderately fine or fine textures.

Soil Drainage Class: Moderately well drained

Hydric Status: Partially hydric

Corrosion Potential - Uncoated Steel: High

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

	Soil Layer Information									
Layer	Boundary			Classification		Saturated hydraulic				
	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil	conductivity micro m/sec	Soil Reaction (pH)			
1	0 inches	3 inches	loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	Not reported	Max: 1.4 Min: 0.42	Max: Min:			
2	3 inches	9 inches	clay loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	Not reported	Max: 1.4 Min: 0.42	Max: Min:			
3	9 inches	38 inches	clay	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	Not reported	Max: 1.4 Min: 0.42	Max: Min:			
4	38 inches	59 inches	weathered bedrock	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	Not reported	Max: 1.4 Min: 0.42	Max: Min:			

Soil Map ID: 3

Soil Component Name: Allen

Soil Surface Texture: gravelly fine sandy loam

Hydrologic Group: Class B - Moderate infiltration rates. Deep and moderately deep,

moderately well and well drained soils with moderately coarse

textures.

Soil Drainage Class: Well drained

Hydric Status: Partially hydric

Corrosion Potential - Uncoated Steel: Low

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

			Soil Layer	Information			
	Вои	ındary		Classi	fication	Saturated hydraulic	
Layer	r Upper Lower		Soil Texture Class	AASHTO Group	Unified Soil	conductivity micro m/sec	Soil Reaction (pH)
1	0 inches	11 inches	gravelly fine sandy loam	Granular materials (35 pct. or less passing No. 200), Silty, or Clayey Gravel and Sand.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay	Max: 14 Min: 4	Max: 5.5 Min: 4.5
2	11 inches	63 inches	clay loam	Granular materials (35 pct. or less passing No. 200), Silty, or Clayey Gravel and Sand.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay	Max: 14 Min: 4	Max: 5.5 Min: 4.5
3	63 inches	68 inches	clay loam	Granular materials (35 pct. or less passing No. 200), Silty, or Clayey Gravel and Sand.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay	Max: 14 Min: 4	Max: 5.5 Min: 4.5

Soil Map ID: 4

Soil Component Name: Conasauga

Soil Surface Texture: loam

Hydrologic Group: Class C - Slow infiltration rates. Soils with layers impeding downward

movement of water, or soils with moderately fine or fine textures.

Soil Drainage Class: Moderately well drained

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: High

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

			Soil Layer	Information			
	Вои	ındary		Classi	fication	Saturated hydraulic	
Layer	Upper Lower		Soil Texture Class	AASHTO Group	Unified Soil	conductivity micro m/sec	Soil Reaction (pH)
1	0 inches	3 inches	loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	Not reported	Max: 1.4 Min: 0.42	Max: Min:
2	3 inches	9 inches	clay loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	Not reported	Max: 1.4 Min: 0.42	Max: Min:
3	9 inches	38 inches	clay	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	Not reported	Max: 1.4 Min: 0.42	Max: Min:
4	38 inches	59 inches	weathered bedrock	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	Not reported	Max: 1.4 Min: 0.42	Max: Min:

Soil Map ID: 5

Soil Component Name: Water
Soil Surface Texture: loam

Hydrologic Group: Class C - Slow infiltration rates. Soils with layers impeding downward

movement of water, or soils with moderately fine or fine textures.

Soil Drainage Class: Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: Not Reported

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

No Layer Information available.

Soil Map ID: 6

Soil Component Name: Nella

Soil Surface Texture: gravelly sandy loam

Hydrologic Group: Class B - Moderate infiltration rates. Deep and moderately deep,

moderately well and well drained soils with moderately coarse

textures.

Soil Drainage Class: Well drained

Hydric Status: Partially hydric

Corrosion Potential - Uncoated Steel: Moderate

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

	Soil Layer Information											
	Воц	ındary		Classi	fication	Saturated hydraulic						
Layer	Upper Lower		Soil Texture Class	AASHTO Group	Unified Soil	conductivity micro m/sec	Soil Reaction (pH)					
1	0 inches	5 inches	gravelly sandy loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay	Max: 14 Min: 4	Max: 5.5 Min: 4.5					
2	5 inches	64 inches	cobbly clay loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay	Max: 14 Min: 4	Max: 5.5 Min: 4.5					

Soil Map ID: 7

Soil Component Name: Cedarbluff

Soil Surface Texture: fine sandy loam

Hydrologic Group: Class C - Slow infiltration rates. Soils with layers impeding downward

movement of water, or soils with moderately fine or fine textures.

Soil Drainage Class: Somewhat poorly drained

Hydric Status: Partially hydric

Corrosion Potential - Uncoated Steel: High

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 23 inches

	Soil Layer Information											
	Bou	ındary		Classi	fication	Saturated hydraulic						
Layer	Upper Lower		Soil Texture Class	AASHTO Group	Unified Soil	conductivity micro m/sec	Oon Roadion					
1	0 inches	11 inches	fine sandy loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), silt.	Max: 1.4 Min: 0.42	Max: 5.5 Min: 5.1					
2	11 inches	59 inches	loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), silt.	Max: 1.4 Min: 0.42	Max: 5.5 Min: 5.1					

Soil Map ID: 8

Cloudland Soil Component Name:

Soil Surface Texture: loam

Class C - Slow infiltration rates. Soils with layers impeding downward movement of water, or soils with moderately fine or fine textures. Hydrologic Group:

Soil Drainage Class: Moderately well drained

Hydric Status: Partially hydric

Corrosion Potential - Uncoated Steel: Moderate

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 61 inches

			Soil Layer	Information			
	Bou	ındary		Classi	fication	Saturated hydraulic	
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil	conductivity micro m/sec	Soil Reaction (pH)
1	0 inches	20 inches	loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay. FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), silt.	Max: 1.4 Min: 0.42	Max: 5.5 Min: 4.5
2	20 inches	29 inches	loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay. FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), silt.	Max: 1.4 Min: 0.42	Max: 5.5 Min: 4.5
3	29 inches	61 inches	clay loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay. FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), silt.	Max: 1.4 Min: 0.42	Max: 5.5 Min: 4.5

Soil Map ID: 9

Soil Component Name: Allen

Soil Surface Texture: fine sandy loam

Hydrologic Group: Class B - Moderate infiltration rates. Deep and moderately deep,

moderately well and well drained soils with moderately coarse

textures.

Soil Drainage Class: Well drained

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: Low

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

	Soil Layer Information											
	Вои	ındary		Classi	fication	Saturated hydraulic	Soil Reaction (pH)					
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil	conductivity micro m/sec						
1	0 inches	11 inches	fine sandy loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay	Max: 14 Min: 4	Max: 5.5 Min: 4.5					
2	11 inches	63 inches	clay loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay	Max: 14 Min: 4	Max: 5.5 Min: 4.5					
3	63 inches	68 inches	clay loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay	Max: 14 Min: 4	Max: 5.5 Min: 4.5					

LOCAL / REGIONAL WATER AGENCY RECORDS

EDR Local/Regional Water Agency records provide water well information to assist the environmental professional in assessing sources that may impact ground water flow direction, and in forming an opinion about the impact of contaminant migration on nearby drinking water wells.

WELL SEARCH DISTANCE INFORMATION

DATABASE SEARCH DISTANCE (miles)

Federal USGS 1.000 Federal FRDS PWS 1.000 State Database 1.000

FEDERAL USGS WELL INFORMATION

MAP ID WELL ID FROM TP

No Wells Found

FEDERAL FRDS PUBLIC WATER SUPPLY SYSTEM INFORMATION

MAP ID WELL ID FROM TP

No PWS System Found

Note: PWS System location is not always the same as well location.

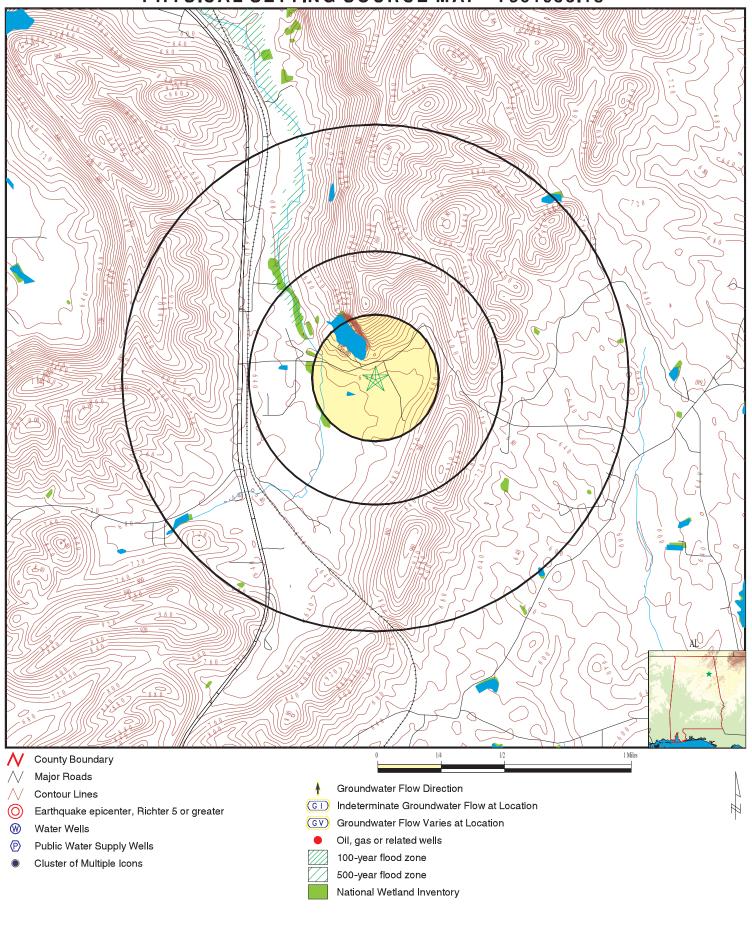
GEOCHECK[®] - PHYSICAL SETTING SOURCE SUMMARY

STATE DATABASE WELL INFORMATION

MAP ID WELL ID LOCATION FROM TP

No Wells Found

PHYSICAL SETTING SOURCE MAP - 7561938.1s



SITE NAME: Clean Earth of Alabama ADDRESS: 402 Webster Chapel Road Gadsden AL 35905

33.920452 / 85.90419

LAT/LONG:

EME Environmental Solutions, LLC

CLIENT: CONTACT: Ellen Hofmann-Haynie

INQUIRY#: 7561938.1s

February 07, 2024 11:33 am DATE:

GEOCHECK®- PHYSICAL SETTING SOURCE MAP FINDINGS RADON

AREA RADON INFORMATION

State Database: AL Radon

Radon Test Results

Num Tested	< 4 pCi/L	> 4 pCi/L	% > 4 pCi/L	Avg Level	Highest
10	10	0	0	0.76	2.6

Federal EPA Radon Zone for ETOWAH County: 2

Note: Zone 1 indoor average level > 4 pCi/L.

: Zone 2 indoor average level >= 2 pCi/L and <= 4 pCi/L.

: Zone 3 indoor average level < 2 pCi/L.

Federal Area Radon Information for ETOWAH COUNTY, AL

Number of sites tested: 15

Area	Average Activity	% <4 pCi/L	% 4-20 pCi/L	% >20 pCi/L
Living Area - 1st Floor Living Area - 2nd Floor	0.626 pCi/L Not Reported	100% Not Reported	0% Not Reported	0% Not Reported
Basement	1.750 pCi/L	100%	0%	0%

PHYSICAL SETTING SOURCE RECORDS SEARCHED

TOPOGRAPHIC INFORMATION

USGS 7.5' Digital Elevation Model (DEM)

Source: United States Geologic Survey

EDR acquired the USGS 7.5' Digital Elevation Model in 2002 and updated it in 2006. The 7.5 minute DEM corresponds to the USGS 1:24,000- and 1:25,000-scale topographic quadrangle maps. The DEM provides elevation data with consistent elevation units and projection.

HYDROLOGIC INFORMATION

Flood Zone Data: This data was obtained from the Federal Emergency Management Agency (FEMA). It depicts 100-year and 500-year flood zones as defined by FEMA. It includes the National Flood Hazard Layer (NFHL) which incorporates Flood Insurance Rate Map (FIRM) data and Q3 data from FEMA in areas not covered by NFHL.

Source: FEMA

Telephone: 877-336-2627

Date of Government Version: 2003, 2015

NWI: National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 2002, 2005, 2010 and 2015 from the U.S. Fish and Wildlife Service.

State Wetlands Data: Wetlands Data
Source: Alabama State Water Program

Telephone: 334-844-3927

HYDROGEOLOGIC INFORMATION

AQUIFLOW^R Information System

Source: EDR proprietary database of groundwater flow information

EDR has developed the AQUIFLOW Information System (AIS) to provide data on the general direction of groundwater flow at specific points. EDR has reviewed reports submitted to regulatory authorities at select sites and has extracted the date of the report, hydrogeologically determined groundwater flow direction and depth to water table information.

GEOLOGIC INFORMATION

Geologic Age and Rock Stratigraphic Unit

Source: P.G. Schruben, R.E. Arndt and W.J. Bawiec, Geology of the Conterminous U.S. at 1:2,500,000 Scale - A digital representation of the 1974 P.B. King and H.M. Beikman Map, USGS Digital Data Series DDS - 11 (1994).

STATSGO: State Soil Geographic Database

Source: Department of Agriculture, Natural Resources Conservation Service (NRCS)

The U.S. Department of Agriculture's (USDA) Natural Resources Conservation Service (NRCS) leads the national Conservation Soil Survey (NCSS) and is responsible for collecting, storing, maintaining and distributing soil survey information for privately owned lands in the United States. A soil map in a soil survey is a representation of soil patterns in a landscape. Soil maps for STATSGO are compiled by generalizing more detailed (SSURGO) soil survey maps.

SSURGO: Soil Survey Geographic Database

Source: Department of Agriculture, Natural Resources Conservation Service (NRCS)

Telephone: 800-672-5559

SSURGO is the most detailed level of mapping done by the Natural Resources Conservation Service, mapping scales generally range from 1:12,000 to 1:63,360. Field mapping methods using national standards are used to construct the soil maps in the Soil Survey Geographic (SSURGO) database. SSURGO digitizing duplicates the original soil survey maps. This level of mapping is designed for use by landowners, townships and county natural resource planning and management.

PHYSICAL SETTING SOURCE RECORDS SEARCHED

LOCAL / REGIONAL WATER AGENCY RECORDS

FEDERAL WATER WELLS

PWS: Public Water Systems

Source: EPA/Office of Drinking Water

Telephone: 202-564-3750

Public Water System data from the Federal Reporting Data System. A PWS is any water system which provides water to at least 25 people for at least 60 days annually. PWSs provide water from wells, rivers and other sources.

PWS ENF: Public Water Systems Violation and Enforcement Data

Source: EPA/Office of Drinking Water

Telephone: 202-564-3750

Violation and Enforcement data for Public Water Systems from the Safe Drinking Water Information System (SDWIS) after August 1995. Prior to August 1995, the data came from the Federal Reporting Data System (FRDS).

USGS Water Wells: USGS National Water Inventory System (NWIS)

This database contains descriptive information on sites where the USGS collects or has collected data on surface water and/or groundwater. The groundwater data includes information on wells, springs, and other sources of groundwater.

STATE RECORDS

Alabama Wells Data

Source: Department of Environmental Management

Telephone: 334-271-7985

OTHER STATE DATABASE INFORMATION

Well Surface Locations

Source: Geological Survey of Alabama, State Oil and Gas Board

Telephone: 205-247-3661

A listing of oil and gas well locations in the state.

RADON

State Database: AL Radon

Source: Department of Public Health

Telephone: 334-206-5391

Short-Term Test Results for Alabama Counties

Area Radon Information Source: USGS

Telephone: 703-356-4020

The National Radon Database has been developed by the U.S. Environmental Protection Agency

(USEPA) and is a compilation of the EPA/State Residential Radon Survey and the National Residential Radon Survey. The study covers the years 1986 - 1992. Where necessary data has been supplemented by information collected at private sources such as universities and research institutions.

EPA Radon Zones Source: EPA

Telephone: 703-356-4020

Sections 307 & 309 of IRAA directed EPA to list and identify areas of U.S. with the potential for elevated indoor

radon levels.

OTHER

Airport Landing Facilities: Private and public use landing facilities

Source: Federal Aviation Administration, 800-457-6656

Epicenters: World earthquake epicenters, Richter 5 or greater

Source: Department of Commerce, National Oceanic and Atmospheric Administration

Earthquake Fault Lines: The fault lines displayed on EDR's Topographic map are digitized quaternary faultlines, prepared

in 1975 by the United State Geological Survey

PHYSICAL SETTING SOURCE RECORDS SEARCHED

STREET AND ADDRESS INFORMATION

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APPENDIX B-2-8 LIST OF SWMUS FROM ADEM'S 9/10/2015 RFA REPORT

CLEAN EARTH OF ALABAMA



TABLE 1 EXECUTIVE SUMMARY

EWS Alabama Inc., Glencoe, Alabama

SWMU/AOC	TYPE OF UNIT	YEARS OF OPERATION	WASTES MANAGED	POLLUTION MIGRATION PATHWAYS ¹	EXPOSURE POTENTIAL ²	POTENTIAL FOR RELEASE ³	NEED FOR INTERIM MEASURES	SUGGESTED FURTHER ACTION⁴
SWMU 1-Storm Drain Inlet	drain inlet	unknown	stormwater	A GW S SS SW	L L L	L U U	No	No further action at this time.
SWMU 2- Pumping Station near Tank Farm	pumping station	1986-present	see Table 2	A GW S SS SW	L L L	L U L	No	EWS should continue to operate the pumping station in accordance with the requirements for Subpart BB ancillary equipment for tanks.
SWMU 3-Tank Farm Containment Area	storage/treatment tanks and the containment area	1986-present	see Table 2	A GW S SS SS	L L L	L L L	No	EWS should continue to operate the ancillary equipment located within SWMU 3 in accordance with the requirements for Subpart BB ancillary equipment for tanks. EWS should maintain the tanks in SWMU 3 in accordance with the requirements for Subpart CC the facility's hazardous waste permit and applicable Division 14 Regulations.
SWMU 3A-Truck Loading/Unloading Area	loading/unloading dock	1986-present	see Table 2	A GW S SS SS	L L L	L L U L	No	EWS should continue to operate SWMU 3A in accordance with the requirements found in the facility's RCRA Hazardous Waste Permit and applicable Division 14 Regulations. EWS should continue to operate the ancillary equipment located within SWMU 3A in accordance with the requirements for Subpart BB ancillary equipment for tanks.
SWMU 4-Drum Storage Area	hazardous waste storage area	1986-1996	wastes specified in the 1991 facility permit application	A GW S SS SW	L L L L		No	No further action at this time.
SWMU 5-Drum Emptying Vat #1	vat	1887-present	see Table 2	A GW S SS SW	L L L	L L L	No	EWS should continue to operate SWMU 5 in accordance with the requirements found in the facility's RCRA Hazardous Waste Permit and applicable Division 14 Regulations.
SWMU 6-Drum Emptying Vat #2	vat	1889-present	see Table 2	A GW S SS SW	L L L	L L L	No	EWS should continue to operate SWMU 6 in accordance with the requirements found in the facility's RCRA Hazardous Waste Permit and applicable Division 14 Regulations.
SWMU 7-Drum Emptying Vat #3	vat	1987-1997	wastes specified in the 1991 facility permit application	A GW S SS SW	L L L L	L L L L	No	No further action at this time.

^{1.} For Pollution Migration Pathways, 'A' designates Air; 'GW' designates Ground Water; 'S' designates Soil; 'SS' designates Subsurface Gas; 'SW' designates Surface Water, and 'SD' designates Sediment.

^{2.} For Exposure Potential, 'H' designates High; 'M' designates Medium; 'L' designates Low; and 'U' designates Unknown exposure potential; see each SWMU/AOC in Section 4.0 of the RFA for substantiation.

^{3.} Potential for Release is defined as High (H), evidence indicates that a release of hazardous waste or hazardous constituents has occurred; Medium (M) evidence indicates that a release may have occurred; Low (L) no evidence of release was found; and Unknown (U) sufficient information is not available to make a determination.

^{4.} See each SWMU/AOC in Section 4.0 of the RFA for substantiation.

TABLE 1 EXECUTIVE SUMMARY EWS Alabama Inc., Glencoe, Alabama Alabama

SWMU/AOC	TYPE OF UNIT	YEARS OF OPERATION	WASTES MANAGED	POLLUTION MIGRATION PATHWAYS 1	EXPOSURE POTENTIAL ²	POTENTIAL FOR RELEASE ³	NEED FOR INTERIM MEASURES	SUGGESTED FURTHER ACTION⁴
SWMU 8-Dispersing Tub #1	dispersing tub	1988-present	see Table 2	A GW S SS SS	L L L L		No	EWS should continue to operate SWMU 8 in accordance with the requirements found in the facility's RCRA Hazardous Waste Permit and applicable Division 14 Regulations. EWS should continue to operate the ancillary equipment associated with SWMU 8 in accordance with the requirements for Subpart BB ancillary equipment for tanks.
SWMU 9-Dispersing Tub #2	dispersing tub	1986-present	see Table 2	A GW S SS SW	L L L	L L L	No	EWS should continue to operate SWMU 9 in accordance with the requirements found in the facility's RCRA Hazardous Waste Permit and applicable Division 14 Regulations. EWS should continue to operate the ancillary equipment associated with SWMU 9 in accordance with the requirements for Subpart BB ancillary equipment for tanks.
SWMU 10-Dispersing Tub #3	dispersing tub	1990-1997	wastes specified in the 1991 facility permit application	A GW S SS SW	L L L L	L L L L	No	No further action at this time.
SWMU 11-Dispersing Tub #4	dispersing tub	1994-1997	wastes specified in the 1991 facility permit application	A GW S SS SW	L L L		No	No further action at this time.
SWMU 12-Roll-off Box	roll-off box	unknown	F006 wastes	A GW S SS SW	L L L	L L L	No	No further action at this time.
SWMU 13-Generator Storage Building	hazardous waste storage area	1987-unknown	wastes specified in the 1991 facility permit application	A GW S SS SW	L L L	L L L	No	No further action at this time.

^{1.} For Pollution Migration Pathways, 'A' designates Air; 'GW' designates Ground Water; 'S' designates Soil; 'SS' designates Subsurface Gas; 'SW' designates Surface Water, and 'SD' designates Sediment.

^{2.} For Exposure Potential, 'H' designates High; 'M' designates Medium; 'L' designates Low; and 'U' designates Unknown exposure potential; see each SWMU/AOC in Section 4.0 of the RFA for substantiation.

^{3.} Potential for Release is defined as High (H), evidence indicates that a release of hazardous waste or hazardous constituents has occurred; Medium (M) evidence indicates that a release may have occurred; Low (L) no evidence of release was found; and Unknown (U) sufficient information is not available to make a determination.

^{4.} See each SWMU/AOC in Section 4.0 of the RFA for substantiation.

TABLE 1 EXECUTIVE SUMMARY EWS Alabama Inc., Glencoe, Alabama Alabama

SWMU/AOC	TYPE OF UNIT	YEARS OF OPERATION	WASTES MANAGED	POLLUTION MIGRATION PATHWAYS 1	EXPOSURE POTENTIAL ²	POTENTIAL FOR RELEASE ³	NEED FOR INTERIM MEASURES	SUGGESTED FURTHER ACTION⁴
SWMU 14-Plant Laydown Area	laydown area	1986-present	miscellaneous non- hazardous materials	A GW S SS SW	L L L	L L L	No	No further action at this time.
SWMU 15-Drum Reclaiming Area (Quonset Hut)	drum reclaiming area	1987-unknown	empty drums	A GW S SS SW	L L L	L L L	No	No further action at this time.
SWMU 16-Vehicle Maintenance Area (Quonset Hut)	vehicle and equipment maintenance area	1987-unknown	oils, grease, lubricants, anti- freeze, and gasoline	A GW S SS SW	L L L	L L L	No	No further action at this time.
SWMU 17-Drum Emptying Vat #4	drum emptying vat	1994-1997	wastes specified in the 1991 facility permit application	A GW S SS SW	L L L	L L L	No	No further action at this time.
SWMU 18-Drum Emptying Vat #5	drum emptying vat	1995-unknown	wastes specified in the 1991 facility permit application	A GW S SS SW	L L L L	L L L L	No	No further action at this time.
SWMU 19- Dispersing Tub #5	dispersing tub	1995-unknown	wastes specified in the 1991 facility permit application	A GW S SS SW	L L L L	L L L L	No	No further action at this time.
SWMU 20-Hazardous Waste Compaction Units	compactor	unknown	wastes specified in the facility's May 10, 2002, Permit Application	A GW S SS SW	L L L	L L L	No	No further action at this time.
SWMU 21-Hazardous Waste Container Storage Areas A-C	hazardous waste storage areas	1995-present	see Table 2	A GW S SS SW	L L L L	L L L	No	EWS should continue to manage SWMU 21 A-C as required by the facility's permit and Division 14 Regulations.

^{1.} For Pollution Migration Pathways, 'A' designates Air; 'GW' designates Ground Water; 'S' designates Soil; 'SS' designates Subsurface Gas; 'SW' designates Surface Water, and 'SD' designates Sediment.

^{2.} For Exposure Potential, 'H' designates High; 'M' designates Medium; 'L' designates Low; and 'U' designates Unknown exposure potential; see each SWMU/AOC in Section 4.0 of the RFA for substantiation.

^{3.} Potential for Release is defined as High (H), evidence indicates that a release of hazardous waste or hazardous constituents has occurred; Medium (M) evidence indicates that a release may have occurred; Low (L) no evidence of release was found; and Unknown (U) sufficient information is not available to make a determination.

^{4.} See each SWMU/AOC in Section 4.0 of the RFA for substantiation.

TABLE 1 EXECUTIVE SUMMARY

EWS Alabama Inc., Glencoe, Alabama Alabama

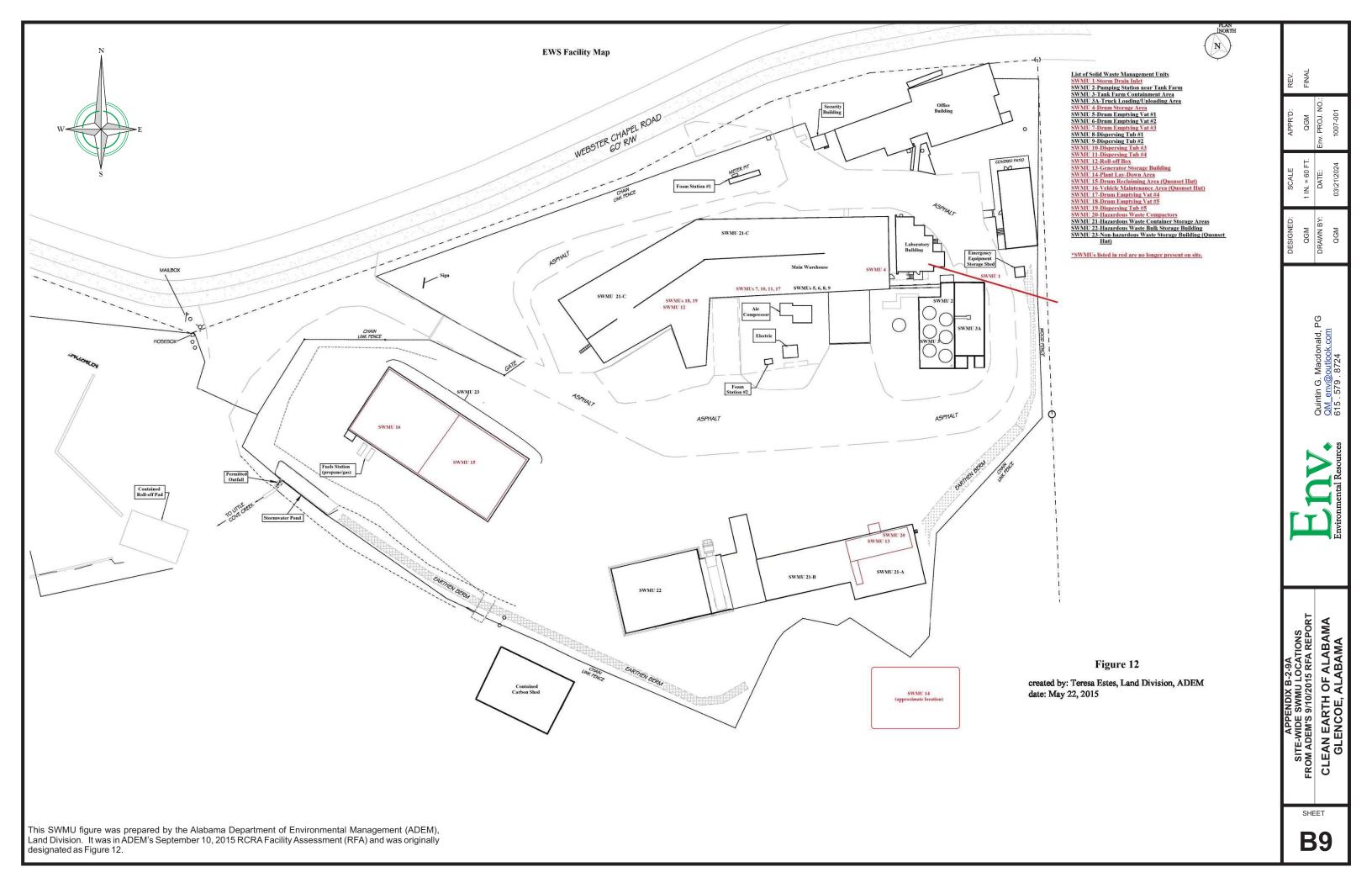
SWMU/AOC	TYPE OF UNIT	YEARS OF OPERATION	WASTES MANAGED	POLLUTION MIGRATION PATHWAYS ¹	EXPOSURE POTENTIAL ²	POTENTIAL FOR RELEASE ³	NEED FOR INTERIM MEASURES	SUGGESTED FURTHER ACTION⁴
SWMU 22-Hazardous Waste Bulk Storage Building	bulk storage for hazardous waste	2015-present	see Table 2	A GW S SS SW	L L L	L L L	No	EWS should continue to manage the storage area as required by the facility permit and Division 14 Regulations.
SWMU 23-Non-hazardous Waste Container Storage Area	storage for non- hazardous wastes	unknown-present	non-hazardous wastes and used oil	A GW S SS SW	L L L	L L L	No	No further action at this time.

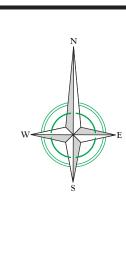
- 1. For Pollution Migration Pathways, 'A' designates Air; 'GW' designates Ground Water; 'S' designates Soil; 'SS' designates Subsurface Gas; 'SW' designates Surface Water, and 'SD' designates Sediment.
- 2. For Exposure Potential, 'H' designates High; 'M' designates Medium; 'L' designates Low; and 'U' designates Unknown exposure potential, see each SWMU/AOC in Section 4.0 of the RFA for substantiation.
- 3. Potential for Release is defined as High (H), evidence indicates that a release of hazardous waste or hazardous constituents has occurred; Medium (M) evidence indicates that a release may have occurred; Low (L) no evidence of release was found; and Unknown (U) sufficient information is not available to make a determination.
- 4. See each SWMU/AOC in Section 4.0 of the RFA for substantiation.

APPENDIX B-2-9 SWMU LOCATIONS FROM ADEM'S 9/10/2015 RFA REPORT

CLEAN EARTH OF ALABAMA

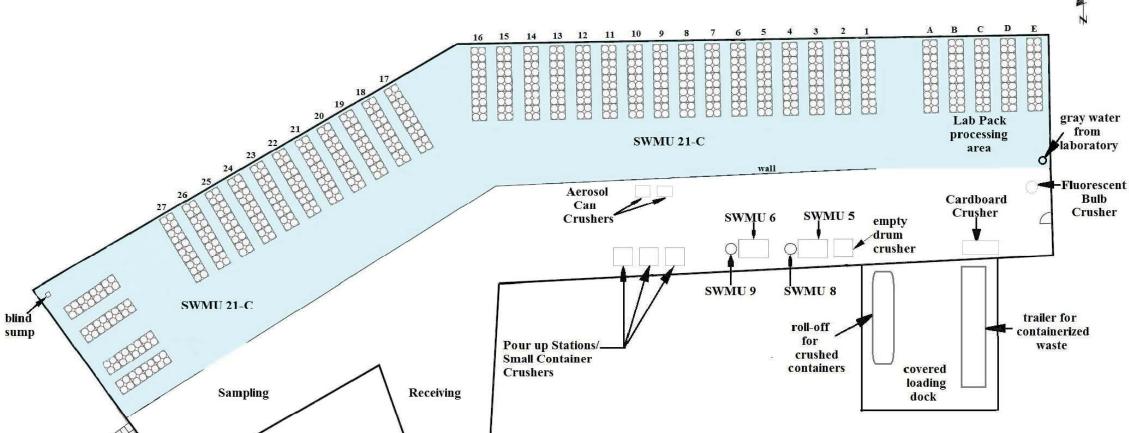






BUILDING #1

Main Warehouse Layout



Solid Waste Management Units

SWMU 5-Drum Emptying Vat #1 SWMU 6-Drum Emptying Vat #2 SWMU 8-Dispersing Tub #1 SWMU 9-Dispersing Tub #2 SWMU 21-C-Hazardous Waste Container Storage Area C

Figure 2

created by: Teresa Estes, Land Division, ADEM date: May 22, 2015

This SWMU figure was prepared by the Alabama Department of Environmental Management (ADEM), Land Division. It was in ADEM's September 10, 2015 RCRA Facility Assessment (RFA) and was originally designated as Figure 2. ADEM's original figure has been modified to create this Figure for the permit application.

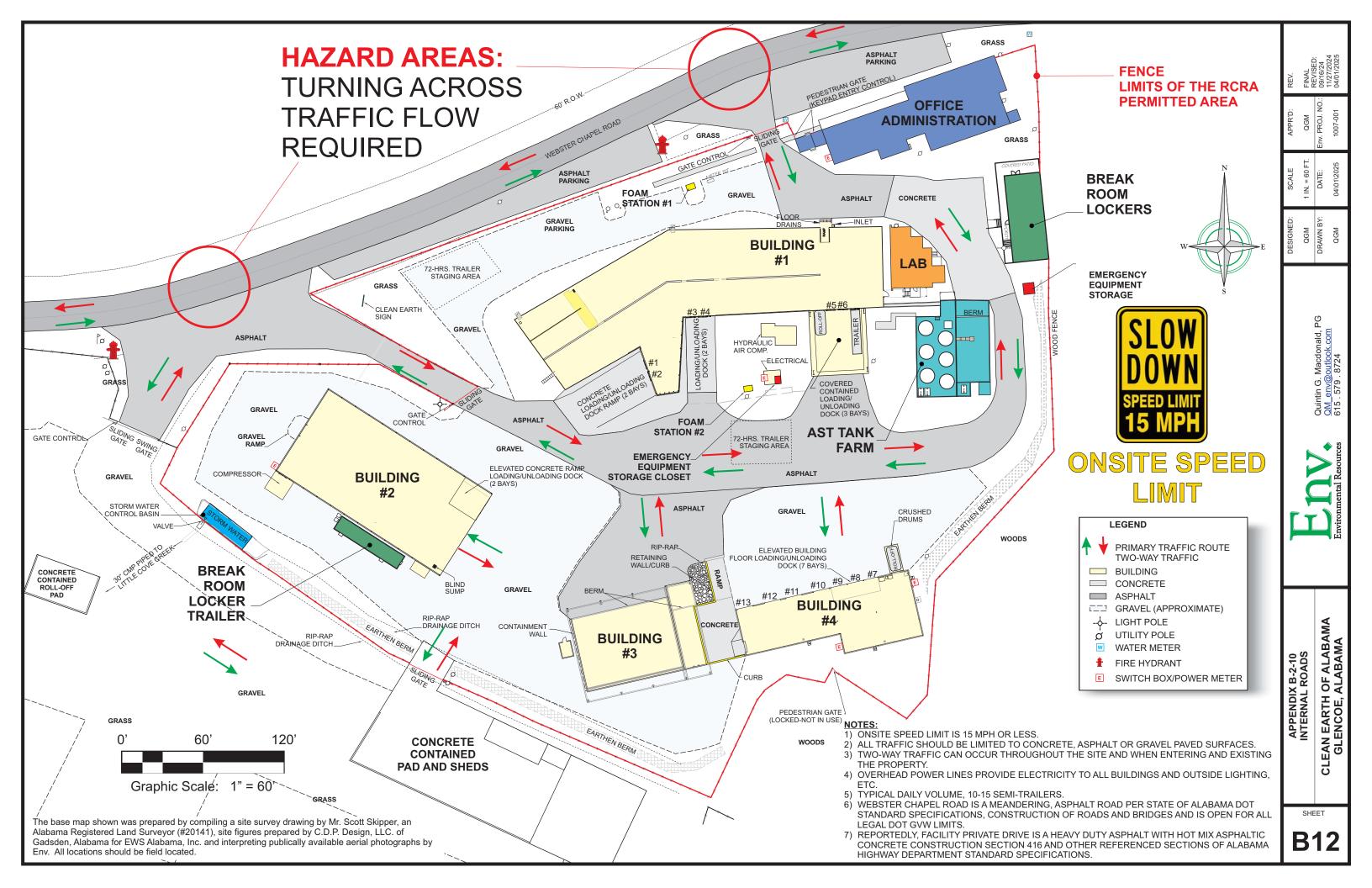
APPENDIX B-2-9B
BUILDING #1 SWMU LOCATION:
FROM ADEM'S 9/10/2015 RFA REPC
CLEAN EARTH OF ALABAN
GI FNCOE ALABAMA

SHEET

B10

APPENDIX B-2-10 INTERNAL ROADS CLEAN EARTH OF ALABAMA





SECTION C WASTE CHARACTERISTICS CLEAN EARTH OF ALABAMA



SECTION C - TABLE OF CONTENTS

Hazardous Waste Permit Renewal Application Clean Earth of Alabama Glencoe, Alabama Permit No. ALD 981 020 894

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APPENDIX C-2-1	Waste Profile Form



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C WASTE CHARACTERISTICS

C-1 Chemical and Physical Characteristics

Clean Earth of Alabama, Inc ("CEA" or the "Facility") manages wastes as listed in the Part A Application. Those wastes include liquids, solids, semi-solids and gaseous wastes managed in containers of various sizes, as well as in tanks, for storage and/or processing. All wastes are stored in Department of Transportation (DOT) approved containers including, among others, roll-off boxes, tote tanks, cubic yard boxes, 55-gallon and 85-gallon drums, gas cylinders, and a variety of small containers such as lab pack items, and 5-gallon containers or in one of CEA's 15,000-gallons

tanks.

The types of materials received at CEA can be generally grouped into the eight primary categories listed below. All USEPA waste codes accepted by CEA can be classified into these categories. CEA may receive these waste categories individually or as mixtures. Mixtures of wastes may cross over into two or more categories. The primary categories include (1) Acid, (2) Alkali, (3) Flammable, (4) Reactive, (5) Oxidizer, (6) Organic Peroxide, (7) Toxic, (8) Non-hazardous based on criteria found in 40 CFR §261.30 and §261 Subparts C and D.

A general description of the types of materials that CEA will accept is provided in <u>Appendix C-1-1</u> and includes hazardous characteristics, basis for hazard designation and chemical analysis information.

A list of waste codes received at CEA is provided in <u>Appendix C-1-2</u>. All gas cylinders in storage are capped and either securely packed inside a lab pack container or securely chained to the storage area walls.

C-1a Containers

Compatibility of Waste with Container

All containers of wastes arriving at CEA meet Department of Transportation (DOT) requirements, which includes considerations for compatibility of the contents of the container with the material of construction of the container. DOT-approved containers for transportation of regulated materials include containers constructed of metal, fiber, plastic, wood and glass. Containers may

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Hazardous Waste Permit Renewal Application

Clean Earth of Alabama, Inc. Glencoe, Alabama

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range in size from small (one- to five-gallon size containers) to large (55-gal drums, 85-gal drums,

110-gal drums, tote containers, and cubic yard boxes).

Waste Specific Parameters Based on Hazard Designation

No hazardous waste storage units are located within 50 feet of the property line, thus ignitable and

reactive wastes are not stored in containers within 50 feet of the Facility's property line.

Incompatible wastes or incompatible wastes and materials, are not placed in the same container.

Hazardous waste will not be placed in a container that previously held an incompatible waste or

container. A container holding a hazardous waste that is incompatible with any waste or other

materials stored nearby in other containers or tanks will be separated from the other materials by

a berm or wall. Containers of Acids and Bases/Acid Reactive wastes will be stored on the west

side of Building #1 in a bermed area that includes a center berm separating those two types of

waste. Flammable and Combustible wastes will be stored in the remainder of Building #1. Based

on operational needs the locations of acids and bases may be reversed. Oxidizers will be stored in

one end of Building #4. Other wastes stored in Building #4 are non-hazardous, primarily inert

wastes.

Other Information Required for Safe Operation

All containers handled or received by CEA are visually inspected upon receipt to ensure that they

are in good condition, not leaking, and appropriate and compatible with waste in the container. If

possible, that inspection takes place inside the delivery truck/trailer before the container is

offloaded onto the loading dock. Otherwise, containers are inspected on the loading dock as they

are placed on the dock. If a container, holding hazardous waste, is observed to be in poor condition,

or if the container is unsuitable or incompatible with its contents, the container will be overpacked,

or the waste will be repackaged in a DOT appropriate container. If a container is rejected by CEA,

the waste will be confirmed to be in a DOT approved container prior to sending it over the road.

Minimum labels and markings required on container holding a RCRA-regulated waste may

include:

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1. DOT Hazardous Materials Warning Label (DOT diamond), in accordance with 49 CFR

§§173, 178, or 179 (if applicable).

2. Hazardous Waste Label, in accordance with 49 CFR §172 and 40 CFR §262.32 (if

applicable).

3. A CEA container label, that includes a unique bar code for tracking the container,

generated by the Facility's waste tracking system.

4. The CEA container label includes the waste generator's name, container number with

barcode (unique to each individual container), the accumulation start date, the Clean Earth

process code, RCRA codes and the container manifest number.

After receipt, all hazardous wastes in containers are stored within secondary containment, and

segregated based on waste characteristics and compatibility during storage. Pallets provide an

elevated storage surface and protect containers from possibly coming into contact with any liquids

that may be present.

Visual inspection of every hazardous waste container storage area is performed once per day. That

inspection is documented on an Inspection Log (see Section F – Procedures to Prevent Hazards).

Container labeling is checked to ensure that all appropriate labels are visible, present and legible.

Each container is visually checked for condition (corrosion, bulging, closed and properly sealed)

and the containment below the container is checked for signs of container leakage.

C-1b Tanks

Specific Gravity

Based on a 2013 structural engineering review of the tank frames by David Funk Engineering,

tanks are designed for a specific gravity of 1.14 (9.5 pounds/gallon). There have been no changes

made to the tank frames since that 2013 engineering review. A copy of that Engineering Report is

provided in Appendix C-1-3.

Waste Specific Parameters Based on Hazard Designation

CEA manages ignitable wastes in its tanks. Tanks are not located within 50 feet of the Facility's

property line. Tank locations also comply with the protective distance requirements for tanks as

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specified in the National Fire Protection Association's "Flammable and Combustible Liquid Code"

(NFPA 30). The storage tanks comply with the requirements for the maintenance of protective

distances between the waste management area and any public ways, streets, alleys or an adjoining

property line. All tank and piping systems managing ignitable wastes are properly grounded.

Bonding/grounding equipment is provided at transfer points.

Reactive wastes are not managed in tanks. Incompatible wastes are not placed in the same tank.

Other Information Required for Safe Operation

All tanks managing ignitable wastes are designed to be bottom filled to reduce the production of

vapors and static charge when filling. Electrical equipment inside containment areas and within

ten feet of the point where hose connections are made and broken comply with the requirements

of the National Electrical Code requirements for Hazardous Locations. Proper procedures are

followed when transferring ignitable wastes. Bottom fill methods are used for all ignitable

materials. All tankers are electrically bonded to transfer piping prior to a transfer taking place. No

smoking is allowed within operating areas.

C-1c Waste Piles

CEA does not operate waste piles for the purpose of managing hazardous waste.

C-1d Incinerators

CEA does not operate and incinerator for the purpose of managing hazardous waste.

C-1e Landfills

CEA does not operate a landfill for the purpose of managing hazardous waste.

C-1f Land Treatment

CEA does not operate land treatment units

C-1g Boilers and Industrial Furnaces

CEA does not operate any boilers or industrial furnaces for the purpose of managing hazardous

waste.

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C-2 Waste Analysis Plan

This Waste Analysis Plan (WAP) sets out the criteria, rationale and procedures that will be followed by Clean Earth of Alabama ("CEA" or the "Facility") for the sampling, analysis and evaluation of wastes received, stored in tanks, consolidated, blended and/or processed at the Facility. This WAP outlines the procedures and analytical methods used to obtain the chemical and physical characteristics of the wastes to evaluate them for safe storage and handling by the Facility.

Prior to being approved for shipment to the CEA Facility, each waste undergoes a <u>prequalification</u> review as indicated below. Upon arrival of an approved waste at the CEA Facility, the shipment undergoes a <u>waste receipt review</u>, also discussed below.

C-2a Parameters and Rationale

Prequalification Review

Before CEA receives a waste, the waste generator must provide a detailed chemical and physical description of the waste. At a minimum, that description information must contain all the information which must be known to properly treat, store or dispose of the waste in accordance with applicable regulations and CEA's permit. That information is provided by the generator on a Waste Profile Form. The description may be based on existing published or documented data on the waste, knowledge of the process that generates the waste or on waste generated from similar processes.

The generator must also complete and submit a Land Disposal Restriction Certification form and Underlying Hazardous Constituent Form that indicates if the waste is restricted under 40 CFR §268, Land Disposal Restrictions and ADEM Admin. Code r. 335-14-9. The Land Disposal Restriction Form and the Underlying Hazardous Constituents List are used to establish disposal restrictions for every shipment of hazardous waste received at, and shipped from CEA.

Prequalification procedures are used to determine the acceptability of each individual waste streams for receipt at CEA. Prequalification procedures establish the minimum level of information a generator is required to provide and the evaluation process of the waste which must

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be made to enable the Facility to determine the acceptability of the waste for storage, treatment or processing at the Facility.

The Waste generator must complete a Waste Profile Form for each waste it plans to ship to CEA. The Waste Profile Form includes information related to the process generating the waste, the physical and chemical characteristics of the waste, the waste's classification under RCRA, including land disposal restrictions, EPA Waste Codes, and the proper shipping name under USDOT. A sample Waste Profile Form is provided in <u>Appendix C-2-1</u>. The Waste Profile is reviewed biennially (i.e., every two years) and must be updated by the generator whenever the process generating then waste has changed.

As part of this prequalification procedure, a representative sample of each waste stream is either obtained from the generator in advance of or from the first shipment of material to the Facility. Analytical data, if required, may be provided by the generator or CEA may send a sample of the waste to a third-party laboratory for analysis. Prequalification samples will not be required for the following wastes: aerosols, loose pack paint, lab-packs, RCRA hazardous (non-infectious) medical waste (i.e. pharmaceuticals), cylinders, RCRA reactive waste (D003), USDOT hazard classes 1.4 (Explosive), 4.2 (Spontaneously Combustible) and 4.3 (Water Reactive), Poison Inhalation Hazards as defined by USDOT under hazard classes and divisions 2.3 & 6.1, hydrofluoric acid and any other waste stream that management deems unsafe to sample.

The following prequalification fingerprint analysis will be performed using the methods provided in Table C-2-1.

- 1. BTU Value*
- 2. Chlorides*
- 3. pH**
- 4. Moisture Content***
- 5. Specific Gravity***
- 6. Compatibility*
- 7. Flash Point

^{*} This analysis is to be performed only on materials to be blended into fuel for reuse.



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^{***} This analysis will only be performed on liquids.

TABLE C-2-1 – ANALYTICAL METHODS ¹				
Parameter	Equipment	Analytical Method		
Specific Gravity	Standard Hydrometer	ASTM D5057-10		
Flash Point	Closed-cup Method	USEPA SW-846, Method 1010		
рН	pH Meter or Litmus Paper	ASTM D4980, D2110-00, SW-846 9040, 9041A, 9045		
Heat of Combustion (BTU)	Bomb Calorimeter	ASTM D-240-14, SW-846 5050		
Moisture Content	Karl Fisher	ASTM D-2361, D-805, E-203-08		
Chloride	Silver Nitrate Titration	ASTM D-808, and 512B		
Polychlorinated Biphenyls	Gas Chromatography	USEPA SW-846, Method 8082, 3600C		
Compatibility	N/A	ASTM D5058-12, A representative sample from the storage tank the waste will be placed in is mixed with a sample from the shipment being received. The mixture observed to determine if a chemical reaction occurs.		

The rationale for each of the fingerprint analyses is provided in <u>Table C-2-2</u> below.

TABLE C-2-2 – RATIONALE FOR PREQUALIFICATION ANALYTICAL				
Parameter Rationale				
рН	The pH of an aqueous material is indicative of its chemical composition, as well as the corrosive nature of the waste. pH is also an important indicator for the potential of unexpected or unwanted reactions may occur when wastes of widely different pHs are mixed. This analysis will not be performed on solvent matrix materials, e.g., organic solvent waste or oil wastes, or water insoluble solid matrix wastes.			
Specific Gravity	Specific gravity is a basic indicator of waste characteristics and, as such, is used to ensure that a waste shipment matches the waste profile. Specific gravity also ensures the weight of the material is suitable for placement in tanks. Specific gravity testing is performed liquids only.			

The Methods in Table C-2.2 may be modified provided the modified method is sufficiently accurate and reliable for waste acceptance procedures.



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^{**} This analysis will only be performed on aqueous matrix materials.

TABLE C-2-2 – RATIONALE FOR PREQUALIFICATION ANALYTICAL				
Parameter	Rationale			
Flash Point	Flash point is used to evaluate the fire-producing potential of a waste. Flash point also is an indicator for proper handling and storage of liquid wastes. Flash point is also evaluated for verification of waste characteristics and to determine appropriate safe handling procedures and equipment as well as storage location.			
BTU	This analysis will be performed only on materials that are to be blended into a fuel for reuse. BTUs or the heat of combustion (i.e., energy value) of a waste is used to determine a waste's value as a fuel.			
Chlorides	This analysis will be performed only on materials that are to be blended into a fuel for reuse. Chloride content is used to establish the proper blend for a fuel.			
Moisture Content	This analysis will be performed only on liquid materials that are to be blended into a fuel for reuse. Water content is used to establish the proper blend for a fuel.			
PCBs	CEA does not accept regulated PCB waste for storage, processing, nor do downstream facilities that blended fuels are shipped to. Thus, it is important to analyze wastes that could potentially contain PCBs, such transformer oils and heat transfer fluids and paints that are older than 1976 for PCB content. However, these wastes may be accepted for temporary storage and transfer from CEA.			
Compatibility	This analysis will be performed only on materials that are to be added to one of the tanks at the Facility to ensure that a reaction does not occur that could result in a release of vapors, a fire or an explosion, or that could hinder operations by turning into a semi-solid or solid.			

Each approved Waste Profile Form is assigned a unique identification number that must be used when scheduling a shipment of waste to the Facility, as well as marked on each individual container and on the accompanying manifest and land disposal restriction paperwork that accompanies the shipment.

Waste Receipt Review

Each shipment of hazardous waste received at the CEA Facility is accompanied by a Hazardous Waste Manifest. A Land Disposal Restriction (LDR) Certification form, as well as a LDR Underlying Hazardous Constituent Form will be provided either with the first shipment or during the pre-qualification review phase, and will be maintained on-file with the approved waste profile.



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The unique waste approval number must be included on those forms so that CEA personnel can compare the description on that paperwork to the approved Waste Profile Form.

The waste transporter will present all shipping documents (e.g. uniform hazardous waste manifest, (manifest), bill of lading and/or associated shipping documents) upon arrival at the Facility. The shipping documents will be examined to verify that CEA is the designated facility (or alternate). The documents will then be reviewed to assure that all required certifications (e.g. LDR Notification) accompany each shipment of waste, and that the information contained on the shipping documents matches the approved Waste Profile.

Prior to obtaining a sample from any incoming waste, Facility personnel will review the Waste Profile or other documentation to familiarize themselves with the waste material and to establish the appropriate personnel protective equipment (PPE) to be utilized when sampling and managing the waste shipment. The driver of the transport vehicle will use the PPE designated by his/her employer and/or the generator if his activities could cause exposure to the waste or its constituents.

The quantity of material shipped will be determined and compared to the information on the shipping documents. Shipments of containers will be verified by piece count. Bulk shipments will be weighed. After the quantity of waste has been confirmed, containers of waste may be unloaded and placed into a sampling area or permitted storage, the manifest signed and the transporter released. Trucks carrying containers will typically proceed to one of the loading/unloading docks at Buildings #1, #2 or #4, where plant personnel will visually inspect the shipment; and, based on the documentation and waste identification number, give permission for the shipment to be unloaded onto the container dock area. Those activities are typically carried out at Building #1; however, they may be performed at Buildings #2 or #4, if needed. During the unloading process, all containers are inspected for integrity and any container not considered to be in a satisfactory condition is placed in an over pack drum or other suitable container. Each shipment of containers will be kept separate until approved for receipt. When the truck is unloaded, and the manifest signed, the truck may leave the Facility.



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At this point the waste will be considered "received" by the Facility. For bulk shipments, samples of waste will be obtained of each bulk shipment (i.e., tanker truck, vacuum truck, roll-off box, etc.) will be sampled using a method discussed in <u>Section C-2c</u> and those samples analyzed prior to the waste being off-loaded into a designated storage tank.

Utilizing the appropriate sampling method as described in Section C-2c of this Waste Analysis Plan, and while wearing the appropriate PPE, Facility personnel will obtain a representative sample of each waste that will be analyzed for the fingerprint parameters as discussed in the Prequalification Review Section, above. Generally, containers are sampled in a designated sampling area inside Building #1; however, sampling of containers may occur in other contained locations. Bulk shipments (e.g., tankers) are sampled at the truck unloading area at the tank farm. The following wastes are exempt from sampling: aerosols, loose pack paint, lab-packs, RCRA hazardous pharmaceutical wastes, cylinders, RCRA reactive waste (D003), USDOT hazard classes 1.4 (Explosive), 4.2 (Spontaneously Combustible) and 4.3 (Water Reactive), Poison Inhalation Hazards as defined by USDOT under hazard classes and divisions 2.3 & 6.1, hydrofluoric acid and any other waste stream that management deems unsafe to sample.

Upon unloading, containers may be placed on the sampling floor or the loading dock, or temporarily in storage, for sampling and verification by fingerprint testing. If the truckload, or a group of containers within a truckload, need to be placed in storage prior to processing, those containers may be placed in a storage area for up to 72 hours prior to acceptance while undergoing fingerprint testing. Each container, or group of containers, which have not been sampled, will be specially marked to indicate the arrival date and in a manner that it is readily apparent to Facility personnel that the containers have not been sampled.

Ten percent (10%) of the containers represented on each line of the manifest in a shipment will be opened and sampled using a method discussed in <u>Section C-2c</u>, below. Those samples will be composited into a representative sample with no more than ten samples composited into one sample. Samples will only be composited from containers of the same waste from the same generator. Each bulk shipment (i.e., tanker truck, vacuum truck, roll-off box, etc.) will be sampled



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using a method discussed in <u>Section C-2c</u>. Samples will be taken to the on-site laboratory for analysis.

Samples of incoming waste will undergo analysis using the Analytical Methods provided in <u>Table</u> <u>C-2-1</u>:

- 1. BTU Value*
- 2. Chlorides*
- 3. pH**
- 4. Moisture Content***
- 5. Specific Gravity***
- 6. Compatibility*
- 7. GC Scan for PCBs
- 8. Flash point
- * This analysis will be performed only on materials to be blended into fuel for reuse.
- ** This analysis will be performed on aqueous matrix material.
- *** This analysis will be performed only on liquid materials.

Discrepancies may occasionally exist between the quantity or type of waste designated on the manifest or shipping paper, and the quantity or type of waste received at the Facility. If a manifest discrepancy is noted, the procedures described below will be followed. For bulk waste, a discrepancy in quantity will be noted when the variation in weight or volume is greater than plus or minus 10% of the weight or volume stated in Section 11 of the manifest. For containerized waste, a discrepancy in quantity will be noted when a variation in piece count differs from the amount stated in Section 11 of the manifest, such as one container in the truckload. Examples of discrepancies in waste type may include waste solvent substituted for waste acid or toxic constituents not reported on the waste manifest or shipping paper. If discrepancies are noted CEA will contact the generator within 24 hours and describe the discrepancy. The generator is allowed 15 calendar days to:

- 1. Revise the profile;
- 2. Correct the manifest; or,



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3. Arrange to remove the waste from the CEA Facility.

If revisions of the Waste Profile Form are necessary, the generator may email the signed corrected

document(s).

Upon receipt of each container, CEA marks the container with the waste inventory tracking label

and process code that identifies the compatibility group associated with the container contents.

That labeling/identification system clearly identifies the correct compatibility grouping to ensure

that employees place the container in the correct storage section with other compatible containers.

Storage areas are separated by berms to prevent mixing of any spilled wastes. If a spill occurs in

any given section of the Facility the spilled material is immediately cleaned up and the used

absorbents are then placed in the proper container and stored with the appropriate hazard

compatibility group.

C-2b Analytical Test Methods

Analytical Test Methods are provided in <u>Table C-2-1</u>.

C-2c Sampling Methods

Bulk Shipments

Sampling of tanker trucks is accomplished using a Coliwasa sampler. The sampling devices used

by CEA for bulk shipments and containers go all the way to the bottom of the vessels so that

accumulated sludge will be included in the sample matrix. Note that storage tanks may have

agitators on them to reduce the possibility of sludge accumulation.

Containers

Samples of liquids from containers are taken with a tube or pipe similar to a Coliwasa sampler.

The pipe is made of non-sparking material such as copper or plastic and has an inside diameter of

about ½" to 5/8". That provides a sturdy tool for sampling and has proven to be an adequate

sampling device even under adverse sampling conditions.

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Solids may be sampled with a spatula or scoop. Solids that are non-penetrable may be sampled with an auger, or by chipping, scraping, or by tearing or breaking off a piece.

C-2d Frequency of Analysis

Waste streams that have already gone through the prequalification phase are reviewed biennially (i.e., every 2 years) at which time generators are required to provide a recertification of their waste profile. If a shipment of waste varies from the approved profile, a new profile may be required depending on the reason for that variation.

Each incoming shipment of waste is sampled and analyzed as described in <u>Section C-2a</u>, above, to verify the identity of the waste.

C-2e Additional Requirements Pertaining to Boilers and Industrial Furnaces

There are no boilers or industrial furnaces at the Facility that treat hazardous waste.

C-2f Additional Requirements for Waste Generated Off-Site

CEA is a commercial hazardous waste treatment facility, thus wastes managed are from off-site. The previously described information detailed in <u>Sections C-2a</u> through <u>C-2d</u> of this WAP includes all requirements for prequalification and waste acceptance review for waste that is generated off-site.

C-2g Additional Requirements for Facilities Handling Ignitable or Reactive Wastes

The information detailed in <u>Sections C-2a</u> through <u>C-2d</u>, above, has taken into consideration, and includes all requirements, for prequalification and waste acceptance review of wastes that exhibit the characteristic of ignitability or reactivity.

C-3 Additional Waste Analysis Requirements Pertaining to Land Disposal Restrictions

CEA uses information provided by the generator of the waste, including generator knowledge and generator, and provided by the generator on completed Land Disposal Restriction Certification forms to determine if wastes are restricted under 40 CFR part 268. The Land Disposal Restriction



Form and the Underlying Hazardous Constituents List are used to establish disposal restrictions for every shipment of hazardous waste received at, and shipped from CEA. Those forms accompany the manifest during shipment and all supporting data (e.g., generator profiles, waste analyses, land ban certification forms, etc.) are maintained on file at CEA for at least 3 years after acceptance of the waste.

C-3a Waste Characteristics

All shipments of wastes subject to Land Disposal Restrictions² (LDR) received at CEA will have on file, or be accompanied by appropriate generator notification and LDR notification in accordance with ADEM rule 335-14-9. The LDR notification will be reviewed by waste acceptance personnel, and any discrepancies in the LDR notification and the associated manifest, analytical records, or Waste Profile Form will require shipment rejection unless additional, satisfactory, clarifying information is provided by the generator. All information obtained to document LDR compliance will be maintained in the Facility operating record until closure of the Facility.

If the Facility receives a shipment of waste without LDR notification on file, or a notification with incorrect or incomplete information, the following actions will be conducted:

- 1. The generator will be informed of the discrepancy and a new LDR notification will be required.
- 2. All accompanied shipping documents will be updated to reflect any updates to the LDR notification where necessary.
- 3. The material may be repackaged if necessary to ensure the contents are compatible and appropriate with the package to effect safe and compliant storage or transshipment of the material.
- 4. The markings and/or labels of the package may be updated based on the updated LDR notification.

Env.

References to Land Disposal Restrictions include ALL land disposal restrictions including solvent wastes and dioxin containing wastes, California list waste, first-third wastes, second-third wastes and third-third wastes.

- 5. The generator always has the option to have the material returned or shipped to an alternate facility for management.
- 6. If the discrepancy cannot be resolved within 15 days or for waste materials that CEA cannot legally or safely manage, CEA will initiate the load rejection procedure as per ADEM 335-14-9.

In accordance with the LDR regulations, all wastes shipped off site will be analyzed, or generator knowledge will be used when appropriate, to determine whether the waste meets the applicable LDR treatment standards specified in ADEM 335-14-9-.04. All analytical results will be maintained in the Facility operating record until closure of the Facility. CEA will supply LDR notifications and certification, including appropriate analytical records supporting the certification, to the receiving facility with the first shipment of each waste as required. CEA typically certifies that that each outbound load that requires an LDR notification does not meet the applicable treatment standards.' Any additional data obtained from the generators (e.g., Waste Profile Forms, original LDR notifications, analysis provided by generators) will be provided to the receiving facility where required.

Lab packs accepted at CEA are not land disposed on-site. Lab packs may be repackaged, consolidated or transshipped for further management off-site. An LDR notification will be prepared by CEA and sent to the receiving facility with the first shipment of each waste. If a laboratory pack hazardous waste is combined with non-laboratory pack hazardous waste prior to or during treatment, the entire mixture will be treated to meet the most stringent treatment standards for each waste constituent before being land disposed.

C-3b Additional Requirements for Treatment Facilities

Treatment activities conducted at CEA include fuel blending to meet specifications of the receiving facility, pharmaceutical shredding, and the crushing of paint cans. Hazardous wastes are not treated with the intention of meeting treatment standards under the Land Disposal Restrictions, as those treated hazardous wastes are not shipped off-site for land disposal.

C-3c Additional Requirements for Disposal Facilities

No waste disposal occurs at CEA.



SECTION C

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C-3d Additional Requirements for Surface Impoundments Exempted from Land Disposal Restrictions

CEA does not utilize surface impoundments.

C-3e Requirements for Land Disposal Facilities with an Approved Exemption or Extension

CEA is not a land disposal Facility.





APPENDIX C-1-1 Types of Materials CEA Will Accept CLEAN EARTH OF ALABAMA



APPENDIX C-1-1 - TYPES OF MATERIALS CEA WILL ACCEPT						
General Description	Hazardous Characteristics	Basis for Hazard Designation	Chemical Analysis			
Acid: Liquid, contained gas, sludge and solid, and any mixture of those that liberate hydrogen ions when dissolved in water resulting in a pH less than 7, and typically have a pH of less than 2.	 Corrosive to all body tissue, especially eyes and skin. Hydrochloric and acetic acids are also toxic by inhalation. 	Corrosivity EPA Waste Codes may include D002, D004-D011, K062, U006, U020, U023, U123 and U134. Note: This category also includes compatible non-hazardous waste with pH >2 but <7.	 Aqueous waste with a pH <2. Non-aqueous waste, when mixed 50% by weight with distilled water, or any gaseous material such that a 2-molar aqueous solution, yields a pH <2.0. Liquid or solid material meeting the definition of a "corrosive material" per 49 CFR 173.136. 			
Alkali: Liquid, contained gas, sludge and solid, and any mixture of those that liberate hydroxyl ions when dissolved in water resulting in a pH greater than 7.	 High concentrations, can cause severe burns to the eyes, skin, digestive system or lungs. Prolonged or repeated skin contact may cause dermatitis. 	 Corrosivity EPA waste codes may include D002 and D004-D011. Note: This category also includes compatible non-hazardous waste with pH >7 but <12.5. 	 Aqueous waste with a pH >12.5. Liquid or solid material meeting the definition of a "corrosive material" 49 CFR 173.136. Non-aqueous waste when mixed 50% by weight with distilled water, or any gaseous material such that a 2-molar aqueous solution, yields a pH >12.5. 			
Flammable: Flammable waste can be liquid, contained gas, sludge and solid, and any mixture of those.	 The primary hazards associated with flammable and combustible liquids are explosion and fire. Flammable liquids are particularly hazardous due to their ability to produce vapors. Flammable solids may be self-reactive and 	Ignitability EPA waste codes may include D001, D003, F003, F005, K108 and several P and U-listed wastes. Note: This category may also include compatible non-hazardous waste.	 Liquid or gaseous material that is a liquid under pressure having a flash point <73°F and a boiling point <100°F. Any compressed gas or mixture for which a mixture of 13% or less (by volume) with air forms a flammable mixture, or the flammable range with air is wider than 12% regardless of the lower limit. Liquid with a flash point <73 °F and a boiling point >100°F. Liquid that ignites spontaneously in dry or moist air at <130°F. Compressed flammable gas or mixture having absolute pressure >40 psi at 70°F in the container, or having an absolute pressure >104 psi at 130 °F. 			



APPENDIX C-1-1 - TYPES OF MATERIALS CEA WILL ACCEPT							
General Description	Hazardous Characteristics	Basis for Hazard Designation	Chemical Analysis				
Flammable (cont'd)	undergo strong exothermic decomposition without oxygen participation. • Spontaneously combustible materials are pyrophoric liquids or solids that may ignite in contact with air, or a material capable of self- heating in contact with air. • Dangerous when wet materials react violently with water or gives off toxic or flammable gases when exposed to water.		 Flammable liquids with a vapor pressure >40 psi absolute at 100°F. Liquids with a flash point >73 °F but <200°F. Solids and semi-solids that readily give off flammable vapors below 100°F. Ignitable waste as defined in 40 CFR 261.21. Ignitable compressed gases as defined in 49 CFR 173.115. Flammable and combustible liquids as defined in 49 CFR 173.120. Flammable solids, spontaneously combustible materials, and dangerous when wet material as defined in 49 CFR 173.124. 				
Reactive: Reactive waste can be aqueous, liquid, contained gas, sludge and solid, and any mixture of those.	 Reacts violently with water. Forms potential explosive mixtures with water. When mixed with water generates toxic gases, vapors or fumes in a quantity sufficient to present a danger to human health or the environment. 	 Reactive EPA waste codes may include D003, F007, F008, F009, F010, F011, K007, K060, K088 and several Plisted wastes. Note: This category may also include compatible nonhazardous wastes. 	 Reactive hazardous wastes are unique among the characteristic hazardous wastes in that they lack an approved test method to aid in determination. Instead, knowledge of the waste (e.g., SDS) and the processes of generation must be relied on. Reactive hazardous waste may include: Cyanide-bearing electroplating solutions. Lithium batteries (may be managed as a universal waste.) Sodium metal. White and yellow phosphorus. Aerosol cans if not destined for recycling or "RCRA Empty" per 40 CFR 261.7(b)(2). Retail fireworks 				



APPENDIX C-1-1 - TYPES OF MATERIALS CEA WILL ACCEPT							
General Description	Hazardous Characteristics	Basis for Hazard Designation	Chemical Analysis				
Reactive (cont'd)	 Contains cyanide or sulfide. Can release toxic gases, vapors of fumes when exposed to pH conditions between 2 and 12.5 Can of detonate or react at standard temperature or pressure. 		○ Small arms ammunitions				
Oxidizers: Oxidizers can be aqueous, liquid, contained gas, sludge and solid, and any mixture of those.	 Oxidizers by chemical definition are those compounds that liberate or evolve oxygen which can support and accelerate combustion of organic matter. Oxidizers include nitrates, chlorates, chromates, perchlorates, peroxides, permanganates, and persulfates. 	Ignitibility EPA waste codes may include D001. Note: This category may also include compatible non-hazardous wastes.	 Oxidizers lack an approved test method to aid in determination. Instead, knowledge of the waste (e.g., SDS) and the processes of generation must be relied on. Oxidizers are defined in 49 CFR 173.127. Oxidizer are defined by NFPA 430. 				
Organic Peroxide: Organic Peroxides can be aqueous, liquid, contained gas, sludge	Organic peroxides are organic compounds having a double oxygen or peroxy (O-O) in its chemical structure.	 Ignitibility EPA waste codes may include D001. Note: This category may also include compatible non-hazardous wastes. 	 Organic peroxides lack an approved test method to aid in determination. Instead, knowledge of the waste (e.g., SDS) and the processes of generation must be relied on. Organic peroxide are defined in 49 CFR 173.128. Organic peroxide are defined by NFPA 432. 				



	APPENDIX C-1-1 - TYPES OF MATERIALS CEA WILL ACCEPT								
General Description	Hazardous Characteristics	Basis for Hazard Designation	Chemical Analysis						
Toxics: Toxic waste can be aqueous, liquid, contained gas, sludge and solid, and any mixture of those. Toxics (cont'd)	Wastes that are hazardous when ingested, inhaled or absorbed through the skin. Toxic wastes present a concern as they may be able to leach from waste and pollute groundwater.	 Toxics can include a variety of wastes such as halogenated wastes, poisonous materials, and other environmentally hazardous substances and hazardous wastes generated from a variety of sources. Toxicity may be acute or chronic. Included are waste codes D004 through D043 and/or many wastes listed in 40 CFR 261 Subpart D. Note: This category may also include compatible nonhazardous wastes. 	Not all toxic wastes have an approved test method to aid in determination. The flashpoint, pH, reactivity, and/or the Toxicity Characteristic Leaching Procedure (TCLP) test can be used. Knowledge of the waste (e.g., SDS) and the processes of generation (including materials used) may be relied on.						
Non-Hazardous wastes can be aqueous, liquid, sludge, and solid, and any mixture thereof.	None	None – Non- Hazardous Wastes include wastes that do not meet the EPA or ADEM definition of hazardous waste. They include mild acids and alkalis, combustible liquids, spill clean-up debris,	 Any chemical or mixture of chemicals not meeting the definition of hazardous waste under 40 CFR 261 or ADEM Rule 335-4-2. Non-hazardous waste is characterized using knowledge of the constituents in, and process generating the waste, or analyses for flash point, pH, reactivity, TCLP, or a combination thereof. Non-hazardous wastes will be categorized for compatibility, storage and handling. 						



APPENDIX C-1-1

APPENDIX C-1-1 - TYPES OF MATERIALS CEA WILL ACCEPT							
General Description	Hazardous Characteristics	Basis for Hazard Designation	Chemical Analysis				
Non-Hazardous (cont'd)		aqueous wastes, and many other materials that do not meet the definition of a hazardous waste.					



APPENDIX C-1-2 LIST OF WASTE CODES RECEIVED AT CEA CLEAN EARTH OF ALABAMA



CHARACTERISTICS OF NONLISTED HAZARDOUS WASTES

- D001 Ignitable waste
- D002 Corrosive wasteD003 Reactive waste
- D004 Arsenic
- D005 Barium
- **D006** Cadmium
- **D007** Chromium
- D008 Lead
- **D009** Mercury
- D010 Selenium
- D011 Silver
- **D012** Endrin(1,2,3,4,10,10-hexachloro-1,7-epoxy-1,4,4a,5,6,7,8,8a-octahydro-1,4-endo, endo-5,8-dimeth-ano-naphthalene)
- **D013** Lindane (1,2,3,4,5,6-hexachlorocyclohexane, gamma isomer)
- **D014** Methoxychlor (1,1,1-trichloro-2,2-bis [p-methoxyphenyl] ethane)
- D015 Toxaphene (C10 H10 Cl8, Technical chlorinated camphene, 67-69 percent chlorine)
- **D016** 2,4-D (2,4-Dichlorophenoxyacetic acid)
- **D017** 2,4,5-TP Silvex (2,4,5-
 - Trichlorophenoxypropionic acid)
- D018 Benzene
- **D019** Carbon tetrachloride
- D020 Chlordane
- **D021** Chlorobenzene
- D022 Chloroform
- D023 o-Cresol
- D024 m-Cresol
- D025 p-Cresol
- D026 Cresol
- **D027** 1,4-Dichlorobenzene
- **D028** 1,2-Dichloroethane
- **D029** 1,1-Dichloroethylene
- **D030** 2,4-Dinitrotoluene
- **D031** Heptachlor (and its epoxide)
- **D032** Hexachlorobenzene
- **D033** Hexachlorobutadiene
- D034 Hexachloroethane
- **D035** Methyl ethyl ketone
- **D036** Nitrobenzene
- **D037** Pentachlorophenol
- **D038** Pyridine
- **D039** Tetrachloroethylene
- **D040** Trichlorethylene
- **D041** 2,4,5-Trichlorophenol
- **D042** 2,4,6-Trichlorophenol
- **D043** Vinyl chloride

HAZARDOUS WASTE FROM NONSPECIFIC SOURCES

F001 The following spent halogenated solvents used in degreasing: Tetrachloroethylene, trichlorethylene, methylene chloride, 1,1,1-trichloroethane, carbon tetrachloride and chlorinated fluorocarbons; all spent solvent mixtures/blends used in degreasing containing, before use, a total of ten percent or more (by volume) of one or more of the above halogenated solvents or those solvents listed in F002, F004, and F005; and still bottoms from the recovery of these spent solvents and spent solvent mixtures.

F002 The following spent halogenated solvents:
Tetrachloroethylene, methylene chloride,
trichloroethylene, 1,1,1-trichloroethane,
chlorobenzene, 1,1,2-trichloro-1,2,2trifluoroethane, ortho- dichlorobenzene,
trichlorofluoromethane, and 1,1,2,
trichloroethane; all spent solvent
mixtures/blends containing, before use,

a total of ten percent or more (by volume) of one or more of the above halogenated solvents or those solvents listed in F001, F004, and F005; and still bottoms from the recovery of these spent solvents and spent solvent mixtures.

F003 The following spent non-halogenated solvents: Xylene, acetone, ethyl acetate, ethyl benzene, ethyl ether, methyl isobutyl ketone, n-butyl alcohol, cyclohexanone, and methanol; all spent solvent mixtures/ blends containing, before use, only the above spent nonhalogenated solvents; and all spent solvent mixtures/blends containing, before use, one or more of the above nonhalogenated solvents, and a total of ten percent or more (by volume) of one or more of those solvents listed in F001. F002, F004, and F005; and still bottoms from the recovery of these spent solvents and spent solvent mixtures.

The following spent nonhalogenated solvents: cresols, cresylic acid, and nitrobenzene; and the still bottoms from the recovery of these solvents; all spent solvent mixtures/blends containing, before use, a total of ten percent or more (by volume) of one or more of the above nonhalogenated solvents or those solvents listed in F001, F002, and F005; and still bottoms from the recovery of these spent solvents and spent solvent mixtures.

F005 The following spent nonhalogenated solvents: toluene, methyl ethyl ketone, carbon disulfide, isobutanol, pyridine, benzene, 2-ethoxyethanol, and 2-nitropropane; all spent solvent mixtures/blends containing, before use, a total of ten percent or more (by volume) of one or more of the above nonhalogenated solvents or those solvents listed in F001, F002, or F004; and still bottoms from the recovery of these spent solvents and spent solvent mixtures.

F006 Wastewater treatment sludges from electroplating operations except from the following processes: (1) sulfuric acid anodizing of aluminum; (2) tin plating on carbon steel; (3) zinc plating (segregated basis) on carbon steel; (4) aluminum or zinc-aluminum plating on carbon steel; (5) cleaning/stripping associated with tin, zinc, and aluminum plating on carbon steel; and (6) chemical etching and milling of aluminum.

F007 Spent cyanide plating bath solutions from electroplating operations.

F008 Plating bath residues from the bottom of plating baths from electroplating operations in which cyanides are used in the process.

F009 Spent stripping and cleaning bath solutions from electroplating operations in which cyanides are used in the process.

F010 Quenching bath residues from oil baths from metal heat treating operations in which cyanides are used in the process.

F011 Spent cyanide solutions from slat bath pot cleaning from metal heat treating operations.

F012 Quenching wastewater treatment sludges from metal heat treating operations in which cyanides are used in the process.

F019 Wastewater treatment sludges from the chemical conversion coating of aluminum except from zirconium phosphating in aluminum can washing when such

phosphating is an exclusive conversion coating process.

F020 Wastes (except wastewater and spent carbon from hydrogen chloride purification) from the production or manufacturing use (as a reactant, chemical intermediate, or component in a formulating process) of tri- or tetrachlorophenol or of intermediates used to produce their pesticide derivatives. (This listing does not include wastes from the production of hexachlorophene from highly purified 2,4,5-trichlorophenol.)

F021 Wastes (except wastewater and spent carbon from hydrogen chloridepurification) from the production or manufacturing use (as a reactant, chemical intermediate, or component in a formulating process) of pentachlorophenol, or of intermediates used to produce derivatives.

F022 Wastes (except wastewater and spent carbon from hydrogen chloride purification) from the manufacturing use (as a reactant, chemical intermediate, or component in a formulating process) of tetra-, penta-, or hexachlorobenzenes under alkaline conditions.

F023 Wastes (except wastewater and spent carbon from hydrogen chloride purification) from the production of materials on equipment previously used for the production or manufacturing use (as a reactant, chemical intermediate, or component in a formulating porcess) of tri- and tetrachlorophenols. (This listing does not include wastes from equipment used only for the production or use of hexachlorophene from highly purified 2,4,5-trichlorophenol.)

F024 Process wastes including, but not limited to, distillation residues, heavy ends, tars, and reactor clean-out wastes, from the production of certain chlorinated aliphatic hydrocarbons by free radical catalyzed processes. These chlorinated aliphatic hydrocarbons are those having carbon chain lengths ranging from one to and including five, with varying amounts and positions of chlorine substitution. (This listing does not include wastewaters, wastewater treatment sludge, spent catalysts, and wastes listed in Sections 261.31. or 261.32)

F025 Condensed light ends, spent filters and filter aids, and spent desiccant wastes from the production of certain chlorinated aliphatic hydrocarbons, by free radical catalyzed processes. These chlorinated aliphatic hydrocarbons are those having carbon chain lengths ranging from one, to and including five, with varying amounts and positions of chlorine substitution.

F026 Wastes (except wastewater and spent carbon from hydrogen chloride purification) from the production of materials on equipment previously used for the manufacturing use (as a reactant, chemical intermediate, or component in a formulating process) of tetra-, penta-, or hexachlorobenzene under alkaline conditions.

F027 Discarded unused formulations containing tri-, tetra-, or pentachlorophenol or discarded unused formulations containing compounds derived from these chlorophenols. (This listing does not include formulations containing hexachlorophene synthesized

Jode	Waste description	Code	Waste description		Waste description
	from prepurified 2,4,5-trichlorophenol as		treatment units as defined in Section	K025	Distillation bottoms from the production
	the sole component.)		261.31(b)(2) (including sludges generated		of nitrobenzene by the nitration of
028	Residues resulting from the incineration		in one or more additional units after wastewaters have been treated in	72006	benzene.
	or thermal treatment of soil contaminated with EPA hazardous waste		aggressive biological treatment units),	K026	Stripping still tails from the production of methyl ethyl pyridines.
	nos. F020, F021, F022, F023, F026, and		and F037, K048, and K051 wastes are	K027	Centrifuge and distillation residues from
	F027.		exempted from this listing.	11021	toluene diisocyanate production.
032	Wastewaters, process residuals,	F039	Leachate resulting from the treatment,	K028	Spent catalyst from the hydrochlorinator
	preservative drippage, and spent		storage, or disposal of wastes classified		reactor in the production of 1,1,1-
	formulations from wood preserving		by more than one waste code under		trichloroethane.
	processes generated at plants that		Subpart D, or from a mixture of wastes	K029	Waste from the product steam stripper in
	currently use, or have previously used,		classified under Subparts C and D of this part. (Leachate resulting from the		the production of 1,1,1-trichloroethane.
	chlorophenolic formulations [except potentially cross-contaminated wastes		management of one or more of the	K030	Column bottoms or heavy ends from the
	that have had the F032 waste code		following EPA Hazardous Wastes and no		combined production of trichloroethylen
	deleted in accordance with Section		other hazardous wastes retains its	*****	and perchloroethylene.
	261.35 (i.e., the newly promulgated		hazardous waste code(s): F020, F021,	K031	By-product salts generated in the production of MSMA and cacodylic acid.
	equipment cleaning or replacement		F022, F023, F026, F027, and/or F028.)	K032	Wastewater treatment sludge from the
	standards), and where the generator does			11002	production of chlordane.
	not not resume or initiate use of	H	AZARDOUS WASTE FROM SPECIFIC	к033	Wastewater and scrub water from the
	chlorophenolic formulations]. (This listing does not include K001 bottom sediment	72001	SOURCES		chlorination of cyclopentadiene in the
	sludge from the treatment of wastewater	KUUI	Bottom sediment sludge from the treatment of wastewaters from wood		production of chlordane.
	from wood preserving processes that use		preserving processes that use creosote	K034	Filter solids from the filtration of
	creosote and/or pentachlorophenol.)		and/or pentachlorophenol.		hexachlorocyclopentadiene in the
034	Wastewaters, process residuals,	K002	Wastewater treatment sludge from the		production of chlordane.
	preservative drippage, and spent		production of chrome yellow and orange	K035	Wastewater treatment sludges generated
	formulations from wood preserving		pigments.		in the production of creosote.
	processes generated at plants that use	K003	Wastewater treatment sludge from the	K036	Still bottoms from toluene reclamation
	creosote formulations. This listing does not include K001 bottom sediment		production of molybdate orange		distillation in the production of disulfoton.
	sludge from the treatment of wastewater		pigments.	K037	Wastewater treatment sludges from the
	from wood preserving processes that use	K004	Wastewater treatment sludge from the	1.007	production of disulfoton.
	creosote and/or pentachlorophenol.	***	production of zinc yellow pigments	коз8	Wastewater from the washing and
035	Wastewaters, process residuals,	K005	Wastewater treatment sludge from the production of chrome green pigments.		stripping of phorate production.
	preservative drippage, and spent	K006	Wastewater treatment sludge from the	K039	Filter cake from the filtration of
	formulations from wood preserving	NOOO	production of chrome oxide green		diethylphosphorodithioic acid in the
	processes generated at plants that use		pigments (anhydrous and hydrated).		production of phorate.
	inorganic preservatives containing arsenic or chromium. This listing does	K007		K040	Wastewater treatment sludge from the
	not include K001 bottom sediment		production of iron blue pigments.		production of phorate.
	sludge from the treatment of wastewater	K008	Oven residue from the production of	K041	Wastewater treatment sludge from the
	from wood preserving processes that use		chrome oxide green pigments.	****	production of toxaphene.
	creosote and/or pentachlorophenol.	K009	Distillation bottoms from the production	K042	Heavy ends or distillation residues from the distillation of tetrachlorobenzene in
037	Petroleum refinery primary		of acetaldehyde from ethylene.		the production of 2,4,5-T.
	oil/water/solids separation sludge - Any	K010	Distillation side cuts from the production	K043	2,6-dichlorophenol waste from the
	sludge generated from the gravitational	77011	of acetaldehyde from ethylene.	110.10	production of 2,4-D.
	separation of oil/water/solids during the	K011	Bottom stream from the wastewater stripper in the production of acrylonitrile.	K044	Wastewater treatment sludges from the
	storage or treatment of process wastewaters and oily cooling wastewaters	K013	Bottom stream from the acetonitrile		manufacturing and processing of
	from petroleum refineries. Such sludges	NOIS	column in the production of acrylonitrile.		explosives.
	include, but are not limited to, those	K014	Bottoms from the acetonitrile purification	K045	Spent carbon from the treatment of
	generated in oil/water/solids separators;		column in the production of acrylonitrile.		wastewater containing explosives.
	tanks and impoundments; ditches and	K015	Still bottoms from the distillation of	K046	Wastewater treatment sludges from the
	other conveyances; sumps; and storm		benzyl chloride.		manufacturing, formulation, and loading
	water units receiving dry weather flow.	K016	Heavy ends or distillation residues from	W047	of lead-based initiating compounds.
	Sludges generated in storm water units that do not receive dry weather flow,		the production of carbon tetrachloride.	K047	Pink/red water from TNT operations.
	sludges generated in aggressive	K017	Heavy ends (still bottoms) from the	K048	Dissolved air flotation (DAF) float from the petroleum refining industry.
	biological treatment units as defined in		purification column in the production of	K049	Slop oil emulsion solids from the
	Section 261.31(b)(2)(including sludges		epichlorohydrin.	МОТЭ	petroleum refining industry.
	generated in one or more additional units	K018	Heavy ends from the fractionation	K050	Heat exchanger bundle cleaning sludge
	after wastewaters have been treated in	72010	column in ethyl chloride production. Heavy ends from the distillation of		from the petroleum refining industry.
	aggressive biological treatment units),	K019	ethylene dichloride in ethylene dichloride	K051	-
	and K051 wastes are exempted from this		production.		refining industry.
038	listing.	K020	Heavy ends from the distillation of vinyl	K052	Tank bottoms (leaded) from the
USO	Petroleum refinery secondary (emulsified) oil/water/solids separation sludge - Any		chloride in vinyl chloride monomer		petroleum refining industry.
	sludge and/or float generated from the		production.	K060	Ammonia still lime sludge from coking
	physical and/or chemical separation of	K021	Aqueous spent antimony catalyst waste		operations.
	oil/water/solids in process wastewaters		from fluoromethane production.	K061	Emission control dust/sludge from the
	and oily cooling wastewaters from	K022	Distillation bottom tars from the		primary production of steel in electric
	petroleum refineries. Such wastes		production of phenol/acetone from	77070	furnaces.
	include, but are not limited to, all		cumene.	K062	Spent pickle liquor from steel finishing
	sludges and floats generated in induced	K023	Distillation light ends from the		operations of plants that produce iron or steel.
	air flotation (IAF) units, tanks and impoundments, and all sludges		production of phthalic anhydride from	K064	Acid plant blowdown slurry/sludge
	generated in DAF units. Sludges	17004	naphthalene.	17004	resulting from the thickening of
		K024	Distillation bottoms from the production of phthalic anhydride from naphthalene.		blowdown slurry from primary copper
	generated in stormwater units that do				
	generated in stormwater units that do not receive dry weather flow, sludges		of pitalane annyariae from napitalane.		production.

	Waste description		Waste description	Code	Waste description
₹065	Surface impoundment solids contained	K106	Wastewater treatment sludge from the		recovery of coke by-products produced
	in and dredged from surface		mercury cell process in chlorine production.		from coal. This listing does not include
	impoundments at primary lead smelting facilities.	K107	-		K087 (decanter tank sludge from coking operations).
066	Sludge from treatment of process	VIO1	Column bottoms from product separation from the production of 1,1-	K142	Tank storage residues from the
-000	wastewater and/or acid plant blowdown		dimethylhydrazine (UDMH) from	74	production of coke from coal or from the
	from primary zinc production.		carboxylic acid hydrazides.		recovery of coke by-products from coal.
069	Emission control dust/sludge from	K108	Condensed column overheads from	K143	Process residues from the recovery of
	secondary lead smelting.		product separation and condensed		light oil, including, but not limited to,
071	Brine purification muds from the		reactor vent gases from the production of		those generated in stills, decanters, and
	mercury cell process in chlorine		1,1-dimethylhydrazine from carboxylic		wash oil recovery units from the recover
	production, in which separately		acid hydrazides.		of coke by-products produced from coal
	prepurified brine is not used.	K109	Spent filter cartridges from product	K144	Wastewater sump residues from light oil
(073	Chlorinated hydrocarbon waste from the		purification from the product of 1,1-		refining, including, but not limited to,
	purification step of the diaphragm cell		dimethylhydrazine from carboxylic acid		intercepting or contamination sump
	process using graphite anodes in chlorine production.	K110	hydrazides. Condensed column overheads from		sludges from the recovery of coke by- products produced from coal.
7002	Distillation bottoms from aniline	KIIU	intermediate separation from the	K145	Residues from naphthalene collection
800	production.		production of 1,1-dimethylhydrazine	KITS	and recovery operations from the
₹084	Wastewater treatment sludges generated		from carboxylic acid hydrazides.		recovery of coke by-products produced
.004	during the production of veterinary	K111	Product washwaters from the production		from coal.
	pharmaceuticals from arsenic or organo-		of dinitrotoluene via nitration of toluene.	K147	Tar storage residues from coal tar
	arsenic compounds.	K112	Reaction by-product water from the		refining.
(085	Distillation or fractionation column		drying column in the production of	K148	Residues from coal tar distillation,
	bottoms from the production of		toluenediamine via hydrogenation of		including, but not limited to, still
	chlorobenzenes.		dinitrotoluene.		bottoms.
K086	Solvent washes and sludges, caustic	K113	Condensed liquid light ends from	K149	Distillation bottoms from the production
	washes and sludges, or water washes		purification of toluenediamine in		of alpha (or methyl-) chlorinated tolunes
	and sludges from cleaning tubs and		production of toluenediamine via		ring-chlorinated tolunes, benzoyl
	equipment used in the formulation of ink	771 - 4	hydrogenation of dinitrotoluene.		chlorides, and compounds with mixture
	from pigments, driers, soaps, and	K114	Vicinals from the purification of		of these functional groups. [This waste does not include still bottoms from the
	stabilizers containing chromium and lead.		toluenediamine in production of toluenediamine via hydrogenation of		distillation of benzoyl chloride
₹087			dinitrotoluene.	K150	Organic residules excluding spent carbo
1 00	Decanter tank tar sludge from coking operations.	K115	Heavy ends from purification of	00	adsorbent, from the spent chlorine gas
8802	Spent potliners from primary aluminum		toluenediamine in the production of		and hydrochloric acid recovery processe
	reduction.		toluenediamine via hydrogenation of		associated with the production of alpha
090	Emission control dust or sludge from		dinitrotoluene.		(or methyl-) chlorinated tolunes, benzoy
•	ferrochromiumsilicon production.	K116	Organic condensate from the solvent		chlorides, and compounds with mixture
K 091	Emission control dust or sludge from		recovery column in the production of		of these functional groups.
	ferrochromium production.		toluene diisocyanate via phosgenation of	K151	9 .
CO93	Distillation light ends from the		toluenediamine.		neutralization and biological sludges,
	production of phthalic anhydride from	K117	Wastewater from the reactor vent gas		generated during the treatment of
	ortho-xylene.		scrubber in the production of ethylene		wastewaters from the production of alph (or methyl-) chlorinated tolunes, benzoy
የ094	Distillation bottoms from the production	W110	dibromide via bromination of ethene.		chlorides, and compounds with mixture
	of phthalic anhydride from ortho-xylene.	K118	Spent adsorbent solids from purification of ethylene dibromide in the production		of these functional groups.
₹095	Distillation bottoms from the production		of ethylene dibromide in the production of ethylene dibromide via bromination of	K156	Organic waste (including heavy ends, sti
700-	of 1,1,1-trichloroethane.		ethene.		bottoms, light ends, spent solvents,
1096	Heavy ends from the heavy ends column	K123	Process wastewater (including		filtrates, and decantates) from the
	from the production of 1,1,1-		supernates, filtrates, and washwaters)		production of carbamates and carbamoy
7007	trichloroethane.		from the production of		oximes.
7027	Vacuum stripper discharge from the chlordane chlorinator in the production		ethylenebisdithiocarbamic acid and its	K157	Wastewaters (including scrubber waters
	of chlordane.		salts.		condenser waters, washwaters, and
ξ 098		K124	Reactor vent scrubber water from the		separation waters) from the production
-090	production of toxaphene.		production of ethylenebis-	W150	carbamates and carbamoyl oximes.
3099	Untreated wastewater from the		dithiocarbamic acid and its salts.	K158	Bag house dusts and filter/separation
	production of 2,4-D.	K125	Filtration, evaporation, and		solids from the production of carbamate and carbamoyl oximes
ξ100	Waste leaching solution from acid		centrifugation solids from the production	K159	Organics from the treatment of
	leaching of emission control dust/sludge		of ethylenebisdithiocarbamic acid and its	W12A	thiocarbamate wastes
	from secondary lead smelting.	77100	salts.	K160	Solids (including filter wastes, separatio
Κ101	Distillation tar residues from the	K126	Baghouse dust and floor sweepings in	7700	solids, and spent catalysts) from the
	distillation of aniline-based compounds		milling and packaging operations from production or formulation of		production of thiocarbamates and solids
	in the production of veterinary		ethylenebisdithiocarbamic acid and its		from the treatment of thiocarbamate
	pharmaceuticals from arsenic or organo-		salts.		wastes.
	arsenic compounds.	K131	Wastewater from the reactor and spent	K161	Purification solids (including filtration,
102	Residue from the use of activated carbon		sulfuric acid from the acid dryer from the		evaporation, and centrifugation solids),
	for decolorization in the production of		production of methyl bromide.		bag house dust and floor sweepings from
	veterinary pharmaceuticals from arsenic	K132	Spent absorbent and wastewater		the production of dithiocarbamate acids
	or organo- arsenic compounds.		separator solids from the production of		and their salts. (This listing does not
7100	Process residues from aniline extraction		methyl bromide.		include K125 or K126.)
103	from the production of aniline.	K136	Still bottoms from the purification of	K169	Crude oil storage sediment from
			ethylene dibromide in the production of		petroleum refining operations.
	Combined wastewaters generated from				
K104	Combined wastewaters generated from nitrobenzene/aniline production.		ethylene dibromide via bromination of	K170	
< 103 < 104 < 105	Combined wastewaters generated from nitrobenzene/aniline production. Separated aqueous stream from the		ethylene dibromide via bromination of ethene.	KI7U	filter / separation solids from petroleum
K104	Combined wastewaters generated from nitrobenzene/aniline production. Separated aqueous stream from the reactor product washing step in the	K141	ethylene dibromide via bromination of ethene. Process residues from the recovery of		refining operations.
K104	Combined wastewaters generated from nitrobenzene/aniline production. Separated aqueous stream from the	K141	ethylene dibromide via bromination of ethene.	K170	filter /separation solids from petroleum

other catalytic reactors(this listing does not incluse inert support media).

- **S**pent hydrotreating catalyst from petroleum refining operations, including guard beds used to desulfurize feeds to other catalytic reactors(this listing does not incluse inert support media).
- K174 Wastewater treatment sludges form the production of ethylene dichloride or vinyl chloride monomer (including sludges that result from commingled ethylene dichloride or vinyl chloride monomer waste water and other wastewater). unless the sludges meet the following conditions: (i) they are disposed of in a subtitle C or nonhazardous landfill licensed or permitted by the state of Alabama or Federal Government: (ii) they are not otherwise placed on the land prior to final disposal; and (iii) the generator maintains documentation demonstrating that the waste was either disposed of in an on-site landfill or consigned to a transporter or disposal facility that provided written documentation to dispose of the waste in an off-site landfill. Respondents to any action brought to enforce the requirements of subtitle C must, upon showing by the government that the respondent managed wastewater treatment sludges form the production of vinyl chloride monomer or ethylene dichloride, demonstrate that they meet the terms of the exclusion set forth above. In doing so, they must provide appropriate documentation (e.g., contracts between the generator and the landfill owner/operator, invoices documenting delivery of waste to landfill, etc.) that the terms of the exclusion were met.
- K175 Wastewater treatment sludges from the production of vinyl chloride monomer using mercuric chloride catalyst in an acetylene-based process.
- K176 Baghouse filters from the production of antimony oxide, including filters from the production of intermediates (i.e., antimony metal or crude antimony oxide).
- Slag from the production of antimony oxide that is speculatively accumulated or disposed, including slag fro the production of intermediates (e.g., antimony metal or crude antimony oxide.).
- K178 Residues from manufacturing and manufacturing site storage of ferric chloride and form acids formed during the production of titanium dioxide using chloride - ilemite process.
- Nonwastewaters form the production of dyes and /or pigments (including nonwastewaters commingled at the point of generation with nonwastewaters from other processes) that, at the point of generation, contain mass loadings of any of the constituents identified in 335-14-2-.04(3)(c) of this section that are equal to or greater than the corresponding 335-14-2.04(3)(c) levels, as determined on a calendar year basis. These wastes will not be hazardous if the nonwastewaters are: (l) disposed in a Subtitle D landfill unit subject to the design criteria in 335-13-4-.11, (ii) disposed of in a Subtitle D landfill subject to either 335-14-5-.14(2) or 335-14-6-.14(2), (iii) disposed in other Subtitle D landfill units that meet the design criteria in 335-12-4-.11, 335-

14-5-.14(2) or 335-14-6-.14(2)or (iv) treated in a combustion unit that is permitted under Subtitle C, or an on-site combustion unit that is permitted under the Clean Air Act. For the purposes of this listing, dyes and / or pigments production is defined in 335-14-2-.03(3)(b). 335-142-.03(3)(d) describes the process for demonstrating that a facility's nonwastewaters are not K181. This listing does not apply to wastes that are otherwise identified as hazardous waste under 334-14-2-.03(5) and 335-14-2-.04(2) through 335-14-2-.04(4) at the point of generation. Also, the listing does not apply to wastes generated before any annual mass loading limit is met.

DISCARDED COMMERCIAL CHEMICAL PRODUCTS, OFF-SPECIFICATION SPECIES, CONTAINER RESIDUALS, AND SPILL RESIDUES THEREOF

-ACUTE HAZARDOUS WASTE- (AN ALPHABETIZED LISTING CAN BE FOUND AT 40 CFR 261.33.)

- P001 2H-1-Benzopyran-2-one, 4-hydroxy-3-(3oxo-1-phenylbutyl)-, & salts, when present at concentrations greater than 0.3%
- P001 Warfarin, & salts, when present at concentrations greater than 0.3%
- P002 Acetamide, N-(aminothioxomethyl)-
- P002 1-Acetyl-2-thiourea P003 Acrolein
- P003 2-Propenal
- P004 Aldrin
- P004 1,4,5,8-Dimethanonaphthalene, 1,2,3,4,10,10-hexachloro-1,4,4a,5,8,8ahexahvdro-(1alpha,4alpha,4abeta,5alpha,8alpha,8a
- P005 Allyl alcohol
- P005 2-Propen-1-ol
- P006 Aluminum phosphide (R,T)
- P007 4-Aminopyridine
- P007 3(2H)-Isoxazolone, 5-(aminomethyl)-
- P008 5-(Aminomethyl)-3-isoxazolol
- P008 4-Pyridinamine
- P009 Ammonium picrate (R)
- P009 Phenol, 2,4,6-trinitro-, ammonium salt
- P010 Arsenic acid H₃AsO₄
- P011 Arsenic oxide As₂O₅
- Arsenic pentoxide P011
- P012 Arsenic oxide As₂O₃
- P012 Arsenic trioxide
- P013 Barium cyanide
- P014 Benzenethiol
- P014 Thiophenol Beryllium powder P015
- P016 Dichloromethyl ether
- P016 Methane, oxybis[chloro-
- P017 Bromoacetone
- P017 2-Propanone, 1-bromo-
- P018 Brucine
- P018 Strychnidin-10-one, 2,3-dimethoxy-
- P020 Dinoseb P020
- Phenol, 2-(1-methylpropyl)-4,6-dinitro-P021 Calcium cyanide
- P021
- Calcium cyanide Ca(CN)2
- P022 Carbon disulfide
- P023 Acetaldehyde, chloro-
- Chloroacetaldehyde P023
- P024 Benzenamine, 4-chloro-
- P024 p-Chloroaniline
- P026 $1\hbox{-(o-}Chlorophenyl) thiourea$
- P026 Thiourea, (2-chlorophenyl)-
- P027 3-Chloropropionitrile
- P027 Propanenitrile, 3-chloro-
- Benzene, (chloromethyl)-P028 Benzyl chloride

P028

- P029 Copper cyanide
- P029 Copper cyanide Cu(CN)
- P030 Cyanides (soluble cyanide salts), not otherwise specified
- P031 Cyanogen
- P031 Ethanedinitrile
- P033 Cyanogen chloride
- P033 Cyanogen chloride (CN)Cl
- P034 2-Cyclohexyl-4,6-dinitrophenol P034
- Phenol, 2-cyclohexyl-4,6-dinitro-P036 Arsonous dichloride, phenyl-
- P036 Dichlorophenylarsine

	Waste description		Waste description		Waste description
P037	Dieldrin	P065	Mercury fulminate (R,T)	P106	Sodium cyanide
P037	2,7:3,6-Dimethanonaphth[2,3-	P066	Ethanimidothioic acid, N-[[(methylamino)	P106	Sodium cyanide Na(CN)
	b]oxirene,3,4,5,6,9,9-hexachloro- 1a,2,2a,3,6,6a,7,7a-octahydro-,	D066	carbonyl] oxy]-, methyl ester	P108	Strychnidin-10-one, and salts
	(1alpha,2beta,	P066	Methomyl	P108	Strychnine, & salts
	2alpha,3beta,6beta,6alpha,7beta,	P067	Aziridine, 2-methyl-	P109	Tetraethyldithiopyrophosphate
	7alpha)-	P067	1,2-Propylenimine	P109	Thiodiphosphoric acid, tetraethyl ester
2038	Arsine, diethyl-	P068	Hydrazine, methyl-	P110	Plumbane, tetraethyl-
P038	Diethylarsine	P068	Methyl hydrazine	P110	Tetraethyl lead
P039	Disulfoton	P069	2-Methyllactonitrile	P111	Diphosphoric acid, tetraethyl ester
2039	Phosphorodithioic acid, O,O-diethyl S-[2-	P069	Propanenitrile, 2-hydroxy-2-methyl-	P111	Tetraethyl pyrophosphate
	(ethylthio)ethyl ester	P070	Aldicarb	P112	Methane, tetranitro-(R)
P040	O,O-Diethyl O-pyrazinyl	P070	Propanal, 2-methyl-2-(methylthio)-, O-	P112	Tetranitromethane (R)
	phosphorothioate		[(methylamino) carbonyl]oxime	P113	Thallic oxide
2040	Phosphorothioic acid, O,O-diethyl O-	P071	Methyl parathion	P113	Thallium oxide Tl ₂ O ₃
	pyrazinyl ester	P071	Phosphorothioic acid, O,O,-dimethyl O-	P114	Selenious acid, dithallium(1+) salt
041	Diethyl-p-nitrophenyl phosphate		(4-nitrophenyl) ester	P114	Thallium(1) selenite
041	Phosphoric acid, diethyl 4-nitrophenyl	P072	alpha-Naphthylthiourea	P115	Sulfuric acid, dithallium(1+) salt
	ester	P072	Thiourea, 1-naphthalenyl-	P115	Thallium(l) sulfate
042	1,2-Benzenediol, 4-[1-hydroxy-2-(methyl-	P073	Nickel carbonyl	P116	Hydrazinecarbothioamide
	amino)ethyl]-, (R)-	P073	Nickel carbonyl Ni(CO)4, (T-4)-	P116	Thiosemicarbazide
042	Epinephrine	P074	Nickel cyanide	P118	Methanethiol, trichloro-
043	Diisopropylfluorophosphate (DFP)	P074	Nickel cyanide Ni(CN) ₂	P118	Trichloromethanethiol
043	Phosphorofluoridic acid, bis(1-	P075	Nicotine, & salts	P119	Ammonium vanadate
٠.٠	methylethyl) ester	P075	Pyridine, 3-(1-methyl-2-pyrrolidinyl)-, (S)-	P119	Vanadic acid, ammonium salt
044	Dimethoate		, and salts	P119	Vanadium oxide V ₂ O ₅
044	Phosphorodithioic acid, O,O-dimethyl S-	P076	Nitric oxide		
011	[2-(methylamino)-2-oxoethyl] ester	P076	Nitrogen oxide NO	P120	Vanadium pentoxide
045	2-Butanone, 3,3-dimethyl-1-(methylthio)-	P077	Benzenamine, 4-nitro-	P121	Zinc cyanide
JTJ	O-[methylamino]carbonyl] oxime	P077	p-Nitroaniline	P121	Zinc cyanide Zn(CN) ₂
045	Thiofanox	P078	Nitrogen dioxide	P122	Zinc phosphide Zn ₃ P ₂ , when present at
046	Benzeneethanamine, alpha, alpha-	P078	Nitrogen oxide NO ₂		concentrations greater than 10% (R,T)
0+0	dimethyl-	P081	Nitroglycerine (R)	P123	Toxaphene
046	alpha, alpha-Dimethylphenethylamine	P081		P127	7-Benzofuranol, 2,3-dihydro-2,2-
047			1,2,3-Propanetriol, trinitrate (R)		dimethyl-, methylcarbamate
	4,6-Dinitro-o-cresol, & salts	P082	Methanamine, N-methyl-N-nitroso-	P127	Carbofuran
047	Phenol, 2-methyl-4,6-dinitro, & salts	P082	N-Nitrosodimethylamine	P128	Mexacarbate
2048	2,4-Dinitrophenol	P084	N-Nitrosomethylvinylamine	P128	Phenol, 4-(dimethylamino)-3,5-dimethyl-
048	Phenol, 2,4-dinitro-	P084	Vinylamine, N-methyl-N-nitroso-		methylcarbamate (ester)
2049	Dithiobiuret	P085	Diphosphoramide, octamethyl-	P185	1,3-Dithiolane-2-carboxaldehyde, 2,4-
2049	Thioimidodicarbonic	P085	Octamethylpyrophosphoramide		dimethyl-, o-[(methylamino)-
	diamide[(H ₂ N)C(S)] ₂ NH	P087	Osmium oxide OsO ₄ , (T-4)-		carbonyl]oxime
050	Endosulfan	P087	Osmium tetroxide	P185	Tirpate
050	6,9-Methano-2,4,3-	P088	Endothall	P188	Benzoic acid, 2-hydroxy-,compd. With
	benzodioxathiepin,6,7,8,9,10,10-	P088	7-Oxabicyclo[2.2.1]heptane-2,3-		(3aS-cis)-1,2,3,3a,8,8a-hexahydro-
	hexachloro-1,5,5a,6,9,9a-hexahydro-, 3-		dicarboxylic acid		1,3a,8-trimethylpyrrolo [2,3-b]indol-5-yl
	oxide	P089	Parathion		methylcarbamate ester (1:1)
051	2,7:3,6-Dimethanonaphth [2,3-	P089	Phosphorothioic acid, O,O-diethyl O-(4-		Physostigmine salicylate
	b]oxirene,3,4,5,6,9, 9-hexachloro-		nitrophenyl) ester	P189	Carbamic acid, [(dibutylamino)-
	1a,2,2a,3,6,6a,7,7a-octahydro-,	P092	Mercury, (acetato-O)phenyl-		thio]methyl-2,3-dihydro-2,2-dimethyl-7-
	(1alpha,2beta, 2beta,3alpha,6alpha,6beta,7beta,	P092	Phenylmercury acetate		benzofuranyl ester
	7alpha)-, & metabolites	P093	Phenylthiourea	P189	Carbosulfan
0051	Findrin	P093	Thiourea, phenyl-	P190	Carbamic acid, methyl-, 3-methylphenyl
P051		P094	Phorate		ester
051	Endrin, & metabolites	P094	Phosphorodithioic acid, O,O-diethyl S-	P190	Metolcarb
054	Aziridine	1 U 2 T	[(ethylthio)methyl] ester	P191	Carbamic acid, dimethyl-, 1-[(dimethyl-
054	Ethyleneimine	P095	Carbonic dichloride		amino) carbonyl]-5-methyl-1H-pyrozol-3
056	Fluorine	P095	Phosgene		yl ester
057	Acetamide, 2-fluoro-		9	P191	Dimetilan
057	Fluoroacetamide	P096	Hydrogen phosphide	P192	Carbamic acid, dimethyl-, 3-methyl-1-(1
2058	Acetic acid, fluoro-, sodium salt	P096	Phosphine		methylethyl)-1H-pyrazol-5-yl ester
058	Fluoroacetic acid, sodium salt	P097	Famphur	P192	Isolan
059	Heptachlor	P097	Phosphorothioic acid, O-[4-	P194	Ethanimidothioc acid, 2-
2059	4,7-Methano-1H-indene, 1,4,5,6,7,8,8-		[(dimethylamino)sulfonyl] phenyl] O,O-		(dimethylamino)-N-[[(methylamino)
	heptachloro-3a,4,7,7a-tetrahydro-		dimethyl ester		carbonyl]-2-oxo]-, methyl ester
060	1,4,5,8-Dimethanonaphthalene,	P098	Potassium cyanide	P194	Oxamyl
	1,2,3,4,10,10-hexachloro-1,4,4a,5,8,8a-	P098	Potassium cyanide K(CN)	P196	Manganese,
	hexahydro-, (1alpha,4alpha,	P099	Argentate(1-), bis(cyano-C)-, potassium		bis(dimethylcarbamodithioato-S,S')-,
	4abeta,5beta,8beta,8abeta)-	P099	Potassium silver cyanide	P196	Manganese dimethyldithiocarbamate
060	Isodrin	P101	Ethyl cyanide	P197	Formparanate
062	Hexaethyl tetraphosphate	P101	Propanenitrile	P197	Methanimidamide, N,N-dimethyl-N'-[2-
062	Tetraphosphoric acid, hexaethyl ester	P102	Propargyl alcohol		methyl-4-
063	Hydrocyanic acid	P102	2-Propyn-1-ol		[[(methylamino)carbonyl]oxl]phenyl]-
2063	Hydrogen cyanide	P103	Selenourea	P198	Formetanate hydrochloride
JUJ		P103	Silver cyanide	P198	Methanimidamide, N,N-dimethyl-N'-[3-
064		1 TOT	onver cyannac		
	Methane, isocyanato-	D104	Silver evenide (Ag(CN)		[[(methylaminol-carbonylloxylphenyll-
2064 2064 2065	Methyl isocyanate Fulminic acid, mercury (2+) salt (R,T)	P104 P105	Silver cyanide (Ag(CN) Sodium azide		[[(methylamino)-carbonyl]oxy]phenyl]-, monohydrochloride

Code	Waste description	Code	Waste description	Code	Waste description
P199	Phenol, (3,5-dimethyl-4-(methylthio)-,	U026	Chlornaphazine	U061	Benzene, 1,1'-(2,2,2-
	methylcarbamate	U026	Naphthalenamine, N,N'-bis(2-		trichloroethylidene)bis[4-chloro-
P201	Phenol, 3-methyl-5-(1-methylethyl)-,		chloroethyl)-	U061	DDT
	methyl carbamate	U027	1 15	U062	Carbamothioic acid, bis(1-methylethyl)-,
P201	Promecarb	U027	1 , , , , ,	****	S-(2,3-dichloro- 2-propenyl) ester
P202	m-Cumenyl methylcarbamate	U028	1,2-Benzenedicarboxylic acid, bis(2-	U062	Diallate
P202 P202	3-Isopropylphenyl N-methylcarbamate Phenol, 3-(1-methylethyl)-, methyl	TIOOO	ethylhexyl ester	U063	Dibenz[a,h]anthracene
P202	carbamate	U028 U029	Diethylhexyl phthalate Methane, bromo-	U064 U064	Benzo[rst]pentaphene Dibenzo[a,i]pyrene
P203	Aldicarb sulfone	U029	Methyl bromide	U066	1,2-Dibromo-3-chloropropane
P203	Propanal, 2-, methyl-2-(methyl-sulfonyl)-,	U030	Benzene, 1-bromo-4-phenoxy-	U066	Propane, 1,2-dibromo-3-chloro-
	O-[(methylamino)carbonyl] oxime	U030	4-Bromophenyl phenyl ether	U067	Ethane, 1,2-dibromo-
P204	Physostigmine		1-Butanol (I)	U067	Ethylene dibromide
P204	Pyrrolo[2,3-b]indol-5-ol, 1,2,3,3a,8,8a-	U031	n-Butyl alcohol (I)	U068	Methane, dibromo-
	hexahydro- 1,3a,8-trimethyl-,	U032	Calcium chromate	U068	Methylene bromide
P205	methylcarbamate (ester), (3aS-cis)- Zinc, bis(dimethylcarbamodithioato-S,S')-	U032	Chromic acid H2CrO4, calcium salt	U069	1,2-Benzenedicarboxylic acid, dibutyl
F203		U033	Carbonic difluoride		ester
P205	Ziram	U033	Carbon oxyfluoride (R,T)	U069	Dibutyl phthalate
		U034	Acetaldehyde, trichloro-	U070	Benzene, 1,2-dichloro- o-Dichlorobenzene
DI	SCARDED COMMERCIAL CHEMICAL	U034	Chloral	U070 U071	Benzene, 1,3-dichloro-
	DUCTS, OFF-SPECIFICATION SPECIES,	U035	Benzenebutanoic acid, 4-[bis(2-chloroethyl)amino]-	U071	m-Dichlorobenzene
CONTA	AINER RESIDUES, AND SPILL RESIDUES THEREOF	U035	Chlorambucil	U072	Benzene, 1,4-dichloro-
	TOXIC WASTES	U036	Chlordane, alpha & gamma isomers	U072	p-Dichlorobenzene
(AN A	LPHABETIZED LISTING CAN BE FOUND	U036	4,7-Methano-1H-indene, 1,2,4,5,6,7,8,8-	U073	[1,1'-Biphenyl]-4,4'-diamine, 3,3'-
	AT 40 CFR 261.33.)		octachloro-2,3,3a,4,7,7a-hexahydro-		dichloro-
U001	Acetaldehyde (I)	U037	Benzene, chloro-	U073	3,3'-Dichlorobenzidine
	Ethanal (I)	U037	Chlorobenzene	U074	2-Butene, 1,4-dichloro- (I,T)
U002	Acetone (I)	U038	Benzeneacetic acid, 4-chloro-alpha- (4-		1,4-Dichloro-2-butene (I,T)
U002	2-Propanone (I)	TTOOO	chlorophenyl)-alpha-hydroxy-, ethyl ester	U075	Dichlorodifluoromethane
U003 U004	Acetonitrile (I,T)	U038 U039	Chlorobenzilate p-Chloro-m-cresol	U075	Methane, dichlorodifluoro-
U004	Acetophenone Ethanone, 1-phenyl-	U039	•	U076 U076	Ethane, 1,1-dichloro- Ethylidene dichloride
U005	Acetamide, N-9H-fluoren-2-yl-	U041		U077	Ethane, 1,2-dichloro-
U005	2-Acetylaminofluorene	U041	Oxirane, (chloromethyl)-	U077	Ethylene dichloride
U006	Acetyl chloride (C,R,T)	U042	2-Chloroethyl vinyl ether	U078	1,1-Dichloroethylene
U007	Acrylamide	U042	Ethene, (2-chloroethoxy)-	U078	Ethene, 1,1-dichloro-
U007	2-Propenamide	U043	Ethene, chloro-	U079	1,2-Dichloroethylene
U008	Acrylic acid (I)	U043	3	U079	Ethene, 1,2-dichloro-, (E)-
U008	2-Propenoic acid (I)	U044	Chloroform	U080	Methane, dichloro-
U009	Acrylonitrile	U044	Methane, trichloro-	U080	Methylene chloride
U009	2-Propenenitrile	U045	Methane, chloro- (I,T)	U081	2,4-Dichlorophenol
U010	Azirino[2',3':3,4]pyrrolo[1,2-a] indole-4,7-dione, 6-amino-8-	U045 U046	Methyl chloride (I,T) Chloromethyl methyl ether	U081	Phenol, 2,4-dichloro-
	[[(aminocarbonyl)oxy]methyl]-		Methane, chloromethoxy-	U082 U082	2,6-Dichlorophenol Phenol, 2,6-dichloro-
	1,1a,2,8,8a,8b-hexahydro-8a-methoxy-5-	U047	beta-Chloronaphthalene		Propane, 1,2-dichloro-
	methyl-, [1aS-(1alpha,	U047	Naphthalene, 2-chloro-	U083	Propylene dichloride
TTO 1 O	8beta,8aalpha,8balpha)]-	U048	o-Chlorophenol	U084	1,3-Dichloropropene
U010	Mitomycin C	U048	Phenol, 2-chloro-	U084	1-Propene, 1,3-dichloro-
U011	Amitrole 1H-1,2,4-Triazol-3-amine	U049	Benzenamine, 4-chloro-2-methyl-	U085	2,2'-Bioxirane
U012	Aniline (I,T)		,hydrochloride	U085	1,2:3,4-Diepoxybutane (I,T)
U012	Benzenamine (I,T)	U049	4-Chloro-o-toluidine, hydrochloride	U086	N,N'-Diethylhydrazine
U014	Auramine	U050	Chrysene	U086	Hydrazine, 1,2-diethyl-
U014	Benzenamine, 4,4'-carbonimidoylbis[N,N-	U051 U052	Creosote Cresol (Cresylic acid)	U087	O,O-Diethyl S-methyl dithiophosphate
	dimethyl-	U052	Phenol, methyl-	U087	Phosphorodithioic acid, O,O-diethyl S- methyl ester
U015	Azaserine	U053	2-Butenal	U088	1,2-Benzenedicarboxylic acid, diethyl
U015	L-Serine, diazoacetate (ester)	U053	Crotonaldehyde		ester
U016 U017	Benz[c]acridine Benzal chloride	U055	Benzene, (1-methylethyl)- (I)	U088	Diethyl phthalate
U017	Benzene, (dichloromethyl)-	U055	Cumene (I)	U089	Diethylstilbesterol
U018	Benz[a]anthracene	U056	Benzene, hexahydro- (I)	U089	Phenol, 4,4'-(1,2-diethyl-1,2-
U019	Benzene (I,T)	U056	Cyclohexane (I)	TT000	ethenediyl)bis-, (E)-
U020	Benzenesulfonic acid chloride (C,R)	U057	Cyclohexanone (I)	U090 U090	1,3-Benzodioxole, 5-propyl- Dihydrosafrole
U020	Benzenesulfonyl chloride (C,R)	U058 U058	Cyclophosphamide 2H-1,3,2-Oxazaphosphorin-2-amine,N,N-	U090	[1,1'-Biphenyl]-4,4'-diamine, 3,3'-
U021	Benzidine	0036	bis(2-chloroethyl)tetrahydro-, 2-oxide	3071	dimethoxy-
U021	[1,1'-Biphenyl]-4,4'-diamine	U059	Daunomycin	U091	3,3'-Dimethoxybenzidine
U022	Benzo[a]pyrene	U059	5,12-Naphthacenedione, 8-acetyl-10[(3-	U092	Dimethylamine (I)
U023	Benzene, (trichloromethyl)-		amino-2,3,6-trideoxy)-alpha-L-lyxo-	U092	Methanamine, N-methyl- (I)
U023	Benzotrichloride (C,R,T)		hexopyranosyl)oxy]-7,8,9,10-tetrahydro-	U093	Benzenamine, N,N-dimethyl-4-
U024 U024	Dichloromethoxy ethane Ethane, 1,1'-[methylenebis(oxy)]bis[2-	U060	6,8,11-trihydroxy-1-methoxy-, (8S-cis)- Benzene, 1,1'-(2,2-dichloroethyli-	11000	(phenylazo)-
JU27	chloro-	0000	dene)bis[4-chloro-	U093 U094	p-Dimethylaminoazobenzene Benz[a]anthracene, 7,12-dimethyl-
U025	Dichloroethyl ether	U060	DDD	U094	7,12-Dimethylbenz[a]anthracene
U025	Ethane, 1,1'-oxybis[2-chloro-			3037	., Dimenyisenziajanunaeene

Code	Waste description	Code	Waste description	Code	Waste description
U095	[1,1'-Biphenyl]-4,4'-diamine, 3,3'-	U130	Hexachlorocyclopentadiene	U164	Methylthiouracil
	dimethyl-	U131	Ethane, hexachloro-	U164	4(1H)-Pyrimidinone, 2,3-dihydro-6-
U095	3,3'-Dimethylbenzidine	U131			methyl-2-thioxo-
U096	alpha,alpha-Dimethylbenzylhydro-		Hexachlorophene	U165	Naphthalene
U096	peroxide (R) Hydroperoxide, 1-methyl-1-phenylethyl-	U132	Phenol, 2,2'-methylenebis[3,4,6-trichloro-	U166	1,4-Naphthalenedione
0090	(R)	U133	Hydrazine (R,T)	U166	1,4,Naphthaquinone
U097	Carbamic chloride, dimethyl-	U134	Hydrofluoric acid (C,T)	U167 U167	1-Naphthalenamine alpha-Naphthylamine
U097	Dimethylcarbamoyl chloride	U134	Hydrogen fluoride (C,T)	U168	2-Naphthalenamine
U098	1,1-Dimethylhydrazine	U135 U135	Hydrogen sulfide Hydrogen sulfide H2S	U168	beta-Naphthylamine
U098	Hydrazine, 1,1-dimethyl-	U136	Arsinic acid, dimethyl-	U169	Benzene, nitro-
U099	1,2-Dimethylhydrazine	U136	Cacodylic acid	U169	Nitrobenzene (I,T)
U099	Hydrazine, 1,2-dimethyl-	U137	5	U170	p-Nitrophenol
U101	2,4-Dimethylphenol	U138	Methane, iodo-	U170	Phenol, 4-nitro-
U101	Phenol, 2,4-dimethyl-	U138	Methyl iodide	U171	2-Nitropropane (I,T)
U102	1,2-Benzenedicarboxylic acid, dimethyl	U140	Isobutyl alcohol (I,T)	U171	Propane, 2-nitro- (I,T)
****	ester	U140	1-Propanol, 2-methyl-(I,T)	U172	1-Butanamine, N-butyl-N-nitroso-
U102	Dimethyl phthalate	U141	1,3-Benzodioxole, 5-(1-propenyl)-	U172	N-Nitrosodi-n-butylamine
U103 U103	Dimethyl sulfate Sulfuric acid, dimethyl ester	U141	Isosafrole	U173	Ethanol, 2,2'-(nitrosoimino)bis-
U105		U142	Kepone	U173	N-Nitrosodiethanolamine
U105	Benzene, 1-methyl-2,4-dinitro- 2,4-Dinitrotoluene	U142	1,3,4-Metheno-2H-	U174	Ethanamine, N-ethyl-N-nitroso-
U106	Benzene, 2-methyl-1,3-dinitro-		cyclobuta[cd]pentalen-2-one,	U174	N-Nitrosodiethylamine
U106	2,6-Dinitrotoluene		1,1a,3,3a,4,5,5,5a,5b,6-decachlorooctahydro-		N-Nitroso-N-ethylurea
U107	•	U143	2-Butenoic acid, 2-methyl-,7-[[2,3-	U176	Urea, N-ethyl-N-nitroso-
	ester assistance assis	22.70	dihydroxy-2-(1-methoxyethyl)-3-methyl-	U177	N-Nitroso-N-methylurea Urea, N-methyl-N-nitroso-
U107	Di-n-octyl phthalate		1-oxobutoxy]methyl]-2,3,5,7a-tetrahydro-	U177 U178	Carbamic acid, methylnitroso-, ethyl
U108	1,4-Diethyleneoxide		1H-pyrrolizin-1-yl ester, [1S-	0110	ester
	1,4-Dioxane	*** **	[1alpha(Z),7(2S*,3R*),7aalpha]]-	U178	N-Nitroso-N-methylurethane
	1,2-Diphenylhydrazine		Lasiocarpine	U179	N-Nitrosopiperidine
	Hydrazine, 1,2-diphenyl-	U144	, ,	U179	Piperidine, 1-nitroso-
U110	Dipropylamine (I)		Lead acetate	U180	N-Nitrosopyrrolidine
U110	1-Propanamine, N-propyl- (I)	U145	Lead phosphate Phosphoric acid, lead(2+) salt (2:3)	U180	Pyrrolidine, 1-nitroso-
	Di-n-propylnitrosamine	U146	-	U181	Benzenamine, 2-methyl-5-nitro-
U111	1-Propanamine, N-nitroso-N-propyl-		Lead subacetate	U181	5-Nitro-o-toluidine
U112 U112	Acetic acid ethyl ester (I) Ethyl acetate (I)	U147		U182	Paraldehyde
U113	Ethyl acrylate (I)	U147	•	U182	1,3,5-Trioxane, 2,4,6-trimethyl-
U113	2-Propenoic acid, ethyl ester (I)	U148	Maleic hydrazide	U183	Benzene, pentachloro-
U114		U148	3,6-Pyridazinedione, 1,2-dihydro-	U183	Pentachlorobenzene
	, salts & esters	U149	Malononitrile	U184	Ethane, pentachloro- Pentachloroethane
U114	Ethylenebisdithiocarbamic acid, salts &	U149	Propanedinitrile	U184 U185	Benzene, pentachloronitro-
	esters	U150	Melphalan	U185	Pentachloronitrobenzene (PCNB)
U115	Ethylene oxide (I,T)	U150	L-Phenylalanine, 4-[bis(2-	U186	1-Methylbutadiene (I)
U115	Oxirane (I,T)	****	chloroethyl)amino]-		1,3-Pentadiene (I)
	Ethylenethiourea		Mercury	U187	Acetamide, N-(4-ethoxyphenyl)-
	2-Imidazolidinethione		Methacrylonitrile (I,T)	U187	Phenacetin
U117	Ethane, 1,1'-oxybis- (I)	U152 U153	2-Propenenitrile, 2-methyl-(I,T) Methanethiol (I,T)	U188	Phenol
U117 U118	Ethyl ether (I) Ethyl methacrylate	U153	Thiomethanol (I,T)	U189	Phosphorous sulfide (R)
U118	2-Propenoic acid, 2-methyl-, ethyl ester	U154	Methanol (I)	U189	Sulfur phosphide (R)
U119	Ethyl methanesulfonate	U154	Methyl alcohol (I)	U190	1,3-Isobenzofurandione
U119	Methanesulfonic acid, ethyl ester	U155	1,2,Ethanediamine, N,N-dimethyl-N'-2-	U190	Phthalic anhydride
U120	Fluoranthene		pyridinyl-N'-(2-thienyl-methyl)-	U191	2-Picoline
U121	Methane, trichlorofluoro-	U155	Methapyrilene	U191	Pyridine, 2-methyl-
U121	Trichloromonofluoromethane	U156	Carbonochloridic acid, methyl ester(I,T)	U192	Benzamide, 3,5-dichloro-N- (1,1-dimethyl-2-propynyl)-
U122	Formaldehyde	U156	Methyl chlorocarbonate (I,T)	U192	Pronamide
U123	Formic acid (C,T)	U157	Benz[j]aceanthrylene, 1,2-dihydro-3-	U193	1,2-Oxathiolane, 2,2-dioxide
U124	Furan (I)	U157	methyl- 3-Methylcholanthrene	U193	1,3-Propane sultone
U124	Furfuran (I)	U157	Benzenamine, 4,4'-methylenebis[2-	U194	1-Propanamine (I,T)
U125	2-Furancarboxaldehyde (I)	5100	chloro-	U194	n-Propylamine (I,T)
U125	Furfural (I)	U158	4,4'-Methylenebis(2-chloroaniline)	U196	Pyridine
U126	Glycidylaldehyde	U159	2-Butanone (I,T)	U197	p-Benzoquinone
U126 U127	Oxiranecarboxyaldehyde Benzene, hexachloro-	U159	Methyl ethyl ketone (MEK)(I,T)	U197	2,5-Cyclohexadiene-1,4-dione
U127	Hexachlorobenzene	U160	2-Butanone, peroxide (R,T)	U200	Reserpine
U128	1,3-Butadiene, 1,1,2,3,4,4-hexachloro-	U160	Methyl ethyl ketone peroxide (R,T)	U200	Yohimban-16-carboxylic acid, 11,17-
U128	Hexachlorobutadiene	U161	Methyl isobutyl ketone (I)		dimethoxy-18-[(3,4,5-trimethoxy-
U129	Cyclohexane, 1,2,3,4,5,6-hexa-chloro-,	U161	4-Methyl-2-pentanone (I)		benzoyl)oxy]-, methyl ester, (3beta,16beta,17alpha,18beta, 20alpha)-
	(1alpha,	U161		U201	1,3-Benzenediol
	2alpha,3beta,4alpha,5alpha,6beta)-	U162	Methyl methacrylate (I,T)	U201	Resorcinol
U129	Lindane	U162	2-Propenoic acid, 2-methyl-, methyl ester (I,T)	U202	1,2-Benzisothiazol-3(2H)-one, 1,1-
U130	1,3-Cyclopentadiene, 1,2,3,4,5,5-	U163	Guanidine, N-methyl-N'-nitro-N-nitroso		dioxide, & salts
	hexachloro-		MNNG	U202	Saccharin, & salts
			· **		

Code	Waste description	Code	Waste description	Code	Waste description
	1,3-Benzodioxole, 5-(2-propenyl)-	U244	Thiram	U383	Potassium dimethyldithiocarbamate
U203	Safrole	U246	Cyanogen bromide (CN)Br	U384	Carbamodithioic acid, methyl-,
U204	Selenious acid	U247	Benzene, 1,1'-(2,2,2-	0004	monosodium salt
	Selenium dioxide	0241	trichloroethylidene)bis[4-methoxy-	U384	Metam Sodium
U204		U247	Methoxychlor	U385	
U205	Selenium sulfide		5	0363	Carbamothioic acid, dipropyl-, S-propyl ester
U205	Selenium sulfide SeS2 (R,T)	U248	2H-1-Benzopyran-2-one, 4-hydroxy-3-	TT00=	
U206	Glucopyranose, 2-deoxy-2-(3-methyl-3-		(3-oxo-1-phenyl-butyl)-, & salts, when	U385	Vernolate
	nitrosoureido)-, D-	77040	present at concentrations of 0.3% or less	U386	Carbamothioic acid, cyclohexyethyl-, S-
U206	D-Glucose, 2-deoxy-2-[[(methyl-	U248	Warfarin, & salts, when present at		ethyl ester
	nitrosoamino)-carbonyl]amino]-	11040	concentrations of 0.3% or less	U386	Cycloate
U206	Streptozotocin	U249	Zinc phosphide, Zn3P2, when present at	U387	, 1 13 ,
U207	Benzene, 1,2,4,5-tetrachloro-	11071	concentrations of 10% or less		(phenylmethyl) ester
U207	1,2,4,5-Tetrachlorobenzene		Benomyl	U387	Prosulfocarb
U208	Ethane, 1,1,1,2-tetrachloro-	0271	Carbamic acid, [1-[(butylamino)carbonyl]-	U389	Carbamothioic acid, bis(1-methylethyl)-,
U208	1,1,1,2-Tetrachloroethane		1H-benzimidazol-2-yl], methyl ester		S-(2,3,3-trichloro-2-propenyl) ester
U209	Ethane, 1,1,2,2-tetrachloro-	U277	Carbamodithioic acid, diethyl-, 2-chloro-	U389	Triallate
U209	1,1,2,2-Tetrachloroethane		2-propenyl ester	U390	Carbamothioic acid, dipropyl-, S-ethyl
	Ethene, tetrachloro-	U277			ester
U210	Tetrachloroethylene	U278		U390	EPTC
U211		U278	1,3-Benzodioxol-4-ol,2,2-dimethyl-,	U391	Carbamothioic acid, butylethyl-, S-propyl
	Methane, tetrachloro-		methyl carbamate		ester
	Furan, tetrachioro-	U279	5	U391	Pebulate
		U279	1-Naphthalenol, methylcarbamate	U392	Butylate
	Tetrahydrofuran (I)	U280	Barban	U392	Carbamothioic acid, bis(2-methypropyl)-,
	Acetic acid, thallium(1+) salt	U280	Carbamic acid, (3-chlorophenyl)-, 4-		S-ethyl ester
	Thallium(I) acetate		chloro-2-butynyl ester	U393	Copper, bis(dimethylcarbamodithioato-
U215	, ,	U328	Benzenamine, 2-methyl-		S,S')-
	Thallium(I) carbonate	U328	o-Toluidine	U393	Copper dimethyldithiocarbamate
U216	Thallium(I) chloride	U353	Benzenamine, 4-methyl-	U394	A2213
	Thallium chloride TlCl	U353	p-Toluidine	U394	Ethanimidothioic acid, 2-
U217	Nitric acid, thallium(1+) salt	U359	Ethanol, 2-ethoxy-		(dimethylamino)-N-hydroxy-2-oxo-,
U217	Thallium(I) nitrate	U359	Ethylene glycol monoethyl ether		methyl ester
U218	Ethanethioamide	U364	Bendiocarb phenol	U395	Diethylene glycol, dicarbamate
U218	Thioacetamide	U364	1,3,Benzodioxol-4-ol,2,2-dimethyl-,	U395	Ethanol, 2,2'-oxybis-, dicarbamate
U219	Thiourea	U365		U396	Ferbam
U220	Benzene, methyl-		, S-ethyl ester	U396	Iron, tris(dimethylcarbamodithiato-S,S')-,
U220	Toluene	U365		U400	Bis(pentamethylene)triuram tetrasulfide
U221	Benzenediamine, ar-methyl-	U366	Dazomet	U400	Piperidine, 1,1'-
U221	Toluenediamine	U366	2H-1,3,5-Thiadiazine-2-thione,		(tetrathiodicarbonothioyl)-bis-
U222	Benzenamine, 2-methyl-,hydrochloride		tetrahydro-3,5-dimethyl-	U401	Bis(dimethylthiocarbamoyl) sulfide
U222	o-Toluidine hydrochloride	U367	7-Benzofuranol, 2,3-dihydro-2,2-	U401	Tetramethylthiuram monosulfide
U223	Benzene, 1,3-diisocyanatomethyl- (R,T)		dimethyl-	U402	Tetrabutylthiuram disulfide
U223	Toluene diisocyanate (R,T)	U367	Carbofuran phenol	U402	Thioperoxydicarbonic diamide, tetrabutyl
U225	Bromoform	U372	Carbamic acid, 1H-benzimidazol-2-yl,	U403	Disulfiram
U225	Methane, tribromo-		methyl ester	U403	Thioperoxydicarbonic diamide, tetraethyl
U226	Ethane, 1,1,1-trichloro-	U372	Carbendazim	U404	Ethanamine, N,N-diethyl-
U226	Methyl chloroform	U373	Carbamic acid, phenyl-, 1-methylethyl	U404	Triethylamine
U227	Ethane, 1,1,2-trichloro-		ester	U407	Ethyl Ziram
	1,1,2-Trichloroethane	U373	Propham	U407	Zinc, bis(diethylcarbamodithioato-S,S')-
U228	Ethene, trichloro-	U375	Carbamic acid, butyl-, 3-iodo-2-propynyl	U409	Carbamic acid, [1,2-phenylene
U228	Trichloroethylene		ester		bis(iminocarbonothiol)]bis-, dimethyl
U234	Benzene, 1,3,5-trinitro-	U375	3-Iodo-2-propynyl n-butylcarbamate		ester
U234	1,3,5-Trinitrobenzene (R,T)	U376	Carbamodithioic acid, dimethyl-,	U409	Thiophanate-methyl
U235	1-Propanol, 2,3-dibromo-, phosphate		tetraanhydrosulfide with	U410	Ethaninidothioic acid, N,N'-
-250	(3:1)		orthothioselenious acid		[thiobis[(methylimino) carbonyloxy]]bis-,
U235	Tris(2,3-dibromopropyl) phosphate	U376	Selenium,		dimethyl ester
U236	2,7-Naphthalenedisulfonic acid, 3,3'-		tetrakis(dimethyldithiocarbamate)	U410	Thiodicarb
0200	[(3,3'-dimethyl [1,1'-biphenyl]-4,4'-	U377	Carbamodithioic acid, methyl-,	U411	Phenol, 2-(1-methylethoxy)-,
	diyl)bis(azo)bis[5-amino-4-hydroxy]-,		monopotassium salt		methylcarbamate
	tetrasodium salt	U377	Potassium n-methyldithiocarbamate	U411	Propoxur
U236	Trypan blue	U378	Carbamodithioic acid,		
U237	2,4-(1H,3H)-Pyrimidinedione, 5-[bis (2-		(hydroxymethyl)methyl-, monopotassium		
	chloroethyl) amino]-		salt		
U237	Uracil mustard	U378	Potassium n-hydroxymethyl-n-methyldi-		
U238	Carbamic acid, ethyl ester	TT0=0	thiocarbamate		
U238	Ethyl carbamate (urethane)	U379	Carbamodithioic acid, dibutyl, sodium		
U239	Benzene, dimethyl-(I,T)	110-0	salt		
U239	Xylene (I)	U379	Sodium dibutyldithiocarbamate		
U240	Acetic acid, (2,4-dichlorophenoxy)-, salts	U381	Carbamodithioic acid, diethyl-, sodium		
0	& esters	11201	salt		
U240		U381	Sodium diethyldithiocarbamate		
	Hexachloropropene	U382	Carbamodithioic acid, dimethyl-, sodium salt		
U243	1-Propene, 1,1,2,3,3,3-hexachloro-	U382	Sodium dimethyldithiocarbamate		
U244	Thioperoxydicarbonic	U383	Carbamodithioic acid, dimethyl,		
	diamide[(H ₂ N)C(S)] ₂ S ₂ , tetramethyl-	2000	potassium salt		
			Lamanam out		

APPENDIX C-1-3 TANK FRAME STRUCTURAL ENGINEERING EVALUATION

CLEAN EARTH OF ALABAMA



DAVID FUNK ENGINEERING, INC.

CONSULTING STRUCTURAL ENGINEERS
TWO RIVERCHASE OFFICE PLAZA, SUITE #124
HOOVER, ALABAMA 35244-2810
TELEPHONE (205) 733-8491

July 23, 2013

VIA EMAIL TO harry@hgsengineeringinc.com ORIGINAL VIA U.S. MAIL

HGS Engineering, Inc. ATTN: Mr. Harry Summers 1121 Noble Street Anniston, AL 36201

RE: 15,000 Gallon Storage Tank Frames

EWS Alabama, Inc. 402 Webster Chapel Road Glencoe, Alabama 35905

Dear Mr. Summers:

This office has completed a structural engineering review of six tank frames located at the above mentioned facility. The purpose of the review is to determine whether each frame can safely support a 15,000 gallon tank and its contents. Our review and accuracy of our conclusions rely upon information provided by either HGS or the tank owner and is defined as follows:

- The tanks have a 15,000 gallon capacity to be filled with fluids weighing 9.5 pounds per gallon.
- The tanks are built of 0.45" thick steel plates. Each tank is supported by eight channel legs, each with a base plate measuring 5.0" by 8.0".

The undersigned visited the site on July 22, 2013, to inspect the frames on each of the tanks. Five of six tank frames are built exactly the same way. One different frame had 1/2" thick by 6" wide by 4'-0" long plates welded to the flanges of the channel legs starting approximately 2 1/2" above the top of the concrete slab. There was no indication as to why these plates were added to the channel legs. The addition of plates will increase the lateral stability of the channel legs.

Repair work was observed on one channel leg of one tank frame. It appeared the flanges of the channel leg were damaged and repaired by adding a plate 1/2" thick by 1 1/2" wide

Clean Earth of Alabama, Inc. - ALD981020894

Mr. Harry Summers EWS Storage Tank Frames July 23, 2013 Page 2 of 2

by 10" long to the exterior side of each flange of the channel. No other modifications were observed on any of the other tank frames.

The results of our review indicate the tank frames are capable of safely supporting the tanks and contents including the additional overhead walkway supported at various channel legs. Unless there are reasons unknown to us, it is recommended each channel leg be anchored to the concrete slab with one 1" diameter Hilti Kwik bolt with a 4 1/2" embedment into the concrete slab. Follow the manufacturer's recommendations when installing the anchor bolt.

Should you wish to discuss the contents of this report, or if we may be of further service in the matter, please advise.

Sincerely yours,

DAVID FUNK ENGINEERING, INC.

JDF/jf

John D. Funk, P.E.

APPENDIX C-2-1 Waste Profile Form

CLEAN EARTH OF ALABAMA



Facility for Approval:

WASTE PROFILE FORM

Olcai Lai ti i	CI	ean	Ear	th
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Select Facility to ship to:			Profile #:	
A: GENERATOR INFORMATION Name:		GEN #:	EPA ID#:	
Site Address:	City:	GEN#:	State: Zip	:
Mailing Address :	City:		State: Zip	
Contact: Ema		Phone:	Fax:	
Title: Manifest ER phone #:	Subpart	P Yes No	State ID#	
Generator Status: LQG SQG VSQG/CES	SOG NAICS code(s) (prin	mary reporting first):		
TSDF Approval List Yes No Disposal Re		- 7 - 1 - 1 - 3 7· <u> </u>		
CUSTOMER/BILLING/BROKER INFORMATION: Company Name:	Same as Generating Facilit	ty address Customer :		
Address: Contact:	City:		StateZip Fax:	p:
Contact:	Email:		rax:	
: WASTE INFORMATION: Waste Common Name: Process generating Waste (be specific) :				
Form: W Source: G Origin:	Unused Commercial Product:	Yes No	o Spill Residue:	Yes No
Loosepack: Yes No Lab Pack: Yes	No Generator has provided the	e following: Analysis	Formulary	SDS Sample
PHYSICAL CHARACTERISTICS OF WASTE at 70° F En	ter all applicable information and	check all that apply:		
yers: Physical State Range (30% max) Soli		Specific Gravity	Viscosity	
<u> </u>	Debris Monolith Powde	(water=1, oil<1, sol >1) r Est. Actual	(Low-water,Med-o	oil, High-Honey)
—	Compressed Gas	Select S.G.	Select Viscosity	
- · · · · · · · · · · · · · · · · · · ·	/ater: Pumpable: \bigcap Y	es No Color	r:	
	scription:		-	
	•	□a. =	1	
	4.01 - 10.00 10.01-12.49	∐≥12.5 Actua		
quid Flash Point:	140° F	0°F None Act	tual:	C F
ΓU/lbs range: <2000	10,000	Point September 1 September 1 September 2	>95° F %Halo	gens:
CHEMICAL COMPOSITION OF WASTE (TOTAL comp	with all hazardous & non-hazard	dous must exceed 100% o	constituents) :	
Constituent TRI (¬ ′ °` ′	Constituent	TRI	Range (max 30%)
	to%			to%
	to%		<u> </u>	to%
	to%		Д.	to%
	to%		,	to%
	to%			to%
ADDITIONAL INFORMATION:				
PCB N/A ppm Cyanides	s, Total N/A p	opm VOC (ppm)	TOC	
PCB TSCA Regulated Yes No Sulfides	^	ppm Subject to Su	ibpart CC: Yes	☐ No
Ammonia Asbestos, Non-friable Asbestos	· — · ·	□PFAS/PFOA	Phenolics	□ □Herbicide/Pestic
Check all that may apply:	RCRA Haz Debris	Reactivity:	Reactive (Other)/	
APHIS Waste Organic Peroxide	Infectious	Cyanide Reactive	Reactive (Other)/	- Simp Sensitive
CERCLA Oxidizer	Medical (sharps,needles)	Sulfide Reactive	Explosive	Pyropho
Dust Hazard Radioactive	Subpart P	Water Reactive	Polymerizes	Shock Se
USEPA/STATE/GENERATOR STATE WASTE IDENT	ΓΙΓΙCATION:			
List ALL applicable RCRA/State waste codes even if VSQG/CESQG:	Federal Universal Waste:	Yes No	EPA Exemption ref:_	
State Regulated Waste: Yes No	Generator State Universal Waste:	Yes No	WA State DW/EHV	V: Yes No
LANDFILL INFORMATION	Waste Subie	ect to Land Disposal Res	strictions (LDR)?	Yes No
	,	l meets Federal Treatmer	· · · · -	Yes No
(TOC<1%, TSS<1%)	EDA Materia	I daciai ficamici	5	100100
IDENTIFY ALL UHC'S IN THIS WASTE STREAM:				

G REGULATED CONSTITUENTS: Check	, 0	~ ~	_	` ' —
Test Type: TCLP To	otal Source(s):	Analytical	Generator Kr	nowledgeSDS
METALS: TCLP Limit (mg/l)	, 70, Eu]	CCLP Limit (mg/l)	Relogia Noteth Range
D004 Arsenic (As) 5.0	Range TCLP (mg/L)	Antimony (Sb)	(mg/l)	Range
D005 Barium (Ba) 100.0	TCLP (mg/L)	Beryllium (Be)		TCLP (mg/L)
D006 Cadmium(Cd) 1.0	TCLP (mg/L)	Hexavalent Chrome (Cr+6)	H	TCLP (mg/L)
D007 Chromium(Cr) 5.0	TCLP (mg/L)	Cobalt (Co)	H	TCLP (mg/L)
D008 Lead (Pb) 5.0	TCLP (mg/L)	Copper (Cu)	ä	TCLP (mg/L)
D009 Mercury (Hg) 0.2	TCLP (mg/L)	Nickel (Ni)		TCLP (mg/L)
D010 Selenium (Se) 1.0	TCLP (mg/L)	Thallium (Tl)		TCLP (mg/L)
D011 Silver (Ag) 5.0	TCLP (mg/L)	Vanadium (V)	H	TCLP (mg/L)
(-6)		Zinc (Zn)	Ħ	
VOLATILES:		Ziik (Zii)	<u></u>	Total (mg/t)
D018 Benzene 0.5	TCLP (mg/L)	D029 1,1-Dichloroethylene	0.7	TCLP (mg/L)
D019 Carbon Tetrachloride 0.5	TCLP (mg/L)	D035 Methyl ethyl ketone	200.0	TCLP (mg/L)
D021 Chlorobenzene 100.0	TCLP (mg/L)	D039 Tetrachloroethylene	0.7	TCLP (mg/L)
D022 Chloroform 6.0	TCLP (mg/L)	D040 Trichloroethylene	0.5	TCLP (mg/L)
D028 1,2-Dichloroethane 0.5	TCLP (mg/L)	D043 Vinyl Chloride	0.2	
PESTICIDE/HERBICIDES:				
D020 Chlordane 0.03	TCI P (***/!)	D040 I : 1	🗆	TOLD (/L)
D016 2,4-D 10.0	TCLP (mg/L) TCLP (mg/L)	D013 Lindane	0.4	TCLP (mg/L) TCLP (mg/L)
D012 Endrin 0.02	TCLP (mg/L)	D014 Methoxychlor D017 2,4,5-TP (silvex)		TCLP (mg/L)
D031 Hepachlor & its epoxide 0.008	TCLP (mg/L)	D017 Z,4,5-11 (silvex) D015 Toxaphene	1.0	TCLP (mg/L)
SEMI-VOLATILES:	TCLF (IIIg/L)	Doto Toxapiene	0.5	LL ICLF (IIIg/L)
D023 o-Cresol 200.0	TCLP (mg/L)	D033 Hexachlorobutadiene	0.5	TCLP (mg/L)
D024 m-Cresol 200.0	TCLP (mg/L)	D034 Hexachloroethane	3.0	TCLP (mg/L)
D025 p-Cresol 200.0 .	TCLP (mg/L)	D036 Nitrobenzene	2.0	TCLP (mg/L)
D026 Cresol (Total) 200.0 .	TCLP (mg/L)	D037 Pentachlorophenol	100.0	TCLP (mg/L)
D027 1,4-Dichlorobenzene 7.5	TCLP (mg/L)	D038 Pyridine	5.0	TCLP (mg/L)
D030 2,4-Dinitrotoluene 0.13	TCLP (mg/L)	D041 2,4,5-Trichlorophenol	400.0	TCLP (mg/L)
D032 Hexachlorobenzene 0.13	TCLP (mg/L)	D042 2,4,6-Trichlorophenol	2.0	
H. SHIPPING INFORMATION: Li	imited Quantity Yes	No Marine Pollutar	nt Yes	
11. 00000 0 1. 0 10. 0 0 0 0 0 0 0 0 0 0	minea quantity res	Reportable Quantity (RQ		
Inhalation Hazard?	o ii ies, zone:	Additional DOT Information:		
US DOT DESCRIPTION: USE THE FUL	<u> </u>	Ex. Lighter test, CA letter, Special Permit	•	Cochnical constituents:
C3 DOT DESCRIPTION, C3E THE FOL	L DASIC DESCRIPTION ON I	THE HAZARDOUS WASTE MAIN	irest including i	ecimical constituents.
Method of Shipment:	☐Bulk Solid ☐Contair	ner (type/size):		
Average Shipment Quantity w/ UOM (lb			cy (one time, daily	. weekly, etc):
Tiverage oripinent Quantity W/ CONT(10	s, ganons, arams, etc).	ompping i requen	icy (one time, dairy)	, weekly, etc).
Pennsylvania Generators : If you completed a source reduction strategy((<u>PA FORM 25R</u> link), please submit with this profile				
GENERATOR CERTIFICATION To the best of my knowledge and belief, l	[hereby warrant and represent t	hat the information contained and s	submitted in the wa	aste profile and all
attached documents is true, accurate, and rely on this information in the handling a	l complete and that no material f and processing of the waste mate	act has been omitted as to make thi	s misleading. I und	derstand that others may
authorized to sign such documentation o	n behalf of the generator.	, 0 0	•	, 0
Authorized Signature	Authorized Printed Name	Title		Date

SECTION D PROCESS INFORMATION CLEAN EARTH OF ALABAMA



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D PROCESS INFORMATION

This section describes the processes used at the Facility to manage hazardous waste.

D-1 Container Design

The Container Storage Areas at the Facility include Building #1, Building #2, Building #3 and Building #4. Container Storage Areas are designed to store hazardous waste containers on pallets up to 2 tiers high. Portions of those storage areas may also be used to load/unload and transship containers, sample containers, and to perform additional production functions such as bulking/consolidation or de-packing and re-packing. Building #3 is also designed to store up to 7 trailers in lieu of smaller containers. A total of up to 96 55-gallon drums may be stored in Building #3 in lieu of every 2 trailers.

All storage and handling procedures for containers are carried out as though the containers contained free liquids. This section presents information about the design of container storage areas and the containment and management of any accumulated liquids. Buildings #1 through #4 are covered buildings. The floors are reinforced concrete and constructed and/or sealed to prevent cracks or gaps. Those containment areas are coated with a material impermeable to and compatible with the wastes to be stored. See Appendix D-1-1 for the concrete coating product data sheets. The inspection procedures as described in Section F - Procedures to Prevent Hazards, will provide for prompt detection and removal of leaks and spills in these areas.

D-1a Containers with Free Liquids

D-1a(1) Basic Design Parameters

The floors in Buildings #1 through #4 are constructed of reinforced concrete and constructed and/or sealed to prevent cracks or gaps. These containment areas are coated with a material impermeable to and compatible with the wastes to be stored. See Appendix D-1-1 for the concrete coating product data sheet.

A Limited Structural Analysis of the Integrity of Concrete Spill Containment of Buildings #1 through #4 conducted by Ronald C. Crocker, PE on March 18, 2024 revealed:



- Building #1: Cracks were observed at the building joint at the location of the angled wall with the adjoining portion of the structure in the concrete slab and curb wall.
- Building #2: At the north end of the building, the curb at the opening contains some small cracks that extend through the curb. Also, at the south end of the building, the joint at the containment berm was observed to have openings.
- Building #3: No deficiencies were noted in the concrete containment area for Building #3.
- Building #4: No deficiencies were noted in the concrete containment area for Building #4.

A copy of the Structural Analysis Report is provided in <u>Appendix D-1-2</u>.

The Structural Analysis Report concluded that the deficiencies identified in Buildings #1 and #2 require only minor maintenance repairs and could be addressed relatively quickly. The Structural Analysis stated that cracks may be repaired by cleaning out and grinding, followed by installation of non-shrink grout and epoxy coating. Smaller cracks such as at the north curb of Building 2 may be repaired by applying the epoxy coating only. Those activities were completed on March 21, 2024. Photographs documenting the repairs are provided in Appendix D-1-3.

D-1a(2) Drainage

Stacking Practices

Containers are stored on pallets, in rows no greater than 2 pallets high.

Grading of Base

The floors in Buildings #1 through #4 are constructed of reinforced concrete. All buildings are equipped with concrete berm walls continuous at the building's perimeter and are graded as follows:

• Building #1: The existing base in Building #1 is graded away from the openings at Dock 1, 2, 3, 4, 5 and 6. Additionally, each dock opening is furnished with a "roll-over" concrete berm, approximately 6" high, across the length of the dock opening. Where blind sumps are located, the base has been graded toward the sump openings.



- Building #2: The existing base in Building #2 is graded away from the 4" high concrete berm at the west end of the building. The existing loading dock opening is elevated above the storage floor of the building and is sloped toward the containment floor area. Where blind sumps are located, the base has been graded toward the sump openings.
- Building #3: The existing base in Building #3 is graded away from the 4" high concrete berm at the open end of the building. The building base is sloped continuously towards the blind sump trench drain located at the rear of the containment area.
- Building #4: The existing base in Building #4 is graded away from the openings at Dock 7, 8, 9, 10, 11, 12, and 13. Additionally, each dock opening is furnished with a "elevated" concrete berm across the length of the dock opening. The building base is sloped continuously towards the South side of the building containment area which is enclosed by concrete berm walls. Where blind sumps are located, the base has been graded toward the sump openings.

Drainage Design and Removal System

If liquid is observed beneath containers, on the floor or at one of the blind sumps in Buildings #1 through #4, containers will be inspected to determine the source and identity of the liquid. If the liquid can be traced to a leaking container and identified from the source container labeling, no further analysis is needed; the leaking container will be replaced or overpacked and the leaked liquid will be placed back with the contents of the leaked container. Any additional required clean up activity will be accomplished manually using the appropriate absorbent materials, neutralizers and water, as necessary. Cleanup residuals will be collected in drums and will be placed in the appropriate section of the container storage area and managed as a site-generated waste. If the source of the liquid cannot be identified, then the liquid will be tested using the "fingerprint" analysis described in Section C-2 of this Application, Waste Analysis Plan.

D-1a(3) Capacity of Containment

Volume of Largest Container

Various sized bulk containers from roll-offs, portable shipping tanks, and IBCs (totes, cubic yard boxes) to non-bulk containers of 119 gallons or less (pails, drums, salvage drums, boxes) are stored on site. Containers are generally handled by forklifts using pallets, drum grapplers,



or other drum handling devices. Those containers are generally received from off site, but may also be generated from on-site processes. Containers for off-site shipments meet USDOT specifications for shipping containers (49 CFR §§172, 173 and 178). All wastes are stored in containers constructed of materials compatible with the waste stored.

Total Volume of Containers

The total volume of containers is presented in <u>Table D-1-1</u> below.

TABLE D-1-1 – TOTAL VOLUME OF CONTAINERS					
Container Storage Area	Total Number of Containers	Liquid Storage Capacity	Containment Capacity		
Building #1, Area 1	1,312 x 55-gallon drum equivalents	72,160 gallons	14650.43 gallons		
Building #1, Area 2	160 x 55-gallon drum equivalents	8,800 gallons	1,489.30 gallons		
Building #1, Area 3	160 x 55-gallon drum equivalents	8,800 gallons	1,590.87 gallons		
Building #2	1,030 x 55-gallon drum equivalents <u>plus</u> 1 x 70 cubic yard trailer (solids) <u>plus</u> 82 x 330-gallon totes	56,650-gallons p <i>lus</i> 27,060-gallons	24,095 gallons		
Building #3	7 x trailers <u>of solids only</u> at 70 cubic yards <u>or</u> for every two-trailer bay, the Facility may store up to a total of 384 x 55-gallon drums equivalents (or 96 totes no greater than 330 gallons each.)	98,967-gallons (solids) <u>or</u> 63,360 gallons (liquid)	11,463.57 gallons		
Building #4	852 x 55-gallon drum equivalents	46,860 gallons	20,014.05 gallons		

Containment Structure Capacity

Building #1

The storage capacity of Building #1 is 1,632 55-gallon drum equivalents or 89,760 gallons. Building #1 measures approximately 18,415 square feet. Containment is provided for three separate areas using a combination of 6-inch berms and a 3-inch high, 6-feet wide roll-over berm at the west end of Area 1. The three containment systems in Building #1 are: Area 1 will contain 1,958.477 cubic feet or 14,650.43 gallons of free liquid; Area 2, 199.09 will contain cubic feet or 1489.30 gallons of



free liquid; and, Area 3, will contain 212.668 cubic feet or 1,590.87 gallons of free liquid. This is greater than 10% of the total volume of all containers and greater than the volume of the largest container anticipated to be stored. Since the area is enclosed and elevated above the surrounding ground level, rainfall infiltration and run-on will be minimal. Therefore, container storage Building #1 has sufficient containment capacity.

Building #2

The storage capacity of Building #2 is 1,030 55-gallon drum equivalents (56,650-gallons) plus one (1) 70 cubic yard (14,138-gallons) trailer of solids plus 82 330-gallon totes (27,060 gallons) for a total of 97,848 gallons. Building #2 measures approximately 10,537.15 square feet and containment is provided with a 4-inch curb. The containment system will contain 3,221 cubic feet or 24,095 gallons of free liquid. This is greater than 10% of the total volume of all containers and greater than the volume of the largest container anticipated to be stored. Since the area is enclosed and elevated above the surrounding ground level, rainfall infiltration and run-on will be minimal. Therefore, Container Storage Building #2 has sufficient containment capacity.

Building #3

The storage capacity for Building #3 is seven (7) trailers <u>of solids only</u> at 70 cubic yard (14,138-gallons) each. Importantly, for every two-trailer bay, the Facility may elect to store up to a total of 384 55-gallon drums equivalents of waste that may or may not contain liquids in lieu of two trailers (for a maximum total of 3x384 55-gallon drum equivalents¹ or 63,360-gallons of liquids). Building #3 measures approximately 4,786.6 square feet and is provided with a 3.84-inch (0.32 feet) effective curb between slope and containment. The containment system for Building #3 will contain 1,532.457 cubic feet or 11,463.57 gallons of free liquid in containers. This is greater than 10% of the total volume of all containers of liquid and greater

¹ One tote with a capacity of no greater than 330-gallon may be substituted for four (4) 55-gallon drums.



than the volume of the largest container of liquid anticipated to be stored. Since the area is covered and equipped with a berm at its open end, rainfall infiltration and runon will be minimal. Therefore, Container Storage Building #3 has sufficient containment capacity.

Building 4

The storage capacity of Building #4 is 852 55-gallon drum equivalents or 46,860 gallons. Building #4 measures approximately 5,532 square feet and containment is provided with a 5.8-inch effective curb between slope and curbing. The containment system will contain 2,675.49 cubic feet or 20,014.05 gallons of free liquid. This is greater than 10% of the total volume of all containers and greater than the volume of the largest container anticipated to be stored. Since the area is enclosed and elevated above the surrounding ground level, rainfall infiltration and run-on will be minimal. Therefore, Container Storage Building #4 has sufficient containment capacity.

Drawings of container storage area layouts for Buildings #1 through #4, that include containment calculations, are provided in <u>Appendix D-1-4</u>. A drawing showing the 50-foot setback for ignitable and reactive waste is provided in <u>Appendix D-1-5</u>.

Capacity of Run-Off Collection System

Container storage Buildings #1, #2 and #4 are elevated and Building #3 is equipped with a rollover berm. As such, run-on is not anticipated to be an issue. Table D-1-1 provide the containment capacity for each of the four (4) Container Storage Buildings.

Values provided in Table D-1-1 include:

- The maximum number of containers to be stored (Column 2). That value is based on the size of each containment area and the manner in which containers are arranged within each storage space (Section D-1a(3)).
- The calculated maximum containment of each building in gallons (Column 4).
- The containment volumes of each building assumes that all drums will be stored on pallets.



Geographic Storm Intensity Data

According to data published by the National Oceanic and Atmospheric Administration (NOAA) the precipitation estimate for a 24-hour, 25-year storm for Gadsden, AL is 6.67 inches. Precipitation frequency estimates for Gadsden, AL are provided in <u>Appendix D-1-6</u>.

D-1a(4) Provisions for Preventing and Managing Run-on

The roof and walls of the buildings that shelter container storage Buildings #1 through #4 are intended to exclude rainfall. The finish floor elevation of Buildings #1, 2 and #4 are approximately 3-4 feet above ground elevation. A curb is present at the open edge of Building #3 to minimize run-on.

D-1a(5) Analysis and Removal of Accumulated Liquids

The spill containment areas, including blind sumps, are inspected for signs of standing liquids in accordance with the Inspection Schedule of Section F - Procedures to Prevent Hazards. Other areas that may be subject to spills are also inspected for signs of spillage or leakage include the truck loading areas and process areas. If accumulated liquids are observed in any secondary containment areas appropriate actions will be initiated. The liquid will be identified by the label on the container(s) it was released from. If it cannot be identified, a sample will be evaluated at the on-site laboratory for the parameters identified in the Waste Analysis Plan provided in Section C-2 of this Permit Application. If necessary, a sample will be sent for further analysis at a third-party laboratory.

In all cases accumulated liquids in secondary containment areas will be removed as soon as possible to preclude overflow. Spills or leaks in the containment areas will be cleaned up by pumping for large spills, or by using industrial absorbent and hand tools for smaller spills. All pumps will be intrinsically safe. Non-sparking hand tools will be used in potentially explosive atmospheres. All collected material will be managed on-site or properly containerized, marked and labeled for shipment to an authorized off-site facility. Spill areas will be decontaminated by use of non-hazardous or aqueous cleaners, and may include use



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of high-pressure water spray. All clean-up residues will be containerized and managed onsite or shipped off-site to a permitted facility, as necessary.

D-1b Containers Without Free Liquids

All storage and handling procedures for containers are carried out as though the containers contained free liquids.

D-1c Container Management

Wastes received at the Facility are contained in DOT approved containers for the shipping class of the hazardous material (i.e., waste) contained within. DOT approved containers are compatible with the material that they hold.

Inbound trucks with containers from off-site generators are directed to the unloading areas. Palletized and single containers are unloaded in these areas by forklift or by hand truck to minimize the possibility of damaging containers. All containers are handled in such a way as to minimize the possibility of rupture, leakage, or other damage to the container. During all loading/unloading operations a supply of absorbent material is readily available for use in the event of a spill.

All containers are inspected for rusting or structural defects upon unloading at the Facility. prior to being stored and weekly, thereafter in accordance with the Inspection Schedule of Section F – Procedures to Prevent Hazards. If a container is determined to be leaking the contents are transferred to another approved USDOT specification container that is in good condition, overpacked in a larger container or processed immediately.

A minimum of two (2) feet of aisle space is maintained between rows of containers. The maximum number and volume of containers is provided in <u>Table D-1-1</u> and <u>Section D-1(a)(3)</u> above. All containers greater than thirty (30) gallons will not be stacked more than two high.

All containers that contain waste materials are kept closed during storage except when adding or removing waste.



Ignitable wastes and materials make up a large portion of the wastes stored in containers. The storage areas are designed and operated to minimize the hazards associated with ignitable wastes/materials. No open flames, welding, smoking or other ignition sources are allowed in the storage areas. A description of the precautions taken to minimize ignition sources is contained in Section F - Procedures to Prevent Hazards. All Container Storage Buildings on the property are located at least 15 meters (50 feet) from the Facility property line.

Container markings and labeling, including hazardous waste labels and DOT labels and marks, will be maintained as received, or will be duplicated on the outside of the packaging if the container is overpacked or the contents transferred to a new container.

Shredding of Pharmaceutical Wastes

Various pharmaceutical wastes, including some hazardous wastes, are shredded in Building #2 for future management of the shredded solids and the separated liquids. At the time of this Application, the shredding process takes place as follows:

- An Environmental Technician empties containers of pharmaceutical wastes onto a table then spreads out the contents and identifies and removes of non-shreddable materials.
- The sorted material is transferred to the inclined shredder feed conveyor.
- The material travels up the feed conveyor and into the shredder.
- Materials pass through the shredder where the particle size of the material is reduced.
- The reduced particle sized material exits the shredder and drops onto a perforated, separating conveyor. The perforations allow entrained liquids to gravity separate from the solids.
- The separated liquids are collected into intermediate bulk containers (e.g., totes) while the solids are simultaneously conveyed to the loading conveyor.
- The solid material travels up the inclined loading conveyor and passes beneath a magnetic belt conveyor which removes the ferrous fraction.
- The ferrous material is collected in a dump hopper.



• The solids and non-ferrous material continues up the loading conveyor and into the bulk shipping trailer.

The modified shredding process proposed for approval by this Permit Application is:

- An Environmental Technician empties containers of pharmaceutical wastes onto a table then spreads out the contents and identifies and removes of non-shreddable materials.
- The sorted material is then transferred into a wheeled bin. The bin is transferred to a lift which both raises the bin up to the shredder and dumps the contents of the bin into the shredder.
- Materials pass through the shredder where the particle size of the material is reduced.
- The reduced particle sized material exits the shredder and drops onto the primary, perforated, separating conveyor. The perforations allow entrained liquids to gravity separate from the particle sized solids.
- The separated liquids drain onto the secondary, perforated, separating conveyor which further separates the liquids from any entrained solids.
- The liquid fraction from the secondary separating conveyor is collected into intermediate bulk containers (e.g., totes) while the solids are collected in a dump hopper for reprocessing.
- The solids exiting the primary separator fall onto a magnetic separator which removes entrained, ferrous, metal.
- The ferrous metal is collected in a dump hopper.
- The solids exiting the magnetic separator are conveyed to a secondary particle sizing unit which further reduces particle size.
- The solids exiting the secondary particle sizing unit drop onto the loading conveyor and travel up into the bulk shipping trailer.

It is important to note that no ignitable or reactive wastes are shredded at the Facility.



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Crushing of Cans Holding Paint Waste

The primary processing unit for paints is a Prodeva 270 Can and Glass Crusher (see Appendix D-1-7), or equivalent equipment. The Prodeva 270 Can and Glass Crusher is in Building #1 and is used to crush cans of paint. The process is as follows:

- An Environmental Technician places multiple containers of paint onto a conveyor belt that feeds the cans directly into the paint can crusher.
- The liquid is gravity fed into a DOT approved consolidation drum (i.e. DOT rated 55gal 119 gal).
- The RCRA empty paints can will be discarded.
- The drum of paint is closed, marked with hazard warnings, labeled, and dated with a waste tracking number.
- This process continues until the drum is full at which time a sample is collected and sent to the lab to check compatibility prior to fuel blending.
- The drum is placed into storage until the laboratory completes the fingerprint analysis at which time the drum is released for processing in one of the approved treatment units (T-1 through T-6).

When the unit is sitting idle and not processing paint, a lid is secured onto the consolidation drum to comply with Subpart CC Level 1 controls. The paint can crusher is also equipped with enhanced safety features making it explosion proof and therefore safe to operate in hazardous environments.

In addition, there are two (2) hydraulically powered paint can crushers in Building #1 that can accept paint cans up to a 5-gallon capacity. Those crushers are also used to process paints that are consolidated separately from oil-based paints, including two-part epoxies that are known to react when a base (Part A) and a catalyst (Part B) are combined.

The process is as follows:

• The Environmental Technician places the paint can on a metal grate that is positioned above an open top drum (i.e. DOT rated 55-gallon – 119-gallon capacity).



- The door is closed and a button is pushed by the Environmental Technician to activate a pneumatic piston which descends to crush the can completely flat.
- The liquid paint is gravity fed into the consolidation drum.
- The RCRA empty paint can is discarded.
- The drum of paint is closed, marked with hazard warnings, labeled, and dated with a waste tracking number.
- This process continues until the drum is full at which time a sample is collected and sent to the lab to check compatibility prior to fuel blending.
- The drum is placed into storage until the laboratory completes the fingerprint analysis at which time the drum is released for processing in one of the approved treatment units (T-1 through T-6).

D-2 Tank Systems

There is one tank system at the CEA Facility that includes six (6) 15,000-gallon RCRA-regulated tanks for a total capacity of 90,00-gallons. The information provided in this section is intended to address the regulatory requirements pertaining to tank design, construction, and installation.

Tank system TS-1 is in the northeast central portion of the Facility and contains six RCRA storage tanks identified as Tanks 1 through 6. There are no non-RCRA waste storage tanks at the Facility. <u>Table D-2-1</u>, below, provides the list of RCRA-regulated tanks and ancillary equipment are and are present at the Facility.

Tanks operate at atmospheric pressure and temperature. The tanks are 21.16 feet high and have a diameter of 11.44 feet and were originally constructed as pressure vessels in approximately 1945 by Sharpsville Steel Fabricators, Inc. Tanks are designed for a specific gravity of 1.14 (9.5 pounds/gallon). Design, structural and loading information for all tanks are provided in the Assessment in <u>Appendix D-2-1</u>. A Drawing of the Tank System Layout is provided in <u>Appendix D-2-2</u>.



Table D-2-1 – LIST OF TANKS					
ID	Description	Capacity	Contents	Location	Material of Construction
Tank 1	Aboveground Storage Tank	15,000 gallons	Spent non- chlorinated solvents, ignitable waste	Northeast Central Tank Farm	0.45-inch Plate Carbon Steel
Tank 2	Aboveground Storage Tank	15,000 gallons	Spent non- chlorinated solvents, ignitable waste	Northeast Central Tank Farm	0.45-inch Plate Carbon Steel
Tank 3	Aboveground Storage Tank	15,000 gallons	Spent non- chlorinated solvents, ignitable waste/Liquids from pharmaceutical processing	Northeast Central Tank Farm	0.45-inch Plate Carbon Steel
Tank 4	Aboveground Storage Tank	15,000 gallons	Spent non- chlorinated solvents, ignitable waste	Northeast Central Tank Farm	0.45-inch Plate Carbon Steel
Tank 5	Aboveground Storage Tank	15,000 gallons	Spent non- chlorinated solvents, ignitable waste	Northeast Central Tank Farm	0.45-inch Plate Carbon Steel
Tank 6	Aboveground Storage Tank	15,000 gallons	Spent non- chlorinated solvents, ignitable waste	Northeast Central Tank Farm	0.45-inch Plate Carbon Steel

The tank system is designed to safely manage ignitable wastes. The tank locations comply with the protective distance requirements for tanks as specified in the National Fire Protection Association's "Flammable and Combustible Liquid Code" (NFPA 30). The storage tanks comply with the requirements for the maintenance of protective distances between the waste management area and any public ways, streets, alleys or an adjoining property line. All tank and piping systems managing ignitable wastes are properly grounded. Bonding/grounding equipment is provided at transfer points. All tanks managing ignitable wastes are designed to be bottom filled to reduce the production of vapors and static charge when filling. Electrical equipment inside containment areas and within ten feet of the point where hose connections are made and broken comply with the requirements of the National Electrical Code requirements for Hazardous Locations. Proper procedures are followed when



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transferring ignitable wastes. Bottom fill methods are used for all ignitable materials. All tankers are electrically bonded to transfer piping prior to a transfer taking place. No smoking is allowed within operating areas.

D-2a(1) Assessment of Existing Tank System's Integrity

Storage tanks are constructed of 0.45-inch plate carbon steel. Carbon steel tank construction has proven to be well suited for the materials handled which are primarily ignitable solvent wastes. Materials corrosive to the tank construction material are not stored in the tanks. Annual ultrasonic thickness measurements will indicate if any significant erosion or corrosion of the internal surfaces has occurred. The results of ultrasonic thickness tests are kept on file at the Facility.

A Limited Structural Analysis of the Integrity of Concrete Spill Containment of the tank system was conducted on March 18, 2024 by Ronald C. Crocker, PE to evaluate the structural integrity and suitability of each tank system for handling hazardous waste. That assessment was prepared and certified by an independent registered professional engineer. The Structural Analysis Report noted a small crack at the intersection of the slab and containment wall at the north end of the structure. That Report is provided in <u>Appendix D-2-3</u>.

The Structural Analysis stated that cracks may be repaired by cleaning out and grinding, followed by installation of non-shrink grout and epoxy coating. Those activities were completed on March 21, 2024. Photographs documenting the repairs are provided in Appendix D-2-4.

Tank integrity is assured through inspections as described in <u>Section F, Procedures to Prevent Hazards</u>. Those inspections include an annual measurement of metal thickness using ultrasonic testing. The most recent ultrasonic test results for the RCRA storage tanks are provided in <u>Appendix D-2-5</u>.

The exact age of the tank system is unknown. CEA began operations in June of 2016, at which time the tank systems were present. The original facility received its Interim Status



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permit in September 1986 under a former owner. The facility was grandfathered into the

RCRA program and granted its Part B Permit in October 1991 under a former owner. Due to

changes in ownership over the years, the age of the tank system is not known.

A review of historical aerial photographs showed the tank system, or a part thereof, to be

visible in March 1997. The quality of that photograph does not allow for determining the

number of tanks present at that time. An engineering assessment of the secondary

containment system was conducted in August of 1996. As such it is estimated that the tank

system is at least 28 years old.

Tank integrity is assured through inspections as described in Section F, Procedures to Prevent

Hazards. Those inspections include an annual measurement of metal thickness using

ultrasonic testing. The most recent ultrasonic test results for the RCRA storage tanks are

provided in Appendix D-2-5.

D-2a(2) External Corrosion Protection

In general, paint coatings provide external corrosion protection. All steel tanks, piping and

other components subject to corrosion from exposure are paint coated and will be repainted

as required to maintain protection. The plates and welds are free of defect and appear in good

repair. There is no evidence of corrosion or deterioration. Based on the predicted corrosion

rate and the minimum thickness required for these storage tanks, the tanks have an indefinite

service life. Given that the tanks and ancillary equipment are not in contact with the soil or

water cathodic protection is not required, nor is a detailed corrosion analysis by a certified

corrosion engineer or expert.

D-2b New Tank Systems

Not applicable. No new tank systems are proposed.

D-2c Dimensions and Capacity of Each Tank

Each of the six tanks are 21.16 feet high and have a diameter of 11.44 feet and have a capacity

of 15,000 gallons.

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D-2d Description of Feed Systems, Safety Cutoffs, Bypass Systems and Pressure Controls

All loading and unloading is conducted by Facility employees trained in the handling of hazardous wastes and is attended by the drivers of outside transportation vehicles who are responsible for securing their equipment. Tank trucks are properly grounded prior to loading/unloading and trained personnel monitor the truck during the entire transfer process

to take corrective action should a problem arise.

Liquids may be transferred between bulk transport vehicles in the loading/unloading areas, totes to tanks or between tanks via flexible hose or piping. Each of the six tanks is equipped with a level switch designed to detect a high liquid level. If a high liquid level is detected in any tank, an audible alarm in the tank farm area and within Building #1 is initiated. In addition to the audible alarm, upon the detection of a high liquid level, the flow of compressed air to the tank farm and drum pumping area is shut off thereby stopping the air operated double diaphragm pumps. The stoppage of the pumps prevents the transfer of additional liquids into the tanks. Information on tank level indicators is provided in Appendix

D-2-6.

All tanks are operated at atmospheric pressure. Normal venting is provided through roof mounted conservation vents.

D-2e Piping Instrumentation and Process Flow

A Piping and Instrumentation Drawing is provided in <u>Appendix D-2-7</u>. A Process Flow Diagram is provided in <u>Appendix D-2-8</u>.

D-2f Containment and Detection of Releases

D-2f(1) Plans and Description of Design, Construction and Operation of the Secondary Containment System

Age of Tank System

The exact age of the tank system is unknown. CEA began operations in June of 2016, at which time the tank systems were present. The original facility received its Interim Status permit in September 1986 under a former owner. The facility was grandfathered into the



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RCRA program and granted its Part B Permit in October 1991 under a former owner. Due to

changes in ownership over the years, the age of the tank system is not known.

A review of historical aerial photographs showed the tank system, or a part thereof, to be

visible in March 1997. The quality of that photograph does not allow for determining the

number of tanks present at that time. An engineering assessment of the secondary

containment system was conducted in August of 1996. As such it is estimated that the tank

system is at least 28 years old.

Design, Installation and Operation to Prevent Migration

The area immediately around the tank system (i.e., outside of secondary containment) is

paved with concrete to the north, asphalt to the east and south and gravel to the west.

Secondary containment for the permitted tanks is provided by an external lined vault system

constructed of reinforced concrete and constructed and/or sealed to prevent cracks or gaps.

The tank containment systems are designed to facilitate the removal of any accumulated

liquids using sloping floors and collection sumps. The concrete liner was placed as a

monolithic pour without construction joints or seams. The concrete containment floor

provides the foundation for the tanks and the tanks are raised above the containment floor on

legs.

The liner has a rectangular shape with outside dimensions of 30 feet x 60 feet and the long

axis of the rectangle is oriented north-south. The containment structure has a 0.3% slope

from southwest to southeast and a 0.4% slope from north to south. A pump intake system is

in the southeast corner of the containment area for the removal of accumulated precipitation

or of spilled waste.

Additional secondary containment is provided by an 11.5 x 9.5-foot reinforced concrete

basin. The basin has the same floor and wall elevation as the main containment area and is

located at the southeast corner of the main containment area. The walls and floor were

designed to prevent migration of released waste to the environment. Both the walls and the

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floor are structurally capable of resisting lateral earth pressure. The floor slopes toward the

main containment area to provide positive drainage to the sump.

The tank system is under cover. Any blown in precipitation or spilled waste accumulate in

the 11.5 x 9.5-foot concrete basin where a manually activated pump pipes it to one of the

tanks in the containment area. The floor and walls of the containment area are coated with

chemically resistant epoxy coating selected for its compatibility with the wastes present. The

technical specifications for that coating is provided in Appendix D-2-9.

If accumulated liquids are observed in any of the secondary containment areas, appropriate

actions will be initiated. In all cases, any accumulated liquid in secondary containment areas

will be removed as soon as possible. This will normally take place within 24 hours of

discovery. If the exact source of the liquid can readily be determined and the liquid identified,

it will be handled in accordance with established procedures for that material. If the source

or identity cannot be determined, a sample will be collected and analyzed.

The structural adequacy of the containment area was addressed in a letter, dated August 20,

1996, by John Funk, a licensed structural engineer (See Appendix D-2-1). Mr. Funk

concluded that the containment area was structurally sound and adequate. No changes have

been made that could potentially impact the containment area's structural functionality.

Leak Detection and Removal

Leak detection for tanks is provided by daily visual monitoring. All tanks are aboveground

and are designed so the entire exterior of the tanks may be inspected. The daily and other

periodic inspections are performed and documented as described in Section F - Procedures

to Prevent Hazards.

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D-2f(1)(c)² Requirements for External Liner: Vault Containment Calculations

Secondary containment for all tanks and ancillary equipment is provided by a concrete external lined vault system. Containment capacity calculations are included in <u>Appendix D-2-2</u>. The containment capacity of for the tank system is adequate to contain the largest tank and the volume of a 25-year 24-hour rainfall event and is designed and constructed prevent any run on.

Run-on or Infiltration Prevented

The walls and floor were designed to prevent migration of any released waste to the environment. Both the walls and the floor are structurally capable of resisting lateral earth pressure and infiltration.

<u>Provided with an Impermeable Internal Coating that is Compatible with Stored</u> Wastes

Material corrosive to the concrete will not be stored in the tanks. Additional protection against the migration of wastes will be provided by an impermeable coating applied to concrete surfaces subject to exposure to the waste. The containment areas are coated with a material impermeable to and compatible with the wastes to be stored. See <u>Appendix D-2-9</u> for typical coating data.

All tank systems are designed to safely manage ignitable wastes. The tank locations comply with the protective distance requirements for tanks as specified in the National Fire Protection Association's "Flammable and Combustible Liquid Code" (NFPA 30). Ignitable wastes for bulking and reclaim or fuel substitution may carry the D002 waste code only as a secondary characteristic code (e.g. Waste Flammable Liquids, Corrosive, n.o.s.). Characteristic reactive wastes (D003) are not managed in tanks and are only accepted in containers.

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² The Operating Permit Application Checklist does not include Sections D-2f(1)(a) or D-2f(1)(b).

Method to Protect Against Formation/Ignition of Vapors

All tank and piping systems managing ignitable wastes are properly grounded. Bonding/grounding equipment is provided at transfer points. All tanks managing ignitable wastes are designed to be bottom filled to reduce the production of vapors and static charge when filling. Electrical equipment inside containment areas and within ten feet of the point where hose connections are made and broken will comply with the requirements of the National Electrical Code requirements for Hazardous Locations. Proper procedures are followed when transferring ignitable wastes. Bottom fill methods are used for all ignitable materials. All tankers are electrically bonded to transfer piping prior to a transfer taking place. No smoking is allowed within the operating areas.

Free of Cracks or Gaps

The visual inspection of the containment system conducted March 18, 2024 by Ronald C, Crocker, PE found a small crack at the intersection of the slab and containment wall at the north end of the structure that he recommended be sealed. That Report is provided in <u>Appendix D-2-3</u> and photographs documenting the repairs are provided in <u>Appendix D-2-4</u>.

Tanks are contained within the containment system, which covers all surrounding soil likely to come into contact with wastes if they were released from the tanks. The vault floor provides the foundation for the tanks and the tanks are raised above the containment floor on legs. As the containment structures are on the ground and not subject to hydraulic pressure, external moisture barriers are not required.

D-2f(1)(d) Secondary Containment and Leak Detection Requirements for Ancillary Equipment

Hazardous waste transfer piping systems are aboveground and located within the tank secondary containment system and under cover. Piping is in coated concrete trenches that drain into the storage tank containment area. Pumps that support the storage tanks are located in the storage tank containment area.



Leak detection for ancillary equipment is provided by daily visual monitoring. All ancillary equipment is above ground and are designed so the entire exterior may be inspected. That inspection includes both a visual and auditory inspection of tank farm components. An auditory inspection consists of listening for hissing, dripping, etc. The daily inspections are performed and documented as described in Section F - Procedures to Prevent Hazards.

In addition, monitoring of equipment in the tank farm that contains or contacts hazardous wastes with organic concentrations of at ten (10) percent by weight for leaks/emissions per Section D-12 - Subpart BB Air Emissions Standards for Equipment Leaks is conducted.

D-2g Controls and Practices to Prevent Spills and Overflows

Carbon steel tank construction has proven to be well suited for the materials handled. Materials corrosive to the tank construction material are not stored in the tanks. The annual ultrasonic thickness measurements will indicate if any significant erosion or corrosion of the internal surfaces has occurred (these results are kept on file at the Facility). Paint coatings provide external corrosion protection. All steel tanks are paint coated and will be repainted as required to maintain protection. Cathodic protection is not required since all tanks and ancillary components are above ground and not in contact with the soil or water.

Spill Prevention Controls

Spill prevention controls include the design of both that secondary containment and loading/ unloading area, overfill prevention controls as discussed below and standardized operating procedures, which specify that both a CEA employee and the truck driver must attend any transfers to and from the tank system and observe for leaks, particularly at connection points, During the transfer of hazardous waste from a truck to tanks or from tanks to a transport truck, hose connections will be visually monitored to ensure leaks and spills do not occur. All hose-connections are camlock fittings with pin locks and must remain inside of the contained area. Drip pans or absorbent pads are used underneath fittings. In the event liquids



Hazardous Waste Permit Renewal Application Clean Earth of Alabama, Inc.

Glencoe, Alabama Permit No. ALD 981 020 894

are leaked or spilled on the ground, they will be immediately contained and cleaned up. The

secondary containment structure does not have any drain valves.

Spill prevention controls include the design of both that secondary containment and loading/

unloading area, overfill prevention controls as discussed below.

Overfill Prevention Controls

The practices to prevent overfills involve continuous monitoring by responsible and trained

personnel during all transfer operations. Secondary containment is provided in all areas

where there is a significant risk of spillage. This includes where hose connections are made,

where pumps are located and where valves are located. Loading and unloading takes place

only in areas constructed for the purpose and will be attended by trained personnel.

As stated above in Section D-2d, each of the six tanks is equipped with a level switch

designed to detect a high liquid level. A high liquid level in any tank will trigger an audible

alarm in the tank farm area and within Building #1. Upon the detection of a high liquid level,

the flow of compressed air to the tank farm and drum pumping area is shut off thereby

stopping the air operated double diaphragm pumps. The stoppage of the pumps prevents the

transfer of additional liquids into the tanks. Information on tank level indicators is provided

in Appendix D-2-6.

Plans and Schedule for Inspection

Tank systems and ancillary equipment associated with the tanks (e.g. piping, pumps, valves,

fittings, filters, monitoring equipment, liquid level indicators) are inspected daily, 365 days

a year, for:

• Fall protection line operation;

• Tank system foundation and dikes (cracks, deterioration, spalling, uneven

settlement, erosion, wet spots);

• Tank structural support (concrete deterioration and cracking, corrosion of pipe

supports);

Env.

D-22

- Pipes, pumps, valves, fittings, filters (leaks, corrosion or deterioration);
- Tank shell, roof, and bottom (corrosion, discoloration, cracks, buckles, bulges);
- Evidence of leaks, spills and precipitation;
- Monitoring equipment and liquid level indicators for overfill protection (proper operation); and,
- Automatic feed cut-offs.

The inspection log for tanks is provided in <u>Section F – Procedures to Prevent Hazards</u>, Appendix F-2-1.

Data from Monitoring and Leak Detection Equipment

The results of the annual metal thickness evaluation of tanks, as well as monitoring data from the Facility's LDAR Program, as detailed in <u>Section D-12</u> of this Application, are maintained at the Facility.

D-3 Waste Piles

There are no waste piles at the Facility.

D-4 Surface Impoundments

There are no surface impoundments at the Facility.

D-5 Incinerators

There are no incinerators at the Facility.

D-6 Landfills

There are no landfills at the Facility.

D-7 Land Treatment

There are no land treatment facilities at the Facility.



D-8 Miscellaneous Units

There are no miscellaneous units at the Facility.

D-9 Boilers and Industrial Furnaces

There are no boilers and industrial furnaces at the Facility.

D-10 Containment Buildings

There are no containment buildings at the Facility.

D-11 Subpart AA – Air Emissions Standards for Process Vents

Subpart AA applies to process vents associated with distillation, fractionation, thin-film evaporation, solvent extraction, or air or steam stripping operations that manage hazardous wastes with organic concentrations of at least 10 ppmw. No distillation, fractionation, thin-film evaporation, solvent extraction, or air or steam stripping operations are conducted at the Facility.

D-12 Subpart BB – Air Emission Standards for Equipment Leaks

Subpart BB applies to equipment required to be permitted under 40 CFR Part 270 [ADEM Admin. Code Rule 355-14-8], or in recycling operations located on hazardous waste management facilities permitted under RCRA, and that contains or contacts hazardous wastes with organic concentrations of ≥10% by weight. Used oil managed per 40 CFR 279 [ADEM Rule 335-14-17] is excluded from RCRA permitting and therefore excluded from Subpart BB. The Leak Detection and Repair Program provided in <u>Appendix D-12-1</u> includes applicable requirements for Subpart BB.

D-13 Subpart CC – Air Emission Standards for Tanks and Containers

The Leak Detection and Repair Program provided in <u>Attachment D-13-1</u> addresses applicable requirements for tank systems and containers.

D-14 Hazardous Waste Munitions and Explosive Storage

As discussed in <u>Section B-1</u> of this Application, CEA intends to amend its permit to allow the receipt for *storage and transfer only* of additional reactive (i.e., D003) wastes to include *small* arms *ammunition as defined in* 27 CFR §555.11 to *mean small* arms ammunition or



cartridge cases, primers, bullets, or smokeless propellants designed for use in small arms, including percussion caps, and 3/32 inch and other external burning pyrotechnic hobby fuses. The term does not include black powder. Ammunition received will be limited to USDOT Class/Division 1.4 as defined at 49 CFR 173.50. Those wastes will include only USDOT Identification Numbers UN0362, UN0363, UN0303 or UN0301.

Hazardous waste munitions and explosives will be stored in containers (see Section D-1 above). That storage is designed and operated with a containment systems, controls and monitoring, that:

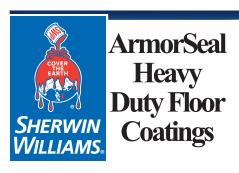
- 1. Minimizes the potential for detonation or other means of release of hazardous waste, hazardous constituents, hazardous decomposition products, or contaminated run-off, to the soil, ground water, surface water and atmosphere;
- 2. Provides a primary barrier (i.e., the container) designed to contain the hazardous waste;
- 3. Prevents exposure to stormwater as all such waste will be stored indoors;
- 4. Provides a secondary containment system that assures that any released liquids are contained and promptly detected and removed from the waste area and an appropriate response taken (e.g., additional containment, such as overpacking, or removal from the waste area); and,
- 5. Provides monitoring and inspection procedures that assure the controls and containment systems are working as designed and that releases that may adversely impact human health or the environment are not escaping from the unit.





APPENDIX D-1-1 TYPICAL CONCRETE COATING DATA CLEAN EARTH OF ALABAMA





ArmorSeal ARMORSEAL® REXTHANE™

B65-60 SERIES

Revised: August 23, 2022

PRODUCT INFORMATION

8.51

PRODUCT DESCRIPTION

ARMORSEAL REXTHANE I is a high solids, single component, aliphatic, moisture cure urethane, industrial coating. This urethane coating cures to a high gloss and chemical resistant film equivalent to two-part urethane coatings.

- · Impact and abrasion resistant
- · Chemical resistant
- Resists yellowing
- · Fast "hardness" development
- · Outstanding application properties

PRODUCT CHARACTERISTICS

Finish: Gloss

Clear, White, Haze Gray, Deck Gray, Sandstone, and a wide range Color:

Graffiti resistant

of colors possible

Volume Solids: 67% ± 2%, White may vary by color (calculated)

Weight Solids: 81% ± 2%, may vary by color

<340 g/L; 2.8 lb/gal VOC (EPA Method 24):

Recommended Spreading Rate per coat: Minimum Maximum Wet mils (microns) 3.0 (75) 4.5 (112) Dry mils (microns) 2.0 (50) **3.0** (75) ~Coverage sq ft/qal (m²/L) 358 (8.8) **537** (13.1) Theoretical coverage sq ft/gal 1072 (26.3) (m²/L) @ 1 mil / 25 microns dft

NOTE: Brush or roll application may require multiple coats to achieve maximum film thickness and uniformity of appearance.

NOTE: Thermal spray metalizing is too porous to measure actual film thickness. A Project Reference Standard is recommended to confirm application thickness and coverage rate.

Drying Schedule @ 3.0 mils wet (75 microns):				
	@ 40°F/4.5°C	@ 77°F/25°C	@ 100°F/38°C	
		50% RH		
To touch:	4 hours	2 hours	30 minutes	
To recoat:				
minimum:	48 hours	9 hours	3 hours	
maximum:	14 days	14 days	14 days	
Foot Traffic:	48 hours	24 hours	12 hours	
Heavy Traffic:	7 days	3 days	3 days	
To cure:	7 days	3 days	3 days	
Drying time is temperature, humidity, and film thickness dependent.				

Shelf Life: 12 months, unopened Store indoors at 40°F (4.5°C) to 100°F (38°C) - Tinted colors must be used within 7 (seven) days after tinting 111°F (43°C) PMCC **Flash Point:** Aromatic 100, R2K5 Reducer/Clean Up:

RECOMMENDED USES

- For industrial, commercial, or marine applications where a heavyduty polyurethane floor finish is required
- Excellent resistance to alkalies, dilute acids, spillage of solvents, chemicals, jet fuel, grease, etc.
- · Formulated specifically for brush and roller application
- Urethane floor coatings may exhibit tire tracking
- Meets ADA requirements for slip resistance for floors
- Suitable for use in USDA inspected facilities
- Interior or exterior use
- As a stand alone clear sealer for thermal spray metalizing
- May be topcoated with approved finish coats to provide an opaque colored finish coat
- Schools

- · Airport hangers
- Laboratories
- Pharmaceutical houses
- Clean rooms
- Resists skydrol Metalizing sealer
- Performance Characteristics

Substrate*: Concrete

Surface Preparation*: SSPC-SP13/NACE 6

System Tested*:

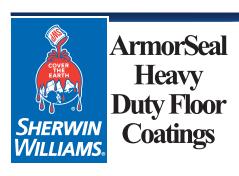
1 ct: ArmorSeal 1000 HS Clear @ 5.0 mils (125 microns) dft 1 ct: ArmorSeal Rexthane I @ 2.0 mils (50 microns) dft *unless otherwise noted below

Test Name	Test Method	Results
Abrasion Resistance	ASTM D4060, CS17 wheel, 1000 cycles, 1 kg load	116 mg loss
Adhesion	ASTM D4541	350 psi, 100% concrete failure 900 psi*
Hot Tire Pick-Up	ITM P213.00 @ 140°F (60°C)	Passes
Moisture Condensation Resistance	ASTM D4585, 100°F (38°C), 1000 hours	Rating 10 per ASTM D714 for blistering
Pencil Hardness	ASTM D3363	Н
Slip Resistance, Floors	ASTM C1028**, .60 Minimum Static Coefficient of Friction	Passes wet and dry, with and without SharkGrip Additive

^{*}thermal spray metalizing

Resists fumes, splash, and spillage of mild acids, alkalies, salts, aliphatic and aromatic hydrocarbon solvents, lubricating oils, and Skydrol. (ASTM D1308).

^{**}test method withdrawn in 2014 without replacement



ArmorSeal ARMORSEAL® REXTHANE™

B65-60 SERIES

Revised: August 23, 2022

PRODUCT INFORMATION

8.51

RECOMMENDED SYSTEMS

Dry Film Thickness / ct. **Mils** (Microns)

Concrete:

ArmorSeal 1000 HS, reduced 7%** 1.5-2.0 (40-50)1 ct 1-2 cts. ArmorSeal Rexthane I 2.0-3.0 (50-75)

Concrete-smooth:

2 cts. ArmorSeal Rexthane I 2.0-3.0 (50-75)

Steel with Zinc Metalizing*:

ArmorSeal Rexthane I Clear, mist coat. Allow to flash 1 ct. for 20 minutes.

1 ct. ArmorSeal Rexthane I Clear 1.5-3.0 (38-75) (Reduced 7%** with R7K100)

Wood:

1-2 cts. ArmorSeal Rexthane I 2.0-3.0 (50-75)

*Optional finish coats: Hi-Solids Polyurethane, Hi-Solids Polyurethane 250, Envirolastic 940 LV, Acrolon Ultra, or Polylon HP

**Other VOC areas (>340 g/L): up to 10% reduction can be done.

The systems listed above are representative of the product's use, other systems may be appropriate.

SURFACE PREPARATION

Surface must be clean, dry, and in sound condition. Remove all oil, dust, grease, dirt, loose rust, and other foreign material to ensure adequate adhesion.

Refer to product Application Bulletin for detailed surface preparation information.

Minimum recommended surface preparation:
Concrete: SSPC-SP13/NACE 6, or ICRI
No. 310.2R, CSP 1-3 Wood: Clean, dry, sound, smooth

Metalizing: Clean, dry, sound (clear coat only)

Surface Preparation Standards					
	Condition of Surface	ISO 8501-1 BS7079:A1	SSPC	NACE	
White Metal Near White Metal Commercial Blast Brush-Off Blast		Sa 3 Sa 2.5 Sa 2 Sa 1	SP 5 SP 10 SP 6 SP 7	1 2 3 4	
Hand Tool Cleaning	Rusted Pitted & Rusted	C St 2 D St 2	SP 2 SP 2	-	
Power Tool Cleaning	Rusted Pitted & Rusted	C St 3 D St 3	SP 3	-	

TINTING

Tint bases use Maxitoner colorants, only at 100% tint strength must be used within seven (7) days after tinting.

Do not shake beyond two minutes.

APPLICATION CONDITIONS

Temperature:

material:

air and surface 20°F (-7°C) minimum, 100°F (38°C)

maximum 40°F (4.5°C) minimum

Do not apply over surface ice

Relative humidity: 30% minimum, 99% maximum

Refer to product Application Bulletin for detailed application information.

ORDERING INFORMATION

Packaging:

Weight:

Haze Gray and Clear:

1 gallon (3.78L) containers 1 gallon (3.78L) and 5 gallon (18.9L) containers

12.09 ± 0.2 lb/gal ; 1.45 Kg/L

(may vary with color)

SAFETY PRECAUTIONS

Refer to the SDS sheet before use

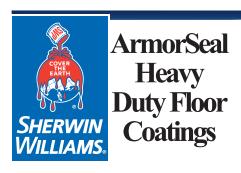
Published technical data and instructions are subject to change without notice. Contact your Sherwin-Williams representative for additional technical data and instructions

WARRANTY

The Sherwin-Williams Company warrants our products to be free of manufacturing defects in accord with applicable Sherwin-Williams quality control procedures. Liability for products proven defective, if any, is limited to replacement of the defective product or the refund of the purchase price paid for the defective product as determined by Sherwin-Williams. NO OTHER WARRANTY OR GUARANTEE OF ANY KIND IS MADE BY SHERWIN-WILLIAMS, EXPRESSED OR IMPLIED, STATUTORY, BY OPERATION OF LAW OR OTHERWISE, INCLUDING MER-CHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE.

DISCLAIMER

The information and recommendations set forth in this Product Data Sheet are based upon tests conducted by or on behalf of The Sherwin-Williams Company. Such information and recommendations set forth herein are subject to change and pertain to the product offered at the time of publication. Consult your Sherwin-Williams representative to obtain the most recent Product Data Information and Application Bulletin.



ARMORSEAL® REXTHANE™

B65-60 SERIES

Revised: August 23, 2022

APPLICATION BULLETIN

8.51

SURFACE PREPARATIONS

Surface must be clean, dry, and in sound condition. Remove all oil, dust, grease, dirt, loose rust, and other foreign material to ensure adequate adhesion.

Concrete and Masonry

For surface preparation, refer to SSPC-SP13/NACE 6, or ICRI No. 310.2R, CSP 1-2. Surfaces should be thoroughly clean and dry. Concrete and mortar must be cured at least 28 days @ 75°F (24°C). Remove all loose mortar and foreign material. Surface must be free of laitance, concrete dust, dirt, form release agents, moisture curing membranes, loose cement and hardeners. Fill bug holes, air pockets and other voids with Steel-Seam FT910. Primer required.

Follow the standard methods listed below when applicable:

ASTM D4258 Standard Practice for Cleaning Concrete.

ASTM D4259 Standard Practice for Abrading Concrete.

ASTM D4260 Standard Practice for Etching Concrete.

ASTM F1869 Standard Test Method for Measuring Moisture Vapor Emission Rate of Concrete.

SSPC-SP 13/Nace 6 Surface Preparation of Concrete. ICRI No. 310.2R Concrete Surface Preparation.

Previously Painted Surfaces:

If in sound condition, clean the surface of all foreign material. Smooth, hard or glossy coatings and surfaces should be dulled by abrading the surface. Apply a test area, allowing paint to dry one week before testing adhesion. If adhesion is poor, or if this products attacks the previous finish, removal of the previous coating may be necessary. If paint is peeling or badly weathered, clean surface to sound substrate and treat as a new surface as above.

Steel with Zinc Metalizing:

Surface must be clean, dry and sound. Follow the recommended system from the Product Information Sheet.

Wood

Surface must be clean, dry and sound. Remove any oils and dirt from the surface using a degreasing solvent or strong detergent. Sand to remove any loose or deteriorated surface wood and to obtain a proper surface profile.

Surface Preparation Standards					
	Condition of Surface	ISO 8501-1 BS7079:A1	SSPC	NACE	
White Metal Near White Metal Commercial Blast Brush-Off Blast		Sa 3 Sa 2.5 Sa 2 Sa 1	SP 5 SP 10 SP 6 SP 7	1 2 3 4	
Hand Tool Cleaning	Rusted Pitted & Rusted	C St 2 D St 2	SP 2 SP 2	- -	
Power Tool Cleaning	Rusted Pitted & Rusted	C St 3 D St 3	SP 3 SP 3		

APPLICATION CONDITIONS

Temperature:

air and surface 20°F (-7°C) minimum, 100°F (38°C)

maximum

material: 40°F (4.5°C) minimum

Do not apply over surface ice

Relative humidity: 30% minimum, 99% maximum

APPLICATION EQUIPMENT

The following is a guide. Changes in pressures and tip sizes may be needed for proper spray characteristics. Always purge spray equipment before use with listed reducer. Any reduction must be compliant with existing VOC regulations and compatible with the existing environmental and application conditions.

Reducer/Clean UpAromatic 100, R2K5

Brush

Brush.....Natural Bristle

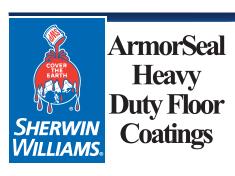
Reduction.....As needed up to 7%* by volume

Roller

Cover3/8" or 1/4" soft woven
ReductionAs needed up to 7%* by volume

*Other VOC areas (>340 g/L): up to 10% reduction can be done.

If specific application equipment is not listed above, equivalent equipment may be substituted.



ArmorSeal ARMORSEAL® REXTHANE™

B65-60 SERIES

Revised: August 23, 2022

APPLICATION BULLETIN

8.51

APPLICATION PROCEDURES

Surface preparation must be completed as indicated.

Mixing Instructions: Mix paint thoroughly with low speed power agitation prior to use.

Apply paint at the recommended film thickness and spreading rate as indicated below:

Recommended Spreading Rate per coat: Minimum Maximum Wet mils (microns) 3.0 (75) 4.5 (112) Dry mils (microns) 2.0 (50) 3.0 (75) ~Coverage sq ft/gal (m²/L) 358 (8.8) 537 (13.1)

Theoretical coverage **sq ft/gal** (m²/L) @ 1 mil / 25 microns dft **1072** (26.3)

NOTE: Brush or roll application may require multiple coats to achieve maximum film thickness and uniformity of appearance.

NOTE: Thermal spray metalizing is too porous to measure actual film thickness. A Project Reference Standard is recommended to confirm application thickness and coverage rate.

Drying Schedule @ 3.0 mils wet (75 microns):

	@ 40°F/4.5°C	@ 77°F/25°C	@ 100°F/38°C	
		50% RH		
To touch:	4 hours	2 hours	30 minutes	
To recoat:				
minimum:	48 hours	9 hours	3 hours	
maximum:	14 days	14 days	14 days	
Foot Traffic:	48 hours	24 hours	12 hours	
Heavy Traffic:	7 days	3 days	3 days	
To cure:	7 days	3 days	3 days	
Drying time is temperature, humidity, and film thickness dependent.				

Application of coating above maximum or below minimum recommended spreading rate may adversely affect coating performance.

CLEAN UP INSTRUCTIONS

Clean spills and spatters immediately with Aromatic 100, R2K5. Clean tools immediately after use with Aromatic 100, R2K5. Follow manufacturer's safety recommendations when using any solvent.

DISCLAIMER

The information and recommendations set forth in this Product Data Sheet are based upon tests conducted by or on behalf of The Sherwin-Williams Company. Such information and recommendations set forth herein are subject to change and pertain to the product offered at the time of publication. Consult your Sherwin-Williams representative to obtain the most recent Product Data Information and Application Bulletin.

PERFORMANCE TIPS

Spreading rates are calculated on volume solids and do not include an application loss factor due to surface profile, roughness or porosity of the surface, skill and technique of the applicator, method of application, various surface irregularities, material lost during mixing, spillage, overthinning, climatic conditions, and excessive film build.

Excessive reduction of material can affect film build, appearance, and adhesion.

Anti-slip additives, such as H&C SharkGrip®, may be added to the coating to provide some slip resistance. This product should not be used in place of a non-skid finish.

Urethane floor coatings may exhibit tire tracking.

Pour a small amount of Aromatic 100, R2K5 over the top of the paint in the can to prevent skinning or gelling.

Place a temporary cover over the pail to keep excessive moisture, condensation, fog, or rain from contaminating the coating.

Tinted colors must be used within seven (7) days after tinting

It is recommended that partially used cans not be sealed/closed for use at a later date.

Anti-slip additives, such as H&C SharkGrip®, may be added to the coating to provide some slip resistance. This product should not be used in place of a non-skid finish.

Do not shake beyond two minutes.

Can be used as a metalizing sealer. Consult your Sherwin -Williams Representative regarding Product Bulletin: "Sealers for Thermal Spray Metalizing".

Refer to Product Information sheet for additional performance characteristics and properties.

SAFETY PRECAUTIONS

Refer to the SDS sheet before use.

Published technical data and instructions are subject to change without notice. Contact your Sherwin-Williams representative for additional technical data and instructions.

WARRANTY

The Sherwin-Williams Company warrants our products to be free of manufacturing defects in accord with applicable Sherwin-Williams quality control procedures. Liability for products proven defective, if any, is limited to replacement of the defective product or the refund of the purchase price paid for the defective product as determined by Sherwin-Williams. NO OTHER WARRANTY OR GUARANTEE OF ANY KIND IS MADE BY SHERWIN-WILLIAMS, EXPRESSED OR IMPLIED, STATUTORY, BY OPERATION OF LAW OR OTHERWISE, INCLUDING MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE.

APPENDIX D-1-2 ENGINEER'S STRUCTURAL ANALYSIS REPORT CLEAN EARTH OF ALABAMA



LIMITED STRUCTURAL ANALYSIS – CLEAN EARTH OF ALABAMA INTEGRITY OF CONCRETE SPILL CONTAINMENT

March 18, 2024

On March 18, 2024, I performed a limited site inspection of the Clean Earth of Alabama facility in Glencoe, Alabama. The purpose of the inspection was to evaluate the structural integrity of the spill containment areas consisting of concrete slabs with concrete curb walls and berms. The following is my opinion of the structural ability of the concrete to contain spills within the buildings noted. The analysis is limited to this stated purpose and for the areas which were accessible and exposed for visual inspection at the time of the site visit.

Building 1

Cracks were observed at the building joint at the location of the angled wall with the adjoining portion of the structure. These cracks in the concrete slab and curb wall were deemed to provide a possible containment breech path and should be sealed. The remainder of Building 1 appeared to be suitably sound to contain spills.

Building 2

At the north end of the building, the curb at the opening contains some small cracks that extend through the curb. These cracks should be sealed. Also, at the south end of the building, the joint at the containment berm was observed to have openings which could potentially be a leak path in need of sealing. The remainder of the building containment was observed to be sound.

Building 3

No deficiencies were noted in the concrete containment area for Building 3.

Building 4

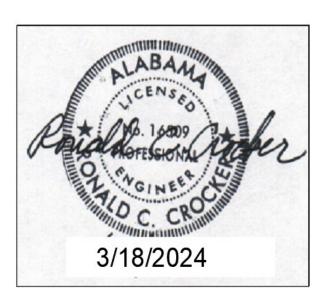
No deficiencies were noted in the concrete containment area for Building 4. Some curb spalls from apparent collision damage were noted but was determined to be above the nearest building exit berm and does not affect the ability of the building to contain spills.

Tank Farm

A small crack at the intersection of the slab and containment wall at the north end of the structure was observed and should be sealed. The remainder of the tank containment area and the trailer loading containment area were determined to be sound.

Conclusion

The structural integrity of the concrete base (slab) for all inspected buildings is adequate. Only minor deficiencies were noted in the liquid-tightness of the concrete containment areas during the site visit. These areas should require only minor maintenance repairs and can be addressed relatively quickly. Cracks may be repaired by cleaning out and grinding, followed by installation of non-shrink grout and epoxy coating. Smaller cracks such as at the north curb of Building 2 may be repaired by applying the epoxy coating only.



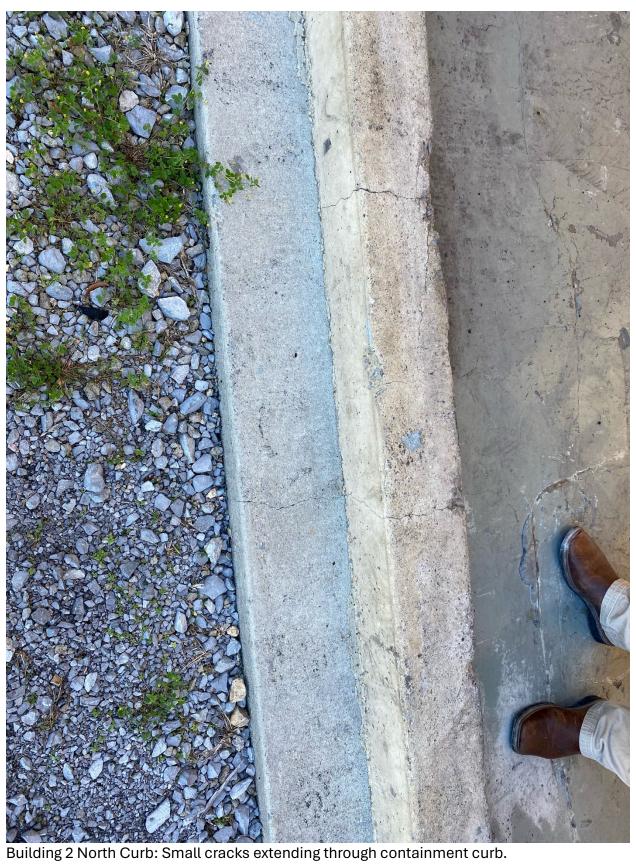


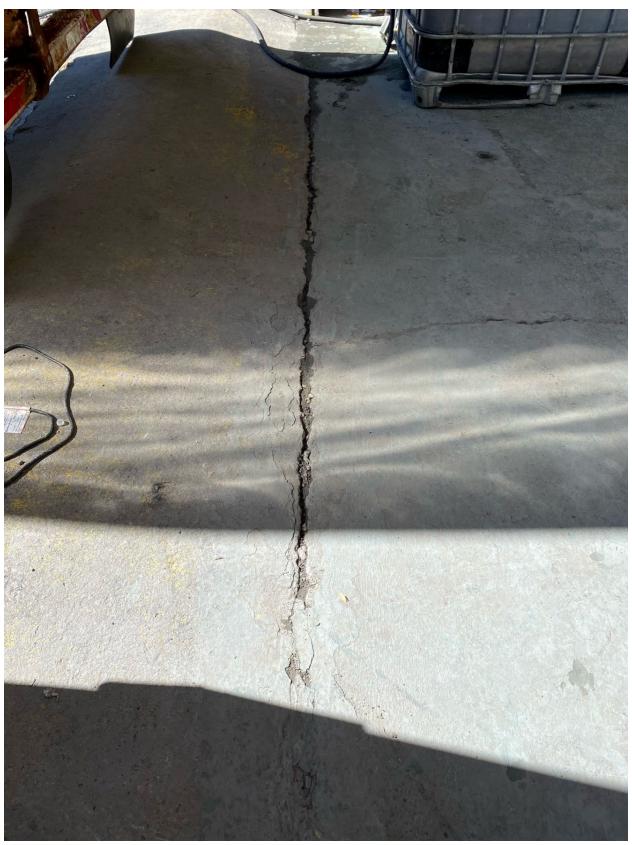
Tank Farm North Wall: Crack in slab at base of wall.



Building 1: Crack at building joint.







Berm at South End of Building 2: Crack along inside edge of berm.

APPENDIX D-1-3 DOCUMENTATION OF REPAIRS

CLEAN EARTH OF ALABAMA



Appendix D-1-3 - Photographs of Concrete Repairs CSAs – Clean Earth of Alabama. Inc.

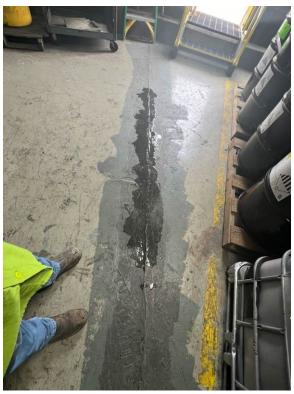


Photo #1: Building #1: Repair of crack at building joint.



Photo #2: Building #1: Close-up of joint repair.

Appendix D-1-3 - Photographs of Concrete Repairs CSAs - Clean Earth of Alabama. Inc.



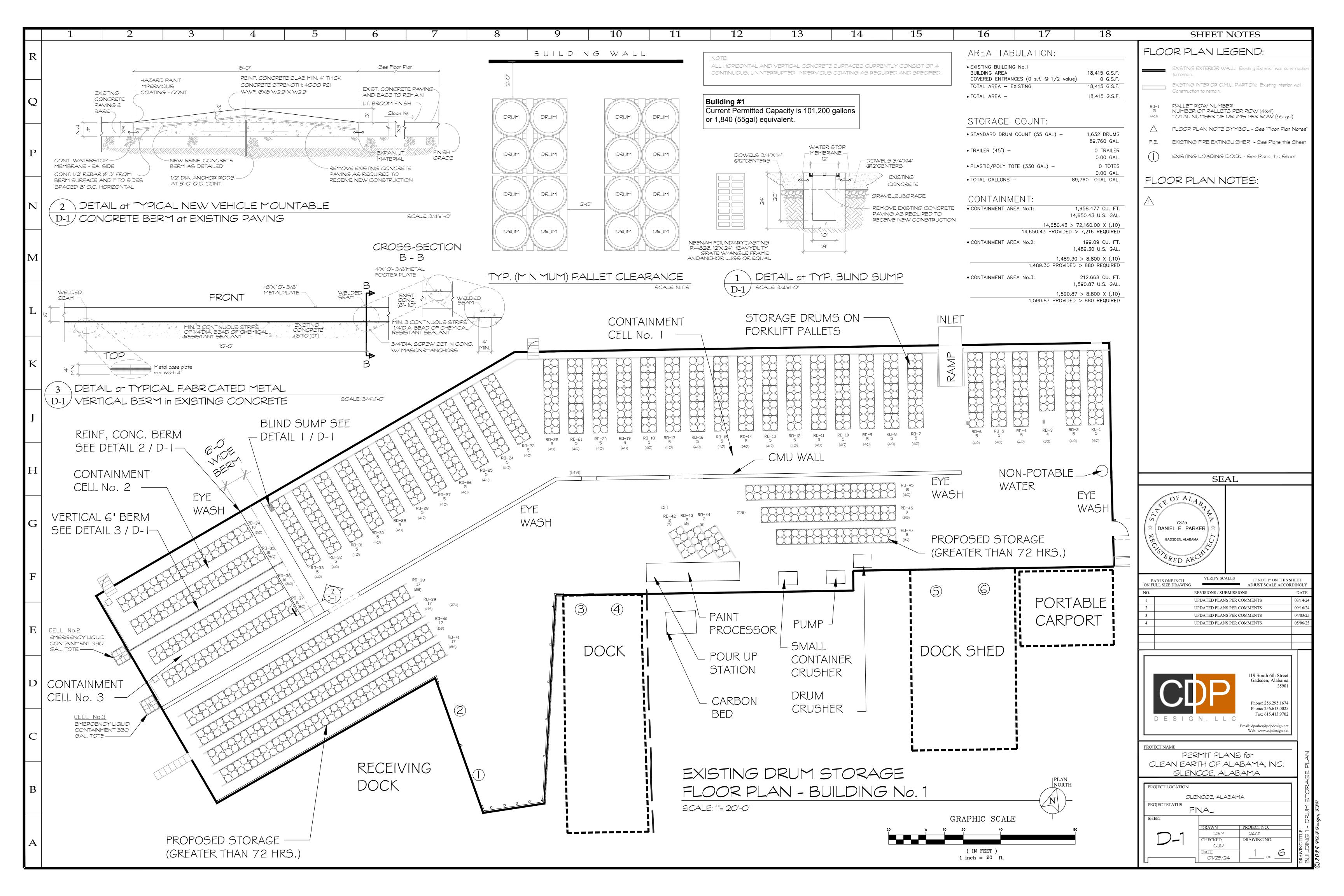
Photo #3: Repair of small cracks in curb at Building #2.



Photo #4: Repair of berm at south end of Building #2.

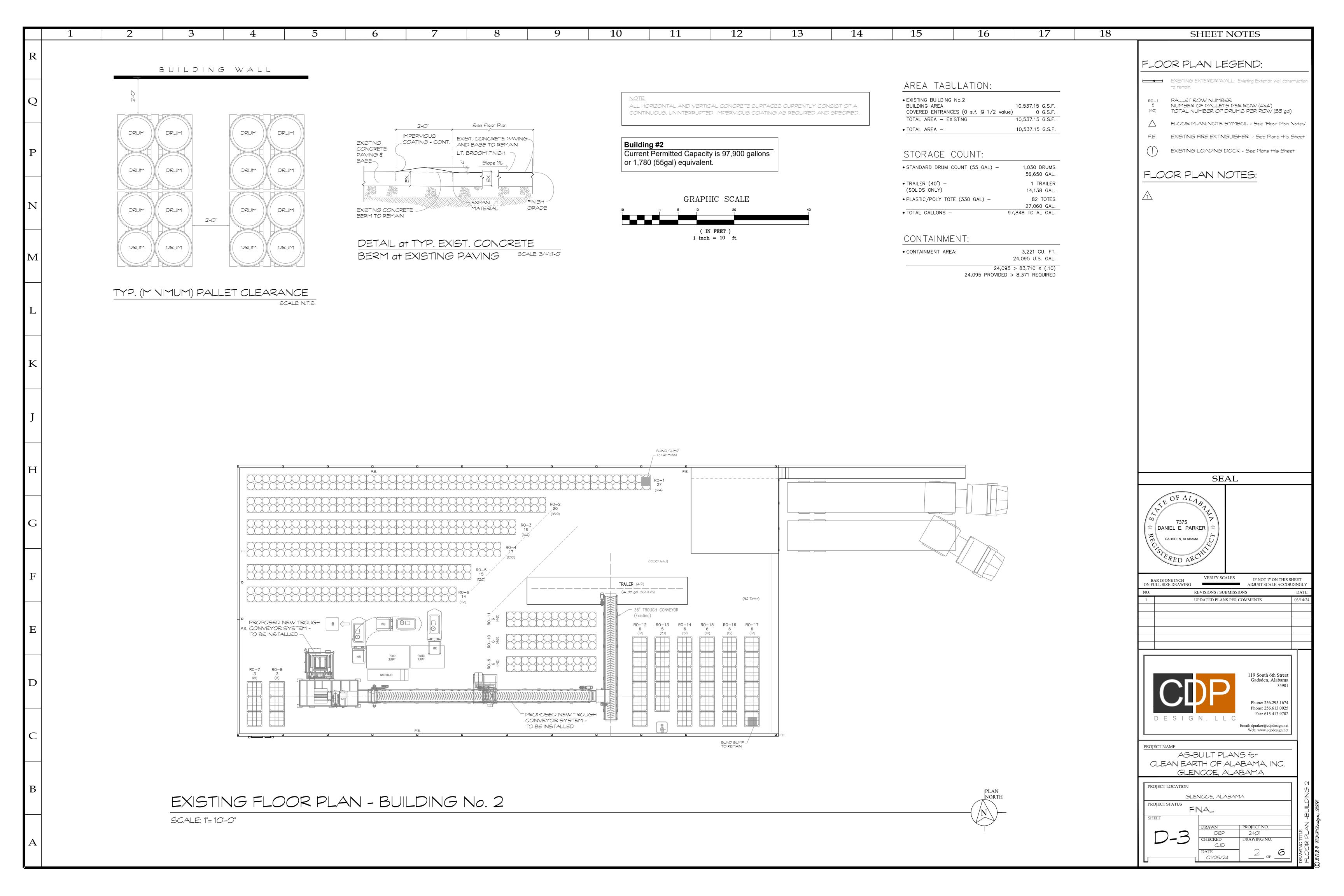
APPENDIX D-1-4 DRAWINGS OF CSAS WITH CONTAINMENT CALCULATIONS

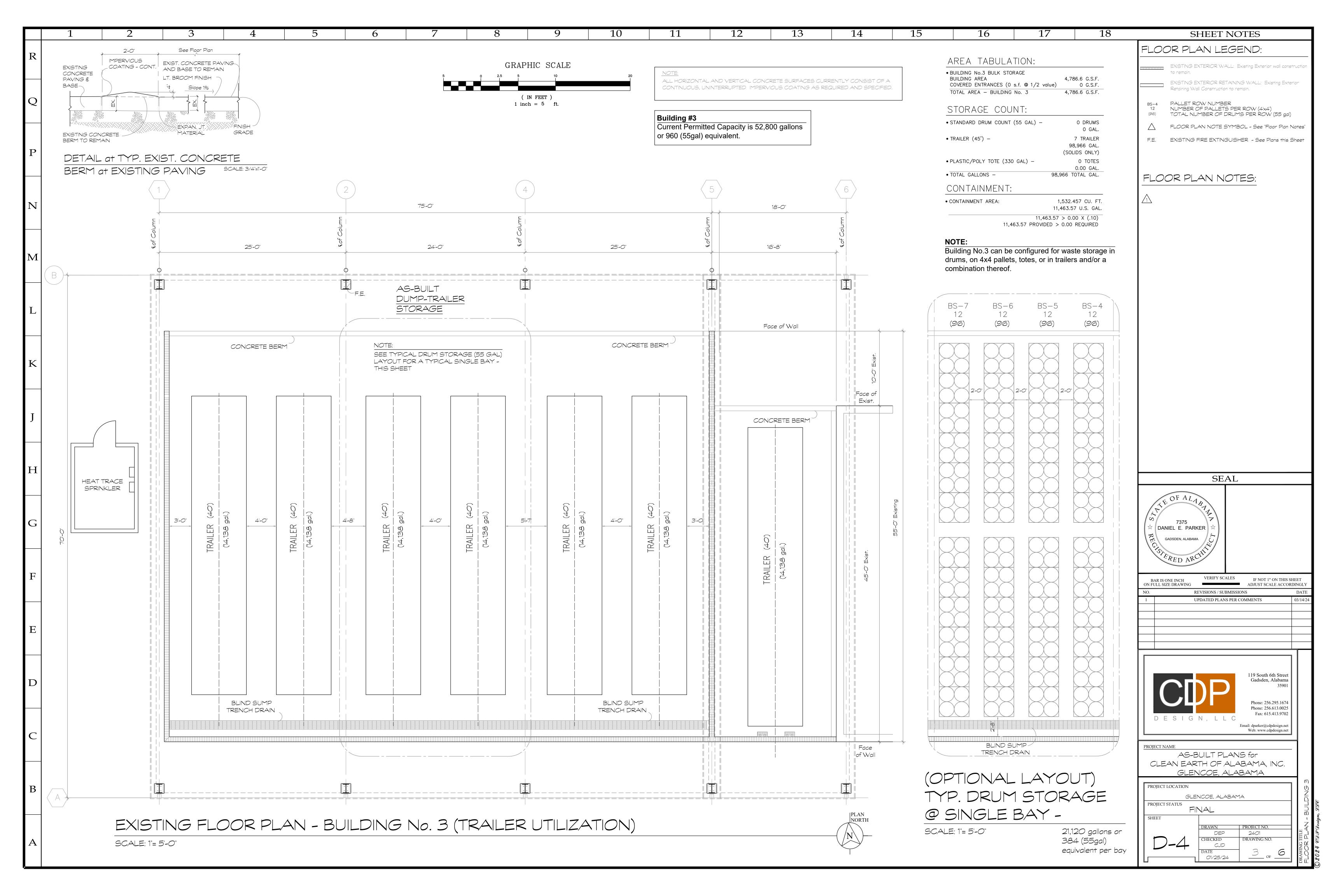


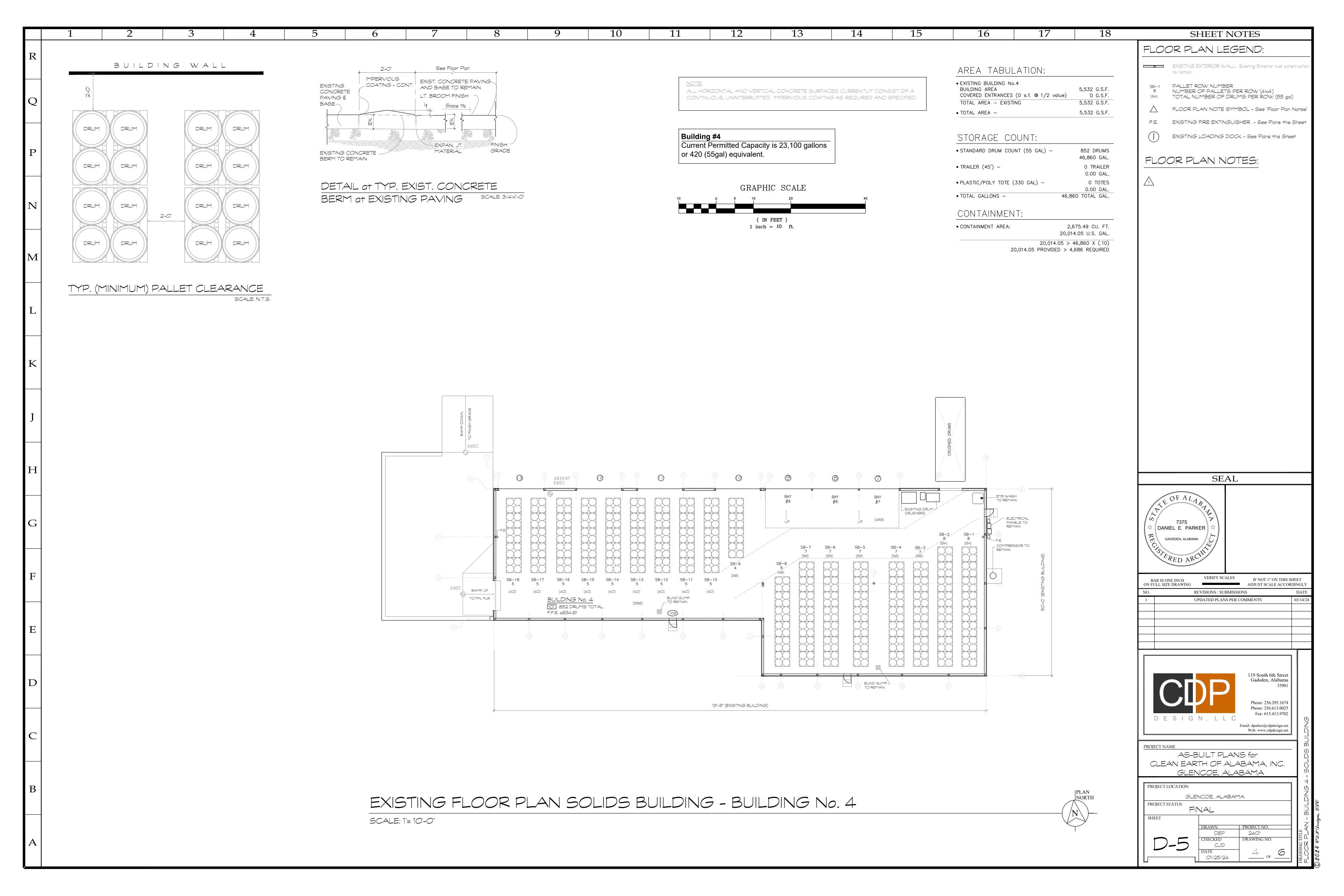


GENERAL NOTES 1. NOT USED. **KEYED NOTES** 1 NOT USED. 145'-0" WALKWAY WALKWAY _____ EYEWASH STATION W/ CONTAINMENT PAN — BLIND SUMP ---<u>UP</u> BUILDING No. 2 101 F.F.E. ±621.21 TRAILER © OF TRAILER - 36" TROUGH CONVEYOR 2'-1½" — MAGNET STAND AND RECEIVING CAGE © OF CROSS BELT MAGNET ↓ © OF SHREDDER AND SCREENER BLIND SUMP 14'-6³/₄" 52'-8½" 45'-0" 97'-8½" BUILDING No. 2 GENERAL ARRANGEMNET SCALE: 1/8" = 1'-0" **ISSUED FOR REVIEW** Revisions Revisions Reference Drawings SCALE: AS NOTED STRUCTURAL
 Rev
 Date
 By
 App

 A
 10/14/21
 MEJ
 BWW
 Rev Date By App Description Description Drawing No Title DRAWN: MEJ **GENERAL ARRANGEMENT** ISSUED FOR REVIEW ENGINEER: BWW **GLENCOE**, AL CHECKED: BWW **CLEAN EARTH BUILDING No. 2** PROJ MGR: BWW GLENCOE, AL **HARRIS** GROUP PROJECT NO: SHEET NO: APPROVED: BWW D-2 BUILDING No. 2 31243 DATE: 10/14/21

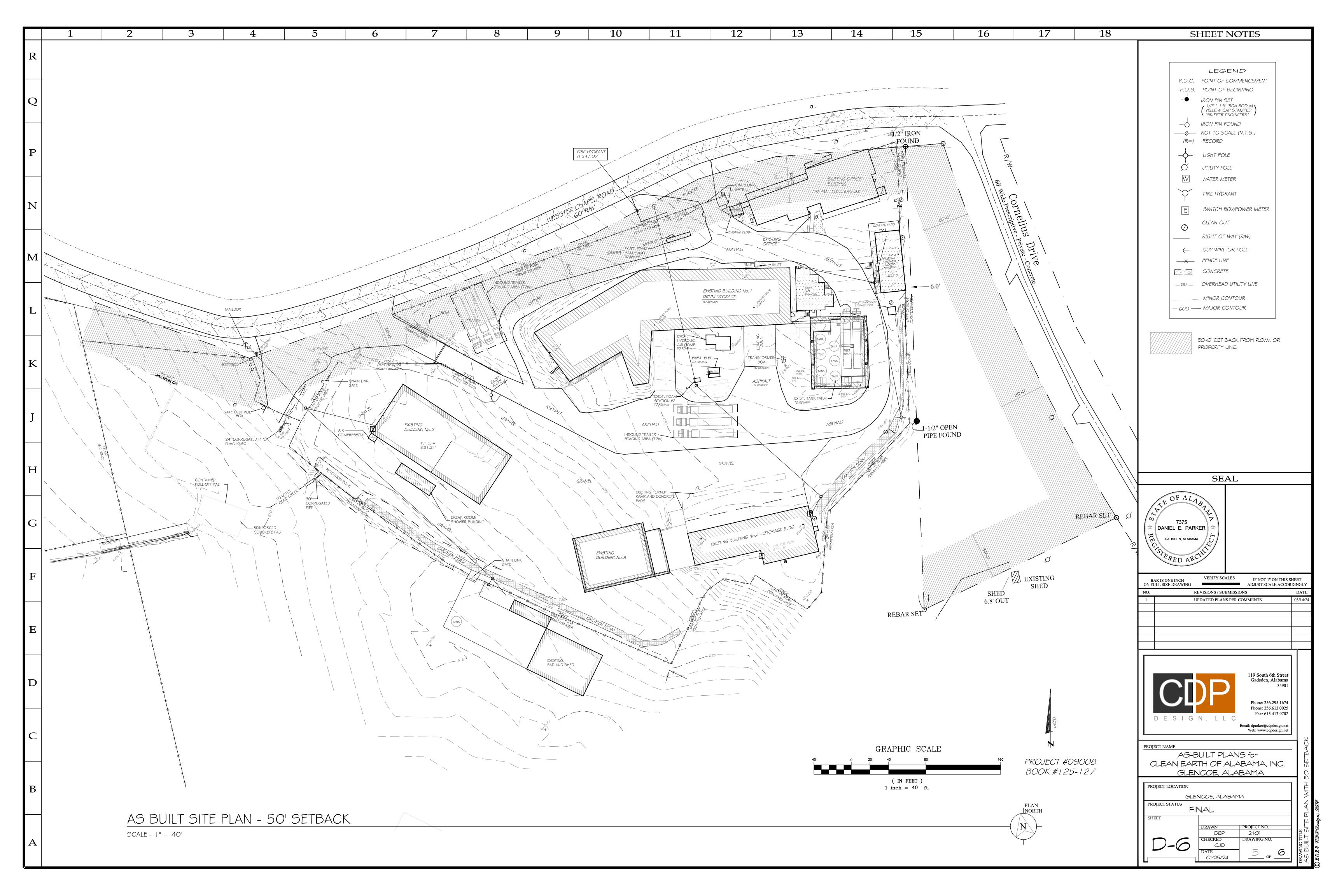






APPENDIX D-1-5 50' SETBACK LAYOUT





APPENDIX D-1-6 GEOGRAPHICAL STORM DATA



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Progress Reports

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NOAA ATLAS 14 POINT PRECIPITATION FREQUENCY ESTIMATES: AL

Data description Data type: Precipitation depth ✓ Units: English ✓ Time series type: Partial duration ✓

Select location

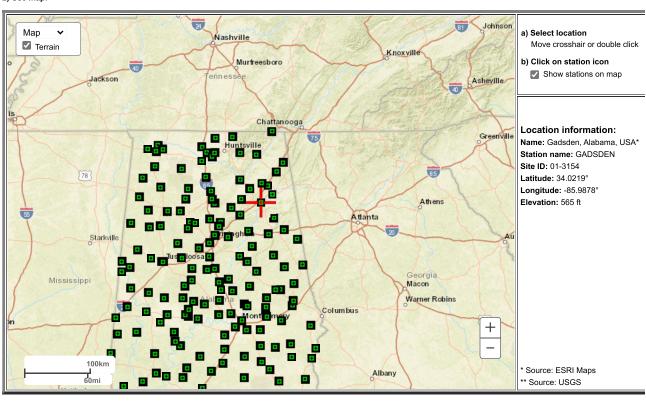
1) Manually:

a) By location (decimal degrees, use "-" for S and W): Latitude: Longitude:

b) By station (list of AL stations): GADSDEN (01-3154)

c) By address Search Q

2) Use map:



POINT PRECIPITATION FREQUENCY (PF) ESTIMATES

WITH 90% CONFIDENCE INTERVALS AND SUPPLEMENTARY INFORMATION NOAA Atlas 14, Volume 9, Version 2

	PF tabular	PF graphical		Supplementary information			Print page						
	PDS-based precipitation frequency estimates with 90% confidence intervals (in inches) ¹												
D	Average recurrence interval (years)												
Duration	1	2	5	10	25	50	100	200	500	1000			
5-min	0.423 (0.342-0.533)	0.489 (0.396-0.617)	0.603 (0.485-0.762)	0.702 (0.561-0.890)	0.845 (0.652-1.11)	0.961 (0.720-1.28)	1.08 (0.779-1.47)	1.21 (0.829-1.69)	1.38 (0.907-1.98)	1.52 (0.966-2.2			
10-min	0.619 (0.501-0.780)	0.717 (0.579-0.903)	0.883 (0.711-1.12)	1.03 (0.822-1.30)	1.24 (0.955-1.63)	1.41 (1.06-1.87)	1.58 (1.14-2.16)	1.77 (1.21-2.47)	2.03 (1.33-2.90)	2.23 (1.42-3.2			
15-min	0.755 (0.611-0.951)	0.874 (0.706-1.10)	1.08 (0.867-1.36)	1.25 (1.00-1.59)	1.51 (1.16-1.98)	1.72 (1.29-2.28)	1.93 (1.39-2.63)	2.16 (1.48-3.01)	2.47 (1.62-3.54)	2.72 (1.73-3.9			
30-min	1.09 (0.885-1.38)	1.26 (1.02-1.59)	1.56 (1.25-1.97)	1.81 (1.45-2.30)	2.19 (1.69-2.88)	2.49 (1.87-3.32)	2.81 (2.02-3.83)	3.15 (2.16-4.40)	3.61 (2.37-5.18)	3.98 (2.53-5.7			
60-min	1.43 (1.16-1.80)	1.65 (1.33-2.08)	2.03 (1.63-2.56)	2.36 (1.89-3.00)	2.86 (2.21-3.77)	3.26 (2.45-4.35)	3.69 (2.66-5.03)	4.14 (2.84-5.80)	4.77 (3.13-6.85)	5.28 (3.35-7.6			
2-hr	1.76 (1.44-2.19)	2.03 (1.66-2.52)	2.50 (2.04-3.11)	2.91 (2.36-3.64)	3.53 (2.76-4.59)	4.03 (3.07-5.30)	4.57 (3.34-6.14)	5.14 (3.58-7.09)	5.94 (3.95-8.40)	6.57 (4.23-9.3			
3-hr	1.98 (1.63-2.43)	2.27 (1.87-2.80)	2.79 (2.29-3.44)	3.25 (2.65-4.03)	3.93 (3.11-5.08)	4.50 (3.46-5.87)	5.10 (3.76-6.81)	5.75 (4.04-7.87)	6.65 (4.47-9.34)	7.38 (4.79-10			

6-hr	2.40 (2.00-2.91)	2.74 (2.29-3.33)	3.35 (2.79-4.07)	3.90 (3.22-4.76)	4.70 (3.77-5.98)	5.38 (4.18-6.91)	6.09 (4.55-8.01)	6.86 (4.89-9.25)	7.94 (5.41-11.0)	8.80 (5.81-12.3)
12-hr	2.91 (2.47-3.48)	3.32 (2.81-3.97)	4.03 (3.40-4.83)	4.67 (3.91-5.61)	5.61 (4.55-7.02)	6.38 (5.03-8.08)	7.20 (5.46-9.32)	8.08 (5.84-10.7)	9.31 (6.44-12.7)	10.3 (6.90-14.2)
24-hr	3.47 (2.98-4.08)	3.97 (3.40-4.68)	4.84 (4.13-5.70)	5.59 (4.74-6.62)	6.67 (5.48-8.20)	7.56 (6.03-9.39)	8.48 (6.51-10.8)	9.45 (6.92-12.3)	10.8 (7.57-14.4)	11.8 (8.06-16.0)
2-day	4.05 (3.52-4.69)	4.67 (4.06-5.41)	5.70 (4.94-6.62)	6.58 (5.66-7.68)	7.83 (6.49-9.42)	8.81 (7.12-10.7)	9.81 (7.64-12.2)	10.9 (8.06-13.9)	12.3 (8.73-16.1)	13.4 (9.23-17.8)
3-day	4.47 (3.92-5.12)	5.12 (4.48-5.87)	6.19 (5.40-7.12)	7.11 (6.16-8.21)	8.39 (7.02-10.0)	9.41 (7.67-11.4)	10.4 (8.20-12.9)	11.5 (8.64-14.6)	13.0 (9.32-16.9)	14.1 (9.84-18.6)
4-day	4.83 (4.26-5.50)	5.48 (4.83-6.25)	6.58 (5.77-7.52)	7.50 (6.54-8.61)	8.81 (7.41-10.4)	9.84 (8.07-11.8)	10.9 (8.60-13.4)	12.0 (9.04-15.1)	13.4 (9.73-17.4)	14.6 (10.3-19.1)
7-day	5.76 (5.14-6.48)	6.45 (5.74-7.26)	7.58 (6.72-8.56)	8.54 (7.53-9.68)	9.88 (8.41-11.5)	10.9 (9.08-12.9)	12.0 (9.60-14.5)	13.1 (10.0-16.3)	14.6 (10.7-18.6)	15.7 (11.2-20.4)
10-day	6.58 (5.90-7.33)	7.30 (6.54-8.14)	8.48 (7.57-9.49)	9.48 (8.41-10.6)	10.9 (9.31-12.6)	11.9 (9.99-14.0)	13.0 (10.5-15.6)	14.2 (10.9-17.4)	15.6 (11.6-19.8)	16.8 (12.1-21.6)
20-day	8.87 (8.07-9.73)	9.73 (8.84-10.7)	11.1 (10.1-12.2)	12.3 (11.0-13.5)	13.8 (12.0-15.7)	15.0 (12.7-17.3)	16.2 (13.3-19.1)	17.4 (13.6-21.0)	19.0 (14.2-23.6)	20.2 (14.7-25.5)
30-day	10.9 (9.97-11.8)	11.9 (10.9-12.9)	13.5 (12.3-14.7)	14.8 (13.4-16.2)	16.5 (14.5-18.5)	17.8 (15.2-20.3)	19.1 (15.8-22.2)	20.4 (16.1-24.3)	22.0 (16.7-27.0)	23.2 (17.1-29.0)
45-day	13.5 (12.5-14.5)	14.7 (13.6-15.9)	16.7 (15.3-18.0)	18.2 (16.7-19.7)	20.2 (17.8-22.3)	21.7 (18.6-24.3)	23.0 (19.1-26.5)	24.3 (19.4-28.8)	26.0 (19.8-31.5)	27.1 (20.2-33.6)
60-day	15.9 (14.8-16.9)	17.3 (16.1-18.5)	19.6 (18.1-20.9)	21.3 (19.6-22.9)	23.5 (20.8-25.8)	25.1 (21.7-27.9)	26.5 (22.2-30.3)	27.9 (22.3-32.7)	29.5 (22.7-35.5)	30.6 (22.9-37.6)

¹ Precipitation frequency (PF) estimates in this table are based on frequency analysis of partial duration series (PDS).

Numbers in parenthesis are PF estimates at lower and upper bounds of the 90% confidence interval. The probability that precipitation frequency estimates (for a given duration and average recurrence interval) will be greater than the upper bound (or less than the lower bound) is 5%. Estimates at upper bounds are not checked against probable maximum precipitation (PMP) estimates and may be higher than currently valid PMP values.

Please refer to NOAA Atlas 14 document for more information.

Estimates from the table in CSV format: Precipitation frequency estimates ➤ Submit

Main Link Categories: Home | OWP

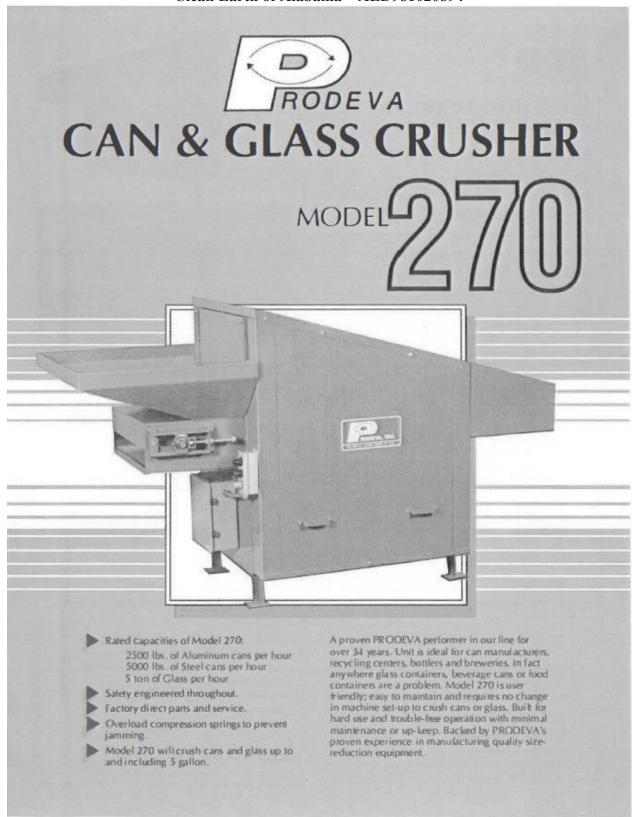
US Department of Commerce National Oceanic and Atmospheric Administration National Weather Service Office of Water Prediction (OWP) 1325 East West Highway Silver Spring, MD 20910 Page Author: HDSC webmaster Page last modified: April 21, 2017

Map Disclaimer Disclaimer Credits

Privacy P Abou Career Opportur

APPENDIX D-1-7 PRODEVA 270 CAN AND GLASS CRUSHER CLEAN EARTH OF ALABAMA





Clean Earth of Alabama – ALD981020894



- Constructed of 3/8" steel plate
- 10 HP 230/460/60/3
- Infeed and discharge conveyors are available
- All moving parts enclosed
- Removable side panels for easy maintenance
- Crushes glass into recyclable cullet
- Flattens cans, and crushes plastic bottles
- Available with casters
- Available with blowers for aluminum and bi-metal cans

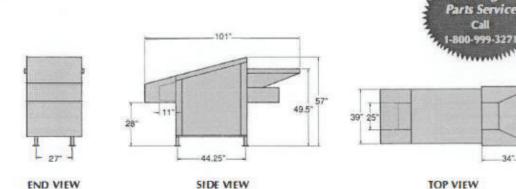


PRODEVA PROFILE

PRODEVA. Inc., with nearly 40 years expenence in the size reduction field, offers a complete line of crusher and shredder models for processing bottles, canstaluminum or steel), plastic and glass. Our equipment is used world-wide for recovery, recycling, scrap, and disposal facilities, both public and private. All are engineered and field-tested for profitable operations.

Overnight

► STANDARD SPECIFICATIONS



1 Year Written Warranty

All Prodeva brand equipment carries a warranty on workmanship and materials, provided equipment is used for its intended use and maintained properly.

We reserve the right to repair or replace parts at our option. Ask for further details, Prodeva, Inc., also, reserves the right to improve or alter products without prior notice.

Call Prodeva for help or further information

Should you have any questions about the above Model's operating features and its suitability for your needs.



100 Jerry Drive, Jackson Center, Ohio 45334-0729
Phones: 1-800-999-3271 or 937-596-6713 FAX: 937-596-5145
http://www.prodeva.com
E-mail: sbunke@prodeva.com

APPENDIX D-2-1 TANK DESIGN, STRUCTURAL AND LOADING INFORMATION



DAVID FUNK ENGINEERING, INC.

CONSULTING STRUCTURAL ENGINEERS
TWO RIVERCHASE OFFICE PLAZA, SUITE #124
HOOVER, ALABAMA 35244-2810
TELEPHONE (205) 733-8491

July 23, 2013

VIA EMAIL TO harry@hgsengineeringinc.com ORIGINAL VIA U.S. MAIL

HGS Engineering, Inc. ATTN: Mr. Harry Summers 1121 Noble Street Anniston, AL 36201

RE: 15,000 Gallon Storage Tank Frames

EWS Alabama, Inc. 402 Webster Chapel Road Glencoe, Alabama 35905

Dear Mr. Summers:

This office has completed a structural engineering review of six tank frames located at the above mentioned facility. The purpose of the review is to determine whether each frame can safely support a 15,000 gallon tank and its contents. Our review and accuracy of our conclusions rely upon information provided by either HGS or the tank owner and is defined as follows:

- The tanks have a 15,000 gallon capacity to be filled with fluids weighing 9.5 pounds per gallon.
- The tanks are built of 0.45" thick steel plates. Each tank is supported by eight channel legs, each with a base plate measuring 5.0" by 8.0".

The undersigned visited the site on July 22, 2013, to inspect the frames on each of the tanks. Five of six tank frames are built exactly the same way. One different frame had 1/2" thick by 6" wide by 4'-0" long plates welded to the flanges of the channel legs starting approximately 2 1/2" above the top of the concrete slab. There was no indication as to why these plates were added to the channel legs. The addition of plates will increase the lateral stability of the channel legs.

Repair work was observed on one channel leg of one tank frame. It appeared the flanges of the channel leg were damaged and repaired by adding a plate 1/2" thick by 1 1/2" wide

Clean Earth of Alabama, Inc. - ALD981020894

Mr. Harry Summers EWS Storage Tank Frames July 23, 2013 Page 2 of 2

by 10" long to the exterior side of each flange of the channel. No other modifications were observed on any of the other tank frames.

The results of our review indicate the tank frames are capable of safely supporting the tanks and contents including the additional overhead walkway supported at various channel legs. Unless there are reasons unknown to us, it is recommended each channel leg be anchored to the concrete slab with one 1" diameter Hilti Kwik bolt with a 4 1/2" embedment into the concrete slab. Follow the manufacturer's recommendations when installing the anchor bolt.

Should you wish to discuss the contents of this report, or if we may be of further service in the matter, please advise.

Sincerely yours,

John D. Funk, P.E.

DAVID FUNK ENGINEERING, INC.

JDF/jf

Clean Earth of Alabama, Inc. - ALD981020894

Attachment #2 Structural Engineer's Report – Foundation

DAVID FUNK ENGINEERING, INC.

. CONSULTING STRUCTURAL ENGINEERS . P. O. BOX 480 - TELEPHONE (205) 733-8491

PECHAM, ALABAMA 35124

August 20, 1996

Mr. Scott Skipper Skipper Engineering, Inc. 171 Woodland Drive Rainbow City, Alabama 35906

> RE: Fisher Industrial Services Containment Slab Foundation

Dear Scott:

This office has completed a structural engineering review of an existing concrete containment slab foundation pertaining to its capacity to support six relocated storage tanks. Our review and accuracy of our conclusions rely upon information provided by the owner defined as follows:

 Relocated storage tanks are 15,000 gallon tanks to be filled with a fluid weighing 9.5 pounds per gallon.

2. The tanks are built of 0.45" thick steel plates. Each tank is supported by eight channel legs, each with a base plate measuring 5.0" by 8.0".

3. The existing slab is a minimum 12" thick, of 4000 psi concrete, with a layer of 5/8" diameter reinforcing bars on 12" centers each direction located at mid-depth of slab. A concrete containment wall around the slab perimeter is 1'-6" high, 5" wide at the top and 6" wide at the base, with reinforcing dowels embedded into the slab.

The results of our review indicate that the existing concrete slab foundation is capable of safely supporting the six relocated storage tanks. Each tank leg can be anchored to the existing slab with a 1" diameter "Hilti Kwik Bolt", 4-1/2" embedment into concrete. See the enclosed sketch. If interference occurs from an existing stiffener, a new plate can be welded to the edge of an existing base plate to receive a new anchor bolt.

If we may be of further service in the matter, please advise.

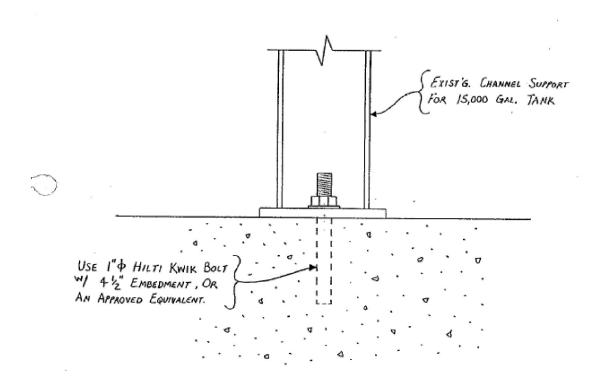
Sincerely yours,

DAVID FUNK ENGINEERING, INC.

John D. Funk, P.E.

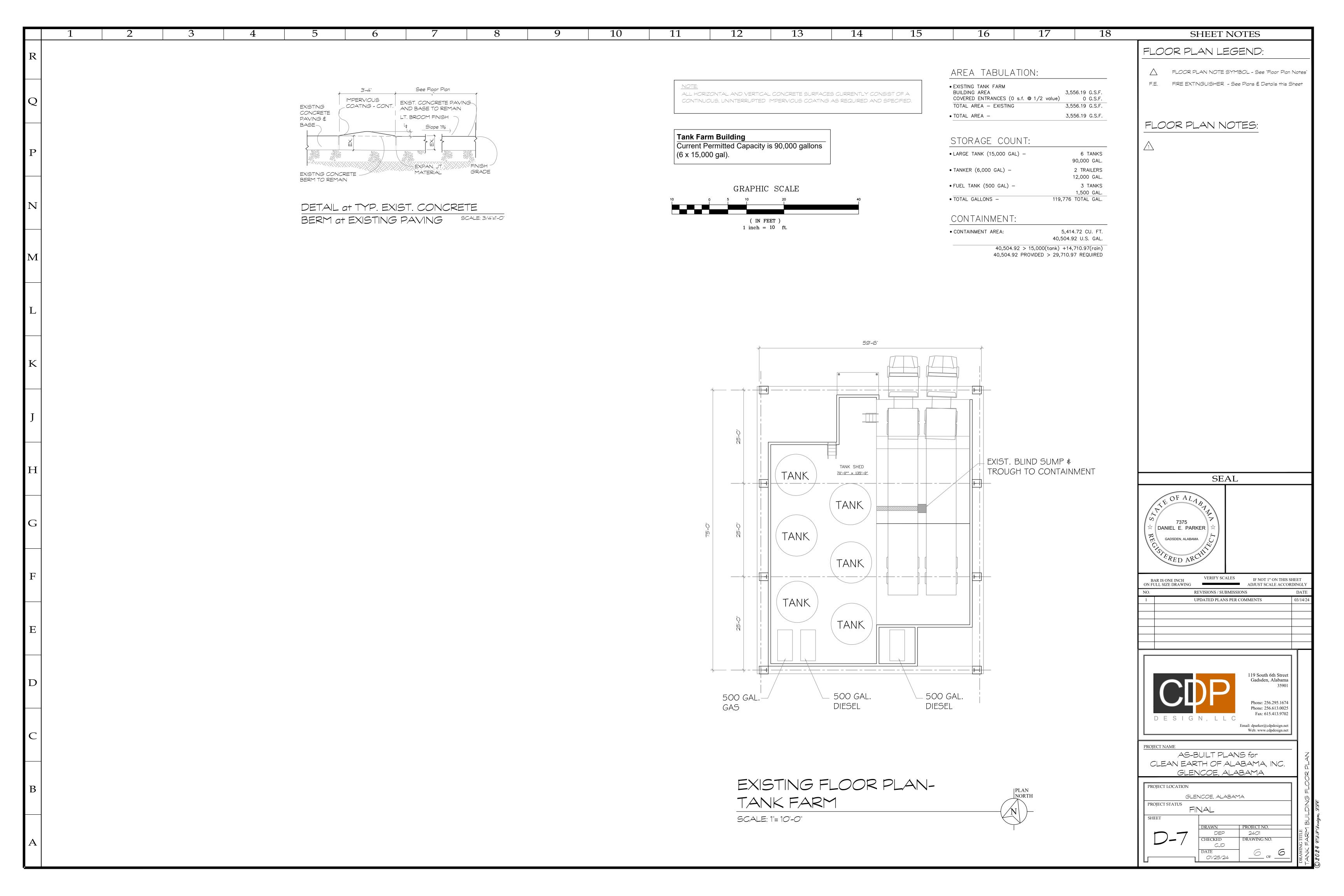
Enclosure

Clean Earth of Alabama, Inc. – ALD981020894



APPENDIX D-2-2 DRAWING OF TANK SYSTEM





APPENDIX D-2-3 ENGINEER'S ASSESSMENT OF TANK INTEGRITY CLEAN EARTH OF ALABAMA



LIMITED STRUCTURAL ANALYSIS – CLEAN EARTH OF ALABAMA INTEGRITY OF CONCRETE SPILL CONTAINMENT

March 18, 2024

On March 18, 2024, I performed a limited site inspection of the Clean Earth of Alabama facility in Glencoe, Alabama. The purpose of the inspection was to evaluate the structural integrity of the spill containment areas consisting of concrete slabs with concrete curb walls and berms. The following is my opinion of the structural ability of the concrete to contain spills within the buildings noted. The analysis is limited to this stated purpose and for the areas which were accessible and exposed for visual inspection at the time of the site visit.

Building 1

Cracks were observed at the building joint at the location of the angled wall with the adjoining portion of the structure. These cracks in the concrete slab and curb wall were deemed to provide a possible containment breech path and should be sealed. The remainder of Building 1 appeared to be suitably sound to contain spills.

Building 2

At the north end of the building, the curb at the opening contains some small cracks that extend through the curb. These cracks should be sealed. Also, at the south end of the building, the joint at the containment berm was observed to have openings which could potentially be a leak path in need of sealing. The remainder of the building containment was observed to be sound.

Building 3

No deficiencies were noted in the concrete containment area for Building 3.

Building 4

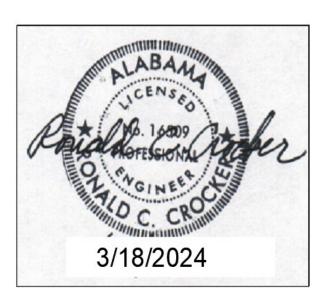
No deficiencies were noted in the concrete containment area for Building 4. Some curb spalls from apparent collision damage were noted but was determined to be above the nearest building exit berm and does not affect the ability of the building to contain spills.

Tank Farm

A small crack at the intersection of the slab and containment wall at the north end of the structure was observed and should be sealed. The remainder of the tank containment area and the trailer loading containment area were determined to be sound.

Conclusion

The structural integrity of the concrete base (slab) for all inspected buildings is adequate. Only minor deficiencies were noted in the liquid-tightness of the concrete containment areas during the site visit. These areas should require only minor maintenance repairs and can be addressed relatively quickly. Cracks may be repaired by cleaning out and grinding, followed by installation of non-shrink grout and epoxy coating. Smaller cracks such as at the north curb of Building 2 may be repaired by applying the epoxy coating only.



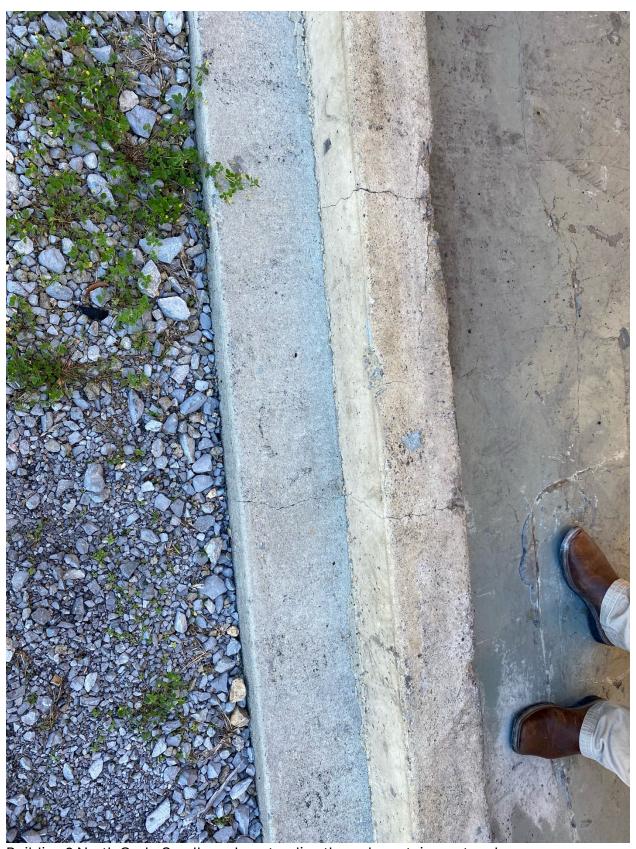


Tank Farm North Wall: Crack in slab at base of wall.

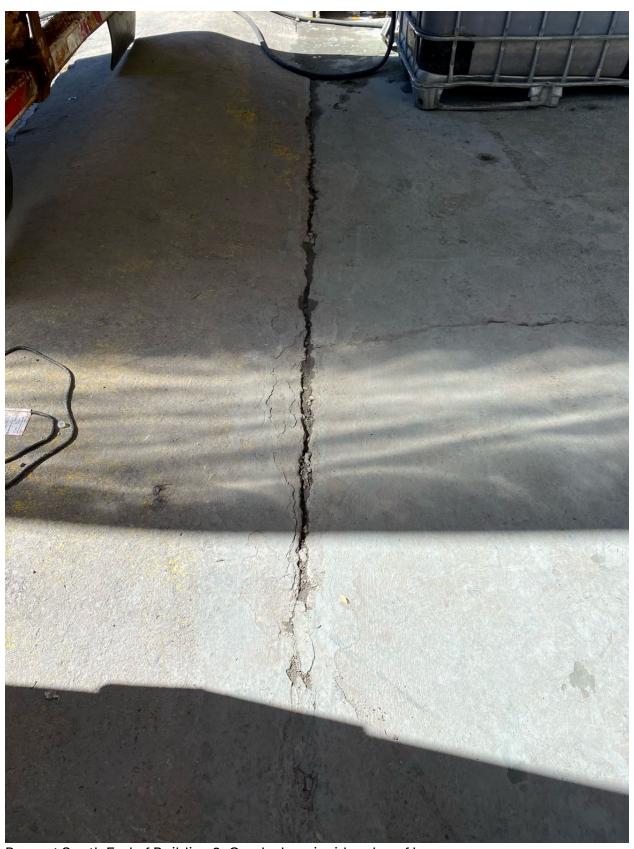


Building 1: Crack at building joint.





Building 2 North Curb: Small cracks extending through containment curb.



Berm at South End of Building 2: Crack along inside edge of berm.

APPENDIX D-2-4 DOCUMENTATION OF REPAIRS



Appendix D-2-4 - Photographs of Concrete Repair at Tank Farm – Clean Earth of Alabama. Inc.



Photo #1: Repair of North Tank Farm Wall at based of slab.

APPENDIX D-2-5 ULTRASONIC TEST RESULTS FOR THE RCRA STORAGE TANKS





September 7, 2023

Clean Earth of Alabama 402 Websters Chapel Rd Glencoe AL 35905

Attention: Bryan Jones

Director EHS

Subject: Tank System Annual Structural Audit

Clean Earth of Alabama

Glencoe, Alabama

Dear Mr. Jones:

On August 3, 2023, Resolve Environmental Engineering, Inc. (Resolve) performed a structural audit and component inspections on six (6) storage tanks and associated piping, appurtenances and containment systems at the Clean Earth of Alabama (Clean Earth) facility located in Glencoe, Alabama. The purpose of the project was to assess the tank systems as part of a mechanical integrity assurance program and in accordance with the annual inspection and integrity testing requirements of 40 CFR 264 Subpart J and the facility Hazardous Waste Facility Permit.

Scope of Work

On August 3, 2023, Mr. Kerry Benson of Resolve conducted ultrasonic thickness (UT) testing on the shell, bottom and roof of six 15,000-gallon welded carbon steel aboveground storage tanks. UT measurements were collected on the bottom edge, bottom and top of the first shell course, and bottom of the second shell course at 45° intervals around the tank circumference. UT measurements were collected at three locations on each tank roof at positions that were safely accessible from the roof walkway. Mr. Benson also performed visual integrity assessments of all nozzles, piping, fittings and the secondary containment system associated with each of the tanks.

Inspections were performed in accordance with Steel Tank Institute (STI) Standard SP001, Standard for Inspection of Aboveground Storage Tanks (Sixth Edition, January 2018). Mr. Benson is an STI Certified Tank Inspector (No. AST R11203). Ultrasonic thickness measurements were collected using an Olympus Panametrics DL38Plus by Mr. Benson, who was trained by a Panametrics representative and certified to be competent in the operation, calibration and setup of the unit. Inspector certifications are included in Attachment D to this letter report. Measurements were performed at locations that had been marked with stickers during previous assessments for consistency of reading locations and to allow long-term comparisons in the point data.

Observations

UT measurements are summarized in Table 1 in Attachment A to this letter report. Average and maximum corrosion rates were calculated using the assumptions and calculations presented in the footnotes to the table. Individual measurements from thickness test reports completed prior to 2020 were not used in this evaluation since it could not be determined the exact position of measurements collected in previous years.

Projections for the minimum and average time until repair were made based upon the calculated corrosion rates and minimum acceptable thicknesses calculated in accordance with American Petroleum Institute (API) standard 653, *Tank Inspection, Repair, Alternation, and Reconstruction* (Fifth Edition, November 2014). Minimum acceptable thicknesses calculations are presented on Table 2. Most tank elements have a minimum of 20 years until repairs are needed. The minimum time until repair is 15 years (roof of Tank 1). The current annual inspection schedule will ensure proper detection of when repairs are actually required.

Visual inspection of the concrete secondary containment system was performed. The concrete containment system was in excellent condition and without damage or structural defect. Fluid was present at the start of the inspection and was removed. Drawings with measurement locations, nozzles, shell, roof and bottom layouts are presented in Attachment B. Photographs of the tanks and tank nozzles are presented in Attachment C.



Suitability for Service

Based on the observations from the August 2023 tank, piping, appurtenance and containment system assessments, Resolve has determined each tank system is suitable for service as flammable or combustible liquid storage container in accordance with the applicable criteria of 40 CFR 264. Remaining life exceeds ten years for each tank element (shell, bottom and roof). Therefore, the annual reinspection interval is adequate to detect any tank deficiencies or issues and the next structural audit should be conducted within approximately one year.

Report Certifications

Mr. Ian Lundberg, PE, a qualified Professional Engineer, hereby certifies that the structural audit conducted in August 2023 on Tanks 1 through 6 at the subject Clean Earth facility in Glencoe, Alabama fully meets the annual inspection and integrity testing requirements of 40 CFR 264.195. This assessment has determined that each tank system is adequately designed and has sufficient structural strength and compatibility with the liquids stored to ensure that it will not collapse, rupture, or fail. This assessment has also determined that there are not any identifiable leaks in the piping system components.

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.

P.E. Signature:

P.E. Name: lan Lundberg

Date: September 7, 2023

Registration: GA 22139







Resolve Environmental Engineering, Inc. hereby certifies that the audit was conducted in accordance with the relevant procedures in Steel Tank Institute (STI) standard SP001, Standard for Inspection of Aboveground Storage Tanks (Sixth Edition, January 2018).

Certified Tank Inspector Signature:

Certified Tank Inspector Name:

Registrations:

Kerry Benson

STI SP001: AST R11203

Resolve appreciates the opportunity to provide these services for Clean Earth. Please let us know if you have any questions or comments on this report.

Sincerely,

Resolve Environmental Engineering, Inc.

lan Lundberg, PE

Principal Engineer

Attachment A: Tables

Attachment B: Tank Layout Drawings

Attachment C: Photographs

Attachment D: Inspector Certificates



Attachment A Tables

Resolve Environmental Engineering, Inc.

Table 1: Tank UT Measurements (inches), Corrosion Rates & Projected Time Until Repair, August 2023 Clean Earth, Inc., Glencoe, Alabama

Tank	Year	Location					eam	Thickness (i			in) Corrosion rate (in/yr) ^(b)		Projected time until repair (yr) ^(c)				
			0° (0')	45° (4.3')	90° (8.6')	135° (12.9')	180° (17.2')	225° (21.5')	270° (25.8')	315° (30.1')	Average	Minimum	Original	Max.	Ave.	Min.	Ave.
1	2023	Bottom, edge	0.332	0.348	0.320	0.348	0.342	0.324	0.332	0.347	0.337	0.320	0.375	0.0032	0.0023	68	97
		Shell, bottom of 1 st course	0.352	0.354	0.345	0.348	0.342	0.324	0.341	0.342	0.344	0.324	0.375	0.0030	0.0019	75	> 100
		Shell, top of 1 st course	0.344	0.333	0.349	0.328	0.318	0.305	0.339	0.336	0.332	0.305	0.375	0.0041	0.0026	50	80
		Shell, bottom of 2 nd course	0.314	0.319	0.319	0.321	0.296	0.298	0.331	0.312	0.314	0.296	0.375	0.0046	0.0036	42	54
		Roof, edge	N	N	N	N	N	0.244	0.223	0.268	0.245	0.223	0.375	0.0089	0.0076	15	17
	2023	Bottom, edge	0.335	0.342	0.355	0.342	0.358	0.366	0.356	0.328	0.348	0.328	0.375	0.0028	0.0016	82	> 100
		Shell, bottom of 1 st course	0.350	0.353	0.329	0.357	0.350	0.366	0.366	0.360	0.337	0.329	0.375	0.0027	0.0023	85	> 100
2		Shell, top of 1 st course	0.330	0.334	0.333	0.329	0.330	0.345	0.347	0.344	0.337	0.329	0.375	0.0027	0.0023	85	> 100
		Shell, bottom of 2 nd course	0.335	0.343	0.359	0.346	0.332	0.262	0.318	0.361	0.332	0.262	0.375	0.0066	0.0025	24	64
		Roof, edge	0.295	0.290	N	N	N	N	N	0.308	0.298	0.290	0.375	0.0050	0.0045	40	44
		Bottom, edge	0.319	0.394	0.306	0.347	0.344	0.347	0.338	0.321	0.340	0.306	0.375	0.0041	0.0021	51	99
		Shell, bottom of 1 st course	0.295	0.322	0.342	0.299	0.341	0.331	0.319	0.323	0.322	0.295	0.375	0.0047	0.0031	41	62
3	2023	Shell, top of 1 st course	0.335	0.335	0.325	0.322	0.327	0.325	0.330	0.327	0.328	0.322	0.375	0.0031	0.0028	71	81
		Shell, bottom of 2 nd course	0.346	0.342	0.331	0.240	0.322	0.327	0.272	0.311	0.311	0.240	0.375	0.0079	0.0037	18	37
		Roof, edge	N	N	N	N	N	0.256	0.238	0.263	0.252	0.238	0.375	0.0081	0.0072	18	21

Resolve Environmental Engineering, Inc.

Table 1: Tank UT Measurements (inches), Corrosion Rates & Projected Time Until Repair, August 2023 Clean Earth, Inc., Glencoe, Alabama

Tank	Year	Location		Measurement location, degrees (feet) CCW from shell seam							Thickness (in)			Corrosion rate (in/yr) (b)		Projected time until repair (yr) ^(c)	
			0° (0')	45° (4.3')	90° (8.6')	135° (12.9')	180° (17.2')	225° (21.5')	270° (25.8')	315° (30.1')	Average	Minimum	Original	Max.	Ave.	Min.	Ave.
	2023	Bottom, edge	0.295	0.307	0.300	0.303	0.298	0.302	0.305	0.301	0.301	0.295	0.375	0.0047	0.0043	41	45
		Shell, bottom of 1 st course	0.304	0.318	0.327	0.314	0.315	0.297	0.314	0.322	0.314	0.297	0.375	0.0046	0.0036	43	55
4		Shell, top of 1 st course	0.306	0.332	0.320	0.304	0.295	0.289	0.309	0.313	0.309	0.289	0.375	0.0051	0.0039	37	48
		Shell, bottom of 2 nd course	0.309	0.280	0.314	0.315	0.297	0.283	0.290	0.294	0.298	0.280	0.375	0.0056	0.0045	32	40
		Roof, edge	N	0.319	0.254	0.250	N	N	N	N	0.274	0.250	0.375	0.0074	0.0059	22	27
	2023	Bottom, edge	0.330	0.312	0.268	0.306	0.300	0.325	0.326	0.305	0.309	0.268	0.375	0.0063	0.0039	27	43
		Shell, bottom of 1 st course	0.341	0.309	0.303	0.291	0.318	0.319	0.301	0.315	0.312	0.291	0.375	0.0049	0.0037	39	52
5		Shell, top of 1 st course	0.292	0.301	0.313	0.290	0.266	0.296	0.263	0.251	0.284	0.251	0.375	0.0073	0.0054	21	28
		Shell, bottom of 2 nd course	0.305	0.310	0.315	0.285	0.277	0.294	0.287	0.338	0.301	0.277	0.375	0.0058	0.0043	31	41
		Roof, edge	N	0.235	0.248	0.256	N	N	N	N	0.246	0.235	0.375	0.0082	0.0076	18	19
		Bottom, edge	0.356	0.372	0.352	0.380	0.352	0.384	0.359	0.347	0.363	0.347	0.375	0.0016	0.0007	> 100	> 100
		Shell, bottom of 1 st course	0.318	0.328	0.327	0.326	0.328	0.332	0.330	0.322	0.326	0.318	0.375	0.0034	0.0029	65	76
6	2023	Shell, top of 1 st course	0.305	0.314	0.326	0.328	0.319	0.322	0.326	0.326	0.321	0.305	0.375	0.0041	0.0032	50	64
			Shell, bottom of 2 nd course	0.315	0.317	0.324	0.319	0.306	0.320	0.323	0.317	0.318	0.306	0.375	0.0041	0.0034	51
		Roof, edge	N	N	N	N	0.363	0.351	0.357	N	0.357	0.351	0.375	0.0014	0.0011	> 100	> 100

Notes: N = measurement point was \underline{N} ot safely accessible

⁽a) Max. corrosion rate = (original thickness - minimum measured thickness) / (17 years); Ave. corrosion rate = (original thickness - average measured thickness) / (17 years); oldest historic data was from 17 years ago (2006)

⁽b) Minimum projected time until repair = (minimum thickness reading - minimum allowable thickness) / (maximum corrosion rate); Average projected time until repair = (minimum thickness reading - minimum allowable thickness) / (average corrosion rate); Minimum allowable thickness for bottom and shell are calculated in accordance with API653, Section 4.3.3.1, as presented on Table 2; minimum allowable thickness for roof repair criteria is 0.09 inches based upon API 653, Section 4.2.1.2 (0.09" in any 100 in area)

Resolve Environmental Engineering, Inc.

Table 2: Bottom and Shell Course Minimum Acceptable Thickness Evaluation Clean Earth, Inc., Glencoe, Alabama

Tank Information: Tanks 1, 4 & 5 Tanks 2, 3 & 6 Basis

Diameter, D (ft): 11 11 Measured

Fill height from bottom (ft): 18.75 18.6 Measured

Course height (ft): 6.25 9.3 Measured

Joint efficiency, E: 0.7 0.7

Material grade: Unknown Unknown

Allowable stress, S:

Lower two courses (psi): 23,600 23,600 API 653 Table 4-1, for welded material of unknown origin

Upper courses (psi): 26,000 26,000 API 653 Table 4-1, for welded material of unknown origin

Contents specific gravity, G: 1.8 Assumed worst-case for liquid waste

				Max. liquid	Minimum acceptable thickness (in)			
Tanks	Component	Course	Location	height, H (ft)	API653 Section 4.3.3.1 Calc.	Minimum acceptable		
		1	Bottom	18.75	0.055	0.100		
1, 4 & 5	Shell	1	Тор	12.5	0.036	0.100		
1,4 & 3		2	Bottom	12.5	0.036	0.100		
	Bottom			18.75	0.028	0.100		
		1	Bottom	18.6	0.055	0.100		
2,3&6	Shell	1	Тор	9.3	0.026	0.100		
2,3 & 0		2	Bottom	9.3	0.026	0.100		
	Bottom			18.6	0.028	0.100		

Minimum acceptable shell thickness sample calculation for bottom of first course, Tanks 1, 4 & 5:

 t_{min} = 2.6 x (H - 1) x D x G / (S x E), or 0.1 inches, whichever is greater; per API653, Section 4.3.3.1

 $= 2.6 \times (-1) \times \times / (0.7 \times 11) = in$

Minimum acceptable bottom thickness sample calculation, Tanks 1, 4 & 5:

 t_{min} = 0.5 x (first course t_{min}) or 0.1 inches, whichever is greater, per API653, Section 4.4.7.4

= Maximum of $0.5 \times (0.1)$ or 0.1 inches = 0.1 inches

Attachment B Photographs



Tank 1: Overall shell



Tank 1: Overall shell



Tank 1: Overall shell



Tank 1: Roof







Tank 4: Overall shell



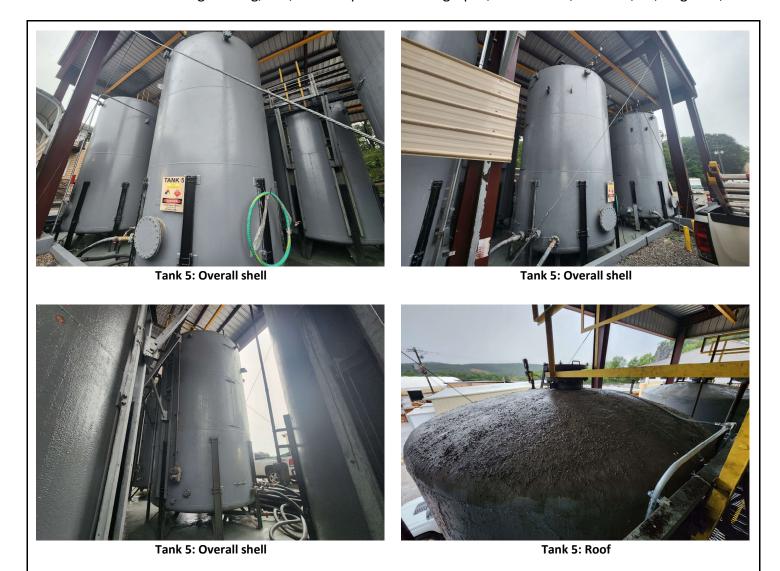
Tank 4: Overall shell



Tank 4: Overall shell



Tank 4: Roof





Tank 6: Overall shell



Tank 6: Overall shell



Tank 6: Overall shell



Tank 6: Roof

Attachment C Inspector Certificates

CERTIFICATION

Steel Tank Institute

Kerry Benson

STI Inspector No: AST 11203

Expires: January 4, 2027

The person whose name appears on this certificate has met all the requirements to become an STI authorized SP001 Above Ground Storage Tank System Inspector in accordance with the STI Standard SP001

Joseph Mentzer, P.E. Steel Tank Institute



Issue Date: 01/04/2022

The official status of this certificate can be verified at www.steeltank.com.

APPENDIX D-2-6 INFORMATION ON TANK LEVEL INDICATORS CLEAN EARTH OF ALABAMA



Operating Instructions

Vibrating level switch with tube extension for liquids

VEGASWING 63

Relay (DPDT)





Document ID: 29229







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29229-EN-230123

Safety instructions for Ex areas:



Take note of the Ex specific safety instructions for Ex applications. These instructions are attached as documents to each instrument with Ex approval and are part of the operating instructions.

Editing status: 2023-01-19



1 About this document

1.1 Function

This instruction provides all the information you need for mounting, connection and setup as well as important instructions for maintenance, fault rectification, the exchange of parts and the safety of the user. Please read this information before putting the instrument into operation and keep this manual accessible in the immediate vicinity of the device.

1.2 Target group

This operating instructions manual is directed to trained personnel. The contents of this manual must be made available to the qualified personnel and implemented.

1.3 Symbols used



■ Document ID

This symbol on the front page of this instruction refers to the Document ID. By entering the Document ID on www.vega.com you will reach the document download.



Information, note, tip: This symbol indicates helpful additional information and tips for successful work.



Note: This symbol indicates notes to prevent failures, malfunctions, damage to devices or plants.



Caution: Non-observance of the information marked with this symbol may result in personal injury.



Warning: Non-observance of the information marked with this symbol may result in serious or fatal personal injury.



Danger: Non-observance of the information marked with this symbol results in serious or fatal personal injury.



Ex applications

This symbol indicates special instructions for Ex applications.

Lis

The dot set in front indicates a list with no implied sequence.

1 Sequence of actions

Numbers set in front indicate successive steps in a procedure.



Disposal

This symbol indicates special instructions for disposal.



2 For your safety

2.1 Authorised personnel

All operations described in this documentation must be carried out only by trained, qualified personnel authorised by the plant operator.

During work on and with the device, the required personal protective equipment must always be worn.

2.2 Appropriate use

The VEGASWING 63 is a sensor for point level detection.

You can find detailed information about the area of application in chapter " *Product description*".

Operational reliability is ensured only if the instrument is properly used according to the specifications in the operating instructions manual as well as possible supplementary instructions.

2.3 Warning about incorrect use

Inappropriate or incorrect use of this product can give rise to application-specific hazards, e.g. vessel overfill through incorrect mounting or adjustment. Damage to property and persons or environmental contamination can result. Also, the protective characteristics of the instrument can be impaired.

2.4 General safety instructions

This is a state-of-the-art instrument complying with all prevailing regulations and directives. The instrument must only be operated in a technically flawless and reliable condition. The operator is responsible for the trouble-free operation of the instrument. When measuring aggressive or corrosive media that can cause a dangerous situation if the instrument malfunctions, the operator has to implement suitable measures to make sure the instrument is functioning properly.

The safety instructions in this operating instructions manual, the national installation standards as well as the valid safety regulations and accident prevention rules must be observed by the user.

For safety and warranty reasons, any invasive work on the device beyond that described in the operating instructions manual may be carried out only by personnel authorised by the manufacturer. Arbitrary conversions or modifications are explicitly forbidden. For safety reasons, only the accessory specified by the manufacturer must be

To avoid any danger, the safety approval markings and safety tips on the device must also be observed.

2.5 Conformity

The device complies with the legal requirements of the applicable country-specific directives or technical regulations. We confirm conformity with the corresponding labelling.



The corresponding conformity declarations can be found on our homepage.

2.6 SIL conformity

VEGASWING 63 fulfills the requirements to functional safety according to IEC 61508 or IEC 61511. You find further information in the supplied Safety Manual.

2.7 Installation and operation in the USA and Canada

This information is only valid for USA and Canada. Hence the following text is only available in the English language.

Installations in the US shall comply with the relevant requirements of the National Electrical Code (ANSI/NFPA 70).

Installations in Canada shall comply with the relevant requirements of the Canadian Electrical Code.

2.8 Safety instructions for Ex areas

For applications in explosion-proof areas (Ex), only devices with corresponding Ex approval may be used. Observe the Ex-specific safety instructions. These are an integral part of the operating instructions and are enclosed with every device with Ex approval.

2.9 Environmental instructions

Protection of the environment is one of our most important duties. That is why we have introduced an environment management system with the goal of continuously improving company environmental protection. The environment management system is certified according to DIN EN ISO 14001.

Please help us fulfil this obligation by observing the environmental instructions in this manual:

- Chapter " Packaging, transport and storage"
- Chapter " Disposal"



3 Product description

3.1 Configuration

Scope of delivery

The scope of delivery encompasses:

VEGASWING 63 point level switch

The further scope of delivery encompasses:

- Documentation
 - Operating instructions VEGASWING 63
 - Safety Manual (SIL) optional
 - Instructions for optional instrument features
 - Ex-specific " Safety instructions" (with Ex versions)
 - If necessary, further certificates

Information:

ĭ

Optional instrument features are also described in this operating instructions manual. The respective scope of delivery results from the order specification.

Constituent parts

The VEGASWING 63 consists of the components:

- Housing lid
- · Housing with electronics
- · Process fitting with tuning fork

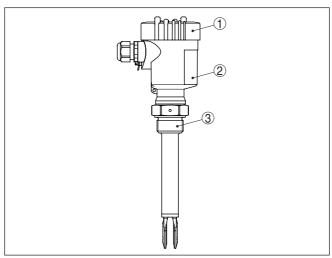


Fig. 1: VEGASWING 63

- 1 Housing lid
- 2 Housing with electronics
- 3 Process fitting

Type label

The type label contains the most important data for identification and use of the instrument:



- Article number
- Serial number
- Technical data
- Article numbers, documentation
- SIL identification (with SIL rating ex works)

With the serial number, you can access the delivery data of the instrument via "www.vega.com", "Search". You can find the serial number on the inside of the instrument as well as on the type label on the outside.

3.2 Principle of operation

Application area

VEGASWING 63 is a point level sensor with tuning fork for point level detection.

It is designed for industrial use in all areas of process technology and can be used in liquids.

Typical applications are overfill and dry run protection. The small tuning fork allows use in all kinds of tanks and vessels. Thanks to its simple and rugged measuring system, VEGASWING 63 is virtually unaffected by the chemical and physical properties of the liquid.

It functions even under difficult conditions such as turbulence, air bubbles, foam generation, buildup, strong external vibration or changing products.

Function monitoring

The electronics module of VEGASWING 63 continuously monitors the following criteria via frequency evaluation:

- Strong corrosion or damage on the tuning fork
- Loss of vibration
- Line break to the piezo drive

If a malfunction is detected or in case of voltage supply, the electronics takes on a defined switching status, i.e. the relay deenergises (safe state).

Functional principle

The tuning fork is piezoelectrically energised and vibrates at its mechanical resonance frequency of approx. 1200 Hz. The piezos are fixed mechanically and are hence not subject to temperature shock limitations. The frequency changes when the tuning fork is covered by the medium. This change is detected by the integrated electronics module and converted into a switching command.

Voltage supply

VEGASWING 63 is a compact instrument, i.e. it can be operated without external evaluation system. The integrated electronics evaluates the level signal and outputs a switching signal. With this switching signal, a connected device can be operated directly (e.g. a warning system, a pump etc.).

The data for power supply are specified in chapter " Technical data".



3.3 Adjustment

The switching condition of VEGASWING 63 with plastic housing can be checked when the housing is closed (signal lamp). With the basic setting, products with a density ≥ 0.7 g/cm³ (0.025 lbs/in³) can be detected. The instrument can be adapted if products with lower density are to be measured.

On the electronics module you will find the following display and adjustment elements:

- Signal lamp for indication of the switching condition (green/red)
- DIL switch for sensitivity adjustment
- Mode adjustment for selection of the switching condition (A/B)

3.4 Storage and transport

Packaging

Your instrument was protected by packaging during transport. Its capacity to handle normal loads during transport is assured by a test based on ISO 4180.

The packaging of standard instruments consists of environment-friendly, recyclable carton material. The sensing element is additionally protected with a cardboard cover. For special versions, PE foam or PE foil is also used. Please dispose of the packaging material through specialised recycling companies.

Transport

Transport must be carried out in due consideration of the notes on the transport packaging. Nonobservance of these instructions can cause damage to the device.

Transport inspection

The delivery must be checked for completeness and possible transit damage immediately at receipt. Ascertained transit damage or concealed defects must be appropriately dealt with.

Storage

Up to the time of installation, the packages must be left closed and stored according to the orientation and storage markings on the outside.

Unless otherwise indicated, the packages must be stored only under the following conditions:

- Not in the open
- Drv and dust free
- Not exposed to corrosive media
- Protected against solar radiation
- Avoiding mechanical shock and vibration

Storage and transport temperature

- Storage and transport temperature see chapter " Supplement -Technical data - Ambient conditions"
- Relative moisture 20 ... 85 %

Lifting and carrying

With instrument weights of more than 18 kg (39.68 lbs) suitable and approved equipment must be used for lifting and carrying.



3.5 Accessories

The instructions for the listed accessories can be found in the download area on our homepage.

PLICSLED

The pluggable display module PLICSLED is used for clearly visible indication of the switching status. It can be attached to the electronics of the sensor and removed at any time.

Flanges

Screwed flanges are available in different versions according to the following standards: DIN 2501, EN 1092-1, BS 10, ASME B 16.5, JIS B 2210-1984, GOST 12821-80.

Lock fitting

The lock fitting is used for for infinite locking with tube extension.

The following lock fittings are available:

- ARV-SG63.1 unpressurized
- ARV-SG63.2 up to 16 bar
- ARV-SG63.3 up to 64 bar

The wetted parts of the lock fitting can be either of steel (316L) or Alloy C22 (2.4602).

Lock fittings cannot be used in coated tube extensions.

You can find additional information in the operating instructions manuals of the lock fittings.

Plug connector

For connecting the sensors with a separator to voltage supply or signal processing, the sensors are also available with plug connectors.

The following plug connectors are available:

- M12 x 1
- ISO 4400
- Harting HAN 7D
- Harting HAN 8D
- Amphenol-Tuchel



4 Mounting

4.1 General instructions

Process conditions



Note:

For safety reasons, the instrument must only be operated within the permissible process conditions. You can find detailed information on the process conditions in chapter " *Technical data*" of the operating instructions or on the type label.

Hence make sure before mounting that all parts of the instrument exposed to the process are suitable for the existing process conditions.

These are mainly:

- · Active measuring component
- Process fitting
- Process seal

Process conditions in particular are:

- Process pressure
- Process temperature
- Chemical properties of the medium
- Abrasion and mechanical influences.

Ambient conditions

The instrument is suitable for standard and extended ambient conditions acc. to DIN/EN/IEC/ANSI/ISA/UL/CSA 61010-1. It can be used indoors as well as outdoors.

Switching point

In general, VEGASWING 63 can be installed in any position. The instrument only has to be mounted in such a way that the tuning fork is at the height of the desired switching point.

The tuning fork has lateral markings (notches) that indicate the switching point with vertical mounting. The switching point applies to water in conjunction with the basic setting of the density switch $\geq 0.7~\text{g/cm}^3$ (0.025 lbs/in³). When mounting VEGASWING 63, make sure that this marking is at the height of the requested switching point. Keep in mind that the switching point of the instrument will shift if the medium has a density other than water - water is 1 g/cm³ (0.036 lbs/in³). For products $\leq 0.7~\text{g/cm}^3$ (0.025 lbs/in³) and $\geq 0.5~\text{g/cm}^3$ (0.018 lbs/in³) the density switch must be set to $\geq 0.5~\text{g/cm}^3$.

Keep in mind that foams with a density ≥ 0.45 g/cm³ (0.016 lbs/in³) are detected by the sensor. This can lead to erroneous switchings, particularly when the sensor is used for dry run protection.



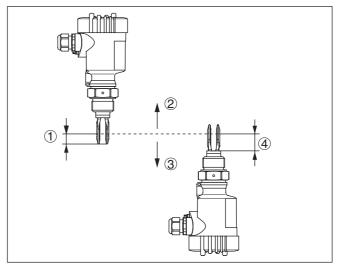


Fig. 2: Vertical mounting

- 1 Switching point approx. 13 mm (0.51 in)
- 2 Switching point with lower density
- 3 Switching point with higher density
- 4 Switching point approx. 27 mm (1.06 in)

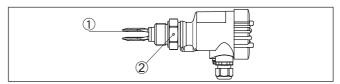


Fig. 3: Horizontal mounting

- 1 Switching point
- 2 Marking with screwed version, facing up

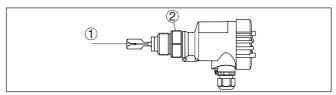


Fig. 4: Horizontal installation (recommended mounting position, particularly for adhesive products)

- 1 Switching point
- 2 Marking with screwed version, facing up

In the case of flange versions, the fork is aligned as follows.



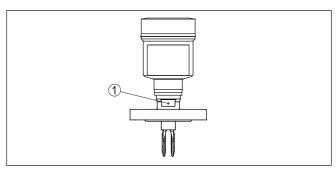


Fig. 5: Fork position with flange versions

1 Marking with flange version, facing up

Protection against moisture

Protect your instrument against moisture ingress through the following measures:

- Use a suitable connection cable (see chapter " Connecting to power supply")
- Tighten the cable gland or plug connector
- Lead the connection cable downward in front of the cable entry or plug connector

This applies mainly to outdoor installations, in areas where high humidity is expected (e.g. through cleaning processes) and on cooled or heated vessels.



Note:

Make sure that during installation or maintenance no moisture or dirt can get inside the instrument.

To maintain the housing protection, make sure that the housing lid is closed during operation and locked, if necessary.

Transport



Caution:

Do not hold VEGASWING 63 on the tuning fork. Particularly with flange or tube versions, the tuning fork can be damaged just by the weight of the instrument. Transport coated instruments very carefully and avoid touching the tuning fork.

Remove the packaging or the protective cover just before mounting.

Handling

The vibrating level switch is a measuring instrument and must be treated accordingly. Bending the vibrating element will destroy the instrument.



Warning:

The housing must not be used to screw the instrument in! Applying tightening force can damage internal parts of the housing.

Use the hexagon above the thread for screwing in.



Cable glands

Metric threads

In the case of instrument housings with metric thread, the cable glands are screwed in at the factory. They are sealed with plastic plugs as transport protection.

You have to remove these plugs before electrical connection.

NPT thread

In the case of instrument housings with self-sealing NPT threads, it is not possible to have the cable entries screwed in at the factory. The free openings for the cable glands are therefore covered with red dust protection caps as transport protection. The dust protection caps do not provide sufficient protection against moisture.

Prior to setup you have to replace these protective caps with approved cable glands or close the openings with suitable blind plugs.

4.2 Mounting instructions

Welded socket

VEGASWING 63 has a defined thread starting point. This means that every VEGASWING 63 is in the same fork position after being screwed in. Remove therefore the supplied seal from the thread of VEGASWING 63. This seal is not required when using a welded socket with O-ring in front.

Keep in mind that this welded socket is not suitable for coated instrument versions.

Screw VEGASWING 63 completely into the welded socket. The later position can be determined already before welding. Mark the appropriate position of the welded socket. Before welding, unscrew VEGASWING 63 and remove the rubber ring from the welded socket. The welded socket has a marking (notch). Weld the socket with the notch facing upward, or in case of pipelines (DN 32 up to DN 50), aligned with the direction of flow.

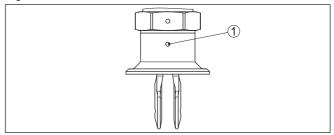


Fig. 6: Marking on the welded socket

1 Marking

Adhesive products

In case of horizontal mounting in adhesive and viscous products, the surfaces of the tuning fork should be vertical in order to reduce buildup on the tuning fork. On the screwed version you will find a marking on the hexagon. With this you can check the position of the tuning fork when screwing it in. When the hexagon touches the seal, the thread can still be turned by approx. half a turn. This is sufficient to reach the recommended installation position.



In the case of flange versions, the fork is aligned with the flange holes.

When used in adhesive and viscous products, the tuning fork should protrude into the vessel to avoid buildup. For that reason, nozzles for flanges and mounting bosses should be avoided when mounting horizontally.

Pressure/Vacuum

The process fitting must be sealed if there is gauge or low pressure in the vessel. Before use, check if the sealing material is resistant against the measured product and the process temperature.

The max. permissible pressure is specified in chapter " *Technical data*" or on the type label of the sensor.

Inflowing medium

If VEGASWING 63 is mounted in the filling stream, unwanted false measurement signals can be generated. For this reason, mount VEGASWING 63 at a position in the vessel where no disturbances, e.g. from filling openings, agitators, etc., can occur.

This applies particularly to instrument types with long extension tube.

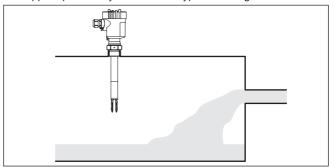


Fig. 7: Inflowing medium

Product flow

To make sure the tuning fork of VEGASWING 63 generates as little resistance as possible to product flow, mount the sensor so that the surfaces are parallel to the product movement.

Agitators

Due to the effects of agitators, equipment vibration or similar, the level switch can be subjected to strong lateral forces. For this reason, do not use an overly long extension tube for VEGASWING 63, but check if you can mount a level switch on the side of the vessel in horizontal position.

Extreme vibration caused by the process or the equipment, e.g. agitators or turbulence in the vessel, can cause the extension tube of VEGASWING 63 to vibrate in resonance. This leads to increased stress on the upper weld joint. Should a longer tube version be necessary, you can provide a suitable support directly above the tuning fork to secure the extension tube.



This measure applies mainly to applications in Ex areas category 1G or WHG. Make sure that the tube is not subject to bending stress due to this measure.



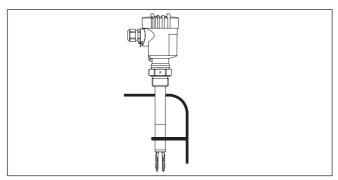


Fig. 8: Lateral suppot of VEGASWING 63

Enamel coating

Instruments with enamel coating should be treated very carefully and shocks should be avoided. Unpack VEGASWING 63 directly before installation. Insert VEGASWING 63 carefully into the vessel opening and avoid touching any sharp vessel parts.

Gas-tight leadthrough

The second seal of the gas-tight leadthrough (option) prevents an uncontrolled leakage of the medium. The service life of the gas-tight leadthrough depends on the chemical resistance of the materials. See " *Technical data*".



Caution:

If it is determined (e.g. via a fault signal from VEGASWING 63) that medium has already penetrated into the vibrating element, the instrument must be exchanged immediately.



5 Connecting to power supply

5.1 Preparing the connection

Note safety instructions

Always keep in mind the following safety instructions:



Warning:

Connect only in the complete absence of line voltage.

- The electrical connection must only be carried out by trained, qualified personnel authorised by the plant operator.
- Always switch off power supply, before connecting or disconnecting the instrument.



Note:

Install a disconnecting device for the instrument which is easy to access. The disconnecting device must be marked for the instrument (IEC/EN 61010).

Take note of safety instructions for Ex applications



In hazardous areas you must take note of the respective regulations, conformity and type approval certificates of the sensors and power supply units.

Voltage supply

Connect the voltage supply according to the connection diagrams. The electronics module with relay output is designed in protection class I. To maintain this protection class, it is absolutely necessary that the earth conductor be connected to the inner earth conductor terminal. Keep the general installation regulations in mind. Take note of the corresponding installation regulations for hazardous areas with Ex applications.

The data for power supply are specified in chapter " Technical data".

Connection cable

The instrument is connected with standard three-wire cable without shielding. If electromagnetic interference is expected which is above the test values of EN 61326 for industrial areas, shielded cable should be used.

Make sure that the cable used has the required temperature resistance and fire safety for max. occurring ambient temperature

Use cable with round cross-section. A cable outer diameter of $5\dots 9$ mm (0.2 \dots 0.35 in) ensures the seal effect of the cable gland. If you are using cable with a different diameter or cross-section, exchange the seal or use a suitable cable gland.



In hazardous areas, use only approved cable connections for VEGASWING 63.

Connection cable for Ex applications



Take note of the corresponding installation regulations for Ex applications.

Cover all housing openings conforming to standard according to FN 60079-1.



5.2 Connection procedure



With Ex instruments, the housing cover may only be opened if there is no explosive atmosphere present.

Proceed as follows:

- 1. Unscrew the housing lid
- Loosen compression nut of the cable gland and remove blind plug
- Remove approx. 10 cm (4 in) of the cable mantle, strip approx.
 1 cm (0.4 in) of insulation from the ends of the individual wires
- 4. Insert the cable into the sensor through the cable entry
- 5. Open the terminals with a screwdriver
- Insert the wire ends into the open terminals according to the wiring plan
- 7. Tighten the terminals with a screwdriver
- 8. Check the hold of the wires in the terminals by lightly pulling on them
- 9. Tighten the compression nut of the cable entry gland. The seal ring must completely encircle the cable
- 10. Screw the housing lid back on

The electrical connection is finished.

5.3 Wiring plan, single chamber housing



The following illustrations apply to the non-Ex as well as to the Ex d version.

Housing overview

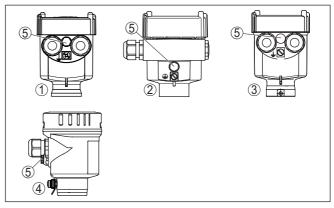


Fig. 9: Material versions, single chamber housing

- 1 Plastic (not with Ex d)
- 2 Aluminium
- 3 Stainless steel (not with Ex d)
- 4 Stainless steel, electropolished (not with Ex d)
- 5 Filter element for pressure compensation or blind plug with version IP66/ IP68, 1 bar (not with Ex d)



Electronics and connection compartment

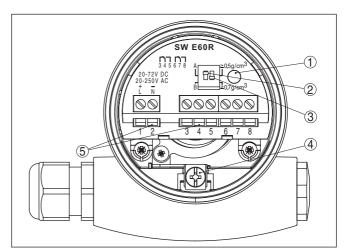


Fig. 10: Electronics and connection compartment, single chamber housing

- 1 Control lamp
- 2 DIL switch for mode adjustment
- 3 DIL switch for switching point adaptation
- 4 Ground terminal
- 5 Connection terminals

Wiring plan

We recommend connecting VEGASWING 63 in such a way that the switching circuit is open when there is a level signal, line break or failure (safe state).

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Information:

The relays are always shown in non-operative condition.

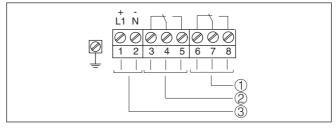


Fig. 11: Wiring plan, single chamber housing

- 1 Relay output
- 2 Relay output
- 3 Voltage supply

Connection to a PLC

If inductive loads or stronger currents are switched through, the gold plating on the relay contact surface will be permanently damaged. The contact is then no longer suitable for switching low-voltage circuits.



Inductive loads also result from the connection to a PLC input or output and/or in combination with long cables. It is imperative that you take measures to extinguish sparks to protect the relay contact (e.g. Z diode) or use an electronic version with transistor output.



6 Setup

6.1 General information

The figures in brackets refer to the following illustrations.

Function/Configuration

With plastic housings, the switching condition of the electronics can be checked when the housing cover is closed (control lamp). With the basic setting, products with a density ≥ 0.7 g/cm³ (0.025 lbs/in³) can be detected. For products with lower density, the switch must be set to ≥ 0.5 g/cm³ (0.018 lbs/in³).

On the electronics module you will find the following display and adjustment elements:

- Signal lamp (1)
- DIL switch for mode adjustment A/B (2)
 - DIL switch for adjustment of the density range (3)

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Note

Always immerse the tuning fork of VEGASWING 63 in a liquid to test its function. Do not test the function of VEGASWING 63 with your hand. This can damage the sensor.

6.2 Adjustment elements

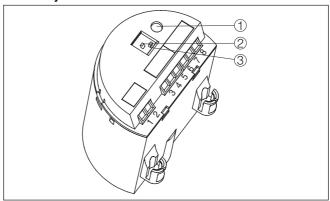


Fig. 12: Oscillator SWE60R - Relay output

- 1 Control lamp (LED)
- 2 DIL switch for mode adjustment
- 3 DIL switch for adjustment of the density range

Signal lamp (1)

Control lamp for indication of the switching status

- green = relay energized
- red = relay deenergized
- red (flashing) = failure

Mode adjustment (2)

With the mode adjustment (A/B) you can change the switching condition of the relay. You can set the required mode according to the



" Function table" (A - max. detection or overflow protection, B - min. detection or dry run protection).

Adjustment of the density range (3)

With this DIL switch (3) you can set the switching point to liquids having a density between 0.5 and 0.7 g/cm³ (0.018 and 0.025 lbs/ in³). With the basic setting, liquids with a density of ≥ 0.7 g/cm³ (0.025 lbs/in³) can be detected. In liquids with lower density, you must set the switch to ≥ 0.5 g/cm³ (0.018 lbs/in³). The specifications for the position of the switching point relate to water - density value 1 g/cm³ (0.036 lbs/in³). In products with a different density, the switching point will shift in the direction of the housing or tuning fork end depending on the density and type of installation.

Note:

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Keep in mind that foams with a density ≥ 0.45 g/cm³ (0.016 lbs/in³) are detected by the sensor. This can lead to erroneous switchings, particularly when the sensor is used for dry run protection.

6.3 Function table

The following table provides an overview of the switching conditions depending on the set mode and the level.

	Level	Switching status	Control lamp
Mode A Overflow protec- tion		3 4 5 (6) (7) (8)	-><-
		Relay energized	Green
Mode A Overflow protec- tion	-	3 4 5 (6) (7) (8)	- , -,-
		Relay deener- gized	Red
Mode B Dry run protection		3 4 5 (6) (7) (8)	-\\;\-
		Relay energized	Green
Mode B Dry run protection		3 4 5 (6) (7) (8)	-\\\- -\\\-
		Relay deener- gized	Red
Failure of the sup- ply voltage (mode A/B)	any	3 4 5 (6) (7) (8)	0
		Relay deener- gized	Off



	Level	Switching status	Control lamp
Fault	any	3 4 5 (6) (7) (8)	
		Relay deener- gized	flashes red



7 Maintenance and fault rectification

7.1 Maintenance

Maintenance

If the device is used properly, no special maintenance is required in normal operation.

Cleaning

The cleaning helps that the type label and markings on the instrument are visible.

Take note of the following:

- Use only cleaning agents which do not corrode the housings, type label and seals
- Use only cleaning methods corresponding to the housing protection rating

7.2 Rectify faults

Reaction when malfunc-

The operator of the system is responsible for taking suitable measures to rectify faults.

Causes of malfunction

The device offers maximum reliability. Nevertheless, faults can occur during operation. These may be caused by the following, e.g.:

- Sensor
- Process
- Voltage supply
- Signal processing

Fault rectification

The first measure to take is to check the output signal. In many cases, the causes can be determined this way and the faults quickly rectified.

24 hour service hotline

Should these measures not be successful, please call in urgent cases the VEGA service hotline under the phone no. +49 1805 858550.

The hotline is also available outside normal working hours, seven days a week around the clock.

Since we offer this service worldwide, the support is provided in English. The service itself is free of charge, the only costs involved are the normal call charges.



Checking the switching signal

Error	Cause	Rectification	
VEGASWING 63 signals "covered"	Operating voltage too low	Check operating voltage	
without being submerged (overfill protection) VEGASWING 63 signals "uncovered" when being submerged (dry run protection)	Electronics defective	Press the mode switch. If the instrument then changes the mode, the vibrating element may be covered with buildup or mechanically damaged. Should the switching function in the correct mode still be faulty, return the instrument for repair.	
		Press the mode switch. If the instrument then does not change the mode, the electronics module may be defective. Exchange the electronics module.	
	Unfavourable installation location	Mount the instrument at a location in the vessel where no dead zones or air bubbles can form.	
	Buildup on the vibrating element	Check the vibrating element and the sensor for buildup and remove the buildup if there is any.	
	Wrong mode selected	Set the correct mode with the mode switch (overflow protection, dry run protection). Wiring should be carried out according to the closed-circuit principle.	
Signal lamp flashes red	Error on the vibrating element	Check if the vibrating element is damaged or extremely corroded.	
	Interference on the electronics module	Exchanging the electronics module	
	Instrument defective	Exchange the instrument or send it in for repair	

Reaction after fault recti-

Depending on the reason for the fault and the measures taken, the steps described in chapter " *Setup*" must be carried out again or must be checked for plausibility and completeness.

7.3 Exchanging the electronics



If the electronics module is defective, it can be replaced by the user. In Ex applications only an electronics module with respective Ex approval may be used.

You can find all the information you need to carry out an electronics exchange in the handbook of the new electronics module.

In general, all electronics modules of series SW60 can be interchanged. If you want to use an electronics module with a different signal output, you carry out the complete setup. You find the necessary, suitable operating instruction on our homepage.





Note:

Keep in mind that enamelled instrument versions need special electronics modules. These electronics modules are called SW60E or SW60E1.

7.4 How to proceed if a repair is necessary

You can find an instrument return form as well as detailed information about the procedure in the download area of our homepage. By doing this you help us carry out the repair quickly and without having to call back for needed information.

Proceed as follows in case of repair:

- Print and fill out one form per instrument
- Clean the instrument and pack it damage-proof
- Attach the completed form and, if need be, also a safety data sheet outside on the packaging
- Ask the agency serving you to get the address for the return shipment. You can find the agency on our homepage.



8 Dismount

8.1 Dismounting steps

To remove the device, carry out the steps in chapters " *Mounting*" and " *Connecting to power suplly*" in reverse.



Warning:

When dismounting, pay attention to the process conditions in vessels or pipelines. There is a risk of injury, e.g. due to high pressures or temperatures as well as aggressive or toxic media. Avoid this by taking appropriate protective measures.

8.2 Disposal



Pass the instrument on to a specialised recycling company and do not use the municipal collecting points.

Remove any batteries in advance, if they can be removed from the device, and dispose of them separately.

If personal data is stored on the old device to be disposed of, delete it before disposal.

If you have no way to dispose of the old instrument properly, please contact us concerning return and disposal.



9 Supplement

9.1 Technical data

Note for approved instruments

The technical data in the respective safety instructions which are included in delivery are valid for approved instruments (e.g. with Ex approval). These data can differ from the data listed herein, for example regarding the process conditions or the voltage supply.

All approval documents can be downloaded from our homepage.

General data

Material 316L corresponds to 1.4404 or 1.4435

Materials, wetted parts

- Process fitting - thread 316L, Alloy C22 (2.4602), Alloy 400 (2.4360)

- Process fitting - flange 316L, 316L with Alloy C22 (2.4602) plated, 316L with

ECTFE coated, 316L with PFA coating, Alloy 400

(2.4360), Duplex steel (1.4462)

Process seal
 Klingersil C-4400

- Tuning fork 316L, Alloy C22 (2.4602), Alloy C4 (2.4610) enamelled

- Extension tube: ø 21.3 mm (0.839 in) 316L, Alloy C22 (2.4602), Alloy C22 (2.4602) enamelled,

316L with ECTFE coating, 316L with PFA coating

Materials, non-wetted parts

Plastic housing
 Plastic PBT (Polyester)

Aluminium die-cast housing
 Aluminium die-casting AlSi10Mg, powder-coated (Basis:

Polyester)

FPDM

Stainless steel housing (precision 316L

casting)

- Stainless steel housing (electropol- 316L

ished'

- Seal between housing and housing lid Silicone SI 850 R

- Seal between housing and housing

cover (lacquer-compatible version)

Optical fibre in housing cover
 PMMA (Makrolon)

Ground terminal316L

Cable gland
 PA. stainless steel, brass

Sealing, cable gland
Blind plug, cable gland
Temperature adapter (optional)
316L

Second Line of Defense resp. gas-tight leadthrough (optional)

 The Second Line of Defense (SLOD) is a second level of the process separation in the form of a gas-tight feedthrough in the lower part of the housing, preventing product from penetrating into the housing.



Supporting material 316L

- Glass potting Borosilicate glass (Schott no. 8421)

- Contacts 1.4101

- Helium leak rate < 10⁻⁶ mbar l/s

- Pressure resistance PN 64

Sensor length (L)

 - 316L, Alloy C22 (2.4602)
 80 ... 6000 mm (3.15 ... 236.22 in)

 - Alloy C22 (2.4602) enamelled
 80 ... 1500 mm (3.15 ... 59.06 in)

 - 316L, ECTFE coated
 80 ... 3000 mm (3.15 ... 118.11 in)

 - 316L, PFA coated
 80 ... 4000 mm (3.15 ... 157.48 in)

- Sensor lengths - accuracy $\pm 2 \text{ mm} (\pm 0.079 \text{ in})$ Tube diameter $\neq 21.3 \text{ mm} (0.839 \text{ in})$

Weight

- Instrument weight (depending on approx. 0.8 ... 4 kg (0.18 ... 8.82 lbs)

process fitting)

- Tube extension approx. 920 g/m (9.9 oz/ft)

Layer thickness

- Enamel 600 μm ±200 μm (0.024 in ±0.008 in)

ECTFE
 500 μm +500/-200 μm (0.02 in +0.02/-0.008 in)
 PFA
 600 μm +500/-300 μm (0.024 in +0.02/-0.012 in)

Surface quality

 $\begin{array}{ll} - \mbox{ Standard} & \mbox{ R}_a < 3 \ \mu m \ (1.18^4 \ in) \\ - \mbox{ Hygienic version (3A)} & \mbox{ R}_a < 0.8 \ \mu m \ (3.15^5 \ in) \\ - \mbox{ Hygienic version (3A)} & \mbox{ R}_a < 0.3 \ \mu m \ (1.18^5 \ in) \end{array}$

Process fittings

Pipe thread, cylindrical (DIN 3852-A)G¾, G1Pipe thread, conical (ASME B1.20.1)¾ NPT, 1 NPT

Pipe thread, conical (ASME B1.20.1)
 ¾ NPT, 1 NPT
 Flanges
 DIN from DN 25, ASME from 1"

- hygienic fittings Slotted nut DN 40 PN 40, Clamp 1" DIN 32676

ISO 2852/316L, Clamp 2" DIN 32676 ISO 2852/316L, conus DN 25 PN 40, Tuchenhagen Varivent DN 50

PN 10

Max. torque - process fitting

Thread G¾, ¾ NPT
 Thread G1, 1 NPT
 Thread G1, 1 NPT
 Thread G1, 1 NPT

Torque for NPT cable glands and Conduit tubes

Plastic housing max. 10 Nm (7.376 lbf ft)
 Aluminium/Stainless steel housing max. 50 Nm (36.88 lbf ft)

Gas-tight leadthrough (optional)

Leakage rate
 10⁻⁶ mbar l/s

Pressure resistance
 PN 64

- B



High voltage test	(enamel)	max. 5 KV

3 - 1.91 - 1 (1 11 1)	
Output variable	
Output	Relay output (DPDT), 2 floating change-over contacts
Switching voltage	max. 253 V AC/DC
	With circuits > 150 V AC/DC, the relay contacts must be in the same circuit.
Switching current	max. 3 A AC (cos phi > 0.9), 1 A DC
Breaking capacity	
– Min.	50 mW
- Max.	750 VA AC, 40 W DC (at U < 40 V DC)
	If inductive loads or stronger currents are switched through, the gold plating on the relay contact surface will be permanently damaged. The contact is then no longer suitable for switching low-level signal circuits.
Contact material (relay contacts)	AgNi or AgSnO2 each with 3 μm gold plating
Modes (switchable)	
- A	Max. detection or overflow/overfill protection

Measurement accuracy (according to DIN FN 60770-1)

weasurement accuracy (according to) DIN EN 60770-1)	
Reference conditions and influencing variables (according to DIN EN 61298-1)		
 Ambient temperature 	+18 +30 °C (+64 +86 °F)	
 Relative humidity 	45 75 %	
- Air pressure	860 1060 mbar/86 106 kPa (12.5 15.4 psig)	
 Product temperature 	+18 +30 °C (+64 +86 °F)	
 Product density 	1 g/cm ³ (0.036 lbs/in ³) (water)	
- Product viscosity	1 mPa s	
 Superimposed pressure 	0 kPa	
- Sensor installation	Vertically from top	
 Density selection switch 	$\geq 0.7 \text{ g/cm}^3$	

Min. detection or dry run protection

Measurement accuracy

Deviation	± 1 mm (0.04 in)



Influence of the process temperature on the switching point

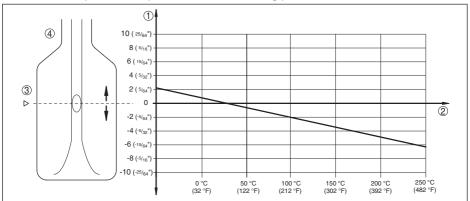


Fig. 13: Influence of the process temperature on the switching point

- 1 Shifting of the switching point in mm (in)
- 2 Process temperature in °C (°F)
- 3 Switching point at reference conditions (notch)
- 4 Tuning fork

Influence of the product density on the switching point

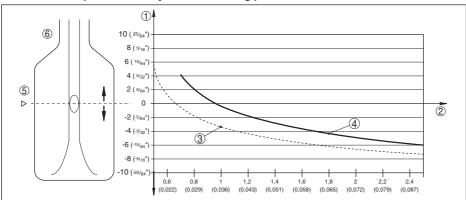


Fig. 14: Influence of the product density on the switching point

- 1 Shifting of the switching point in mm (in)
- 2 Product density in g/cm³ (lb/in³)
- 3 Switch position $\geq 0.5 \text{ g/cm}^3 (0.018 \text{ lb/in}^3)$
- 4 Switch position $\geq 0.7 \text{ g/cm}^3 (0.025 \text{ lb/in}^3)$
- 5 Switching point at reference conditions (notch)
- 6 Tuning fork



Influence of the process pressure to the switching point

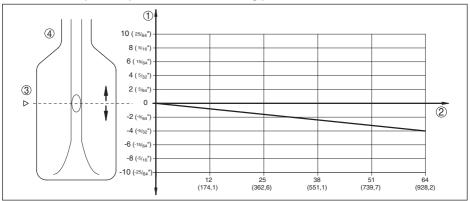


Fig. 15: Influence of the process pressure to the switching point

- Shifting of the switching point in mm (in)
- 2 Process pressure in bar (psig)
- Switching point at reference conditions (notch)
- Tuning fork

Non-repeatability 0.1 mm (0.004 in)

Hysteresis approx. 2 mm (0.08 in) with vertical installation

Switching delay approx. 500 ms (on/off)

Measuring frequency approx. 1200 Hz

Ambient cond	altions
--------------	---------

Ambient temperature on the housing	-40 +70 °C (-40 +158 °F)
Storage and transport temperature	-40 +80 °C (-40 +176 °F)

P	ro	ces	22	co	nd	iti	0	ne

Measured variable	Limit level of liquids

Process pressure -1 ... 64 bar/-100 ... 6400 kPa (-14.5 ... 928 psig)

> The process pressure is dependent on the process fitting, for example Clamp or flange (see the following

diagrams)

Maximum allowable operating pressure 100 bar/10000 kPa (1450 psig) or 1.5 times process

pressure

The function of the instrument is ensured up to an operating pressure of 100 bar/10000 kPa (1450 psig) at a maximum process temperature of +50 °C (+122 °F)

(only with threaded versions).

Process temperature (thread or flange temperature)

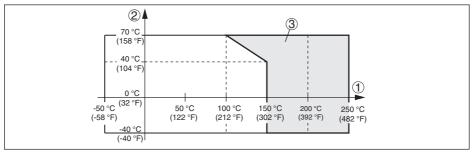
- VEGASWING 63 of 316L/Alloy C22 -50 ... +150 °C (-58 ... +302 °F)

(2.4602)



Process temperature (thread or flange temperature) with temperature adapter (option)

- VEGASWING 63 of 316L/Alloy C22
 -50 ... +250 °C (-58 ... +482 °F)
 (2.4602)
- VEGASWING 63 enamelled -50 ... +200 °C (-58 ... +392 °F)
- VEGASWING 63 with ECTFE coating -50 ... +150 °C (-58 ... +302 °F)
- VEGASWING 63 with PFA coating -50 ... +250 °C (-58 ... +482 °F)
- VEGASWING 63 with PFA coating (with FDA and EG 1935/2004 approval)



-50 ... +150 °C (-58 ... 302 °F)

Fig. 16: Ambient temperature - Process temperature

- 1 Process temperature in °C (°F)
- 2 Ambient temperature in °C (°F)
- 3 Temperature range with temperature adapter

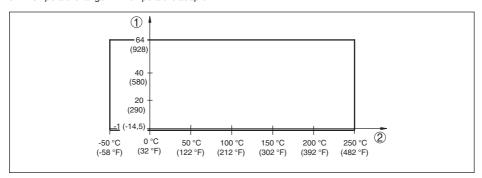


Fig. 17: Process temperature - Process pressure with switch position ≥ 0.7 g/cm³ (sensitivity switch)

- 1 Process pressure in bar (psig)
- 2 Process temperature in °C (°F)



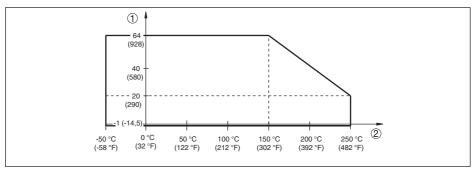


Fig. 18: Process temperature - Process pressure with switch position ≥ 0.5 g/cm³ (sensitivity switch)

- 1 Process pressure in bar (psig)
- 2 Process temperature in °C (°F)

SIP process temperature (SIP = Sterilization in place)

PFA and ECTFE coatings are not suitable for SIP cleaning

Vapour stratification up to 2 h +150 °C (+302 F)

Additional process conditions

Viscosity - dynamic 0.1 ... 10000 mPa s (requirement: with density 1)
Flow velocity max. 6 m/s (with a viscosity of 10000 mPa s)

Density

Standard sensitivity
 High sensitivity
 2.5 g/cm³ (0.025 ... 0.09 lbs/in³)
 0.5 ... 2.5 g/cm³ (0.018 ... 0.09 lbs/in³)

Vibration resistance

- Instrument housing 1 g at 5 ... 200 Hz according to EN 60068-2-6 (vibration

with resonance)

- Sensor 1 g with 5 ... 200 Hz according EN 60068-2-6 (vibration

at resonance) with sensor length up to 50 cm (19.69 in)

With a sensor length > 50 cm (19.69 in) you have to fix the extension tube with a suitable support. See mounting

instructions.

Electromechanical data

\cap	ntione	of the	cable	ontry

 Cable entry 	M20 x 1.5; ½ NPT
- Cable gland	M20 x 1.5; 1/2 NPT
 Blind plug 	M20 x 1.5; ½ NPT

- Closing cap ½ NPT

Screw terminals for wire cross-section up to 1.5 mm² (AWG 16)

Adjustment elements

Mode switch

A Max. detection or overflow/overfill protection

B Min. detection or dry run protection



Density changeover switch	
- ≥ 0.5 g/cm ³	0.5 2.5 g/cm ³ (0.018 0.09 lbs/in ³)
- ≥ 0.7 g/cm ³	0.7 2.5 g/cm³ (0.025 0.09 lbs/in³)
Voltage supply	
Operating voltage	20 253 V AC, 50/60 Hz, 20 72 V DC (at U >60 V DC, the ambient temperature can be max. 50 $^{\circ}$ C/122 $^{\circ}$ F)
Max. power consumption	8 VA (AC), 1.5 W (DC)
Electrical protective measures	
Protection rating	IP66/IP67 acc. to IEC 60529, Type 4X acc. to NEMA
Altitude above sea level	up to 5000 m (16404 ft)
Overvoltage category	III
Pollution degree	4
Protection rating (IEC 61010-1)	1
Functional safety (SIL)	
Functional safety according to IEC 6150	8/IEC 61511
- Single channel architecture (1001D)	up to SIL2
- Multiple channel architecture	see supplementary instructions manual " Safety Manual (SIL)"

Approvals

Instruments with approvals can have different technical specifications depending on the version.

For that reason the associated approval documents of these instruments have to be carefully noted. They are part of the delivery or can be downloaded by entering the serial number of your instrument into the search field under www.vega.com as well as in the general download area.



9.2 Dimensions

VEGASWING 63, housing

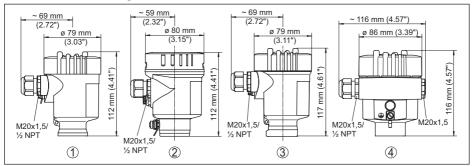


Fig. 19: Housing versions

- 1 Plastic single chamber
- 2 Stainless steel single chamber (electropolished)
- 3 Stainless steel single chamber (precision casting)
- 4 Aluminium single chamber



VEGASWING 63

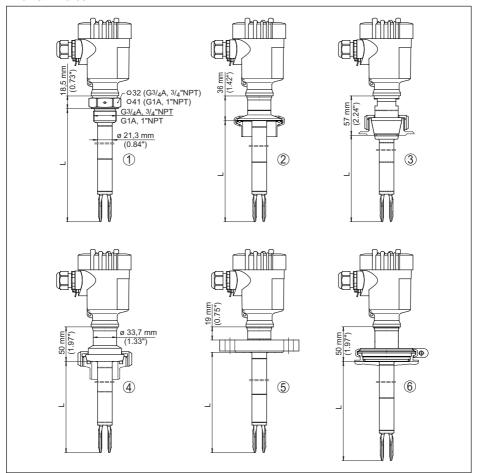


Fig. 20: VEGASWING 63

- 1 Thread
- 2 Clamp
- 3 Cone DN 25
- 4 Slotted nut DN 40
- 5 Flange
- 6 Tuchenhagen Varivent
- L Sensor length, see chapter "Technical data"



VEGASWING 63, options

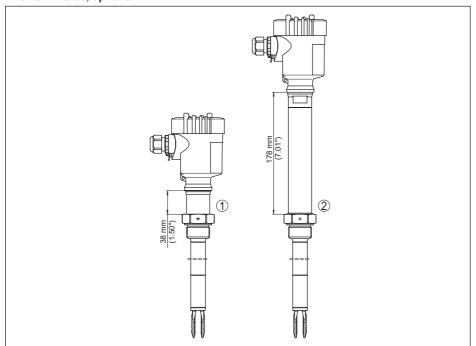


Fig. 21: Options

- 1 Gas-tight leadthrough
- 2 Temperature adapter



9.3 Industrial property rights

VEGA product lines are global protected by industrial property rights. Further information see www.vega.com.

VEGA Produktfamilien sind weltweit geschützt durch gewerbliche Schutzrechte.

Nähere Informationen unter www.vega.com.

Les lignes de produits VEGA sont globalement protégées par des droits de propriété intellectuelle. Pour plus d'informations, on pourra se référer au site www.vega.com.

VEGA lineas de productos están protegidas por los derechos en el campo de la propiedad industrial. Para mayor información revise la pagina web www.vega.com.

Линии продукции фирмы ВЕГА защищаются по всему миру правами на интеллектуальную собственность. Дальнейшую информацию смотрите на сайте <u>www.vega.com</u>.

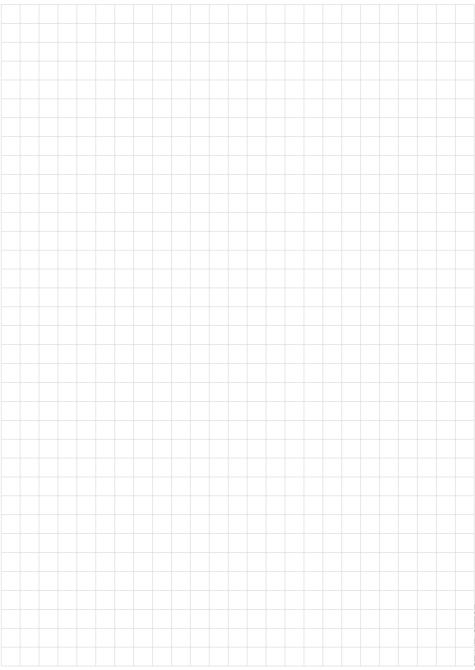
VEGA系列产品在全球享有知识产权保护。

进一步信息请参见网站< www.vega.com。

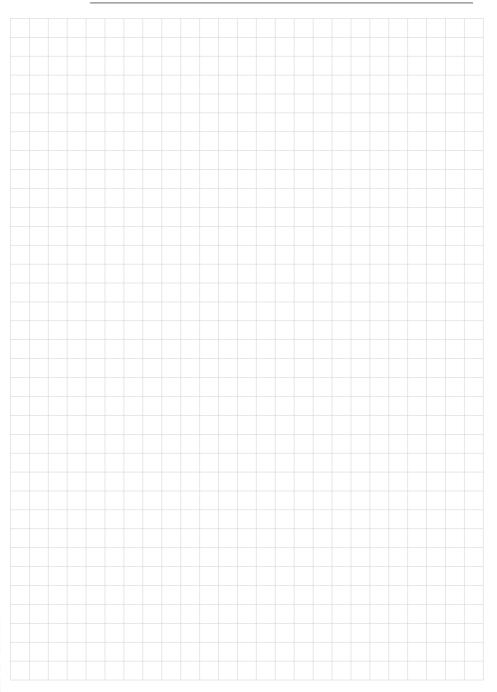
9.4 Trademark

All the brands as well as trade and company names used are property of their lawful proprietor/originator.

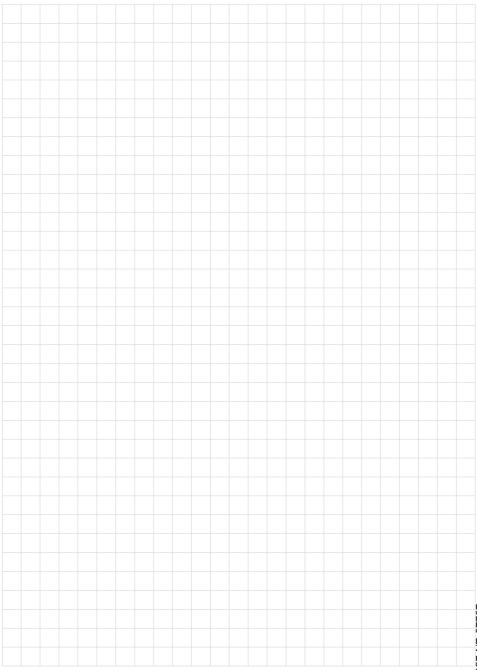














Printing date:



All statements concerning scope of delivery, application, practical use and operating conditions of the sensors and processing systems correspond to the information available at the time of printing.

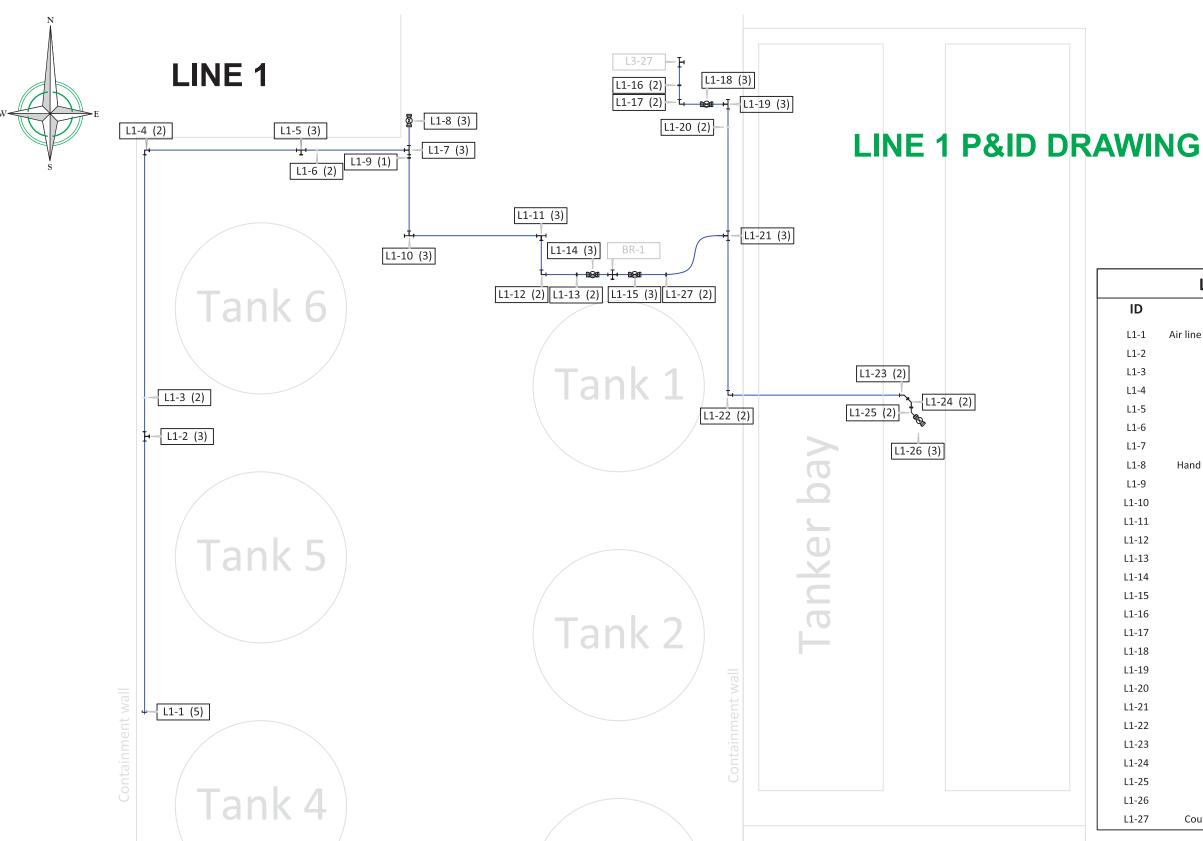
Subject to change without prior notice

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29229-EN-230123

APPENDIX D-2-7 PIPING AND INSTRUMENTATION DRAWING CLEAN EARTH OF ALABAMA





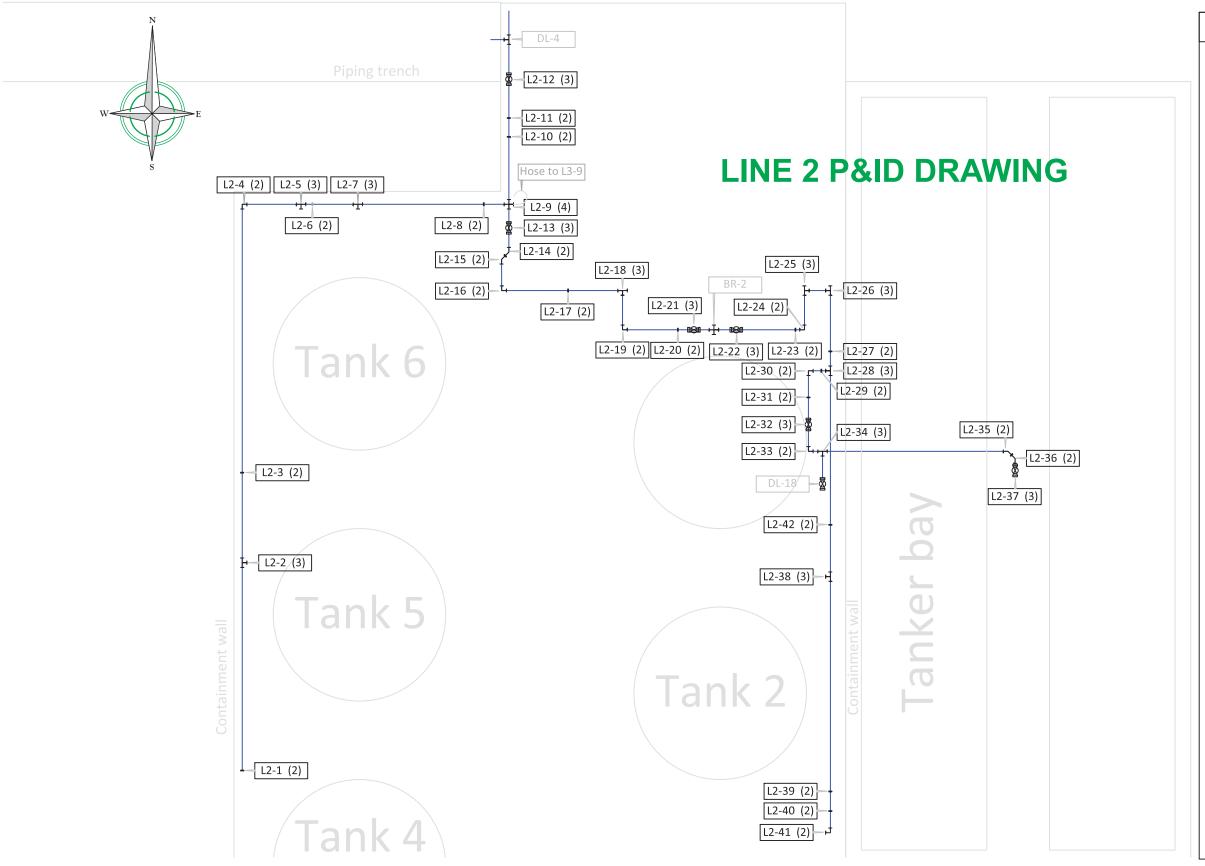
LEGEND					
ID	Туре	# of Pts			
L1-1	Air line w/ valve & reducer	5			
L1-2	T-line	3			
L1-3	Union	2			
L1-4	Elbow	2			
L1-5	T-line	3			
L1-6	Union	2			
L1-7	T-line	3			
L1-8	Hand valve w/ camlock	3			
L1-9	Coupling	1			
L1-10	T-line	3			
L1-11	T-line	3			
L1-12	Elbow	2			
L1-13	Union	2			
L1-14	Hand valve	3			
L1-15	Hand valve	3			
L1-16	Union	2			
L1-17	Elbow	2			
L1-18	Hand valve	3			
L1-19	T-line	3			
L1-20	Union	2			
L1-21	T-line	3			
L1-22	Elbow	2			
L1-23	Elbow	2			
L1-24	Elbow	2			
L1-25	Elbow	2			
L1-26	Hand valve	3			
L1-27	Coupling & camlock	3			

SOURCE: The Figure was produced by lan Lundberg, PE based upon field inspection 10/14/2020; updated based upon field inspection 03/12/2024 and was produced by Resolve Environmental Engineering, Inc. (www.resolve.cc). All configurations and locations should be field located and confirmed prior to any field work.

SHEET

CLEAN EARTH OF ALABAMA, INC. GLENCOE, ALABAMA

1 IN. = 60 FT. DATE:



	LEGEND	
ID	Туре	# of Pts
L2-1	Coupling to camlock	2
L2-2	T-line	3
L2-3	Union	2
L2-4	Elbow	2
L2-5	T-line	3
L2-6	Union	2
L2-7	T-line	3
L2-8	Union	2
L2-9	4-Way	4
L2-10	Coupling	2
L2-11	Union	2
L2-12	Hand valve	3
L2-13	Hand valve	3
L2-14	Elbow	2
L2-15	Elbow	2
L2-16	Elbow	2
L2-17	Union	2
L2-18	T-line	3
L2-19	Elbow	2
L2-20	Union	2
L2-21	Hand valve	3
L2-22	Hand valve	3
L2-23	Union	2
L2-24	Elbow	2
L2-25	T-line	3
L2-26	T-line	3
L2-27	Union	2
L2-28	T-line	3
L2-29	Coupling	2
L2-30	Elbow	2
L2-31	Union	2
L2-32	Hand valve	3
L2-33	Elbow	2
L2-34	T-line	3
L2-35	Elbow	2
L2-36	Elbow	2
L2-37	Hand valve	3
L2-38	T-line	3
L2-39	Union	2
L2-40	Coupling	2
L2-41	Elbow	2
L2-42	Union	2

SOURCE: The Figure was produced by Ian Lundberg, PE based upon field inspection 10/14/2020; updated based upon field inspection 03/12/2024 and was produced by Resolve Environmental Engineering, Inc. (www.resolve.cc). All configurations and locations should be field located and confirmed prior to any field work.

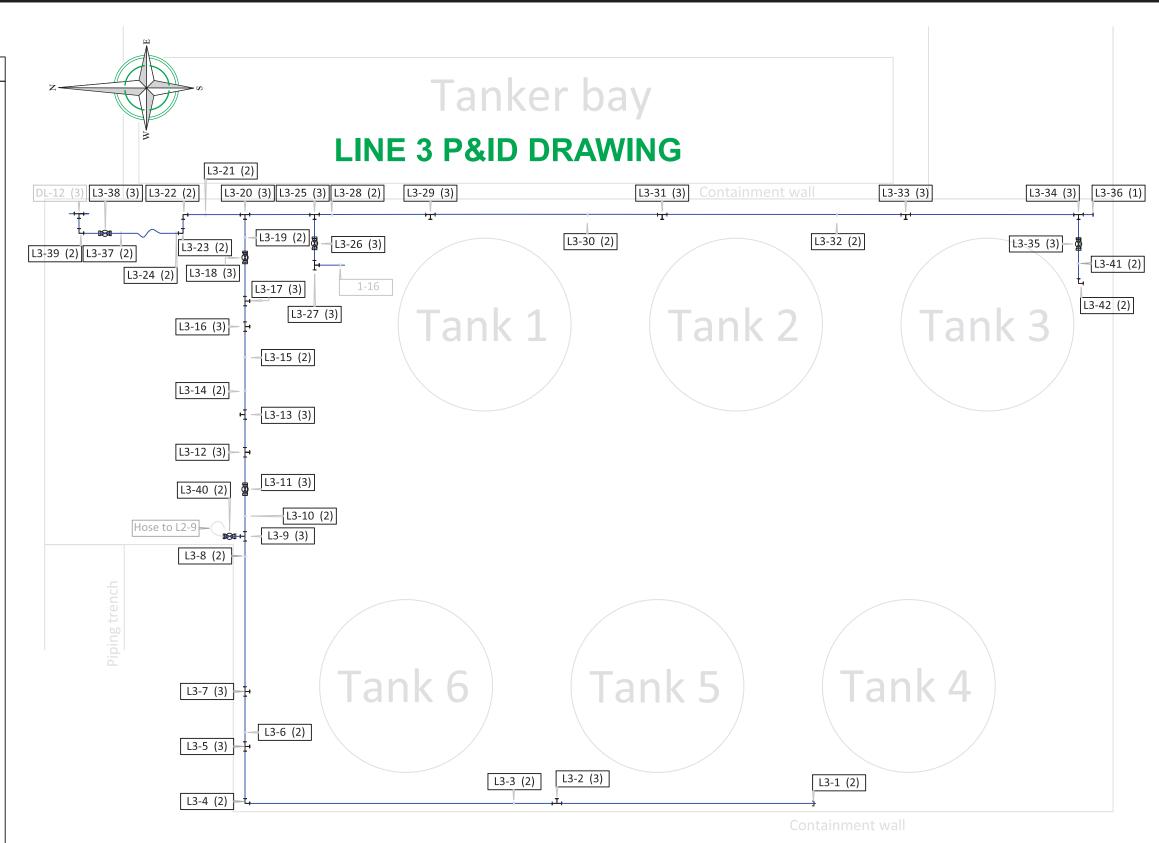
1 IN. = 60 FT. DATE:



CLEAN EARTH OF ALABAMA, INC. GLENCOE, ALABAMA

SHEET

LEGEND					
ID	Туре	# of Pts			
L3-1	Coupling	2			
L3-2	T-line	3			
L3-3	Union	2			
L3-4	Elbow	2			
L3-5	T-line	3			
L3-6	Union	2			
L3-7	T-line	3			
L3-8	Coupling	2			
L3-9	T-line	3			
L3-10	Union	2			
L3-11	Hand valve	3			
L3-12	T-line	3			
L3-13	T-line	3			
L3-14	Coupling	2			
L3-15	Union	2			
L3-16	T-line	3			
L3-17	T-line	3			
L3-18	Hand valve	3			
L3-19	Union	2			
L3-20	T-line	3			
L3-21	Union	2			
L3-22	Elbow	2			
L3-23	Elbow	2			
L3-24	Coupling	2			
L3-25	T-line	3			
L3-26	Hand valve	3			
L3-27	T-line	3			
L3-28	Union	2			
L3-29	T-line	3			
L3-30	Union	2			
L3-31	T-line	3			
L3-32	Union	3			
L3-33	T-line	3			
L3-34	T-line	3			
L3-35	Handvalve	3			
L3-36	Cap	1			
L3-37	Coupling	2			
L3-38	Handvalve	3			
L3-39	Elbow	2			
L3-40	Valve	2			
L3-41	Coupling	2			
L3-42	Elbow	2			



SOURCE: The Figure was produced by lan Lundberg, PE based upon field inspection 10/14/2020; updated based upon field inspection 03/12/2024 and was produced by Resolve Environmental Engineering, Inc. (www.resolve.cc). All configurations and locations should be field located and confirmed prior to any field work.

 DESIGNED:
 SCALE
 APPR'D:
 REV.

 QGM
 1 IN. = 60 FT.
 QGM
 FINAL

 DRAWN BY:
 DATE:
 Env. PROJ. NO.:
 AGM

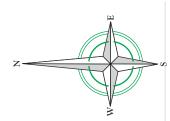
 QGM
 03/21/2024
 1007-001
 AGM

uintin G. Macdonald, PG <u>M_env@outlook.com</u> 5 . 579 . 8724



PIPING & INSTRUMENTATION DRAWING
LINE 3
CLEAN EARTH OF ALABAMA, INC.
GLENCOE, ALABAMA

SHEET



DL-5 (3)

DL-2 (2)

DL-7 (3)

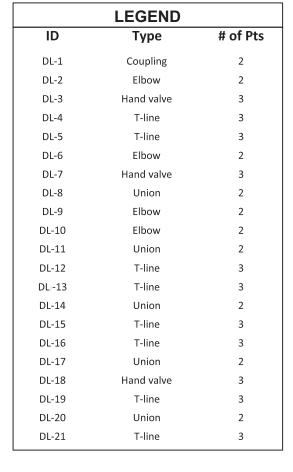
DL-1 (2)

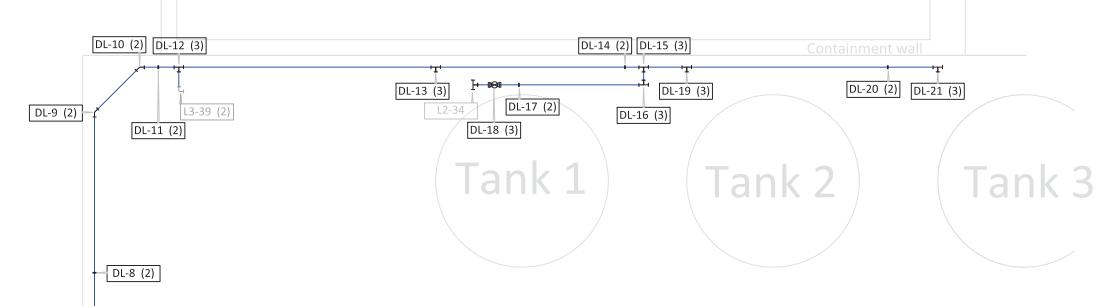
DL-4 (3)

DL-3 (3)

DRUM LINE P&ID DRAWING

Tanker bay





Tank 6

Tank 5

Tank 4

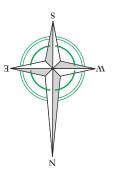
Containment wal

SOURCE: The Figure was produced by lan Lundberg, PE based upon field inspection 10/14/2020; updated based upon field inspection 03/12/2024 and was produced by Resolve Environmental Engineering, Inc. (www.resolve.cc). All configurations and locations should be field located and confirmed prior to any field work.

PIPING & INSTRUMENTATION DRAWING PLANT LINE CLEAN EARTH OF ALABAMA, INC. GLENCOE, ALABAMA

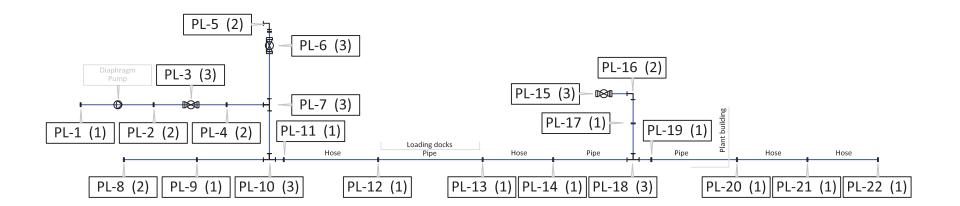
1 IN. = 60 FT. DATE:

SHEET



LEGEND								
ID	Type	# of pts	ID	Type	# of pts	ID	Type	# of pts
PL-1	Union	1	PL-8	Reducer	2	PL-15	Handvalve	9 3
PL-2	Nipple	2	PL-9	Union	1	PL-16	Elbow	2
PL-3	Handvalve	3	PL-10	T-line	3	PL-17	Reducer	1
PL-4	Coupling	2	PL-11	Union	1	PL-18	T-line	3
PL-5	Elbow	2	PL-12	Union	1	PL-19	Coupling	1
PL-6	Handvalve	3	PL-13	Union	1	PL-20	Union	1
PL-7	T-line	3	PL-14	Union	1	PL-21	Union	1
						PL-22	Union	1

PLANT LINE P&ID DRAWING

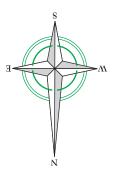


1 IN. = 60 FT. DATE:



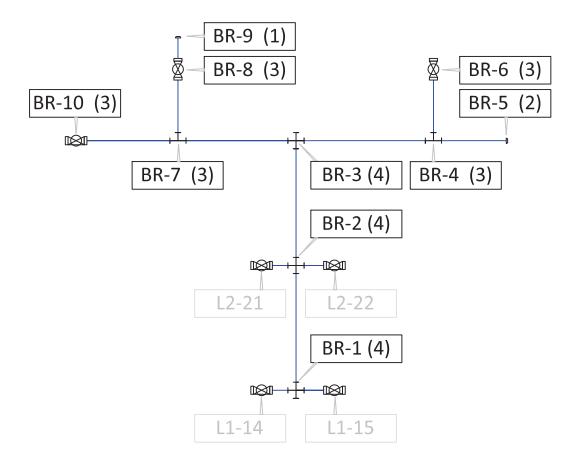
CLEAN EARTH OF ALABAMA, INC. GLENCOE, ALABAMA

APPENDIX D-2-7 E PIPING & INSTRUMENTATION DRAWING PLANT LINE



LEGEND							
ID	Туре	# of Pts	ID	Туре	# of Pts		
BR-1	4 way	4	BR-6	Handvalve	3		
BR-2	4 way	4	BR-7	T-line	3		
BR-3	4 way	4	BR-8	Handvalve	3		
BR-4	T-line	3	BR-9	Discharge coupling	1		
BR-5	Reducer coupling	2	BR-10	Handvalve	3		

BRIDGE P&ID DRAWING



SOURCE: The Figure was produced by lan Lundberg, PE based upon field inspection 10/14/2020; updated based upon field inspection 03/12/2024 and was produced by Resolve Environmental Engineering, Inc. (www.resolve.cc). All configurations and locations should be field located and confirmed prior to any field work. 1 IN. = 60 FT. DATE:



CLEAN EARTH OF ALABAMA, INC. GLENCOE, ALABAMA APPENDIX D-2-7F PIPING & INSTRUMENTATION DRAWING BRIDGE

SHEET

APPENDIX D-2-8 PROCESS FLOW DIAGRAM

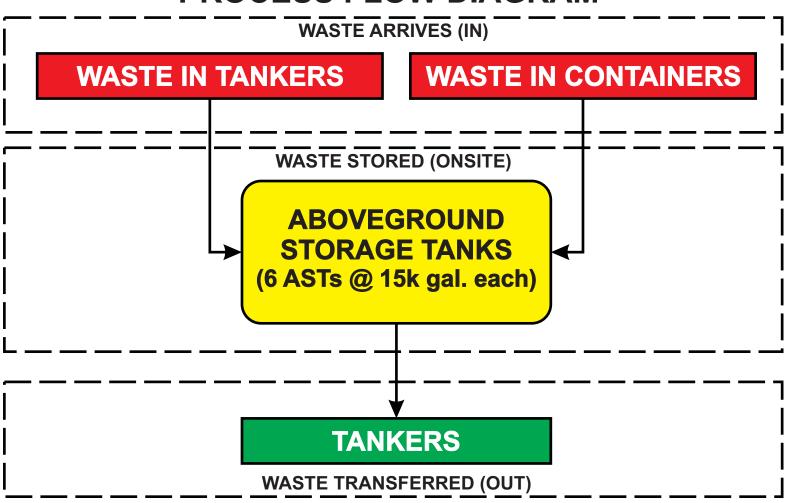
CLEAN EARTH OF ALABAMA





Clean Earth of Alabama, Inc. ALD981020894

PROCESS FLOW DIAGRAM



 DESIGNED:
 SCALE
 APPROVED
 REV.

 QGM
 NA
 QGM
 FINAL

 DRAWN BY:
 DATE:
 PROJECT NO.:
 AQGM
 1007-001

Quintin G. Macdonald, PG QM_env@outlook.com 615 . 579 . 8724

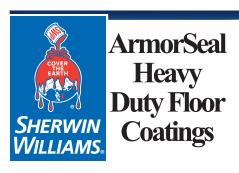


PROCESS FLOW DIAGRAM
CLEAN EARTH OF ALABAMA, INC.
GLENCOE, ALABAMA

SHEET

APPENDIX D-2-9 Typical Coating Data for Containment Area CLEAN EARTH OF ALABAMA





ARMORSEAL® REXTHANE™

B65-60 SERIES

Revised: August 23, 2022

PRODUCT INFORMATION

8.51

PRODUCT DESCRIPTION

ARMORSEAL REXTHANE I is a high solids, single component, aliphatic, moisture cure urethane, industrial coating. This urethane coating cures to a high gloss and chemical resistant film equivalent to two-part urethane coatings.

- · Impact and abrasion resistant
- · Chemical resistant
- Resists yellowing
- · Fast "hardness" development
- · Outstanding application properties

PRODUCT CHARACTERISTICS

Finish: Gloss

Clear, White, Haze Gray, Deck Gray, Sandstone, and a wide range Color:

of colors possible

Volume Solids: 67% ± 2%, White may vary by color (calculated)

Weight Solids: 81% ± 2%, may vary by color

VOC (EPA Method 24): <340 g/L; 2.8 lb/gal

	Recommended Spreading Rate per coat:					
Minimum Max					ximum	
	Wet mils (microns)	3.0	(75)	4.5	(112)	
	Dry mils (microns)	2.0	(50)	3.0	(75)	
	~Coverage sq ft/gal (m²/L)	358	(8.8)	537	(13.1)	
	Theoretical coverage sq ft/gal (m²/L) @ 1 mil / 25 microns dft	1072	(26.3)			
	NOTE: Brush or roll application	mayr	aquira mu	Itinle co	ate to	

Brush or roll application may require multiple coats to achieve maximum film thickness and uniformity of appearance.

NOTE: Thermal spray metalizing is too porous to measure actual film thickness. A Project Reference Standard is recommended to confirm application thickness and coverage rate.

Drying Schedule @ 3.0 mils wet (75 microns):						
@ 40°F/4.5°C		@ 77°F/25°C	@ 100°F/38°C			
		50% RH				
To touch:	4 hours	2 hours	30 minutes			
To recoat:						
minimum:	48 hours	9 hours	3 hours			
maximum:	14 days	14 days	14 days			
Foot Traffic:	48 hours	24 hours	12 hours			
Heavy Traffic:	7 days	3 days	3 days			
To cure:	7 days	3 days	3 days			
Drying time is temperature, humidity, and film thickness dependent.						

Shelf Life: 12 months, unopened Store indoors at 40°F (4.5°C) to 100°F (38°C) - Tinted colors must be used within 7 (seven) days after tinting 111°F (43°C) PMCC Flash Point: Aromatic 100, R2K5 Reducer/Clean Up:

RECOMMENDED USES

- For industrial, commercial, or marine applications where a heavyduty polyurethane floor finish is required
- Excellent resistance to alkalies, dilute acids, spillage of solvents, chemicals, jet fuel, grease, etc.
- · Formulated specifically for brush and roller application
- Urethane floor coatings may exhibit tire tracking
- Meets ADA requirements for slip resistance for floors
- Suitable for use in USDA inspected facilities
- Interior or exterior use
- As a stand alone clear sealer for thermal spray metalizing
- May be topcoated with approved finish coats to provide an opaque colored finish coat
- Schools

- · Airport hangers
- Laboratories
- Pharmaceutical houses
- Clean rooms Resists skydrol
- Graffiti resistant Metalizing sealer

Performance Characteristics

Substrate*: Concrete

Surface Preparation*: SSPC-SP13/NACE 6

System Tested*:

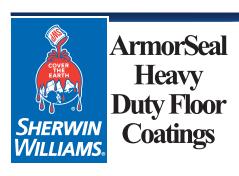
1 ct: ArmorSeal 1000 HS Clear @ 5.0 mils (125 microns) dft 1 ct: ArmorSeal Rexthane I @ 2.0 mils (50 microns) dft *unless otherwise noted below

Test Name	Test Method	Results	
Abrasion Resistance	ASTM D4060, CS17 wheel, 1000 cycles, 1 kg load	116 mg loss	
Adhesion	ASTM D4541	350 psi, 100% concrete failure	
		900 psi*	
Hot Tire Pick-Up	ITM P213.00 @ 140°F (60°C)	Passes	
Moisture Condensation Resistance	ASTM D4585, 100°F (38°C), 1000 hours	Rating 10 per ASTM D714 for blistering	
Pencil Hardness	ASTM D3363	Н	
Slip Resistance, Floors	ASTM C1028**, .60 Minimum Static Coefficient of Friction	Passes wet and dry, with and without SharkGrip Additive	

^{*}thermal spray metalizing

Resists fumes, splash, and spillage of mild acids, alkalies, salts, aliphatic and aromatic hydrocarbon solvents, lubricating oils, and Skydrol. (ASTM D1308).

^{**}test method withdrawn in 2014 without replacement



ArmorSeal ARMORSEAL® REXTHANE™

B65-60 SERIES

Revised: August 23, 2022

PRODUCT INFORMATION

8.51

RECOMMENDED SYSTEMS

Dry Film Thickness / ct. **Mils** (Microns)

Concrete:

ArmorSeal 1000 HS, reduced 7%** 1.5-2.0 (40-50)1 ct 1-2 cts. ArmorSeal Rexthane I 2.0-3.0 (50-75)

Concrete-smooth:

2 cts. ArmorSeal Rexthane I 2.0-3.0 (50-75)

Steel with Zinc Metalizing*:

ArmorSeal Rexthane I Clear, mist coat. Allow to flash 1 ct. for 20 minutes.

1 ct. ArmorSeal Rexthane I Clear 1.5-3.0 (38-75) (Reduced 7%** with R7K100)

Wood:

1-2 cts. ArmorSeal Rexthane I 2.0-3.0 (50-75)

*Optional finish coats: Hi-Solids Polyurethane, Hi-Solids Polyurethane 250, Envirolastic 940 LV, Acrolon Ultra, or Polylon HP

**Other VOC areas (>340 g/L): up to 10% reduction can be done.

The systems listed above are representative of the product's use, other systems may be appropriate.

SURFACE PREPARATION

Surface must be clean, dry, and in sound condition. Remove all oil, dust, grease, dirt, loose rust, and other foreign material to ensure adequate adhesion.

Refer to product Application Bulletin for detailed surface preparation information.

Minimum recommended surface preparation:
Concrete: SSPC-SP13/NACE 6, or ICRI
No. 310.2R, CSP 1-3 Wood: Clean, dry, sound, smooth

Metalizing: Clean, dry, sound (clear coat only)

Surface Preparation Standards						
	Condition of Surface	ISO 8501-1 BS7079:A1	SSPC	NACE		
White Metal Near White Metal Commercial Blast		Sa 3 Sa 2.5 Sa 2	SP 5 SP 10 SP 6	1 2 3		
Brush-Off Blast Hand Tool Cleaning	Rusted	Sa 1 C St 2	SP 7 SP 2	4 -		
Power Tool Cleaning	Pitted & Rusted Rusted Pitted & Rusted	D St 2 C St 3 D St 3	SP 2 SP 3 SP 3	-		

TINTING

Tint bases use Maxitoner colorants, only at 100% tint strength must be used within seven (7) days after tinting.

Do not shake beyond two minutes.

APPLICATION CONDITIONS

Temperature:

material:

air and surface 20°F (-7°C) minimum, 100°F (38°C)

maximum 40°F (4.5°C) minimum

Do not apply over surface ice

Relative humidity: 30% minimum, 99% maximum

Refer to product Application Bulletin for detailed application information.

ORDERING INFORMATION

Packaging:

1 gallon (3.78L) containers 1 gallon (3.78L) and 5 gallon (18.9L) containers Haze Gray and Clear:

Weight:

12.09 ± 0.2 lb/gal ; 1.45 Kg/L (may vary with color)

SAFETY PRECAUTIONS

Refer to the SDS sheet before use

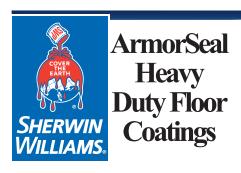
Published technical data and instructions are subject to change without notice. Contact your Sherwin-Williams representative for additional technical data and instructions

WARRANTY

The Sherwin-Williams Company warrants our products to be free of manufacturing defects in accord with applicable Sherwin-Williams quality control procedures. Liability for products proven defective, if any, is limited to replacement of the defective product or the refund of the purchase price paid for the defective product as determined by Sherwin-Williams. NO OTHER WARRANTY OR GUARANTEE OF ANY KIND IS MADE BY SHERWIN-WILLIAMS, EXPRESSED OR IMPLIED, STATUTORY, BY OPERATION OF LAW OR OTHERWISE, INCLUDING MER-CHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE.

DISCLAIMER

The information and recommendations set forth in this Product Data Sheet are based upon tests conducted by or on behalf of The Sherwin-Williams Company. Such information and recommendations set forth herein are subject to change and pertain to the product offered at the time of publication. Consult your Sherwin-Williams representative to obtain the most recent Product Data Information and Application Bulletin.



ARMORSEAL® REXTHANE™

B65-60 SERIES

Revised: August 23, 2022

APPLICATION BULLETIN

8.51

SURFACE PREPARATIONS

Surface must be clean, dry, and in sound condition. Remove all oil, dust, grease, dirt, loose rust, and other foreign material to ensure adequate adhesion.

Concrete and Masonry

For surface preparation, refer to SSPC-SP13/NACE 6, or ICRI No. 310.2R, CSP 1-2. Surfaces should be thoroughly clean and dry. Concrete and mortar must be cured at least 28 days @ 75°F (24°C). Remove all loose mortar and foreign material. Surface must be free of laitance, concrete dust, dirt, form release agents, moisture curing membranes, loose cement and hardeners. Fill bug holes, air pockets and other voids with Steel-Seam FT910. Primer required.

Follow the standard methods listed below when applicable:

ASTM D4258 Standard Practice for Cleaning Concrete.

ASTM D4259 Standard Practice for Abrading Concrete.

ASTM D4260 Standard Practice for Etching Concrete.

ASTM F1869 Standard Test Method for Measuring Moisture Vapor Emission Rate of Concrete.

SSPC-SP 13/Nace 6 Surface Preparation of Concrete. ICRI No. 310.2R Concrete Surface Preparation.

Previously Painted Surfaces:

If in sound condition, clean the surface of all foreign material. Smooth, hard or glossy coatings and surfaces should be dulled by abrading the surface. Apply a test area, allowing paint to dry one week before testing adhesion. If adhesion is poor, or if this products attacks the previous finish, removal of the previous coating may be necessary. If paint is peeling or badly weathered, clean surface to sound substrate and treat as a new surface as above.

Steel with Zinc Metalizing:

Surface must be clean, dry and sound. Follow the recommended system from the Product Information Sheet.

Wood

Surface must be clean, dry and sound. Remove any oils and dirt from the surface using a degreasing solvent or strong detergent. Sand to remove any loose or deteriorated surface wood and to obtain a proper surface profile.

Surface Preparation Standards					
	Condition of Surface	ISO 8501-1 BS7079:A1	SSPC	NACE	
White Metal		Sa 3	SP 5	1	
Near White Metal		Sa 2.5	SP 10	2	
Commercial Blast Brush-Off Blast		Sa 2 Sa 1	SP 6 SP 7	3 4	
Hand Tool Cleaning	Rusted	C St 2	SP 2	-	
0	Pitted & Rusted		SP 2	-	
Power Tool Cleaning	Rusted	C St 3	SP 3	-	
1 0 Wor 1001 Oldariling	Pitted & Rusted	D St 3	SP 3		

APPLICATION CONDITIONS

Temperature:

air and surface 20°F (-7°C) minimum, 100°F (38°C)

maximum

material: 40°F (4.5°C) minimum

Do not apply over surface ice

Relative humidity: 30% minimum, 99% maximum

APPLICATION EQUIPMENT

The following is a guide. Changes in pressures and tip sizes may be needed for proper spray characteristics. Always purge spray equipment before use with listed reducer. Any reduction must be compliant with existing VOC regulations and compatible with the existing environmental and application conditions.

Reducer/Clean UpAromatic 100, R2K5

Brush

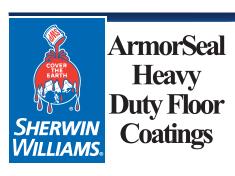
Brush......Natural Bristle
Reduction......As needed up to 7%* by volume

Roller

Cover3/8" or 1/4" soft woven
ReductionAs needed up to 7%* by volume

*Other VOC areas (>340 g/L): up to 10% reduction can be done.

If specific application equipment is not listed above, equivalent equipment may be substituted.



ArmorSeal ARMORSEAL® REXTHANE™

B65-60 SERIES

Revised: August 23, 2022

APPLICATION BULLETIN

8.51

APPLICATION PROCEDURES

Surface preparation must be completed as indicated.

Mixing Instructions: Mix paint thoroughly with low speed power agitation prior to use.

Apply paint at the recommended film thickness and spreading rate as indicated below:

Recommended Spreading Rate per coat: Minimum Maximum Wet mils (microns) 3.0 (75) 4.5 (112) Dry mils (microns) 2.0 (50) 3.0 (75) ~Coverage sq ft/gal (m²/L) 358 (8.8) 537 (13.1) Theoretical coverage sq ft/gal (m²/L) @ 1 mil / 25 microns dft 1072 (26.3)

NOTE: Brush or roll application may require multiple coats to achieve maximum film thickness and uniformity of appearance.

NOTE: Thermal spray metalizing is too porous to measure actual film thickness. A Project Reference Standard is recommended to confirm application thickness and coverage rate.

Drying Schedule @ 3.0 mils wet (75 microns): @ 100°F/38°C @ 40°F/4.5°C @ 77°F/25°C 50% RH To touch: 4 hours 2 hours 30 minutes To recoat: 9 hours 3 hours minimum: 48 hours maximum: 14 days 14 days 14 days **Foot Traffic:** 48 hours 24 hours 12 hours **Heavy Traffic:** 7 days 3 days 3 days To cure: 7 days 3 days 3 days and film thickness depender Drving time is temperature, humidity,

Application of coating above maximum or below minimum recommended spreading rate may adversely affect coating performance.

CLEAN UP INSTRUCTIONS

Clean spills and spatters immediately with Aromatic 100, R2K5. Clean tools immediately after use with Aromatic 100, R2K5. Follow manufacturer's safety recommendations when using any solvent.

DISCLAIMER

The information and recommendations set forth in this Product Data Sheet are based upon tests conducted by or on behalf of The Sherwin-Williams Company. Such information and recommendations set forth herein are subject to change and pertain to the product offered at the time of publication. Consult your Sherwin-Williams representative to obtain the most recent Product Data Information and Application Bulletin.

PERFORMANCE TIPS

Spreading rates are calculated on volume solids and do not include an application loss factor due to surface profile, roughness or porosity of the surface, skill and technique of the applicator, method of application, various surface irregularities, material lost during mixing, spillage, overthinning, climatic conditions, and excessive film build.

Excessive reduction of material can affect film build, appearance, and adhesion.

Anti-slip additives, such as H&C SharkGrip®, may be added to the coating to provide some slip resistance. This product should not be used in place of a non-skid finish.

Urethane floor coatings may exhibit tire tracking.

Pour a small amount of Aromatic 100, R2K5 over the top of the paint in the can to prevent skinning or gelling.

Place a temporary cover over the pail to keep excessive moisture, condensation, fog, or rain from contaminating the coating.

Tinted colors must be used within seven (7) days after tinting

It is recommended that partially used cans not be sealed/closed for use at a later date.

Anti-slip additives, such as H&C SharkGrip®, may be added to the coating to provide some slip resistance. This product should not be used in place of a non-skid finish.

Do not shake beyond two minutes.

Can be used as a metalizing sealer. Consult your Sherwin -Williams Representative regarding Product Bulletin: "Sealers for Thermal Spray Metalizing".

Refer to Product Information sheet for additional performance characteristics and properties.

SAFETY PRECAUTIONS

Refer to the SDS sheet before use.

Published technical data and instructions are subject to change without notice. Contact your Sherwin-Williams representative for additional technical data and instructions.

WARRANTY

The Sherwin-Williams Company warrants our products to be free of manufacturing defects in accord with applicable Sherwin-Williams quality control procedures. Liability for products proven defective, if any, is limited to replacement of the defective product or the refund of the purchase price paid for the defective product as determined by Sherwin-Williams. NO OTHER WARRANTY OR GUARANTEE OF ANY KIND IS MADE BY SHERWIN-WILLIAMS, EXPRESSED OR IMPLIED, STATUTORY, BY OPERATION OF LAW OR OTHERWISE, INCLUDING MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE.

APPENDIX D-12-1 SUBPART BB AIR EMISSION STANDARDS CLEAN EARTH OF ALABAMA



Clean Earth of Alabama - EPA ID Number ALD981020894

D.12 SUBPART BB: AIR EMISSION STANDARDS Subpart BB – Air Emission Standards for Equipment Leaks

Clean Earth of Alabama, Inc. ("CEA") is subject to the requirements of the Alabama Department of Environmental Management (ADEM) Administrative Code 335-14-5-.28, Subpart BB and the Code of Federal Regulations (CFR) which have been incorporated herein by reference under 40 CFR 264, Subpart BB, Air Emission Standards for Equipment Leaks (referred to as "Subpart BB"). The purpose of this Section, therefore, is to describe the procedures that will be implemented by CEA in order to demonstrate compliance with Subpart BB, where applicable.

CEA's Leak Detection and Repair (LDAR) Program applies to equipment that contains or contacts hazardous wastes with organic concentrations of at ten (10) percent by weight. This LDAR Program is designed to monitor all equipment, as applicable, located in the facility tank farm area and other areas of the facility where ancillary piping, applicable to this standard, is present. Each piece of equipment required to be monitored under this Program shall be marked in such a manner that it can be distinguished readily from other pieces of equipment. CEA intends to mark its equipment on the piping and instrumentation (P&ID) drawings, on the applicable inspection and monitoring forms and will also strive to physically tag each piece of equipment such that each component is distinguished readily from other pieces of equipment.

This Program is designed to ensure that any leaks, which may be detected, are repaired in a timely manner in accordance with the procedures at 40 CFR 264.1052 through 264.1058. This Program also includes an inventory of all monitoring locations and corrective actions to be taken, as necessary. In addition, recordkeeping and reporting requirements, associated with the leak detection monitoring aspects of Subpart BB.

CEA has implemented the following program for LDAR for the six (6) - 15,000-gallon storage tanks located in the tank farm secondary containment area of the facility. The key elements of the Program that will be addressed in this Section are as follows:

- Maintaining a leak rate goal below the definition of a leak
 - o Less than 10,000 ppm for pumps, valves, flanges and other connectors,
 - Less than 500 ppm above background for any pump with no externally actuated shaft penetrating the pump housing that is required to meet the condition of no detectable emission.
 - Pumps equipped with a dual mechanical seal system that includes a barrier fluid system is exempt from monthly monitoring and weekly visual inspections provided the conditions of the regulations are met at 40 CFR 264.1052(d).
 - Open-ended valves are lines shall be equipped with a cap, blind flange, plug, or second valve which shall seal the open end at all times except when during



operations requiring hazardous waste stream flow through the open-ended valve or line.

- A listing of all equipment subject to Subpart BB
- Procedures for identifying leaks
- Procedures for repairing leaks
- Monitoring
- Inspection
- Recordkeeping
- Procedures for updating the Subpart BB Program
- Procedures for submitting permit modifications to the required agencies should there be an update or change to the Program

The standards for emissions from equipment leaks subject to Subpart BB are:

- Pumps in light liquid service
- Compressors
- Pressure relief devices in gas/vapor service
- Sampling connecting systems
- Open-ended valves or lines
- Valves in gas/vapor service or in light liquid service
- Pumps and valves in heavy liquid service, pressure relief devices in light liquid or heavy liquid service, and flanges and other connectors
- Closed-vent systems and control devices

CEA handles a wide variety of mixtures of organic liquids. In complying with the Subpart BB regulations, CEA has presumed that the most restrictive regulatory stance – that is: All equipment contains or contacts hazardous wastes with organic concentrations at ten (10) percent by weight or greater and all liquid containing equipment is considered to be in "light liquid service." Currently, however, the CEA facility does not operate any compressors, pressure relief devices, sampling connecting systems, or closed-vent systems and control devices subject to the requirements of Subpart BB.

Definition of a Leak

As detailed below, Subpart BB leaks are very specific to the type of equipment or component subject to the requirements.

Pumps:

For pumps that are not designated for "no detectable emissions," a detection instrument reading equal to or greater than 10,000 ppm is considered a leak and are subject to the repairs as detailed



in this program. In addition, any visual indications of a leak dripping from a pump seal are also considered to be a leak.

For pumps with no externally actuated shaft penetrating the pump housing that operate under the condition of "no detectable emissions," a detection instrument reading greater than 500 ppmv above background is considered to be a leak and are also subject to the repairs as detailed in this program.

Diaphragm type pumps meet the specifications in 40 CFR 264.1052€ [ADEM Admin. Code 335-14-5-.28(3)] and therefore only require initial and annual monitoring. These pumps must operate with no detectable emissions as determined by a reading on the detection instrument of < 500 ppm above background. CEA operates only diaphragm pumps in light liquid service, and assumes these pumps are used greater than 300 hours per calendar year.

Valves, Flanges, and Other Connectors:

Any detection instrument reading for valves, flanges and other connectors, which displays a readout of 10,000 parts per million (ppm) or greater, is considered a leak and is subject to the appropriate repairs as detailed in this Program.

Open-ended Valves or Lines:

There is no leak definition for open-ended valves or lines as specified in 40 CFR 264.1056. However, the open-ended equipment must remain sealed at all times when it is not necessary to open the equipment to facilitate the flow of hazardous waste.

Procedures of Identifying Leaks

Pumps:

All pumps in light liquid service shall be monitored monthly using a detection instrument. Results of the Reference Method 21 monitoring shall be recorded on an appropriate "Leak Detection and Repair Monitoring Log." If an instrument reading of 10,000 ppm or greater is measured, a leak is detected. Pumps will be also be inspected visually on a weekly basis and if there are indications of liquids dripping from the pump seal, a leak is detected.

Pumps that operate under the condition of "no detectable emissions" shall be monitored initially and annually thereafter using a detection instrument. Results of the Reference Method 21 monitoring shall be recorded on an appropriate "Leak Detection and Repair Monitoring Log."



Valves:

All valves in light liquid service are monitored monthly using a detection instrument, unless identified as "unsafe-to-monitor" or "difficult-to-monitor." Results of the Reference Method 21 monitoring shall be recorded on an appropriate "Leak Detection and Repair Monitoring Log – Valves." If a leak is not detected for two (2) successive months, the valves may be monitored quarterly beginning with the first month of every succeeding quarter until a leak is detected. If a leak is detected, the valve shall be monitored monthly until a leak is not detected for two (2) successive months.

- Valves Unsafe-to-Monitor
 - Any valve that is designated as unsafe-to-monitor is exempt from monitoring requirements if monitoring personnel would be exposed to an immediate danger as a consequence of complying with the monitoring requirements. However, the owner or operator must adhere to a written plan that requires monitoring of these valves as frequently as practicable during safe-to-monitor times.
- Valves Difficult-to-Monitor

 Any valve that is designated as difficult-to-monitor is exempt from the monitoring requirements if the valve cannot be monitored without elevating monitoring personnel more than two meters above a support surface and the owner or operator follows a written plan that requires monitoring of the valve at least once per calendar year.

Alternatively, CEA may elect to skip a period of leak detection and repair in compliance with 40 CFR 264.1062(b)(2) and (b)(3), "Alternative Standards for Valves in Light Liquid Service." CEA will comply with the leak detection requirements for valves as described in 264.1057. However, after two consecutive quarterly leak detection periods with the percentage of valves leaking is found to be less than or equal to two percent (2%), CEA may begin to skip one of the quarterly leak detection periods and monitor for leaks once every six months. In addition, after five (5) consecutive quarterly periods with the percentage of valves leaking less than or equal to 2%, CEA may skip three quarterly periods and monitor the valves for leaks once every year. If, at any time in the monitoring period, the percentage of valves leaking is greater than 2%, CEA shall monitor the valves monthly in compliance with 40 CFR 264.1057, but may again elect to use this alternative schedule once the valves have not been shown to be leaking for two successive months.

Flanges and Other Connectors:

Flanges and other connectors shall be monitored by Reference Method 21 within five (5) days if evidence of a potential leak is found by visual, audible, olfactory, or any other detection method. Therefore, the evidence of a potential leak is recorded on an appropriate "Weekly Visual Inspection Log for Flanges and Other Connectors" and the results of the Reference Method 21



monitoring shall be recorded on an appropriate "Leak Detection and Repair Monitoring Log – Flanges and Other Connectors."

• Inaccessible Connector

Any connector that is inaccessible is exempt from the monitoring requirements and from the recordkeeping requirements. However, these components shall be marked in a manner that it can be readily distinguishable from other pieces of equipment.

Open-ended Valves or Lines:

"Open-ended valves or lines" shall be equipped with a cap, blind flange plug, or a second valve. The open-ended valves and lines at the CEA facility are equipped either with caps or plugs or other component which seal the open end at all times except during operations requiring hazardous waste stream flow through the open-ended valve or line.

Procedures for Repairing Leaks

Once a leak has been detected, a weatherproof and readily visible identification tag shall be attached to the leaking piece of equipment. The tag shall be marked with the equipment identification number, the date evidence of a potential leak was found (40 CFR 264.1058(a)), and the date the leak was detected. The tag may be removed from the equipment, except for a valve, when the repairs have been completed. A valve must remain tagged until it has been monitored for two (2) successive months and no leak has been detected during those two (2) months.

A first attempt to repair a leak must be conducted no later than five (5) calendar days after each leak is detected. First attempts at repairing valves include, but are not limited to, the following best practices where practicable:

- Tightening of bonnet bolts
- Replacement of bonnet bolts
- Tightening of packing gland nuts
- Injection of lubricant into lubricated packing

Final repairs to the leak must be completed no later than fifteen (15) calendar days after each leak is detected. The repair dates must be entered on the "Leak Detection and Repair Monitoring Log.

Delay of Repair:

Delay of repair of equipment for which leaks have been detected will be allowed if the repair is technically infeasible without a hazardous waste management unit shutdown. In such a case, repair of this equipment shall occur before the end of the next hazardous waste management unit shutdown. In addition, the Delay of Repair for valves will be allowed and will comply with 40



CFR 264.1059(c) and (e), respectively and Delay of Repair for pumps will be allowed and will comply with 40 CFR 264.1059(d).

In the event the repair cannot be completed within fifteen (15) calendar days following leak detection, the inspection log must note the following items:

- 1. Indicate that the repair was delayed.
- 2. State the reason for the delay.
- 3. Show the signature of the authorized person who determined that the repair could not be affected without a hazardous waste management unit shutdown.
- 4. The expected date of the successful repair.
- 5. The date the leak was successfully repaired.

Repairs are documented on the appropriate Leak Detection and Repair Monitoring Formas applicable for each equipment type. The "Work Order" Form is also provided as a part of this application.

Procedures for Evaluating New or Replacement Components:

For any equipment that were identified as leaking during the last monitoring cycle, CEA will either replace the equipment or upgrade with functionally equivalent components (e.g., pipes, valves, pumps, conveyors, controls) as a minor modification of the permit pursuant to the requirements of the ADEM Administrative Code 335-14-8-.04(3)(a)(1)(iii). Any replacement or functionally equivalent components will be visually inspected for leaks at the time the component is placed into service. Components that are installed by an outside contractor or other entity shall be visually inspected by plant personnel prior to the components being placed into service.

All new or replacement components shall be monitored using Reference Method 21 in accordance with the specific requirements detailed in the regulations for each equipment type. All new or replacement components that are installed either as a result of leak detection must be tracked using the facility's Work Order Program.

Type of Equipment	Leak Rate Goal	Monitoring Frequency
	(Based on Definition of a Leak)	
Diaphragm Pumps	< 500 ppm above background	Initial and annual
Valves	<10,000 ppm	Two successive months
		and quarterly after two
		successive months of no
		leaks on the first month of
		each quarter unless the
		alternative schedule is
		implemented



Flanges and Other	<10,000 ppm	Within five (5) days of
Connectors		discovery of a potential
		leak: visual, audible,
		olfactory or other
Open-ended Lines or	Equipped with a cap, blind flange,	None: Seal the open end at
Valves	plug or a second valve	all times except during
		operations requiring
		hazardous waste stream
		flow through the open-
		ended valve or line.

LDAR Personnel:

CEA has overall responsibility for the implementation and compliance of this Program. However, CEA reserves the right to utilize a third-party contractor to implement compliance with this Program.

Program Updates:

All Subpart BB Program updates will be accomplished by CEA or an outside contractor whenever replacement or functionally equivalent components are added to the program and also when components are removed from the program as follows:

Facility Operating Record

Each change to the facility's equipment or piping will be fully documented in the operating record within seven (7) calendar days of completion of each change. In addition, any changes associated with the Subpart BB Plan will be also updated within seven (7) calendar days of completion of such changes, including properly marking all monitoring points that were affected by the change.

Annually

For any changes or updates that were made to the Program or the Subpart BB LDAR Inspection and Monitoring Plan, CEA will submit all changes or updates to the ADEM on an annual basis including a fully updated list of monitoring points, tables, drawings and piping arrangements and inspection and monitoring forms.

Minor Modification of the Permit

Any equipment or upgrade with functionally equivalent components will be processed as minor modifications to the permit pursuant to applicable requirements of the ADEM Administrative Code 335-14-8-.04(3)(a)(1)(iii). The request for minor modification to the permit will specify the change being made and will include the written justification and supporting documents to



demonstrate why these changes were necessary. The supporting documents will include correspondence and revisions to the appropriate pages of the LDAR Inspection and Monitoring Plan and the fully revised list of monitoring points, tables, drawings and piping arrangements and inspection and monitoring forms, where appropriate.

CEA will submit a request for minor modification of the permit for all revisions or changes to the monitoring points. This request for minor modification to the permit and updated list of monitoring points and drawings (where necessary) shall be submitted to the ADEM by January 30th annually and shall reflect all changes made during the previous calendar year. If there are no changes to the monitoring points during the previous calendar year, CEA will maintain a report of no Permit Modification request in its operating record by January 30th annually.

Recordkeeping:

The following provides a description of records maintained under the CEA Subpart BB LDAR Program. All inspection, monitoring, and repair logs shall be maintained on site for three (3) years.

Equipment Lists:

As noted above, CEA provides a listing of all equipment subject to this Program. The list shall include the equipment identification number and hazardous waste management unit identification, the approximate locations within the facility, the type of equipment, the hazardous waste state at the equipment and the organic concentration, and the method of compliance with the standard for each piece of equipment (e.g. – "monthly leak detection and repair" or "equipped with dual mechanical seals"). All equipment detailed in this Program is assumed to contain an organic concentration of at least 10 percent by weight.

Weatherproof Tags for Leaking Equipment:

When each leak is detected as specified in 40 CFR 264.1052, 264.1056, 264.1057, and 264.1058, where applicable, the following requirements apply:

- A weatherproof and readily visible identification, marked with the equipment identification number, the date evidence of a potential leak was found in accordance with 40 CFR 264.1058(a), and the date the leak was detected, shall be attached to the leaking equipment.
- The identification on equipment, except on a valve, may be removed after it has been repaired.
- The identification on a valve may be removed after it has been monitored for 2 successive months as specified in 40 CFR 264. 1057(c) and no leak has been detected during those 2 months.



Leak Detection and Repair Inspection and Monitoring Forms:

All leak detection monitoring performed in accordance with Reference Method 21 (including monthly and/or quarterly leak monitoring, monitoring triggered by evidence of a potential leak found by visual, audible, olfactory, or other means) are documented on the appropriate "Leak Detection and Repair Monitoring Log" provided in this Program.

Work Order Form (for Repairs):

Repairs are documented on the completed "Leak Detection and Repair Monitoring Logs" and on the "Subpart BB Work Orders Forms."

Delay of Repair Form:

Any delays in repair that exceed the final repair attempt fifteen (15) days after the leak has been detected will be documented on the "Delay of Repair" Form.

Training Records:

Documentation of training will be in accordance with the Personnel Training Program as contained in Section H of the facility's hazardous waste permit under EPA ID Number ALD981020894.

Reports:

A semiannual report shall be submitted by owners and operators subject to the requirements of this subpart to the Regional Administrator by dates specified by the Regional Administrator. The report shall include the information, where applicable, as detailed in 40 CFR 264.1065. In addition, if, during the semiannual reporting period, leaks from valves and pumps does not exceed the requirements for repair, a report to the Regional Administrator is not required.

Training:

Training shall take place initially before any duties are carried out and annually thereafter. Training shall be conducted by qualified trained personnel for all new employees or by another qualified individual. All training shall be documented and maintained in the employee training file and shall be kept by the EHS Manager.



APPENDIX D-13-1 SUBPART CC AIR EMISSION STANDARDS CLEAN EARTH OF ALABAMA



Clean Earth of Alabama – EPA ID Number ALD981020894

SECTION D-13 Air Emissions Standards for Tanks and Containers

Subpart CC – Air Emissions Standards for Tanks, Surface Impoundments and Containers

Clean Earth of Alabama, Inc. ("CEA") is subject to the requirements of the Alabama Department of Environmental Management (ADEM) Administrative Code 335-14-5-.29, Subpart CC and the Code of Federal Regulations (CFR) which have been incorporated herein by reference under 40 CFR 264, Subpart CC, Air Emission Standards for Tanks, Surface Impoundments and Containers (referred to as "Subpart CC"). The purpose of this Section, therefore, is to describe the procedures that will be implemented by CEA in order to demonstrate compliance with Subpart CC, where applicable.

Applicability

The standards for emissions from tanks, surface impoundments and containers apply to containers and tanks at the Clean Earth of Alabama (CEA) facility. The CEA facility does not manage hazardous waste in surface impoundments nor does it manage hazardous waste in containers or tanks subject to Level 2 or 3 control requirements. In general, the standards for tanks and containers do apply to CEA for the following:

- Tanks used to store and treat hazardous waste
- Containers used to store and treat hazardous waste

In addition, there are regulatory requirements for delay of repair, use of certain alternative standards and recordkeeping and reporting.

CEA handles a wide variety of mixtures of organic liquid and solid wastes. In complying with the Subpart CC regulations, CEA has presumed the most restrictive regulatory position (i.e., all equipment contains hazardous waste with an average volatile organic (VO) concentration at the point of waste origination of greater than 500 parts per million by weight (500 ppmw). There may be exceptions to this assumption where specific shipments may be receive using the generator's knowledge that the Subpart CC regulations do not apply. See Section C-2, "Waste Characteristics" of this permit application for additional information. CEA has six (6), each with a tank volume of 15,000 gallons and containers used to store and treat hazardous waste throughout the facility. The attachment to this section provides a listing of all the tanks subject to these standards. The location of each tank is also provided in the attachment.

The standalone Subpart CC Inspection Plan will be maintained onsite in an accurate and up-todate status as a part of the facility's operating records and will not be incorporated into this permit renewal application.



Methods of Compliance with the Standards

The standards detailed in Subpart CC are directed toward preventing volatile organic compound (VOC) air emissions. These standards address design, installation, testing, monitoring, inspection, reporting and preventive maintenance. Each of the methods of compliance for tanks and containers that are used by CEA are as follows:

Tanks

The facility has six (6) tanks used to store hazardous waste liquids. Specific tank information used to determine methods of compliance with Subpart CC is shown in Table 1 (See Attachment) along with the method of compliance selected for each tank. Tanks (T-1, T-2, T-3, T-4, T-5, and T-6) have design capacities of 15,000 gallons which is less than 75 cubic meters (19,800 gal.), the maximum allowable organic vapor pressure for each tank is limited to 76.6 kPa (575 mmHg) millimeter of mercury (mmHg). None of the tanks are heated or are used to perform waste stabilization processes. For these tanks, Level 1 controls are sufficient to meet requirements of this subpart. An analysis of maximum organic vapor pressures for hazardous wastes managed at the facility is found in Table 2 (See Attachment).

All Storage tanks at the facility meet the definition of a "fixed roof tank". Closure devices are installed on roof openings such that a continuous barrier is formed. Each tank has a spring-loaded combination pressure/vacuum vent for tank protection and sampling. One opening in each tank is piped to a common header as part of a vapor balance system for tanker or container loading. The fixed roof and closure devices for each tank are operated and inspected in accordance with 40 CFR 264.1084 (c)(4). Equipment monitoring schedule is found in Table 3 (See Attachment). There is an exception if the tank cover is designated an "unsafe to inspect and monitor cover" per 40 CFR 264.1084(1)

Maximum Organic Vapor Pressure (MOVP) is used in Subpart CC regulations to determine whether a waste tank requires Level 1 or Level 2 controls. In 40 CFR 264.1084(b)(1)(i), MOVP is a function of tank size. Tanks with larger working capacities have lower allowable MOVP.

Tank Volume	MOVP
<75m ³ (19,800 gallons)	76.6 kPa (575 mmHg)
$>75 \text{ m}^3 \text{ and } < 151 \text{ m}^3$	27.6 kPa (207 mmHg)
(19,800 to 39,900 gallons)	
>151 m ³ (39,900 gallons)	5.2 kPa (39 mmHg)

For tanks under 19,800 gallons, maximum allowable organic vapor pressure in a tank subject to Level 1 controls is 575 mmHg. (See Table 3 for Tank Information). All tanks subject to Subpart CC requirements at Clean Earth of Alabama (CEA) are less than 19,800 gallons in capacity (T-1, T-2, T-3, T-4, T-5, T-6). MOVP is calculated at the highest normal temperature expected to occur within a tank. For unheated tanks, it is calculated at normal summertime temperatures. Among the most volatile waste streams received at CEA are waste paints, inks, coatings, and spent solvents and thinners. VOC's commonly found in these waste streams are shown in attached Table 1 along with vapor pressures for each at various temperatures. Note that vapor



pressures in Table 1 are for pure solvents in air. Actual tank contents are complex mixtures of VOC's, non-volatile solids and sludges, and other liquids (oil, water). Actual vapor pressure for each constituent in tank mixture (called partial pressure) can be calculated using Raoult's law and is proportional to the relative concentration of that constituent (mole fraction) in the liquid mixture. Total vapor pressure of the tank mixture is then a sum of partial pressures for all constituents in the mixture. Total vapor pressures for complex mixtures are always less than pure vapor pressure of the most volatile constituent in the mixture. To simplify the worst-case analysis, CEA will use pure vapor pressures of the most volatile solvents commonly encountered to (1) illustrate that Level 1 controls are appropriate for tanks and wastes currently found at facility and (2) indicate when a new determination or measurement of MOVP is required per 40 CFR 264.1083.

The most volatile organic solvents commonly encountered at CEA are acetone, hexane, methanol, and methyl-ethyl-ketone and are all below 10% in each tank. The most volatile of these is acetone. For our worst-case analysis, we assume tanks to contain pure acetone. A worst-case tank temperature of 95°F was selected based on weather design data in the ASHRAE Fundamentals Handbook. MOVP at these worst-case conditions is 347 mmHg, 10% of this is 34.7 mmHg which is well below the limit of 575 mmHg for tanks less than 19,800 gallons. Clearly, unless a waste stream is composed predominantly of VOC's which are substantially more volatile than pure acetone, then it is inherently acceptable to store in any tank subject to Level 1 controls without additional determination or measurement.

Level 1 Tanks

No emission control equipment devices are utilized at CEA. All tanks at the CEA facility meet the requirements for Level 1 Controls under Subpart CC. In addition:

- All closure devices on each Level 1 tank will remain closed whenever hazardous waste is in the unit as described in 40 CFR 264.1084(c)(3) and each tank will be visually inspected initially and annually thereafter as described in 40 CFR 264.1084(c)(4). The detailed description of the initial and annual inspections will be included in the Subpart CC Inspection Plan.
- All transfers of hazardous waste from one tank to another tank will be accomplished using hard piping or in a manner that does not allow exposure of hazardous waste to the environment as described in 40 CFR 264.1084(j). See Section D-2 of this permit application for additional information.
- The initial attempt to repair any defects detected during initial and annual visual inspections will be within five (5) days of discovery. Completion of repairs will be accomplished as soon as possible, but no later than 45 days after the initial detection as described in 40 CFR 264.1084(k) and the Subpart CC Inspection Plan.
- All inspections and other information regarding Level 1 tanks will be maintained in the facility's operating record as described in 40 CFR 264.1089(b) and in the Subpart CC Inspection Plan.



Containers

The facility manages hazardous waste in containers in several areas. All containers managed by the facility are anticipated to be DOT-compliant. If a noncompliant container is received at the facility, then it will either be processed within 24 hours, sent back to the generator or repaired to conform with the requirements of 40 CFR 264.1086(c)(4)(iii) and (d)(4)(iii). Noncompliant Level 2 containers may be monitored for no detectable emissions as described in 40 CFR 264.1083(d). Noncompliant containers may also be managed according to the methods described below:

Level 1 Containers

- Containers, with a design capacity greater than 0.1 m³ and less than or equal to 0.46 m³ or a design capacity greater than 0.46 m³ and not in light material service, will be managed in accordance with Level 1 control requirements as described in 40 CFR 264.1086(c).
- Level 1 controls will be achieved through the use of one of the following as described in 40 CFR 264.1086(c):
 - DOT-compliant containers will be controlled through the use of a cover and closure devices to form a continuous barrier over the container; or through the use of an open top container with an organic-vapor suppressing barrier as described in 40 CFR 264.1086(f).
- Containers meeting Level 1 control requirements will remain closed whenever hazardous waste is in the container and with the exceptions as described in 40 CFR 264.1086(c)(3).
- Containers meeting Level 1 control requirements will be visually inspected within 24 hours after being accepted at the facility as described in 40 CFR 264.1086(c)(4)(i) and the Subpart CC Inspection Plan.
- Containers meeting Level 1 control requirements which have defects will have a first attempt at repair performed within 24 hours after detection as described in 40 CFR 264.1086(c)(4)(iii).

The storage areas for hazardous waste in drums and other portable containers are located in permitted buildings #1, 2, 3, and 4 and also in addition to loading/unloading pad for tankers in the Tank Farm. A detailed description of the loading/unloading areas is provided in Section F-4a of this Application. Containers meeting the criteria of Level 1 and Level 2 containers, as described in 40 CFR264.1086(c) and (d), are received, staged, sampled and stored in this area. See Section D-1 "Container Design" of this permit application for additional information.

The facility currently does not manage waste in roll-off containers. Accordingly, there are no requirements for CEA to meet Level 2 Container requirements. Should this change in the future, CEA will modify its hazardous waste permit, where, necessary, to reflect and update that change.



The facility may also manage tankers meeting the criteria of Level 1 and Level 2 containers, as described in 40 CFR 264.1086(c) and (d). Tankers will be managed at a truck pad provided with secondary containment and located adjacent to the tank farm. The tanker truck pad is contained and sloped to a sump that would collect any release and direct it to tank farm containment where, upon discovery, it would be pumped into an appropriate tank. A tanker truck may be subject to either Level 1 or Level 2 controls depending on whether it is in light material service. Transfers into and out of Level 1 or Level 2 tanker trucks may occur in this area. Tankers meeting Level 2 control requirements will be inspected as described by the bullets below:

Level 2 Containers

- Containers with a design capacity greater than 0.46 m³ and in light material service will be managed in accordance with Level 2 control requirements as described in 40 CFR 264.1086(d).
- Level 2 controls will be achieved through the use of one of the following as described in 40 CFR 264.1086(d):
- <u>DOT-compliant containers</u> as described in 40 CFR 264.1086(f) will be monitored for no detectable emissions as described in 40 CFR 264.1081 and §264.1086(g); or a vapor-tight container as described in 40 CFR 264.1086(h).
- Transfers in and out of containers meeting Level 2 control requirements will be conducted in such a manner as to minimize exposure of the hazardous waste to the atmosphere as described in 40 CFR 264.1086(d)(2).
- Containers meeting Level 2 control requirements will remain closed whenever hazardous waste is in the container with the exceptions as described in 40 CFR 264.1086(d)(3).
- Containers received from off-site which meet Level 2 control requirements will be visually inspected within 24 hours after being accepted at the facility as described in 40 CFR 264.1086(d)(4)(i) and the Subpart CC Inspection Plan.

Containers meeting Level 2 control requirements which have defects will have a first attempt at repair performed within 24 hours after detection as described in 40 CFR 264.1086(d)(4)(iii).

For loading, the facility utilizes a submerged-fill technique or other appropriate transfer technique as described in 40 CFR 264.1086(d)(2).

Recordkeeping and Reporting

The Subpart CC Inspection Plan provides the sample forms that will be maintained as part of the facility's operating record. The Subpart CC Plan is maintained on-site in an accurate and up-to-date status. Because the facility handles a wide variety of organic materials, for operating and permitting purposes all tanks and containers have been presumed to handle the most restrictive service pursuant to the Subpart CC regulations, that is: Material exhibiting VOCs in



concentrations greater than 500 ppmw. The exception of this assumption, however, may be when generator knowledge for specific waste shipments is available. See Section C "Additional Waste Analysis Requirements Pertaining to 40 CFR Part 264 Subpart CC" for more information. Records of tank inspections and repair shall be retained for at least three years. The following is a summary of the recordkeeping requirements as applicable to CEA.

Level 1 Tanks

- A tank identification number (e.g. T-1) is assigned to each hazardous waste storage tank;
- A record of each inspection required by 40 CFR 264.1084, including:
 - The date of each inspection
 - The location, nature and detection date of each defect; and
 - A description of the corrective action taken to repair the defect as described in 40 CFR 264.1089(b)(1)(ii);
- A record for each determination of maximum organic vapor pressure for each tank equipped with a fixed roof to control organic emissions in accordance with the requirements of 40 CFR 264.1084(c) as described in 40 CFR 264.1089(b)(2)(i);
- For each cover unsafe to inspect pursuant 40 CFR 264.1089(g), CEA will maintain a log including the following information:
 - Identification number for waste management units with covers that are designated as "unsafe to inspect and monitor";
 - An explanation for each cover stating why the cover is unsafe to inspect and monitor; and.
 - A plan and schedule for inspecting and monitoring each cover

Inspections, maintenance records and any other pertinent information will be maintained as part of the facility's operating record.

Reporting

CEA is neither seeking an exemption for any material stored at the facility in accordance with 40 CFR 264.1082(c), nor is it operating a control device in accordance with the requirements at 40 CFR 264.1084(c) and therefore, no reporting requirements are applicable.



Subpart CC Annual Tank Closure Devices Inspection/Monitoring

Tanks that may contain subpart CC waste (\geq 500 ppmw volatile organics) must be inspected and monitored for detectable emissions. Each tank listed has covers, conservation vents, connection to a vapor balance common header, and/or closure devices in place for all tank openings. Under Subpart CC, the owner or operator must visually inspect (e.g., visual monitoring for gaps, holes, cracks) the closure devices associated with Level 1 emission controls for tanks and containers at least once a year, and first efforts to repair must occur within five calendar days and generally must be completed within 45 calendar days. Defects and detectable emissions should be noted along with corrective action taken to repair.

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Closure device means a cap, hatch, lid, plug, seal, valve, or other type of fitting that blocks an opening in a cover such that when the device is secured in the closed position it prevents or reduces air pollutant emissions to the atmosphere. Closure devices include devices that are detachable from the cover (e.g., a sampling port cap), manually operated (e.g., a hinged access lid or hatch), or automatically operated (e.g., a spring-loaded pressure relief valve). (emphasis added) 40 CFR 265.1081. Per the requirement for a spring-loaded pressure-vacuum relief valve, conservation vent or similar type of pressure relief device to operate with no detectable organic emissions, the closure device must satisfy the Subpart CC definition of "no detectable organic emissions" per 40 CFR 264.1081 and/or 265.1081, as determined using the procedure specified in 40 CFR 265.1084(d) (also known as Method 21). Despite that definition still referencing Method 21, Subpart CC only requires this method in limited circumstances that are specified in the regulations (e.g., for pressure tanks and surface impoundments using a cover vented to a control device). See 56 Fed. Reg. 33490 (July 22, 1991); 59 Fed. Reg. 62896 (Dec. 6, 1994); 61 Fed. Reg. 4903 (Feb. 9, 1996); 61 Fed. Reg. 59932, 59944 – 59948 (Nov. 25, 1996).



Date: _____

Attachment



 $Table\ 1-Tank\ Storage\ Information$

HWMU Designation	RCRA Service	Planned or Existing	HWMU Description	Tank Design Capacity (gallons)	VO in Waste Stream	Fixed Roof Tank	Tank Agitated	Tank Heated	MOVP Exceeds 207 mmHg	Method of Compliance
T-1	Yes	Existing	Fuel Blending	15,000	Yes	Yes	No	No	No	Tank Level 1 Controls
T-2	Yes	Existing	Fuel Blending	15,000	Yes	Yes	No	No	No	Tank Level 1 Controls
T-3	Yes	Existing	Fuel Blending	15,000	Yes	Yes	No	No	No	Tank Level 1 Controls
T-4	Yes	Existing	Fuel Blending	15,000	Yes	Yes	No	No	No	Tank Level 1 Controls
T-5	Yes	Existing	Fuel Blending	15,000	Yes	Yes	No	No	No	Tank Level 1 Controls
T-6	Yes	Existing	Fuel Blending	15,000	Yes	Yes	No	No	No	Tank Level 1 Controls



Table 2 – Inspection Schedule

Equipment Type	Inspection Frequency
Tank Cover and Cover Openings	Annually
Container Covers (Truck, Trailer, Railcar)	Annually
Closed Vent Systems	Annually
Container Covers (drums, roll-offs)	Annually

There is an exception if the tank cover is designated an "unsafe to inspect and monitor cover" per 40 CFR 264.1084(l) and/or 265.1085(l).



Table 3 – Maximum Organic Pressure Analysis Table

Solvent Vapor Pressures at Temperatures | (°F) exhibiting Vapor Pressure

•	101.3	84.1	67.6	53.3	26.7	13.3	8.0	5.3	1.3
	kPa	kPa	kPa	kPa	kPa	kPa	kPa	kPa	kPa
Constituent	760	631	507	400	200	100	60	40	10
	mmHg	mmHg	mmHg	mmHg	mmHg	mmHg	mmHg	mmHg	mmHg
Acetone	134°	124°	112°	103°	73°	46°	28°	15°	-24°
Ethanol	173°	165°	155°	146°	119°	95°	79°	66°	28°
Heptane	209°	198°	184°	172°	138°	107°	87°	72°	28°
Hexane	156°	145°	133°	121°	89°	60°	42°	28°	-13°
Methanol	149°	140°	130°	122°	95°	70°	54°	41°	3°
MEK	175°	165°	152°	140°	107°	77°	57°	43°	0°
Perchloroethylene	249°	237°	223°	212°	176°	142°	121°	104°	57°
n-Propanol	181°	172°	162°	154°	127°	103°	87°	75°	36°
Toluene	231°	220°	207°	193°	157°	125°	105°	89°	44°
1,1,1-Tri	165°	154°	141°	130°	97°	68°	49°	35°	-7°
Trichloroethylene	188°	176°	163°	153°	118°	89°	68°	53°	10°
Water	212°	203°	192°	181°	152°	125°	106°	93°	

Notes:

- 1. Assumes pure solvents in air.
- 2. Use interpolation between data points.

Examples:

- 1. Vapor pressure of pure methanol at 95°F is 200 mmHg.
- 2. Vapor pressure of pure acetone at 95°F is 347 mmHg.
- 3. Vapor pressure of pure 1,1,1-Tri at 95°F is 193 mmHg.



SECTION E GROUNDWATER MONITORING CLEAN EARTH OF ALABAMA



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Ε	GROUNDWATER MONITORING	L



SECTION E

Hazardous Waste Permit Renewal Application Clean Earth of Alabama, Inc. Glencoe, Alabama Permit No. ALD 981 020 894

E GROUNDWATER MONITORING

The requirements of Section E, which relate to ground-water monitoring, are not applicable to a hazardous waste facility having the components and operating conditions existing at Clean Earth of Alabama, Inc.



SECTION F PROCEDURES TO PREVENT HAZARDS CLEAN EARTH OF ALABAMA



Hazardous Waste Permit Renewal Application

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APPENDIX F-2-1 APPENDIX F-2-2	Daily Inspection Log Monthly Inspection Log
APPENDIX F-3-1 APPENDIX F-3-2 APPENDIX F-3-3 APPENDIX F-3-4	Evacuation Routes and Assembly Points Emergency Telephone Numbers Locations of Emergency Equipment List of Emergency Equipment
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F PROCEDURES TO PREVENT HAZARDS

The information provided in this Plan addresses the following:

- General security procedures
- Inspection schedule
- Preparedness and Prevention procedures

F-1 Security

F-1a Security Procedures and Equipment

Security for the Clean Earth of Alabama, Inc. (CEA or the "Facility") Facility is designed to prevent unauthorized entry into the active portion of the Facility. This Plan describes the precautions taken by the Facility to prevent the unknowing entry, as well as to minimize the possibility for the unauthorized entry, of persons or livestock onto active portions of the Facility.

In addition to the general security provisions of fencing, gates, and surveillance features discussed below, several other features contribute to the safety and security of the CEA Facility. Sufficient lighting is provided throughout the Facility and all process areas. The Facility encompasses a relatively small area such that employees generally have easy access to report concerns immediately to the main office. Supervisors also have individual, company-supplied radios are available for use.

All visitors are required to check in at the main office and receive a visitor orientation that includes what to do in an emergency, after which they are accompanied by a CEA employee. During check in, visitors identify themselves and sign the visitor's logbook. Visitors sign out upon leaving the Facility.

F-1a(1) 24-Hour Surveillance

Employees are present on the site 24 hours a day, seven days a week. Facility employees monitor the site during operational hours for any persons that should not be on site and any unusual activities.



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F-1a(2) Barrier and Means to Control Entry

F-1a(2)(a) Barrier

The Facility is located on of 7.3 acres of land, with 4.6 acres actively used for management of hazardous and non-hazardous wastes in tanks and containers. The perimeter of the active area of the Facility is surrounded by an 8-foot-high, galvanized steel chain-link-fence topped with three strands of barbed wire. The fence has two electronically operated locking gates for controlling vehicle access and two pedestrian gates with keypad entry. As shown on the Facility Layout in <u>Appendix F-1-1</u>.

The fenced area includes the following buildings and structures:

- An Administration Building;
- A Breakroom Building that includes locker room and showers;
- Building # 1: drum storage building and covered containment pad/loading dock (a permitted area)
- Building #2: (Quonset Hut) building (a permitted area);
- Building #3: a bulk storage covered containment area (a permitted area);
- Building # 4: a waste processing building (a permitted area);
- A covered aboveground storage tank (AST) farm (a permitted area);
- Loading dock areas; and,
- Miscellaneous hydraulic air compressor, fire suppression, electrical and safety supply sheds.

Just outside the permitted and fenced area to the south is a non-regulated processing shed and pad, operated by CEA, that is not included in this permit application.

F-1a(2)(b) Means to Control Entry

Truck gates are maintained closed during times that wastes are not being received or transported off-site. Access through pedestrian gates is controlled by a keypad.



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F-1a(3) Warning Signs

Warning signs, containing the legend "DANGER - UNAUTHORIZED PERSONNEL KEEP OUT" are posted at all sides of the fence and on fence gates. Those signed are clearly legible from a distance of 25 feet and are in sufficient numbers to be seen from any approach to the Facility. The signs area also posted at entrances to hazardous waste storage buildings.

F-1b Waiver

Not applicable - A waiver from the above security requirements is not requested.

F-2 Inspection Schedule

F-2a General Inspection Requirements

Inspection of the Facility components and equipment is an integral part of an overall personnel safety and environmental security program. This section describes the procedures for inspecting the hazardous waste management units at the Facility and established a schedule for conducting those inspections. Routine inspections are required to detect equipment malfunctions, deterioration, leaks, discharges and unauthorized entry that may cause or may lead to:

- A threat to human health;
- The release of hazardous waste constituents to the environment; or.
- The interruption and curtailment of normal operation.

Routine Facility inspections area conducted to identify problems and initiate remedial actions before they can affect human health or the environment. To accomplish that, inspections are conducted in accordance with this Plan to ensure that communication, safety and emergency equipment is available and in working order, security devices are in good repair, and that operating and structural equipment is in a safe working condition.

Items to be routinely inspected at the Facility are identified and the minimum frequency of the inspections is established. The term "daily inspection," when used in this document, is defined to mean days when the Facility is operating. That excludes weekends and holidays. Of note, Security Guards, who are present at the Facility 24/7/365 have been trained to observe for any spills, leaks, smoke or other visible emissions during their site walk arounds and to report those to management immediately, if noted. Inspection logs provide information regarding the name of the inspector,



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the date and time of the inspection, the equipment or structures inspected, types of problems that

might be encountered, observations made and any remedial actions required to address any

problems. Inspection Logs provided in Appendices F-2-1 and F-2-2 include the inspection

schedule for the Facility.

The Plant Manager or designate is responsible for carrying out and documenting the Facility

inspections. The findings of each inspection are recorded on the appropriate Inspection Log. The

inspector(s) also notes any remedial actions that are needed and ensures that they are completed.

All completed Inspection Logs are maintained at the Facility's Operating Record for a minimum

of three years from the date of the inspection.

F-2a(1) Problems

Inspection Logs include a list of the types of problems to be looked at during the inspection,

including leaks, deterioration, readings out of specified range, missing items or materials,

inoperative equipment, etc. The items listed are considered important because their

maintenance aids in preventing, detecting or responding to potential or actual environmental

or human health hazards. The Inspector checks the status of each item and indicates if it is

acceptable by marking with an "✓" for acceptable or an "x" for unacceptable.

F-2a(2) Frequency of Inspection

Dependent on the equipment or item being inspected, inspections may be conducted daily,

weekly or monthly. The schedule of inspections is included on Inspection Logs. Areas subject

to spills, such as loading and unloading areas, are inspected daily when in use. The Plant

Manager or designate is responsible for carrying out and documenting the Facility inspections

in accordance with the schedule of inspections shown in Appendices F-2-1 and F-2-2.

F-2b Specific Process Inspection Requirements

F-2b(1) Container Storage Areas

Container Storage Areas are inspected daily for:

• Container placement and stacking (aisle spacing and stack height);

• Container seals (kept closed, unless waste is being added, removed or inspected);

Env.

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- Container labels (complete, accurate, legible and visible);
- Condition of containers (corrosion, structural defects, and bulging);
- Condition of pallets;
- Container storage areas for leaks or wet spots); and,
- Container Inventory (number and capacity of containers onsite) weekly.

The results of each inspection are recorded on the appropriate Inspection Log. Information includes the Inspector's name and the date and time of inspection. Specific items to be inspected are included on the Inspection Log to ensure a thorough inspection.

F-2b(2) Tank Inspection System

Tank systems and ancillary equipment associated with the tanks (e.g. piping, pumps, valves, fittings, filters, monitoring equipment, liquid level indicators) are inspected daily for:

- Fall protection line operation;
- Tank system foundation and dikes (cracks, deterioration, spalling, uneven settlement, erosion, wet spots);
- Tank structural support (concrete deterioration and cracking, corrosion of pipe supports);
- Pipes, pumps, valves, fittings, filters (leaks, corrosion or deterioration);
- Tank shell, roof, and bottom (corrosion, discoloration, cracks, buckles, bulges);
- Evidence of leaks, spills and precipitation;
- Monitoring equipment and liquid level indicators (proper operation); and,
- Automatic feed cut-offs.

In addition, on an annual basis a metal thickness evaluation is completed to certify the compatibility of the tank construction with the contents, and the tank ladders are checked for damage and structural stability.



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F-2b(3) Waste Pile Inspection

CEA does not operate waste piles for the purpose of storing, treating, or disposing of hazardous wastes. Therefore, this section is not applicable.

F-2b(4) Surface Impoundment Inspection

CEA does not operate surface impoundments for the purpose of storing, treating, or disposing of hazardous wastes. Therefore, this section is not applicable.

F-2b(5) Incinerator Inspection

CEA does not operate incinerators for the purpose of treating or disposing of hazardous wastes. Therefore, this section is not applicable.

F-2b(6) Landfill Inspection

CEA does not operate a landfill for the purpose of treating or disposing of hazardous wastes. Therefore, this section is not applicable.

F-2b(7) Land Treatment Inspection

CEA does not operate a landfill treatment for the purpose of treating or disposing of hazardous wastes. Therefore, this section is not applicable.

F-2b(8) Miscellaneous Unit Inspections

CEA does not operate miscellaneous units for the purpose of treating or disposing of hazardous wastes. Therefore, this section is not applicable.

F-2c Remedial Action

As stated above, the Inspector is required to check the status of each item and indicate if it is acceptable by marking with an " \checkmark " for acceptable or an " \ast " for unacceptable. Conditions noted during inspections that require remedial actions will be reported to the Plant Manager or designee following completion of the inspection. If a problem is discovered during the inspection that cannot be immediately corrected (i.e. within 24 hours), the inspector will notify the Plant Manager or designee. The Plant Manager or designee will then perform the following:

- Determine course of action;
- Schedule a proposed completion date for the remedial action; and,



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• Document the course of action and the proposed completion date.

Remedial action will be scheduled in a timely manner to ensure that the problem does not lead to an environmental or human health hazard. Where a hazard is imminent or has already occurred, the Plant Manager or designee will be notified immediately, and remedial action will be taken immediately. The Plant Manager or designee has the authority to shut down operations until the necessary remedial action is taken.

In the event there is an uncompleted item (e.g. inoperative equipment, item requiring remedial action) on the checklist when the next inspection is due, that item will be shown on the new checklist and an on-going record of the deficiency on the checklist will be noted. Any remedial action not completed by the scheduled date will be reported to the Plant Manager by the inspector. All uncompleted items will be documented on a web-based tracking system and tracked to completion.

F-2d Inspection Log

Completed Inspection Logs are maintained at the Facility. After an inspection is complete, including remediation of any problems noted, each log sheet is filed chronologically. The inspection logs are maintained on-site for at least three years from the date of inspection.

F-3 Waiver of Preparedness and Prevention Requirements

The Applicant does not wish to request a waiver of the preparedness and prevention requirements under 40 CFR §264 Subpart C.

F-3a Equipment Requirements

F-3a(1) Internal Communication

The telephone system, portable radios and air horns serve to notify Facility personnel of actions to be taken in an imminent emergency. Individual workers can be alerted verbally by an employee or by radio.

Facility personnel are notified of an emergency requiring evacuation of the Facility by the sounding an air horn with three repeated short blasts. When employees hear the three repeated short blasts of the air horn, they will evacuate and meet the Emergency Coordinator (or



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alternate) at the assembly point (see <u>Appendix F-3-1</u> for Evacuation Routes and Assembly Points). At the assembly point, the Emergency Coordinator (or alternate) will give further instructions, as needed. The emergency evacuation "all clear" signal will be verbally communicated to the staff at the assembly point.

F-3a(2) External Communication

External communication is by telephone and/or cellular phone. Cellular telephone service is available throughout the Facility. The emergency contact telephone numbers provided in Appendix F-3-2 are posted, along with a copy of the emergency evacuation route map (Appendix F-3-1), in the administrative office, the laboratory and the General Manager's office. Evacuation maps are also posted in these buildings as well as in the waste storage area buildings).

F-3a(3) Emergency Equipment

The locations of emergency equipment including fire control, spill control and decontamination, are shown on Appendix F-3-3 and listed in Appendix F-3-4.

F-3a(4) Water for Fire Control

Fire extinguishers are stationed throughout the Facility as shown in <u>Appendix F-3-3</u>. The fire extinguishers include multipurpose dry chemical Types A, B, and C, and one Type D portable fire extinguisher.

In addition, there are two fire hydrants, one located immediate north of the Facility and the second immediately north and west of the Facility within 100 feet of the property line on the south side of Webster-Chapel Road (see <u>Appendix F-3-3</u>). There are two foam stations located inside the Facility to the north and south of Building #1.

F-3b Aisle Space Requirements

To provide the necessary level of access for safe operation and emergency response, aisle space between each double row of containers is always maintained at a minimum 24-inches in each



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storage areas. Aisle space between containers and building walls is also be maintained at a minimum of 24 inches to allow for inspection and emergency response.

F-4 Preventive Procedures, Structures, and Equipment

F-4a Loading/Unloading Operations

Every shipment that arrives at the Facility is sampled in accordance with the Waste Analysis Plan. Of note, the Waste Analysis Plan does not require sampling of aerosols, loose pack paint, labpacks, RCRA hazardous (non-infectious) medical waste (i.e. pharmaceuticals), cylinders, RCRA reactive waste (D003), USDOT hazard classes 1.4 (Explosive), 4.2 (Spontaneously Combustible) and 4.3 (Water Reactive), Poison Inhalation Hazards as defined by USDOT under hazard classes and divisions 2.3 & 6.1, hydrofluoric acid and any other waste stream that management deems unsafe to sample.

Operators are trained in procedures to conduct loading/unloading operations in a safe manner. Each driver must comply with all plant safety rules and written driver operating procedures.

Trucks with containerized hazardous waste will be received at one of the Facility's loading/unloading docks. A forklift operated by a trained employee will unload the containers into the contained loading area. The containers are inspected for proper labeling, closure, condition, and the load compared to the manifest documents. If the containers are properly labeled and manifested, the containers will be sampled. After the required laboratory analysis confirms that the material conforms to the facility acceptance requirements, the containers will be stored in a container storage area with compatible materials. Needed aisle space and flexibility for drum movement or removal are always maintained.

Unloading and loading operations at the existing container storage areas involve the receipt and shipment of hazardous waste by transport trucks from customer sites and to approved disposal facilities, respectively. Facility surfaces are largely gravel. Trucks are scheduled in and out of the Facility in a manner that ensures that trucks are loaded and unloaded in an uninterrupted and continuous manner. See <u>Appendix F-4-1</u> for location of loading/unloading areas.

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Hazardous Waste Permit Renewal Application Clean Earth of Alabama, Inc. Glencoe, Alabama Permit No. ALD 981 020 894

Loading and unloading operations take place in the designated loading/unloading areas. The main container loading/unloading areas located at Building #1 include a total of six (6), 4-feet elevated docks, each equipped with a sloped containment area capable of containing the contents of a 55-gallon drum. A seventh dock at Building #1 is typically used for a roll-off box that holds empty drums. The Building #2 loading/unloading area has two (2) concrete docks that are elevated 4 feet and sloped to provide containment. Building #4 has seven (7) docks, each elevated 4 feet. There are no loading/unloading docks at Building #3; however, there is an adjacent contained and paved area where bulking of wastes into an end-dump or roll-off box takes place.

Bulk shipments of liquids are loaded/unloaded at one of two bays at the tank farm. Those bays are paved with concrete. The tank farm loading/unloading area is equipped with a rollover berm that will divert any spilled material into a sump that is directed to the tank farm containment area to provide adequate containment in case of a spill. All loading and unloading is performed by Facility employees trained in the handling of hazardous wastes and attended by the drivers of outside transportation vehicles who are responsible for securing their equipment. Environmental Technicians ensure that tank trucks are properly grounded prior to loading/unloading, monitor the truck during the entire transfer process and take corrective action should a problem arise.

Standard Operating Procedures provide methods for removing liquid waste from hoses after the loading/unloading operation is complete. Accidental spills occurring in the pumping area will be pumped into a tank. In the event of a major spill, the spill will be contained in the adjacent tank containment area. The combined loading/unloading area, sump and tank farm secondary containment provides containment for major spills within the covered structure.

In addition, to allow for a quick response to any spilled or leaking drums during loading/unloading operations, spill cleanup equipment (e.g., oil dry, absorbent booms and pads, brooms and shovels, etc.) is stored near all loading/unloading areas. Any contaminated materials, including residuals from equipment decontamination, will be placed in appropriate drums, readily available on the Facility, and will be stored for transport to an approved hazardous waste disposal facility along with the normal CEA inventory.



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F-4b Runoff

The Facility is designed to minimize run-on, infiltration and run-off from the hazardous waste management units. The existing "sampling area" in Building #1, which is proposed for use as a container storage area as noted in <u>Section B-1</u> of this Application, is elevated approximately four feet above yard grade, and covered to prevent rainwater collection. The entirety of the CEA Facility is located approximately 1,100 feet from the 100-year floodplain (refer to <u>Section B</u> and <u>Appendix B-2-2</u>).

F-4c Water Supplies

Contamination of water supply sources is further minimized by secondary containment of all hazardous waste management areas. There are no nearby groundwater sources of drinking water or industrial water supply in the area. The EDR Geocheck® Report (Appendix F-4-2) identifies no water wells within 1 mile of the Facility.

F-4d Equipment and Power Failure

In the event of a power interruption, the emergency lighting system will activate to provide light in critical areas. All activities will cease with power failure. All valves will be manually shut off and plant operations discontinued until power is re-supplied. No processing will be accomplished during power failure.

F-4e Personal Protective Equipment

To prevent undue exposure of personnel to hazardous waste, hard hats, safety shoes, and eye protection equipment are mandatory. In addition, there are certain processing areas and operations where respiratory protection is required. Use of coveralls, splash shields, solvent resistant boots, and gloves is reviewed during personnel training. The documented management inspection of the condition and inventories of this equipment is performed on a monthly basis as specified in Appendix F-2-2. This equipment is selected according to occupational safety and health standards.

F-5 Prevention of Reaction of Ignitable, Reactive, and Incompatible Waste F-5a Precautions to Prevent Ignition or Reaction of Ignitable or Reactive Waste

The entirety of the permitted waste storage and processing areas of the Facility are considered to handle ignitable wastes in some capacity. Ignitable wastes for fuel blending may carry the D002 waste code only as a secondary characteristic code (e.g. Waste Flammable Liquids, Corrosive,



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n.o.s.). Primary characteristic corrosive wastes (D002) and reactive wastes (D003) are accepted in containers only.

Ignitable wastes (i.e., D001) are managed in containers that have been tested or otherwise determined to be compatible with the contained wastes. Required precautions contained in the National Fire Protection Association Chapter 30 are taken to prevent a possible source of external ignition. The use of open flames is not allowed in permitted Waste Storage Areas. "No Smoking" signs have been posted throughout the Facility to reduce the chance of accidental ignition of any waste materials from this identified health and safety hazard. Any cutting or welding must be conducted in accordance with the Facility's Hot Work Standard Operating Procedure. Container storage Areas are inside of roofed buildings to minimize radiant heat. The containers are stored in a manner that minimizes the chance of ignition.

Ignitable wastes are also managed in tanks. The tanks are painted to reflect solar radiation, reducing temperature of the contents and thus the generation of flammable vapors. The tanks are vented according to NFPA or API guidelines. Placement of tanks within the Facility complies with NFPA 30 guidelines for tank storage of flammable liquids.

All tank trucks delivering flammable liquids are grounded to dissipate static electricity accumulation. Approval of any repair or maintenance work, including Hot Work, to be performed in the area must be obtained prior to initiating work. All work must be performed according to approved work orders. Spark-proof tools are used for maintenance or repair work when necessary. All electric equipment used in Class 1, Division 1 areas is explosion-proof in compliance with the National Electric Codes. The tank farm is under cover to minimize radiant heat.

Reactive wastes (i.e., D003) received will be limited to those wastes defined at Alabama Administrative Code Rule 335-14-2-.03(4)(a)(2), (3), (4), (5), and (6). Further, reactive wastes defined at 335-14-2-.03(4)(a)(6) are limited to USDOT Class/Division 1.4, 1.5, 1.6 as defined at 49 CFR 173.50. USDOT Class/Division 1.4 wastes to be received for storage and transfer only (i.e., no processing on-site) will include UN0336 or UN0337 "display fireworks", as well as other USDOT Class/Division 1.4 retail materials such as cap gun ring caps, automatic fire suppression

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balls, model rocket motors, ammunition primers, aerial flares and marine flares. This is not intended to be an all-inclusive list; however, those receipts will be limited to retail USDOT Class/Division 1.4 wastes. Of note, no ATF license or permit is required to receive or transport those wastes.

The Facility will also receive for storage and transfer D003 wastes that are ammunition as defined in 27 CFR 555.11 to mean small arms ammunition or cartridge cases, primers, bullets, or smokeless propellants designed for use in small arms, <u>including</u> percussion caps, and 3/32 inch and other external burning pyrotechnic hobby fuses. The term does not <u>include</u> black powder. Ammunition received will be limited to USDOT Class/Division 1.4 as defined at 49 CFR 173.50. Those wastes will include only UN0362, UN0363, UN0303 or UN0301. Those wastes will be stored in the same manner as "display fireworks" discussed above.

Acidic corrosive wastes (D002) are segregated from alkali corrosive wastes (D002) and reactive cyanide or sulfide bearing wastes (D003) by distance as well as elevation of drums on pallets.

F-5b General Precautions for Handling Ignitable or Reactive Wastes or Accidentally Mixing Incompatible Waste

Quality control analysis is performed on each waste stream to determine compatibility, reactivity, and ignitability as described in the Waste Analysis Plan. This testing provides the facility with an effective program to prevent receiving or processing reactive or incompatible waste. Records of the analyses will be maintained at the facility. If incompatible wastes are received, they will not be commingled in the same container or tank, nor will they be placed in unwashed containers that previously held an incompatible waste or material. The Facility precautions for ignitable waste are described above. Precautions and limitations on the management of characteristic ignitable wastes (D001) or reactive wastes (D003) are described in Section C-2g of the Waste Analysis Plan.

The Facility requires the use of "Hot Work" permits for activities such as welding, cutting, or similar spark producing operations. A combustible gas/oxygen monitor is used in conjunction with these activities to ensure that there are no gases or vapors in the work area that are above 10% of the appropriate lower explosive limits for that compound. Any work to be performed in a confined



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space requires the pre-testing of the space with a combustible gas/oxygen monitor and the use of SCBA or supplied air equipment.

All equipment, such as tanks, where an ignitable mixture may be present are bonded or connected to a ground system to dissipate hazardous accumulations of static electricity. The bond or ground is physically applied or is inherently present by nature of the installation.

F-5c Management of Ignitable or Reactive Wastes in Containers

The procedures for unloading and storing hazardous wastes are described in <u>Section F-4a</u>, a The roofs over the container storage areas help to reduce the thermal heat loading. No smoking signs are used to minimize the possibility of an ignition source occurring in the container storage areas.

F-5d Management of Incompatible Wastes in Containers

Incompatible wastes will not be commingled in the same container or tank, nor will they be placed in unwashed containers that previously held an incompatible waste or material. A container holding a hazardous waste that is incompatible with any waste or other materials stored nearby in other containers will be separated from the other materials by a berm or wall. Containers of Acids (ADEM Admin. Code r. 335-14-5 Appendix V Group 1-B) and Bases/Acid Reactive (ADEM Admin. Code r. 335-14-5 Appendix V Group 1-A and Group 5-A) wastes will be stored on the west side of Building #1 in a bermed area that includes a center berm separating those two types of waste. Flammable and Combustible wastes (ADEM Admin. Code r. 335-14-5 Appendix V Group 6-B, including Groups 2-A, 3-A and 4-A) will be stored in the remainder of Building #1. Oxidizers (ADEM Admin. Code r. 335-14-5 Appendix V Group 6-A) will be stored in one end of Building #4. Other wastes stored in Building #4 are non-hazardous, primarily inert wastes. Wastes in ADEM Admin. Code r. 335-14-5 Appendix V Groups 2-A and 3-B are only received in small containers inside a larger outer container (i.e., packaged laboratory chemicals) with that outer container serving as a barrier.

F-5e Management of Ignitable or Reactive Waste in Tanks

The procedures for unloading and storing are described in <u>Section F-4a</u>. above. Precautions as described in <u>Section F-5a</u> will be taken to ensure that ignitable wastes are properly managed in

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tanks. The tanks conform to the National Fire Protection Association's (NFPA) 2003 "Flammable and Combustible Liquids Code". Tanks comply with the requirements for the maintenance of protective distances between the waste management area(s) and any public ways, streets, alleys, or an adjoining property line that can be built upon in accordance with NFPA 30. The system design and precautions to prevent ignition of ignitable wastes have been previously addressed. The local Fire Department can provide firefighting support on short notice, bringing additional equipment and expertise to the facility. See Section G of this permit renewal Application for details of firefighting contingencies.

Reactive wastes are not managed in tanks.

F-5f Incompatible Waste in Tanks

Pre-Qualification Review and Waste Receipt Review, as described in the Waste Analysis Plan - Section C-2 of this Application, are performed on each waste to identify incompatible wastes. That testing provides the Facility with an effective program to prevent mixing of incompatible waste. Records of those analyses are maintained at the Facility. Incompatible wastes will not be commingled in the same tank.

F-5g Ignitable or Reactive Wastes in Waste Piles

CEA does not operate waste piles; therefore, this section is not applicable.

F-5h Incompatible Waste in Waste Piles

CEA does not operate waste piles; therefore, this section is not applicable.

F-5i Ignitable or Reactive Wastes in Surface Impoundments

CEA does not operate waste hazardous surface impoundments; therefore, this section is not applicable.

F-5j Incompatible Waste in Surface Impoundments

CEA does not operate waste surface impoundments; therefore, this section is not applicable.

F-5k Ignitable or Reactive Wastes in Landfills

CEA does not operate a landfill; therefore, this section is not applicable.

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F-5l Incompatible Wastes in Landfills

CEA does not operate a landfill; therefore, this section is not applicable.

F-5m Ignitable or Reactive Wastes in Land Treatment

CEA does not operate land treatment units; therefore, this section is not applicable.

F-5n Incompatible Wastes in Land Treatment

CEA does not operate land treatment units; therefore, this section is not applicable.



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immediately, if noted. Inspection logs provide information regarding the name of the inspector,

the date and time of the inspection, the equipment or structures inspected, types of problems that

might be encountered, observations made and any remedial actions required to address any

problems. Inspection Logs provided in Appendices F-2-1 and F-2-2 include the inspection

schedule for the Facility.

The Plant Manager or designate is responsible for carrying out and documenting the Facility

inspections. The findings of each inspection are recorded on the appropriate Inspection Log. The

inspector(s) also notes any remedial actions that are needed and ensures that they are completed.

All completed Inspection Logs are maintained at the Facility's Operating Record for a minimum

of three years from the date of the inspection.

F-2a(1) **Problems**

Inspection Logs include a list of the types of problems to be looked at during the inspection,

including leaks, deterioration, readings out of specified range, missing items or materials,

inoperative equipment, etc. The items listed are considered important because their

maintenance aids in preventing, detecting or responding to potential or actual environmental

or human health hazards. The Inspector checks the status of each item and indicates if it is

acceptable by marking with an "✓" for acceptable or an "x" for unacceptable.

Frequency of Inspection F-2a(2)

Dependent on the equipment or item being inspected, inspections may be conducted daily,

weekly or monthly. The schedule of inspections is included on Inspection Logs. Areas subject

to spills, such as loading and unloading areas, are inspected daily when in use. The Plant

Manager or designate is responsible for carrying out and documenting the Facility inspections

in accordance with the schedule of inspections shown in Appendices F-2-1 and F-2-2.

F-2b Specific Process Inspection Requirements

F-2b(1) Container Storage Areas

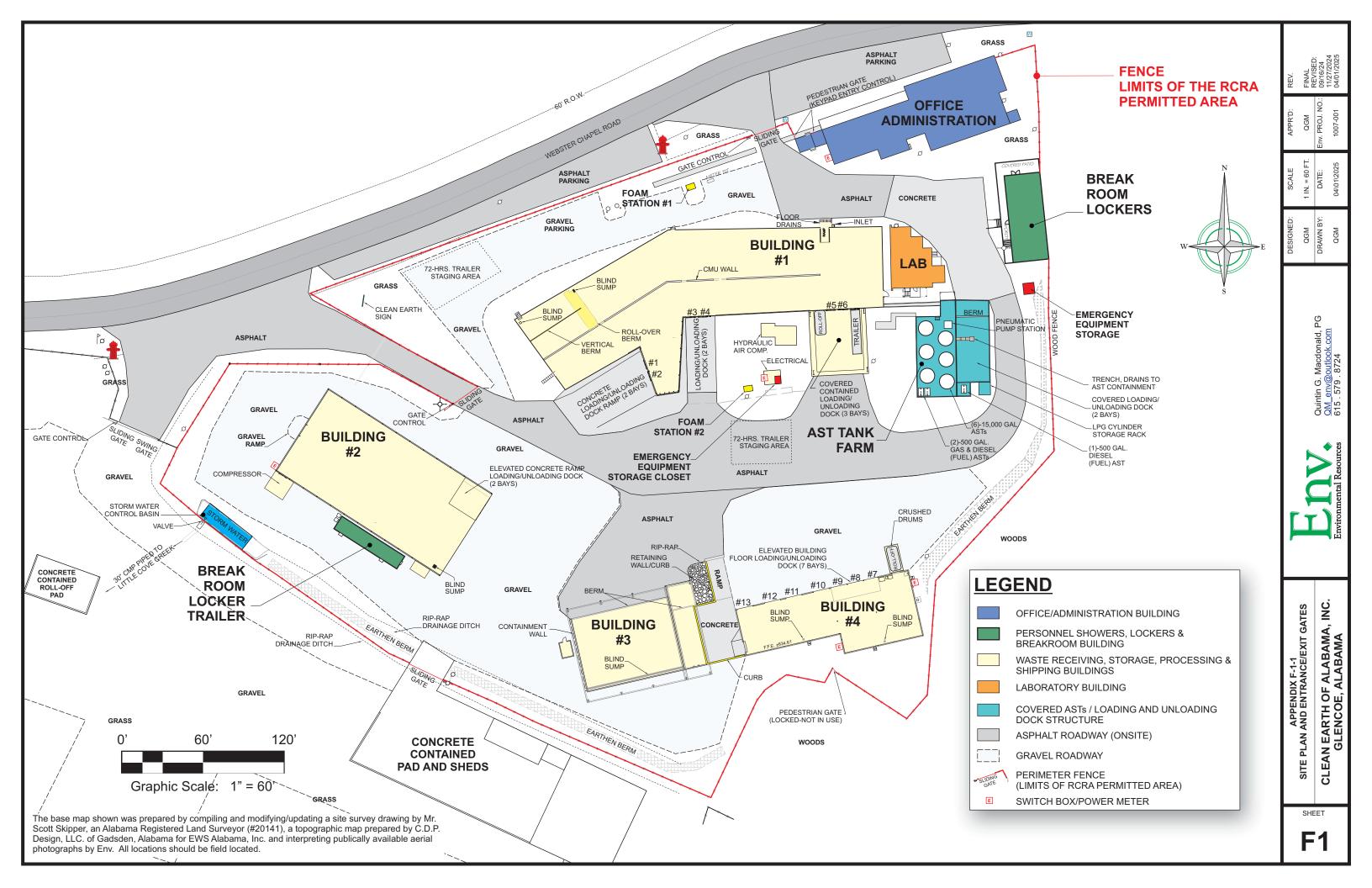
Container Storage Areas are inspected daily for:

F-4



APPENDIX F-1-1 SITE PLAN AND ENTRANCE/EXIT GATES CLEAN EARTH OF ALABAMA





APPENDIX F-2-1 DAILY INSPECTION LOGS

CLEAN EARTH OF ALABAMA



Inspecton Time:

Total Containers

Inspection date:

Inspector Name:

Total Containers

Total Containers

inspector Name:	inspection date.			inspector time.
Weather Conditions:		Temper	rature:	
Item/Equipment	Problem/Observation	Status	✓ = Acceptable ×= Not Acceptable	Note Deficiency and Corrective/Remedial Action & Date
		Co	ontainer Storage Areas: Buildin	gs #1 - #4
Are containers stacked more than two high?	Containers over 30 gallons may not be stacked more than 3 high			
Are containers properly labeled and visible?	Labels incomplete, not visible, not legible, incorrect, torn/missing			
Are all containers within permitted storage areas? With adequate aisle space?	Containers outside of containment. Unable to walk between storage rows. (min 24")			
Pallets in good condition?	Pallets not holding containers correctly, worn, slats broken			
Are all containers closed, unless waste is being added, removed or inspected?	Containers left open			
Leaks, Spills, and Precipitation	Presence of Leaks, spills, and precipitation			
	T	Т	anks Systems and Ancillary Equ	ipment I
Leaks, Spills, and Precipitation	Presence of Leaks, spills, and precipitation			
Foundation and Dikes	Cracks, deterioration, spalling, uneven settlement, erosion, wet spots			
Tank Structural Supports	Concrete deterioration & cracking, corrosion, of pipe supports			
Pipes, Pumps, Valves, Fittings, Filters	Leaks, corrosions, deterioration			
Monitoring Equipment and Level Indicators	Proper Operation			
Automatic waste feed cutoffs	Proper Operation			
Tank shell, roof, bottom	Corrosion, discoloration, cracks, buckles, bulges			
			Personnel Decontamination Eq	ipment
Safety Showers	Clean, accessible, operaing properly			
Eye Wash Stations	Clean, accessible, operaing properly			
Comments:				
Weekly Inspection of Container Inventory - Date	Completed			***Not to Exceed capacities given below for each building
Building #1 Permitted Capacity is 111,100	Building #2 Permitted Capacity is 97,848	Building #	3 Permitted Capacity is 14.138	Building #4 Permitted Capacity is 46,860 gallons or 852 (55gal) equivalent
gallons or 2,020 (55gal) equivalent.	gallons or 1,030 (55gal) drums plus 1x70 cy trailer of solids plus 82x330 gal totes.	gallons or to 96 55-g	7x70 trailers of solids with up gallon drum equivalents ed for every two-bay trailer	
Total Gallons	Total Gallons	Total Gall	ons ons	Total Gallons

Total Containers

APPENDIX F-2-2 Monthly Inspection Logs

CLEAN EARTH OF ALABAMA



Monthly Inspection Log

Inspector Name:	Date:	Time (use range):
mspector Name:	Datc	Time (dae range):

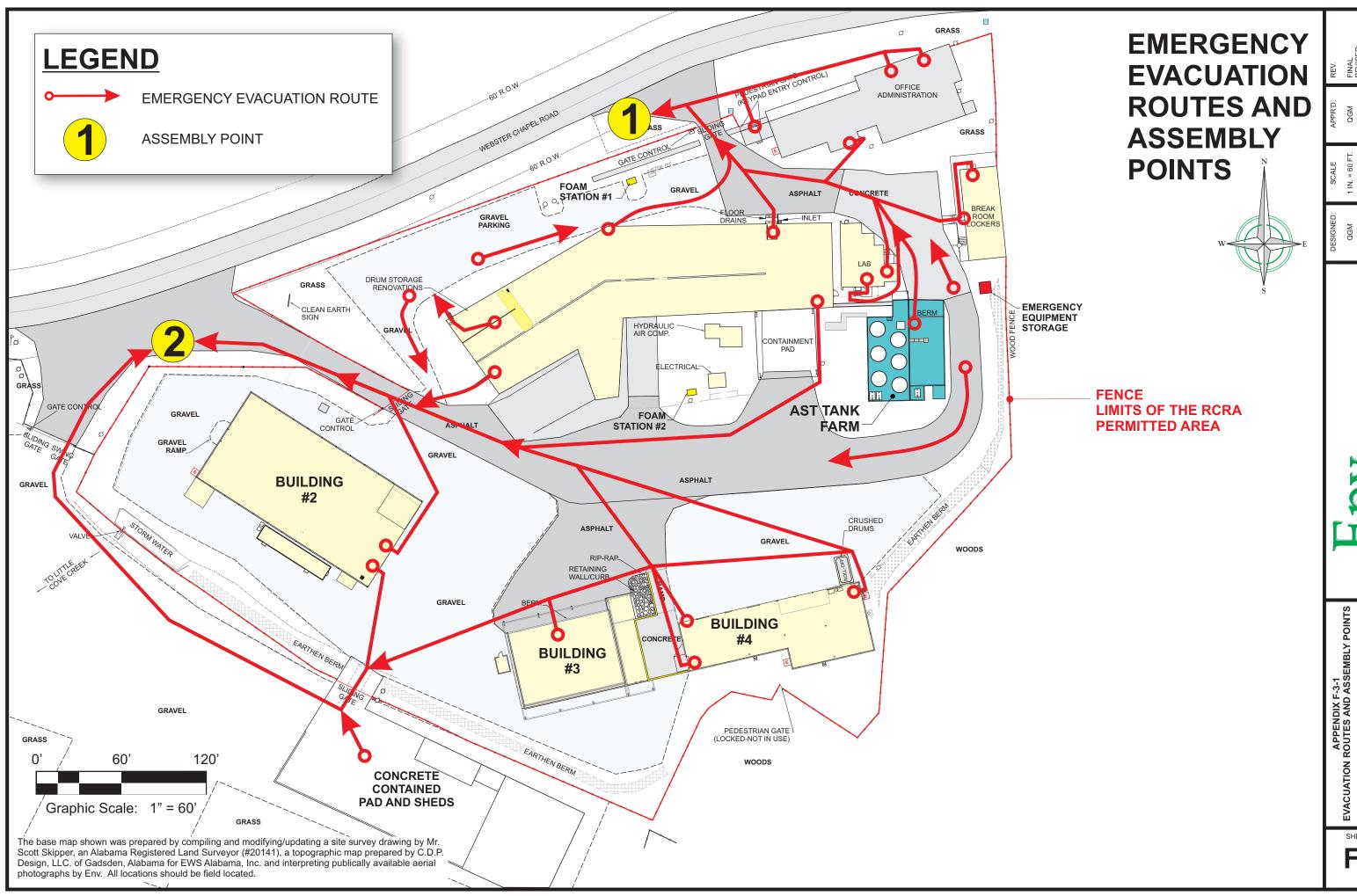
Item/Equipment	Problem/Observation	Status	✓ = Acceptable × = Not Acceptable	Note Deficiency and Remedial Action & Date
Security Devices				
Perimeter Fence	Corrosion, damage, breaches			
Gates	Corrosion, damage, operation			
Warming Signs	Present and legible from 25 feet			
Emergency Lighting	Functioning			
Communication		•		
Telephones	Accessible, functioning			
Portable Radios	Accessible, functioning			
Air Horns	Accessible, functioning			
Personal Protective Equip	oment			
Respirator Cartridges	Low Inventory			
Full-face APR	Low Inventory			
Half-face APR	Low Inventory			
Particulate Protective Suits	Low Inventory			
Chemical Resistant Suits	Low Inventory			
Rain Gear	Low Inventory			
Booties	Low Inventory			
Splash Shield	Low Inventory			
Goggles	Low Inventory			
Safety Glasses	Low Inventory			
Hearing protection	Low Inventory			
Nitrile gloves	Low Inventory			
PVC gloves	Low Inventory			
Duct Tape	Low Inventory			
First Aid Supplies				
First Aid Kits	Stocked, available			
AED	Available			

Monthly Inspection Log

Item/Equipment	Problem/Observation	Status	✓ = Acceptable × = Not Acceptable	Note Deficiency and Remedial Action & Date
Emergency Response Equ	iipment			
Backhoe	Accessible, functioning			
Shovels, rakes, hoes, brooms	Accessible			
Intrinsically Safe Pumps	Accessible, functioning			
Double Diaphragm Pumps	Accessible, functioning			
Sump/Electric Pump	Accessible, functioning			
Centrifugal Pump	Accessible, functioning			
Hoses	Accessible, in good condition			
Clamps & Fittings	Low inventory			
Compressor	Accessible, functioning			
Generator	Accessible			
Extension Cords	Accessible, in good condition			
Forklift	Accessible, functioning			
Spill Control Equipment (i	ncludes equipment for area de	econtami	nation)	
Absorbent pads and booms	Low Inventory			
Wipes	Low Inventory			
Saw Dust	Low Inventory			
Drums, Totes	Low Inventory			
Buckets	Low Inventory			
Pre-Assembled Spill Kits	Accessible and stocked			
Storm Drain Covers	Low Inventory			
Polyethylene Sheeting (rolls)	Low Inventory			
Fire Fighting Supplies				
Fixed Foam Stations	Accessible, charged, inspected			
ABC Fire Extinguishers	Accessible, charged, inspected			
Dolly Mounted ABC Fire Extinguisher	Accessible, charged, inspected			
Class D Fire Extinguisher	Accessible, charged, inspected			

APPENDIX F-3-1 EVACUATION ROUTES AND ASSEMBLY POINTS CLEAN EARTH OF ALABAMA





N. = 60 F DATE:



CLEAN EARTH OF ALABAMA, INC. GLENCOE, ALABAMA

SHEET

APPENDIX F-3-2 EMERGENCY CONTACTS

CLEAN EARTH OF ALABAMA

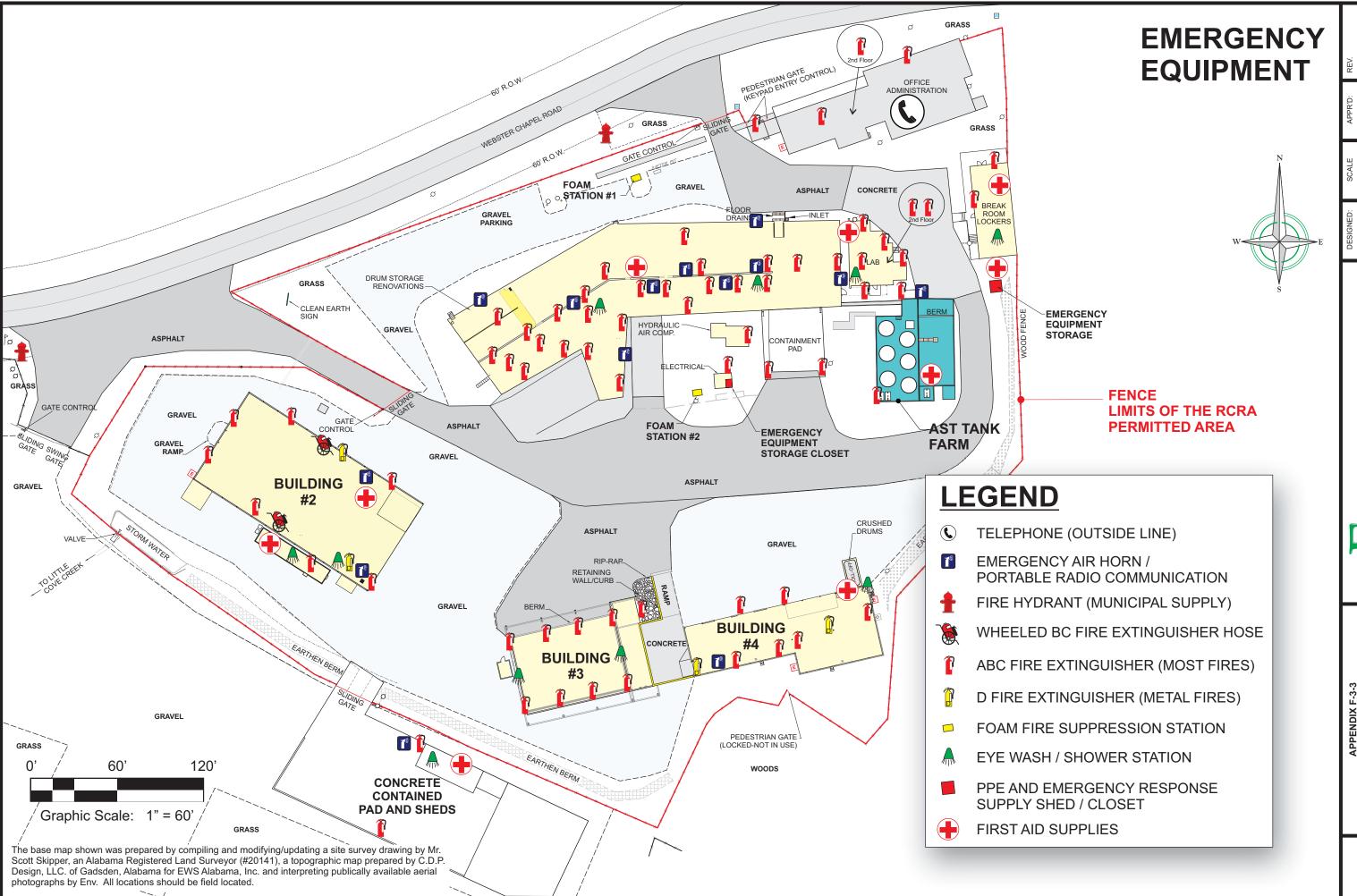


APPENDIX F-3-2 EMERGENCY CONTACTS

Local Authority	Telephone
Glencoe Police Department	911
Glencoe Fire Department	911
Gadsden Fire Department	911
A Med Ambulance Services	256-543-5819
Gadsden Regional Medical Center	256-494-4000
Riverview Medical Center	256-543-5200
Emergency Response Contractor:	
Safeway Industrial (Gadsden)	256-492-3704
National Response Center (NRC)	1-800-424-8802
Alabama Emergency Response Commission (SERC)	800-843-0699
Local Emergency Planning Committee	256-549-4575
ADEM Birmingham Branch Field Office	205-942-6168
	334-394-4310
ADEM - Central Office – 24 Hour Response	334-850-6621
Alabama State Warning Point	800-843-0699
Water – Glencoe Power Works	256-492-1020
Electric - Alabama Power	888-430-5787
Natural Gas - ALAGASCO	800-292-4008

APPENDIX F-3-3 LOCATIONS OF EMERGENCY EQUIPMENT CLEAN EARTH OF ALABAMA





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n G. Macdonald, PG nv@outlook.com 579 . 8724



APPENDIX F-3-3
LOCATIONS OF EMERGENCY EQUIPMENT
CLEAN EARTH OF ALABAMA, INC.
GLENCOE, ALABAMA

SHEET

F3

APPENDIX F-3-4 LIST OF EMERGENCY EQUIPMENT

CLEAN EARTH OF ALABAMA



APPENDIX F-3-4 – Emergency Equipment			
Category	Location(s)	Capability/Use	
Communication			
Telephones	Throughout the Facility	For use in contacting emergency responders and employees.	
Portable Radios	Throughout the Facility Hand-held and body-mounted.	For on-site communication between employees.	
Air Horns	Throughout the Facility	Used to alert employees of an emergency evacuation order.	
Personal Protective	Equipment	•	
Air-Purifying Respirator (APR) Cartridges	Individually issued/ Emergency Storage Shed	Variety of cartridges based on waste involved. Primary Cartridges are P100 OV/AG. Other cartridges are available per the Facility's respiratory protection program.	
Full-face APR	Individually issued	Air purifying, eye protection.	
Half-face APR	Individually issued	Air purifying	
Particulate Protective Suits	Emergency Storage Shed	Protects against small size particles such as dust, lead, asbestos and mold.	
Chemical Resistant Suits	Emergency Storage Shed	Protects against splash hazard from certain in hazardous chemical types. Compatibility of suit with waste checked in advance.	
Rain Gear	Emergency Storage Shed	Protects against splash hazard from certain in hazardous chemical types. Compatibility of suit with waste checked in advance.	
Booties	Emergency Storage Shed	Protects against splash hazard from certain in hazardous chemical types. Compatibility of suit with waste checked in advance.	
Splash Shield	Emergency Storage Shed	Protects face from splashes	
Goggles	Emergency Storage Shed	Protects eyes	
Safety Glasses	Emergency Storage Shed	Protects eyes	
Hearing protection	Emergency Storage Shed	Protects ears/hearing	
Nitrile gloves	Emergency Storage Shed Work station PPE Supply Room	Protects hands when working with oils, greases, acids, caustics and alcohols.	
PVC gloves	Emergency Storage Shed	Protects hands from chemicals, punctures cuts and abrasions.	



APPENDIX F-3-4 – Emergency Equipment			
Category	Location(s)	Capability/Use	
Personal Protective	Equipment (cont'd)	•	
Duct Tape	Throughout the Facility Emergency Storage Shed	Used to seal PPE, multi-purpose	
Emergency Respons	se Equipment	•	
Backhoe	Building #4	Mechanical tool for excavation large quantities of releases waste.	
Hand shovels, rakes, hoes, brooms	Emergency Storage Shed Various Locations On-Site	Hand tools for waste capture and containment	
Intrinsically Safe Pumps	AST Tank Farm Various Locations On-Site	Pumps that are compliant with NFPA standards for transferring or pumping Class 1 and Class 2 flammable liquids.	
Pneumatic Diaphragm Pumps	AST Tank Farm Various Locations On-Site	Used for non-flammable and flammable liquids. Check compatibility to waste and degree of flammability of material to be pumped.	
Sump/Electric Pump	Various Locations On-Site	Used for non-flammable liquids	
Centrifugal Pump	Emergency Storage Shed	Gas powered pump designed to move large volumes of non-flammable liquids.	
Hoses	AST Tank Farm Various Locations On-Site	Attached to pumps to move liquids	
Clamps & Fittings	AST Tank Farm Various Locations On-Site	Fittings for pipes and hoses	
Compressor	Stabilization Building Various Locations On-Site	Air supply for pneumatic equipment	
Generator/Extension Cords	Building #4	In-field electrical power supply	
Forklift	Various Locations On-Site	Moving pallets, drums and other objects.	
Spill Control Equipn	nent		
Absorbent pads	Emergency Storage Shed	Spill containment/clean-up	



APPENDIX F-3-4 – Emergency Equipment			
Category	Location(s)	Capability/Use	
Spill Control Equipm	ent (cont'd)		
Absorbent booms	Emergency Storage Shed	Spill containment/clean-up	
Wipes	Emergency Storage Shed	Spill containment/clean-up	
Saw Dust	Buildings #1 - #4	Spill containment/clean-up	
Drums	Various Locations On-Site	Waste capture/storage	
Totes	Various Locations On-Site	Waste capture/storage	
Buckets	Various Locations On-Site	Waste capture/storage	
Pre-Assembled Spill Kits	Emergency Storage Shed Buildings #1 - #4	Spill kits are an 85-gallon contain holding: chemical resistant gloves (2 pair), goggles (2), Tyvek coveralls (2), oil absorbent granules, absorbent pads (25), absorbent socks (40, absorbent pillows (2), disposable bags and ties (3), roll of caution tape, plastic shovel.	
		Each kit can contain a spill of up to 26.5 gallons. Materials in the kits are used to contain a spill, prevent it from reaching a water way, and to prevent it from leaving the Facility.	
Storm Drain Covers	Emergency Storage Shed	Cover drains to prevent spill and/or impacted water from reaching the stormwater system.	
Polyethylene Sheeting (rolls)	Throughout Facility	Containment, covering wastes, protective layer underneath removed waste.	
Decontamination Eq	uipment (see also, Spill Cor	ntrol Equipment, above, for area decontamination)	
Safety Showers	Buildings #1, #2, & #4 Laboratory Employee Locker Room	Used to wash body if skin is exposed to a hazardous chemical.	
Eye Wash Station	Buildings #1, #2, & #4 Laboratory	Used to rinse eyes if eyes are exposed to a hazardous chemical.	

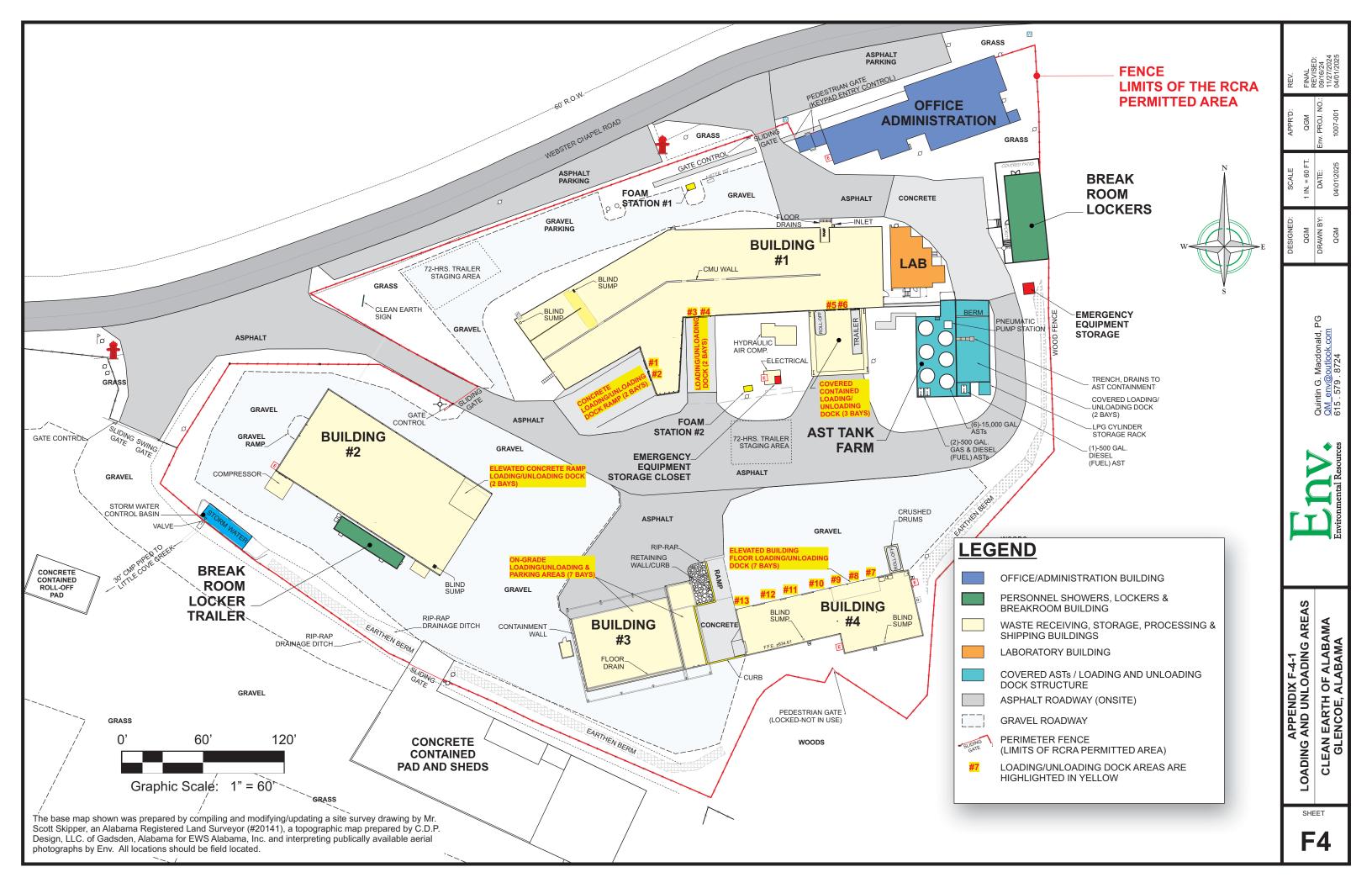


APPENDIX F-3-4 – Emergency Equipment			
Category	Location(s)	Capability/Use	
Water for Fire Contro	ol		
Fire Hydrants	Along Webster Chapel Road (2)	Water for Fire Control to be used by local fire department(s)	
		Note: Facility employees are trained to fight incipient stage fires only. Fire hydrants are present for the local fire department(s) if the need to use them arises. Fire departments would use their own hoses and connections to the fire hydrants.	
Fire Fighting Supplie	?S	·	
Fixed Foam Station (2)	Central Location	Extinguishing Class B (flammable or combustible liquid) fires.	
ABC Multipurpose Fire Extinguishers (portable)	Throughout Facility	Extinguishing Class A (combustible), Class B ((flammable or combustible liquid) and Class C (electrical) fires.	
Dolly Mounted ABC Fire Extinguisher with Hose	Building #4	Extinguishing Class A (combustible), Class B ((flammable or combustible liquid) and Class C (electrical) fires.	
Class D Fire Extinguisher	Building #1	Extinguishing Class D (combustible metal) fires.	
First Aid Supplies	·		
First Aid Kits	Plant Manager's office Admin Office	Used to treat minor injuries such as lacerations, punctures, abrasions, sprains, strains, and 1 st or 2 nd degree burns.	
Automated External Defibrillator (AED)	Laboratory Building	Treating sudden cardiac arrest.	



APPENDIX F-4-1 LOADING/UNLOADING AREA LOCATIONS CLEAN EARTH OF ALABAMA





APPENDIX F-4-2 EDR GEOCHECK® REPORT

CLEAN EARTH OF ALABAMA



Clean Earth of Alabama 402 Webster Chapel Road Gadsden, AL 35905

Inquiry Number: 7561938.1s

February 07, 2024

The EDR GeoCheck® Report



6 Armstrong Road, 4th floor Shelton, CT 06484 Toll Free: 800.352.0050 www.edrnet.com

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Thank you for your business.Please contact EDR at 1-800-352-0050 with any questions or comments.

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GEOCHECK® - PHYSICAL SETTING SOURCE REPORT

TARGET PROPERTY ADDRESS

CLEAN EARTH OF ALABAMA 402 WEBSTER CHAPEL ROAD GADSDEN, AL 35905

TARGET PROPERTY COORDINATES

Latitude (North): 33.920452 - 33° 55' 13.63" Longitude (West): 85.90419 - 85° 54' 15.08"

Universal Tranverse Mercator: Zone 16 UTM X (Meters): 601294.6 UTM Y (Meters): 3753682.2

Elevation: 636 ft. above sea level

USGS TOPOGRAPHIC MAP

Target Property Map: 33085-H8 GLENCOE, AL

Version Date: 1972

EDR's GeoCheck Physical Setting Source Addendum is provided to assist the environmental professional in forming an opinion about the impact of potential contaminant migration.

Assessment of the impact of contaminant migration generally has two principle investigative components:

- 1. Groundwater flow direction, and
- 2. Groundwater flow velocity.

Groundwater flow direction may be impacted by surface topography, hydrology, hydrogeology, characteristics of the soil, and nearby wells. Groundwater flow velocity is generally impacted by the nature of the geologic strata.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

GROUNDWATER FLOW DIRECTION INFORMATION

Groundwater flow direction for a particular site is best determined by a qualified environmental professional using site-specific well data. If such data is not reasonably ascertainable, it may be necessary to rely on other sources of information, such as surface topographic information, hydrologic information, hydrogeologic data collected on nearby properties, and regional groundwater flow information (from deep aquifers).

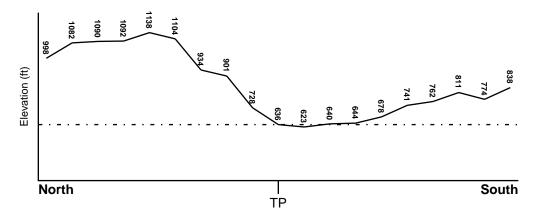
TOPOGRAPHIC INFORMATION

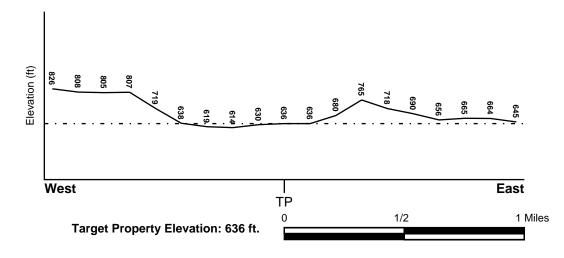
Surface topography may be indicative of the direction of surficial groundwater flow. This information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

TARGET PROPERTY TOPOGRAPHY

General Topographic Gradient: General SSW

SURROUNDING TOPOGRAPHY: ELEVATION PROFILES





Source: Topography has been determined from the USGS 7.5' Digital Elevation Model and should be evaluated on a relative (not an absolute) basis. Relative elevation information between sites of close proximity should be field verified.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

HYDROLOGIC INFORMATION

Surface water can act as a hydrologic barrier to groundwater flow. Such hydrologic information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

Refer to the Physical Setting Source Map following this summary for hydrologic information (major waterways and bodies of water).

FEMA FLOOD ZONE

Flood Plain Panel at Target Property FEMA Source Type

Not Reported

Additional Panels in search area: FEMA Source Type

01055C0366D FEMA FIRM Flood data 0100130050B FEMA Q3 Flood data

NATIONAL WETLAND INVENTORY

NWI Quad at Target Property Data Coverage

GLENCOE YES - refer to the Overview Map and Detail Map

HYDROGEOLOGIC INFORMATION

Hydrogeologic information obtained by installation of wells on a specific site can often be an indicator of groundwater flow direction in the immediate area. Such hydrogeologic information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

AQUIFLOW®

Search Radius: 1.000 Mile.

EDR has developed the AQUIFLOW Information System to provide data on the general direction of groundwater flow at specific points. EDR has reviewed reports submitted by environmental professionals to regulatory authorities at select sites and has extracted the date of the report, groundwater flow direction as determined hydrogeologically, and the depth to water table.

LOCATION GENERAL DIRECTION

MAP ID FROM TP GROUNDWATER FLOW

Not Reported

GROUNDWATER FLOW VELOCITY INFORMATION

Groundwater flow velocity information for a particular site is best determined by a qualified environmental professional using site specific geologic and soil strata data. If such data are not reasonably ascertainable, it may be necessary to rely on other sources of information, including geologic age identification, rock stratigraphic unit and soil characteristics data collected on nearby properties and regional soil information. In general, contaminant plumes move more quickly through sandy-gravelly types of soils than silty-clayey types of soils.

GEOLOGIC INFORMATION IN GENERAL AREA OF TARGET PROPERTY

Geologic information can be used by the environmental professional in forming an opinion about the relative speed at which contaminant migration may be occurring.

ROCK STRATIGRAPHIC UNIT

GEOLOGIC AGE IDENTIFICATION

Era: Paleozoic Category: Stratified Sequence

System: Devonian and Silurian Series: Devonian and Silurian

Code: DS (decoded above as Era, System & Series)

Geologic Age and Rock Stratigraphic Unit Source: P.G. Schruben, R.E. Arndt and W.J. Bawiec, Geology of the Conterminous U.S. at 1:2,500,000 Scale - a digital representation of the 1974 P.B. King and H.M. Beikman Map, USGS Digital Data Series DDS - 11 (1994).

SSURGO SOIL MAP - 7561938.1s



SITE NAME: Clean Earth of Alabama ADDRESS: 402 Webster Chapel Road Gadsden AL 35905 LAT/LONG: 33.920452 / 85.90419

CLIENT: EME Environmental Solutions, LLC CONTACT: Ellen Hofmann-Haynie INQUIRY #: 7561938.1s

February 07, 2024 11:33 am DATE:

DOMINANT SOIL COMPOSITION IN GENERAL AREA OF TARGET PROPERTY

The U.S. Department of Agriculture's (USDA) Soil Conservation Service (SCS) leads the National Cooperative Soil Survey (NCSS) and is responsible for collecting, storing, maintaining and distributing soil survey information for privately owned lands in the United States. A soil map in a soil survey is a representation of soil patterns in a landscape. The following information is based on Soil Conservation Service SSURGO data.

Soil N	/lap	ID:	1
--------	------	-----	---

Soil Component Name: Pits

Soil Surface Texture:

Hydrologic Group: Not reported

Soil Drainage Class: Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: Not Reported

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

No Layer Information available.

Soil Map ID: 2

Soil Component Name: Conasauga

Soil Surface Texture: loam

Hydrologic Group: Class C - Slow infiltration rates. Soils with layers impeding downward

movement of water, or soils with moderately fine or fine textures.

Soil Drainage Class: Moderately well drained

Hydric Status: Partially hydric

Corrosion Potential - Uncoated Steel: High

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

	Soil Layer Information									
	Вои	ındary		Classification		Saturated hydraulic				
Layer	Upper	Lower	Soil Texture Class A	AASHTO Group	Unified Soil	conductivity micro m/sec	Soil Reaction (pH)			
1	0 inches	3 inches	loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	Not reported	Max: 1.4 Min: 0.42	Max: Min:			
2	3 inches	9 inches	clay loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	Not reported	Max: 1.4 Min: 0.42	Max: Min:			
3	9 inches	38 inches	clay	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	Not reported	Max: 1.4 Min: 0.42	Max: Min:			
4	38 inches	59 inches	weathered bedrock	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	Not reported	Max: 1.4 Min: 0.42	Max: Min:			

Soil Map ID: 3

Soil Component Name: Allen

Soil Surface Texture: gravelly fine sandy loam

Hydrologic Group: Class B - Moderate infiltration rates. Deep and moderately deep,

moderately well and well drained soils with moderately coarse

textures.

Soil Drainage Class: Well drained

Hydric Status: Partially hydric

Corrosion Potential - Uncoated Steel: Low

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

	Soil Layer Information									
	Воц	ındary	Soil Texture Class A	Classi	fication	Saturated hydraulic				
Layer	Upper	Lower		AASHTO Group	Unified Soil	conductivity micro m/sec	Soil Reaction (pH)			
1	0 inches	11 inches	gravelly fine sandy loam	Granular materials (35 pct. or less passing No. 200), Silty, or Clayey Gravel and Sand.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay	Max: 14 Min: 4	Max: 5.5 Min: 4.5			
2	11 inches	63 inches	clay loam	Granular materials (35 pct. or less passing No. 200), Silty, or Clayey Gravel and Sand.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay	Max: 14 Min: 4	Max: 5.5 Min: 4.5			
3	63 inches	68 inches	clay loam	Granular materials (35 pct. or less passing No. 200), Silty, or Clayey Gravel and Sand.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay	Max: 14 Min: 4	Max: 5.5 Min: 4.5			

Soil Map ID: 4

Soil Component Name: Conasauga

Soil Surface Texture: loam

Class C - Slow infiltration rates. Soils with layers impeding downward movement of water, or soils with moderately fine or fine textures. Hydrologic Group:

Soil Drainage Class: Moderately well drained

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: High

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

	Soil Layer Information								
	Воц	ındary		Classif	fication	Saturated hydraulic conductivity micro m/sec			
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil				
1	0 inches	3 inches	loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	Not reported	Max: 1.4 Min: 0.42	Max: Min:		
2	3 inches	9 inches	clay loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	Not reported	Max: 1.4 Min: 0.42	Max: Min:		
3	9 inches	38 inches	clay	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	Not reported	Max: 1.4 Min: 0.42	Max: Min:		
4	38 inches	59 inches	weathered bedrock	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	Not reported	Max: 1.4 Min: 0.42	Max: Min:		

Soil Map ID: 5

Soil Component Name: Water
Soil Surface Texture: loam

Hydrologic Group: Class C - Slow infiltration rates. Soils with layers impeding downward

movement of water, or soils with moderately fine or fine textures.

Soil Drainage Class: Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: Not Reported

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

No Layer Information available.

Soil Map ID: 6

Soil Component Name: Nella

Soil Surface Texture: gravelly sandy loam

Hydrologic Group: Class B - Moderate infiltration rates. Deep and moderately deep,

moderately well and well drained soils with moderately coarse

textures.

Soil Drainage Class: Well drained

Hydric Status: Partially hydric

Corrosion Potential - Uncoated Steel: Moderate

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

	Soil Layer Information							
	Воц	ındary		Classi	fication	Saturated hydraulic		
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil	conductivity micro m/sec	Soil Reaction (pH)	
1	0 inches	5 inches	gravelly sandy loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay	Max: 14 Min: 4	Max: 5.5 Min: 4.5	
2	5 inches	64 inches	cobbly clay loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay	Max: 14 Min: 4	Max: 5.5 Min: 4.5	

Soil Map ID: 7

Soil Component Name: Cedarbluff

Soil Surface Texture: fine sandy loam

Hydrologic Group: Class C - Slow infiltration rates. Soils with layers impeding downward

movement of water, or soils with moderately fine or fine textures.

Soil Drainage Class: Somewhat poorly drained

Hydric Status: Partially hydric

Corrosion Potential - Uncoated Steel: High

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 23 inches

	Soil Layer Information							
	Bou	ındary		Classi	Classification			
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil	hydraulic conductivity micro m/sec	Oon Noadhon	
1	0 inches	11 inches	fine sandy loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), silt.	Max: 1.4 Min: 0.42	Max: 5.5 Min: 5.1	
2	11 inches	59 inches	loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), silt.	Max: 1.4 Min: 0.42	Max: 5.5 Min: 5.1	

Soil Map ID: 8

Cloudland Soil Component Name:

Soil Surface Texture: loam

Class C - Slow infiltration rates. Soils with layers impeding downward movement of water, or soils with moderately fine or fine textures. Hydrologic Group:

Soil Drainage Class: Moderately well drained

Hydric Status: Partially hydric

Corrosion Potential - Uncoated Steel: Moderate

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 61 inches

	Soil Layer Information								
	Boundary			Classi	Classification				
Layer	Upper	Lower	Soil Texture Class A	AASHTO Group	Unified Soil	hydraulic conductivity micro m/sec	Soil Reaction (pH)		
1	0 inches	20 inches	loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay. FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), silt.	Max: 1.4 Min: 0.42	Max: 5.5 Min: 4.5		
2	20 inches	29 inches	loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay. FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), silt.	Max: 1.4 Min: 0.42	Max: 5.5 Min: 4.5		
3	29 inches	61 inches	clay loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay. FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), silt.	Max: 1.4 Min: 0.42	Max: 5.5 Min: 4.5		

Soil Map ID: 9

Soil Component Name: Allen

Soil Surface Texture: fine sandy loam

Hydrologic Group: Class B - Moderate infiltration rates. Deep and moderately deep,

moderately well and well drained soils with moderately coarse

textures.

Soil Drainage Class: Well drained

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: Low

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

	Soil Layer Information									
	Вои	ındary		Classi	fication	Saturated hydraulic				
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil	conductivity micro m/sec	Ooii i toaotioii			
1	0 inches	11 inches	fine sandy loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay	Max: 14 Min: 4	Max: 5.5 Min: 4.5			
2	11 inches	63 inches	clay loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay	Max: 14 Min: 4	Max: 5.5 Min: 4.5			
3	63 inches	68 inches	clay loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay	Max: 14 Min: 4	Max: 5.5 Min: 4.5			

LOCAL / REGIONAL WATER AGENCY RECORDS

EDR Local/Regional Water Agency records provide water well information to assist the environmental professional in assessing sources that may impact ground water flow direction, and in forming an opinion about the impact of contaminant migration on nearby drinking water wells.

WELL SEARCH DISTANCE INFORMATION

DATABASE SEARCH DISTANCE (miles)

Federal USGS 1.000 Federal FRDS PWS 1.000 State Database 1.000

FEDERAL USGS WELL INFORMATION

MAP ID WELL ID FROM TP

No Wells Found

FEDERAL FRDS PUBLIC WATER SUPPLY SYSTEM INFORMATION

MAP ID WELL ID FROM TP

No PWS System Found

Note: PWS System location is not always the same as well location.

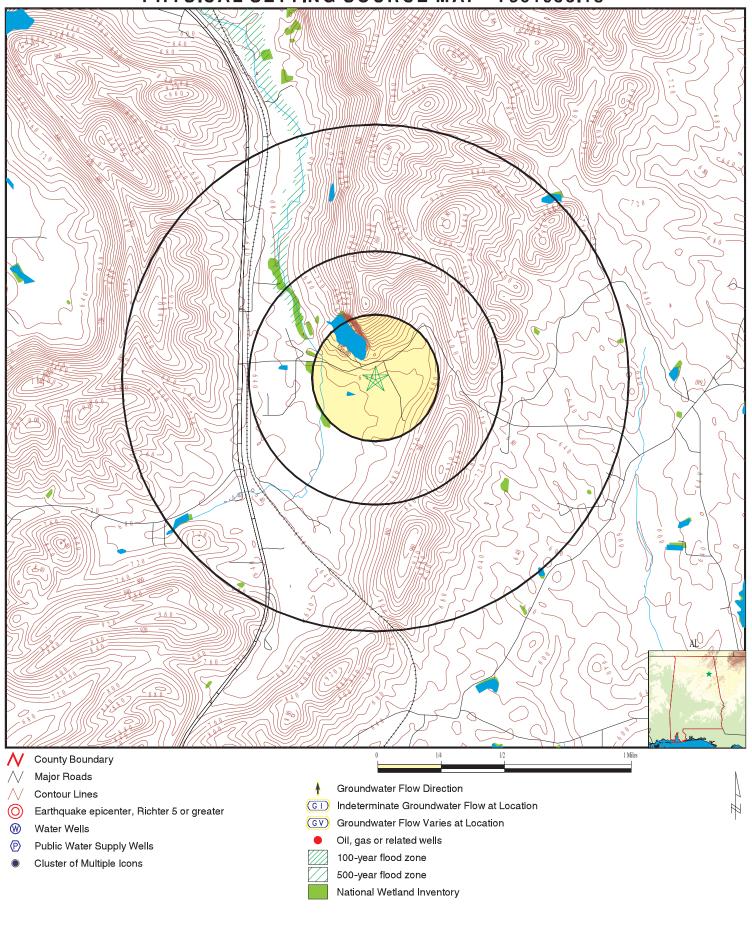
GEOCHECK[®] - PHYSICAL SETTING SOURCE SUMMARY

STATE DATABASE WELL INFORMATION

MAP ID WELL ID LOCATION FROM TP

No Wells Found

PHYSICAL SETTING SOURCE MAP - 7561938.1s



SITE NAME: Clean Earth of Alabama ADDRESS: 402 Webster Chapel Road Gadsden AL 35905

33.920452 / 85.90419

LAT/LONG:

EME Environmental Solutions, LLC

CLIENT: CONTACT: Ellen Hofmann-Haynie

INQUIRY#: 7561938.1s

February 07, 2024 11:33 am DATE:

GEOCHECK®- PHYSICAL SETTING SOURCE MAP FINDINGS RADON

AREA RADON INFORMATION

State Database: AL Radon

Radon Test Results

Num Tested	< 4 pCi/L	> 4 pCi/L	% > 4 pCi/L	Avg Level	Highest
10	10	0	0	0.76	2.6

Federal EPA Radon Zone for ETOWAH County: 2

Note: Zone 1 indoor average level > 4 pCi/L.

: Zone 2 indoor average level >= 2 pCi/L and <= 4 pCi/L.

: Zone 3 indoor average level < 2 pCi/L.

Federal Area Radon Information for ETOWAH COUNTY, AL

Number of sites tested: 15

Area	Average Activity	% <4 pCi/L	% 4-20 pCi/L	% >20 pCi/L
Living Area - 1st Floor Living Area - 2nd Floor	0.626 pCi/L Not Reported	100% Not Reported	0% Not Reported	0% Not Reported
Basement	1.750 pCi/L	100%	0%	0%

PHYSICAL SETTING SOURCE RECORDS SEARCHED

TOPOGRAPHIC INFORMATION

USGS 7.5' Digital Elevation Model (DEM)

Source: United States Geologic Survey

EDR acquired the USGS 7.5' Digital Elevation Model in 2002 and updated it in 2006. The 7.5 minute DEM corresponds to the USGS 1:24,000- and 1:25,000-scale topographic quadrangle maps. The DEM provides elevation data with consistent elevation units and projection.

HYDROLOGIC INFORMATION

Flood Zone Data: This data was obtained from the Federal Emergency Management Agency (FEMA). It depicts 100-year and 500-year flood zones as defined by FEMA. It includes the National Flood Hazard Layer (NFHL) which incorporates Flood Insurance Rate Map (FIRM) data and Q3 data from FEMA in areas not covered by NFHL.

Source: FEMA

Telephone: 877-336-2627

Date of Government Version: 2003, 2015

NWI: National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 2002, 2005, 2010 and 2015 from the U.S. Fish and Wildlife Service.

State Wetlands Data: Wetlands Data
Source: Alabama State Water Program

Telephone: 334-844-3927

HYDROGEOLOGIC INFORMATION

AQUIFLOW^R Information System

Source: EDR proprietary database of groundwater flow information

EDR has developed the AQUIFLOW Information System (AIS) to provide data on the general direction of groundwater flow at specific points. EDR has reviewed reports submitted to regulatory authorities at select sites and has extracted the date of the report, hydrogeologically determined groundwater flow direction and depth to water table information.

GEOLOGIC INFORMATION

Geologic Age and Rock Stratigraphic Unit

Source: P.G. Schruben, R.E. Arndt and W.J. Bawiec, Geology of the Conterminous U.S. at 1:2,500,000 Scale - A digital representation of the 1974 P.B. King and H.M. Beikman Map, USGS Digital Data Series DDS - 11 (1994).

STATSGO: State Soil Geographic Database

Source: Department of Agriculture, Natural Resources Conservation Service (NRCS)

The U.S. Department of Agriculture's (USDA) Natural Resources Conservation Service (NRCS) leads the national Conservation Soil Survey (NCSS) and is responsible for collecting, storing, maintaining and distributing soil survey information for privately owned lands in the United States. A soil map in a soil survey is a representation of soil patterns in a landscape. Soil maps for STATSGO are compiled by generalizing more detailed (SSURGO) soil survey maps.

SSURGO: Soil Survey Geographic Database

Source: Department of Agriculture, Natural Resources Conservation Service (NRCS)

Telephone: 800-672-5559

SSURGO is the most detailed level of mapping done by the Natural Resources Conservation Service, mapping scales generally range from 1:12,000 to 1:63,360. Field mapping methods using national standards are used to construct the soil maps in the Soil Survey Geographic (SSURGO) database. SSURGO digitizing duplicates the original soil survey maps. This level of mapping is designed for use by landowners, townships and county natural resource planning and management.

PHYSICAL SETTING SOURCE RECORDS SEARCHED

LOCAL / REGIONAL WATER AGENCY RECORDS

FEDERAL WATER WELLS

PWS: Public Water Systems

Source: EPA/Office of Drinking Water

Telephone: 202-564-3750

Public Water System data from the Federal Reporting Data System. A PWS is any water system which provides water to at least 25 people for at least 60 days annually. PWSs provide water from wells, rivers and other sources.

PWS ENF: Public Water Systems Violation and Enforcement Data

Source: EPA/Office of Drinking Water

Telephone: 202-564-3750

Violation and Enforcement data for Public Water Systems from the Safe Drinking Water Information System (SDWIS) after August 1995. Prior to August 1995, the data came from the Federal Reporting Data System (FRDS).

USGS Water Wells: USGS National Water Inventory System (NWIS)

This database contains descriptive information on sites where the USGS collects or has collected data on surface water and/or groundwater. The groundwater data includes information on wells, springs, and other sources of groundwater.

STATE RECORDS

Alabama Wells Data

Source: Department of Environmental Management

Telephone: 334-271-7985

OTHER STATE DATABASE INFORMATION

Well Surface Locations

Source: Geological Survey of Alabama, State Oil and Gas Board

Telephone: 205-247-3661

A listing of oil and gas well locations in the state.

RADON

State Database: AL Radon

Source: Department of Public Health

Telephone: 334-206-5391

Short-Term Test Results for Alabama Counties

Area Radon Information

Source: USGS

Telephone: 703-356-4020

The National Radon Database has been developed by the U.S. Environmental Protection Agency

(USEPA) and is a compilation of the EPA/State Residential Radon Survey and the National Residential Radon Survey. The study covers the years 1986 - 1992. Where necessary data has been supplemented by information collected at private sources such as universities and research institutions.

EPA Radon Zones Source: EPA

Telephone: 703-356-4020

Sections 307 & 309 of IRAA directed EPA to list and identify areas of U.S. with the potential for elevated indoor

radon levels.

OTHER

Airport Landing Facilities: Private and public use landing facilities

Source: Federal Aviation Administration, 800-457-6656

Epicenters: World earthquake epicenters, Richter 5 or greater

Source: Department of Commerce, National Oceanic and Atmospheric Administration

Earthquake Fault Lines: The fault lines displayed on EDR's Topographic map are digitized quaternary faultlines, prepared

in 1975 by the United State Geological Survey

PHYSICAL SETTING SOURCE RECORDS SEARCHED

STREET AND ADDRESS INFORMATION

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SECTION G CONTINGENCY PLAN CLEAN EARTH OF ALABAMA



QUICK REFERENCE GUIDE FOR RESPONDERS

CLEAN EARTH OF ALABAMA



Clean Earth of Alabama -TSDF | 402 Webster Chapel Road, Glencoe, AL 35905

1) Brad Phillips - General Manager	Primary	256.485.2878
2) Michael Wilson - Plant Manager	1st Alternate	256-558-6185
3) Don Johnson - Asst. Plant Manager	2nd Alternate	256-613-6303

The facility uses hand-held radios, air horns, & Cell Phones for notification of evacuation.

= Indicates location of six (6) 15,000gal tanks with waste flammable liquids totaling 90,000gal in the tank farm

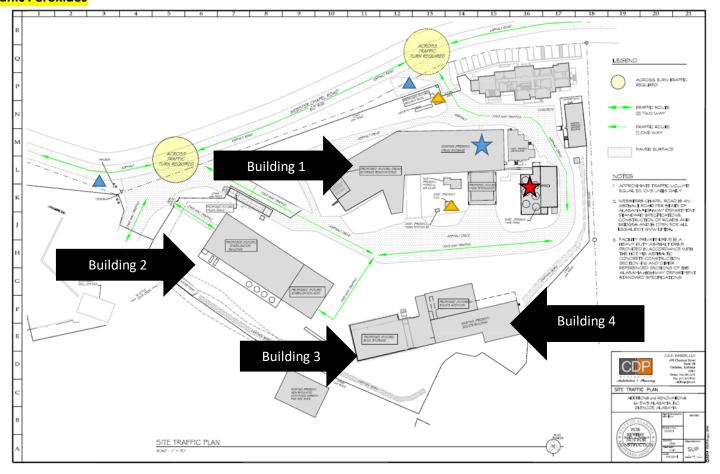
= Indicates location of a storage container holding materials that are **Dangerous when wet**

= Indicates location of hydrants outside the facility

= Indicates foam station inside the facility

All four (4) of the hazardous waste storage buildings have the potential to contain a mixture of DOT hazard classes in containers, total facility capacity is 5,000 drums.

Class 2 - Compressed Gases, Class 3 - Flammable Liquids, Class 4 - Flammable Solids, Class 6 - Poison / Toxic Substances, Class 8 - Corrosives Acids & Bases, Class 9 - Miscellaneous Dangerous Goods (environmentally hazardous substances), Universal Wastes: Batteries (lithium, nickel cadmium, lead acid), mercury containing devices. **Building #1 is the only one to contain: Class 4 - 4.2 Spontaneously Combustible; 4.3 Dangerous When Wet, Class 5 - Oxidizing Substances and Organic Peroxides



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G CONTINGENCY PLAN

PURPOSE AND IMPLEMENTATION

This Contingency Plan (the "Plan") is designed to minimize hazards to human health or the environment from fires, explosions or any unplanned sudden or non-sudden release of hazardous waste or hazardous waste constituents to air, soil or surface water at the Clean Earth of Alabama, Inc., Glencoe, Alabama facility ("CEA" or the "Facility"). This Plan describes the actions Facility personnel will take to comply with Alabama Administrative Code Rule 335-14-5-.04(2) and (7) in response to fires, explosions or any unpermitted sudden or non-sudden release of hazardous waste or hazardous waste constituents to air, soil or surface water at the Facility. The provisions of this Plan will be carried out immediately whenever there is a fire, explosion or release of hazardous waste or hazardous waste constituents which could threaten human health or the environment.

This Plan also describes arrangements agreed to by local law enforcement, fire departments, hospitals, contractors and ADEM Field Operations Division and local emergency response teams to coordinate emergency services, pursuant to Alabama Administrative Code Rule 335-14-5-.03(8).

A copy of the Contingency Plan and all revisions to the plan will be maintained at the Facility and submitted to local law enforcement, fire departments, hospitals, and the Alabama Department of Environmental Management (ADEM), Field Operations Division as well as any local emergency response teams that may be called upon to provide emergency services. Documentation of compliance with this requirement will be maintained at the Facility.

The Contingency Plan will be reviewed, and immediately amended, if necessary, whenever:

- The Facility's permit is revised;
- The Plan fails in an emergency;
- The Facility changes, in its design, construction, operation, maintenance or other circumstances, in a way that materially increases the potential for fires, explosions, or releases of hazardous waste or hazardous waste constituents, or changes the response necessary in an emergency;
- The list of emergency coordinators changes; or,



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• The list or location of emergency equipment changes.

G-1 General Information

Clean Earth of Alabama, Inc. operates a facility located at 402 Webster Chapel Road in Etowah County, Glencoe, Alabama 35905 where hazardous wastes are managed in tanks and containers. A Location Map is provided in <u>Appendix G-1-1</u> and a Site Map is provided in <u>Appendix G-1-2</u>. The Facility is located on approximately 7.3 acres with 4.6 acres having improvements and housing the primary areas of operation. The Facility accepts a variety of hazardous and non-hazardous industrial wastes, non-infectious medical wastes, universal wastes, office and e-wastes. Most wastes that are received at the Facility are blended into fuel and shipped off-site to be burned in kilns, boilers, and industrial furnaces. Pharmaceutical wastes are received for shredding prior to shipment off-site for disposal. Other wastes are accepted for storage in containers and shipment off-site to permitted facilities.

The Facility consists of storage and blending tanks, container storage and processing areas, tanker loading/unloading pad and an on-site laboratory. The Facility has a hazardous waste storage capacity of up to 352,790 gallons including six (6)-15,000 gallon above ground storage tanks (ASTs) and up to 262,790 gallons in individual containers such as various sized totes and drums, etc. In addition, the Facility has a storage capacity of up to 560 cubic yards¹ of solid hazardous waste in bulk trucks, such as end dumps. Wastes are typically transported to the Facility in bulk tank trucks with a capacity of up to 7,000 gallons or in vans carrying various size containers.

Incoming bulk wastes are pumped directly into storage tanks. Containerized wastes are processed through fuel blending or by other Facility processes such as bulking. Waste may be pumped to or from the holding tanks either directly from tankers or other containers as needed.

At the time of this Application, the Facility operates three shifts, 24 hours a day, 5 days a week. Those times are subject to change as business dictates. There is a security guard onsite 24/7/365.

In lieu of every two (2) 70-cubic yard trailers of solids stored in Building #3, the Facility may store up to 384 55-gallon containers (or 24 330-gallon totes). That number is included in the total gallons.



G-2 Emergency Coordinators

At all times, there must be at least one employee either on the Facility premises or available to respond to an emergency by reaching the Facility within a short period of time with the responsibility for coordinating all emergency response measures. That person is known as the Emergency Coordinator (EC).

The EC will be available on a 24-hour basis and trained in the responsibilities of the position. The EC will be thoroughly familiar with all aspects of the Facility's Contingency Plan, all operations and activities at the Facility, the location and characteristics of wastes handled, the location of all records within the Facility and the Facility layout. In addition, the ECs and Alternates have the authority to commit the resources needed to carry out the Contingency Plan.

The primary EC is responsible for the implementation of the Contingency Plan. Alternate ECs are responsible for the implementation of the Contingency Plan in the absence of the primary EC. Primary and alternate Emergency Coordinators are listed in <u>Table G-2-1</u>. If an emergency develops at the Facility, the discoverer should contact the primary EC. If the Primary EC is not available, the Alternate ECs should be called in the order in Table G-2-1.

TABLE G-2-1 LIST OF EMERGENCY COORDINATORS			
Name/Position	Office Address	Home Address	Phone Numbers
Primary Emergency Coordinator David Lowman General Manager	402 Webster Chapel Road Glencoe, AL 35905	105 Aqua Vista Drive West Gadsden AL 35901	256-613-1218 (C) 256-492-8340 (O)
1st Alternate Michael Wilson Plant Manager	402 Webster Chapel Road Glencoe, AL 35905	301 Dogwood Street Boaz, AL 35956	256-558-6185 (C) 256-492-8340 (O)
2 nd Alternate Don Johnson Assistant Plant Manager	402 Webster Chapel Road Glencoe, AL 35905	411 Madison Court Gadsden, AL 35904	256-613-6303 (C) 256-438-5376 (H) 256-492-8340 (O)



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G-3 Implementation

The decision to implement the Contingency Plan depends upon the presence of an imminent or actual incident that could threaten human health or the environment. The purpose of this section is to provide guidance to the EC in making that decision through use of specific decision-making criteria.

The Contingency Plan will be implemented in the following situations:

1. Fire and/or Explosion

- a. A fire causes the release of toxic fumes.
- b. The fire spreads and could possibly ignite materials at other locations at the Facility or could cause heat-induced explosions.
- c. The fire could possibly spread to off-site areas.
- d. Use of water or water and chemical fire suppressant could result in contaminated runoff.
- e. An imminent danger exists that an explosion, causing a safety hazard because of flying fragments or shock waves, could occur.
- f. An imminent danger exists that an explosion could ignite other hazardous waste at the Facility.
- g. An imminent danger exists that an explosion could result in release of toxic material.
- h. An explosion has occurred.

2. Spills or Material Release

- a. The spill could result in release of flammable liquids or vapors, thus causing a fire or gas explosion hazard.
- b. The spill could cause the release of toxic liquids or fumes.
- c. The spill can be contained on site, but the potential exists for groundwater contamination.
- d. The spill cannot be contained on site, resulting in off-site soil contamination and/or ground or surface water pollution.



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3. Floods

a. The potential exists for surface water contamination.

G-4 Emergency Response Procedures

G-4a Notification

Internal Notifications

In the event the Facility has a discharge or release of hazardous materials, or a fire or explosion which has the potential for damaging human health or the environment, the first employee detecting such a condition will notify the EC or Alternate directly or by one of the following means:

- Radio
- Telephone
- In person
- Activating alarm (i.e., sounding an air horn with three repeated short blasts) if the employee discovering the condition believes that there is an imminent danger to Facility employees, a threat to human health or the environment or to local areas, that employee may initiate evacuation of the Facility.

The EC or Alternate will determine the proper response in accordance with <u>Section G-3</u> of this Contingency Plan. For any afterhours emergency, the Security Guard on duty will notify the EC or Alternate. The Security Guard will also call 911 in the event of a fire beyond the incipient stage or an explosion.

External Notifications

The EC is responsible for notifying appropriate State of Alabama or local agencies with designated response roles if their help is needed. A list of those agencies, along with contact information, is provided in <u>Appendix G-4-1</u> of this Contingency Plan.

If the EC (or Alternate) determines that the Facility has had a release, fire, or explosion which could threaten human health or the environment outside the Facility (release of hazardous waste or hazardous waste constituents from the active portion of the Facility is defined as such a threat), he must call 911 for assistance.



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If his assessment indicates that evacuation of local areas may be advisable, he must immediately notify appropriate local authorities by calling 911. The EC or Alternate must be available to help appropriate officials decide whether local areas should be evacuated. The final decision to evacuate the area will be the responsibility of the local agencies and any evacuation of local areas will be coordinated by local officials.

The EC or Alternate must also immediately notify the Alabama Emergency Management Agency (800/843-0699, 24 hours a day), the National Response Center (800/424-8802 or 202/267-2675, 24 hours a day), and the Alabama Department of Emergency Management (334/271-7700 between 8:00 a.m. and 5:00 p.m., Monday through Friday). The report must include:

- 1. Name and telephone number of reporter;
- 2. Name and address of Facility;
- 3. Time and type of incident (e.g., release, fire);
- 4. Name and quantity of material(s) involved, to the extent known;
- 5. The extent of injuries, if any; and,
- 6. The possible hazards to human health or the environment outside the Facility.

The person in charge of the Facility must report any *release* of a *hazardous substance into the environment, equal to or exceeding its reportable quantity (RQ), in any 24-hour period*, to the National Response Center at 800-424-8802 as soon as he knows that an RQ has been released. In most cases, CEA is required to report *as soon as it knows or should have known* that a reportable release has occurred. Spills which are maintained within a contained area and which do not contact the ground and/or reach a surface water run-off point, will <u>not</u> be considered a release for reporting purposes unless air emissions are present such that a reportable quantity release to the air occurs.

The owner or operator of the Facility must report any release *into the environment of a hazardous* substance or an extremely hazardous substance (EHS) equal to or exceeding its reportable quantity (RQ) in any 24-hour period, outside the boundaries of the Facility, to the National Response Center, Local Emergency Planning Committee and State Emergency Response Commission *immediately* upon obtaining knowledge of that release.



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Although unlikely due to the distance of the Facility from any surface waters, any oil spill which enters into or upon the navigable waters of the United States or adjoining shorelines (including all surface waters) must be reported to the National Response Center at 800-424-8802 as soon as one knows of the release. A film or sheen of oil upon the water is sufficient to indicate an impact and to trigger the duty to report.

Any release of hazardous waste in excess of one (1) pound from a *tank system* (i.e., outside of associate containment), which is not immediately recovered or which is not reported under the provisions of CERCLA/SARA requires notification to the Alabama Department of Environmental Management (334/271-7700 between 8:00 a.m. and 5:00 p.m., Monday through Friday) within 24 hours after discovery.

G-4b Identification of Hazardous Materials

Whenever there is a release, fire, or explosion, the EC or Alternate will immediately begin to work to identify the character, exact source, amount, and areal extent of any released materials or hazardous substances. This may be done by observation or review of Facility records including manifests, waste profiles and/or waste storage records. If the material cannot be identified based on container markings or location, and it is possible to safely collect a sample of the waste, then samples will be collected for chemical identification based on visual indicators (fuming, heat, color, oiliness, etc.) and/or, if necessary, outside laboratory analysis. The volume of waste material will be estimated based on the numbers and types of containers, and the contents will be identified based on the container labels/segregation code, if safely possible, or from a safe distance the container location within designated segregation areas. If the emergency involves a release of hazardous waste, then the EC will visually assess the areal extent of the release.

G-4c Hazard Assessment

Concurrently with identification of Hazardous Materials involved in an incident, the EC or Alternate will assess possible hazards, such as substances or conditions present, to human health or the environment that may result from the release, fire, or explosion. That assessment will consider both direct and indirect effects of the release, fire, or explosion (e.g., the effects of any



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toxic, irritating or asphyxiating gases that are generated, or the effects of any hazardous surface

water run-off from water or chemical agents used to control fire and heat-induced explosions.)

The EC's hazard assessment will include information gathered from on-site witness personnel,

visual inspection, and reference materials (e.g., manifest copies, Facility Profile Forms, chemical

dictionaries). The initial assessment will include the following:

1. Origin and location of leak.

2. Container identification and assessment (e.g., label information, type and size of container,

container integrity).

3. Physical state of spilled material (e.g., solid, liquid, gas).

4. Extent of release.

5. Odor (without personal endangerment).

6. Color of material.

7. Reaction occurring.

8. Reportable quantities.

G-4d Control Procedures

Potential accidents fall under two general classifications: (1) fire and/or explosions and (2) spills

or material release. Natural disasters, such as earthquakes or hurricanes, are assumed to fall into

one of these two classifications.

Initial Response

In the event of injury, in-house, trained personnel will administer first aid as necessary. If the injury

is beyond the capabilities of first aiders, the EC or Alternate (or designee) will contact 911 for

emergency assistance. In the event of an afterhours emergency, the Security Guard will be

responsible for contacting the ambulance in the event of injuries. In the event of a significant fire

(i.e., a fire beyond incipient stage), the EC or Alternate (or designee) will contact 911 for

emergency assistance.

CEA employees will not engage in emergency response operations other than responding to minor

releases of hazardous materials, containment of larger releases of hazardous materials or

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responding to incipient stage fires. In the event of an emergency, as described in this Plan, all

employees will evacuate the plant buildings and report to a designated assembly area or shelter-

in-place area as directed by the Emergency Coordinator or Alternate. The Administration Building

and the Break Room Building are designated for shelter-in-place. An outside emergency responder

(e.g., Fire Department, a contract response company) will be contacted as necessary for emergency

response.

Response to Fire and/or Explosion

In general, a fire can be extinguished by eliminating one of the four (4) basic components that keep it

in the active state. They are:

Oxygen supply - Usually, oxygen is supplied by air.

Heat - BTUs are generated on a self-sustaining basis as a result of continuing oxidation.

Fuel - The material undergoing oxidation.

Chemical Reaction.

Fire control equipment at the Facility includes portable Type A, B, C fire extinguishers for use on

trash, wood, building materials, flammable liquids and electrical fires, as well as portable Type D

fire extinguishers for use on combustible metals fires and two fixed foam fire suppression systems.

This equipment has been selected to provide a means of effectively cooling the fuel and/or

reducing available oxygen by displacing air when steam is generated from the water or by

blanketing by foam. The foam used also helps reduce the potential for flashback by suppressing

flammable vapors that evaporate from the surfaces of volatile organic liquids.

Plant personnel are trained annually on how to properly use fire extinguishers.

NOTE: IF A HISSING SOUND COMES FROM A VENTING DEVICE OR IF A DRUM

BEGINS TO BULGE OR DISCOLOR, WITHDRAW FROM THE AREA IMMEDIATELY.

If it can be done safely, the following actions will be taken in areas affected by a fire or explosion:

1. Hazardous material or waste management work in all areas will be shut down immediately.

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- 2. Electrical equipment will be shut down, as necessary and practical. Unnecessary use or idling of motorized equipment or vehicles will be stopped.
- 3. The Emergency Coordinator will be contacted.
- 4. All injured persons will be removed as safely as feasible, and medical treatment will be administered by qualified personnel. All other personnel not actively involved in firefighting will gather at the designated Assembly Point (see Appendix G-7-1).

If the emergency involves an incipient stage fire, and the employee can safely do so while allowing a safe means of egress from the building, the employee may fight the fire using the appropriate handheld fire extinguisher. All firefighting activities by Facility employees will be limited to incipient fires and will consist of only those activities for which the employee has received training and can be safely administered.

If the fire resulted from or involves a release of flammable materials, potential sources of ignition will be eliminated to the extent possible. Vehicular traffic and hazardous work in the area will cease until the fire is controlled or the release is contained and safety is restored. If released materials are flammable, trained employees will respond with foam equipment and hoses, if possible. Foaming of a flammable liquid spill is preferable to using water, because foam will float on the liquid and suppress flammable vapor. Flushing of a flammable liquid with large quantities of water will be performed only if the spill is large and cannot be addressed with the available foam equipment.

If a major fire or explosion should occur in any area of the Facility, the Contingency Plan will be implemented. Major fires require assistance from local fire departments. As soon as a fire is determined to be beyond the control of on-site personnel, the area will be evacuated and control of the fire will be given to the local fire department. The response procedures for major fires and/or explosions are detailed as follows including the sections of the Contingency Plan which contain more detailed descriptions of procedures:

- 1. The person discovering the fire will notify the Emergency Coordinator (see Section G-4a).
- 2. Employees will evacuate the immediate area (see Section G-7).



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- 3. The EC or designee will identify the character, source and amount of released material (see Section G-4b).
- 4. The EC or designee will assess hazards to human health or the environment (see <u>Section G-4d</u>).
- 5. The EC or designee will order the evacuation of the plant, if necessary and not already done, by activating the alarm system (see Section G-7).
- 6. The EC or designee will cease operations, if necessary, and take all necessary steps to prevent releases from occurring or recurring including monitoring for leaks, pressure buildup, gas generation, or ruptures in valves, pipes or other equipment, wherever this is appropriate.
- 7. The EC or designee will contact local fire authorities and will evaluate the necessity of involving other outside agencies (e.g. police, hospital, etc.).
- 8. For fire or explosions in the hazardous waste storage and handling areas, or if the incident involves hazardous waste, the EC or designee will perform the notifications (except the written reports) described in <u>Section G-4a</u>.
- 9. The response team from the responding local fire departments will control and extinguish the fire.
- 10. An "all clear" signal will be given when the fire has been extinguished and the safety of personnel is no longer endangered. The EC will give the "all clear" when it is safe to do so.
- 11. Run-off (i.e., liquid wastes and/or fire water potentially mixed with wastes) from spills or firefighting operations, to the degree possible, should be contained in a safe, down gradient location, onsite and then recovered in competent vessels pending proper profiling and reprocessing or disposal.
- 12. A fire watch will be established for an 8-hour period following extinguishing of the fire to watch for continuing releases or sources of ignition or flashback.
- 13. After the fire is out, a damage report will be prepared by the EC or designee and remedial work initiated if required.
- 14. The affected areas and equipment will be decontaminated.



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- 15. The EC or designee will provide for treatment, storage or disposal of recovered waste, contaminated soil, surface water or other material that results from a response to a fire or explosion.
- 16. Before operations are resumed in the affected area(s) of the Facility ADEM will be notified that no wastes that may be incompatible with the released material will be treated, stored or disposed until clean up procedures are complete, and that all emergency equipment listed in the Contingency Plan is clean and fit for its intended use
- 17. The EC or designee will submit the written reports described in <u>Section G-8</u> of this Contingency Plan. The appropriate information will also be maintained in the Facility's operating record.

Response to Spills and Releases

Note that in the event of an emergency involving both a fire and a spill, the fire emergency *generally* takes precedence.

In the event of an accidental discharge or spill of hazardous materials, the immediate objective is to protect human health and the environment by:

- 1. Securing the source of the spill and minimize the loss and hazards.
- 2. Containing the spill to the smallest possible area;
- 3. Preventing potential ignition of the released material; and,
- 4. Recovering and packaging the spilled materials.
- 5. Properly decontaminate the area prior to resuming operations.

For any emergency involving a release of a hazardous substance or material, while awaiting arrival of the Emergency Coordinator or Alternate, and if it can be safely done, plant personnel may commence containment activities, using all available *trained* manpower and materials on-hand. All containment activities will be conducted using appropriate personal protective equipment and will consist of only those activities for which the employee has received training and can be safely administered. Immediate containment of the spill will include blocking of adjacent drains, constructing dikes, etc., using all available containment materials on-hand. The location of available emergency equipment is provided in <u>Section G-5</u> of this Contingency Plan.



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CEA employees will not engage in emergency response operations other than responding to minor releases of hazardous substances or hazardous materials, containment of larger releases of hazardous materials or responding to incipient fires. If necessary, an outside emergency responder (e.g., a contract response company) will be contacted for emergency response.

Response to Small Spills or Leaks

For all spills or leaks, the following guidelines will be followed as closely as possible by individuals specified only by the EC or Alternate. If the spill is small enough to be absorbed, neutralized or otherwise controlled (i.e., typically 55-gallons or less) at the time of release by employees in the immediate release area, does not pose an adverse exposure hazard to employees and is within the scope of the employee's training then the spill will be handled in the following manner:

NOTE: IF A HISSING SOUND COMES FROM A VENTING DEVICE OR IF A DRUM BEGINS TO BULGE OR DISCOLOR, WITHDRAW FROM THE AREA IMMEDIATELY.

- 1. The person discovering the fire will notify the Emergency Coordinator (Section G-4a).
- 2. All unnecessary persons will be removed from the hazard area (Section G-7).
- 3. The EC or designee will identify the character, source and amount of released material to determine if the area is safe and how best respond to the spill. (Section G-4b).
- 4. The EC or designee will assess hazards to human health or the environment (Section G-4d).
- 5. The EC or designee will order the evacuation of the plant, if necessary and not already done, by activating the alarm system (Section G-7).
- 6. If flammable material is involved, remove all ignition sources, and use spark and explosion proof equipment and clothing in containment and clean up.
- 7. Responding employees will don the appropriate personal protective equipment.
- 8. In the event of a container spill or leakage, the container will first be examined to determine whether leakage is a cause of the spill. If the container has leaked, the spill response



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procedures discussed below will be implemented and one of the following actions will occur:

- a. The contents will be removed and placed into another container with compatible material or a new container meeting the packaging standards assigned the material; or
- b. The leaking container will be placed into an overpack container.
- 9. Responding employees will attempt to stop the leak (e.g., upright a drum, turn off a valve.)
- 10. Responding employees will remove all surrounding materials that could be incompatible with the materials released.
- 11. Responding employees will use absorbent pads, booms, earth, sandbags, sand, and other inert materials to contain, divert, neutralize and clean up a spill if it has not been contained by a dike or sump. Most spills contained within a dike or sump can be pumped back into the appropriate storage tank or drum. If the released material is flammable, make sure that all electrical/mechanical equipment used in the response is explosion proof.
- 12. Procedure to follow for leaking drum:
 - a. Move drum into or construct containment area;
 - b. Roll drum or stand up on end away from leak;
 - c. Drain contents (transfer to clean drum);
 - d. Label both drums accordingly;
 - e. Absorb spillage or leakage with absorbent;
 - f. Transfer absorbent waste to drum, label accordingly; and,
 - g. Store until final disposal.
- 13. All containment and clean-up materials will be placed in drums for proper disposal. Some items, such as absorbent rags or booms, may have to be cut up.
- 14. All recovered liquid wastes will be placed in drums for removal to an approved disposal site.
- 15. The area affected by the spill will be cleaned up by removing the absorbing agents and waste materials. The absorbing agents and spill materials will be placed in appropriate containers and managed at an appropriate on-site or off-site facility.
- 16. Secondary containment areas may then be decontaminated, if necessary, using a high-pressure wash or another appropriate decontamination method such as, but not limited to, a detergent wash. All decontamination fluids will be collected and characterized prior to disposal.



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- 17. All emergency equipment used in the response will be returned to ready status prior to resumption of Facility operations in the affected area.
- 18. Before operations are resumed in the affected area(s) of the Facility ADEM will be notified that no wastes that may be incompatible with the released material will be treated, stored or disposed until clean up procedures are complete, and that all emergency equipment listed in the Contingency Plan is clean and fit for its intended use.

Response to Large Spills

For large spills (i.e., greater than 55-gallons) and/or small spills of an acutely hazardous material, the Emergency Coordinator or Alternate (or designee) will use the following procedure:

NOTE: IF A HISSING SOUND COMES FROM A VENTING DEVICE OR IF A DRUM BEGINS TO BULGE OR DISCOLOR, WITHDRAW FROM THE AREA IMMEDIATELY.

- 1. The person discovering the fire will notify the Emergency Coordinator (Section G-4a).
- 2. All unnecessary persons will be removed from the hazard area (Section G-7).
- 3. The EC or designee will identify the character, source and amount of released material to determine if the area is safe and how best respond to the spill. (Section G-4b).
- 4. The EC or designee will assess hazards to human health or the environment (Section G-4d).
- 5. The EC or designee will order the evacuation of the plant, if necessary and not already done, by activating the alarm system (Section G-7).
- 6. Responding employees will don the appropriate personal protective equipment.
- 7. Survey the area. Identify the source and nature of the spill to determine if the area is safe and how best respond to the spill.
- 8. If flammable material is involved, remove all ignition sources, and use spark and explosion proof equipment and clothing in containment and clean up.
- 9. The EC or designee will cease operations, if necessary, and take all necessary steps to prevent releases from occurring or recurring including monitoring for leaks, pressure buildup, gas generation, or ruptures in valves, pipes, or other equipment, wherever this is appropriate.



- 10. If a leak occurs into or out of a tank or tank system, due to undetermined cause, the use of that tank system will be stopped until the cause is determined and abated. CEA will immediately stop the flow of waste materials to the tank and inspect the tank system to determine the cause of the spill or leak.
- 11. Isolate the spill area by closing off the source (if possible).
- 12. If the spill is inside a containment area, liquids may be pumped into an appropriate tank provided they are compatible with the materials of construction and the contents of the tank. Liquids in containment may also be pumped into container(s). If the released material is flammable, all electrical/mechanical equipment used in the response must be explosion proof.
- 13. If the spill is outside of containment but can be safely *contained* using absorbents, spill booms, storm drain covers or other appropriate spill equipment, the Emergency Coordinator or designee may direct *properly trained* employees to do so.
- 14. If spilled materials are flowing off site, attempt to stop flow from the source using sawdust. Once this is done, pump this material out into a temporary holding tank or drum as soon as possible. If the released material is flammable, electrical/mechanical equipment used in the response must be explosion proof.
- 15. If the extent of the spill is beyond the capabilities of CEA employees, the EC or Alternate (or designee) will contact an emergency response contractor listed in <u>Appendix G-4-1</u> of this Contingency Plan for emergency spill response.
- 16. All emergency equipment used in the emergency will be returned to ready status prior to resumption of Facility operations in the affected area.
- 17. Before operations are resumed in the affected area(s) of the Facility ADEM will be notified that no wastes that may be incompatible with the released material will be treated, stored or disposed until clean up procedures are complete, and that all emergency equipment listed in the Contingency Plan is clean and fit for its intended use.
- 18. All wastes generated during the response will be managed in accordance with applicable regulations.
- 19. Contaminated soil will be removed to concentration levels required by ADEM.

G-4e Prevention of Recurrence or Spread of Fires, Explosions or Releases

During an emergency, the following steps will be taken to ensure that fires, explosions, or releases do not occur, reoccur, or spread to other areas and hazardous wastes at the Facility.



- 1. The EC or designee will cease operations, if necessary, and take all necessary steps to prevent releases from occurring or recurring including monitoring for leaks, pressure buildup, gas generation, or ruptures in valves, pipes, or other equipment, wherever this is appropriate.
- 2. Following a fire, a fire watch will be established for an 8-hour period following extinguishing of the fire to watch for continuing releases or sources of ignition or flashback.
- 3. If the cause of the release was a leak from a primary tank system into the secondary containment system, CEA will repair that system prior to returning the tank system to service.

G-4f Storage and Treatment of Released Materials

- 1. All released material will be cleaned up as quickly as possible.
 - a. Liquids may be pumped into containers, a tank or a tanker or vacuum truck.
 - b. Solids may be placed in drums, or other suitable containers including a roll-off box or other bulk transportation vehicle for large amounts.
- 2. Immediately after an emergency, the EC or designee will arrange for treatment, storage or disposal of recovered materials, contaminated soil or surface water, or any other contaminated material resulting from a release, fire or explosion at the Facility.
- 3. If necessary, the EC or designee will have the materials generated during the response action sampled and analyzed to determine their classification and compatibility. Those materials will then be stored in a tank or container storage area with compatible wastes prior to off-site shipment.
- 4. Any residual material will be removed by means such as, but not limited to, applying absorbent,
- 5. The spill area will be cleaned up by removing the absorbing agents and waste materials including impacted soils.
- 6. The absorbing agents and spill materials will be placed in appropriate containers and managed at an appropriate off-site facility.
- 7. If soils are affected and removed, samples will be collected from the removed area and analyzed for the constituents determined by laboratory personnel using Facility records regarding the spilled material. Additional soil will be removed as necessary.
- 8. The EC or designee will determine the compatibility of all waste materials prior to placing in appropriate storage, if necessary, before transfer to an off-site TSD facility.



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G-4g Incompatible Waste

The EC or designee will ensure that released materials that may be recovered are not mixed with incompatible wastes. This evaluation will include, if necessary, review of compatibility charts, compatibility testing and a review of the waste materials characteristics specified by any waste analysis data, material safety data sheets and/or analytical results.

G-4h Post-Emergency Equipment Maintenance

Following an emergency that requires the implementation of this Contingency Plan, all emergency equipment will be inspected to verify that it is fit for its intended use.

G-4i Container Spills and Leakage

Section G-4d above includes a discussion of emergency response procedures for container spills and leakage.

G-4j Tank Spills and Leakage

Section G-4d above includes a discussion of emergency response procedures for spills and leakage from tanks.

G-4k Surface Impoundment Spills and Leakage

CEA does not operate surface impoundments; therefore, this section is not applicable.

G-5 Emergency Equipment

A list of emergency equipment available at the Facility including its location at the Facility and its capability or use is provided in <u>Appendix G-5-1</u>. Included in that list is communication equipment, personal protective equipment, emergency response equipment, spill control equipment, decontamination equipment, firefighting supplies and first aid supplies. A map showing the location of emergency equipment is provided in <u>Appendix G-5-2</u>.

G-6 Coordination Agreements

Copies of the Contingency Plan and all subsequent revisions have been submitted by CEA to the agencies/organizations listed in <u>Appendix G-6-1</u>. Cooperating agencies will be familiarized with the Facility layout, properties of the waste handled at the Facility and associated hazards,



emergency equipment and operation, evacuation plans and routes, and other critical information. Each of the agencies is requested to review the plan and respond to CEA regarding their willingness to provide the requested emergency services.

Informal working relations have been established with local agencies and organizations for provision of emergency services to the plant. Letters from these organizations stating their intent to participate in this Contingency Plan are included in <u>Appendix G-6-2</u>.

G-7 Evacuation Plan

Facility Evacuation

All emergencies require prompt and deliberate action. In the event of any major emergency, it is necessary to follow an established set of procedures as closely as possible. In specific emergency situations, the EC or Alternate may deviate from the procedures to provide a more effective plan for bringing the emergency under control. The EC or Alternate will determine which emergency situations require evacuation of the Facility, it has not already occurred in response to immediate threats to health and well-being. However, until an authorized EC or Alternate arrives on the immediate scene of the emergency, the ranking employee present in the operational area where the emergency has occurred has the authority to initiate an evacuation using the procedures designated below.

The compact nature of the Facility and its location limit the evacuation routes available and the options to be considered. In the event the total evacuation of the plant is called for by the EC or designee, the following actions will be taken:

- 1. The need for evacuation will be activated by the EC or Alternate and will be signaled by three short blasts of an air horn. Supervisors will designate the safest exit to the assembly points for employees and will also choose an alternate exit if the first choice is inaccessible. The route of evacuation will depend on the location of the incident prompting the evacuation and are depicted on the drawing in Appendix G-7-1. The EC or designee may alter evacuation routes depending upon type of emergency and wind direction. Personnel will be directed away from smoke or gas plumes to the extent possible.
- 2. No further entry of visitors, contractors or trucks will be permitted. All vehicular traffic within the plant will cease to allow safe exit of personnel and movement of emergency equipment.



- 3. ALL employees will be accounted for by their immediate supervisors including contractors who may be onsite. Immediate supervisors will be responsible for those persons reporting to them. Visitors will be the responsibility of employees they are visiting. Contractors are the responsibility of those persons administering the individual contracts. Truck drivers are the responsibility of the area supervisor where the truck is loading/unloading. The visitor sign-in logs will aid in accounting for visitors, contractors and truckers
- 4. Immediately upon assembly at the rally point, the highest-ranking supervisor will prepare a list of all personnel. All supervisors having personnel reporting to them will report immediately to the rally point for final accounting.
- 5. Upon completion of the employee list, the supervisor in charge will hand-carry the list to the EC or designee.
- 6. Contract personnel will also be listed with the name of their company. Contract foremen will report to the rally point.
- 7. A final tally of persons will be made by the EC or designee. No attempt to find persons not accounted for will involve endangering lives of others by re-entry into affected areas.
- 8. A visitor sign-in log will be maintained at the plant offices to aid in the accountability procedures.
- 9. If the EC or designee determines that all personnel should evacuate the Facility, personnel will be directed to leave through the nearest exit gate, or, if necessary, through an alternate exit route.
- 10. No person shall remain or re-enter the plant unless specifically authorized by the EC or designee. In allowing this, the EC or designee assumes responsibility for those persons within the plant. Those within the emergency area will normally include only fire protection personnel or emergency teams.
- 11. Re-entry into the plant will be made only after clearance is given by the EC or designee. At his/her direction, a signal or other notification will be given for re-entry.

Evacuation procedures and routes are included in personnel training. Evacuation routes are also posted throughout the Facility.

Evacuation of Local Areas

Upon assessment of the hazards and determination that the possibility exists for danger to the surrounding community, the EC or designee will notify local authorities that the emergency at the Facility presents a potential threat to surrounding areas and that an evacuation of local areas may



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be advisable. The EC or designee will be prepared to assist authorities in making the final determination relative to evacuation. This assessment shall consider the effects of toxic, irritating or asphyxiating gases, hazardous surface runoff due to water or chemical agents used to control fire, etc. *The final decision to evacuate the area will be the responsibility of the local agencies and any evacuation of local areas will be coordinated by local officials*. Facility personnel may assist upon request and at the direction of local officials.

G-8 Required Reports

The Facility will note in the operating record the time, date, and details of any incident that requires implementing the Contingency Plan and maintain that information its operating record.

In addition to the immediate verbal notifications discussed in <u>Section G-4</u> of this Contingency Plan, within 15 days after the incident, the Emergency Coordinator or Alternate (or designee) will submit a written report on the incident to the Alabama Department of Environmental Management. That report will include:

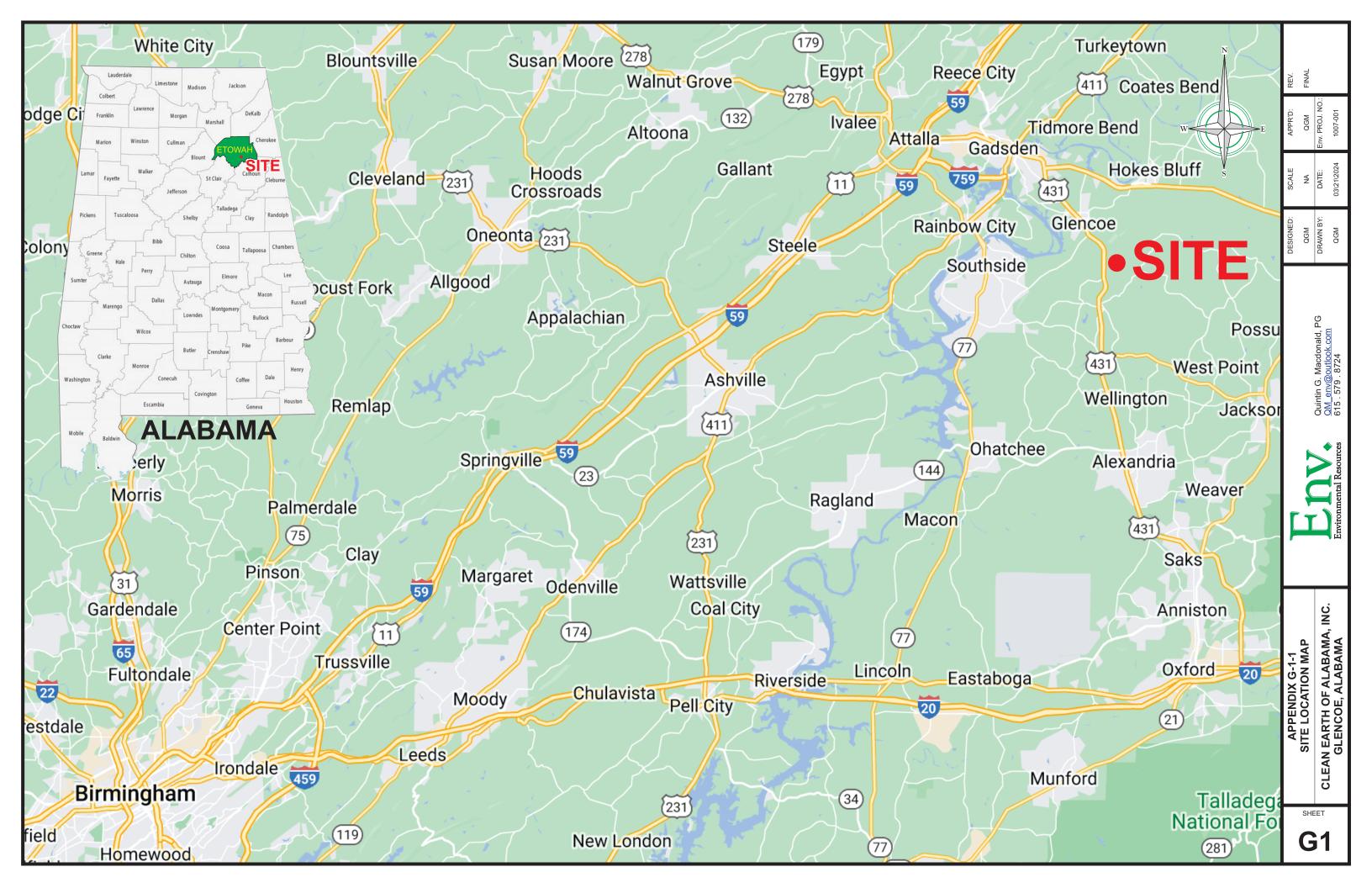
- 1. Name, address, and telephone number of the owner or operator.
- 2. Name, address, and telephone number of the Facility;
- 3. Date, time, and type of incident (e.g., fire, explosion);
- 4. Name and quantity of material(s) involved;
- 5. The extent of injuries, if any
- 6. An assessment of actual or potential hazards to human health or the environment, where this is applicable; and,
- 7. Estimated quantity and disposition of recovered material that resulted from the incident.





APPENDIX G-1-1 SITE LOCATION MAP CLEAN EARTH OF ALABAMA

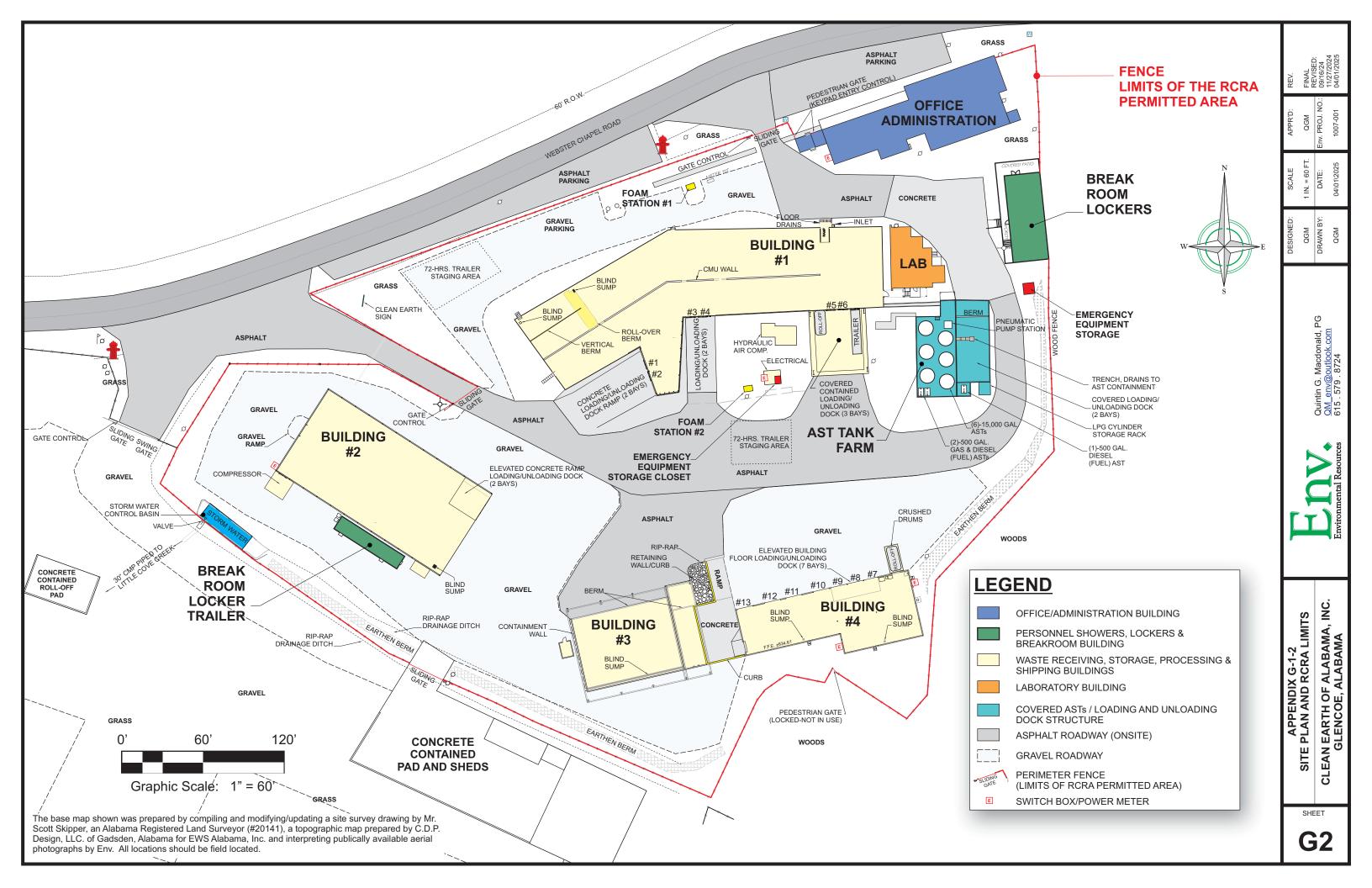




APPENDIX G-1-2 SITE PLAN AND RCRA LIMITS

CLEAN EARTH OF ALABAMA





APPENDIX G-4-1 EMERGENCY CONTACTS

CLEAN EARTH OF ALABAMA



APPENDIX G-4-1 EMERGENCY CONTACTS

Local Authority	Telephone
Glencoe Police Department	911
Glencoe Fire Department	911
Gadsden Fire Department	911
A Med Ambulance Services	256-543-5819
Gadsden Regional Medical Center	256-494-4000
Riverview Medical Center	256-543-5200
Emergency Response Contractor:	
Safeway Industrial (Gadsden)	256-492-3704
National Response Center (NRC)	1-800-424-8802
Alabama Emergency Response Commission (SERC)	800-843-0699
Local Emergency Planning Committee	256-549-4575
ADEM Birmingham Branch Field Office	205-942-6168 334-394-4310
ADEM - Central Office – 24 Hour Response	334-850-6621
Alabama State Warning Point	800-843-0699
Water – Glencoe Power Works	256-492-1020
Electric - Alabama Power	888-430-5787
Natural Gas - ALAGASCO	800-292-4008



APPENDIX G-5-1 LIST OF EMERGENCY EQUIPMENT

CLEAN EARTH OF ALABAMA



APPENDIX G-5-1 – Emergency Equipment		
Category	Location(s)	Capability/Use
Communication		
Telephones	Throughout the Facility	For use in contacting emergency responders and employees.
Portable Radios	Throughout the Facility Hand-held and body-mounted.	For on-site communication between employees.
Air Horns	Throughout the Facility	Used to alert employees of an emergency evacuation order.
Personal Protective	Equipment	
Air-Purifying Respirator (APR) Cartridges	Individually issued/ Emergency Storage Shed	Variety of cartridges based on waste involved. Primary Cartridges are P100 OV/AG. Other cartridges are available per the Facility's respiratory protection program.
Full-face APR	Individually issued	Air purifying, eye protection.
Half-face APR	Individually issued	Air purifying
Particulate Protective Suits	Emergency Storage Shed	Protects against small size particles such as dust, lead, asbestos and mold.
Chemical Resistant Suits	Emergency Storage Shed	Protects against splash hazard from certain in hazardous chemical types. Compatibility of suit with waste checked in advance.
Rain Gear	Emergency Storage Shed	Protects against splash hazard from certain in hazardous chemical types. Compatibility of suit with waste checked in advance.
Booties	Emergency Storage Shed	Protects against splash hazard from certain in hazardous chemical types. Compatibility of suit with waste checked in advance.
Splash Shield	Emergency Storage Shed	Protects face from splashes
Goggles	Emergency Storage Shed	Protects eyes
Safety Glasses	Emergency Storage Shed	Protects eyes
Hearing protection	Emergency Storage Shed	Protects ears/hearing
Nitrile gloves	Emergency Storage Shed Work station PPE Supply Room	Protects hands when working with oils, greases, acids, caustics and alcohols.
PVC gloves	Emergency Storage Shed	Protects hands from chemicals, punctures cuts and abrasions.



APPENDIX G-5-1 – Emergency Equipment		
Category	Location(s)	Capability/Use
Personal Protective	Equipment (cont'd)	•
Duct Tape	Throughout the Facility Emergency Storage Shed	Used to seal PPE, multi-purpose
Emergency Respons	se Equipment	
Backhoe	Building #4	Mechanical tool for excavation large quantities of releases waste.
Hand shovels, rakes, hoes, brooms	Emergency Storage Shed Various Locations On-Site	Hand tools for waste capture and containment
Intrinsically Safe Pumps	AST Tank Farm Various Locations On-Site	Pumps that are compliant with NFPA standards for transferring or pumping Class 1 and Class 2 flammable liquids.
Pneumatic Diaphragm Pumps	AST Tank Farm Various Locations On-Site	Used for non-flammable and flammable liquids. Check compatibility to waste and degree of flammability of material to be pumped.
Sump/Electric Pump	Various Locations On-Site	Used for non-flammable liquids
Centrifugal Pump	Emergency Storage Shed	Gas powered pump designed to move large volumes of non-flammable liquids.
Hoses	AST Tank Farm Various Locations On-Site	Attached to pumps to move liquids
Clamps & Fittings	AST Tank Farm Various Locations On-Site	Fittings for pipes and hoses
Compressor	Stabilization Building Various Locations On-Site	Air supply for pneumatic equipment
Generator/Extension Cords	Building #4	In-field electrical power supply
Forklift	Various Locations On-Site	Moving pallets, drums and other objects.
Spill Control Equipn	nent	
Absorbent pads	Emergency Storage Shed	Spill containment/clean-up



APPENDIX G-5-1 – Emergency Equipment		
Category	Location(s)	Capability/Use
Spill Control Equipm	nent (cont'd)	
Absorbent booms	Emergency Storage Shed	Spill containment/clean-up
Wipes	Emergency Storage Shed	Spill containment/clean-up
Saw Dust	Buildings #1 - #4	Spill containment/clean-up
Drums	Various Locations On-Site	Waste capture/storage
Totes	Various Locations On-Site	Waste capture/storage
Buckets	Various Locations On-Site	Waste capture/storage
Pre-Assembled Spill Kits	Emergency Storage Shed Buildings #1 - #4	Spill kits are an 85-gallon contain holding: chemical resistant gloves (2 pair), goggles (2), Tyvek coveralls (2), oil absorbent granules, absorbent pads (25), absorbent socks (40, absorbent pillows (2), disposable bags and ties (3), roll of caution tape, plastic shovel.
		Each kit can contain a spill of up to 26.5 gallons. Materials in the kits are used to contain a spill, prevent it from reaching a water way, and to prevent it from leaving the Facility.
Storm Drain Covers	Emergency Storage Shed	Cover drains to prevent spill and/or impacted water from reaching the stormwater system.
Polyethylene Sheeting (rolls)	Throughout Facility	Containment, covering wastes, protective layer underneath removed waste.
Decontamination Eq	uipment (see also, Spill Cor	ntrol Equipment, above, for area decontamination)
Safety Showers	Buildings #1, #2, & #4 Laboratory Employee Locker Room	Used to wash body if skin is exposed to a hazardous chemical.
Eye Wash Station	Buildings #1, #2, & #4 Laboratory	Used to rinse eyes if eyes are exposed to a hazardous chemical.

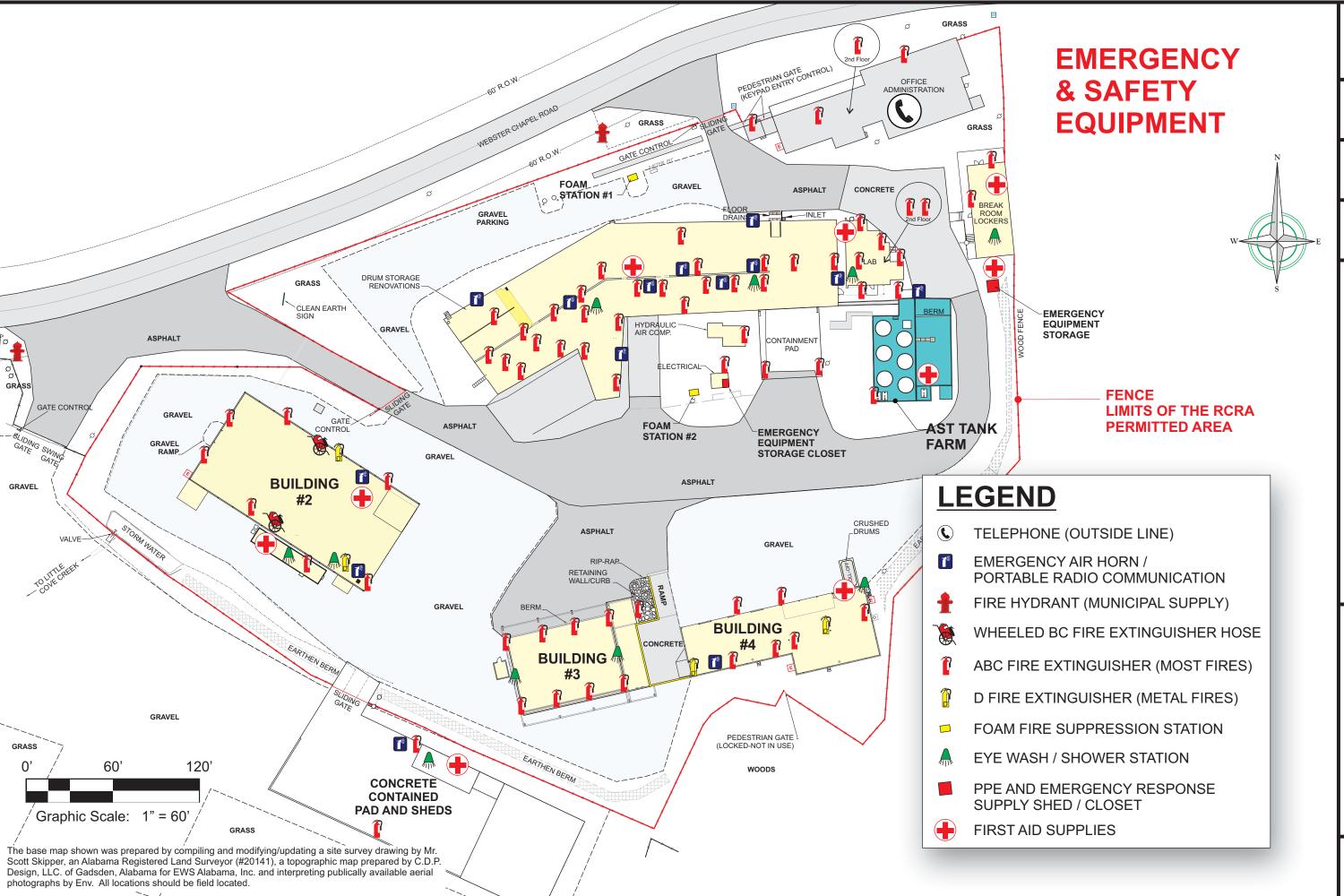


APPENDIX G-5-1 – Emergency Equipment		
Category	Location(s)	Capability/Use
Water for Fire Contro	ol .	
Fire Hydrants	Along Webster Chapel Road (2)	Water for Fire Control to be used by local fire department(s)
		Note: Facility employees are trained to fight incipient stage fires only. Fire hydrants are present for the local fire department(s) if the need to use them arises. Fire departments would use their own hoses and connections to the fire hydrants.
Fire Fighting Supplie	s	
Fixed Foam Station (2)	Central Location	Extinguishing Class B (flammable or combustible liquid) fires.
ABC Multipurpose Fire Extinguishers (portable)	Throughout Facility	Extinguishing Class A (combustible), Class B ((flammable or combustible liquid) and Class C (electrical) fires.
Dolly Mounted ABC Fire Extinguisher with Hose	Building #4	Extinguishing Class A (combustible), Class B ((flammable or combustible liquid) and Class C (electrical) fires.
Class D Fire Extinguisher	Building #1	Extinguishing Class D (combustible metal) fires.
First Aid Supplies		
First Aid Kits	Plant Manager's office	Used to treat minor injuries such as lacerations, punctures, abrasions,
	Admin Office	sprains, strains, and 1 st or 2 nd degree burns.
Automated External Defibrillator (AED)	Laboratory Building	Treating sudden cardiac arrest.



APPENDIX G-5-2 LOCATIONS OF EMERGENCY EQUIPMENT CLEAN EARTH OF ALABAMA





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APPENDIX G-5-2
LOCATIONS OF EMERGENCY EQUIPMENT
CLEAN EARTH OF ALABAMA, INC.
GLENCOE, ALABAMA

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APPENDIX G-6-1 CONTINGENCY PLAN DISTRIBUTION LIST CLEAN EARTH OF ALABAMA



APPENDIX G-6-1 CONTINGENCY PLAN DISTRIBUTION LIST

Local Authority	Address	Telephone
Glencoe Police Department	205 West Chastain Blvd Glencoe, AL 35905	256-492-1425 (Non-Emergency)
		911 (Emergency)
Glencoe Fire Department	205 West Chastain Blvd. Glencoe, AL 35905	256-442-2789 (Non-Emergency)
		911 (Emergency)
Gadsden Fire Department	333 Walnut Street Gadsden, AL	256-549-4500 (Non-Emergency)
		911 (Emergency)
A Med Ambulance Services	3113 E Meighan Blvd, Gadsden, AL 35903	256-553-5819
		911 (Emergency)
Gadsden Regional Medical Center	1007 Goodyear Ave, Gadsden, AL 35903	256-494-4000
Riverview Medical Center	600 S 3rd Street Gadsden, AL 35901	256-543-5200
Safeway Industrial	308 E Air Depot Rd, Glencoe, AL 35905	256-492-3704
ADEM Birmingham Branch Field Office	110 Vulcan Road Birmingham, AL 35209	205-942-6168



APPENDIX G-6-2 COORDINATION AGREEMENTS

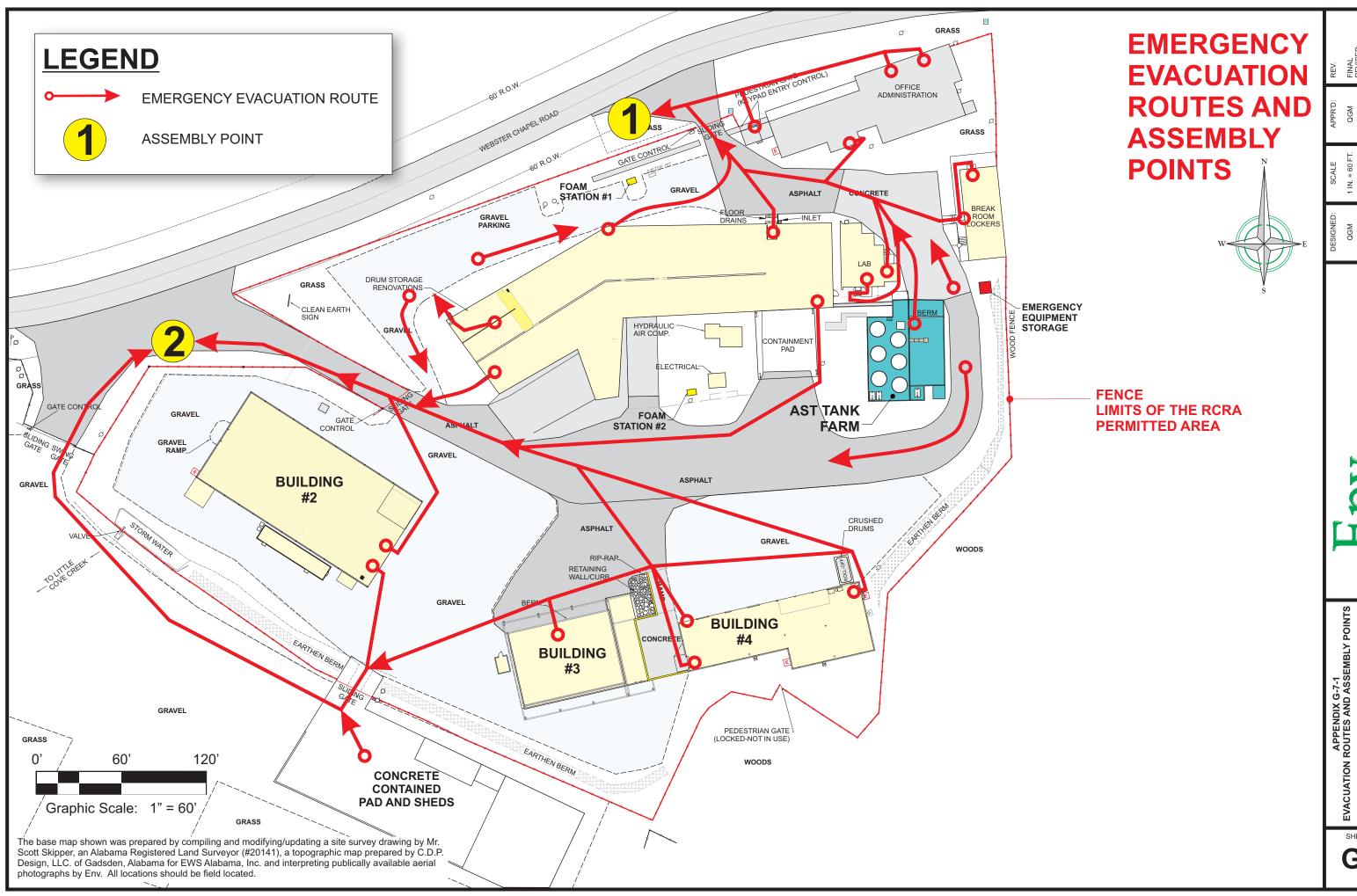
CLEAN EARTH OF ALABAMA





APPENDIX G-7-1 EVACUATION ROUTES AND ASSEMBLY AREAS CLEAN EARTH OF ALABAMA





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CLEAN EARTH OF ALABAMA, INC.
GLENCOE, ALABAMA

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SECTION H PERSONNEL TRAINING CLEAN EARTH OF ALABAMA



SECTION H - TABLE OF CONTENTS

Hazardous Waste Permit Renewal Application Clean Earth of Alabama Glencoe, Alabama Permit No. ALD 981 020 894

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APPENDICES

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Н PERSONNEL TRAINING

H-1 Introduction

The purpose of the Personnel Training Program is to familiarize employees with the hazards of the wastes received at Clean Earth of Alabama, Inc. ("CEA" or the "Facility") and the operation of the Facility, to prevent accidents and to mitigate impacts should an accident occur. Thorough training of Facility personnel is recognized as being a fundamental step toward these goals. Consequently, a comprehensive Personnel Training Program, which has been demonstrated to be effective at the Facility, has been developed. Improvements to the program will be implemented when appropriate.

The objectives of the Personnel Training Program are:

- To provide each employee with the knowledge necessary to enable him or her to perform the job in a safe and effective manner.
- To ensure that personnel can recognize potential hazards and are familiar with procedures and policies designed to mitigate and/or minimize such hazards should they occur.
- To keep personnel familiar with policies and procedures and to implement additional training as regulatory and/or operational changes occur.

The Personnel Training Program consists of a combination of Formal Classroom Training, Onthe-Job Training, demonstrations and drills, and computer-based training is implemented by qualified site management, and other industry professionals (e.g. Red Cross, local fire department or training organizations).

Training is fundamental to the efficient and safe operation of the Facility. The Personnel Training Program is designed to provide basic training to all individuals who Training will be provided for facility personnel whose duties have a direct effect on hazardous waste management and/ or hazardous waste accumulation, whether by work directly with hazardous waste or through hazardous waste management activities. Facility personnel must successfully complete a program of classroom instruction or on-the-job training that teaches them to perform their duties in a way that ensures the Facility's compliance with the ADEM and EPA requirements and will include all

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elements of the regulations. Re-training is administered based upon individual and regulatory

needs.

H-1a Job Titles and Duties

Documents and records that will be maintained at the Facility include the following information:

• Job title for each position at the facility related to hazardous waste management;

• A roster of employees and their job titles (updated as required); and,

• A written job description for each job title.

All training documentation for current personnel will be kept at the Facility during its active life.

Training records on former employees will be kept for at least three years from the date the

employee last worked at the Facility. Personnel training records may be transferred with the

employee when transfers occur within the same company.

H-1b Frequency and Content of Training

CEA utilizes a blended instruction with (1) on-the-job training, (2) classroom, (3) computer-

based training and field instruction in compliance with 29 CFR 1910.120 that is provided

by an outside training entity, and (3) in-house training on the general handling of hazardous

materials of this permit application. The training is designed to give employees instruction on

topics related to the functioning of the facility, and specific functions of his/her job position.

Introductory Training

All new CEA employees are given training specifically related to the Facility's RCRA

Permit. New employees are also provided additional training to include:

1. The hazardous nature of chemicals and chemical wastes in general.

2. The purpose of RCRA and importance of maintaining compliance with RCRA

regulations.

3. The hazardous characteristics of wastes being managed at the Facility.

4. Proper handling and storage procedures for wastes.

5. Emergency procedures and contingency plan

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New employees are not permitted to work in unsupervised positions until they have completed

training and training must be successfully completed within 6 months of employment or transfer

to a new position, whichever is later.

CEA's training program assures that employees are trained in the general categories and

characteristics of hazardous chemicals and hazardous chemical wastes. In this context, the terms

toxicity, reactivity, corrosivity, and ignitability are defined. It is CEA's policy that each employee

directly or indirectly associated with handling hazardous materials develops a strong respect and

awareness of their hazard potential. The Company's policy on the use of protective clothing and

safety equipment to prevent accidental worker exposures and releases to the environment is

emphasized.

CEA's training also focuses on the types of hazardous wastes that are stored at CEA,

normal/routine storage operations, and procedures for maintaining compliance with the RCRA

permit (e.g., waste analysis, record keeping, inspections, and security).

Training for normal, routine operating conditions includes the following topics:

1. Proper operations and maintenance of the storage Facility relevant to the employee's job

duties.

2. Facility inspections relevant to the employee's job duties.

3. Purpose and use of security and communications system.

4. Monitoring requirements for tracking and recording the operation of the Facility relevant to

the employee's job duties.

5. Record keeping requirements and procedures relevant to the employee's job duties.

Training also includes instruction on steps to be taken in the event of emergency conditions such

as a waste spill or fire, power outage or damage from wind and storms. The Emergency

Coordinator is clearly identified, as are emergency phone numbers and directions for locating

and using on-site emergency equipment, alarms, and communications. The Contingency Plan

is also detailed including response to emergencies, evacuation routes and assembly points.

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CEA also requires that employees who handle hazardous waste be trained in accordance with 29

CFR 1910.120 40-hour Hazardous Waste Operations and Emergency Response (HAZWOPER)

prior to working in the Facility. If a new employee has not previously competed 40-hour

HAZWOPER training, CEA will provide it. For employees with a prior 40-hour training

certification, CEA provides 8-hour HAZWOPER refresher training annually.

Ongoing Training

Continuing training is provided at least annually for all Facility employees involved in hazardous

waste management. It may include blended classroom, computer based, and on-the-job training. It

may include the course topics presented in the initial training discussed under Initial Training,

above, and Training for Emergency Response, discussed in Section H-1e, below.

The classroom training segment includes operational training meetings, formal classroom training,

safety meetings, and review of training topics and standard operating procedures.

At a minimum, this training will include (see Appendix H-1-1):

Any changes in types or quantities of wastes accepted, and processing or storage

mechanisms.

Any changes or revisions to permit conditions, emergency coordinators and general

operations.

Any experience requiring the implementation of the Contingency Plan in the past year, notification requirements, etc. This review focuses on the cause of the incident and

identification of steps to be taken to prevent or to ensure better handling of such events

in the future.

Employees who handle hazardous waste must complete continuous annual 8-hour HAZWOPER

refresher training.

H-1c Training Director

Clean Earth of Alabama, Inc.'s Environmental, Health & Safety Department (EHS) is responsible

for directing the training of facility personnel in hazardous waste management and health & safety

procedures. These individuals are highly qualified to design and implement the personnel training

programs due to his/her knowledge about all aspects of the facility operations, OSHA and

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environmental regulations. EHS personnel are specifically trained in proper hazardous waste management procedures.

Responsibility for portions of the program may be delegated to other qualified individuals including other company personnel as well as outside sources. In all cases, the EHS Department must approve all elements of the program used to fulfill the requirements for environmental, health & safety and hazardous waste management training.

H-1d Relevance of Training to Job Position

This Personal Training Program has been designed to tailor course requirements to the subject areas and levels of detail appropriate for each job title. The size and nature of operations require a great deal of cross training. A person with one job title may at times perform the functions of another job title. In summary, all personnel involved with hazardous waste management receive training related to personal safety, the chemistry of hazardous wastes and associated health effects, contingency plans including emergency evacuation, hazardous waste regulations overview, and their right regarding knowing the chemical hazards associated with materials at the facility. Appendix H-1-2 provides a training matrix based on position and job responsibilities.

H-1e Training for Emergency Response

The CEA training program is designed to ensure that personnel not only handle hazardous wastes in a safe manner but also properly respond to emergency situations. The initial training minimum of 40-hour HAZWOPER training and continued annual refresher training ensures that employees can respond effectively to emergencies by familiarizing them with emergency procedures, emergency equipment, and emergency systems. Employees who may respond to an emergency at the Facility are provided training on:

1. Procedures for Using, Inspecting, Repairing and Replacing Facility Emergency and Monitoring Equipment

Employees receive instruction in the use of all emergency equipment applicable to their duties including alarms and fire extinguishers. Appropriate employees will be trained on the procedures to inspect the Facility emergency and monitoring equipment in their work area to mitigate the effects of equipment failure. This instruction will be both classroom and on-the-job training.

2. Key Parameters for Waste Feed Cutoffs

Appropriate employees will receive training in the use of pumps and valves that regulate waste flow to tanks as part of the training for tank operators. They will also be trained in procedures used in the event the level of waste in the tank gets too high or an overfill occurs.

3. Communication or Alarm Systems

All Facility employees are instructed as to the location and use of communication and alarm systems as part of the Contingency Plan portion of training. Personnel in operational areas of the Facility receive additional instruction in the use of communication systems and alarms particular to their respective areas.

4. Response to Fires or Explosions

All personnel involved in hazardous waste management at the facility receive basic instruction in fire and explosion prevention and response, including the use of Facility firefighting equipment.

5. Response to Release of Hazardous Waste to the Environment

All personnel involved in hazardous waste management at the Facility receive basic instruction in spill and release prevention and response. Emergency response training will be conducted in accordance with the facility Contingency Plan.

6. Shutdown of Operations

The primary responsibility for shutdown of operations lies with the Plant Manager and the supervisor in each area. All personnel with operational responsibilities are instructed in the proper procedures for planned and unplanned shutdown of operations. This training is provided as part of the job specific training programs.

H-2 Implementation of Training Program

The General Manager, and all current waste handling personnel have been fully trained at the time of the submittal of this Application. All new facility personnel will complete this training program within six months of assignment to the hazardous waste storage Facility or within six months of their date of employment, as appropriate. No employee hired to work at this Facility will perform normally unsupervised tasks prior to completion of the training program.

In addition to those discussed in <u>Section H-1a</u>, documents and records that will be maintained at the Facility include the following information:

- A written description of the type and amount of both introductory and continuing training given;
- Records documenting training; and,

• Documentation that annual review training is held.



APPENDIX H-1-1 TRAINING TOPICS AND FREQUENCY

CLEAN EARTH OF ALABAMA



Training Topics and Frequency

Basic Training *

- 1. New Employee Orientation Job-Specific
- 2. Overview Site Safety Procedures
- 3. Individual Contingency Plan Responsibilities
- 4. Regulatory Requirements

<u>Additional Training</u> **(Initial and Annual refresher unless otherwise stated)

- 1. 40-hr HAZWOPER upon hire (unless previously certified)
- 2. 8-hr HAZWOPER refresher annually
- 3. RCRA upon hire and annually
- 4. DOT/HM upon hire and refresher training *triennially
- 5. Hazard Communication/Globally Harmonized System
- 6. Types and Limitations of Personal Protective Equipment
- 7. Respiratory Protection
- 8. The Use and Maintenance of Fire Protective Equipment
- 9. Basic First Aid, CPR, and AED *biennially (Note: this training is provided to select personnel on each shift and not to all employees.)
- 10. Heat/Cold Stress Management
- 11. Hearing Conservation
- 12. Powered Industrial Truck (if certified) *triennially
- 13. Chemical characteristics of wastes
- 14. Bloodborne Pathogens
- 15. Confined Space Awareness Level
- 16. Lock-Out/Tag-Out (Authorized or Affected)
- 17. Hot Work Procedures
- 18. Grounding and Bonding Safety
- 19. Safe Drum Handling
- 20. Placards, Labels, and Marks

APPENDIX H-1-2 TRAINING MATRIX BY JOB TITLE

CLEAN EARTH OF ALABAMA



									,	,	, ,		
Job Tit	ie Their	Employeesi	Predate de la	or spires of the	a Drill Range Rang	CRA COST	Offinates H	A TWO FEE	SHR Refress	Emergence Lines	Action plan	hat Taining	
General Manager	Х	Х	Х	Х	Х	Х	Х		Х	Х			
Facility Manager	Х	Х	Х	Х	Х	Х	Х		Х	Х			
Assistant Plant Manager	Х	Х	Х	Х	Х	Х	Х		Х	Х			
Lab Personnel	Х	Х	Х	Х	Х	Х	Х	Х	Х	Х			
Environmental Technicians	Х	Х	Х	Х	Х	Х	Х		Х	Х			
Security Guards	Х	Х		X ¹	Х								
Administrators	Х	Х		Х					Х	Х			
*40 Hr. Hazwoper includes these topic hazards, radiation and biological expofundamentals, confined spaces, decomonitoring and sampling, handling and 1 Security Guards RCRA training is limited noted or if a fire or explosion occurs.	osures, respi ntamination, d shipping d	iratory proteo , emergency Irums/contai	ction, temper and post eliners, HazC	erature ext mergency om, HazM	tremes, wr response lat, and Ha	ritten Hazwo procedures azardous wa	pper plans a , emergenc aste, PPE, a	and progra by respons and site co	ims, chemica e planning, control measu	al exposure ires.			

SECTION I CLOSURE PLAN CLEAN EARTH OF ALABAMA



SECTION I – TABLE OF CONTENTS

Hazardous Waste Permit Renewal Application Clean Earth of Alabama Glencoe, Alabama Permit No. ALD 981 020 894

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I CLOSURE PLAN AND FINANCIAL REQUIREMENTS

I-1 Closure Plan

Closure Performance Standard

This Closure Plan identifies all the steps necessary to partially close the Clean Earth Alabama, Inc. (CEA or the "Facility") facility at any point during its operating life and to completely close the facility at the end of that life. A Post-Closure Plan is not required because this is not a disposal facility and all wastes will be removed during closure. This Closure Plan addresses the closure procedures for storage tank systems and container storage areas.

A copy of this Closure Plan and all revisions to it will be kept at the Facility until certification of closure completeness has been submitted and accepted by the Alabama Department of Environmental Management (ADEM). Any modifications to the existing equipment, structures, or procedures related to the management of hazardous waste may result in the facility revising this Closure Plan accordingly.

The procedures detailed in this Closure Plan will minimize the need for further maintenance and control, minimize or eliminate, to the extent necessary to protect human health and the environment, post-closure escape of hazardous waste, hazardous constituents, leachate, contaminated run-off, or hazardous decomposition products to the ground or surface waters or to the atmosphere. This plan is designed to meet the requirements for closure of container storage units [ADEM Admin. Code Rule 335-14-5-.09(9)] and tank storage units [ADEM Admin. Code Rule 335-14-5-.10(8)]. All closure activities will be conducted in accordance with the conditions stipulated in this Closure Plan.

I-1b Partial Closure and Final Closure Activities

Partial Closure

Partial closure is not anticipated as of the date of this Part B Permit Renewal Application. Any partial closure activities will be conducted according with this Plan in the case that one or more units require closure prior to final facility closure.



Procedures for final closure, including waste removal, cleanup and decontamination activities are described in the following sections of this Closure Plan. This Closure Plan anticipates that the Facility will be 100% active at the time of closure.

I-1c Maximum Waste Inventory

Containers	
Building #1	2,020 55-gallon container equivalents
Building #2	1,030 55-gallon container equivalents <i>plus</i> 1 70 cubic yard trailer (solids) plus 82 330-gallon totes
Building #3	1,152 55-gallon container equivalents ¹ <i>plus</i> 1 70 cubic yard trailer (solids)
Building #4	852 55-gallon container equivalents
Maximum Containerized Waste	5,054 55-gallon container equivalents <u>plus</u> 2 x 70 cubic yard trailers <u>plus</u> 82 330-gallons totes
Tanko	Volumo (gal.)

Tanks	Volume (gal.)	
Tank 1	15,000 gallons	
Tank 2	15,000 gallons	
Tank 3	15,000 gallons	
Tank 4	15,000 gallons	
Tank 5	15,000 gallons	
Tank 6	15,000 gallons	

Maximum Volume in Tanks 90,000 gallons

I-1d Schedule for Closure

The schedule for Closure is provided in <u>Table I-1-1</u>, below.

In Building #3, there is space for 7 70-cubic yard trailers. For every two-trailer bay, the Facility may store up to a total of 384 x 55-gallon drums equivalents (or 96 totes no greater than 330 gallons each.)



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Table I-1-1 – CLOSURE SCHEDULE								
Activity	Schedule							
Notification of Closure to ADEM	At least 45 days prior to beginning partial or final closure							
Waste inventory removal	Within 90 days after receiving the final volume of waste							
Removal of shredder(s) and can crusher	Within 60 days after removal of all wastes							
Decontamination of container storage areas, tanks and tank containment	Within 45 days after removal of all wastes							
Collection of final rinse samples	Within 5 days of completion of decontamination							
Submittal of final closure report	Within 30 days of receipt of confirmation analysis							

I-1d(1) Time Allowed for Closure

As shown on the Closure Schedule, above, all hazardous wastes will be removed off-site within 90 days from receipt of the final volume of waste at the unit to be closed (or the facility). All closure activities will be completed within 180 days from receipt of the final volume of waste at the unit to be closed.

I-1d(1)(a) Extensions of Closure Time

Although not anticipated, a petition will be made to the Director of ADEM if:

- Closure activities require longer than the 90 days for removal of waste and/or the 180 days to complete closure.
- The Unit or Facility has capacity to receive additional wastes.
- There is a reasonable likelihood that another person other than owner or operator will recommend operation of the site within one year.
- Closure would be incompatible with continued operation.
- Should this occur, CEA will demonstrate that all steps have and will be taken to prevent threats to human health and environment from the unclosed but inactive facility.



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I-1e Closure Procedures

I-1e(1)Inventory Removal, Disposal or Decontamination of Equipment

This section describes the methods by which inventory and equipment (including equipment used to decontaminate the facility) would be removed, treated, and/or disposed. If CEA chooses partial closure (closure of one or more individual RCRA Units), inventory removal will likely consist of

transferring waste from the closed unit into another on-site operating unit. Any closure of RCRA

Units, whether partial or complete, will be certified by an independent Professional Engineer.

CEA does not dispose of hazardous waste on site. All wastes stored at the CEA Facility will be

removed and transported to a permitted treatment, storage, or disposal facility. The removal of all

wastes will be conducted in compliance with all applicable state and federal regulations.

Inventory Removal

All wastes will be shipped off site to an authorized Treatment Storage and Disposal Facility

(TSDF). Where amenable, solids may be bulked/consolidated into roll-off boxes and liquids

bulked/consolidated into the Facility's tanks and/or into totes, transport tankers or vacuum trucks.

Empty containers will be shipped to a container reconditioning/disposal facility. The Facility will

comply with all applicable generator requirements for the off-site shipments.

All material in each of the tanks will be loaded onto bulk tankers for shipment off-site to an

authorized TSDF. Most of the material will be suitable for supplemental fuel and will be shipped

to cement kilns. Any material not suitable for usage as fuel will be shipped to an authorized TSDF.

Disposal of Equipment

Due to anticipated difficulties with decontamination of that equipment, any gross contamination

will be removed from the two (2) shredders and the can crusher by scraping and that material

containerized for shipment off-site. The shredders and the can crusher will then be disposed of at

a permitted disposal facility.

All equipment and tools used during the closure procedures will be decontaminated using the

procedures provided in Section I-1(e)(3), below. Verification of decontamination will be done

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following the same procedures provided in that section. Some of the equipment may be disposed as hazardous waste rather than attempting any decontamination.

Decontamination

Following the removal of all stored hazardous waste, container storage areas, the roll-off bulking area at Building #3, and the tank system will be decontaminated. Decontamination involves the removal of all residues and verifying that no hazardous constituents remain at levels of concern. Procedures are described in greater detail in Sections I-1(e)(3), below, and I-1(e)4.

I-1e(2) Closure of Disposal Units

There are no disposal units at the CEA Facility; therefore, this is not applicable.

I-1e(3) Closure of Containers

This section addressed decontamination and verification procedures for the Container Storage Areas in Building #1, Building #2, Building #3 and Building #4, as well as loading and unloading areas associated with those buildings.

Decontamination Procedures

Following removal of waste inventory and all equipment, and removal of any noted by scraping or sweeping, Container Storage Areas will then be cleaned using a high-pressure hot water/ detergent wash followed by a rinse. If it is determined that a detergent wash is not appropriate, another wash method such as, but not limited to, steam cleaning or abrasive cleaning will be utilized. The wash water will be sprayed over the areas until no visible waste residuals remain. All spent wash water will be retained within the units prior to being pumped into bulk tankers, vacuum tucks, totes or drums for shipment off-site to an authorized TSDF for treatment or disposal. Spent wash water will be sampled and analyzed (per the methods described below) to profile the waste and determine handling and disposal requirements.

Verifying Decontamination

Decontamination will be confirmed using wipe tests. Sufficient sampling locations will be selected throughout the four-container storage buildings to verify decontamination has been achieved.

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Specifically, 19 wipe test samples will be collected from the four main waste processing buildings:

#1, #2, #3 and #4 and the AST area. The environmental professional overseeing closure will select

representative samples from four (4) locations within Building #1, two (2) locations within

Buildings #2, #3 and #4, respectively. In addition, Quality Assurance/Quality Control (QA/QC)

samples will be collected at a frequency of one (1) VOC trip blank per cooler of VOC samples

sent to the laboratory (i.e., total estimate of 6 trip blanks during full closure activities) and 1

duplicate sample per 20 wipe test samples collected (i.e., at a ratio of 1:20).

The samples will be analyzed for the total RCRA metals (As, Ba, Cd, Cr, Pb, Hg, Se and Ag),

Volatile Organic Carbon (VOCs) and Semi-Volatile Organic Carbon (SVOCs). The results will be

compared to a background wipe test taken from an area where hazardous wastes were not managed.

Container storage areas will be considered decontaminated if the results do not show a significant

increase over background. If the testing reveals that waste remains, decontamination procedures

will be repeated as needed. Decontaminated container storage areas may be left in place.

I-1e(4) Closure of Tanks

This section addresses decontamination and verification procedures for tank systems (includes

tanks, associated ancillary equipment, and secondary containment systems), including

decontamination and verification of the bulk tanker load/unload pad.

Tank and Ancillary Equipment Decontamination

Tanks and ancillary equipment (pumps, piping, valves, etc.) will be flushed with appropriate

compatible cleaning solutions to reduce any liquid, solid, or clinging residues. The flush material

and resulting residues may either be pumped to other tanks for further use or reuse or onto bulk

tankers or drums for shipment off-site to an authorized TSDF.

After flushing of the tanks and ancillary equipment the tanks will be entered, following established

site procedures for confined space entry, and inspected. Any visible residue remaining will be

removed by scraping and washing with a high-pressure water/detergent wash.

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Wash water rinsate and resulting residuals may either be pumped to other tanks for further use or reuse or bulk tankers for shipment off-site to an authorized TSDF. Spent wash water will be sampled and analyzed (per the methods described below) to profile the waste and determine handling and disposal requirements.

The ancillary equipment will then be detached from the tanks and dismantled, as necessary. The interior of that equipment will be inspected and cleaned as required using high-pressure water\detergent wash and rinse, steam cleaning, or abrasive techniques. Wash water rinsate and resulting residuals will be contained and may either be pumped to other tanks, bulk tankers, or drums for shipment offsite to an approved TSDF. Spent wash water will be sampled and analyzed (per the methods described below) to profile the waste and determine handling and disposal requirements

Secondary Containment Decontamination

The tank secondary containment structures will be cleaned using a high-pressure hot water/detergent wash followed by a rinse. The wash water will consist of water from the industrial water supply in addition to an appropriate detergent. If it is determined that a detergent wash is not appropriate, another wash method such as, but not limited to, steam cleaning or abrasive cleaning will be utilized. The wash water will be sprayed over the containment structure until no visible waste residuals remain. All spent wash water will be retained within the containment structure prior to being pumped into tanks, bulk tankers, vacuum trucks or totes for shipment off-site to an authorized TSDF. Spent wash water will be sampled and analyzed (per the methods described below) to profile the waste and determine handling and disposal requirements



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Tank and Ancillary Equipment Decontamination Verification

Decontamination of each tank will be confirmed using wipe tests. Specifically, nine (9) samples will be taken, one within each of the six (6) ASTs, one (1) at the pump station and two (2) from the AST's secondary containment areas. The samples will be analyzed for the total RCRA metals (As, Ba, Cd, Cr, Pb, Hg, Se and Ag), Volatile Organic Carbon (VOCs) and Semi-Volatile Organic Carbon (SVOCs). The results will be compared to a wipe test taken from an area where hazardous wastes was not managed. The tank will be considered decontaminated if the results do not show a significant increase over background. If the testing reveals that waste remains, decontamination procedures will be repeated as needed. Decontaminated tanks may be left in place. Tanks not considered decontaminated may be shipped off-site to an authorized TSDF.

Decontamination of the ancillary equipment will be determined using final rinsate sampling only when surface areas are not accessible for wipe testing. Rinsate samples will be obtained using the least amount of water possible to avoid dilution. The samples will be analyzed for the total RCRA metals (As, Ba, Cd, Cr, Pb, Hg, Se and Ag), Volatile Organic Carbon (VOCs) and Semi-Volatile Organic Carbon (SVOCs). The results will be compared to a sample of the water source used for pressure washing that is collected as a rinsate blank. Ancillary equipment will be considered decontaminated if the results do not show a significant increase over background. If the testing reveals that waste remains, decontamination procedures will be repeated. Decontaminated tanks and ancillary equipment may be left in place. Ancillary equipment not considered decontaminated may be shipped off-site to an authorized TSDF.

Soil Sampling

No contamination of underlying soils is anticipated due to the design and maintenance of the containment structure(s). Any cracks or gaps in the containment will become evident during the decontamination procedures. If upon examination any cracks or gaps are discovered, procedures for verifying decontamination (above) will be used to determine if hazardous waste or constituents, have migrated through the device. If it is determined that migration has occurred, the Department will be notified and the Closure Plan will be modified accordingly.



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Groundwater/Surface Water Sampling

No groundwater or surface water sampling is anticipated to be necessary as part of the closure activities.

I-1e(5) Closure of Waste Piles

There are no waste piles at the CEA Facility; therefore, this is not applicable.

I-1e(6) Closure of Surface Impoundments

There are no surface impoundments at the CEA Facility; therefore, this is not applicable.

I-1e(7) Closure of Incinerators

There is no incinerator at the CEA Facility; therefore, this is not applicable.

I-1e(8) Closure of Landfills

There is no landfill at the CEA Facility; therefore, this is not applicable.

I-1e(9) Closure of Land Treatment

There are no land treatment units at the CEA Facility; therefore, this is not applicable.

I-1e(10) Closure of Miscellaneous Units

CEA does not operate miscellaneous units for hazardous waste storage; therefore, this is not applicable.

I-2 Post-Closure Plan

A post-closure plan is not required at this time because CEA is not a disposal facility and all wastes will be removed at closure. If clean closure cannot be achieved, a post-closure plan will be prepared at that time.

I-3 Certification of Closure

Within 60 days of completion of closure of each hazardous waste unit, and within 60 days of the completion of final closure, the facility will submit to the Director, a certification that the hazardous waste management unit or facility, as applicable, has been closed in accordance with the specifications in the approved closure plan. The certification will be signed by the owner or



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operator and an independent professional engineer. Documentation supporting the registered professional engineer's certification will be furnished upon request by ADEM.

I-4 Closure Cost Estimate

A closure cost estimate is provided in Appendix I-4-1. That estimate is based on a maximum waste inventory at the time of closure and on a third party conducting all closure activities and is in 2024 dollars. The cost estimate will be adjusted annually from the anniversary of the first cost estimate.

I-5 Financial Assurance for Closure

At the time of this Application, financial assurance for closure of existing operations is provided by a Certificate of Insurance from Great American Insurance Group effective September 20, 2022 in the amount of \$1,192,380.70. A copy of that Certificate is provided in Appendix I-5-1. As discussed with representatives of ADEM, an updated financial assurance mechanism will be provided once the increase of capacity included in this Application has been approved.

I-6 Post-Closure Cost Estimate

A post-closure cost estimate is not required at this time because CEA is not a disposal facility and all wastes will be removed at closure. If clean closure cannot be achieved, a post-closure plan will be prepared at that time.

Financial Assurance Mechanism for Post-Closure I-7

Given that Post-Closure is not anticipated, a post-closure cost estimate is not required at this time.

I-8 Insurance

I-8a Sudden Insurance

Insurance for sudden accidental occurrences in the amount of \$1 million per occurrence with an annual total of at least \$2 million is provided by a Hazardous Waste Facility Liability Endorsement. A Hazardous Waste Facility Certificate of Insurance is provided in Appendix I-8-1.

I-8b Nonsudden Insurance

Not applicable as the CEA Facility does not have surface impoundments, land disposal or land treatment.



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I-9 State Financial Mechanism

Proof of coverage by a state financial mechanism is not application to the CEA facility.





APPENDIX I-4-1 CLOSURE COST ESTIMATE CLEAN EARTH OF ALABAMA



APPENDIX I-4-1 – CLOSURE COST ESTIMATE									
Task	Quantity	Unit	Unit Cost	Total Cost					
Transportation and Disposal of Inventory ¹									
Transportation and Disposal of Inventory: Containers	5,054	each	See attached worksheet ²	\$844,587.80					
Transportation and Disposal of Shredded Wastes in 70 cy end dump (Building #2)	40,000	pounds	\$0.20	\$80,000					
Transportation and Disposal of Consolidated Wastes in 40 cy end dump (Building #3)	40	су	\$151.77	\$6,070.80					
Transportation and Disposal of Inventory: Tanks	90,000	gallons	\$0.69	\$62,100.00					
Closure	Activities								
Pressure washing & decontamination of Container Storage Areas, including loading/unloading areas		total labor	\$11,500	\$11,500.00					
Pressure washing & decontamination of miscellaneous equipment and items used in closure		total labor	\$7,000	\$7,000.00					
Cleaning and disassembly of Shredders and Can Crushers for transportation		total labor	\$7,000	\$7,000.00					
Transportation and disposal of Shredders	2	each	\$8,500	\$17,000.00					
Transportation and disposal of Can Crushers	1	each	\$8,500	\$8,500.00					
Pressure washing & decontamination of Tanks (internal and external), tank farm floor, truck pad		total labor	\$44,900	\$44,900.00					
Rinsate transportation and disposal	285,762	gallons	\$0.69	\$198,190.00					
Analytical ³ (Confirmation Samples)									
Total Metals (As, Ba, Cd, Cr, Pb, Hg, Se, Ag)	23	each	\$115	\$2,645.00					
Volatile Organic Carbon	23	each	\$115	\$2,645.00					
Semi-Volatile Organics	23	each	\$244.95	\$5,633.85					
Analytical (QA/QC: duplicates at one for every 20 samples)	2	each	\$474.95	\$949.90					

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¹ Disposal and Transportation for containers is given for 55-gallons drums rather than bulk (Building #3) as drums represent the higher cost.

² Average: See Attached Breakdown

³ A total of 19 confirmation samples are assumed to required and collected. This assumes: 4 samples from Building #1; 2 samples each from Buildings #2, #3 and #4; plus, 9 samples from the AST tanks and tank farm (i.e., 1 per tank x 6 tanks, 1 for the pump station, 2 for the containment). In addition, one VOC trip blank will be submitted with each cooler of VOC samples sent to the laboratory (i.e., estimate 6 trip blanks) and 1 duplicate sample per 20 samples collected (i.e., ratio of 1:20) <u>plus</u> 4 miscellaneous rinsate samples from ancillary equipment that cannot be sampled by wipe test due to configuration.

APPENDIX I-4-1 – CLOSURE COST ESTIMATE								
Task	Quantity	Unit	Unit Cost	Total Cost				
Analytical (QA/QC: VOC trip blank @ 1 trip blank per cooler of VOC samples)	6	each	\$115	\$690.00				

Engineering Onsite Oversight of Closure Activities, Sampling and Closure Report & Certification ⁴								
CLOSURE OVERSIGHT: Engineer Onsite overseeing demolition, cleaning and closure (e.g., ASTs, Buildings #1, #2, #3 & #4), plus Mobilization/ Demobilization, Travel, Per Diem, Lodging, Shipping and Equipment.	15	Days	\$1,899.67	\$28,495.05				
CLOSURE SAMPLING: Engineer Onsite to conduct post-decontamination closure sampling for laboratory analysis (e.g., ASTs, Buildings #1, #2, #3 & #4), plus Mobilization/ Demobilization, Travel, Per Diem, Lodging, Shipping and Equipment.	4	Days	\$1889.67	\$7,598.68				
CLOSURE REPORTING & CERTIFICATION:	Eng - 45	Hours	\$180.00	\$8,100.00				
Engineer prepares a written report describing closure activities and certifying clean closure	CAD - 15		\$85.00	\$1,275.00				
based on laboratory testing. Includes engineering, data analysis, CAD, technical editing (TE) and	TE - 5		\$80.00	\$400.00				
report production (RP).	RP - 2		\$65.00	\$130.00				
Subtotal				\$1,345,411.08				
Contingency (10%)				\$134,541.11				
Total Closure Cost				\$1,479,952.19				

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⁴ Multiple trips to the Site by the project engineer during the closure and post-decontamination sampling activities are anticipated to ensure the project engineer can properly oversee and documented the work performed. The estimated Engineering oversight and certification costs shown assume clean-up standards are achieved after the initial decontamination/demolition event and no follow-up work is required. Engineering oversight field work can be completed within 15 work days or less, sampling within 4 work days or less and certification report preparation within hours shown.

CONTAINER INVENTORY DISPOSAL BASED ON MATERIALS RECEVIED Q4 2023

 BLDG 1 CAPACITY
 2020

 BLDG 2 CAPACITY
 1030

 BLDG 3 CAPACITY
 1152

 BLDG 4 CAPACITY
 852

							DEDG 3 CALACITI	1132	
		3 Month Inventory (gallons)				BLDG 4 CAPACITY	852		
WASTESTREAM	TOTAL GALLONS	October 2023	November 2023	December 2023	LOCATION	DRUM EQUIV	% CAPACITY	% FULL CAPACITY	FULL DRUM EQUIV
CORROSIVE ACIDIC	2631	1240	4932	1720	BLDG 1	48	0.024	5%	101
CORROSIVE ALKALINE	4597	6540	3132	4120	BLDG 1	84	0.081	6%	121
BATTERIES	1223	545	1651	1474	BLDG 1	22	0.019	4%	81
CYLINDER FIRE EXT	380	230	455	455	BLDG 1	7	0.003	1%	20
CYLINDER PROPANE	1085	659	1135	1462	BLDG 1	20	0.010	1%	20
FLAMMABLE LIQUIDS	22134	12305	34420	19678	BLDG 1	402	0.199	35%	707
FLAMMABLE SLUDGES	3606	2090	4669	4058	BLDG 1	66	0.032	7%	141
FLAMMABLE SOLIDS	8938	9591	11652	5572	BLDG 1	163	0.080	10%	202
LAB PACKS	3561	2265	4498	3919	BLDG 1	65	0.032	4%	81
AEROSOLS	2999	6227	2317	453	BLDG 1	55	0.027	4%	81
OXIDIZER LIQUIDS	2635	1137	4432	2335	BLDG 1	48	0.024	5%	101
OXIDIZER SOLIDS	1832	1427	2319	1749	BLDG 1	33	0.016	4%	81
INCINERATION	11524	11022	9409	14141	BLDG 1	210	0.104	14%	283
PHARMA	8219	2936	16490	5232	BLDG 2	149	0.145	100%	1030
PHARMA LIQUIDS	3750	3750	3750	3750	BLDG 3	68	0.059	100%	1152
FLAMMABLE SOLIDS	11605	10673	13461	10681	BLDG 4	211	0.248	85%	724
METALS BEARING	1800	1410	1495	2495	BLDG 4	33	0.038	15%	128

WASTE TYPE	DISPOSAL/DM	DISPOSAL T & D	FREIGHT/DM	FACILITY
CORROSIVE ACIDIC	\$214.25	\$26,291.31	\$46.06	US ECOLOGY
CORROSIVE ALKALINE	\$214.25	\$31,549.57	\$46.06	US ECOLOGY
BATTERIES	\$12.00	\$1,575.60	\$7.50	SANDERS
CYLINDER FIRE EXT	\$45.00	\$1,959.40	\$52.00	IES
CYLINDER PROPANE	\$7.50	\$1,201.90	\$52.00	IES
FLAMMABLE LIQUIDS	\$10.45	\$26,830.65	\$27.50	GEOCYCLE
FLAMMABLE SLUDGES	\$40.00	\$8,529.25	\$20.32	CAPE LONESTAR
FLAMMABLE SOLIDS	\$113.00	\$26,930.64	\$20.32	GREEN AMERICA
LAB PACKS	\$296.00	\$25,445.54	\$18.92	ROSS
AEROSOLS	\$214.00	\$20,641.98	\$41.47	RINECO
OXIDIZER LIQUIDS	\$816.50	\$87,118.56	\$46.06	US ECOLOGY
OXIDIZER SOLIDS	\$676.00	\$58,342.45	\$46.06	US ECOLOGY
INCINERATION	\$372.36	\$116,604.10	\$39.96	ROSS
PHARMA	\$32.96	\$62,665.20	\$27.88	HERITAGE WTI
PHARMA LIQUIDS	\$122.22	\$197,118.72	\$48.89	VEOLIA GUM SPRINGS
FLAMMABLE SOLIDS DEBRIS	\$152.23	\$118,515.33	\$11.42	WM
METALS BEARING	\$214.25	\$33,267.62	\$46.06	US ECOLOGY
TOTAL T & D		\$844,587.80	•	

APPENDIX I-5-1 FINANCIAL ASSURANCE FOR CLOSURE CLEAN EARTH OF ALABAMA





Administrative Offices 301 E. 4th Street Cincinnati, Ohio 45202 Tel: 1-513-369-5000

CERTIFICATE OF INSURANCE FOR CLOSURE OR POST-CLOSURE CARE

Name and Address of Insurer (herein called the "Insurer"):

Great American E & S Insurance Company 301 E. 4th Street, Cincinnati, OH 45202

Name and Address of Insured (herein called the "Insured"):

Clean Earth of Alabama, Inc. dba EWS Alabama, Inc. 402 Webster Chapel Road, Glencoe, AL 35905

Facilities Covered:

EPA ID # ALD981020894

Clean Earth of Alabama, Inc. 402 Webster Chapel Road Glencoe, Alabama 35905

Closure Costs:

\$1,275,847.53

Post Closure Costs:

\$0

Face Amount:

\$1,275,847.53

Policy Number:

CPC E349801 05

Effective Date:

9/20/2023

The Insurer hereby certifies that it has issued to the Insured the policy of insurance identified above to provide financial assurance for CLOSURE for the facilities identified above. The Insurer further warrants that such policy conforms in all respects with the requirements of ADEM Admin. Code subparagraphs 335-14-5-.08(4)(e), 335-14-5-.08(6)(e), 335-14-6-.08(4)(d), and 335-14-6-.08(6)(d), as applicable and as such regulations were constituted on the date shown immediately below. It is agreed that any provision of the policy inconsistent with such regulations is hereby amended to eliminate such inconsistency.

Whenever requested by the Department, the Insurer agrees to furnish to the Department a duplicate original of the policy listed above, including all endorsements thereon.

I hereby certify that the wording of this certificate is identical to the wording specified in ADEM Admin. Code subparagraphs 335-14-5-.08(12)(e) as such rules were constituted on the date shown immediately below.

Kirk Davenport, Divisional Vice President, Executive Underwriter

Signature of witness or notary:

DATE: <u>8/31/2023</u>

Commonwealth of Pennsylvania - Notary Seal Bjorn A. Gundersen, Notary Public Chester County My commission expires July 28, 2025 Commission number 1406142

Member, Pennsylvania Association of Notaries

APPENDIX I-8-1 HAZARDOUS WASTE FACILITY LIABILITY ENDORSEMENT FOR SUDDEN OCCURENCES

CLEAN EARTH OF ALABAMA



HAZARDOUS WASTE FACILITY CERTIFICATE OF LIABILITY INSURANCE

1. Allied World Assurance Company(U.S.), (the "Insurer"), of 199 Water Street, 24th Floor, New York, New York 10038 hereby certifies that it has issued liability insurance covering bodily injury and property damage, to Clean Earth of Alabama, Inc., (the "Insured"), of 402 Webster Chapel Road, Glencoe, AL 35905 in connection with the Insured's obligation to demonstrate financial responsibility under ADEM Admin. Code Rule 335-14-5-.08(8) or 335-14-6-.08(8). The coverage applies at:

Name and Address of Facility:

Facility Name: Clean Earth of Alabama, Inc.

Facility Address: 402 Webster Chapel Road, Glencoe, AL 35905

EPA Identification Number: ALD981020894

for sudden accidental occurrences [x], non-sudden accidental occurrences [] or sudden and non-sudden accidental occurrences [].

The limits of liability are \$1,000,000 Each Occurrence and \$2,000,000 Annual Aggregate Amount exclusive of legal defense costs. The coverage is provided under policy number 0312-9542, issued on June 30, 2023. The effective date of said policy is June 30, 2023.

- 2. The Insurer further certifies the following with respect to the insurance described in paragraph 1:
 - (a) Bankruptcy or insolvency of the Insured shall not relieve the Insurer of its obligations under the policy.
 - (b) The Insurer is liable for the payment of amounts within any deductible applicable to the policy, with a right of reimbursement by the Insured for any such payment made by the Insurer. This provision does not apply with respect to that amount of any deductible for which coverage is demonstrated as specified in ADEM Admin. Code Rule 335-14-5-.08(8)(f) or 335-14-6-.08(8)(f).
 - (c) Whenever requested by the Alabama Department of Environmental Management ("the Department"), the Insurer agrees to furnish to the Department a signed duplicate original of the policy and all endorsements.
 - (d) Cancellation of the insurance, whether by the Insurer, the Insured, a parent corporation providing insurance coverage for its subsidiary, or by a firm having an insurable interest in and obtaining liability insurance on behalf of the owner or operator of the hazardous waste management facility, will be effective only upon written notice, and only after the expiration of sixty (60) days after a copy of such written notice is received by the Department.

(e) Any other termination of this insurance will be effective only upon written notice, and only after the expiration of thirty (30) days after a copy of such written notice is received by the Department.

I hereby certify that the wording of this instrument is identical to the wording specified in ADEM Admin. Code Rule 335-14-5-.08(12)(j) as such regulation was constituted on the date first above written, and that the Insurer is licensed to transact the business of insurance, or is eligible to provide insurance as an excess or surplus lines insurer in the State of Alabama.

06/30/2023

Molly Zeigler

Date

Assistant Vice President, Environmental Division

Authorized Representative of Allied World Assurance Company (U.S.) Inc. 199 Water Street, 24th Floor New York, NY 10038

SECTION J OTHER FEDERAL LAWS CLEAN EARTH OF ALABAMA



SECTION J – TABLE OF CONTENTS Hazardous Waste Permit Renewal Application Clean Earth of Alabama, Inc. Glencoe, Alabama Permit No. ALD 981 020 894

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J	OTHER FEDERAL LAWS	1	L
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Hazardous Waste Permit Renewal Application Clean Earth of Alabama, Inc. Glencoe, Alabama Permit No. ALD 981 020 894

J OTHER FEDERAL LAWS

This section is included to meet the requirements of 40 CFR 270.14(b)(29) and 270.3 and Alabama Rule 335-14-8-02(5)(b)20 and 335-14-8-.01(3). Clean Earth of Alabama, Inc, (CEA) is not currently required to comply with other Federal Acts through formal permitting. Those other Federal Acts include:

The Wild and Scenic Rivers Act

CEA is not in a Wild and Scenic designated area; therefore, this law is not applicable.

National Historic Preservation Act of 1966

There are no historical structures on the property that would be subject to this Act.

The Endangered Species Act

There are no known endangered species in the area of CEA; therefore, this act is not applicable.

The Coastal Zone Management Act

CEA is not located in a coastal area; thus, this law was deemed not applicable.

The Fish and Wildlife Coordination Act

CEA does not contemplate the diversion or control or modification of any body of water; therefore, this act is not applicable.



SECTION K CERTIFICATION CLEAN EARTH OF ALABAMA



SECTION K - TABLE OF CONTENTS

Hazardous Waste Permit Renewal Application Clean Earth of Alabama, Inc. Glencoe, Alabama Permit No. ALD 981 020 894

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K	CERTIFICATION



SECTION K
Hazardous Waste Permit Renewal Application
Clean Earth of Alabama, Inc.
Glencoe, Alabama
Permit No. ALD 981 020 894

K 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."

Printed N	Jame: Sarak P. Konakczyk	
Signature		100 July 100
Title:	VP. Division General Consel Officer Date: 3/21/24	

SECTION L SOLID WASTE MANAGEMENT UNITS CLEAN EARTH OF ALABAMA



SECTION L - TABLE OF CONTENTS

Hazardous Waste Permit Renewal Application Clean Earth of Alabama, Inc. Glencoe, Alabama Permit No. ALD 981 020 894

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L So	Solid Waste Management Units1			
	Definition of SWMUs			
	Information Pertaining to Releases			
	Sampling and Analysis			

APPENDICES

APPENDIX L-1-1	Locations of SWMUs
APPENDIX L-1-2	Descriptions of SWMUs
APPENDIX L-1-3	Dimensions and Structure of SWMUs
APPENDIX L-3-1	1998 RFI Report and NFA Letter



Hazardous Waste Permit Renewal Application Clean Earth of Alabama, Inc. Glencoe, Alabama Permit No. ALD 981 020 894

L SOLID WASTE MANAGEMENT UNITS

This section describes the Facility's Solid Waste Management Units (SWMUs).

L-1 Definition of SWMUs

On May 22-23, 1990, ADEM conducted a Visual Site Inspection (VSI) of the Fisher Industrial Services (Fisher) facility as part of USEPA's Environmental Priorities Preliminary Assessment. Although available records are limited, it appears that EPA issued a report on August 9, 1990 identifying 16 SWMUs. Five of the SWMUs were later identified in the Part B Permit as requiring further investigation. The units requiring further investigation were SWMUs 1 (Storm Drain Inlet Near Pumping Sump at Tank Farm), 2 (Pumping Station at the Tank Farm), 3A (Truck Loading/Unloading Area at the Tank Farm), 15 (Drum Reclaiming Area – Quonset Hut – one half) and 16 (Vehicle Maintenance Area – Quonset Hut – one half).

A RCRA Facility Investigation (RFI) Work Plan was submitted to ADEM on January 20, 1998, and subsequently approved. The RFI was conducted and an RFI Report submitted to ADEM on April 28, 1998 by Fisher. On May 4, 1998, ADEM sent a Completeness Determination to the Fisher stating that based on the findings of the RFI, the Department concluded that no further action was required for those SWMUs.

On April 1-3, 2015, ADEM conducted a VSI and identified nine new SWMUs (SWMUs 17-23). The RCRA Facility Assessment (RFA) report recommended No Further Action for SWMUs 1, 4, 7, 10-20, and 23. Suggested further actions relating to operations were provided for SWMUs 2 (Pumping Station at the Tank Farm), 3 (Tank Farm Containment Area), 3A (Truck Loading/Unloading Area at the Tank Farm), 5 (Drum Emptying Vat #1), 6 (Drum Emptying Vat #2), 8 (Dispersing Tub #1), 9 (Dispersing Tub #2), 21 (Hazardous Waste Container Storage Areas A-C) and 22 (Hazardous Waste Bulk Storage Building).

The location of each SWMU, on a topographic map, is shown on the drawing in <u>Appendix L-1-1</u>. A description of each SWMU that includes the type of unit, dates of operation and description of wastes that have been managed from ADEM's 2015 RCRA Facility Assessment is provided in



Hazardous Waste Permit Renewal Application Clean Earth of Alabama, Inc. Glencoe, Alabama Permit No. ALD 981 020 894

<u>Appendix L-1-2</u>. The general dimensions and structural description of each SWMU is provided in <u>Appendix L-1-3</u>.

L-2 Information Pertaining to Releases

As of the date of this Application, there have been no known releases from any of the SWMUs present at the Facility.

L-3 Sampling and Analysis

A copy of the RFI Report by prior owner, Fisher Industrial Service, Inc., and dated April 28, 1998, as well as ADEM's No Further Action Letter dated May 4, 1998, are provided in <u>Appendix L-3-1</u>. No other sampling and analysis of environmental media has been required or conducted at the Facility.

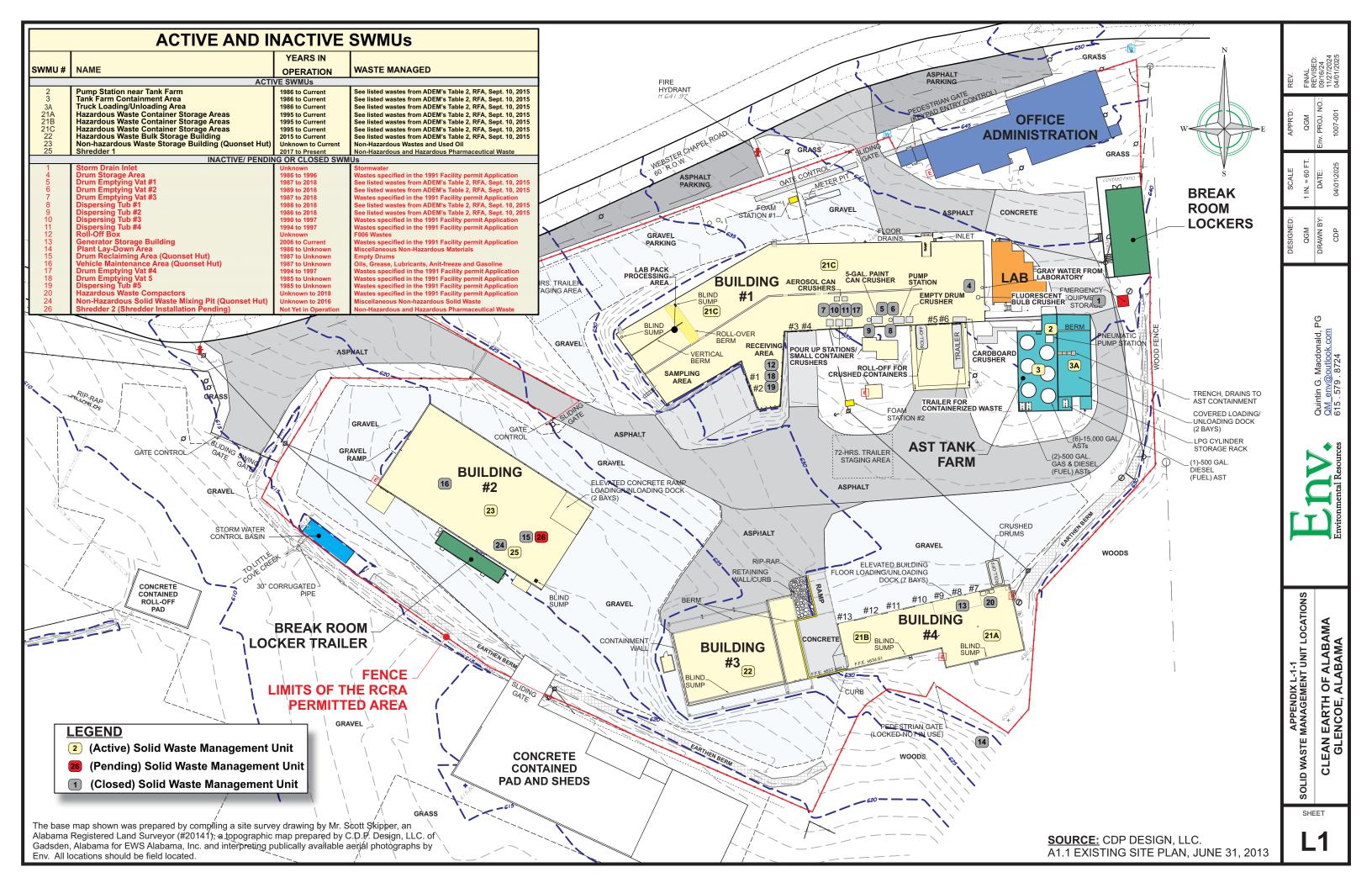




APPENDIX L-1-1 LOCATIONS OF SWMUS

CLEAN EARTH OF ALABAMA





APPENDIX L-1-2 DESCRIPTIONS OF SWMUS CLEAN EARTH OF ALABAMA



TABLE 1 EXECUTIVE SUMMARY

EWS Alabama Inc., Glencoe, Alabama

SWMU/AOC	TYPE OF UNIT	YEARS OF OPERATION	WASTES MANAGED	POLLUTION MIGRATION PATHWAYS ¹	EXPOSURE POTENTIAL ²	POTENTIAL FOR RELEASE ³	NEED FOR INTERIM MEASURES	SUGGESTED FURTHER ACTION⁴
SWMU 1-Storm Drain Inlet	drain inlet	unknown	stormwater	A GW S SS SW	L L L	L U U	No	No further action at this time.
SWMU 2- Pumping Station near Tank Farm	pumping station	1986-present	see Table 2	A GW S SS SW	L L L	L U L	No	EWS should continue to operate the pumping station in accordance with the requirements for Subpart BB ancillary equipment for tanks.
SWMU 3-Tank Farm Containment Area	storage/treatment tanks and the containment area	1986-present	see Table 2	A GW S SS SS	L L L	L L L	No	EWS should continue to operate the ancillary equipment located within SWMU 3 in accordance with the requirements for Subpart BB ancillary equipment for tanks. EWS should maintain the tanks in SWMU 3 in accordance with the requirements for Subpart CC the facility's hazardous waste permit and applicable Division 14 Regulations.
SWMU 3A-Truck Loading/Unloading Area	loading/unloading dock	1986-present	see Table 2	A GW S SS SS	L L L	L L U L	No	EWS should continue to operate SWMU 3A in accordance with the requirements found in the facility's RCRA Hazardous Waste Permit and applicable Division 14 Regulations. EWS should continue to operate the ancillary equipment located within SWMU 3A in accordance with the requirements for Subpart BB ancillary equipment for tanks.
SWMU 4-Drum Storage Area	hazardous waste storage area	1986-1996	wastes specified in the 1991 facility permit application	A GW S SS SW	L L L L		No	No further action at this time.
SWMU 5-Drum Emptying Vat #1	vat	1887-present	see Table 2	A GW S SS SW	L L L	L L L	No	EWS should continue to operate SWMU 5 in accordance with the requirements found in the facility's RCRA Hazardous Waste Permit and applicable Division 14 Regulations.
SWMU 6-Drum Emptying Vat #2	vat	1889-present	see Table 2	A GW S SS SW	L L L	L L L	No	EWS should continue to operate SWMU 6 in accordance with the requirements found in the facility's RCRA Hazardous Waste Permit and applicable Division 14 Regulations.
SWMU 7-Drum Emptying Vat #3	vat	1987-1997	wastes specified in the 1991 facility permit application	A GW S SS SW	L L L L	L L L L	No	No further action at this time.

^{1.} For Pollution Migration Pathways, 'A' designates Air; 'GW' designates Ground Water; 'S' designates Soil; 'SS' designates Subsurface Gas; 'SW' designates Surface Water, and 'SD' designates Sediment.

^{2.} For Exposure Potential, 'H' designates High; 'M' designates Medium; 'L' designates Low; and 'U' designates Unknown exposure potential; see each SWMU/AOC in Section 4.0 of the RFA for substantiation.

^{3.} Potential for Release is defined as High (H), evidence indicates that a release of hazardous waste or hazardous constituents has occurred; Medium (M) evidence indicates that a release may have occurred; Low (L) no evidence of release was found; and Unknown (U) sufficient information is not available to make a determination.

^{4.} See each SWMU/AOC in Section 4.0 of the RFA for substantiation.

TABLE 1 EXECUTIVE SUMMARY EWS Alabama Inc., Glencoe, Alabama Alabama

SWMU/AOC	TYPE OF UNIT	YEARS OF OPERATION	WASTES MANAGED	POLLUTION MIGRATION PATHWAYS 1	EXPOSURE POTENTIAL ²	POTENTIAL FOR RELEASE ³	NEED FOR INTERIM MEASURES	SUGGESTED FURTHER ACTION⁴
SWMU 8-Dispersing Tub #1	dispersing tub	1988-present	see Table 2	A GW S SS SS	L L L L		No	EWS should continue to operate SWMU 8 in accordance with the requirements found in the facility's RCRA Hazardous Waste Permit and applicable Division 14 Regulations. EWS should continue to operate the ancillary equipment associated with SWMU 8 in accordance with the requirements for Subpart BB ancillary equipment for tanks.
SWMU 9-Dispersing Tub #2	dispersing tub	1986-present	see Table 2	A GW S SS SW	L L L	L L L	No	EWS should continue to operate SWMU 9 in accordance with the requirements found in the facility's RCRA Hazardous Waste Permit and applicable Division 14 Regulations. EWS should continue to operate the ancillary equipment associated with SWMU 9 in accordance with the requirements for Subpart BB ancillary equipment for tanks.
SWMU 10-Dispersing Tub #3	dispersing tub	1990-1997	wastes specified in the 1991 facility permit application	A GW S SS SW	L L L L	L L L L	No	No further action at this time.
SWMU 11-Dispersing Tub #4	dispersing tub	1994-1997	wastes specified in the 1991 facility permit application	A GW S SS SW	L L L		No	No further action at this time.
SWMU 12-Roll-off Box	roll-off box	unknown	F006 wastes	A GW S SS SW	L L L	L L L	No	No further action at this time.
SWMU 13-Generator Storage Building	hazardous waste storage area	1987-unknown	wastes specified in the 1991 facility permit application	A GW S SS SW	L L L	L L L	No	No further action at this time.

^{1.} For Pollution Migration Pathways, 'A' designates Air; 'GW' designates Ground Water; 'S' designates Soil; 'SS' designates Subsurface Gas; 'SW' designates Surface Water, and 'SD' designates Sediment.

^{2.} For Exposure Potential, 'H' designates High; 'M' designates Medium; 'L' designates Low; and 'U' designates Unknown exposure potential; see each SWMU/AOC in Section 4.0 of the RFA for substantiation.

^{3.} Potential for Release is defined as High (H), evidence indicates that a release of hazardous waste or hazardous constituents has occurred; Medium (M) evidence indicates that a release may have occurred; Low (L) no evidence of release was found; and Unknown (U) sufficient information is not available to make a determination.

^{4.} See each SWMU/AOC in Section 4.0 of the RFA for substantiation.

TABLE 1 EXECUTIVE SUMMARY EWS Alabama Inc., Glencoe, Alabama Alabama

SWMU/AOC	TYPE OF UNIT	YEARS OF OPERATION	WASTES MANAGED	POLLUTION MIGRATION PATHWAYS 1	EXPOSURE POTENTIAL ²	POTENTIAL FOR RELEASE ³	NEED FOR INTERIM MEASURES	SUGGESTED FURTHER ACTION⁴
SWMU 14-Plant Laydown Area	laydown area	1986-present	miscellaneous non- hazardous materials	A GW S SS SW	L L L	L L L	No	No further action at this time.
SWMU 15-Drum Reclaiming Area (Quonset Hut)	drum reclaiming area	1987-unknown	empty drums	A GW S SS SW	L L L	L L L	No	No further action at this time.
SWMU 16-Vehicle Maintenance Area (Quonset Hut)	vehicle and equipment maintenance area	1987-unknown	oils, grease, lubricants, anti- freeze, and gasoline	A GW S SS SW	L L L	L L L	No	No further action at this time.
SWMU 17-Drum Emptying Vat #4	drum emptying vat	1994-1997	wastes specified in the 1991 facility permit application	A GW S SS SW	L L L	L L L	No	No further action at this time.
SWMU 18-Drum Emptying Vat #5	drum emptying vat	1995-unknown	wastes specified in the 1991 facility permit application	A GW S SS SW	L L L L	L L L L	No	No further action at this time.
SWMU 19- Dispersing Tub #5	dispersing tub	1995-unknown	wastes specified in the 1991 facility permit application	A GW S SS SW	L L L L	L L L L	No	No further action at this time.
SWMU 20-Hazardous Waste Compaction Units	compactor	unknown	wastes specified in the facility's May 10, 2002, Permit Application	A GW S SS SW	L L L	L L L	No	No further action at this time.
SWMU 21-Hazardous Waste Container Storage Areas A-C	hazardous waste storage areas	1995-present	see Table 2	A GW S SS SW	L L L L	L L L	No	EWS should continue to manage SWMU 21 A-C as required by the facility's permit and Division 14 Regulations.

^{1.} For Pollution Migration Pathways, 'A' designates Air; 'GW' designates Ground Water; 'S' designates Soil; 'SS' designates Subsurface Gas; 'SW' designates Surface Water, and 'SD' designates Sediment.

^{2.} For Exposure Potential, 'H' designates High; 'M' designates Medium; 'L' designates Low; and 'U' designates Unknown exposure potential; see each SWMU/AOC in Section 4.0 of the RFA for substantiation.

^{3.} Potential for Release is defined as High (H), evidence indicates that a release of hazardous waste or hazardous constituents has occurred; Medium (M) evidence indicates that a release may have occurred; Low (L) no evidence of release was found; and Unknown (U) sufficient information is not available to make a determination.

^{4.} See each SWMU/AOC in Section 4.0 of the RFA for substantiation.

TABLE 1A

SWMU/AOC	TYPE OF UNIT	YEARS OF OPERATION	WASTES MANAGED	POLLUTION MIGRATION PATHWAYS ¹	EXPOSURE POTENTIAL ²	POTENTIAL FOR RELEASE ³	NEED FOR INTERIM MEASURES	SUGGESTED FURTHER ACTION
SWMU 24-Non- Hazardous Waste Solidification	Bulk solidification of non-hazardous waste	Unknown - 2016	Non-hazardous sludges	A GW S SS SW	L L L L	L L L	No	No further action at this time.
SWMU 25 – Shredder 1	Shredding of pharmaceutical waste	2017 - Present	Non-hazardous and hazardous pharmaceutical waste	A GW S SS SW	L L L L	L L L L	No	No further action at this time.
SWMU 26 – Shredder 2	Shredding of pharmaceutical waste	Not yet in operation	Non-hazardous and hazardous pharmaceutical waste	A GW S SS SW	L L L L	L L L	No	No further action at this time.

^{1.} For Pollution Migration Pathways, 'A' designates Air; 'GW' designates Ground Water; 'S' designates Soil; 'SS' designates Subsurface Gas; 'SW' designates Surface Water, and 'SD' designates Sediment.

^{2.} For Exposure Potential, 'H' designates High; 'M' designates Medium; 'L' designates Low; and 'U' designates Unknown exposure potential; see each SWMU/AOC in Section 4.0 of the RFA for substantiation.

^{3.} Potential for Release is defined as High (H), evidence indicates that a release of hazardous waste or hazardous constituents has occurred; Medium (M) evidence indicates that a release may have occurred; Low (L) no evidence of release was found; and Unknown (U) sufficient information is not available to make a determination.

Table 2
Waste Codes and Process Codes for EWS

EPA Hazardous Waste Code	Process Code(s)
D001	S01, S02, T01, T04
D002	S01 ,S02 ,T01, T04
D003	S01
D004	S01, S02, T01, T04
D005	S01 ,S02 ,T01, T04
D006	S01, S02, T01, T04
D007	S01 ,S02 ,T01, T04
D008	S01, S02, T01, T04
D009	S01 ,S02 ,T01, T04
D010	S01, S02, T01, T04
D011	S01 ,S02 ,T01, T04
D012	S01, S02, T01, T04
D013	S01 ,S02 ,T01, T04
D014	S01, S02, T01, T04
D015	S01 ,S02 ,T01, T04
D016	S01, S02, T01, T04
D017	S01 ,S02 ,T01, T04
D018	S01, S02, T01, T04
D019	S01 ,S02 ,T01, T04
D020	S01, S02, T01, T04
D021	S01 ,S02 ,T01, T04
D022	S01, S02, T01, T04
D023	S01 ,S02 ,T01, T04
D024	S01, S02, T01, T04
D025	S01 ,S02 ,T01, T04
D026	S01, S02, T01, T04
D027	S01 ,S02 ,T01, T04
D028	S01, S02, T01, T04
D029	S01 ,S02 ,T01, T04
D030	S01, S02, T01, T04
D031	S01 ,S02 ,T01, T04

S01-storage in containers S02-storage in tanks T01-tank treatment T04-other treatment T2-1

Table 2
Waste Codes and Process Codes for EWS

EPA Hazardous Waste Code	Process Code(s)
D032	S01, S02, T01, T04
D033	S01 ,S02 ,T01, T04
D034	S01, S02, T01, T04
D035	S01 ,S02 ,T01, T04
D036	S01, S02, T01, T04
D037	S01 ,S02 ,T01, T04
D038	S01, S02, T01, T04
D039	S01 ,S02 ,T01, T04
D040	S01, S02, T01, T04
D041	S01 ,S02 ,T01, T04
D042	S01, S02, T01, T04
D043	S01 ,S02 ,T01, T04
F001	S01, S02, T01, T04
F002	S01 ,S02 ,T01, T04
F003	S01, S02, T01, T04
F004	S01 ,S02 ,T01, T04
F005	S01, S02, T01, T04
F006	S01 ,S02 ,T01, T04
F007	S01, S02, T01, T04
F008	S01 ,S02 ,T01, T04
F009	S01, S02, T01, T04
F010	S01 ,S02 ,T01, T04
F011	S01, S02, T01, T04
F012	S01 ,S02 ,T01, T04
F019	S01, S02, T01, T04
F020	S01 ,S02 ,T01, T04
F021	S01, S02, T01, T04
F022	S01 ,S02 ,T01, T04
F023	S01, S02, T01, T04
F024	S01 ,S02 ,T01, T04
F026	S01, S02, T01, T04
F027	S01 ,S02 ,T01, T04
F028	S01, S02, T01, T04
F032	S01, S02, T01, T04
F034	S01, S02, T01, T04

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Table 2
Waste Codes and Process Codes for EWS

EPA Hazardous	Process
Waste Code	Code(s)
F035	S01, S02, T01, T04
F037	S01 ,S02 ,T01, T04
F038	S01
F039	S01 ,S02 ,T01, T04
K001	S01, S02, T01, T04
K002	S01 ,S02 ,T01, T04
K003	S01, S02, T01, T04
K004	S01 ,S02 ,T01, T04
K005	S01, S02, T01, T04
K006	S01 ,S02 ,T01, T04
K007	S01, S02, T01, T04
K008	S01 ,S02 ,T01, T04
K009	S01, S02, T01, T04
K010	S01 ,S02 ,T01, T04
K014	S01, S02, T01, T04
K015	S01 ,S02 ,T01, T04
K016	S01, S02, T01, T04
K018	S01 ,S02 ,T01, T04
K019	S01, S02, T01, T04
K020	S01 ,S02 ,T01, T04
K021	S01, S02, T01, T04
K023	S01 ,S02 ,T01, T04
K024	S01, S02, T01, T04
K025	S01 ,S02 ,T01, T04
K026	S01, S02, T01, T04
K027	S01 ,S02 ,T01, T04
K028	S01, S02, T01, T04
K029	S01 ,S02 ,T01, T04
K030	S01, S02, T01, T04
K031	S01 ,S02 ,T01, T04
K032	S01, S02, T01, T04
K033	S01, S02, T01, T04
K034	S01, S02, T01, T04

Table 2
Waste Codes and Process Codes for EWS

EPA Hazardous	Process
Waste Code	Code(s)
K036	S01, S02, T01, T04
K037	S01 ,S02 ,T01, T04
K038	S01, S02, T01, T04
K039	S01 ,S02 ,T01, T04
K040	S01, S02, T01, T04
K041	S01 ,S02 ,T01, T04
K042	S01, S02, T01, T04
K043	S01 ,S02 ,T01, T04
K048	S01, S02, T01, T04
K049	S01 ,S02 ,T01, T04
K050	S01, S02, T01, T04
K051	S01 ,S02 ,T01, T04
K052	S01, S02, T01, T04
K060	S01 ,S02 ,T01, T04
K061	S01, S02, T01, T04
K062	S01 ,S02 ,T01, T04
K069	S01, S02, T01, T04
K083	S01 ,S02 ,T01, T04
K084	S01, S02, T01, T04
K085	S01 ,S02 ,T01, T04
K086	S01, S02, T01, T04
K087	S01 ,S02 ,T01, T04
K088	S01, S02, T01, T04
K093	S01 ,S02 ,T01, T04
K094	S01, S02, T01, T04
K095	S01 ,S02 ,T01, T04
K096	S01, S02, T01, T04
K097	S01 ,S02 ,T01, T04
K098	S01, S02, T01, T04
K099	S01 ,S02 ,T01, T04
K100	S01, S02, T01, T04
K101	S01, S02, T01, T04
K102	S01, S02, T01, T04

Table 2
Waste Codes and Process Codes for EWS

EPA Hazardous	Process
Waste Code	Code(s)
K103	S01, S02, T01, T04
K104	S01 ,S02 ,T01, T04
K105	S01, S02, T01, T04
K107	S01 ,S02 ,T01, T04
K108	S01, S02, T01, T04
K109	S01 ,S02 ,T01, T04
K110	S01, S02, T01, T04
K111	S01 ,S02 ,T01, T04
K112	S01, S02, T01, T04
K113	S01 ,S02 ,T01, T04
K114	S01, S02, T01, T04
K115	S01 ,S02 ,T01, T04
K116	S01, S02, T01, T04
K117	S01
K118	S01, S02, T01, T04
K123	S01 ,S02 ,T01, T04
K124	S01, S02, T01, T04
K125	S01 ,S02 ,T01, T04
K126	S01, S02, T01, T04
K131	S01 ,S02 ,T01, T04
K132	S01, S02, T01, T04
K136	S01 ,S02 ,T01, T04
K141	S01, S02, T01, T04
K142	S01 ,S02 ,T01, T04
K143	S01, S02, T01, T04
K144	S01 ,S02 ,T01, T04
K145	S01, S02, T01, T04
K147	S01 ,S02 ,T01, T04
K148	S01, S02, T01, T04
K149	S01 ,S02 ,T01, T04
K151	S01, S02, T01, T04
K156	S01, S02, T01, T04
K157	S01, S02, T01, T04

Table 2
Waste Codes and Process Codes for EWS

EPA Hazardous	Process
Waste Code	Code(s)
K158	S01, S02, T01, T04
K159	S01 ,S02 ,T01, T04
K161	S01, S02
K169	S01 ,S02 ,T01, T04
K170	S01, S02, T01, T04
P001	S01 ,S02 ,T01, T04
P002	S01, S02, T01, T04
P003	S01 ,S02 ,T01, T04
P004	S01, S02, T01, T04
P005	S01 ,S02 ,T01, T04
P006	S01
P008	S01 ,S02 ,T01, T04
P008	S01, S02, T01, T04
P009	S01 ,S02 ,T01, T04
P010	S01, S02, T01, T04
P011	S01 ,S02 ,T01, T04
P0012	S01, S02, T01, T04
P013	S01 ,S02 ,T01, T04
P014	S01, S02, T01, T04
P015	S01 ,S02 ,T01, T04
P016	S01, S02, T01, T04
P017	S01 ,S02 ,T01, T04
P018	S01, S02, T01, T04
P020	S01 ,S02 ,T01, T04
P021	S01, S02, T01, T04
P022	S01 ,S02 ,T01, T04
P023	S01, S02, T01, T04
P024	S01 ,S02 ,T01, T04
P026	S01, S02, T01, T04
P027	S01 ,S02 ,T01, T04
P028	S01, S02, T01, T04
P029	S01, S02, T01, T04
P030	S01, S02, T01, T04

Table 2
Waste Codes and Process Codes for EWS

EPA Hazardous	Process
Waste Code	Code(s)
P031	S01, S02, T01, T04
P033	S01 ,S02 ,T01, T04
P034	S01, S02, T01, T04
P036	S01 ,S02 ,T01, T04
P037	S01, S02, T01, T04
P038	S01 ,S02 ,T01, T04
P039	S01, S02, T01, T04
P040	S01 ,S02 ,T01, T04
P041	S01, S02, T01, T04
P041	S01 ,S02 ,T01, T04
P042	S01, S02, T01, T04
P043	S01 ,S02 ,T01, T04
P044	S01, S02, T01, T04
P045	S01 ,S02 ,T01, T04
P046	S01, S02, T01, T04
P047	S01 ,S02 ,T01, T04
P048	S01, S02, T01, T04
P049	S01 ,S02 ,T01, T04
P050	S01, S02, T01, T04
P051	S01 ,S02 ,T01, T04
P054	S01, S02, T01, T04
P056	S01 ,S02 ,T01, T04
P057	S01, S02, T01, T04
P058	S01 ,S02 ,T01, T04
P059	S01, S02, T01, T04
P060	S01 ,S02 ,T01, T04
P062	S01, S02, T01, T04
P063	S01 ,S02 ,T01, T04
P064	S01, S02, T01, T04
P065	S01 ,S02 ,T01, T04
P066	S01, S02, T01, T04
P067	S01, S02, T01, T04
P068	S01, S02, T01, T04

Table 2
Waste Codes and Process Codes for EWS

EPA Hazardous	Process
Waste Code	Code(s)
P069	S01, S02, T01, T04
P070	S01 ,S02 ,T01, T04
P071	S01, S02, T01, T04
P072	S01 ,S02 ,T01, T04
P073	S01, S02, T01, T04
P074	S01 ,S02 ,T01, T04
P075	S01, S02, T01, T04
P076	S01 ,S02 ,T01, T04
P077	S01, S02, T01, T04
P078	S01 ,S02 ,T01, T04
P080	S01, S02, T01, T04
P084	S01 ,S02 ,T01, T04
P085	S01, S02, T01, T04
P087	S01 ,S02 ,T01, T04
P088	S01, S02, T01, T04
P089	S01 ,S02 ,T01, T04
P092	S01, S02, T01, T04
P093	S01 ,S02 ,T01, T04
P094	S01, S02, T01, T04
P095	S01 ,S02 ,T01, T04
P096	S01, S02, T01, T04
P097	S01 ,S02 ,T01, T04
P098	S01, S02, T01, T04
P099	S01 ,S02 ,T01, T04
P101	S01, S02, T01, T04
P102	S01 ,S02 ,T01, T04
P103	S01, S02, T01, T04
P104	S01 ,S02 ,T01, T04
P105	S01, S02, T01, T04
P106	S01 ,S02 ,T01, T04
P108	S01, S02, T01, T04
P109	S01, S02, T01, T04
P110	S01, S02, T01, T04

Table 2
Waste Codes and Process Codes for EWS

EPA Hazardous	Process		
Waste Code	Code(s)		
P111	S01, S02, T01, T04		
P112	S01 ,S02 ,T01, T04		
P113	S01, S02, T01, T04		
P114	S01 ,S02 ,T01, T04		
P115	S01, S02, T01, T04		
P116	S01 ,S02 ,T01, T04		
P118	S01, S02, T01, T04		
P119	S01 ,S02 ,T01, T04		
P120	S01, S02, T01, T04		
P121	S01 ,S02 ,T01, T04		
P122	S01, S02, T01, T04		
P123	S01 ,S02 ,T01, T04		
P127	S01, S02, T01, T04		
P128	S01 ,S02 ,T01, T04		
P185	S01, S02, T01, T04		
P188	S01 ,S02 ,T01, T04		
P189	S01, S02, T01, T04		
P190	S01 ,S02 ,T01, T04		
P191	S01, S02, T01, T04		
P192	S01 ,S02 ,T01, T04		
P194	S01, S02, T01, T04		
P196	S01 ,S02 ,T01, T04		
P197	S01, S02, T01, T04		
P198	S01 ,S02 ,T01, T04		
P199	S01, S02, T01, T04		
P201	S01 ,S02 ,T01, T04		
P202	S01, S02, T01, T04		
P203	S01 ,S02 ,T01, T04		
P204	S01, S02, T01, T04		
P205	S01 ,S02 ,T01, T04		
U001	S01, S02, T01, T04		
U002	S01, S02, T01, T04		
U004	S01, S02, T01, T04		

Table 2
Waste Codes and Process Codes for EWS

EPA Hazardous	Process		
Waste Code	Code(s)		
U005	S01, S02, T01, T04		
U006	S01 ,S02 ,T01, T04		
U007	S01, S02, T01, T04		
U008	S01 ,S02 ,T01, T04		
U009	S01, S02, T01, T04		
U010	S01 ,S02 ,T01, T04		
U011	S01, S02, T01, T04		
U012	S01 ,S02 ,T01, T04		
U014	S01, S02, T01, T04		
U015	S01 ,S02 ,T01, T04		
U016	S01, S02, T01, T04		
U017	S01 ,S02 ,T01, T04		
U018	S01, S02, T01, T04		
U019	S01 ,S02 ,T01, T04		
U020	S01, S02, T01, T04		
U021	S01 ,S02 ,T01, T04		
U022	S01, S02, T01, T04		
U023	S01 ,S02 ,T01, T04		
U024	S01, S02, T01, T04		
U025	S01 ,S02 ,T01, T04		
U026	S01, S02, T01, T04		
U027	S01 ,S02 ,T01, T04		
U028	S01, S02, T01, T04		
U029	S01 ,S02 ,T01, T04		
U030	S01, S02, T01, T04		
U031	S01 ,S02 ,T01, T04		
U032	S01, S02, T01, T04		
U033	S01 ,S02 ,T01, T04		
U034	S01, S02, T01, T04		
U035	S01 ,S02 ,T01, T04		
U036	S01, S02, T01, T04		
U037	S01, S02, T01, T04		
U038	S01, S02, T01, T04		

Table 2
Waste Codes and Process Codes for EWS

EPA Hazardous	Process		
Waste Code	Code(s)		
U039	S01, S02, T01, T04		
U041	S01 ,S02 ,T01, T04		
U042	S01, S02, T01, T04		
U043	S01 ,S02 ,T01, T04		
U044	S01, S02, T01, T04		
U045	S01 ,S02 ,T01, T04		
U046	S01, S02, T01, T04		
U047	S01 ,S02 ,T01, T04		
U048	S01, S02, T01, T04		
U049	S01 ,S02 ,T01, T04		
U050	S01, S02, T01, T04		
U051	S01 ,S02 ,T01, T04		
U052	S01, S02, T01, T04		
U053	S01 ,S02 ,T01, T04		
U055	S01, S02, T01, T04		
U056	S01 ,S02 ,T01, T04		
U057	S01, S02, T01, T04		
U058	S01 ,S02 ,T01, T04		
U059	S01, S02, T01, T04		
U060	S01, S02, T01, T02		
U061	S01		
U062	S01 ,S02 ,T01, T04		
U063	S01, S02, T01, T04		
U064	S01 ,S02 ,T01, T04		
U066	S01, S02, T01, T04		
U067	S01 ,S02 ,T01, T04		
U068	S01, S02, T01, T04		
U069	S01 ,S02 ,T01, T04		
U070	S01, S02, T01, T04		
U071	S01 ,S02 ,T01, T04		
U072	S01, S02, T01, T04		
U073	S01, S02, T01, T04		
U074	S01, S02, T01, T04		

Table 2
Waste Codes and Process Codes for EWS

EPA Hazardous	Process		
Waste Code	Code(s)		
U075	S01, S02, T01, T04		
U076	S01 ,S02 ,T01, T04		
U077	S01, S02, T01, T04		
U078	S01 ,S02 ,T01, T04		
U078	S01, S02, T01, T04		
U079	S01 ,S02 ,T01, T04		
U080	S01, S02, T01, T04		
U081	S01 ,S02 ,T01, T04		
U082	S01, S02, T01, T04		
U083	S01 ,S02 ,T01, T04		
U084	S01, S02, T01, T04		
U085	S01 ,S02 ,T01, T04		
U086	S01, S02, T01, T04		
U087	S01 ,S02 ,T01, T04		
U088	S01, S02, T01, T04		
U089	S01 ,S02 ,T01, T04		
U090	S01, S02, T01, T04		
U091	S01 ,S02 ,T01, T04		
U092	S01, S02, T01, T04		
U093	S01 ,S02 ,T01, T04		
U094	S01, S02, T01, T04		
U095	S01 ,S02 ,T01, T04		
U096	S01, S02, T01, T04		
U097	S01 ,S02 ,T01, T04		
U098	S01, S02, T01, T04		
U099	S01 ,S02 ,T01, T04		
U101	S01, S02, T01, T04		
U102	S01 ,S02 ,T01, T04		
U103	S01, S02, T01, T04		
U105	S01 ,S02 ,T01, T04		
U106	S01, S02, T01, T04		
U107	S01, S02, T01, T04		
U108	S01, S02, T01, T04		

Table 2
Waste Codes and Process Codes for EWS

EPA Hazardous	Process		
Waste Code	Code(s)		
U109	S01, S02, T01, T04		
U110	S01 ,S02 ,T01, T04		
U111	S01, S02, T01, T04		
U112	S01 ,S02 ,T01, T04		
U113	S01, S02, T01, T04		
U114	S01 ,S02 ,T01, T04		
U115	S01, S02, T01, T04		
U116	S01 ,S02 ,T01, T04		
U117	S01, S02, T01, T04		
U118	S01 ,S02 ,T01, T04		
U119	S01, S02, T01, T04		
U120	S01 ,S02 ,T01, T04		
U121	S01, S02, T01, T04		
U121	S01 ,S02 ,T01, T04		
U122	S01, S02, T01, T04		
U123	S01 ,S02 ,T01, T04		
U124	S01, S02, T01, T04		
U125	S01 ,S02 ,T01, T04		
U126	S01, S02, T01, T04		
U127	S01 ,S02 ,T01, T04		
U128	S01, S02, T01, T04		
U129	S01 ,S02 ,T01, T04		
U130	S01, S02, T01, T04		
U131	S01 ,S02 ,T01, T04		
U132	S01, S02, T01, T04		
U133	S01 ,S02 ,T01, T04		
U134	S01, S02, T01, T04		
U135	S01 ,S02 ,T01, T04		
U136	S01, S02, T01, T04		
U137	S01 ,S02 ,T01, T04		
U138	S01, S02, T01, T04		
U140	S01, S02, T01, T04		
U141	S01, S02, T01, T04		

Table 2
Waste Codes and Process Codes for EWS

EPA Hazardous	Process		
Waste Code	Code(s)		
U142	S01, S02, T01, T04		
U143	S01 ,S02 ,T01, T04		
U144	S01, S02, T01, T04		
U145	S01 ,S02 ,T01, T04		
U146	S01, S02, T01, T04		
U147	S01 ,S02 ,T01, T04		
U148	S01, S02, T01, T04		
U149	S01 ,S02 ,T01, T04		
U150	S01, S02, T01, T04		
U151	S01 ,S02 ,T01, T04		
U152	S01, S02, T01, T04		
U153	S01 ,S02 ,T01, T04		
U154	S01, S02, T01, T04		
U155	S01 ,S02 ,T01, T04		
U156	S01, S02, T01, T04		
U157	S01 ,S02 ,T01, T04		
U158	S01, S02, T01, T04		
U159	S01 ,S02 ,T01, T04		
U160	S01, S02, T01, T04		
U161	S01 ,S02 ,T01, T04		
U162	S01, S02, T01, T04		
U163	S01 ,S02 ,T01, T04		
U164	S01, S02, T01, T04		
U165	S01 ,S02 ,T01, T04		
U166	S01, S02, T01, T04		
U167	S01 ,S02 ,T01, T04		
U168	S01, S02, T01, T04		
U169	S01 ,S02 ,T01, T04		
U170	S01, S02, T01, T04		
U171	S01 ,S02 ,T01, T04		
U172	S01, S02, T01, T04		
U173	S01, S02, T01, T04		
U174	S01, S02, T01, T04		

Table 2
Waste Codes and Process Codes for EWS

EPA Hazardous	Process		
Waste Code	Code(s)		
U175	S01, S02, T01, T04		
U176	S01 ,S02 ,T01, T04		
U177	S01, S02, T01, T04		
U178	S01 ,S02 ,T01, T04		
U179	S01, S02, T01, T04		
U180	S01 ,S02 ,T01, T04		
U181	S01, S02, T01, T04		
U182	S01 ,S02 ,T01, T04		
U183	S01, S02, T01, T04		
U184	S01 ,S02 ,T01, T04		
U185	S01, S02, T01, T04		
U186	S01 ,S02 ,T01, T04		
U187	S01, S02, T01, T04		
U188	S01 ,S02 ,T01, T04		
U189	S01, S02, T01, T04		
U190	S01 ,S02 ,T01, T04		
U191	S01, S02, T01, T04		
U192	S01 ,S02 ,T01, T04		
U193	S01, S02, T01, T04		
U194	S01 ,S02 ,T01, T04		
U196	S01, S02, T01, T04		
U197	S01 ,S02 ,T01, T04		
U200	S01, S02, T01, T04		
U201	S01 ,S02 ,T01, T04		
U201	S01, S02, T01, T04		
U204	S01 ,S02 ,T01, T04		
U205	S01, S02, T01, T04		
U206	S01 ,S02 ,T01, T04		
U207	S01, S02, T01, T04		
U208	S01 ,S02 ,T01, T04		
U209	S01, S02, T01, T04		
U210	S01, S02, T01, T04		
U211	S01, S02, T01, T04		

Table 2
Waste Codes and Process Codes for EWS

EPA Hazardous Waste Code			
U213	Code(s) S01, S02, T01, T04		
U214	S01 ,S02 ,T01, T04		
U215	S01, S02, T01, T04		
U216			
U217	S01 ,S02 ,T01, T04		
U218	S01, S02, T01, T04 S01, S02, T01, T04		
U219	S01, S02, T01, T04		
U220	S01 ,S02 ,T01, T04		
U221	S01, S02, T01, T04		
U222	S01 ,S02 ,T01, T04		
U223	S01, S02, T01, T04		
U225	S01 ,S02 ,T01, T04		
U226	S01, S02, T01, T04		
U227	S01 ,S02 ,T01, T04		
U228	S01, S02, T01, T04		
U234	S01 ,S02 ,T01, T04		
U235	S01, S02, T01, T04		
U236	S01 ,S02 ,T01, T04		
U237	S01, S02, T01, T04		
U238	S01 ,S02 ,T01, T04		
U239	S01, S02, T01, T04		
U240	S01 ,S02 ,T01, T04		
U243	S01, S02, T01, T04		
U244	S01 ,S02 ,T01, T04		
U246	S01, S02, T01, T04		
U247	S01 ,S02 ,T01, T04		
U248	S01, S02, T01, T04		
U249	S01 ,S02 ,T01, T04		
U271	S01, S02, T01, T04		
U278	S01 ,S02 ,T01, T04		
U279	S01, S02, T01, T04		
U280	S01, S02, T01, T04		
U328	S01, S02, T01, T04		

Table 2 Waste Codes and Process Codes for EWS

Process	
Code(s)	
S01, S02, T01, T04	
S01 ,S02 ,T01, T04	
S01, S02, T01, T04	
S01 ,S02 ,T01, T04	
S01, S02, T01, T04	
S01 ,S02 ,T01, T04	
S01, S02, T01, T04	
S01 ,S02 ,T01, T04	
S01, S02, T01, T04	
S01 ,S02 ,T01, T04	
S01, S02, T01, T04	
S01 ,S02 ,T01, T04	

^{*} NOTE * This list is not the same as found in the facility's permit application. It has been altered (with input from EWS) to correctly identify all process codes for each waste listed. T2-17

APPENDIX L-1-3 DIMENSIONS AND STRUCTURE OF SWMUS CLEAN EARTH OF ALABAMA



	APPENDIX L-1-3 – SOLID WASTE MANAGEMENT UNITS			
SWMU No.	Description	General Dimensions	Structural Description	Drawing No.
1	Storm Drain Inlet	Unknown	Unknown – Not present in 2015	N/A
2	Pumping Station Near Tank Farm	11.5' x 11'	Reinforced concrete; epoxy coated	Appendix D-2-2
3	Tank Farm Containment Area	64.5' x 28' x 3.6'	Reinforced concrete; epoxy coated	Appendix D-2-2
3A	Truck Loading/Unloading Area (tank farm)	60' x 29'	Reinforced concrete; epoxy coated	Appendix D-2-2
4	Drum Storage Area	40' x 60'	Unknown – Not present in 2015	N/A
5	Drum Emptying Vat #1	12' long x 4' wide x 5' high	1/4" thick carbon steel plates welded together to form a rectangular open tank (Note: Closed in 2018)	N/A
6	Drum Emptying Vat #1	10' long x 4' wide x 5' high	1/4" thick carbon steel plates welded together to form a rectangular open tank (Note: Closed in 2018)	N/A
7	Drum Emptying Vat #3	6' long x 4' wide x 5.5' high	1/4 " thick carbon steel plates welded together to form a rectangular open tank – Not present in 2015	N/A
8	Dispersing Tub #1	48" diameter x 48" deep	1/4" thick carbon steel (Note: Closed in 2018)	N/A
9	Dispersing Tub #2	48" diameter x 48" deep	1/4" thick carbon steel (Note: Closed in 2018)	N/A
10	Dispersing Tub #3	48" diameter x 48" deep	1/4" thick carbon steel – Not present in 2015	N/A
11	Dispersing Tub #4	48" diameter x 48" deep	1/4" thick carbon steel – Not present in 2015	N/A
12	Roll-Off Box	20 cubic yards	Steel – Not present in 2015	N/A
13	Generator Storage Building	Unknown	Unknown – Not present in 2015	N/A
14	Plant Laydown Area	Unknown	Unknown – Not present in 2015	N/A
15	Drum Reclaiming Area - Quonset Hut¹ (Currently eastern half of Building #2)	Unknown	Not present in 2015	N/A



	APPENDIX L-1-3 - SOLID WASTE MANAGEMENT UNITS			
SWMU Description Ge		General Dimensions	Structural Description	Drawing No.
16	Vehicle Maintenance Area - Quonset Hut¹ (Currently western half of Building #2)	Unknown	Not present in 2015	N/A
17	Drum Emptying Vat #4	10' long x 4' wide x 5' high	1/4 " thick carbon steel plates welded together to form a rectangular open tank – Not present in 2015	N/A
18	Drum Emptying Vat #5	Unknown	Unknown – Not present in 2015	N/A
19	Dispersing Tub #5	Unknown	Unknown – Not present in 2015	N/A
20	Hazardous Waste Compaction Units (2)	Unknown	Unknown – Not present in 2015	N/A
21	Hazardous Waste Container Storage Areas			
21A	Area A (Currently eastern half of Building #4)	60' x 55'	Reinforced concrete; epoxy coated	Appendix D-1-5 Sheet D-5
21B	Area B (Currently western half of Building #4)	40' x 70'	Reinforced concrete; epoxy coated	Appendix D-1-5 Sheet D-5
21C	Area C (Currently Building #1)	155 x 63 plus 70 x 130	Reinforced concrete; epoxy coated	Appendix D-1-5 Sheet D-1
22	Hazardous Waste Container Storage Building (Currently Building #3)	65' x 70'	Reinforced concrete; epoxy coated	Appendix D-1-5 Sheet D-4
23	Non-Hazardous Waste Container Storage Building ¹ - Quonset Hut (Currently Building #2)	145' x 72'8"	3-4" thick concrete floor connected to a 5' high concrete wall. The walls are connected to the steel girders which support the 4-millimeter fiberglass cloth reinforced roof.	Appendix D-1-5 Sheet D-3

¹ Description is from 2015 RFA. As of the date of this Application, Building #2 is used for the storage and processing (by shredding) of hazardous and non-hazardous waste in containers.

APPENDIX L-3-1 1998 RFI REPORT AND NFA LETTER CLEAN EARTH OF ALABAMA







ALABAMA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

POST OFFICE BOX 301463 • 1751 CONG. W. L. DICKINSON DRIVE 36109-2608 MONTGOMERY, ALABAMA 36130-1463

JAMES W. WARR DIRECTOR

(334) 271-7700

FOB JAMES, JR. GOVERNOR

Facsimiles: (334)

Administration: 271-7950

Air: 279-3044 Land: 279-3050 Water: 279-3051

Groundwater: 270-5631 Field Operations: 272-8131

Laboratory: 277-6718 Education/Outreach: 213-4399

May 4, 1998

CERTIFIED MAIL P 130 467 111 RETURN RECEIPT REQUESTED

Charles H. Cody, President Fisher Industrial Service, Inc. P.O. Box 5410 Glencoe, AL 35905

Re:

Completeness Determination

RCRA Facility Investigation (RFI) Report

EPA ID No. ALD 981 020 894

Dear Mr. Cody:

The Department has completed its review of Fisher's RFI Report, dated April 28, 1998. Based on this review, the RFI Report has been determined to be complete. Based on the findings of the RFI, the Department has concluded that, at this time, no further action is required for Solid Waste Management Unit (SWMU) numbers 1, 2, 3A, 15, and 16.

Should you have any questions concerning this matter, please contact Mr. Chip Crockett of the Hazardous Waste Branch at (334) 271-7747.

Sincerely.

A. Poole, Jr., Chief

Mand Division

JAP/VHC:FIS 980501 3

cc:

Ron Shell

Kent Williams, EPA Region 4

Decatur, Alabama 35602-0953

(205) 353-1713

(205) 340-9359 [Fax]

TSD/Etowah County/Fisher

FISHER

INDUSTRIAL SERVICE, INC.

A Member of The North American Group Ltd.



April 28, 1998

Mr. John A. Poole, Jr., Chief Land Division Alabama Department of Environmental Management 1751 Congressman W.L. Dickinson Drive Montgomery, AL 36109-2608

RE:

RCRA Facility Investigation (RFI) Workplan Fisher Industrial Service, Inc. EPA ID No. ALD 981 020 894

Dear Mr. Poole:

In accordance with the Fisher Industrial Service RFI Workplan, Sections 4.0, 5.0 and 6.0, the following RFI Report is hereby submitted to the Department for review.

Should you have any questions concerning the RFI Report, please contact Kevin Milner at (256) 492-8340.

Sincerety

Charles H. Cody

President

cc:

Ron Shell, Compliance Branch, ADEM Land Division Chip Crockett, Engineering Branch, ADEM Land Division

RCRA FACILITY INVESTIGATION

REPORT

For

FISHER INDUSTRIAL SERVICE, INC.

EPA ID No. ALD 981 020 894

APRIL 28, 1998

TABLE OF CONTENTS

SECTION NO.

1.0 IN	ITRODU	JCTION
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- **SAMPLING AND ANALYSIS** 2.0
- 2.1
- 2.2
- 2.3
- Sampling Strategy
 Sampling Procedures
 Sample Analysis
 Results of Sample Analysis 2.4

FIGURES

Figure 1	Site Map With General Soil Sampling Site Marked
Figure 2	Lowest Point Along South Wall of Quonset Hut
Figure 3	Site Layout Indicating SWMU Locations

1.0 INTRODUCTION

Fisher Industrial Service, Inc. was issued a Hazardous Waste Facility Permit by the Alabama Department of Environmental Management and EPA Region IV on November 2, 1992. As required in Part V of Fisher's Permit, a RCRA Facility Investigation (RFI) Workplan was developed and approved by the Alabama Department of Environmental Management. Sections 4.0 and 5.0 of the RFI Workplan describe the proposed project management and sampling and analysis plans on which this report is based.

2.0 SAMPLING AND ANALYSIS

All field sampling, sampling procedures and analyses performed during the RFI were documented to ensure that the information and data were valid. The Sampling Strategy and Procedures were performed in accordance with Characterization of Hazardous Waste Sites – A Methods Manual, EPA-600/4-84-076.

2.1 Sampling Strategy

In order to determine topographical data, sampling grids (Figure 2) were completed along the south side of the Quonset Hut approximately one foot from the exterior wall and in the storm water drainage area near the discharge weir. The measurement points on the grids were taken every two feet.

Soil was the only media sampled. Two soil samples, one foot apart, were taken from the point reflecting the lowest elevation along the wall (Sample Site #1). Two soil samples, one foot apart, were taken in the lowest area of the storm water drainage culvert before entering the lined area in front of the discharge weir (Sample Site #2). The samples were taken at a depth of one foot using a one-inch sampling auger and the two samples from each location were composited for analysis. The samples for Site #1 were collected on 3/27/98 and the samples for Site #2 were collected on 4/13/98. All sampling was conducted during precipitation-free weather after a period of at least 72 hours of no measurable rainfall. The samples were placed in sterile, one quart glass jars and stored at 4 degrees Celsius before and during shipment to the contracted laboratory. The two samples were analyzed for total concentrations of RCRA metals, volatiles and semi-volatiles and total petroleum hydrocarbons.

2.2 Sampling Procedures

A Site Map (Figure 1) and a Sampling Grid (Figure 2) was used to identify the exact location for sampling. Using the Sampling Grid, the area of lowest elevation was located and marked for the sampling sites.

A Sample Collection Tag and Chain of Custody accompanied the samples at all times. Sampling equipment and procedures were in accordance with Method II-2: <u>Subsurface Solid Sampling with Auger and Thin-Wall Tube Sampler</u> of the <u>Characterization of Hazardous Waste Sites - A</u> Methods Manual: Volume II.

The sampling procedures were documented on a Sampling Record signed by the person collecting the samples and indicating the date and time of sampling, location of sample excavation, preservation methods, equipment used and other relevant data.

2.3 Sample Analysis

The sample analyses were performed by Guardian Systems, Inc., Leeds, AL, in accordance with SW846: <u>Test Methods for Evaluating Solid Waste – Physical/Chemical Method</u>, Methods 6010, 8260, 8270 and 7000 series.

2.4 Results of Sample Analysis

04/23/98

GUARDIAN SYSTEMS, INC.

305 Ashville Road P.O. Box 190 Leeds, Alabama 35094 Telephone 205/699-6647 Wats 800/738-5719 Fax 205/699-3882

Page: 1

Fisher Industrial Service, Inc.

P.O. Box 5410

402 Webster Chapel Road

Glencoe, AL 35905

Attention: Mr. Nathan Coffee

Control No: 9803-00465 Sample # 1

Sampler

Sample ID: Composite of SMWU #15 & #16

Report Date: 4/06/98 Receive Date: 3/30/98 Receive Time: 12:27

Sample Date: 3/27/98 Sample Time: 10:45

LABORATORY CERTIFICATE

	PARAMETER	RESULTS	UNITS	ANAL	DATE	TIME	METHO	D	DETEC	TION LIMIT
	Arania AA Europa Tatal	2.90	ma/ka	GDL	4/06/98	8:00	7060	(3)	0.5	mg/kg
	Arsenic, AA, Furnace Total	2.90	mg/kg mg/kg	RPB	4/02/98		6010A	(5)	1.0	mg/kg
d	Marium, Total dmium, Total	< 2.	mg/kg	RPB	4/03/98		6010A	(5)	2	mg/kg
٩	Chromium, Total	9.11	mg/kg	RPB	4/03/98		6010A	(5)	2	mg/kg
	Lead, AA, Furnace Total	13.3	mg/kg	GDL	4/01/98		7421	(3)	0.50	mg/kg
	Mercury, Cold Vapor	< 0.100	mg/kg	GDL	4/03/98		7471	(3)	0.1	mg/kg
	Selenium, AA, Furnace	< 0.500	mg/kg	GDL	4/03/98		7740	(3)	0.5	mg/kg
	Silver, AA, Furnace Total	< 2.00	mg/kg	GDL	4/01/98		7761	(3)	2	mg/kg
	Total Petroleum Hydrocarbons		mg/kg	LB	4/02/98		418.1		10	mg/kg
	Method 8260			DPL	4/02/98					
	Dichlorodifluoromethane	< 5.0	ug/kg	DPL	4/02/98		8260	(3)	5	ug/kg
	Chloromethane	< 5.0	ug/kg	DPL	4/02/98	16:57	8260	(3)	5	ug/kg
	Vinyl chloride	< 5.0	ug/kg	DPL	4/02/98		8260	(3)	5	ug/kg
	Bromomethane	< 5.0	ug/kg	DPL	4/02/98		8260	(3)	5	ug/kg
	Chloroethane	< 5.0	ug/kg	DPL	4/02/98	16:57	8260	(3)	5	ug/kg
	Trichlorofluoromethane	< 5.0	ug/kg	DPL	4/02/98	16:57	8260	(3)	5	ug/kg
	Acrolein	< 50.	ug/kg	DPL	4/02/98	16:57	8260	(3)	50	ug/kg
	1,1-Dichloroethene	< 5.0	ug/kg	DPL	4/02/98	16:57	8260	(3)	5	ug/kg
	Carbon disulfide	< 50.	ug/kg	DPL	4/02/98	16:57	8260	(3)	50.	ug/kg
	lodomethane	< 50.	ug/kg	DPL	4/02/98	16:57	8260	(3)	50	ug/kg
	Acetone	< 50.	ug/kg	DPL	4/02/98	16:57	8260	(3)	50	ug/kg
	Methylene chloride	< 5.0	ug/kg	DPL	4/02/98	16:57	8260	(3)	5	ug/kg
	trans-1,2-Dichloroethene	< 5.0	ug/kg	DPL	4/02/98	16:57	8260	(3)	5	ug/kg
	Acrylonitrile	< 50.	ug/kg	DPL	4/02/98	16:57	8260	(3)	50	ug/kg

This Certificate Is Continued On Next Page.

- (1) Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-20, revised March 1983
- (2) Standard Methods for the Examination of Water and Waste Water, 17th. Edition, 1989
- (3) Test Methods for Evaluating Solid Wastes Physical/Chemical Method SW-846, 3rd Edition, EPA 1994
- (4) 1987 ASTM Annual Standards
- (5) Code of Federal Regulations, Title 40, Part 136, Appendix A
- (6) Methods for the Determination of Organic Compounds in Drinking Water, EPA-600/4-88/039, December 1988

P03



GUARDIAN SYSTEMS, INC.

305 Ashville Road P.O. Box 190 Leeds, Alabama 35094 Telephone 205/699-6647 Wats 800/738-5719 Fax 205/699-3882

Page: 2

Fisher Industrial Service, Inc.

P.O. Box 5410

402 Webster Chapel Road

Glencoe, AL 35905

Attention: Mr. Nathan Coffee

Control No: 9803-00465 Sample # 1

11:30

Sampler :

Sample ID: Composite of SMWU #15 & #16

Report Date: 4/06/98 Receive Date: 3/30/98

Receive Time: 12:27

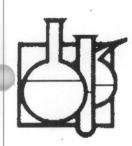
Sample Date: 3/27/98 Sample Time: 10:45

LABORATORY CERTIFICATE

PARAMETER	RESULTS	UNITS	ANAL	DATE	TIME	METHO	D	DETE	CTION LIMITS
1,1-Dicnloroethane	< 5.0	ug/kg	DPL	4/02/98		8260	(3)	5	ug/kg
'inyl acetate	< 50.0	ug/kg	DPL	4/02/98	16:57	8260	(3)	50	ug/kg
2-Dichloropropane	< 5.0	ug/kg	DPL	4/02/98	16:57	8260	(3)	5	ug/kg
is-1,2-Dichloroethene	< 5.0	ug/kg	DPL	4/02/98	16:57	8260	(3)	5	ug/kg
Methyl ethyl ketone	< 50.	ug/kg	DPL	4/02/98	16:57	8260	(3)	50	ug/kg
romochloromethane	< 5.0	ug/kg	DPL	4/02/98	16:57	8260	(3)	5	ug/kg
hloroform	< 5.0	ug/kg	DPL	4/02/98	16:57	8260	(3)	5	ug/kg
,1,1-Trichloroethane	< 5.0	ug/kg	DPL	4/02/98	16:57	8260	(3)	5	ug/kg
,1-Dichloropropene	< 5.0	ug/kg	DPL	4/02/98	16:57	8260	(3)	5	ug/kg
arbon tetrachloride	< 5.0	ug/kg	DPL	4/02/98	16:57	8260	(3)	5	ug/kg
enzene	< 5.0	ug/kg	DPL	4/02/98	16:57	8260	(3)	5	ug/kg
,2-Dichloroethane	< 5.0	ug/kg	DPL	4/02/98	16:57	8260	(3)	5	ug/kg
richloroethene	< 5.0	ug/kg	DPL	4/02/98	16:57	8260	(3)	5	ug/kg
,2-Dichloropropane	< 5.0	ug/kg	DPL	4/02/98	16:57	8260	(3)	5	ug/kg
ibromomethane	< 5.0	ug/kg	DPL	4/02/98	16:57	8260	(3)	5	ug/kg
romodichloromethane	< 5.0	ug/kg	DPL	4/02/98	16:57	8260	(3)	5	ug/kg
-Chloroethyl vinyl ether	< 50.	ug/kg	DPL	4/02/98	16:57	8260	(3)	50	ug/kg
rans-1,3-Dichloropropene	< 5.0	ug/kg	DPL	4/02/98	16:57	8260	(3)	5	ug/kg
-Methyl-2-Pentanone	< 50.	ug/kg	DPL	4/02/98	16:57	8260	(3)	50	ug/kg
oluene	< 5.0	ug/kg	DPL	4/02/98	16:57	8260	(3)	5	ug/kg
is-1,3-Dichloropropene	< 5.0	ug/kg	DPL	4/02/98	16:57	8260	(3)	5	ug/kg
thyl methacrylate	< 50.	ug/kg	DPL	4/02/98		8260	(3)	50	ug/kg
,1,2-Trichloroethane	< 5.0	ug/kg	DPL	4/02/98		8260	(3)	5	ug/kg
etrachloroethene	< 5.0	ug/kg	DPL	4/02/98		8260	(3)	5	ug/kg

This Certificate Is Continued On Next Page.

- (1) Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-20, revised March 1983
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305 Ashville Road P.O. Box 190 Leeds, Alabama 35094 Telephone 205/699-6647 Wats 800/738-5719 Fax 205/699-3882

Page: 3

Fisher Industrial Service, Inc.

P.O. Box 5410

402 Webster Chapel Road

Glencoe, AL 35905

Attention: Mr. Nathan Coffee

Control No: 9803-00465 Sample # 1

Sampler

Sample ID: Composite of SMWU #15 & #16

Report Date: 4/06/98 Receive Date: 3/30/98

Sample Date: 3/27/98 Sample Time: 10:45

Receive Time: 12:27

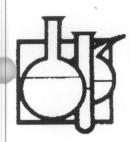
LABORATORY CERTIFICATE

PARAMETER	RESULTS	UNITS	ANAL	DATE	TIME	METHO	D	DETE	CTION LIMITS
1,3-Dichloropropane	< 5.0	ug/kg	DPL	4/02/98	16:57	8260	(3)	5	ug/kg
2-Hexanone	< 50.	ug/kg	DPL	4/02/98	16:57	8260	(3)	50	ug/kg
lorodibromomethane	< 5.0	ug/kg	DPL	4/02/98	16:57	8260	(3)	5	ug/kg
7,2-Dibromoethane	< 5.0	ug/kg	DPL	4/02/98	16:57	8260	(3)	5	ug/kg
Chlorobenzene	< 5.0	ug/kg	DPL	4/02/98	16:57	8260	(3)	5	ug/kg
1,1,1,2-Tetrachloroethane	< 5.0	ug/kg	DPL	4/02/98	16:57	8260	(3)	5	ug/kg
Ethylbenzene	< 5.0	ug/kg	DPL	4/02/98	16:57	8260	(3)	5	ug/kg
m,p-Xylene	< 5.0	ug/kg	DPL	4/02/98	16:57	8260	(3)	5	ug/kg
o-Xylene	< 5.0	ug/kg	DPL	4/02/98	16:57	8260	(3)	5	ug/kg
\$tyrene	< 5.0	ug/kg	DPL	4/02/98	16:57	8260	(3)	5	ug/kg
Bromoform	< 5.0	ug/kg	DPL	4/02/98	16:57	8260	(3)	5	ug/kg
Isopropylbenzene	< 5.0	ug/kg	DPL	4/02/98	16:57	8260	(3)	5	ug/kg
Bromobenzene	< 5.0	ug/kg	DPL	4/02/98	16:57	8260	(3)	5	ug/kg
1,1,2,2-Tetrachloroethane	< 5.0	ug/kg	DPL	4/02/98	16:57	8260	(3)	5	ug/kg
1,2,3-Trichloropropane	< 5.0	ug/kg	DPL	4/02/98	16:57	8260	(3)	5	ug/kg
n-Propylbenzene	< 5.0	ug/kg	DPL	4/02/98	16:57	8260	(3)	5	ug/kg
2-Chlorotoluene	< 5.0	ug/kg	DPL	4/02/98	16:57	8260	(3)	5	ug/kg
1,4-Dichloro-2-butene	< 50.	ug/kg	DPL	4/02/98	16:57	8260	(3)	50	ug/kg
4-Chlorotoluene	< 5.0	ug/kg	DPL	4/02/98	16:57	8260	(3)	5	ug/kg
1,3,5-Trimethylbenzene	< 5.0	ug/kg	DPL	4/02/98	16:57	8260	(3)	5	ug/kg
tert-Butylbenzene	< 5.0	ug/kg	DPL	4/02/98	16:57	8260	(3)	5	ug/kg
1,2,4-Trimethylbenzene	< 5.0	ug/kg	DPL	4/02/98	16:57	8260	(3)	5	ug/kg
sec-Butylbenzene	< 5.0	ug/kg	DPL	4/02/98	16:57	8260	(3)	5	ug/kg
1,3-Dichlorobenzene	< 5.0	ug/kg	DPL	4/02/98	16:57	8260	(3)	5	ug/kg

This Certificate Is Continued On Next Page.

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P05



GUARDIAN SYSTEMS, INC.

305 Ashville Road P.O. Box 190 Leeds, Alabama 35094 Telephone 205/699-6647 Wats 800/738-5719 Fax 205/699-3882

Page: 4

Fisher Industrial Service, Inc

P.O. Box 5410

402 Webster Chapel Road

Glencoe, AL 35905

Attention: Mr. Nathan Coffee

Control No: 9803-00465 Sample # 1

Sampler

Sample ID: Composite of SMWU #15 & #16

Report Date: 4/06/98 Receive Date: 3/30/98 Receive Time: 12:27

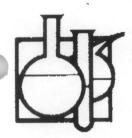
> Sample Date: 3/27/98 Sample Time: 10:45

LABORATORY CERTIFICATE

RESULTS	UNITS	ANAL	DATE	TIME	METHO)	DETEC	TION LIMITS
< 5.0	ug/kg	DPL			8260 8260	(3)	5	ug/kg ug/kg
								ug/kg
								ug/kg
< 5.0	ug/kg	DPL LB	4/02/98	16:57	8260	(3)	5	ug/kg
		LB			(3)			
< 166	ug/kg	JFS						ug/kg
< 166	ug/kg	JFS						ug/kg
< 166	ug/kg	JFS						ug/kg
< 166	ug/kg	JFS						ug/kg
< 166	ug/kg	JFS						ug/kg
< 166	ug/kg	JFS						ug/kg
< 166	ug/kg	JFS						ug/kg
< 166	ug/kg	JFS						ug/kg
< 166	ug/kg	JF\$						ug/kg
< 166	ug/kg	JFS						ug/kg
< 166	ug/kg	JFS						ug/kg
< 166	ug/kg	JFS						ug/kg
< 166	ug/kg							ug/kg
< 166	ug/kg							ug/kg
< 166	ug/kg	JFS						ug/kg
< 166	ug/kg	JFS						ug/kg
< 166	ug/kg	JFS	4/01/98	11:30	8270A	(3)	166	ug/kg
	<5.0 <5.0 <5.0 <5.0 <55.0 <166 <166 <166 <166 <166 <166 <166 <16	<pre><5.0 ug/kg <5.0 ug/kg <5.0 ug/kg <5.0 ug/kg <5.0 ug/kg <5.0 ug/kg <5.0 ug/kg <166 ug/kg</pre>	<pre> <5.0 ug/kg DPL <5.0 ug/kg DPL LB LB LB <166 ug/kg JFS <166 ug/kg ug/kg Ug/kg <166 ug/k</pre>	<pre> <5.0 ug/kg DPL 4/02/98 <5.0 ug/kg DPL 4/02/98 <5.0 ug/kg DPL 4/02/98 <5.0 ug/kg DPL 4/02/98 <5.0 ug/kg DPL 4/02/98</pre>	<pre> <5.0 ug/kg DPL 4/02/98 16:57 LB 3/30/98 13:00 LB 3/30/98 13:00 <166 ug/kg JFS 4/01/98 11:30 <166 ug/kg JFS 4/01/98 11:</pre>	<pre> <5.0 ug/kg DPL 4/02/98 16:57 8260 <5.0 ug/kg DPL 4/02/98 16:57 8260</pre>	<pre> <5.0 ug/kg DPL</pre>	<pre> <5.0 ug/kg DPL 4/02/98 16:57 8260</pre>

This Certificate Is Continued On Next Page.

- (1) Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-20, revised March 1983
- (2) Standard Methods for the Examination of Water and Waste Water, 17th. Edition, 1989
- (3) Test Methods for Evaluating Solid Wastes Physical/Chemical Method SW-846, 3rd Edition, EPA 1994
- (4) 1987 ASTM Annual Standards
- (5) Code of Federal Regulations, Title 40, Part 136, Appendix A
- (6) Methods for the Determination of Organic Compounds in Drinking Water, EPA-600/4-88/039, December 1988



305 Ashville Road P.O. Box 190 Leeds, Alabama 35094

Telephone 205/699-6647 Wats 800/738-5719 205/699-3882 Fax

Page: 5

Fisher Industrial Service, Inc.

P.O. Box 5410

402 Webster Chapel Road

Glencoe, AL 35905

Attention: Mr. Nathan Coffee

Control No: 9803-00465 Sample # 1

11:32

Sampler :

Sample ID: Composite of SMWU #15 & #16

Report Date: 4/06/98 Receive Date: 3/30/98 Receive Time: 12:27

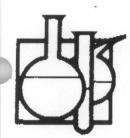
Sample Date: 3/27/98 Sample Time: 10:45

LABORATORY CERTIFICATE

PARAMETER	RESULTS	UNITS	ANAL	DATE	TIME	METHOD		DETEC	TION LIMITS	
4-Chlorophenyl phenyl ether	< 166	ug/kg	JFS	4/01/98		8270A	(3)	166	ug/kg	
Chrysene	< 166	ug/kg	JFS	4/01/98		8270A	(3)	166	ug/kg	
-Cresol	< 166	ug/kg	JFS	4/01/98		8270A	(3)	166	ug/kg	
m,p-Cresols	< 330	ug/kg	JFS	4/01/98		8270A	(3)	330	ug/kg	
Dibenzo(a,h)anthracene	< 166	ug/kg	JFS	4/01/98		8270A	(3)	166	ug/kg	
Di-n-butyl phthalate	< 166	ug/kg	JFS	4/01/98		8270A	(3)	166	ug/kg	
1,2-Dichlorobenzene	< 166	ug/kg	JFS	4/01/98		8270A	(3)	166	ug/kg	
1,3-Dichlorobenzene	< 166	ug/kg	JFS	4/01/98		8270A	(3)	166	ug/kg	
1,4-Dichlorobenzene	< 166	ug/kg	JFS	4/01/98		8270A	(3)	166	ug/kg	
2,4-Dichlorophenol	< 166	ug/kg	JFS	4/01/98		8270A	(3)	166	ug/kg	
2,4-Dimethylphenol	< 166	ug/kg	JFS	4/01/98	11:30	8270A	(3)	166	ug/kg	
Diethyl phthalate	< 166	ug/kg	JFS	4/01/98	11:30	8270A	(3)	166	ug/kg	
Dimethyl phthalate	< 166	ug/kg	JFS	4/01/98	11:30	8270A	(3)	166	ug/kg	
4,6-Dinitro-o-cresol	< 855	ug/kg	JFS	4/01/98	11:30	8270A	(3)	855	ug/kg	
2,4-Dinitrophenol	< 855	ug/kg	JFS	4/01/98	11:30	8270A	(3)	855	ug/kg	
2,4-Dinitrotoluene	< 166	ug/kg	JFS	4/01/98	11:30	8270A	(3)	166	ug/kg	
2,6-Dinitrotoluene	< 166	ug/kg	JFS	4/01/98	11:30	8270A	(3)	166	ug/kg	
Di-n-octyl phthalate	< 166	ug/kg	JFS	4/01/98	11:30	8270A	(3)	166	ug/kg	
1,2-Diphenylhydrazine	< 166	ug/kg	JFS	4/01/98	11:30	8270A	(3)	166	ug/kg	
luoranthene	< 166	ug/kg	JFS	4/01/98	11:30	8270A	(3)	166	ug/kg	
Fluorene	< 166	ug/kg	JFS	4/01/98	11:30	8270A	(3)	166	ug/kg	
Hexachlorobenzene	< 166	ug/kg	JFS	4/01/98	11:30	8270A	(3)	166	ug/kg	
-lexachlorobutadiene	< 166	ug/kg	JFS	4/01/98	11:30	8270A	(3)	166	ug/kg	
Hexachlorocyclopentadiene	< 166	ug/kg	JFS	4/01/98	11:30	8270A	(3)	166	ug/kg	

This Certificate Is Continued On Next Page.

- (1) Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-20, revised March 1983
- (2) Standard Methods for the Examination of Water and Waste Water, 17th. Edition, 1989
- (3) Test Methods for Evaluating Solid Wastes Physical/Chemical Method SW-846, 3rd Edition, EPA 1994
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- (6) Methods for the Determination of Organic Compounds in Drinking Water, EPA-600/4-88/039, December 1988



305 Ashville Road P.O. Box 190 Leeds, Alabama 35094 Telephone 205/699-6647 Wats 800/738-5719 Fax 205/699-3882

Page: 6

Fisher Industrial Service, Inc.

P.O. Box 5410

402 Webster Chapel Road

Glencoe, AL 35905

Attention: Mr. Nathan Coffee

Control No: 9803-00465 Sample #1

11:33

Sampler

Sample ID: Composite of SMWU #15 & #16

Report Date: 4/06/98 Receive Date: 3/30/98

Receive Time: 12:27

Sample Date: 3/27/98 Sample Time: 10:45

LABORATORY CERTIFICATE

PARAMETER	RESULTS	UNITS	ANAL	DATE	TIME	METHOD		DETEC	TION LIMITS
Hexachloroethane Indeno(1,2,3-cd)pyrene Indeno(1,2,3-cd)pyrene Indeno(1,2,3-cd)pyrene Indeno(1,2,3-cd)pyrene Indeno(1,2,3-cd)pyrene Indeno(1,2,4-Trichloropheno(1,2,4-Trichloropheno(1,2,4-Trichloropheno(1,4,5-Trichloropheno(1,2,4-Trichloroph	< 166 < 166 < 166 < 166 < 166 < 166 < 855 < 166 < 166 < 166 < 166 < 166 < 166 < 166 < 166 < 166	ug/kg ug/kg ug/kg ug/kg ug/kg ug/kg ug/kg ug/kg ug/kg ug/kg	JFS JFS JFS JFS JFS JFS JFS JFS JFS	4/01/98 4/01/98 4/01/98 4/01/98 4/01/98 4/01/98 4/01/98 4/01/98 4/01/98 4/01/98 4/01/98 4/01/98 4/01/98 4/01/98	11:30 11:30 11:30 11:30 11:30 11:30 11:30 11:30 11:30 11:30	8270A 8270A 8270A 8270A 8270A 8270A 8270A 8270A 8270A 8270A 8270A 8270A 8270A 8270A 8270A	(3) (3) (3) (3) (3) (3) (3) (3) (3) (3)	166 166 166 166 166 166 166 166 166 166	ug/kg

- (1) Methods for Chemical Analysis of Water and Wastes. EPA-600/4-79-20, revised March 1983
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- (3) Test Methods for Evaluating Solid Wastes Physical/Chemical Method SW-846, 3rd Edition, EPA 1994
- (4) 1987 ASTM Annual Standards
- (5) Code of Federal Regulations, Title 40, Part 136, Appendix A
- (6) Methods for the Determination of Organic Compounds in Drinking Water, EPA-600/4-88/039. December 1988

Chain of Custody Record

Project Code Project Name 5 MW4 F Samplers: (Signature) Brad Phillips	#154#16 (RFI)	total Metals	Total Volitales	- -		
Sampling Site #1 I qualt Sumple ; lumposi			~	claho	Remarks	
I qualt sumply sumposi	to of SMWU #154	#16 V	40	10		
		۸ .				
			-			
						* 1
Relinquished By: (Signature)		ceived By: (8			Date/Time	
Brad Phillips	3-27 10:45 N	2 - July	>		3/30/98	1135
Relinquished By: (Signature)	Date/Time	Recei	ived By	: (Signa	ature)	Date/Time
Dalian ishad Day (Oissatus)	Data Wissa			(0:		
Relinquished By: (Signature)	Date/Time	Rece	ived B	y: (Sign	ature)	Date/Time



305 Ashville Road P.O. Box 190 Leeds, Alabama 35094 Telephone 205/699-6647 Wats 800/738-5719 Fax 205/699-3882

Page: 1

Fisher Industrial Service, Inc 402 Webster Chapel Road

P.O. Box 5410 Glencoe, AL 35905

Attention: Mr. Nathan Coffee

Control No: 9804-00206 Sample # 1

Sampler : BP

Sample ID: SMWU #15 & #16 Soil, Site #2

Report Date: 4/22/98 Receive Date: 4/14/98 Receive Time: 11:36

> Sample Date: 4/13/98 Sample Time: 10:45

LABORATORY CERTIFICATE

PARAMETER	RESULTS	UNITS	ANAL	DATE	TIME	METHO	D	DETEC	TION LIMIT
Total Petroleum Hydrocarbon		mg/kg	GT	4/20/98				10	mg/kg
Arsenic, AA, Furnace Total	7.62	mg/kg	GDL	4/15/98		7060	(3)	0.5	mg/kg
Barium, Total	54.3	mg/kg	RPB	4/16/98		6010A	(5)	1.0	mg/kg
Cadmium, Total	< 2.00	mg/kg	GDL			6010A	(5)	2	mg/kg
Chromium, Total	26.7	mg/kg	GDL			6010A	(5)	2	mg/kg
Lead, AA, Furnace Total	11.4	mg/kg	GDL			7421	(3)	0.50	mg/kg
Mercury, Cold Vapor	< 0.100	mg/kg	GDL	4/17/98		7471	(3)	0.1	mg/kg
Selenium, AA, Furnace	0.644	mg/kg	GDL			7740	(3)	0.5	mg/kg
Silver, AA, Furnace Total	< 2.00	mg/kg	GDL	4/20/98		7761	(3)	2	mg/kg
Method 8260			DPL	4/20/98					
Dichlorodifluoromethane	< 5.0	ug/kg	DPL	4/20/98	13:19	8260	(3)	5	ug/kg
Chloromethane	< 5.0	ug/kg	DPL	4/20/98	13:19	8260	(3)	5	ug/kg
Vinyl chloride	< 5.0	ug/kg	DPL	4/20/98	13:19	8260	(3)	5	ug/kg
Bromomethane	< 5.0	ug/kg	DPL	4/20/98	13:19	8260	(3)	5	ug/kg
Chloroethane	< 5.0	ug/kg	DPL	4/20/98	13:19	8260	(3)	5	ug/kg
Trichlorofluoromethane	< 5.0	ug/kg	DPL	4/20/98	13:19	8260	(3)	5	ug/kg
Acrolein	< 50.	ug/kg	DPL	4/20/98	13:19	8260	(3)	50	ug/kg
1,1-Dichloroethene	< 5.0	ug/kg	DPL	4/20/98	13:19	8260	(3)	5	ı∙g/kg
Carbon disulfide	< 50.	ug/kg	DPL	4/20/98	13:19	8260	(3)	50.	ug/kg
Iodomethane	< 50.	ug/kg	DPL	4/20/98	13:19	8260	(3)	50	ug/kg
Acetone	< 50.	ug/kg	DPL	4/20/98	13:19	8260	(3)	50	ug/kg
Methylene chloride	< 5.0	ug/kg	DPL	4/20/98	13:19	8260	(3)	5	ug/kg
trans-1,2-Dichloroethene	< 5.0	ug/kg	DPL	4/20/98	13:19	8260	(3)	5	ug/kg
Acrylonitrile	< 50.	ug/kg	DPL	4/20/98	13:19	8260	(3)	50	ug/kg

This Certificate Is Continued On Next Page.

- (1) Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-20, revised March 1983
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305 Ashville Road P.O. Box 190 Leeds, Alabama 35094 Telephone 205/699-6647 Wats 800/738-5719 Fax 205/699-3882

Page: 2

Fisher Industrial Service, Inc 402 Webster Chapel Road

P.O. Box 5410 Glencoe, AL 35905

Attention: Mr. Nathan Coffee

Control No: 9804-00206 Sample # 1

Sampler : BP

Sample ID: SMWU #15 & #16 Soil, Site #2

Report Date: 4/22/98
Receive Date: 4/14/98

Receive Time: 11:36

Sample Date: 4/13/98 Sample Time: 10:45

LABORATORY CERTIFICATE

PARAMETER	RESULTS	UNITS	ANAL	DATE	TIME	METHO)D	DETE	CTION LIMITS
1,1-Dichloroethane	< 5.0	ug/kg	DPL	4/20/98	13:19	8260	(3)	5	ug/kg
Vinyl acetate	< 50.0	ug/kg	DPL	4/20/98	13:19	8260	(3)	50	ug/kg
,2-Dichloropropane	< 5.0	ug/kg	DPL	4/20/98	13:19	8260	(3)	5	ug/kg
cis-1,2-Dichloroethene	< 5.0	ug/kg	DPL	4/20/98	13:19	8260	(3)	5	ug/kg
Methyl ethyl ketone	< 50.	ug/kg	DPL	4/20/98	13:19	8260	(3)	50	ug/kg
Bromochloromethane	< 5.0	ug/kg	DPL	4/20/98	13:19	8260	(3)	5	ug/kg
Chloroform	< 5.0	ug/kg	DPL	4/20/98	13:19	8260	(3)	5	ug/kg
1,1,1-Trichloroethane	< 5.0	ug/kg	DPL	4/20/98	13:19	8260	(3)	5	ug/kg
1,1-Dichloropropene	< 5.0	ug/kg	DPL	4/20/98	13:19	8260	(3)	5	ug/kg
Carbon tetrachloride	< 5.0	ug/kg	DPL	4/20/98	13:19	8260	(3)	5	ug/kg
Benzene	< 5.0	ug/kg	DPL	4/20/98	13:19	8260	(3)	5	ug/kg
1,2-Dichloroethane	< 5.0	ug/kg	DPL	4/20/98	13:19	8260	(3)	5	ug/kg
Trichloroethene	< 5.0	ug/kg	DPL	4/20/98	13:19	8260	(3)	5	ug/kg
1,2-Dichloropropane	< 5.0	ug/kg	DPL	4/20/98	13:19	8260	(3)	5	ug/kg
Dibromomethane	< 5.0	ug/kg	DPL	4/20/98	13:19	8260	(3)	5	ug/kg
Bromodichloromethane	< 5.0	ug/kg	DPL	4/20/98	13:19	8260	(3)	5	ug/kg
2-Chloroethyl vinyl ether	< 50.	ug/kg	DPL	4/20/98	13:19	8260	(3)	50	ug/kg
trans-1,3-Dichloropropene	< 5.0	ug/kg	DPL	4/20/98		8260	(3)	5	ug/kg
4-Methyl-2-Pentanone	< 50.	ug/kg	DPL	4/20/98		8260	(3)	50	ug/kg
Toluene	< 5.0	ug/kg	DPL	4/20/98		8260	(3)	5	ug/kg
cis-1,3-Dichloropropene	< 5.0	ug/kg	DPL	4/20/98		8260	(3)	5	ug/kg
Ethyl methacrylate	< 50.	ug/kg	DPL	4/20/98	13:19	8260	(3)	50	ug/kg
1,1,2-Trichloroethane	< 5.0	ug/kg	DPL	4/20/98	13:19	8260	(3)	5	ug/kg
Tetrachloroethene	< 5.0	ug/kg	DPL	4/20/98	13:19	8260	(3)	5	ug/kg

This Certificate Is Continued On Next Page.

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- (6) Methods for the Determination of Organic Compounds in Drinking Water, EPA-600/4-88/039, December 1988



305 Ashville Road P.O. Box 190 Leeds, Alabama 35094

Telephone 205/699-6647 Wats 800/738-5719 Fax 205/699-3882

Page: 3

Fisher Industrial Service, Inc 402 Webster Chapel Road

P.O. Box 5410 Glencoe, AL 35905

Attention: Mr. Nathan Coffee

Control No: 9804-00206 Sample # 1

Sampler : BP

Sample ID: SMWU #15 & #16 Soil, Site #2

Report Date: 4/22/98 Receive Date: 4/14/98 Receive Time: 11:36

Sample Date: 4/13/98

Sample Time: 10:45

LABORATORY CERTIFICATE

PARAMETER	RESULTS	UNITS	ANAL	DATE	TIME	METHO)D	DETE	CTION LIMITS
1,3-Dichloropropane	< 5.0	ug/kg	DPL	4/20/98	13:19	8260	(3)	5	ug/kg
-Hexanone	< 50.	ug/kg	DPL	4/20/98		8260	(3)	50	ug/kg
chlorodibromomethane	< 5.0	ug/kg	DPL	4/20/98	13:19	8260	(3)	5	ug/kg
1,2-Dibromoethane	< 5.0	ug/kg	DPL	4/20/98	13:19	8260	(3)	5	ug/kg
Chlorobenzene	< 5.0	ug/kg	DPL	4/20/98	13:19	8260	(3)	5	ug/kg
1,1,1,2-Tetrachloroethane	< 5.0	ug/kg	DPL	4/20/98		8260	(3)	5	ug/kg
Ethylbenzene	< 5.0	ug/kg	DPL	4/20/98	13:19	8260	(3)	5	ug/kg
m,p-Xylene	< 5.0	ug/kg	DPL	4/20/98		8260	(3)	5	ug/kg
o-Xylene	< 5.0	ug/kg	DPL	4/20/98	13:19	8260	(3)	5	ug/kg
Styrene	< 5.0	ug/kg	DPL	4/20/98	13:19	8260	(3)	5	ug/kg
Bromoform	< 5.0	ug/kg	DPL	4/20/98	13:19	8260	(3)	5	ug/kg
sopropylbenzene	< 5.0	ug/kg	DPL	4/20/98	13:19	8260	(3)	5	ug/kg
Bromobenzene	< 5.0	ug/kg	DPL	4/20/98	13:19	8260	(3)	5	ug/kg
1,1,2,2-Tetrachloroethane	< 5.0	ug/kg	DPL	4/20/98	13:19	8260	(3)	5	ug/kg
1,2,3-Trichloropropane	< 5.0	ug/kg	DPL	4/20/98	13:19	8260	(3)	5	ug/kg
n-Propylbenzene	< 5.0	ug/kg	DPL	4/20/98	13:19	8260	(3)	5	ug/kg
2-Chlorotoluene	< 5.0	ug/kg	DPL	4/20/98	13:19	8260	(3)	5	ug/kg
1,4-Dichloro-2-butene	< 50.	ug/kg	DPL	4/20/98	13:19	8260	(3)	50	ı.ig/kg
4-Chlorotoluene	< 5.0	ug/kg	DPL	4/20/98	13:19	8260	(3)	5	ug/kg
1,3,5-Trimethylbenzene	<5.0	ug/kg	DPL	4/20/98	13:19	8260	(3)	5	ug/kg
tert-Butylbenzene	< 5.0	ug/kg	DPL	4/20/98	13:19	8260	(3)	5	ug/kg
1,2,4-Trimethylbenzene	< 5.0	ug/kg	DPL	4/20/98	13:19	8260	(3)	5	ug/kg
sec-Butylbenzene	< 5.0	ug/kg	DPL	4/20/98	13:19	8260	(3)	5	ug/kg
1,3-Dichlorobenzene	< 5.0	ug/kg	DPL	4/20/98	13:19	8260	(3)	5	ug/kg

This Certificate Is Continued On Next Page.

---- METHOD REFERENCES ----

- (1) Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-20, revised March 1983
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- (5) Code of Federal Regulations, Title 40, Part 136, Appendix A

(6) Methods for the Determination of Organic Companyation District Material Processing Companyation of Companyation of District Material Processing Companyation of Companyati



305 Ashville Road P.O. Box 190 Leeds, Alabama 35094 Telephone 205/699-6647 Wats 800/738-5719 Fax 205/699-3882

Page: 4

Fisher Industrial Service, Inc 402 Webster Chapel Road

P.O. Box 5410 Glencoe, AL 35905

Attention: Mr. Nathan Coffee

Control No: 9804-00206 Sample # 1

Sampler : BP

Sample ID: SMWU #15 & #16 Soil, Site #2

Report Date: 4/22/98 Receive Date: 4/14/98 Receive Time: 11:36

Sample Date: 4/13/98

Sample Time: 10:45

LABORATORY CERTIFICATE

	UNITS		DATE	TIME	METHO			TION LIMITS
< 5.0	ug/kg	DPL	4/20/98	13:19	8260	(3)	5	ug/kg
< 5.0	ug/kg	DPL	4/20/98	13:19	8260	(3)	5	ug/kg
< 5.0	ug/kg	DPL	4/20/98	13:19	8260	(3)	5	ug/kg
< 5.0	ug/kg	DPL	4/20/98	13:19	8260	(3)	5	ug/kg
< 5.0	ug/kg	DPL LB LB	4/20/98	13:00	8260	(3)	5	ug/kg
< 330.	ug/kg	JFS	4/21/98	23:04		(3)	330.	ug/kg
		JFS	4/21/98	23:04	8270A			ug/kg
<330.		JFS			8270A		330.	ug/kg
<330.	A CONTRACTOR OF THE PARTY OF TH	JFS	4/21/98	23:04	8270A		330.	ug/kg
<330.		JFS	4/21/98	23:04	8270A		330.	ug/kg
<330.		JFS	4/21/98	23:04	8270A		330.	ug/kg
<330.	ug/kg	JFS	4/21/98	23:04	8270A	(3)	330.	ug/kg
<330.	ug/kg	JFS	4/21/98	23:04	8270A	(3)	330.	ug/kg
< 330.		JFS	4/21/98	23:04	8270A	(3)	330.	ug/kg
<330.	ug/kg	JFS	4/21/98	23:04	8270A	(3)	330.	ug/kg
<330.	ug/kg	JFS	4/21/98	23:04	8270A	(3)	330.	ug/kg
< 330.	ug/kg	JFS	4/21/98	23:04	8270A	(3)	330.	ug/kg
<330.	ug/kg	JFS	4/21/98	23:04	8270A	(3)	330.	ug/kg
<330	ug/kg	JFS			8270A	(3)	330	ug/kg
<330.	ug/kg	JFS	4/21/98	23:04	8270A	(3)	330.	ug/kg
<330.	ug/kg	JFS			8270A	(3)	330.	ug/kg ug/kg
	<5.0 <5.0 <5.0 <5.0 <330. <330. <330. <330. <330. <330. <330. <330. <330. <330. <330. <330. <330. <330.	<5.0 ug/kg <5.0 ug/kg <5.0 ug/kg <5.0 ug/kg <5.0 ug/kg <5.0 ug/kg <330. ug/kg	<pre> <5.0</pre>	<pre> <5.0 ug/kg DPL 4/20/98 13:19 8260 (3) 5 LB 4/20/98 13:00</pre>				

This Certificate Is Continued On Next Page.

- (1) Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-20, revised March 1983
- (2) Standard Methods for the Examination of Water and Waste Water, 17th. Edition, 1989(3) Test Methods for Evaluating Solid Wastes Physical/Chemical Method SW-846, 3rd Edition, EPA 1994
- (4) 1987 ASTM Annual Standards
- (5) Code of Federal Regulations, Title 40, Part 136, Appendix A
- (6) Methods for the Determination of Organic Compounds in Drinking Water EDA-600/4 99/020 December 1999



305 Ashville Road P.O. Box 190 Leeds, Alabama 35094

Telephone 205/699-6647 Wats

800/738-5719

Fax

205/699-3882

Page: 5

Fisher Industrial Service, Inc 402 Webster Chapel Road

P.O. Box 5410 Glencoe, AL 35905

Attention: Mr. Nathan Coffee

Report Date: 4/22/98 Receive Date: 4/14/98 Receive Time: 11:36

Control No: 9804-00206 Sample # 1

Sampler : BP

Sample ID: SMWU #15 & #16 Soil, Site #2

Sample Date: 4/13/98 Sample Time: 10:45

LABORATORY CERTIFICATE

PARAMETER	RESULTS	UNITS	ANAL	DATE	TIME	METHOD		DETEC	TION LIMITS
4 Chlorophonyl phonyl other	< 220		IFO	4/04/00	00.04	00704	(0)	000	/
4-Chlorophenyl phenyl ether	< 330.	ug/kg	JFS	4/21/98			(3)	330.	ug/kg
Chrysene	<330.	ug/kg	JFS	4/21/98			(3)	330.	ug/kg
o-Cresol	<330.	ug/kg	JFS	4/21/98			(3)	330.	ug/kg
m,p-Cresols	<330.	ug/kg	JFS	4/21/98			(3)	330.	ug/kg
Dibenzo(a,h)anthracene	<330.	ug/kg	JFS	4/21/98			(3)	330.	ug/kg
Di-n-butyl phthalate	1609.	ug/kg	JFS	4/21/98			(3)	330.	ug/kg
1,2-Dichlorobenzene	<330.	ug/kg	JFS	4/21/98		8270A	(3)	330.	ug/kg
1,3-Dichlorobenzene	< 330.	ug/kg	JFS	4/21/98	23:04	8270A	(3)	330.	ug/kg
1,4-Dichlorobenzene	<330.	ug/kg	JFS	4/21/98	23:04	8270A	(3)	330.	ug/kg
2,4-Dichlorophenol	< 330.	ug/kg	JFS	4/21/98	23:04	8270A	(3)	330.	ug/kg
2,4-Dimethylphenol	<330.	ug/kg	JFS	4/21/98	23:04	8270A	(3)	330.	ug/kg
Diethyl phthalate	< 330.	ug/kg	JFS	4/21/98	23:04	8270A	(3)	330.	ug/kg
Dimethyl phthalate	< 330.	ug/kg	JFS	4/21/98	23:04	8270A	(3)	330.	ug/kg
4,6-Dinitro-o-cresol	< 1700.	ug/kg	JFS	4/21/98	23:04	8270A	(3)	1700.	ug/kg
2,4-Dinitrophenol	< 1700.	ug/kg	JFS	4/21/98	23:04	8270A	(3)	1700.	ug/kg
2,4-Dinitrotoluene	< 330.	ug/kg	JFS	4/21/98	23:04	8270A	(3)	330.	ug/kg
2,6-Dinitrotoluene	< 330.	ug/kg	JFS	4/21/98	23:04	8270A	(3)	330.	ug/kg
Di-n-octyl phthalate	< 330.	ug/kg	JFS	4/21/98	23:04	8270A	(3)	330.	ug/kg
1,2-Diphenylhydrazine	< 330.	ug/kg	JFS	4/21/98	23:04	8270A	(3)	330	ug/kg
Fluoranthene	<330.	ug/kg	JFS	4/21/98		8270A	(3)	330.	ug/kg
Fluorene	< 330.	ug/kg	JFS	4/21/98		8270A	(3)	330.	ug/kg
Hexachlorobenzene	< 330.	ug/kg	JFS	4/21/98		8270A	(3)	330.	ug/kg
Hexachlorobutadiene	< 330.	ug/kg	JFS	4/21/98		8270A	(3)	330.	ug/kg
Hexachlorocyclopentadiene	< 330.	ug/kg		4/21/98		8270A	(3)	330.	ug/kg

This Certificate Is Continued On Next Page.

- (1) Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-20, revised March 1983
- (2) Standard Methods for the Examination of Water and Waste Water, 17th. Edition, 1989
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- (5) Code of Federal Regulations, Title 40, Part 136, Appendix A
- (6) Methods for the Determination of Organic Compounds in Drinking Water, EPA-600/4-88/039



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Page: 6

Fisher Industrial Service, Inc 402 Webster Chapel Road

P.O. Box 5410 Glencoe, AL 35905

Attention: Mr. Nathan Coffee

Control No: 9804-00206 Sample # 1

Sampler : BP

Sample ID: SMWU #15 & #16 Soil, Site #2

Report Date: 4/22/98 Receive Date: 4/14/98 Receive Time: 11:36

Sample Date: 4/13/98

Sample Time: 10:45

LABORATORY CERTIFICATE

PARAMETER 	RESULTS	UNITS	ANAL	DATE	TIME	METHOD		DETECT	TION LIMITS
Hexachloroethane	<330. <330.	ug/kg ug/kg	JFS JFS	4/21/98 4/21/98		8270A 8270A	(3)	330.	ug/kg
sophorone	<330.	ug/kg ug/kg	JFS	4/21/98		8270A	(3)	330. 330.	ug/kg ug/kg
Naphthalene	< 330.	ug/kg	JFS	4/21/98		8270A	(3)	330.	ug/kg
Nitrobenzene	<330.	ug/kg	JFS	4/21/98	23:04	8270A	(3)	330.	ug/kg
2-Nitrophenol	<330.	ug/kg	JFS	4/21/98	23:04	8270A	(3)	330.	ug/kg
4-Nitrophenol	<1700.	ug/kg	JFS	4/21/98	23:04	8270A	(3)	1700.	ug/kg
N-Nitrosodi-n-propylamine	<330.	ug/kg	JFS	4/21/98	23:04	8270A	(3)	330.	ug/kg
Pentachlorophenol	<1700.	ug/kg	JFS	4/21/98	23:04	8270A	(3)	1700.	ug/kg
Phenanthrene	<330.	ug/kg	JFS	4/21/98	23:04	8270A	(3)	330.	ug/kg
Phenol	<330.	ug/kg	JFS	4/21/98	23:04	8270A	(3)	330.	ug/kg
Pyrene	< 330.	ug/kg	JFS	4/21/98	23:04	8270A	(3)	330.	ug/kg
Pyridine	<330.	ug/kg	JFS	4/21/98	23:04	8270A	(3)	330.	ug/kg
1,2,4-Trichlorobenzene	<330.	ug/kg	JFS	4/21/98	23:04	8270A	(3)	330.	ug/kg
2,4,5-Trichlorophenol	<1700.	ug/kg	JFS	4/21/98	23:04	8270A	(3)	1700.	ug/kg
2,4,6-Trichlorophenol	<330.	ug/kg	JFS	4/21/98	23:04	8270A	(3)	330.	ug/kg

Approved by: Holaice June

- (1) Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-20, revised March 1983
- (2) Standard Methods for the Examination of Water and Waste Water, 17th. Edition, 1989
- (3) Test Methods for Evaluating Solid Wastes Physical/Chemical Method SW-846, 3rd Edition, EPA 1994
- (4) 1987 ASTM Annual Standards
- (5) Code of Federal Regulations, Title 40, Part 136, Appendix A
- (6) Methods for the Determination of Organic Compounds in Drinking Water EPA-600/4-88/039 December 1988

Chain of Custody Record

Project Code Project Nam S M Samplers: (Signature)	ne WY #15 K#	46	#41	total motals	Semi-Volotile Organics	Voltile Organics	Damarka	
SMWY #15 8#16 Samp	line site #2		V	V	N V	V	Remarks	
77110	1119 5178		-	-	-	-		
			_					
			-					
					_	-		
Relinquished By: (Signature)	Date/Time	Received B	v: (Sign:	ature	5) 		Date/Time	
Martin March			0		1			
	4-17-98	I Wang	m				4/14/98	
Relinquished (Signature)	Date/Time	Bè	ceived B	y: (8	Signa	ature)	Date	e/Time
	1							ĺ
Relinquished By: (Signature)	Date/Time	Re	eceived E	3v: (Sian	ature) Date	e/Time
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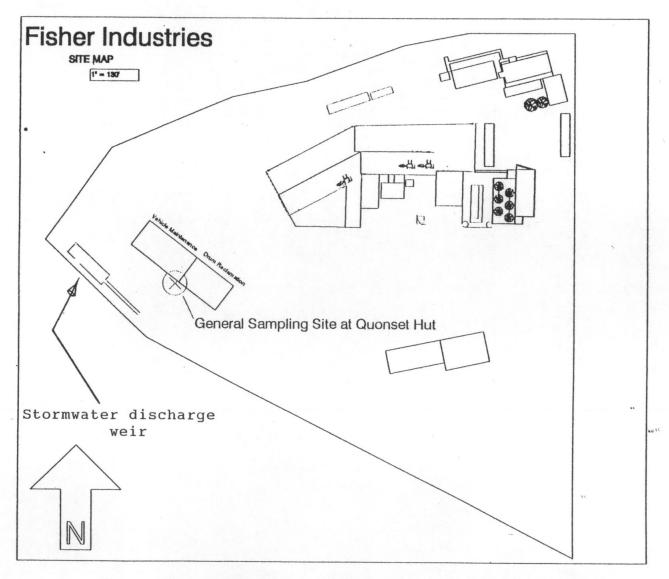


Figure 1: Fisher Industrial Service, Inc., Site Map with General Soil Sampling Site Marked.

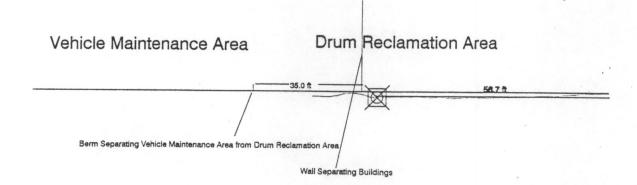
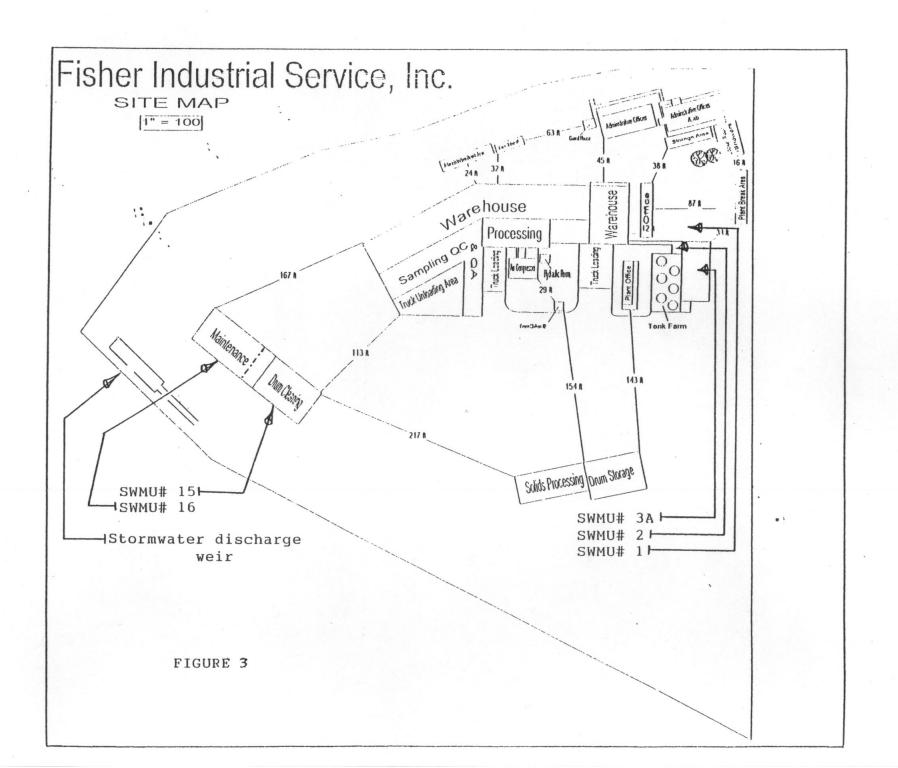


Figure 2: Lowest Point Along the South Wall of the Quonset Hut Between Vehicle Maintenance Area and Drum Reclamation Area.



SECTION M CLOSURE EQUIVALENCY DETERMINATION CLEAN EARTH OF ALABAMA



SECTION M - TABLE OF CONTENTS

Part B Permit Renewal Application Clean Earth of Alabama Glencoe, Alabama Permit No. ALD 981 020 894

Tabl	e of	Con	itents
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М	CLOSURE EQUIVALENCY DETERMINATION	1



SECTION M

Part B Permit Renewal Application Clean Earth of Alabama Glencoe, Alabama Permit No. ALD 981 020 894

M CLOSURE EQUIVALENCY DETERMINATION

This section applies to owners/operators of surface impoundments, landfills, land treatment units, and waste piles. There are no surface impoundments, landfills, land treatment units, and waste piles at the CEA Facility; therefore, this section is not applicable to CEA.



SECTION N REGULATORY COMPLETENESS CHECKLIST FOR HAZARDOUS WASTE STORAGE, TREATMENT AND DISPOSAL FACILITIES CLEAN EARTH OF ALABAMA



A REGULATORY COMPLETENESS CHECKLIST FOR HAZARDOUS WASTE STORAGE, TREATMENT AND DISPOSAL FACILITIES

Facility Name	Clean Earth of Alabama, Inc.	EPA ID Number ALD981020894
Address	402 Webster Chapel Road	Permit Review Team
	Glencoe, AL 35905	
Contact Name	Bryan Jones Number 256.492.8340	Date Application Received Date Review Completed

				Module A	
Subject Requirement	40 CFR Section Nos.	ADEM Regulation Nos.	Location in Application	Comm	ents
PART A -APPLICATION	270.11(a) & (d),	335-14-802(2) (a) & (d)	Section A		
	270.10(d),	335-14-802(1) (d)			
	270.13	335-14-802(4)			
FORM 1					
A-1 Label Items		335-14-802(4)	Section A, p 1 of 22, Items 2-5		
• EPA ID number		(a)			
• Facility name					
• Facility mailing address					
• Facility location					
A-2 Pollutant Characteristics			Section A, pp 9 - 22		
A-3 Name of Facility		335-14-802(4) (a)	Section A, p 1 of 22 Item 3		
A-4 Facility Contacts			Section A, p 2 of 22, Item 8		
• Name and title					
• Telephone					
A-5 Facility Mailing Address			Section A, p 1 of 22, Items 4/5		
A-6 Facility Location					
Hazardous Waste Activities			Section A, p 3 of 22, Items 10/11		

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A-7 SIC Code(s) • Four digits	335-14-802(4) (c)	Section A, p 1 of 22, Item 7	Application now uses NAICS Code in leiu of SIC Code
A-8 Operator Information Name Address Ownership status Phone	335-14-802(4) (d)	Section A, p 2 of 22, Item 9A	
A-9 Indian Lands	335-14-802(4) (f)	Section A, p 1 of 22, Item 6	
A-10 Existing Environmental Permits NPDES UIC RCRA PSD Other	335-14-802(4) (h)	Section A, p 8, Item 4	
 A-11 Topographical Map One mile beyond property line Outline of facility Location of existing and proposed intake and discharge structures Hazardous waste treatment, storage, and disposal facilities Underground injection wells Springs, rivers, and other surface water bodies Drinking water wells 		Appendix A-1-1	
A-12 Nature of the Business		Appendix A, p 8, Item 5	
A-13 Certification Paragraph • Name, title, and date • Acceptable signature		Section A, p 6	

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FORM 3			Form 3 is obsolete.
A-14 EPA ID Number		Section A, p 1, Item 2	
A-15 First or Revised Application • Existing/New • Interim/Permitted	335-14-802(4) (f)	Section A, p 1, Item 1	
A-16 Process - Codes and Design Capacities • Process codes • Amount • Unit of measure	335-14-802(4) (i)	Section A, p 9	
A-17 Description of Hazardous Wastes • EPA hazardous waste number • Estimated annual quantity • Unit of measure • Process code • Process description	335-14-802(4) (j)	Section A, pp 9-22	
A-18 Facility Drawing	335-14-802(4) (h)	Appendix A-1-2	
A-19 Facility Photograph	335-14-802(4) (h)	Appendix A-1-3	
A-20 Latitude and Longitude	335-14-802(4) (b)	Section A, p 1, Item 4	
A-21 Facility Owner Name Address Telephone		Section A, p 2, Item 9	
A-22 Owner Certification Name, signature, date Certification paragraph		Section A, p 6 Item 19	
A-23 Operator Certification Name, signature, date Certification paragraph		Section A, p 6, Item 19	Owner is the operator

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B REGULATORY COMPLETENESS CHECKLIST FOR HAZARDOUS WASTE STORAGE, TREATMENT AND DISPOSAL FACILITIES

Facility Name	Clean Earth of Alabama, Inc.	EPA ID Number ALD981020894
Address	402 Webster Chapel Road	Permit Review Team
	Glencoe, AL 35905	
Contact Name	Bryan Jones	Date Application Received
Contact Phone	Number <u>256.492.8340</u>	Date Review Completed

				Module B
Subject Requirement	40 CFR Section Nos.	ADEM Regulation Nos.	Location in Application	Comments
PART B - FACILITY DESCRIPTION				
B-1 General Description A general description of the facility. Include the nature of the business. Off-site facilities should identify the types of industry served; on-site facilities should briefly describe the process(es)involved in the generation of hazardous waste.	270.14(b)(1) Guidance	335-14-802(5) (b)1.	B-1	
B-2 Topographic Map	270.14(b)(19)	335-14-802(5) (b)19.	Appendices B-2-1A and B-2-1B	
B-2a General Requirements A topographic map showing the facility and a distance of 1000 feet around it. The following information is required:			B-2a	

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• Scale: 1 in. = 200 ft.		B-2a, Appendix B-2-1B	
Contours sufficient to show surface water flow		B-2a, Appendix B-2-1B	
Extend 1000 ft. beyond property		B-2a, Appendix B-2-1A	
• Map scale		B-2a, Appendix B-2-1A and B-2-1B	
• Map date		B-2a, Appendix B-2-1A and B-2-1B	
• 100-yr floodplain		B-2a, Appendix B-2-2	
• Surface waters		B-2a, Appendix B-2-1A	
Surrounding land use		B-2a, Appendix B-2-3	
• Wind rows		B-2a, Appendix B-2-4	
Map orientation		B-2a, Appendix B-2-1A and B-2-1-B	
• Legal boundaries		B-2a, Appendix B-2-1B	
Location of access control		B-2a, Appendix B-2-1	
• Injection and withdrawal wells		N/A	There are no on-site wells
-on-site			There are no off-site wells within 1/4 mile of the facility.
-off-site			Wallin 17 1 mile of the lability.
Buildings		B-2a, Appendix B-2-6	
• Structures		B-2a, Appendix B-2-6	
• Sewers		B-2a, Appendix B-2-1B	
• Loading and unloading areas		B-2a, Appendix B-2-1B	
		B-2a, Appendix B-2-1B	
Fire control facilities		B-2a, Appendix B-2-1B	
Flood control or drainage barriers		B-2a, Appendix B-2-1B	
Run-off control systems	_	10-2a, Appendix 0-2-16	

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 Location of hazardous waste units Location of solid waste management units Access and internal roads For large facilities, the use of other scales may be acceptable on a case- 			B-2a, Appendix B-2-1B, B-2-6 B-2a, Appendix B-2-9 B-2a, Appendix B-2-10	
by-case basis. B-2b Additional Topographic Requirements for Land Storage, Treatment and Disposal Facilities (See Section E-3 - Topographic Map Requirements.)	270.14(c)(3), & (c)(4)(i), 264.95 264.97	335-14-802(5) (c)3. & (c)4.(i) 335-14-506(6) 335-14-506(8)	N/A	Not a Land Storage, Treatment of Disposal
B-3 Location Information	270.14(b)(11)	335-14-802(5) (b)11.		
B-3a Seismic Considerations For new faculties only, applicant must identify the political jurisdiction (county, township, or election district) in which facility will be located in any of the political jurisdictions specified in Part 264 Appendix VI, the applicant must prove that the facility is located at least 3000 ft. from any fault where movement has taken place in Holocene time or that no such faults pass within 200 ft. of the portions of the facility used for treatment, storage, or disposal of hazardous waste. Proof may come from geologic studies, aerial photographs, field observations, or subsurface investigations. All information gathered must be acceptable by a geologist experienced in evaluating seismic activity.	270.14(B)(11) (i)& (ii) 264.18(a) 264 Appendix VI	335-14-802(5) (b)11.(i)& (ii) 335-14-502(9) (a) 335-14-5 Appendix VI	N/A	Not a new facility

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			_	
B-3b Floodplain Standard Documentation of whether or not the facility is located within a 100-yr floodplain including the source of date (Federal Insurance Administration Map or other maps and calculations). If map other than FIA map is used, demonstration of equivalent mapping technique should be provided. If located in 100-yr floodplain, include: • 100-yr floodplain level • Other special flooding factors (e.g., wave action)that must be considered to prevent washout	270.14(b)(11) (iii) 264.18(b)	335-14-802(5) (b)11.(iii) 335-14-502(9) (b)	B-3b	
B-3b(1)Demonstration of Compliance For facilities located within the 100-yr floodplain, a description of how the facility is designed, constructed, operated, and maintained to prevent washout of any hazardous waste during a flood. Either of the following may be used:	270.14(b)(11) (iv) 264.18(b)	335-14-802(5) (b)11.(iv) 335-14-502(9) (b)	N/A	Facility is not within the 100-year floodplain
 B-3b(1)(a) Flood Proofing and Flood Protection A structural or other engineering study showing how design of the tanks, containers, or waste piles and the flood proofing and protection devices a the facility will present washout including: Engineering analysis of hydrodynamic and hydrostatic forces 	270.14(b)(11) (iv)(A)& (B)	335-14-802(5) (b)11.(iv)(I)& (II)	N/A	Facility is not within the 100-year floodplain

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Structural or other engineering studies of hazardous waste units and flood protection devices			N/A	Facility is not within the 100-year floodplain
B-3b(1)(b) Flood Plan Description of the procedures to be followed to remove hazardous waste to safety before the facility is flooded. The plan must address the following:	270.14(b)(11) (v)(C) 264.18(b)(1) (i)	335-14-802(5) (b)11.(v)(III) 335-14-502(9) (b)1.(i)	N/A	Facility is not within the 100-year floodplain
Timing related to flood Levels			N/A	Facility is not within the 100-year floodplain
Estimated time to move the waste			N/A	Facility is not within the 100-year floodplain
Description of the location to which the waste will be moved and proof of the receiving facility's eligibility to receive hazardous waste	264.18(b)(1) (i)	335-14-502(9) (b)1.(i)	N/A	Facility is not within the 100-year floodplain
Procedures, equipment, and personnel to be used and the means to ensure that these resources will be available			N/A	Facility is not within the 100-year floodplain
Potential for accidental discharge of waste			N/A	Facility is not within the 100-year floodplain
B-3b(2)Plan for Future Compliance with Floodplain Standard	270.14(B)(11) (v)	335-14-802(5) (b)11.(v)	N/A	Facility is not within the 100-year floodplain
For facilities located within the 100-yr floodplain that do not comply with the floodplain standard, a plan showing how and when the facility will be brought into compliance. A compliance schedule must be included.				

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B-3b(3)Waiver for Land Storage and Disposal Facilities (Existing Facilities Only)	264.18(b)(1) (ii)	335-14-502(9) (b)1.(ii)	N/A	Facility is not within the 100-year floodplain
If a waiver from the Floodplain Standard is requested, the owner or operator must demonstrate that there will be no adverse effects on human health or the environment if washout occurs. The following factors must be considered in this demonstration:				
Volume and physical and chemical characteristics of the waste				
• Concentration of hazardous constituents that would potentially affect surface waters				
• Impact of such concentration on the current or potential uses of and water quality standard established for the affected surface waters				
• Impact of hazardous constituents on the sediments of affected surface waters or the soils or the 100-yr floodplain				
B-4 Traffic Information	270.14(b)(10)	335-14-802(5)	B-4	
A description of the means of transporting hazardous wastes.		(b)10.		
All facilities should describe movement of waste on the facility. Description must include:				

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• Estimated volume		B-4	
• Traffic pattern			
• Traffic control			
Access road(s)surfacing and load- bearing capacity			
Off-site facilities (only should also describe movement of waste to the facility from the point to where it leaves nearest major highway.	Guidance	B-4	

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C REGULATORY COMPLETENESS CHECKLIST FOR HAZARDOUS WASTE STORAGE, TREATMENT AND DISPOSAL FACILITIES

Facility Name	Clean Earth of Alabama, Inc.	EPA ID Number ALD981020894
Address	402 Webster Chapel Road	Permit Review Team
	Glencoe, AL 35905	
Contact Name	Bryan Jones	Date Application Received
Contact Phone	Number 256.492.8340	Date Review Completed

			1	Module C
Subject Requirement	40 CFR Section Nos.	ADEM Regulation Nos.	Location in Application	Comments
PART C - WASTE CHARACTERISTICS	270.14(b)(2)	335-14-802(5) (b)2.		
C-1 Chemical and Physical Analysis	266.102(a)(2) (ii) and (b)	335-14-708(3) (a)2.(ii) & (b)		
For each hazardous waste treated, stored, or disposed at the facility, the following information should be provided:	264.13(a) 11/7/86, 6/4/87 Guidance	335-14-502(4) (a)		
• General description of the waste;	Guidance		C-1 , Appendix C-1-1	
• Hazardous characteristics;	Guidance		C-1, Appendix C-1-1	
• Basis for hazard designation;	Guidance		C-1, Appendix C-1-1	
• Laboratory report on analyses results; and			C-1 , Appendix C-1-1 C-2	
• Existing published or documented data on hazardous waste or hazardous waste from a similar program (new facilities only).			N/A	Not a new facility

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At a minimum, the analyses should include all the information which must be known to treat, store, or dispose of the waste in accordance with Parts 264, 266, and 268 requirements or conditions of a permit issued under Part 270.		335-15-5, 335-14-7, 335-14-8, 335-14-9	C-1, Appendix C-1-1 Waste Analysis Plan, C-2	
C-la Containers	Guidance		C-1a	
Compatibility of waste with	264.172	335-14-509(3)		
container.	264.177	335-14-509(8)		
	270.15(d)	335-14-802(6) (d)		
For containers of wastes without a secondary containment system, test procedures and results or other documentation or information which show that wastes do not contain free liquids. A suggested test for free liquids is the Paint Filter Liquids Test (Method 9095 in SW-846).	264.175 270.15(b)(1)	335-14-509(6) 335-14-802(6) (b)1.	N/A	All containers of waste are stored in a containment system.
Waste specific parameters based on hazardous designation.	Guidance		C-1a	
Other information required for safe operation.	Guidance		C1a	
C-1b Tanks	264.191(a)	335-14-510(2)	C-1b	
Specific gravity.		(a)		
Waste specific parameters based on hazardous designation.	Guidance		C-1b	

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Other information required for safe operation.	Guidance		C-1b	
C-1c Waste Piles			N/A	There are no waste piles at the facility.
For waste piles that are inside or under a structure when an exemption from 264.251 is requested, test procedures and results, or other documentation or information which show that the wastes do not contain free liquids when placed on the pile. A suggested test for free liquids is the Paint Filter Liquids Test (Method 9095 in SW-846).	264.250(c)(1)	335-14-512(1) (c)1.		
Demonstration that the wastes will not generate leachate through decomposition or other reactions while being stored.	264.250(c)(4)	335-14-512(1) (c)4.	N/A	There are no waste piles at the facility.
C-1d Incinerators	264.341(a)	335-14-515(2)	N/A	There are no incinerators
For each waste or mixture of wastes to be burned:		(a)		at the facility.
Heating value.			N/A	There are no incinerators at the facility
Viscosity (liquids).			N/A	There are no incinerators at the facility.
Physical form (nonliquids)			N/A	There are no incinerators at the facility.

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• Identification of hazardous constituents listed in Appendix VIII Note: The applicant need not analyze for Appendix VIII constituents which would reasonably not be expected to be found in the waste. The constituents excluded from analysis must be identified, and the basis for exclusion stated.			N/A	There are no incinerators at the facility.
 Approximate quantification of hazardous constituents identified. 			N/A	There are no incinerators at the facility.
• Chlorine content.	Guidance		N/A	There are no incinerators
Ash content.	Guidance		N/A	at the facility.
C-le Landfills Results of the Paint Filter Liquids Test (Method 9095 in SW-846) showing that containerized or bulk wastes do not contain free liquids.	264.314	335-14-514(15)	N/A	There are no landfills at the facility.
C-1f Land Treatment Demonstration that waste can be completely degraded, transformed, or immobilized in treatment zone.	264.272(a)	335-14-513(3) (a)	N/A	There are no land treatment units at the facility.
Percent moisture.	Guidance		N/A	There are no land
Specific gravity or bulk density.	Guidance		N/A	at the facility.
Conductivity.	Guidance		N/A	There are no land treatment units
Acidity or Alkalinity.	Guidance		N/A	at the facility.

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TOC.	Guidance		N/A	There are no land
Appendix VIII constituents.	264.272(c)(1) (i)	335-14-513(3) (c)1.(i)	N/A	treatment units at the facility.
Concentration and identification of volatile hazardous constituents.	Guidance		N/A	There are no land treatment units at the facility.
Cadmium concentration (when foodchain crops are grown in the treatment zone).	264.276(b)	335-14-513(7) (b)	N/A	There are no land treatment units at the facility.
C-1g Boilers and Industrial Furnaces	266.102(b)	335-14-708(3) (b)	N/A	There are no BIF units at the facility.
For each feed stream, including hazardous waste, other fuels, and industrial furnace feed stocks, as fired:				
• Heating value.			N/A	There are no BIF units at the facility.
•Levels of antimony, arsenic, barium, beryllium, cadmium, chromium, lead, mercury, silver, thallium, total chlorine/chloride, and ash.			N/A	There are no BIF units at the facility.
• Viscosity or description of the physical form of the feed stream.			N/A	There are no BIF units at the facility.
• Identification of Appendix VIII constituents that would reasonably be expected in the feed. Note: The applicant need not analyze for Appendix VIII constituents which would reasonably not be expected to be found in the waste. The constituents excluded from analysis must be identified, and the basis for exclusion stated.			N/A	There are no BIF units at the facility.

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• Approximate quantification of the hazardous constituents identified.			N/A	There are no BIF units at the facility.
• If blending is to occur prior to firing:			N/A	There are no BIF units at the facility.
 Detailed analysis of the hazardous waste prior to blending and of the material with which it is blended. 				
- Blending ratios.				
 Description of blending procedures. 				
C-2 Waste Analysis Plan A copy of the waste analysis	270.14(b)(3)	335-14-802(5) (b)3.	C-2	
<pre>plan required by 264.13(b) and, if applicable,</pre>	264.13(b) and (c)	335-14-502(4) (b) and (c)		
264.13(c). The waste analysis plan should	11/7/86, 6/4/87			
describe the procedures used to obtain chemical and	268.7	335-14-901(7)		
physical information and data on the wastes to ensure	11/7/86, 6/4/87			
<pre>proper storage, treatment, and disposal and compliance</pre>	7/8/87, 8/17/88			
with the land disposal restriction program. Minimum	266.102(a)(2) (ii)	335-14-708(3) (a)2.(ii)		
requirements include:	266.104(a)(2)	335-14-708(5) (a)2.		

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			1
C-2a Parameters and Rationale A list of parameters chosen for analysis and an explanation of the rationale for their selection. At a minimum, the parameters listed above in checklist Section C-1d or C-1g, as applicable, must be chosen for analysis. Additional requirements for boilers and industrial furnaces are listed in checklist Section C-2e.	264.13(b)(1)	335-14-502(4) (b)1.	C-2a
C-2b Test Methods	264.13(b)(2)	335-14-502(4) (b)2.	C-2b, Table C-2-2
A description of the test methods used to test for parameters chosen.	266, Appendix IX	335-14-7, Appendix IX	
C-2c Sampling Methods	264.13(b)(3),	335-14-502(4) (b)3.	C-2c
A list of the sampling methods used to obtain a representative sample of each waste to be analyzed.	Part 261, Appendix I	335-14-2, Appendix I	
C-2d Frequency of Analysis A description of the frequency at which the analyses will be repeated. The frequency must be sufficient to ensure that the analysis is accurate and up-to-date. (For an on-site facility, this will be whenever there is a process change. For an incinerator, boiler, or	264.13(b)(4) Guidance	335-14-502(4) (b)4.	C-2d
<pre>industrial furnace, this will be as often as required to verify consistency of the waste feed to ensure compliance with the feed rate limits.)</pre>			

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(c)(iii)	335-14-708(3) (e)6.(c)(iii)		There are no BIF Units at the facility.
		N/A	There are no BIF Units at the facility.
		N/A	There are no BIF Units at the facility.
		N/A	There are no BIF Units at the facility.
264.73(a) and (b) 264.13(b)(5) 264.13(c)	335-14-505(4) (a) and (b) 335-14-502(4) (b)5. 335-14-502(4) (c)	C-2f, C-2a through C-2d. C-2f, C-2a through C-2d.	
	(b) 264.13(b)(5)	(b) (a) and (b) 264.13(b)(5) 335-14-502(4) (b)5. 264.13(c) 335-14-502(4)	N/A N/A N/A N/A 264.73(a) and (b) (a) and (b) 264.13(b)(5) (a) 335-14-502(4) (b)5. 264.13(c) (a) 335-14-502(4) (c)

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Sampling frequency.			C-2ff C-2cd	
• Sampling methods.			C-2f, C-2c.	
Waste analysis information supplied by generator.			C-2f, C-2a .	
C-2g Additional Requirements for Facilities Handling Ignitable, Reactive, or	264.13(b)(6)	335-14-502(4) (b)6.	C-2g, C-2a through C-2d	
Incompatible Waste	264.17	335-14-502(8)		
If the facility stores or treats ignitable, reactive, or incompatible waste, a description of methods which will be used to meet the additional waste analysis requirements necessary for complying with the regulatory requirement specified in checklist Section F-5.				
C-3 Additional Waste Analysis Requirements	270.14(b)(3)	335-14-802(5) (b)3.	C-3, C-2a and C-2b	
Pertaining to Land Disposal Restrictions	264.13(a)(1)	335-14-502(4) (a)1.		
	11/7/86, 6/4/87			
	264.13(b)(6)	335-14-502(4) (b)6.		
	11/7/86			
	266.102(a)(2) (ii)	335-14-708(3) (a)2.(ii)		
	268.7	335-14-901(7)		
	11/7/86, 6/4/87,			
	7/8/87, 8/17/87			

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C-3a Waste Characteristics Analytical data must be submitted by the generator to the owner/operator for each waste stored, treated, or disposed at the facility, or information from knowledge of the waste can be used, to determine if the waste is restricted under the 40 CFR Part 268. If generator knowledge is used, all supporting data must be maintained in the operating record.	264.13(a)(1) 268.7 11/7/86, 6/4/87	335-14-502(4) (g)1. 335-14-901(7)	C-3, C-2a, C-2b	
C-3a(1) Waste Characteristics: Solvent Wastes and Dioxin-Containing Wastes F001-F005 spent solvent wastes are restricted from land disposal under 268.30 and F020-F023 and F026-F028 dioxin-containing wastes are prohibited under 268.31 unless: • Wastes meet standards in Subpart D, or • An exemption has been granted pursuant to 268.6, or • An exemption has been granted pursuant to 268.5	264.13(a)(1) 11/7/86, 6/4/87 268.7(a) 11/7/86, 8/17/88 268.30 268.31 Part 268, Appendix I 11/7/86, 6/4/87, 8/17/88	335-14-502(4) (g)1. 335-14-901(7) (a) 335-14-903(1) 335-14-903(2) 335-14-9, Appendix I	C-3a, C-2a, C-2b	Note: No land disposal is conducted at the facility. Each waste shipment will have a Land Disposal Restriction Notice.

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To determine if a waste is restricted, you must: • Test waste, or an extract				
developed using the Toxicity Characteristic Leaching Procedure (TCLP), or				
• Use information from knowledge or chemical and physical characteristics.				
C-3a(2) Waste Characteristics-California List Wastes	264.13(a)(1)	335-14-502(4) (a)1.	C-3a, C-2a, C-2b	Note: No land disposal is conducted at the facility. Each waste shipment is
The following wastes are	268.7(a)	335-14-901(7) (a)		accompanied by a Land
prohibited from land disposal under 268.32:	11/7/86 8/17/88			Disposal Restriction Notice.
• Liquid hazardous wastes with	268.32	335-14-903(3)		
a pH less than or equal to 2.0	11/7/86, 7/8/87, 8/17/88			
•Liquid waste containing PCBs at concentrations greater than or equal to 50 ppm				
•Liquid hazardous wastes that are primarily water and contain HOCs in total concentration greater than or equal to 1,000 mg/l				
• Non-liquid hazardous wastes containing HOCs in total concentration greater than or equal to 1,000 mg/kg				

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Unless:		C-3a, C-2a, C-2b	
• An exemption has been granted pursuant to 268.6, or			
• A case-by-case extension to the effective date has been granted pursuant to 268.5, or			
• Wastes meet applicable standards in Subpart D or, where treatment standards are not specified, wastes are in compliance with applicable prohibitions in 268 or RCRA Section 3004(d).			
To make the determinations:		C-3a, C-2a, C-2b	
•Use method 9095 (Paint Filter Liquids Test) in SW- 846 to determine if waste is a liquid			
• Initial generator must test waste (not extract or filtrate) in accordance with 261.11(a)(1), or use knowledge of the waste to determine if pH is less than or equal to 2.0		C-3a, C-2a, C-2b	
• Initial generator of liquid hazardous waste containing PCBs or a liquid or nonliquid hazardous waste containing HOCs must test waste (not extract or filtrate), or use knowledge of waste, to determine if concentration levels meet the prohibitions above.			

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C-3a(3) Waste Characteristics - First Third Wastes Initial generator must test a representative sample of the	264.13(a)(1) 11/7/86, 6/4/87 268.7(a)	335-14-502(4) (a)1. 335-14-901(7)	C-3a, C-2a, C-2b	Note: No land disposal is conducted at the facility. Each waste shipment is accompanied by a Land Disposal Restriction Notice
waste extract or the entire waste, depending on whether the treatment standards are expressed as concentrations in the waste extract or the	11/7/86, 8/17/88	(a)		
waste, to determine whether a waste listed in 268.10 meets treatment standards set in 268.41 and 268.43, respectively.	268.33 11/7/86, 8/17/88	335-14-903(4)		
If the waste contains constituents exceeding applicable Subpart D levels, waste is prohibited from land disposal unless:			C-3a, C-2a, C-2b	
• An exemption has been granted pursuant to 268.6, or				
•A case-by-case extension has been granted pursuant to 268.5				

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C-3b Additional Requirements for Treatment Facilities Treatment facilities must conduct the following testing: • For wastes with treatment standards expressed as concentrations of waste extract (268.41), test treatment residues, or an extract of such residues developed using the TCLP, to assure treatment standards are met. • For wastes with treatment standards expressed as concentrations in the waste 268.43 test treatment residues, not an extract of such residues, to assure residues meet applicable standards. • For California list wastes (268.32) not subject to Subtitle D treatment standards, test treatment residues according to procedures in C-3a(2) to	264.13(a)(1) 1/7/86, 6/4/87 268.7(b) 11/7/86, 6/4/87, 8/17/88	335-14-502(4) (a)1. 335-14-901(7) (b)	C-3b	Note: Hazardous wastes are not treated with the intention of meeting treatment standards under the Land Disposal Restrictions, as those treated hazardous wastes are not shipped off-site for land disposal.
assure residues comply with applicable prohibitions.				
Not applicable to wastes for which treatment technologies have been specified. If wastes received from an offsite generator, need procedures to assure that treatment is not conducted until required data is provided by the generator.				

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C-3c Additional Requirements for Disposal Facilities	264.13(a)(1),	335-14-502(4) (a)1.	N/A	No disposal takes place at the facility.
If wastes or treatment residues are received from an off-site generator or treatment facility, assure wastes will not be disposed without receipt of proper notice and certification as specified in 268.7(a) and (b). Owner/operator of land disposal facility must: • Test waste, or an extract of the waste or treatment residue developed using TCLP, or • Use methods required by generators under 268.32 C-3a(2) to assure waste or treatment residues comply with applicable Subpart D treatment standards and all applicable prohibitions in 268.32.	11/7/86, 6/4/87 268.7(c) 11/7/86, 7/8/87, 8/17/87	335-14-901(7) (c)		
C-3d Additional Requirements for Surface Impoundments Exempted from Land Restrictions	264.13(b)(7), 268.4(a)	335-14-502(4) (b)7. 335-14-901(4) (a)	N/A	There are no surface impoundments at the facility.
For surface impoundments exempted from land disposal restrictions under 268.4(a), address the following:		(32)		

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C-3d(1) Sampling and Analysis of Contents Procedures and schedule to be followed to sample and test treatment residues to demonstrate compliance with treatment standards or prohibitions. Note that representative samples of the sludge and the supernatant must be tested separately rather than mixed to form homogeneous samples.	264.13(b)(7)(i) and (ii), 268.4(a)(2)	335-14-502(4) (b)7.(i) and (ii) 335-14-901(4) (a)2.	N/A	There are no surface impoundments at the facility.
C-3d(2) Annual Removal of Residues	264.13(b)(7) (iii),	335-14-502(4) (b)7.(iii)	N/A	There are no surface impoundments at the
Procedures and schedule for removing residues which do not meet applicable treatment standards or prohibitions, do not exhibit a characteristic of hazardous waste, and are not delisted under Part 260.22. These residues must be removed at least annually. Note that residues may not be placed in any other surface impoundment for subsequent	268.4(a)(2) 8/17/88	335-14-901(4) (a)2.		facility.
management.	270 14/5)/21)	225 14 9 02/5)	N/A	There are no surface
C-3e Requirements for Land Disposal Facilities With an Approved Exemption or Extension	270.14(b)(21) 11/17/86	335-14-802(5) (b)21.		land disposal facilities at the facility.
If a case-by-case extension has been approved under 268.5 or a petition has been approved under 268.6, provide a copy of the Notice of Approval.				

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REGULATORY COMPLETENESS CHECKLIST FOR HAZARDOUS WASTE STORAGE, TREATMENT AND DISPOSAL FACILITIES

D1

Facility Name	Clean Earth of Alabama, Inc.	EPA ID Number ALD981020894
Address	402 Webster Chapel Road	Permit Review Team
	Glencoe, AL 35905	
Contact Name		Date Application Received
Contact Phone	Number <u>256.492.8340</u>	Date Review Completed

Container Storage Standards - Module D-				
Subject Requirement	40 CFR Section Nos.	ADEM Regulation Nos.	Location in Application	Comments
PART D - PROCESS INFORMATION				
D-1 Container Design				
D-la Containers with Free Liquids and/or F020, F021, F023, F026, and F027 Wastes Description of System A description of the containment system to demonstrate compliance with 264.175. Show at least the following:	270.15(a), 264.175(b), 264.175(d)	335-14-802(6) (a) 335-14-509(6) (b) 335-14-509(6) (d)	D-1a	
D-la(1)Basic Design Parameters, Dimensions, and Materials of Construction Base must underlie containers which is capable of containing all liquids until the liquid is collected and removed. Information which should be provided to demonstrate this includes the following:	270.15(a)(1) 264.175(b)(1)	335-14-802(6) (a)1. 335-14-509(6) (b)1.	D-1a(1)	

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		•		
Statement that the base is free of cracks or gaps			D-1a(1), Appendix D-1-2 and D-1-3	
 Demonstration of imperviousness of base to wastes and precipitation 			D-1a(1)	
Base design and materials of construction			D-1a(1)	
Engineering evaluation of structural integrity of base			Appendix D-1-2 and D-1-3	
Discussion of compatibility of base with wastes.			D-1a(1)	
D-1a(2)Description of How Design Promotes Drainage or How Containers Are Kept From Contact With Standing Liquids in Containment System	270.15(a)(2), 264.175(b)(2)	335-14-802(6) (a)2. 335-14-509(6) (b)2.	D-1a(2)	
Base must be sloped or the containment system must be otherwise designed and operated to drain and remove liquids resulting from leaks, spills, or precipitation, unless the containers are elevated or otherwise protected from contact with accumulated liquids. For this requirement, the applicant should address where applicable:				
Stacking practices			D-1a(2)	
Grading of base			D-1a(2)	
Drainage design and removal system			D-1a(2)	

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D-la(3)Capacity of the Containment System Relative to the Number and Volume of Containers To Be Stored Sufficient capacity to contain 10 percent of the volume of containers or the volume of the largest container whichever is greater. Information that should be included to satisfy this requirement is:	270.15(a)(3)	335-14-802(6) (a)3. 335-14-509(6) (b)3.	D-1a(3)
Volume of largest container			D-1a(3)
Total volume of containers	Guidance		D-1a(3), Table D-1-1
Containment structure capacity			D-1a(3), Table D-1-1
Capacity of run-off collection system			D-1a(3)
Geographic storm intensity/frequency data			D-1a(3), Appendix D-1-6
D-1a(4)Provisions for Preventing or Managing Run-on	270.15(a)(4)	335-14-802(6) (a)4.	D-1a(4)
Run-on into the containment system must be prevented unless the collection system has sufficient excess capacity in addition to the 10 percent minimum to contain any run-on which might enter the system.	264.175(b)(4)	335-14-509(6) (b)4.	
The applicant should discuss structures used to control run-on such as:	Guidance		
Containment system auxiliary structures (curbs, dikes, etc.)			D-1a(4), Appendix D-1-5
Engineering grading design			D-1a(2), Appendix
Collection and removal system design capacity			D-1-5 D-1a(2)
Potential run-on			D-1a(4)

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D-1a(5)How Accumulated Liquids Can Be Analyzed and Removed to Prevent Overflow Spilled or leaked waste and accumulated precipitation must be removed from the sump or collection area in a timely manner as is necessary to prevent overflow of the collection system. Information that must be included is:	270.15(a)(5), 264.165(b)(5) Guidance	335-14-802(6) (a)5. 335-14-509(6) (b)5.	D-1a(5)	
How liquids will be analyzed			D-1a(5)., C-2	
 Removal equipment and methods (sump pump design, piping specifications, location, discharge point, and capacity) 			D-1(a)5	
Management of accumulated liquid including prevention of overflow			D-1a(5)	
D-1b Containers Without Free Liquids or F020, F021, F022, F023, F026, and F027 Wastes For storage areas that store containers holding wastes that do not contain free liquids, a demonstration of compliance with 264.175(c) including:	270.15(b)	335-14-802(6) (b) 335-14-509(6) (c) & (d)	D-1b	
D-1b(1)Test for Free Liquids Test procedures and results or other documentation or information to show that the wastes do not contain free liquids. Use of the Paint Filter Test, Method 9095 in SW-846, is recommended.	270.15(b)(1)	335-14-802(6) (b)1.	N/A	All containers will be handled as though they contain free liquids

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D-1b(2)Description of Storage Area Design and Operation to Drain and Remove Liquids or How Containers Are Kept From Contact with Standing Liquids Containment system not required if:	270.15(b)(2)	335-14-802(6) (b)2. 335-14-509(6) (b)2.	N/A	All containers are elevated
Storage area sloped or otherwise designed and operated to drain and remove liquid resulting from precipitation, or Containers elevated or otherwise protected from contact with accumulated liquid	264.175(c)(1)	335-14-509(6) (c)1. & 2.	see D-1a(3) and D-1a(2)
 D-1c Container Management Type of containers and construction material should include liners (if applicable), manufacturer specifications, dimensions. Procedures for handling to avoid rupturing or leaking Weekly inspections or deterioration caused by corrosion or other factors 	264.171, 264.172, 264.173, 264.174, 270.15(a)(1)	335-14-509(2) 335-14-509(3) 335-14-509(4) 335-14-509(5) 335-14-802(6) (a)1.	D-1c F-2, Appendix F-2-1	
 Machinery, equipment procedures used to move containers Adequate aisle space for machinery, inspections, and to meet applicable codes (i.e., fire) Maximum number, height, volume, and types of containers in storage area 			D-1c D-1c D-1c	

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Waste container always kept closed during storage except		D-1c	
when adding or removing waste		D 4-	
 Location of ignitable, reactive and incompatible waste 		D-1c	
Markings and labels placed on containers		D-1c	

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Facility Name Address	Clean Earth of Alabama, Inc. 402 Webster Chapel Road	EPA ID Number <u>ALD981020894</u> Permit Review Team
	Glencoe, AL 35905	
Contact Name	Bryan Jones	Date Application Received
Contact Phone	Number <u>256.492.8340</u>	Date Review Completed

Tank Standards - Modules D-2				
Subject Requirement	40 CFR Section Nos.	ADEM Regulation	Location in Application	Comments
D-2 Tank Systems			D-2	
Description of:				
• Types (i.e., aboveground, underground etc.; material of	270.14(b)(1)	335-14-802(5) (b)1.		
<pre>construction), volume and number of tanks, as well as specific location of each</pre>	270.16(j)	335-14-802(5) (j)		
• Procedures for handling	264.198	335-14-510(9)		
incompatible, ignitable, or	264.199	335-14-510(10)		
reactive wastes, the use of buffer zones. If buffer zones are employed, provide a	264.191(b)(2)	335-14-510(2) (b)2.		
description of them and their operation and identify wastes to be buffered	264.191194	335-14-510(2)10(5)		
• Type of waste contained in tanks	270.16(b),(c), (d) and (f)	335-14-802(7) (b), (c), (d), and (f)		
• Operating pressure and temperature				
D-2a Existing Tank System	264.11;	335-14-502(2)	D-2a	
	270.16(a)	335-14-802(7) (a)		

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D-2a(1)Assessment of Existing Tank System's Integrity			D-2a(1), Appendix D-2-1, Appendix D-2-3	
Written assessment, reviewed and certified by an independent, qualified, registered professional engineer, on the structural integrity and suitability of each tank system for handling hazardous waste which includes:				
 Design standard(s), according to which the tank and ancillary equipment were constructed 				
• Hazardous characteristics of the wastes that have been and will be handled				
• Existing corrosion protection measures				
Documented age of the tank system or an estimate				
•Results of a leak test, internal inspection, or other tank integrity examination				
D-2a(2)External Corrosion Protection	264.191(b)(3) [7/14/86]	335-14-510(2) (b)3.	D-2a(2)	
Specify type and, as appropriate, location of external corrosion protection measures used to ensure continued structural integrity and suitability of each tank system for handling hazardous waste.	2., 2., 3.3			

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D-2b New Tank Systems			N/A	No New Tank Systems are Proposed
D-2b(1)Assessment of New Tank System's Integrity	264.192(a)	335-14-510(3) (a)		
Written assessment, reviewed and certified by an independent, qualified registered professional engineer, on the structural integrity and suitability of each tank system for handling hazardous waste. Assessment must show that the foundation, structural sup-port, seams, connections and pressure controls (if applicable) are adequately designed and that the tank system has sufficient structural strength and compatibility with the waste(s) to be stored or treated to ensure that it will not collapse, rupture, or fail. Assessment includes at a minimum:				
 Design standard(s) according to which tank(s) and/or ancillary equipment are constructed 	264.192(a)(1) [7/14/86]	335-14-510(3) (a)1.		
Hazardous characteristics of the waste(s) to be handled	264.192(a)(2)	335-14-510(3) (a)2.		
	[7/14/86]			

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• Corrosion assessment by a qualified expert for new tank systems or components in which the external shell of a metal tank or any external metal component of the tank system will be in contact with the soil or with water. Include factors such as:	335-14-510(3) (a)3.	
soil moisture content		
- soil pH		
 soil sulfides level 		
soil resistivity		
structure to soil potential		
<pre>- influence of nearby underground metal structures (e.g., piping)</pre>		
existence of stray electric current		
existing corrosion- protection measures		
The types and degree of external corrosion protection should consist of one or more of the following:	335-14-510(3) (a)3.	
 corrosion-resistant materials of construction 		
 corrosion-resistant coating with cathodic protection 		
electrical isolation devices		

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Determination of design or operation measures that will protect underground tank systems against potential damage due to vehicular traffic	264.192(a)(4) [7/14/86]	335-14-510(3) (a)4.		
• Design considerations to ensure that tank foundations will maintain the load of a full tank and that tanks systems will be anchored to prevent flotation or dislodgment where the tank system is placed in a saturated zone or is located within a seismic fault zone. Include design considerations to ensure that tank systems will withstand the effects of frost heave.	264.192(a)(5) (i), (ii), and (iii) [7/14/86]	335-14-510(3) (a)5.(i), (ii), and (iii)		
D-2b(2)External Corrosion Protection	264.192(f)	335-14-510(3) (f)		
Describe the design, construction, and operation of corrosion protection systems necessary to ensure the integrity of the tank system. Show that any field-fabricated corrosion protection system will be supervised by an independent corrosion expert.	270.16(e) [7/14/86]	335-14-802(7) (e)		

D-2b(3)Description of Tank System Installation and Testing Plans and Procedures: Demonstrate that an independent, qualified installation inspector or an independent, qualified registered professional engineer will inspect each new tank system prior to covering, enclosing, or placing a new tank system or component in use. Inspection should determine the presence of: • weld breaks • punctures • scrapes of protective coatings	264.192(b)- (e); 270.16(f) [7/14/86] 264.192(b) [7/14/86]	335-14-510(3) (b)-(e) 335-14-802(7) (f) 335-14-510(3) (b)		
• corrosion • other structural damage or inadequate construction/installation				
Specify how all discrepancies will be repaired.				
New tank systems or components that are placed underground and that are backfilled must be provided with a backfill material that is a noncorrosive, porous, homogenous substance and that is installed so that the backfill is placed completely around the tank and compacted to ensure that the tank and piping are fully and uniformly supported.	264.192(c) [7/14/86]	335-14-510(3) (c)		

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New tanks and ancillary equipment will be tested for tightness prior to being covered, enclosed, or placed in use. Repair procedures must be specified if the tank system is found not to be tight.	264.192(d) [7/14/86]	335-14-510(3) (d)	
Ancillary equipment will be supported and protected against physical damage and excessive stress due to settlement, vibration, expansion, or contraction.	264.192(e) [7/14/86]	335-14-510(3) (e)	
D-2c Dimensions and Capacity of Each Tank:	270.16(b)	335-14-802(7) (b)	D-2c
Tank dimensions and capacity	[7/14/86]		
D-2d Description of Feed Systems, Safety Cutoff, Bypass Systems, and Pressure Controls:	270.16(c) [7/14/86]	335-14-802(7) (c)	D-2d, Appendix D-2-4
Description of the feed systems, safety cutoff, bypass systems, and pressure controls			
D-2e Diagram of Piping, Instrumentation, and Process Flow: Diagram of piping instrumentation, and process flow for each tank system.	270.16(d) [7/14/86]	335-14-802(7) (d)	D-2e, Appendices D-2-5 and D-2-6.
D-2f Containment and Detection of Releases:	264.193	335-14-510(4)	

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D-2f(1)Plans and Description of the Design, Construction, and Operation of the Secondary Containment System: The following information must be provided for the secondary containment system:	264.193(a)- (f); 270.16(g) [7/14/86] 264.193(c)(1)	335-14-510(4) (a)-(f) 335-14-802(7) (g) 335-14-510(4) (c)1.	
	[7/14/86]		
 Age of all existing tank systems. If the age of a tank system cannot be determined, indicate the reason 			D-2f(1)
Design, installation, and operation to prevent any migration of waste or accumulated liquid from the tank system to the soil, groundwater, or surface water at any time during its use			D-2f(1)
Materials of construction used to construct or line the system			D-2f(1)
Proof that the materials are compatible with the wastes in the tank system			D-2f(1), Appendices D-2-1 D-2-2 and D-2-5.

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 System has sufficient strength and thickness to prevent failure caused by any of the following: pressure gradients (including static head and external hydrological forces) physical contact with the wastes climatic conditions stress of daily operation (including stresses from 			D-2f(1), Appendices D-2-1 D-2-2 and D-2-5.	
nearby vehicular traffic) Calculations to prove that it is placed on a foundation or base that is capable of providing support, resisting pressure gradients above and below the system, and preventing failure due to settlement, compression, or uplift	264.193(c)(2) [7/14/86]	335-14-510(4) (c)2.	D-2f(1), Appendix D-2-1	
 Description of the leak detection system, including its operating principle, design features, and operating procedures 	264.193(c)(3) [7/14/86]	335-14-510(4) (c)3.	D-2f(1)	

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• Demonstration that the leak detection system will detect the failure of either the primary or secondary containment structure or the presence of any release of hazardous waste or accumulated liquid in the secondary containment system within 24 hours. If the prevailing site conditions or detection technologies will not allow detection of a release within 24 hours, then specify the earliest practical time that detection can take place. Indicate why this longer period does not pose a threat to human health and the environment	264.193(c)(4) [7/14/86]	335-14-510(4) (c)4.	D-2f(1)	
• Show how the secondary containment system is sloped or otherwise designed or operated to drain and remove liquids resulting from leaks, spills, or precipitation			D-2f(1)	
• Document how it will be ensured that spilled or leaked wastes and precipitation will be removed from the secondary containment system within 24 hours. If wastes and precipitation cannot be removed within 24 hours, then specify the earliest practice time that removal can take place. Indicate why this longer period does not pose a threat to human health and the environment			D-2f(1)	

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D-2f(1)(c) Requirements for External Liner: Vault, Double-Walled Tank, or Equivalent Device:	264.193(d)-(e) 270.16(g)	335-14-510(4) (d)-(e) 335-14-802(7) (g)	
Secondary containment for each tank must include at least one of the following: a liner external to the tank, a vault, a double-walled tank, or an equivalent device approved by the Regional Administrator. The following design and operation procedures should be given for each device:	[7/14/86] 264.193(d) [7/14/86]	335-14-510(4) (d)	
External liner system: • Calculations to show that it contains 100 percent of the capacity of the largest tank within its boundary	264.193(e)(1) (i) [7/14/86]	335-14-510(4) (e)1.(i)	D-2f(1)(c),Appendix D-2-8
•Run-on or infiltration of precipitation is presented. Alternatively, show that the collection system has sufficient excess capacity to contain run-on and precipitation from a 25-year, 24-hour rainfall	264.193(e)(1) (ii) [7/14/86]	335-14-510(4) (e)1.(ii)	D-2f(1)(c), Appendix D-2-8
• Free of cracks or gaps	264.193(e)(1) (iii) [7/14/86]	335-14-510(4) (e)1.(iii)	D-2f(1)(c), Appendix D-2-2
System surrounds the tank completely and covers all surrounding soil likely to come in contact with the wastes if they were released from the tank(s)	264.193(e)(1) (iv) [7/14/86]	335-14-510(4) (e)1.(iv)	D-2-f(1)(c)

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Vault system:			Appendix D-2-8	
Calculations to show that it contains 100 percent of the capacity of the largest tank within its boundary	264.193(e)(2) (i) [7/14/86]	335-14-510(4) (e)2.(i)		
• Designed or operated to prevent run-on or infiltration of precipitation Alternatively, show that the collection system has sufficient excess capacity to contain run-on and precipitation from a 25-year, 24-hour rainfall	264.193(e)(2) (ii) [7/14/86]	335-14-510(4) (e)2.(ii)	D-2f(1)(c)	
Constructed using chemical- resistant water stops in place at any joints. Specify the material used	264.193(e)(2) (iii) [7/14/86]	335-14-510(4) (e)2.(iii)	N/A - see D-2f(1)	The containment system was poured in a monolithic pour.
• Provided with an impermeable interior coating or lining that is compatible with the stored wastes and that will prevent migration of waste into the vault material. Specify coating or lining used, and provide the manufacturer's data sheet	264.193(e)(2) (iv) [7/14/86]	335-14-510(4) (e)2.(iv)	D-2f(1)(c), Appendix D-2-7	
Method used to protect against the formation and ignition of vapors placed in the tank(s) if the wastes are ignitable or reactive	264.193(e)(2) (v) (A) & (B) [7/14/86]	335-14-510(4) (e)2.(v)(I) and (II)	D-2f(1)(c)	

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Exterior moisture barrier used, and provide the manufacturer's data sheet. Alternatively, describe how the vault is designed or operated to prevent the migration of moisture into the vault if the vault is subject to hydraulic pressure	264.193(e)(2) (vi) [7/14/86]	335-14-510(4) (e)2.(vi)	N/A	Vault is not subject to hydraulic pressure.
Double-walled tank: An integral structure so that any release from the inner tank is contained by the outer shell	264.193(e)(3) (i) [7/14/86]	335-14-510(4) (e)3.(i)	N/A	There are no double-walled tanks at the facility.
 If the unit is metallic, specify the type(s) of corrosion protection used for both the internal and external shell 	264.193(e)(3) (ii) [7/14/86]	335-14-510(4) (e)3.(ii)		
• Description of the leak detection system used including the principle of operation, design, and operating characteristics. It must be a continuously operating unit, capable of detecting a release within 24 hours. If the prevailing site conditions or detection technologies will not allow detection of a release within 24 hours, must specify the earliest practical place and indicate why this longer period does not pose a threat to human health and the environment	264.193(e)(3) (iii) [7/14/86]	335-14-510(4) (e)3.(iii)		

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D-2f(1)(d) Secondary Containment and Leak Detection Requirements for Ancillary Equipment:	264.193(f) 270.16(g)	335-14-510(4) (f) 335-14-802(7)	D-2f(1)(d)	
Each tank system's ancillary equipment must be provided with secondary containment such as jacketing, double- walled piping, or a trench. Describe the containment system, and demonstrate that it has been (will be) designed, installed, and operated to prevent any migration of waste or accumulated liquid to the soil, ground water, or surface water at any time during its use. Also, demonstrate that the containment system can detect and collect releases and accumulated liquids. This demonstration must include at least the following:	[7/14/86]			
Materials of construction used to construct or line the system. Show that these materials are compatible with the wastes in the tank system				
- Demonstrate that the system has sufficient strength and thickness to prevent failure caused by any of the following:				

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 pressure gradients (including static head external hydrological forces) physical contact with the 			
wastes			
- climatic conditions			
 stress of daily operation (including stresses from nearby vehicular traffic) 			
Calculations proving that the secondary containment system is placed on a foundation or base that is capable of providing support, resisting pressure gradients above and below the system, and preventing failure due to settlement, compression or uplift			
• Description of the leak detection system, including its operating principle, design features, and operating procedures. The leak detection system must detect the failure of either the primary or secondary containment structure or the presence of any release of hazardous waste or accumulated liquid in the secondary containment system within 24 hours. If the prevailing site conditions or detection technologies will not allow detection of a release within 24 hours, then specify the earliest practical time that detection can take place. Indicate why this longer period does not pose a threat to human health and the environment			

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 Secondary containment system must be sloped or otherwise designed or operated to drain and remove liquids resulting from leaks, spills, or precipitation 				
Document how it will be ensured that spilled or leaked wastes and precipitation will be removed from the secondary containment system within 24 hours. If wastes and precipitation cannot be removed within 24 hours, then specify the earliest practical time that removal can take place. Indicate why this longer period does not pose a threat to human health and the environment				
A demonstration need not be made for:	264.193(f)(1)- (4)	335-14-510(4) (f)14.		
Aboveground piping (exclusive of flanges, joints, valves, and other connections) that are visually inspected daily	[7/14/86]			
Welded flanges, joints, and connections that are visually inspected daily				
Sealless or magnetic coupling pumps that are visually inspected daily				
 Pressurized above-ground piping systems with automatic shut-off devices that are visually inspected daily. 				

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D-2f(2)Requirements for Tank System Until Secondary Containment is Implemented: Non-enterable underground tanks: results of a leak test (or other tank integrity test approved by the Regional Administrator). Procedure to be repeated at least annually until secondary containment is provided.	264.193(i) [7/14/86] 264.193(i)(1) [7/14/86]	335-14-510(4) (i) 335-14-510(4) (i)1.	N/A	Secondary Containment is present.
Other than non-enterable underground tanks: results of a leak test or present a schedule and procedures for assessing the overall condition of the tank system by an independent, qualified registered professional engineer until secondary containment is provided.	264.193(i)(2) [7/14/86]	335-14-510(4) (i)2.		
Ancillary equipment: results of a leak test (or other integrity assessment measure approved by the Regional Administrator). Indicate the procedures that will be used to ensure that such test will be repeated at least annually until secondary containment is provided.	264.193(i)(3) [7/14/86]	335-14-510(4) (i)3.		
D-2f(3)Variance from Secondary Containment is Implemented:	264.193(g),	335-14-510(4) (g)	N/A	A variance from secondary containment is not requested.
Provide information for one of the following alternatives:	270.16(h)	335-14-802(7) (h)		
	[7/14/86]			

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 Technology-based variances: detailed plans and engineering and hydrogeologic reports, as appropriate, describing alternate design and operating practices that will, in conjunction with location aspects, prevent the migration of any hazardous waste or hazardous constituents into the ground water or surface water during the life of the facility Risk-based variances: detailed demonstration that no substantial present or potential hazards will be posed to human health or the environment, should a release enter the environment 				
• Demonstration that tanks used to store or treat hazardous waste contain no free liquid as defined by the Paint Filter Test and that such tanks are situated inside a building with an impermeable floor	264.190(a) [7/14/86]	335-14-510(1) (a)		
D-2g Controls and Practices to Prevent Spills and Overflows:	264.194(a) & (b)	335-14-510(5) (a) & (b)		
Provide adequate information to ensure that the hazardous wastes or treatment reagents placed in a tank system will not cause any element of that system to rupture, leak, corrode, or otherwise fail.	270.16(i) [7/14/86]	335-14-802(7) (i)		
Provide detailed description of controls and practices used to prevent spills and overflows. Include at a minimum:			D-2g	

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 Spill prevention controls (e.g., check valves, dry disconnect couplings) 				
 Overfill prevention controls (e.g., level sensing devices, high level alarms, automatic feed cutoff or bypass to a standby tank) 			D-2g	
 Maintenance of sufficient freeboard in uncovered tanks to prevent overtopping by wave or wind action or by precipitation 			N/A	All hazardous waste storage tanks are covered.
Provide detailed plans for the	264.195	335-14-510(6)	D-2g, F-2b(2), Appendix F-2-1	
schedule and procedures for inspecting:	[7/14/86]		F-Z-1	
Overfill controls	264.195(a)	335-14-510(6) (a)	D-2g, F-2b(2), Appendix F-2-1	
	[7/14/86]			
Aboveground portions of the tank system	264.195(b)(1)	335-14-510(6) (b)1.	D-2g, F-2b(2), Appendix F-2-1	
	[7/14/86]			
Data from monitoring and leak detection equipment	264.195(b)(2)	335-14-510(6) (b)2.	D-2g, F-2b(2), D-12	Data from annual metal thickness tank inspection and the LDAR program as described in Section D-12 of this Application is maintained
	[7/14/86]			Section B-12 of this Application is maintained
Construction materials and the area immediately surrounding	264.195(b)(3)	335-14-510(6) (b)3.	D-2f(1)	
the externally accessible portion of the entire tank system	[7/14/86]			
Cathodic protection system	264.195(c)	335-14-510(6)	N/A	Steel tanks and ancillary equipment do not contact the ground. Cathodic protection is not necessary.
	[7/14/86]			

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D3 REGULATORY COMPLETENESS CHECKLIST FOR HAZARDOUS WASTE STORAGE, TREATMENT AND DISPOSAL FACILITIES

Facility Name Address	Clean Earth of Alabama, Inc. 402 Webster Chapel Road	EPA ID Number ALD981020894 Permit Review Team
	Glencoe, AL 35905	
Contact Name Contact Phone	Bryan Jones Number 256.492.8340	Date Application Received

Waste Pile Standards - Module D-3					
Subject Requirement	40 CFR Section Nos.	ADEM Regulation	Location in Application	Comments	
D-3 Waste Pile Design			N/A	There are no waste piles at the	
D-3a List of Wastes The application must provide a list of all hazardous wastes to be placed or previously placed in waste piles. Information must include:	270.18(a)	335-14-802(9) (a)		facility.	
Analytical and sampling techniques	Guidance				
 Information on ignitability, compatibility, corrosivity, and reactivity 	Guidance				
Appendix VIII constituents	Guidance				
D-3b Exemptions					
D-3b(1)Exemption for Protected Piles From Design and Operating (264.251) and Groundwater Monitoring (Subpart F) Requirements					
Exemption from 264.251 and Subpart F requirements applies only to waste piles placed inside or under a protective structure so that neither run-off nor leachate is generated. To qualify for the exemption, applicant must demonstrate the following:	270.18(b) 264.150(c)	335-14-802(9) (b)			

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Liquids or materials containing free liquids are not placed in the pile			
The pile is protected from surface water run-on by the structure or in some other manner			
 The pile is designed and operated to control dispersal of the waste by wind, where necessary, by means other than wetting, and 			
The pile will not generate leachate through decomposition or other reactions.			
D-3b(2)Subpart F Exemptions for Piles Which Are Engineering Structures If an exemption from the Subpart F groundwater monitoring requirements is sought, demonstrate the following:	270.18(b) 264.90(b)	335-14-802(9) (b) 335-14-506(1)	
The unit for which the exemption is sought is an engineered structure			
No liquid waste or waste containing free liquids will be received by or contained in the pile			
Liquids, precipitation, and other run-on and run-off will be excluded from the pile			

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A containment system with both inner and outer layer will enclose the waste			
A leak detection system is built into each containment layer			
The means of ensuring continuing operation and maintenance of the leak detection systems during the active life of the unit and the closure and post-closure care periods			
• The unit will not allow hazardous constituents to migrate beyond the outer layer of the containment system prior to the end of the post-closure care period (within a reasonable degree of certainty)			
D-3b(3)Liner Exemption From Design and Operation Requirement of 264.251(a) If an exemption from the liner design and operation requirements is requested, the application must demonstrate that alternate design and operating practices, together with location characteristics, will prevent groundwater and surface water contamination at any future time. Information to be submitted includes:	264.251(b) 270.18(c)(1) (i)	335-14-512(2) (b) 335-14-802(9) (c)1.(i)	

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Hydrogeologic setting			
Nature and quantity of wastes			
Alternative design and operation plans			
- Attenuative capacity			
- Thickness of liners			
 Thickness of soils between the pile and seasonal groundwater or surface water elevations 			
 Other factors which would influence the quantity, quality, and mobility of leachate produced 			
D-3c Liner System Requirements	264.251(a)	335-14-512(2)	
Unless a waiver of the liner requirements is requested or unless the waste pile qualifies as an existing portion, a liner is required.		(a)	
D-3c(1)Liner Description	270.18(c)(1)	335-14-802(9) (c)1.	
If a liner is required, the application must provide detailed plans and an engineering report describing the liner system. The application must demonstrate that the liner system is designed to prevent migration of waste out of the pile into the adjacent subsurface soil or groundwater or surface water at any time during the active life of the waste pile. The following information is needed:	264.251(a)(1)	335-14-512(2) (a)1.	

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Material of construction			
Chemical properties			
Physical strength			
• Thickness			
- synthetic	Guidance		
- natural	Guidance		
Liner system/waste compatibility testing	264.251(a)(1) (i)	335-14-512(2) (a)1.(i)	
Liner installation procedures	264.254(a)	335-14-512(5) (a)	
Liner inspection procedures			
Subsurface exploration data	Guidance		
Foundation design	264.251(a)(1) (ii)	335-14-512(2) (a)1.(ii)	
Size/area covered	264.251(a)(1) (iii)	335-14-512(2) (a)1.(iii)	
Liner location relative to the seasonal high water table	Guidance		
Vendor and manufacturer (if synthetic)			
How the system's integrity will be maintained against:			
- Internal and external pressure gradients including static head, settlement, compression, uplift	264.251(a)(1) (i)	335-14-512(2) (a)1.(i)	
contact with waste/leachate			

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- climatic condition				
- installations stresses				
- daily operational stresses				
D-3d Leachate Detection, Collection, and Removal Systems Requirements Unless an exemption from leachate detection, collection, and removal system requirements is requested, the application must include detailed plans and engineering report describing:	270.18(c) 264.251(a)(2)	335-14-802(9) (c) 335-14-512(2) (a)2.		
• How the system will be designed and operated to ensure that no more than 30 cm (one foot) of leachate is above the liner				
• Materials of construction				
• Chemical resistance to waste/leachate				
• Provisions to prevent clogging				
•Load-bearing strength and the ability of the system to withstand the pressures exerted by overlaying waste, waste cover materials, and equipment used at the waste pile				
Methods to be employed to install the leachate collection and detection system				
• Material of construction				
• Chemical properties				

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• Physical strength			
• Thickness	Guidance		
- synthetic	Guidance		
- natural			
• Liner system/waste compatibility testing	264.251(a)(1) (i)	335-14-512(2) (a)1.(i)	
•Liner installation procedures			
•Liner inspection procedures	264.254(a)	335-14-512(5) (a)	
• Subsurface exploration data			
• Foundation design	Guidance		
•Size/area covered	264.251(a)(1) (ii)	335-14-512(2) (a)1.(ii)	
•Liner location relative to the seasonal high water table	264.251(a)(1) (iii)	335-14-512(2) (a)1.(iii)	
Vendor and manufacturer (if synthetic)	Guidance		
• How the system's integrity will be maintained against:	264.251(a)(1) (i)	335-14-512(2) (a)1.(i)	
 internal and external pressure gradients including static head, settlement, compression, uplift 			
contact with waste/leachate			
- climatic conditions			
- installations stresses			
 daily operational stresses 			

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D-3e Control of Run-On and Run- Off	270.18(c)(2) and (3)	335-14-802(9) (c)2. And 3.		
The application must include detailed plans and an engineering report describing the system(s) used to prevent run-on from the peak discharge of a 25-year storm and to prevent run-off from the volume resulting from a 24-hour, 25-year storm.	264.251(c) and (d)	335-14-512(2) (c) and (d)		
Information to be submitted may include:	264.251(c) and	335-14-512(2)		
 Sizing, design, and installation of system(s), i.e., piles, tanks, surface impoundments, pumps, wet wells, etc. 	(d)	(c) and (d)		
• Maintenance procedures to ensure long-term structural integrity	264.254(b)	335-14-512(5) (b)		
D-3f Units Associated With Run- On and Run-Off Control Systems	270.18(c)(4)	335-14-802(9) (c)4.		
Detailed plans and an engineering report describing:	264.251(e)	335-14-512(5) (e)		
• Collection and holding facilities (e.g., tanks, basins) associated with run-on and run-off control systems				
 How the holding facilities will be managed and operated to maintain design capacity after storms 				

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D-3g Particulate Control	270.18(c)(5)	335-14-802(9) (c)5.	
The application must demonstrate that the waste pile is managed in such a manner that wind dispersal of wastes is controlled.	264.251(f)	335-14-512(2) (f)	
D-3h Additional Information Required if Treatment is Carried Out On or In the Pile	270.18(e)	335-14-802(9) (e)	
If treatment occurs in or on the waste pile, the application must include:			
 Details of the process including rate of decomposition, heat of reaction, controls, etc. 			
• Equipment used			
• Nature, quality, and quantity of the residuals			
• Monitoring equipment (temperature, pH, explosimeter)	Guidance		
D-3i Piles Containing Wastes F020, F021, F022, F023, F026 and F027	270.18(i)	335-14-802(9) (i)	
Piles which contain hazardous waste F020, F021, F022, F023, F026, and F027 and are not an enclosed facility [i.e., meeting the requirements of D-3b(1)] must be designed, constructed, operated, and maintained in a manner to protect human health and the environment. In order to evaluate the effectiveness of the design, provide the following information:	264.259	335-14-512(10)	

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• The volume, physical, and chemical characteristics of the wastes including their potential to migrate through the soil or volatize or escape into the atmosphere		
 The attenuative properties of underlying and surrounding soils or other materials 		
• The mobilizing properties of other materials co-disposed with these wastes		
• The effectiveness of additional treatment, design, operating, or monitoring techniques		

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REGULATORY COMPLETENESS CHECKLIST FOR HAZARDOUS WASTE STORAGE, TREATMENT AND DISPOSAL FACILITIES

D4

Facility Name Address	Clean Earth of Alabama, Inc. 402 Webster Chapel Road	EPA ID Number ALD981020894 Permit Review Team
	Glencoe, AL 35905	
Contact Name		Date Application Received
Contact Phone	Number <u>256.492.8340</u>	Date Review Completed

			Surface Impou	ndment Standards - Module D-4
Subject Requirement	40 CFR Section Nos.	ADEM Regulation Nos.	Location in Application	Comments
D-4 Surface Impoundment Design			N/A	There are no surface impoundments at the
D-4a List of Wastes	270.17(a)	335-14-802(8)		facility.
The application must provide a list of all:		(a)		
Hazardous wastes in the impoundment				
Analytical and sampling techniques	Guidance			
Appendix VIII constituents	Guidance			
Ignitability, compatibility, reactivity and corrosivity	Guidance			
Compatibility of liner and wastes	264.221(a)(1)	335-14-511(2) (a)1.		
D-4b Liner System Exemption Requests				

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D-4b(1)Exemption Based on Existing Portion	270.17(b)(1)	335-14-802(8) (b)1.		
Existing portions of surface impoundments which have wastes in place on November 8, 1984 and will have only vertical expansion are exempted from double liner system requirements through November 8, 1988. New units, lateral expansion of existing units, and replacement (i.e., all waste removed from an area and then replaced) units at existing facilities are not exempt. To obtain an exemption, provide a plan indicating the limits of the existing portions.	264.221(c)	335-14-511(2) (c)		
D-4b(2)Liner System Exemption Based on Alternative Design and Location	264.221(d)	335-14-511(2) (d)		
If an exemption from the double liner requirements is requested, the application must demonstrate that alternate design and operating practices, together with location characteristics, will prevent groundwater and surface water contamination at least as effectively as a double liner with leachate detection system. Information to be submitted includes:				
Nature and quantity of waste				

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Alternative design and operation plans			
Hydrogeologic setting			
 attenuative capacity 			
- thickness of liner			
 thickness of soil between the bottom of the surface impoundment and seasonal groundwater 			
 and surface water elevations 			
 Other factors which would influence the quantity, quality, and mobility of any leachate 			
D-4c Liner System			
If an exemption from the double liner requirements is not requested, the application must demonstrate that the double liner system prevents any migration of wastes out of the impoundment to the adjacent subsurface soils or groundwater or surface water at any time during the active life of the impoundment. If an exemption from the double liner requirements is obtained the surface impoundment(s) must be either retrofitted to meet the double liner-leachate detection requirements or closed by November 8, 1988. Therefore, if the impoundment(s) will be operated beyond November 8, 1988, these liner system requirements must be addressed for the retrofit even if an exemption is requested for the present time.			

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D-4c(1)General Items			
D-4c(1)(a) Liner System Description	270.17(b)(1)	335-14-802(8) (b)1.	
The application must provide a detailed description of the liner system, demonstrating (by description and drawing) that the liner system will prevent any migration of wastes out of the impoundment to the adjacent subsurface soils or groundwater or surface water at any time during the active life of the impoundment. For each liner within the system (minimum one synthetic liner and one soil liner), describe the type of liner (i.e., its material and its thickness).			
D-4c(1)(b) Liner System Location Relative to High Water Table	270.17(b)(1)	335-14-802(8) (b)1.	
Provide data showing seasonal fluctuations in the depth to the water table and the location of the seasonal high water table in relation to the base of the liner system (i.e., groundwater levels and liner foundation elevations should be shown on geological cross sections).	264.221(a)	335-14-511(2) (a)	
D-4c(1)(c) Loads on Liner System	270.17(b)(1)	335-14-802(8) (b)1.	
The maximum loads or stresses which will be placed on the liner system must be determined and reported in the application. Include all calculations, data, and assumptions for the following conditions:	264.221(a)	335-14-511(2) (a)	

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Both static and dynamic loads			
Stresses due to installation or construction operations			
Stresses from operating equipment			
 Stresses due to the maximum quantity of waste, cover, and proposed post-closure land use, as applicable 			
Stresses resulting from settlement, compression, subsidence, or uplift			
Internal and external pressure gradients			
D-4c(1)(d) Liner System Coverage	270.17(b)(1)	335-14-802(8) (b)1.	
The liner system must be installed to cover all surrounding earth likely to be in contact with the waste or leachate. Submit information (i.e., construction, as built, or detailed drawings) which demonstrate this.	264.221(a)(1)	335-14-511(2) (a)1.	

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D-4c(1)(e) Liner System Exposure Prevention	270.17(b)(1)	335-14-802(8) (b)1.		
Demonstrate in the application that the liner system will not be exposed to wind or sunlight, or if exposure to any part of the system is to be permitted, that such exposure will not result in unacceptable degradation of that portion of the system (i.e., drawings and/or liner specifications as appropriate). If the liner system will be exposed or located close enough to the surface to be affected by changing temperatures, provide calculations defining the stresses on the liner system due to thermal expansion and contraction.	264.221(a)(2)	335-14-511(2) (a)2.		
D-4c(2)Foundation Upon Which Liner System Is Constructed				
D-4c(2)(a) Foundation Description	270.17(b)(1)	335-14-802(8) (b)1.		
A description of the foundation for the liner system must be included in the application. The description should include the following:	264.221(a)(2)	335-14-511(2) (a)2.		
• Type of foundation materials				
Bearing elevations shown on geological and construction drawings				

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Load bearing embankments placed to support the liner system, as applicable			
D-4c(2)(b) Subsurface Exploration Data	270.17(b)(1)	335-14-802(8) (b)1.	
The engineering characteristics of the liner system foundation materials, including subsurface soil, bedrock, and hydrogeologic conditions should be verified through subsurface explorations. These efforts should be fully described by including location plans and cross sections for these borings, test pits, etc., and descriptions or references for the procedures used. Procedures may include the following:	264.221(a)(2)	335-14-511(2) (a)2.	
Collection of historical data			
Test borings			
• Test pits			
• Test trenches			
• In situ tests			
Geophysical methods			

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D-4c(2)(c) Laboratory Testing Data	270.17(b)(1)	335-14-802(8)	
Results from sufficient index testing should be provided to classify the site materials. Other lab test data should be provided to evaluate the engineering properties of the foundation materials, particularly for strength, hydraulic conductivity, compressibility, and other important design parameters. Provide copies of the test methods used to test the material or provide references, as appropriate and with any revisions, to standard test procedures.	264.221(a)(2)	(b)1. 335-14-511(2) (a)2.	
D-4c(2)(d) Engineering Analyses Engineering analyses should be provided which are based on the data gathered through subsurface exploration and laboratory testing program. With the analyses include a discussion of the methods used, assumptions, copies of calculations, and appropriate references. Include the following, as applicable:	270.17(b)(1) 264.221(a)(2)	335-14-802(8) (b)1. 335-14-511(2) (a)2.	
 Settlement potential Bearing capacity Potential for excess hydrostatic or gas pressure Seismic conditions Subsidence potential Sinkhole potential 			

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D-4c(3)Synthetic Liners			
D-4c(3)(a) General Description	270.17(b)(1)	335-14-802(8) (b)1.	
For each synthetic liner under consideration for use in the system, provide the following	264.221(a)	335-14-511(2) (a)	
general information: • Thickness	264.221(c)	335-14-511(2) (c)	
• Type			
• Material			
•Brand name			
• Manufacturer			
D-4c(3)(b) Strength	270.17(b)(1)	335-14-802(8) (b)1.	
Provide data showing the synthetic liners and all seams will have sufficient strength after exposure to the waste and waste leachate to support all load/stresses to which they will be subjected.	264.221(a)(1) (i)	335-14-511(2) (a)1.(i)	
D-4c(3)(c) Bedding	270.17(b)(1)	335-14-802(8) (b)1.	
Demonstrate that sufficient bedding will be provided above and below the synthetic liners to prevent rupture of the synthetic liner during installation and operation.	264.221(a)(2)	335-14-511(2) (a)2.	
D-4c(4)Soil Liners	270.17(b)(1)	335-14-802(8) (b)1.	
A description of the soil liner must be presented in the application. Include the	264.221(a)	335-14-5-11(2) (a)	
following information:	264.221(c)	335-14-511(2) (c)	

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Liner thickness			
• Whether the liner will be in place material or borrow material (Note: If in-place materials is to be used describe how it will be reworked.)			
• Material testing data which includes:			
- index tests			
 hydraulic conductivity 			
- strength			
- consolidation			
- shrink-well			
Demonstration that the soil liner will wholly contain leachate throughout the unit's operating life and post-closure period			
Demonstration that the liner has sufficient strength to support all loads/stresses to which it will be subjected			
D-4c(5)Leachate Detection System	270.17(b)(1)	335-14-802(8) (b)1.	
A description of the leachate detection system must be provided. Information to be submitted includes:	264.221(c)	335-14-511(2) (c)	
Description of how it will function to detect any leakage in a timely manner			

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Description of how liquid can be removed from the system		
Estimate of drainage capacity (speed and volume)		
Contour plan for the system which includes the layout and spacing of the piping system		
Design details of pumps, sumps, etc., used in the system		
Description of handling procedures for any collected leachate (i.e., testing, disposal, etc.)		
Demonstration that the system is appropriately graded to assure that leakage at any point in the liner system is detected in a timely manner		
• Demonstration that the pipes and pipe perforations are sized sufficiently to handle the expected flow of leachate		
• Demonstration that all components of the leachate detection system have sufficient strength to support all loads/stresses to which the system will be subjected without jeopardizing the effectiveness of the system by reducing its conductivity		

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• Demonstration that the system is designed and operated to prevent clogging of the drainage layer material and the pipes throughout the active life of the surface impoundment			
D-4c(6)Construction and Maintenance	270.17(b)(1)	335-14-802(8) (b)1.	
Both material and construction specifications must be provided for all liner system components. Construction specifications should include the following:	264.221(a)	335-14-511(2) (a)	
Preparation of the liner system foundation			
 Procedures for installing the soil liner which include: 			
 method of compaction 			
 degree of compaction and percent moisture that must be achieved 			
- lift thickness			
 methods to be used to alter the water content of the soil 			
 scarification requirement between lifts 			
 method of amending the soil, if applicable 			

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 Procedures for installation of the synthetic liners which include: 		
 inspection of the synthetic liner bed for material which could puncture the liner (and removal of that material) 		
- placement procedures		
 techniques to be utilized to bond the liner seams 		
 procedures for protection of the liner before and during placement of material on top of the liner 		
 any protective layer placed to protect the liner during operations 		
 Procedures for placement of all components of the leachate detection system including: 		
 drainage layers 		
- piping		
- sumps, pumps, etc.		
- filter layers		
Details of the quality control program		
Methods of repairing any damage to the liner which may occur during construction		

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D-4d Overtopping Controls	270.17(b)(2)	335-14-802(8) (b)2.	
The application must describe the design and operating procedures that will provide protection against impoundment overtopping.	264.221(f)	335-14-511(2) (f)	
• Spillway or weirs			
• Sensors and alarms			
• Automatic or manual controls			
Operating procedures which prevent overtopping			
Discharge destination			
• Minimum freeboard bared (2 foot) (100-year flood event)			
• Process flow diagram			
If foolproof controls are not employed to prevent overtopping, calculation from a waste balance study must be provided which shows that adequate freeboard will be following a 100-year, 24-hour storm. Also, freeboard requirements associated with normal and extreme wind activity should be determined unless automatic controls are utilized and freeboard equals or exceeds two feet.			

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D-4e Dike Design and Structural Integrity	270.17(b)(3)	335-14-802(8) (b)3.		
The application must demonstrate that dikes are	270.17(d)	335-14-802(8) (d)		
designed, constructed, and maintained with sufficient structural integrity in such	264.221(g)	335-14-511(2) (g)		
a manner that massive failure will not occur.	264.226(c)	335-14-511(7)		
• Structural integrity analysis, assuming no functioning liner system				
• Maintenance procedures				
• Erosion protection, inside and outside				
• Stress pressure exerted by wastes				
 Control of scouring and piping without dependence on liner system 				
• Engineers' certification				
qualifications of certifying engineer				
 after extended nonuse of surface impoundment (6 months) 				
after initial construction (new facility)				
- after repairs				

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D-4f Special Waste Management Plan for Surface Impoundments	270.17(i)	335-14-802(8) (i)	
Containing Wastes F020, F021, F022, F023,F026 and F027	264.231	335-14-511(12)	
Applications for surface impoundment(s) containing hazardous wastes F020, F021, F022, F023, F026, and F027 must contain a plan which describes how the impound(s) are or will be designed, constructed, operated, and maintained in order to protect human health and the environment. The plan should include the following:			
• The volume and physical characteristics of the wastes including their potential to migrate through the soil or volatilize or escape into the atmosphere			
• Description of the attenuative properties of underlying and surrounding soils or other materials			
Description of the mobilizing properties of other materials co-disposed with these wastes			
• Documentation on the effectiveness of additional treatment design, operating, or monitoring techniques			

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Facility Name	Clean Earth of Alabama, Inc.	EPA ID Number ALD981020894
Address	402 Webster Chapel Road	Permit Review Team
	Glencoe, AL 35905	
Contact Name	Bryan Jones	Date Application Received
Contact Phone	Number 256.492.8340	Date Review Completed

	Incinerator Standards - Module D-5				
Subject Requirement	40 CFR Section Nos.	ADEM Regulation Nos.	Location in Application	Comments	
D-5 Incinerator Design			N/A	There are no incinerators at the facility.	
D-5aJustification for Exemption	270.19(a),	335-14-802(10) (a)			
Documentation that the waste to be burned is considered hazardous solely because:	264.340(b)	335-14-515(1) (b)			
• It is ignitable and/or corrosive; or					
• It is reactive and will not be burned when other hazardous wastes are present in the combustion zone [exemptions not allowed for wastes which can react to produce toxic gases as per 261.23(a)(4) and (5)]; or					
It is ignitable and/or corrosive, or is reactive subject to the restriction indicated above, and contains insignificant concentrations of Appendix VIII constituents, or documentation that the waste to be burned contains none of hazardous constituents listed in Appendix VIII which would reasonably be expected to be in the waste.					
D-5b Trial Burn	270.19(b),	335-14-802(10) (b)			
If the applicant proposes conducting a trial burn to demonstrate compliance or is submitting results from a trial burn already conducted, the permit application must include the following items in accordance with the requirements in	270.62 264.343 264.345	335-14-806(2) 335-14-515(4) 335-14-515(6)			

			Inci	nerator Standards - Module D-5	
Subject Requirement	40 CFR Section Nos.	ADEM Regulation Nos.	Location in Application		comments
260.62:					
D-5b(1) New Incinerator Startup/Shakedown					
If a trial burn is proposed for a new incinerator, the operations prior to conducting the trial burn must be described including the following:					
D-5b(1)(a) Startup/Shakedown Period	270.65(a),	335-14-806(4) (a)			
Time required to bring the new incinerator		335-14-515(5)			
to a point of operational readiness for the trial burn (startup/shakedown) must be	264.344,	335-14-515(5) (c)1.			
the minimum necessary and cannot exceed 720 hours, or up to 1440 hours if	264.344(c)(1)				
the applicant shows good cause for requiring an extension.					
D-5b(1)(b) Startup/Shakedown	270.62(a)(1),	335-14-806(2) (a)1.			
Performance	264.242	335-14-515(4)			
Operating conditions during startup/shakedown must be those most	264.343,	335-14-515(5) (c)1.			
likely to assure compliance with the following requirements:	264.344(c)(1)				
 DRE of 99.9999% for designated POHCs, listed dioxin wastes, and PCBs 					
• If HC1 emissions would be more than 1.8 kg/h (4 lb./h), stack emissions must be controlled to the larger of either 1.8 kg/h, or 1% of HC1 in the exhaust prior to entering pollution control equipment					
 Particulate emissions corrected for oxygen may not exceed 180 mg/dscm (0.08 grains/dscf) 					
D-5b(1)(c) Startup/Shakedown	270.65(a)(1),	335-14-806(4) (a)1.			

			Incir	nerator Standards - Module D-5	
Subject Requirement	40 CFR Section Nos.	ADEM Regulation Nos.	Location in Application		Comments
Conditions		335-14-515(5) (c)1.			
Applicants for new incinerators must submit a statement which suggests conditions necessary to achieve compliance during startup/shakedown including, at a minimum, restrictions on:	264.344(c)(1), 264.345	335-14-515(6)			
Waste constituents					
Waste feed rates					
• Carbon monoxide exhaust level (≤ 100 ppm v, day @ 7% O ₂) hourly rolling average					
• Combustion temperatures, upper and lower in both pcc and scc					
Combustion gas velocity					
Allowable variations in systems design or operating procedures					
• Air pollution control device(s) permitting perameters					
An appropriate indicator of combustion gas velocity					
• O ₂ levels in custer afterburners exhaust or streak					
Fugitive emissions during startup/shakedown must be controlled by:	264.345(d)	335-14-515(6) (d)			
• Totally sealing the combustion zone, or					
• Maintaining negative pressure in the combustion zone, or					
An alternate method demonstrated to be effective in the application					
Hazardous wastes not exempted per D-5a	264.345(c)	335-14-515(6) (c)			

			Incinerator Standards - Module D-5		
Subject Requirement	40 CFR Section Nos.	ADEM Regulation Nos.	Location in Application	Comments	
must not be fed to the incinerator during startup/shakedown unless it is operating within the acceptable limits.					
Automatic waste feed cutoff systems that will stop flow of wastes to the incinerator if operating conditions deviate from established limits must be operational during the startup/shakedown period.	264.345(e)	335-14-515(6) (e)			
D-5b(2) Trial Burn Plan					
The trial burn plan must include the following information:					
D-5b(2)(a) Incinerator Performance	264.344(c)(2)	335-14-515(5) (c)2.			
For the duration of the trial burn, the operating conditions must be sufficient to demonstrate:					
• DRE of 99.9999 for designated POHCs and dioxin/PCBs					
• If HC1 emissions would be more than 1.8 kg/h (4 lb./h), either stack emissions must be controlled to the larger of either 1.8 kg/h, or 1% of HC1 in the exhaust prior to entering pollution control equipment					
• O ₂ level					
• CO level					
• Particulate emissions corrected for oxygen concentration, no greater than 180 mg/dscm (0.08 grains/dscf)					
Compliance with emission rante of other emitted compaunds are within limits established e. sher by BIF rules or Health Risk Assessment					
D-5b(2)(b)Detailed Description and/or	270.62(b)(2) (ii)	335-14-806(2) (b)2.(ii)			

			Inci	nerator Standards - Module D-5
Subject Requirement	40 CFR Section Nos.	ADEM Regulation Nos.	Location in Application	Comments
Engineering Drawing of the Incinerator Including:				
Manufacturer's name and model number				
Type of incinerator				
Linear dimensions of incinerator unit including cross sectional area of combustion chamber				
• Description of the auxiliary fuel system (type and feed)				
Capacity of prime mover				
 Description of automatic waste feed cut-off system(s) 				
Stack gas monitoring and pollution control equipment				
Nozzle and burner design				
Construction materials				
 Location and description of temperature, pressure, flow indicating, and control devices 				
D-5b(2)(c) Sampling and Monitoring Procedures	270.62(b)(2) (iii)	335-14-806(2) (b)2.(iii)		
A detailed description of sampling and monitoring procedures including:				
Sampling and monitoring equipment				
Sampling and monitoring frequency				
Analytical procedures				
Sampling and monitoring locations				
Quality assurance/quality control				

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			Incine	erator Standards - Module D-5
Subject Requirement	40 CFR Section Nos.	ADEM Regulation Nos.	Location in Application	Comments
programs				
D-5b(2)(d) Test Schedule	270.62(b)(2) (iv)	335-14-806(2)		
• Dates when trial burn is planned		(b)2.(iv)		
• The duration of each trial burn				
• The quantity of waste to be burned during each trial burn				
Other relevant factors				
D-5b(2)(e) Test Protocols	270.62(b)(2) (v)	335-14-806(2) (b)2.(v)		
For each waste to be burned, identify variations in:				
• Ranges of temperature				
• Waste feed rate				
Combustion gas velocity				
• Use of auxiliary fuel				
Other factors that will be varied that will affect the DRE or compliance withestablished emission rates				
D-5b(2)(f) Pollution Control Devices	270.62(b)(2) (vi)	335-14-806(2)		
A description of, and planned operation conditions for, any pollution control devices such as the following:		(b)2.(vi)		
• Scrubbers	Guidance			
• ESP	Guidance			
• Fabric filter	Guidance			
D-5b(2)(g) Shut-down Procedures	270.62(b)(2) (vii)	335-14-806(2)		
Procedures to be employed in the event of an equipment malfunction for:		(b)2.(vii)		

			Incinerator Standards - Module D-5		
Subject Requirement	40 CFR Section Nos.	ADEM Regulation Nos.	Location in Application	Comments	
Rapidly stopping waste feed					
Shutting down incinerator					
Controlling emissions					
D-5b(2)(h) Principal Organic Hazardous Constituents (POHC)	270.62(b)(4)	335-14-806(2) (b)4.			
The Director shall specify as trial POHCs, those constituents for which destruction and removal efficiencies must be calculated during the trial burn.					
D-5b(3) Trial Burn Results	270.62(b)(6)	335-14-806(2) (b)6.			
If results from a previously conducted trial burn are submitted, the following must be provided:					
Description of the sampling and analysis techniques used to demonstrate performance					
Methods and results of monitoring temperatures, waste feed rates, carbon monoxide, and combustion gas velocity (including a precision and accuracy statement regarding this measurement)					
 Quantitative analysis of waste feed POHCs 					
 Quantitative analysis of exhaust gas concentrations of trial POHCs, oxygen, and HC1 					
 Quantitative analysis of any scrubber water, ash residues, or other residues (for use in estimating fate of trial POHCs) 					
Computation of DRE					
Computation of HC1 removal efficiency (if HC1 emission rate					

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			Incinerator S	tandards - Module D-5
Subject Requirement	40 CFR Section Nos.	ADEM Regulation Nos.	Location in Application	Comments
exceeds 1.8 kg/h)				
• Computation of particulate emissions				
• Identification of fugitive emissions and their means of control				
• Average temperatures - both upper and lower and averaging time				
Minimum temperatures				
Maximum temperatures				
Combustion gas velocity				
• Continuous-monitoring results of CO and O ₂ exhaust gas concentrations				
• Other information specified in the trial burn plan				
Above results must be accompanied by a certification that the trial burn was carried out in accordance with the approved trial burn plan and signed by an authorized person (per 270.11).	270.62(b)(7)	335-14-806(2) (b)7.		
D-5b(4) Post-Trial Burn Operation	270.62(c),	335-14-806(2) (c)		
For the period of time following completion		335-14-515(4)		
of the trial burn and prior to final modification of the permit conditions (the	264.343	335-14-515(6)		
post-trial burn period), <u>new</u> incinerators must identify conditions to achieve the following performance:				
• DRE of 99.99% for designated POHCs				
• If HC2 emissions would be more than				
1.8 kg/h (4 lb./h), stack emissions must				
be controlled to the larger of either 1.8 kg/h, or 1% of HC1 in the exhaust prior				
to entering pollution control equipment				

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			Incir	nerator Standards - Module D-5
Subject Requirement	40 CFR Section Nos.	ADEM Regulation Nos.	Location in Application	Comments
Particulate emissions, corrected for oxygen concentration, no greater than 180 mg/dscm (0.08 grains/dscf)				
Maintain unit and APCD operating parameters which were established in the trial burn				
These operating conditions should include, at a minimum, restrictions one:				
Waste constituents				
Waste feed rates				
Stack exhaust CO concentrations				
Combustion temperature				
Combustion gas velocity				
Allowable variations in system design or operating procedures				
• Fugitive emissions must be controlled by:				
Totally sealing the combustion zone, or				
Maintaining negative pressure in the combustion zone, or				
An alternative method demonstrated to be effective in the application.				
APCD operating parameters				
Hazardous wastes not exempted per D-5a must not be fed to the incinerator unless it is operating within the acceptable limits.				
Automatic waste feed cutoff systems that will stop flow or wastes to the incinerator, when operating conditions deviate from established limits, must be operational				

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			Incinerator Sta	ndards - Module D-5
Subject Requirement	40 CFR Section Nos.	ADEM Regulation Nos.	Location in Application	Comments
during the post-trial burn period.				
D-5c Trial Burn Substitute Submissions	270.19(c)	335-14-802(10) (c)		
An applicant may submit information to be used in lieu of a trial burn to establish permit conditions (note data required under C-1e). Information submitted in lieu of a trial burn must include the following:				
D-5c(1) Engineering Description	270.19(c)(2)	335-14-802(10) (c)2.		
A detailed engineering description including:				
Manufacturer's name and model number				
Type of incinerator				
• Linear dimensions including cross sectional area of combustion chamber				
 Description of auxiliary fuel system (type/feed) 				
Capacity of prime mover				
• Description of automatic waste feed cutoff system(s)				
• Stack gas monitoring and pollution control monitoring system				
Nozzle and burner design				
• Construction materials				
 Location and description of temperature, pressure, and flow indicating devices and control devices 				
D-5c(2)Design and Operating Conditions	270.19(c)(4)	335-14-802(10) (c)4.		
Design and operating conditions of the				

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Subject Requirement	40 CFR Section Nos.	ADEM Regulation Nos.	Location in Application	Comments
incinerator unit to be used compared with that for which comparative burn data are available.				
D-5c(3)Description of Results	270.19(c)(5)	335-14-802(10) (c)5.		
Description of results submitted from previously conducted trial burn(s):				
 Sampling and analysis techniques used to calculate performance standards in 264.343 				
 Methods and results of monitoring temperatures, waste feed rates, carbon monoxide and an appropriate indicator of combustion gas velocity. 				
D-5c(4) Incinerator Operation Information	270.19(c)(6)	335-14-802(10) (c)6.		
Expected incinerator operation information including:				
Expected CO				
• Waste feed rate				
Combustion zone temperature				
• Expected stack gas volume, flow rate, and temperature				
Computed residence time				
Expected HC1 removal efficiency				
 Expected fugitive emissions and control procedures 				
 Proposed waste feed cut-off limits based on identified significant operating parameters 				
Indication of combustion gas velocity				

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			Incin	rator Standards - Module D-5
Subject Requirement	40 CFR Section Nos.	ADEM Regulation Nos.	Location in Application	Comments
D-5d Monitoring	264.347	335-14-515(8)		
The following must be monitored on a continuous basis while incinerating hazardous waste:				
Combustion temperature				
• Waste feed rate				
• An indicator of combustion gas velocity (to be specified in the permit)				
• CO and O ₂ at a point downstream of the combustion zone and prior to release to atmosphere				
D-5e Waste Feed Cutoff	264.345(e)	335-14-515(6) (e)		
An incinerator must be operated with a functioning system to automatically cut off waste feed when operating conditions deviate from established limits.				

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Facility Name	Clean Earth of Alabama, Inc.	EPA ID Number ALD981020894
Address	402 Webster Chapel Road	Permit Review Team
	Glencoe, AL 35905	
Contact Name	Bryan Jones	Date Application Received
Contact Phone	Number 256.492.8340	Date Review Completed

Landfill - Module D-6					
Subject Requirement	40 CFR Section Nos.	ADEM Regulation Nos.	Location in Application	Comments	
D-6 Landfill Design			N/A	There are no landfills at the	
D-6aWastes to be Landfilled	270.21(a)	335-14-802(12) (a)		facility.	
A list of all hazardous wastes to be placed in each landfill cell. Applicant should include:		(4)			
Quantity of each waste	Guidance				
• Chemical and physical analysis and a Waste Analysis Plan as described in Items C-1 and C-	Guidance				
2, respectively	Guidance				
• Ignitability, reactivity, and incompatibility	Guidance				
Incompactative	264.301(a)(1)	335-14-514(2)			
 Appendix VIII constituents compatibility of liner and waste/leachate 		(a)1.			
D-6bSurveying and Recordkeeping	264.309	335-14-514(10)			
Description of surveying and recordkeeping procedures including a map to be used to show:	264.73	335-14-505(4)			

Exact location and dimensions of each cellSurveyed benchmarks			
Contents of each cell			
Location of each waste type within the cell			
D-6c Liner System Exemption Requests			
D-6c(1) Exemption Based on Existing Portion	270.21(b)(1)	335-14-802(12) (b)1.	
Existing portions of landfills which have waste in place on November 8, 1984 and will have only vertical expansion are exempted from liner system requirements. New units, lateral expansion of existing units, and replacement (i.e., all waste removed from an area then replaced) units at existing facilities are not exempt. A plan showing the limits of the existing portion must be included in the application.	264.301(a) 264.301(c)	335-14-514(2) (a) 335-14-514(2) (c)	
D-6c(2) Exemption Based on Alternative Design and Location	270.21(b)(1)	335-14-802(12) (b)1.	
The applicant must demonstrate that alternate design and operating practices, together with location characteristics, will prevent groundwater and surface water contamination at least as effectively as a double liner with leachate collection/detection systems. Applicant should submit for consideration detailed information on:	264.301(d)	335-14-514(2) (d)	

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Nature and quantity of wastes			
Alternative design and operation			
Landfill location description			
 hydrogeologic setting 			
 attenuative capacity and thickness of materials between landfill and ground and surface waters 			
Other factors which would influence the quality and mobility of leachate produced			
D-6c(3) Exemption for Monofills	270.21(b)(1)	335-14-802(12) (b)1.	
If a landfill is a monofill which receives only wastes from foundry furnace emission controls or metal casting molding sand that are hazardous wastes only based upon extraction procedure toxicity, an exemption from the double liner system may be obtained, if either of the following is demonstrated in the permit application:	264.301(e)	(B)1. 335-14-514(2) (e)	
• The design and operating practices will, in conjunction with local aspects, prevent the migration of hazardous constituents into ground or surface waters at any future time, or			
• The site is located at least one-quarter mile from a source of drinking water, has at least one non-leaking liner, and meets the requirements of 40 CFR Part 264, Subpart F			

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D-6dSubpart F Exemption	270.21(c)	335-14-802(12) (c)	
If an exemption from the Subpart F groundwater monitoring requirements is sought, demonstrate the following:	264.90(b)(2)	335-14-506(1) (b)2.	
The unit for which the exemption is sought is an engineer structure			
No liquid estates or waste containing free liquids will be received by or contained in the landfill			
 Liquids, precipitation, and other run-on and run-off will be excluded from the landfill 			
A containment system with both inner and outer layers will enclose the waste			
A leak detection system is built into each containment layer			
The means of ensuring continuing operation and maintenance of the leak detection systems during the active life of the unit and the closure and post-closure care periods			
• The unit will not allow hazardous constituents to migrate beyond the outer layer of the containment system prior to the end of the post-closure care period (within a reasonable degree of certainty)			

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D-6eLiner System			
D-6e(1) General Items			
D-6e(1)(a)Liner System Description			
The application must provide a detailed description of the liner system, demonstrating (by description and drawings) that the liner system will prevent any migration of wastes out of the landfill to the adjacent subsurface soil or groundwater or surface water at any time during the active life of the landfill. For each liner within the system (minimum one synthetic liner and one soil liner), describe the type of liner (i.e., its material and its thickness).			
D-6e(1)(b)Liner System Location Relative to High Water Table	270.21(b)(1)	335-14-802(12) (b)1.	
Provide data showing seasonal fluctuations in the depth of the	264.301(a)(1) (i)	335-14-514(2) (a)1.(i)	
wastes table and the location of the seasonal high water table in relation to the base of the liner system (i.e., groundwater levels and liner foundation elevations should be shown on geological cross sections).	264.301(c)	335-14-514(2) (c)	
D-6e(1)(c)Loads on Liner System	270.21(b)(1)	335-14-802(12) (b)1.	
The maximum loads or stresses which will be place on the liner system must be determined and reported in the application.	264.301(a)(1) (i)	335-14-514(12) (a)1.(i)	
Include all calculations, data, and assumptions for the following conditions:	264.301(c)	335-14-514(2) (c)	

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Both static and dynamic loads			
Stresses due to installation or construction operations			
Stresses from operating equipment			
 Stresses due to the maximum quantity of waste, cover, and proposed post-closure land use, as applicable 			
 Stresses resulting from settlement, compression, subsidence, or uplift 			
 Internal and external pressure gradients 			
D-6e(1)(d)Liner System Coverage	270.21(b)(1)	335-14-802(12) (b)1.	
The liner system must be installed to cover all surrounding earth likely to be	264.301(a)(1) (i)	335-14-514(2) (a)1.(i)	
<pre>in contact with the waste or leachate. Submit information (i.e., construction, as built, or detailed drawings) which demonstrate this.</pre>	264.301(c)	335-14-514(2) (c)	

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D-6e(1)(e)Liner System Exposure Prevention	270.21(b)(1)	335-14-802(12) (b)1.		
Demonstrate in the application that the liner system will not be exposed to wind or sunlight, or if exposure to any part of the system is to be permitted, that such exposure will not result in unacceptable degradation of that portion of the system (i.e., drawings and/or liner specifications as appropriate). If the inner system will be exposed or located close enough to the surface to be affected by the changing temperatures, provide calculations defining the stresses on the liner system due to thermal expansion and contraction.	264.301(a)(1) (i)	335-14-514(2) (a)1.(i)		
D-6e(2) Foundation Upon Which Liner System Is Constructed	270.21(b)(1)	335-14-802(12) (b)1.		
D-6e(2)(a)Foundation Description	264.301(a)(1) (ii)	335-14-514(2) (a)1.(ii)		
A description of the foundation for the liner system must be included in the application. The description should include the following:	264.301(c)	335-14-514(2) (c)		
Type of foundation materials				
Bearing elevations shown on geological and construction drawings				
 Load bearing embankments placed to support the liner system, as applicable 				

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D-6e(2)(b)Subsurface Exploration Data	270.21(b)(1)	335-14-802(12) (b)1.	
The engineering characteristics of the inner system foundation materials, including subsurface soil, bedrock, and hydrogeologic conditions, should be verified through subsurface explorations. These efforts should be fully described by including location plans and cross sections for test borings, test pits, etc., and descriptions or references for the procedures used. Procedures may include the following:	264.301(a)(1) (ii) 264.301(c)	335-14-514(2) (a)1.(ii) 335-14-514(2) (c)	
Collection of historical data			
Test borings			
• Test pits			
Test trenches			
• In situ tests			
Geophysical methods			
D-6e(2)(c)Laboratory Testing Data Results from sufficient index testing should be provided to classify the site materials. Other lab test data should be provided to evaluate the engineering properties of the foundation materials, particularly for strength, hydraulic conductivity, compressibility, and other important design parameters. Provide copies of the test methods used to test the material or provide references, as appropriate and with any revisions, to standard test procedures.	270.21(b)(1) 264.301(a)(1) (ii) 264.301(c)	335-14-802(12) (b)1. 335-14-514(2) (a)1.(ii) 335-14-514(2) (c)	

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D 60/2)/d)Engineering Analysis	270 21/b\/1\	225 14 0 02/12\	
D-6e(2)(d)Engineering Analyses	270.21(b)(1)	335-14-802(12) (b)1.	
Engineering analyses should be provided which are based on the data gathered through subsurface exploration and laboratory	264.301(a)(1) (ii)	335-14-514(2) (a)1.(ii)	
testing programs. With the analyses include a discussion of the methods used, assumptions, copies of calculations, and appropriate references. Include the following, as applicable:	264.301(c)	335-14-514(2) (c)	
Settlement potential			
Bearing capacity			
Stability of the landfill (cut or constructed) slopes			
Potential for excess hydrostatic or gas pressure			
Seismic conditions			
Subsidence potential			
Sinkhole potential			
D-6e(3) Synthetic Liners			
D-6e(3)(a)General Description	270.21(b)(1)	335-14-802(12) (b)1.	
For each synthetic liner under consideration for use in the system, provide the following general information:	264.301(a)(1) 264.301(c)	335-14-514(2) (a)1. 335-14-514(2)	
• Thickness	204.301(C)	(C)	
• Type			
• Material			
Brand name			
Manufacturer			

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D-6e(3)(b)Strength	270.21(b)(1)	335-14-802(12)	
	2/0.21(D)(1)	(b)1.	
Provide data showing the synthetic liners and all seams will have sufficient strength after exposure	264.301(a)(1) (i)	335-14-514(2) (a)1.(i)	
to the waste and wastes leachate to support all loads/stresses to which they will be subjected.	264.301(c)	335-14-514(2) (c)	
D-6e(3)(c)Bedding	270.21(b)(1)	335-14-802(12) (b)1.	
Demonstrate that sufficient bedding will be provided above and below the synthetic liners to prevent	264.301(a)(1) (ii)	335-14-514(2) (a)1.(ii)	
rupture of the synthetic liner during installation and operation.	264.301(c)	335-14-514(2) (c)	
D-6e(4) Soil Liners	270.21(b)(1)	335-14-802(12) (b)1.	
A description of the soil liner must be presented in the application. Include the	264.301(a)	335-14-514(2) (a)	
following information: • Liner thickness	264.301(c)	335-14-514(2)	
• Liner Chickness			
 Whether the liner will be in place material or borrow material (Note: If in-place material is to be used, describe how it will be reworked.) 			
Material testing data which includes:			
- index tests			
- hydraulic conductivity			
- strength			
- consolidation			
- shrink-swell			

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 Demonstration that the soil liner will wholly contain leachate throughout the operating life and post-closure period of the unit Demonstration that the liner has sufficient strength to support all loads/stresses to which it will be related. 			
which it will be subjected			
D-6e(5) Leachate Collection/Detection Systems	270.21(b)(1)	335-14-802(12) (b)1.	
Descriptions of the leachate collection and detection systems	264.301(a)(2)	335-14-514(2) (a)2.	
must be provided. Information to be submitted includes:	264.301(c)	335-14-514(2)	
Description of how the leachate collection system is designed and operated to remove collected leachate in a timely manner			
Description of any protective layer placed over the leachate collection system			
Description of how the leachate detection system will function to detect any leakage in a timely manner			
Description of how liquid can be removed from the systems			
Estimate of the drainage capacity (speed and volume)			
Contour plan for the systems which includes the layout and spacing of the piping system			

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Design details of pumps, sumps, etc., used in the system		
 Description of handling procedures for any collected leachate (i.e., testing, disposal, etc.) 		
• Demonstration that the leachate detection system is appropriately graded to assure that leakage at any point in the liner system is detected in a timely manner		
Demonstration that the pipes and pipe perforations are sized sufficiently to handle the expected flow of leachate		
Demonstration that the leachate depth over the top of the primary liner will not exceed one foot		
• Demonstration that all components of the systems have sufficient strength to support all loads/stresses to which the systems will be subject, without jeopardizing the effectiveness of the system by reducing its conductivity		
 Demonstration that the systems are designed and operated to prevent clogging of the drainage layer material and the pipes throughout the active live of the landfill 		

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D-6e(6) Construction and Maintenance	270.21(b)(1)	335-14-802(12) (b)1.	
Both material and construction specifications must be provided	264.301(a)	335-14-514(2) (a)	
for all liner system components. Construction specifications should include the following:	264.301(c)	335-14-514(2) (c)	
Preparation of the liner system foundation			
Procedures for installing the soil liner which includes:			
- method of compaction			
 degree of compaction and percent moisture that must be achieved 			
- lift thickness			
 methods to be used to alter the water content of the soil 			
 scarification requirement between lifts 			
 method of amending the soil, if applicable 			
 Procedures for installation of the synthetic liners which include: 			
 inspection of the synthetic liner bed for material which could puncture the liner (and removal of that material) 			
 placement procedures 			

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 techniques to be utilized to bond the liner seams procedures for protection of the liner before and during placement of material on top of the liner any protective layer placed to protect the liner during operations 			
 Procedures for placement of all component of the leachate collection and detection systems including: any protective layer drainage layers piping sumps, pumps, etc. filter layers Details of the quality control program Methods of repairing any damage to the liner which may occur during construction 			
D-6fRun-on Control System	270.21(b)(2)	335-14-8-	
Detailed plans and an engineering report	,	.02(12) (b)2.	
describing:	264.301(f)	335-14-514(2)	
Run-on control system capable of preventing run-on to the active portion(s) of the landfill during peak discharge from a 25-year storm		(1)	
Sizing, design, and installation of system			
Maintenance procedures to ensure long-term structural integrity and timely repairs			

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D-6gRun-off Control System	270.21(b)(3)	335-14-802(12) (b)3.	
Detailed plans and an engineering report describing:	264.301(g)	335-14-514(2)	
Run-off control system designed to collect and control water volume from a 24-hour, 25-year storm		(3)	
Sizing, design, and installation of system			
Maintenance procedures to ensure long-term structural integrity and timely repairs			
D-6hUnits Associated with Run-on and Run-off Control Systems	270.21(b)(4)	335-14-802(12) (b)4.	
Detailed plans and an engineering report describing:	264.301(h)	335-14-514(2) (h)	
Collection and holding facilities (e.g., tanks, basins) associated with run-on and run-off control systems			
How the holding facilities will be managed and operated to maintain design capacity after storms			
D-6iParticulate Control	270.21(b)(5)	335-14-802(12)	
If landfill contains particulate matter, plans describing how wind dispersal of particulates from a landfill will be controlled.	264.301(i)	(b)5. 335-14-514(2) (i)	

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D-6jBulk or Non-containerized Free Liquids	270.21(h)	335-14-802(12) (h)	
The placement of bulk or non- containerized liquid hazardous waste or waste containing free liquids (whether or not adsorbents have been added) in any landfill is prohibited. To ensure this, the following information must be included in the application:	264.314	335-14-514(15)	
Description of methods used to prevent placement of bulk or non-containerized liquid hazardous waste or wastes containing free liquids in the landfill			
Description of how free liquids in containers to be landfilled will either be removed or stabilized before landfilling			
• Demonstration that is small containers are to be disposed of in the landfill that the container will be very small (such as ampules)			
 Description of non-storage containers to show that they are designed to hold free liquids for use other than storage (e.g., batteries, capacitors, etc.) 			

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 D-6k Disposal of Small Containers in Overpacked Drums (Lab Packs) Materials, design of inside container Compatibility of inside container with waste Tightly sealed DOT specifications for both inside container and overpack Absorbent material, type and quantity Compatibility of absorbent materials with waste Incompatible wastes not placed in same outside container Reactive wastes (other than cyanide-bearing and sulfide- bearing) treated or rendered non-reactive prior to packaging 	270.21(h) 264.314(d)(4) 264.316(b)	335-14-802(12) (h) 335-14-514(15) (d)4. 335-14-514(17) (b)	
D-61 Containerized Waste Containerized solid wastes must be at least 90 percent full or the container must be crushed, shredded, or similarly reduced in volume to the maximum practical extent before landfilling.	270.21(i) 264.315	335-14-802(12) (i) 335-14-514(16)	

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D_6m Chagial Wagto Management Plan	270.21(j)	335-14-802(12)	
D-6m Special Waste Management Plan for Landfills Containing Wastes	2/U.ZI(J)	(j)	
F020, F021, F022, F023, F026, and F027	264.317	335-14-514(18)	
Applications for landfills containing hazardous wastes F020, F021, F022, F023, F026, and F027 must contain a plan which describes how the landfills are or will be designed, constructed, operated, and maintained in order to protect human health and the environment. The plan should include the following: The volume and physical and chemical characteristics of the wastes including their potential to migrate through the soil or volatize or escape into the atmosphere			
 Description of the attenuative properties of underlying and surrounding soils or other materials Description of the mobilizing properties of other materials co-disposed with these wastes Documentation on the effectiveness of additional 			
treatment, design, operating or monitoring techniques			

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Facility Name Address

Clean Earth of Alabama, Inc.

402 Webster Chapel Road

Glencoe, AL 35905

Contact Name
Contact Phone

Bryan Jones
Contact Phone
Number

256.492.8340

EPA ID Number ALD981020894

Permit Review Team

Date Application Received

Date Review Completed

	<u> </u>	T	1	d Treatment - Module D-7
Subject Requirement	40 CFR Section Nos.	ADEM Regulation Nos.	Location in Application	Comments
D-7 Land Treatment			N/A	There are no land treatment units at the facility.
D-7a Treatment Demonstration	270.20(a)	335-14-802(11) (a)		umo at the facility.
A description of plans to conduct a treatment demonstration. The description must include the following information:	264.272	335-14-513(3)		
The wastes and the potential hazardous constituents in the waste	270.20(a)(1)	335-14-802(11) (a)1.		
	264.272(a)	335-14-513(3) (a)		
The data sources (e.g., literature, laboratory data,	270.20(a)(2)	335-14-802(11) (a)2.		
field data, or operating data)	264.272(b)	335-14-513(3) (b)		
Any specific laboratory or field test that will be	270.20(a)(3)	335-14-802(11) (a)3.		
conducted, including:	264.272(c)			
 type of test (e.g., column leaching degradation) 		(c)		
 materials and methods, including analytical procedures 				
- expected time for completion				

- characteristics of the unit that will be simulated in the demonstration, including treatment zone characteristics, climatic conditions, and operating practices - characteristics of the waste to be tested - operating and monitoring measurements taken during the course of the test - duration of the test volume of waste used in the test - in the case of field tests, the potential for migration of hazardous constituents to groundwater or surface water - A description of how the field test or laboratory analysis conducted will accurately simulate the characteristics and operating conditions for the proposed land treatment unit including: - characteristics of the waste (including the presence of Appendix VIII of Part 261 of this chapter constituents - climate in the area	264.272(c)(1)	335-14-513(3) (c)1.	
 characteristics of the waste (including the presence of Appendix VIII of Part 261 of 			
climate in the areatopography of the surrounding area			
 characteristics of the soil in the treatment zone (including depth), and 			
 operating practices to be used a the unit 			

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D-7b Treatment Program	270.20(b)	335-14-802(11) (b)	
A description of a land treatment program must be provided. The land treatment program must address the following items:	264.271(a)	335-14-513(2) (a)	
The wastes to be land treated	270.20(b)(1)	335-14-802(11) (b)1.	
How records will be kept on	264.279	335-14-513(10)	
hazardous waste application dates and rates	264.73	335-14-505(4)	
	264.274(a)(2)	335-14-513(5) (a)2.	
Design measures and operating practices including:			
 waste application method and rate 			
- measures to control soil pH			
 enhancement of microbial or chemical reactions 			
 control of moisture content 			
A list of hazardous constituents reasonably	270.20(b)(4)	335-14-802(11) (b)4.	
expected to be in or derived from, the wastes to be land- treated based on waste analysis	264.13	335-14-502(4)	
The proposed dimensions of the treatment zone	270.20(b)(5)	335-14-802(11) (b)5.	
	264.271(c)	335-14-513(2) (c)	
D-7c Unsaturated Zone Monitoring Plan	270.20(b)(3)	335-14-802(11) (b)3.	
	264.278	335-14-513(9)	

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D-7c(1)Soil-Pore Liquid Monitoring	270.20(b)(3)	335-14-802(11)	
A description of the program for sampling and analysis of soil-pore liquid to detect the migration of dissolved constituents below the treatment zone. The description must include the following items:	264.278	(b)3. 335-14-513(9)	
Identification of the sampling locations, if known, and the rationale used to select these locations	270.20(b)(3) (ii) 264.278(b) & (d)	335-14-802(11) (b)3.(ii) 335-14-513(9) (b) & (d)	
The sampling frequency and a demonstration that this frequency is adequate considering the potential for migration of hazardous constituents out of the treatment zone	270.20(b)(3) (i) 264.278(d)	335-14-802(11) (b)3.(i) 335-14-513(9) (d)	
Identification of the sampling equipment used to collect soilpore liquid samples	270.20(b)(3) (i) 264.278(e)	335-14-802(11) (b)3.(i) 335-14-513(9) (e)	
A description of the procedures used to install the soil-pore liquid sampling devices	270.20(b)(3) (i) 264.278(e)	335-14-802(11) (b)3.(i) 335-14-513(9) (e)	
A description of the procedures for sampling soil-pore liquids including methods for sample preparation, preservation, and transport	270.20(b)(3) (i) 264.278(e)(1) &(2)	335-14-802(11) (b)3.(i) 335-14-513(9) (e)1. & 2.	
Identification of the analytical methods used to determine the concentrations of hazardous constituents in the soil-pore liquid	270.20(b)(3) (iii)	335-14-802(11) (b)3.(iii)	

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 A description of the methods to be used to assure sample integrity throughout sampling, transportation, analysis, and reporting 	270.20(b)(3) (iv) 264.278(e)(4)	335-14-802(11) (b)3.(iv) 335-14-513(9) (e)4.	
 A description of the sampling and analytical program used to establish background soil-pore liquid concentrations of hazardous constituents, including: sample locations and depths verification that the location is representative of active site conditions frequency of sampling an indication that background values will be expressed in a form that will permit their comparison with active site values 	270.20(b)(3) (v) 264.278(c)	335-14-802(11) (b)3.(v) 335-14-513(9) (c)	
A description of the statistical method that will be used to determine that significant differences exist between background and treatment zone concentrations of hazardous constituents in soil-pore liquids A justification of any	270.20(b)(3) (vi) 264.278(f)	335-14-802(11) (b)3.(vi) 335-14-513(9) (f)	
A justification of any principal hazardous constituents proposed for use in the soil-pore liquid monitoring program			

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D-7c(2)Soil Core Monitoring	270.20(b)(3)	335-14-802(11)	
	2/U.2U(D)(3)	(b)3.	
A description of the program for sampling and analysis of soil cores to detect the migration of hazardous constituents below the treatment zone. This description must include the following items:	264.278	335-14-513(9)	
Identification of the sampling locations, if known, and the	270.20(b)(3) (ii)	335-14-802(11) (b)3.(ii)	
rational used to select these locations	264.278(b) & (d)	335-14-513(9) (b) & (d)	
The sampling frequency and demonstration that this	270.20(b)(3) (i)	335-14-802(11) (b)3.(i)	
frequency is adequate considering the potential for migration of hazardous constituents out of the treatment zone	264.278(d)	335-14-513(9) (d)	
Identification of the sampling equipment and to collect soil core samples	270.20(b)(3) (i)	335-14-802(11) (b)3.(i)	
A description of the procedures for sampling soil cores	270.20(b)(3) (i)	335-14-802(11) (b)3.(i)	
<pre>including methods for sample preparation, preservation and shipment</pre>	264.278(e)(1)& (2)	335-14-513(9) (e)1. & 2.	
Identification of the analytical methods used to	270.20(b)(3) (iii)	335-14-802(11) (b)3.(iii)	
determine the concentrations of hazardous constituents in the soil cores	264.278(e)(3)	335-14-513(9) (e)3.	
A description of the methods to be used to assure sample	270.20(b)(3) (iv)	335-14-802(11) (b)3.(iv)	
<pre>integrity throughout sampling, transportation, analysis, and reporting</pre>	264.278(e)(4)	335-14-513(9) (e)4.	

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 A description of the sampling and analytical program used to establish background soil-core concentrations of hazardous constituents, including: 	270.20(b)(3) (v) 264.278(c)	335-14-802(11) (b)3.(v) 335-14-513(9)(c)		
 sample locations and depths 				
 verification that the location is representative of active site conditions 				
 frequency of sampling 				
 an indication that background values will be expressed in a form that will permit their comparison with active site values 				
A description of the statistical methods that will be used to determine if significant differences exist between background and treatment zone concentrations of hazardous constituents in soil cores	270.20(b)(3) (vi) 264.278(f)	335-14-802(11) (b)3.(vi) 335-14-513(9)(f)		
A justification of any principal hazardous constituents proposed	270.20(b)(3) (vii)	335-14-802(11) (b)3.(vii)		
for use in the soil core monitoring program	264.278(a)(2)	335-14-513(9) (a)2.		
D-7d Treatment Zone Description	270.20(b)(5)	335-14-802(11) (b)5.		
An identification of the dimensions of the treatment zone and the soil(s) within the treatment zone, including:	264.271(c)	335-14-513(2)(c)		
Identification of the horizontal and vertical dimensions of the	270.20(b)(5)	335-14-802(11) (b)5.		
treatment zone	264.271(c)	335-14-513(2)(c)		

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 A map or plot plan delineating the horizontal boundaries of the treatment zone and all soil series occurring within the treatment zone 	270.20(b)(2) 264.271(c)(1) (iv)	335-14-802(11) (c)2. 335-14-513(2) (c)1.(iv)	
• A description of each soil series identified within the treatment zone including: - profile description with horizontation - depth - color - USDA texture - structure - thickness - slope - mineralogy - use and vegetation - Atterberg limits - water capacity - shrink-swell potential - erosion factors	270.20(b)(2) 264.271(c)(1) (iv)	335-14-802(11) (b)2. 335-14-513(2) (c)1.(iv)	
- salinity			
The results of soil analyses for each treatment zone soil series	270.20(b)(2) 264.271(c)(1) (iv)	335-14-802(11) (b)2. 335-14-513(2) (c)1.(iv)	
The depth of the seasonal high water table and the source of that data	264.271(c)(2)	335-14-513(2) (c)2.	

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D-7e Treatment Design and	270.20(c)	335-14-802(11)	
Operation		(c)	
A description of how the unit is or will be designed, constructed, operated, and maintained. This submission must address the following items:	264.273	335-14-513(4)	
Run-on controls system capable of preventing flow onto the	270.20(c)(1)	335-14-802(11) (c)1.	
treatment zone during the discharge from at least a 25-year storm	264.273(c)	335-14-513(4) (c)	
How run-off of hazardous constituents from the treatment	270.20(c)(2)	335-14-802(11) (c)2.	
zone during the active life of the land treatment unit will be minimized	264.273(b)	335-14-513(4) (b)	
Run-off management system to collect and control at least	270.20(c)(2)	335-14-802(11) (c)2.	
the water volume resulting from a 24-hour, 25-year storm	264.273(d)	335-14-513(4) (d)	
Management of collection and holding facilities associated	270.20(c)(4)	335-14-802(11) (c)4.	
with run-on and run-off control systems	264.273(e)	335-14-513(4) (e)	
How collection and holding facilities will be emptied or otherwise managed expeditiously after storms to maintain the design capacity of the system	264.273(e)	335-14-513(4) (e)	
Control of wind dispersal of particulate matter, if	270.20(c)(6)	335-14-802(11) (c)6.	
applicable	264.273(f)	335-14-513(4) (f)	

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D-7f Food Chain Crops	270.20(d)	335-14-802(11)	
If food chain crops are to be grown in	2,0.20(α)	(d)	
or on the treatment zone of the land treatment unit, a demonstration that there will be no substantial risk to human health or the environment caused by the growth of these crops must be submitted, including:	264.276	335-14-513(7)	
For all hazardous constituents except cadmium, a demonstration	270.20(d)	335-14-802(11) (d)	
that hazardous constituents: will not be transferred to the food or feed portions of the crop nor ingested by food chain animals; or, will not occur in food or feed chain crops in concentrations above background levels	264.276(a)(1)	335-14-513(7) (a)1.	
Documentation that the demonstration results will be	270.20(d)(1)& (2)	335-14-802(11) (d)1. & 2.	
representative of the unit to be permitted, considering:	264.276(a)(3) (i)	335-14-513(7) (a)3.(i)	
- soil characteristics			
 wastes characteristics 			
 application rates and methods 			
- crop characteristics			
- climate effects			
A description of the procedures used in any tests referenced or	270.20(d)(3)	335-14-802(11) (d)3.	
conducted, including:	264.276(a)(3)	335-14-513(7)	
 sample selection criteria 	(ii)	(a)3.(ii)	
- sample size			
- analytical methods			
- statistical procedures			

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 If cadmium is present in the waste, the following information must be included: If crops are to be grown for human consumption, provide soil pH, soil pH controls, cadmium loading rate, and soil action exchange capacity If only animal feed is to be grown, provide the soil pH and soil pH controls, and a copy of an operating plan demonstrating how animal feed will be distributed to preclude ingestion by humans, including paratural of 	270.20(e) 264.276(b)(1) 270.20(e) 264.276(b)(1) 270.20(e)	335-14-802(11) (e) 335-14-513(7) (b)1. 335-14-802(11) (e) 335-14-513(7) (b)1. 335-14-802(11) (e)	
including control of alternate land use			
D-7g Special Waste Management Plan for Land Treatment Units Containing Wastes F020, F021, F022, F023, F026 and F027 A description of how land treatment units containing wastes F020, F021, F022, F023, F026, and F027 are or will be designed, constructed, operated, and maintained in order to protect human health and the environment, including:	270.20(i) 264.283	335-14-802(11) (i) 335-14-513(14)	
Identification of the volume physical and chemical characteristics or the wastes including their potential to migrate through the soil or volatilize into the atmosphere			
A description of the alternative properties of underlying and surrounding soils or other materials.			

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A description of the mobilizing properties of other materials co-disposed with these wastes		
Documentation of the effectiveness of additional treatment, design, operating, or monitoring techniques in reducing the migratory potential of these wastes to groundwater, surface water, or air		

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Facility Name	Clean Earth of Alabama, Inc.	EPA ID Number ALD981020894
Address	402 Webster Chapel Road	Permit Review Team
	Glencoe, AL 35905	
Contact Name	Bryan Jones	Date Application Received
Contact Phone	Number 256.492.8340	Date Review Completed

Miscellaneous Units - Module D-8				
Subject Requirement	40 CFR Section	ADEM Regulation	Location in Application	Comments
D-8 Miscellaneous Units	264.601	335-14-524(2)	N/A	There are no miscellaneous units
Identify all miscellaneous units which treat, store, or dispose of hazardous waste at the facility, but do not fit the current definition of container, tank, surface impoundment, waste pile, land treatment unit, landfill, incinerator, boiler, industrial furnace or underground injection well. May include (but are not limited to): • Geologic repositories other than injection wells (such as underground salt formations, mines or caves, either for the purpose of disposal or long-term retrievable storage) • Deactivated missile silos, other than injection wells or tanks; • Thermal treatment units other than incinerators, boilers, or industrial furnaces (e.g., combustion and noncombustion units, such as molten salt pyrolysis, calcination, wet-air oxidation, and microwave destruction	270.23 [12/10/87]	335-14-802(14)		at CEA

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Units for open burning or open detonating (OB/OD) explosive wastes			
Certain chemical/physical/ biological treatment units			
 Mobile units using technologies listed above. However, mobile units using technologies that are covered under other subparts of Part 264, such as incineration or treatment in containers, are excluded from this section 			
Examples of units not defined as miscellaneous units include:			
 Treatment, storage, disposal in units currently regulated under Part 264 			
Open burning of nonexplosive hazardous wastes			
Units excluded from permitting under Parts 264 and 270 (such as POTW and ocean disposal activities)			
Placement of hazardous waste underground that is regulated under Part 146 (UIC program)			
• RD&D units covered under 270.65			
D-8aDescription of Miscellaneous Units	270.23(a)1),	335-14-802(14) (a)1.	
Provide a detailed description of each unit including:	270.23(a)(2)	335-14-802(14) (a)2.	
Physical characteristics	[12/10/87]		

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 Materials of construction Dimensions of the unit Detailed plans and engineering reports describing how the unit will be located, designed, constructed, aerated, maintained, monitored and inspected 			
 D-8b Miscellaneous Unit Wastes Information on the volume and concentration, and the physical and chemical characteristics of the waste 	264.601(a)(1) 264.601(b)(1)	335-14-524(2) (a)1. 335-14-524(2)	
	264.601(c)(1)	(b)1. 335-14-524(2) (c)1.	
• Evaluate the ability of the wastes to be contained, immobilized, degraded or attenuated or to migrate in various soils and materials; and the probability of reactions taking place among wastes or between wastes and liners or other containment structures	[12/10/87]		
Evaluate the potential of the waste to react or evaporate to form gaseous aerosol, or particulate products that enter the atmosphere			
D-8c Treatment Effectiveness	270.23(d)	335-14-802(14)	
For each treatment unit, a report must be submitted demonstrating the effectiveness of the treatment based on laboratory or field data	[12/10/87]	(4)	

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D-8d Environmental Performance Standards for Miscellaneous	264.601,	335-14-524(2)		
Units	270.23(b)&(c)	335-14-802(14) (b) & (c)		
Environmental performance standards must be maintained to protect human health and the environment. These performance standards will be based on the following for each media of concern:	[12/10/87]			
Detailed assessment of the potential pathways of exposure of humans or environmental receptors to hazardous waste or hazardous constituents and on the potential magnitude and nature of such exposures				
 Evaluation of how the migration of waste constituents in the air, surface water, groundwater and soils is prevented 				
• Information on the type of waste managed, type of technologies, types and quantities of emissions or releases, extent of migration or dispersion of the waste in various media				
D-8d(1)Protection of Groundwater and Subsurface Environment	270.23(b),(c)	335-14-802(14) (b) & (c)		
	264.601(a)	335-14-524(2) (a)		
	[12/10/87]			

		T	T	
D-8d(1)(a) Risk Assessment	264.601(a)	335-14-524(2) (a)		
Environmental performance standards must prevent releases which adversely affect human health or the environment, and be based on a detailed assessment of risks. This assessment must consider:	270.23(b),(c) [12/10/87]	335-14-802(14) (b) & (c)		
 Waste characteristics and potential for migration through soils, liners or other containing structures Hydrologic and geologic characteristics of the unit and 				
surrounding area				
Existing groundwater quality				
Other sources of contamination and their cumulative impact on the groundwater				
Quantity and direction of groundwater flow				
Proximity to and withdrawal rates of current and potential groundwater users				
Regional land use patterns				
 Potential for deposition or migration of waste constituents subsurface physical structures and root zone of vegetation 				
Potential for health risks for human exposure				
 Potential for damage from exposure of domestic animals, wildlife, crops, vegetation, and physical structures to waste constituents 				

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D-8d(1)(b) Performance Standard	264.601	335-14-524(2)	
Based on the risk assessment, performance standards must be developed and maintained including:	[12/10/87]		
Design and operating requirements			
Detection and monitoring requirements			
Requirements for responses to releases of hazardous waste or hazardous constituents form the unit			
May include appropriate standards from Part 264 Subpart I through O, Part 270, and Part 146.			
D-8d(2)Protection of the Atmosphere			
D-8d(2)(a) Risk Assessment	264.601(a),	335-14-524(2)	
Environmental performance standards must prevent releases which adversely affect human health or the environment, and be based on detailed assessment of risk. This assessment must include:	270.23(b),(c) [12/10/87]	(a) 335-14-802(14) (b) & (c)	
Waste characteristics			
Effectiveness and reliability of containing, confining, and collecting systems and structures			
Hydrologic characteristics of the unit and surrounding area			
Topography			

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Patterns of regional precipitation			
Quantity, quality, and direction of groundwater flow			
Proximity of the unit to surface water			
Current and potential uses of nearby surface waters and established water quality standards			
 Existing quality of surface waters and surface soils, including other contamination sources and their cumulative impact 			
Land use patterns			
Potential health risk caused by human exposure			
Potential for damage to domestic animals, wildlife, crops, vegetation, and physical structures from exposure to waste constituents			
D-8d(2)(b) Performance Standard	264.601	335-14-524(2)	
 Based on the risk assessment, performance standards must be developed and maintained including: 	[12/10/87]		
Design and operating requirements			
Detection and monitoring requirements			

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Requirements for responses to releases of hazardous waste or hazardous constituents from the unit				
 May include appropriate standards from Part 264 Subpart I through O, Part 270, and Part 146. 				
D-8d(3)(a) Risk Assessment	264.601(c)	335-14-524(2)		
Environmental performance standards must prevent releases which adversely affect human health or the environment and be based on a detailed assessment of risk. This assessment must consider:	270.23(b)&(c) [12/110/87]	335-14-802(14) (b) & (c)		
 Waste characteristics, including potential for emission and dispersal of gases, aerosols and particulates 				
Effectiveness and reliability of systems and structures to reduce or prevent emissions				
Operating Characteristics of the unit				
Atmospheric, meteorologic, and topographic characteristics of the unit and surrounding area				
 Existing air quality, including other sources of contamination and their cumulative impact 				
Potential for health risk to humans				

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Potential for damage to domestic animals, wildlife, crops, vegetation, and physical structures caused by exposure to waste constituents			
D-8d(3)(b) Performance Standard	264.601	335-14-524(2)	
Based on the risk assessment, performance standards must be developed and maintained including:	[12/10/87]		
Design and operating requirements			
Detection and monitoring requirements			
 Requirements for responses to releases of hazardous waste or hazardous constituents from the units 			
May include appropriate standards from Part 264 Subpart I through O, Part 270, and Part 146.			
D-8e Additional Information Requirement	270.23(e)	335-14-802(14) (e)	
Any additional information requested by EPA necessary for evaluation of compliance of the unit with the environmental performance standard will be submitted.	[12/10/87]		

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Facility Name	Clean Earth of Alabama, Inc.	EPA ID Number ALD981020894
Address	402 Webster Chapel Road	Permit Review Team
	Glencoe, AL 35905	
Contact Name		Date Application Received
Contact Phone	Number <u>256.492.8340</u>	Date Review Completed

				Boiler and Industrial Furnaces Standards - Module D-9
Subject Requirement	40 CFR Section Nos.	ADEM Regulation Nos.	Location in Application	Comments
D-9 Boilers and Industrial Furnaces (BIFs)			N/A	There are no BIF units at the facility.
[Note: A summary of emissions standards is included at the end of this checklist Module D-9.]				
D-9a Waivers/Exemptions				
If applying for a waiver or exemption, provide information demonstrating compliance with the requirements outlined below:				
 D-9a(1) Waiver of DRE Trial Burn for Boilers A boiler that is not burning hazardous waste containing F020, F021, F022, F023, F026, and F027 and submits documentation that it operates under the following conditions is considered in compliance with the 266.104(a) DRE Standard and a DRE trial burn is waived: A minimum of 50% fuel fired to the boiler is 	266.110 270.22(a)(2) (i) 266.104(a)(4)	335-14-708(11) 335-14-802(13) (a)2.(i) 335-14-708(5) (a)4.		
fossil fuel, fuels derived from fossil fuels, tall oil, or other non-hazardous fuel with fossil fuel characteristics with Director's approval, with the firing rate determined on a total heat or mass input basis, whichever results in the greater mass feed rate of primary fuel fired.				
• Boiler load is not less than 40%.				
• Primary and hazardous waste fuels have a minimum as-fired heating value of 8,000 Btu/lb.				
• The device operates in conformance with the CO standard of 266.104(b)(1).				

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	1		Boiler and Industrial Furnaces Standards - Module D-9		
Subject Requirement	40 CFR Section Nos.	ADEM Regulation Nos.	Location in Application	Comments	
• The boiler is a nonstoker watertube boiler.					
• The hazardous waste is fired directly into the primary fuel flame zone under the conditions specified in 266.110(f).					
D-9a(2) Low Risk Waste Exemption	266.104(a)(5)	335-14-708(5) (a)5.			
The DRE Standard for a BIF may be waived provided the following information is documented and submitted:	266.109(a)	335-14-708(10) (a) 335-14-802(13) (a)2.(ii)			
• A minimum of 50% of the fuel fired to the device is fossil fuel, fuels derived form fossil fuels, tall oil, or other non-hazardous fuel with fossil fuel characteristics with Director's approval, with the firing rate determined on total heat or mass input basis, whichever results in the greater mass feed rate of primary fuel fired.	270.22(a)(2) (ii)	(-7-1(-7)			
• Primary and hazardous waste fuels have a minimum 8,000 Btu/lb. as-fired heating value.					
The hazardous waste is fired directly into the fuel flame zone.					
• The device operates in accordance with carbon monoxide controls provided by 266.104(b)(1).					
• Hazardous waste burning will not pose unacceptable, adverse public health effects, as demonstrated in accordance with 266.109(a)(2).					
 Results of analyses of each waste to be burned, including concentrations of Appendix VIII nonmetal constituents, except for those that would not reasonably be expected to be in the waste, explaining the basis for excluding any such nonmetals. 					
 Hazardous waste firing rate of each constituent identified above. 					
 Calculations of reasonable worst-case 					

	T		1	Boiler and Industrial Furnaces Standards - Module D-9
Subject Requirement	40 CFR Section Nos.	ADEM Regulation Nos.	Location in Application	Comments
emission rates of each constituent identified above, based on 99.9% DRE.				
 Results of emissions dispersion modeling for each Appendix VIII constituent identified above for all stacks (if multiple stacks). 				
 Documentation that the maximum annual average ground level concentration of each constituent identified above does not exceed the allowable level established in Appendices IV or V of Part 266 (carcinogens must be summed). 				
D-9a(3) Waiver of Particulate Matter Standard	266.109(b)	335-14-708(10) (b)		
The particulate matter standard of 266.105 and trial burn for PM may be waived if:	270.22(a)(4)	335-14-802(13) (a)4.		
The BIF complies with Tier I or Adjusted Tier I metals feed rate screening limits under 266.106(b) or (e) and submits documentation showing conformance with the trial burn waiver under checklist Section D-9a(4) below.				
The BIF meets the requirements of the low risk waste exemption under checklist Section D-9a(2) above.				
D-9a(4) Waiver of Trial Burn for Metals A trial burn is not required to demonstrate conformance with the metals standards if the BIF is operated under Tier I or adjusted Tier I metals feed rate screening limits and the following documentation is submitted:	266.106(b) and (e) 270.22(a)(3)	335-14-708(7) (b) & (e) 335-14-802(13) (a)3.		
Feed rate of hazardous waste, other fuels, and industrial furnace feed stocks.				
Concentrations of each of the 10 toxic metals in the hazardous waste, other fuels, and industrial furnace feed stocks.				

		Boiler and Industrial Furnaces Standards - Module D-9		
Subject Requirement	40 CFR Section Nos.	ADEM Regulation Nos.	Location in Application	Comments
Calculation of the total feed rate of each metal.				
Documentation of how the applicant will ensure the Tier I or Adjusted Tier I feed rate screening limits will not be exceeded during the averaging period under 266.106(b) or (e). (See also checklist Section C-2e.)				
 Determination of the following: Terrain-adjusted effective stack height. Good engineering practice stack height. Terrain type. Land use. 	266.106(b)(3)-(5)	335-14-708(7) (b)3 5.		
Documentation that the facility does not fail the criteria provided by §266.106(b)(7) for eligibility to comply with the screening limits.				
Proposed sampling and metals analysis plan for the hazardous waste, other fuels, and industrial furnace feed stocks.				
D-9a(5) Waiver of Trial Burn for HCl/Cl ₂ A BIF is not required to conduct a trial burn to demonstrate conformance with the HCl/Cl ₂ standards if the BIF is operated under Tier I or adjusted Tier I feed rate screening limits for HCl/Cl ₂ and the following documentation is submitted:	266.107(b)(1) and (e) 270.22(a)(5)	335-14-708(8) (b) 335-14-802(13) (a)5.		
Feed rate of hazardous waste, other fuels, and industrial furnace feed stocks.				
Levels of total chloride/chlorine in the feeds and the calculation of total feed rate of total chloride/chlorine.				
Documentation of how the applicant will ensure the Tier I or Adjusted Tier I feed rate screening limits will not be exceeded during the averaging				

Boiler and Industrial Furnaces Standards - Module I				Boiler and Industrial Furnaces Standards - Module D-9
Subject Requirement	40 CFR Section Nos.	ADEM Regulation Nos.	Location in Application	Comments
period under 266.107(b)(1) or (e).(See also checklist Section C-2e).				
Determination of the following:	266.107(b)(3)	335-14-708(8) (b)5.		
 Terrain-adjusted effective stack height. 				
 Good engineering practice stack height. 				
Terrain type.				
 Land use. 				
• Compliance with 266.107(b)(4) for facilities with multiple stacks.				
Determination that the facility does not fail eligibility criteria under 266.107(b)(3) to comply with screening limits.				
Proposed sampling and analysis plan for total chloride and chlorine for the hazardous waste, other fuels, and industrial furnace feed stocks.				
D-9b Pretrial Burn Requirements for New BIFs	270.66(b)(1)	335-14-806(5) (b)1.		
Time required to bring the new boiler or industrial furnace to a point of operational readiness for the trial burn must be the minimum necessary and cannot exceed 720 hours, or up to 1,440 hours if the applicant shows good cause for requiring an extension. The permit application must include:				
A proposed start-up schedule for the BIF.				
A description of the system that will be used to monitor operating hours during the pretrial burn period.				
A statement must be submitted that stipulates the conditions necessary to operate in compliance with 266.104 through 266.107 standards and, at a minimum, include applicable operating restrictions in 266.102(e). [Note: if the applicant is seeking a waiver from a trial.]	270.66(b)(1) (i) 266.102(d)(4) (i) 266.102(e)	335-14-806(5) (b)1.(i) 335-14-708(3) (d)4.(i) 335-14-708(3) (e)		

		T	Boiler and Industrial Furnaces Standards - Module D-9		
Subject Requirement	40 CFR Section Nos.	ADEM Regulation Nos.	Location in Application	Comments	
burn to demonstrate conformance with a particular emission standard, the operating requirements during this initial period of operating shall include those specified by the applicable provision of 266.104 through 266.107. See checklist Section D-9a.]					
D-9b(1) Pretrial Burn Requirements for New BIFs - Organic Emissions Standards					
For conformance with <u>organic emissions standards</u> in 266.104, the statement must specify the following restrictions:	266.102(e)(2)	335-14-708(3) (e)2.			
Composition of hazardous waste, including acceptable physical/chemical variations.					
Feed rate of hazardous waste and other fuels measured per 266.102(e)(6).					
Minimum device production rate when producing normal product measured per 266.102(e)(6).					
Maximum device production rate when producing normal product measured per 266.102(e)(6).					
Appropriate controls of the hazardous waste firing system.					
Allowable variation in boiler or industrial furnace system design or operating procedures. (Permit writer to specify in permit).					
Minimum combustion gas temperature measured at a location indicative of combustion chamber temperature per 266.102(e)(6).					
Appropriate indicator of combustion gas velocity measured per 266.102(e)(6).					
Such other operating requirements as are necessary to ensure that the DRE performance					

				Boiler and Industrial Furnaces Standards - Module D-9
Subject Requirement	40 CFR Section Nos.	ADEM Regulation Nos.	Location in Application	Comments
standard of 266.104(a) is met.				
Appropriate CO/HC limit(s) as follows:				
- CO < 100 ppm when complying with 266.104(b)(1).				
 CO limit based on test burn and HC < 20 ppm when complying with 266.104(c). 	266.104(d)	335-14-708(5) (d)		
 CO and HC limits from baseline test for furnaces with organic matter in raw material when complying with 266.104(f). 				
 For furnaces feeding other than ingredient at locations other than the hot end, the 20 ppm HC limit or baseline HC limit as described above applies irrespective of whether CO is < 100 ppm. 				
Hazardous waste will not be fed to the device during startup/shutdown unless it is fed as an ingredient under Tier I/Adjusted Tier I standards or as a low-risk waste.				
• For boilers and industrial furnaces equipped with dry PM control devices that operate within the 450-750°F temperature range and industrial furnaces operating under the alternative HC limit, the statement must include an evaluation of the site specific risks from emissions of dioxins and furans and demonstrate that the increased cancer risk to the MEI would not exceed 1 in 100,000.	266.104(e) 270.66(b)(1) (i)	335-14-708(5) (e) 335-14-806(5) (b)1.(i)		
D-9b(2) Pretrial Burn Requirements for New BIFs - PM Emissions Standards For conformance with the PM emissions standard in 266.105, the statement must specify the following restrictions:	266.105 270.66(b)(1) (i)	335-14-708(6) 335-14-806(5) (b)1.(i)		
Total ash feed rate from hazardous waste, other fuels, and industrial furnace feed stocks [except]				

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				Boiler and Industrial Furnaces Standards - Module D-9
Subject Requirement	40 CFR Section Nos.	ADEM Regulation Nos.	Location in Application	Comments
for cement kilns and lightweight aggregate kilns] measured per 266.102(e)(6).				
Maximum device production rate when producing normal product measured per 266.102(e)(6).				
Appropriate controls on hazardous waste firing system and air pollution control system.				
Allowable variation in boiler or industrial furnace system design or operating procedures. (Permit writer to specify in permit.)				
• Such other operating requirements as are necessary to ensure that the particulate standard in 266.105 is met.				
D-9b(3) Pretrial Burn Requirements for New BIFs - Metals Emissions Standards For conformance with the metals emissions standards in 266.106, the statement must specify the applicable restrictions listed below. The facility must also demonstrate that planned feed rate or emission limits are within maximum allowable emission/feed rates. This demonstration must include a complete description of the determination of the maximum allowable emission/feed rate for each metal.	266.106 270.66(b)(1) (i)	335-14-708(7) 335-14-806(5) (b)1.(i)		
Tier I or Adjusted Tier I: Total feed rate of each metal in hazardous waste, other fuels, and industrial furnace feed stocks measured per 266.102(e)(6).	266.102(e)(4) (i) 266.106(b) or (e)			
Total feed rate of hazardous waste measured per 266.102(e)(6).				
Metals sampling and analysis program for hazardous waste, other fuels, and industrial furnace feedstocks.				

				Boiler and Industrial Furnaces Standards - Module D-9
Subject Requirement	40 CFR Section Nos.	ADEM Regulation Nos.	Location in Application	Comments
Tier II or Tier III:	266.102(e)(4) (ii)			
 Maximum emission rate for each metal. 	266.106(c) and (d)			
 Feed rate of total hazardous waste and pumpable hazardous waste measured per 266.102(e)(6). 				
 Feed rate of each metal in each of the following feed streams measured per 266.102(e(6): 				
Total feed streams.				
Total hazardous waste feed.				
Total pumpable hazardous waste feed.				
 Total feed rate of chlorine/chloride in total feed streams measured per 266.102(e)(6). 				
 Maximum combustion gas temperature measured per 266.102(e)(6). 				
 Maximum flue gas temperature at the inlet to the PM air pollution control system measured per 266.102(e)(6). 				
 Maximum device production rate when producing normal product measured per 266.102(e)(6). 				
 Appropriate controls on operation and maintenance of the hazardous waste firing system and air pollution control system (APCS). 				
 Allowable variation in boiler or industrial furnace system design or operating procedures. (Permit writer to specify in permit.) 				
Such other operating requirements as are necessary to ensure that the metals standards				

				Boiler and Industrial Furnaces Standards - Module D-9
Subject Requirement	40 CFR Section Nos.	ADEM Regulation Nos.	Location in Application	Comments
under 266.106(c) or (d) are met:				
Wet scrubbers/wet ionizing scrubbers:				
Minimum liquid to flue gas ratio.				
Minimum scrubber blowdown or maximum suspended solids content of scrubber water.				
Minimum pH of scrubber water.				
Venturi scrubbers:				
Minimum differential gas pressure across the venturi.				
Minimum scrubber blowdown or maximum suspended solids content of scrubber water.				
Max solids also important for venturis				
Dry scrubbers:				
Minimum caustic feed rate.				
Maximum flue gas flow rate.				
Wet ionizing scrubbers/ electrostatic precipitators:				
Minimum electrical power (kVA).				
Maximum flue gas flow rate.				
Baghouses:				
Minimum pressure drop.				
D-9b(4) Pretrial Burn Requirements for New BIFs - Alternative Metals Approach	266.102(e)(4) (iii) 266.106(f)	335-14-708(3) (e)4.(iii)		
For conformance with the alternative metals approach, the statement must:	200.100(1)	335-14-708(7) (f)		
Describe the approach which will be used to comply.				

<u></u>				Boiler and Industrial Furnaces Standards - Module D-9
Subject Requirement	40 CFR Section Nos.	ADEM Regulation Nos.	Location in Application	Comments
Specify how the approach ensures compliance with the metals emissions standards of 266.106(c) or (d).				
Specify how the approach can be effectively implemented and monitored.				
Provide such other information as necessary to ensure that the standards of 266.106(c) or (d) are met.				
D-9b(5) Pretrial Burn Requirements for New	266.107	335-14-708(8)		
BIFs - Hydrogen Chloride/Chlorine Emissions Standards	270.66(b)(1) (i)	335-14-806(5) (b)1.(i)		
For conformance with hydrogen chloride/chlorine emissions standards in 266.107, the statement must specify the following applicable restrictions:				
• Tier I or Adjusted Tier I:	266.102(e)(5) (i)	335-14-708(3) (e)5.(i)		
 Feed rate of total chlorine/chloride in hazardous waste, other fuels, and industrial furnace feedstocks measured 266.102(e)(6). 	266.107(b)(1)	335-14-708(8) (b)1.		
 Feed rate of total hazardous waste measured per 266.102(e)(6). 				
 Sampling and analysis program for total chlorine/chloride for hazardous waste, other fuels, and industrial furnace feedstocks. 				
Tier II and Tier III:	266.102(e)(5) (ii)	335-14-708(3)		
 Maximum emission rates of HCl and Cl₂. 	266.107(b)(2) or (c)	(e)5.(ii) 335-14-708(8) (b)2. or (c)		
Feed rate of total hazardous waste measured per 266.102(e)(6).				
 Total feed rate of chlorine/chloride in total feed streams measured per 266.102(e)(6). 				

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		Boiler and Industrial Furnaces Standards - Module D-9			
Subject Requirement	40 CFR Section Nos.	ADEM Regulation Nos.	Location in Application	Comments	
 Maximum device production rate when producing normal product measured per 266.102(e)(6). 					
 Appropriate controls on operation and maintenance of hazardous waste firing system and APCS. 					
 Allowable variation in boiler or industrial furnace system design or operating procedures. (Permit writer to specify in permit). 					
 Such other operating requirements as are necessary to ensure that the HCl and Cl₂ standards under §266.107(b)(2) or (c) are met. 					
 D-9b(6) Pretrial Burn Requirements for New BIFs - Fugitive Emissions The statement must thoroughly describe the method by which <u>fugitive emissions</u> will be controlled. Fugitive emissions must be controlled by: 	266.102(e)(7) (i) 270.66(b)(1) (i)	335-14-708(3) (e)7.(i) 335-14-806(5) (b)1.(i)			
Totally sealing the combustion zone,					
Maintaining negative pressure in the combustion zone, or					
 An alternative method demonstrated to provide control equivalent to maintenance of combustion zone pressure lower than atmospheric pressure. 					
D-9b(7) Pretrial Burn Requirements for New BIFs - Automatic Waste Feed Cutoff	270.66(b)(1) (i)	335-14-806(5) (b)1.(i)			
The statement must specify that the <u>automatic waste</u> <u>feed cutoff</u> will operate as follows:					
Hazardous waste feed will be cutoff when operating parameters deviate from those specified above for pretrial burn period. At a	266.102(e)(7) (ii)	335-14-708(3) (e)7.(ii)			

	1	_		Boiler and Industrial Furnaces Standards - Module D-9
Subject Requirement	40 CFR Section Nos.	ADEM Regulation Nos.	Location in Application	Comments
minimum, the automatic waste feed cutoff will be tied to all parameters listed under monitoring requirements in checklist Section D-9i.				
Minimum combustion chamber temperature will be maintained while hazardous waste or its residues remain in the combustion chamber. A description of procedures and controls used to maintain the minimum combustion chamber temperature must be included.				
Exhaust gases will be ducted to the APCS while hazardous waste or its residues remain in the combustion chamber. A description should be provided with the engineering description. See checklist Section D-9c.				
Operating parameters will be monitored during the cutoff and hazardous waste feed will not be restarted until the parameters are within allowable limits. For parameters that may be measured on an instantaneous basis, the statement should propose a period of time after waste feed cutoff during which a parameter must not exceed the permit limit before hazardous waste feed may be restarted. The proposed period of time will be subject to the Director's approval.				
The statement must specify that the BIF will stop burning hazardous waste when changes in combustion properties or feed rates of hazardous waste, other fuels, or industrial furnace feedstocks, or changes in BIF design or operating conditions deviate from those specified above for the pretrial burn period.	266.102(e)(7) (iii) 270.66(b)(1) (i)	335-14-708(3) (e)7.(iii) 334-14-806(5) (b)1.(i)		
D-9b(8) Pretrial Burn Requirements for New BIFs - Monitoring Requirements	266.102(e)(8)	335-14-708(3) (e)8. 335-14-806(5) (b)1.(i)		
The statement must specify that the following will be monitored and recorded when burning hazardous waste:	270.66(b)(1) (i)			

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	1			Boiler and Industrial Furnaces Standards - Module D-9
Subject Requirement	40 CFR Section Nos.	ADEM Regulation Nos.	Location in Application	Comments
• All parameters listed under monitoring requirements in checklist Section D-9i.				
• Sampling and analysis of hazardous waste (and other fuels and feedstocks), residues, and exhaust emissions will be conducted as necessary to verify that the operating requirements achieve the applicable standards of 266.104 through 266.107.				
• The BIF will be subject to thorough visual inspections when it contains hazardous waste (at least daily) for signs of leaks, spills, fugitive emissions, and tampering.				
• Automatic waste feed cutoff system will be tested at least once every 7 days when hazardous waste is burned unless the applicant demonstrates that weekly inspections unduly upset operations. At a minimum, testing must be conducted once every 30 days. A description of automatic feed cutoff system testing procedures should be included.				
• The statement must specify that operating records will be maintained until closure of the facility.	270.66(b)(1) (i) 266.102(e)(10)	335-14-806(5) (b)1.(i) 335-14-708(3) (e)10.		
D-9c Trial Burn Plan Requirements for all BIFs	270.66(b)(2)	335-14-806(5) (b)2.		
For the duration of the trial burn, the operating conditions must be sufficient to demonstrate compliance with the performance standards of 266.104 through 266.107.	266.102(d)(4) (ii) 270.66(c)	335-14-708(3) (d)4.(ii) 335-14-806(5) (c)		
The trial burn plan must include the following information:				
An analysis of each feed stream, including hazardous waste, other fuels, and industrial furnace feed stocks, as fired, which includes:	270.66(c)(1)	335-14-806(5) (c)1.		
 Heating value. 				
 Levels of antimony, arsenic, barium, 				

<u>, l</u>				Boiler and Industrial Furnaces Standards - Module D-9
Subject Requirement	40 CFR Section Nos.	ADEM Regulation Nos.	Location in Application	Comments
beryllium, cadmium, chromium, lead, mercury, silver, thallium, total chlorine/chloride, and ash.				
 Viscosity or description of the feed stream's physical form. 				
• An analysis of each hazardous waste, as-fired:	270.66(c)(2)	335-14-806(5) (c)2.		
 Identification of Appendix VIII constituents that would reasonably be expected in the feed. [Note: The applicant need not analyze for Appendix VIII constituents which would reasonably not be expected to be found in the waste. The constituents excluded from analysis must be identified, and the basis for exclusion stated.] 				
 Approximate quantification of the hazardous constituents identified. 				
 If blending is to occur prior to firing: 				
 Detailed analysis of the hazardous waste prior to blending and of the material with which it is blended. 				
Blending ratios.				
Description of blending procedures.				
Detailed engineering description of the boiler and industrial furnace, including:	270.66(c)(3)	335-14-806(5) (c)3.		
 Manufacturer's name and model number. 				
 Type of boiler or industrial furnace. 				
Maximum design capacity in appropriate units				
 Description of the feed system for the hazardous waste and other fuels, and industrial furnace feed stocks 				
 Capacity of hazardous waste feed system. 				
 Description of automatic waste feed cutoff system(s). 				

		1	 	Boiler and Industrial Furnaces Standards - Module D-9
Subject Requirement	40 CFR Section Nos.	ADEM Regulation Nos.	Location in Application	Comments
 Description of any air pollution control system. 				
 Description of stack gas monitoring and pollution control monitoring systems. 				
A detailed description of sampling and monitoring procedures including:	270.66(c)(4)	335-14-806(5) (c)4.		
 Sampling and monitoring equipment. 				
 Sampling and monitoring frequency. 				
 Sampling and analytical procedures. 				
 Sampling and monitoring locations. 				
 Quality assurance/quality control program. 				
Test schedule for each hazardous waste:	270.66(c)(5)	335-14-806(5) (c)5.		
 Dates when trial burn is planned. 				
 The duration of each trial burn. 				
 The quantity of waste to be burned during each trial burn. 				
 Other relevant factors. 				
Test protocols for each hazardous waste including the following for each waste to be burned:	270.66(c)(6)	335-14-806(5) (c)6.		
 Ranges of hazardous waste feed rate. 				
 Feed rates of other fuels and industrial furnace feedstocks. 				
Other parameters that may affect the ability of the BIF to meet:				
 Organic emission standards. 				
 Metals emissions standards. 				
 PM emissions standards. 				
 HCl/Cl2 emissions standards. 				

	1	Boiler and Industrial Furnaces Standards - Module D-9		
Subject Requirement	40 CFR Section Nos.	ADEM Regulation Nos.	Location in Application	Comments
A description of planned operating conditions for any APCS equipment that will be used.	270.66(c)(7)	335-14-806(5) (c)7.		
Procedures for stopping the hazardous waste feed and controlling emissions in the event of equipment malfunctions.	270.66(c)(8) 270.66(c)(9)	335-14-806(5) (c)8. 335-14-806(5) (c)9.		
When a DRE trial burn is required under 266.104(a), the statement should propose principal organic hazardous constituents (POHCs) for which DRE will be calculated during the trial burn. The basis for selecting the POHCs should be described. The proposed POHCs will be subject to the Director's approval.	270.66(e)	335-14-806(5) (e)		
Other information as the Director finds necessary.				
D-9d Trial Burn Results				
The following must be submitted within 90 days of the completion of the trial burn. The submittal must be certified on behalf of the applicant by the signature of a person authorized to sign a permit application or a report under 270.11.				
A statement that the trial burn has been conducted in accordance with the approved trial	270.66(d)(3)	335-14-806(5) (d)3. 335-14-806(5) (d)5.		
burn plan.	270.66(d)(5)	333 11 0 .00(3) (u)3.		
All data collected during any trial burn must be submitted following completion of the trial	270.66(d)(4)	335-14-806(5) (d)4. 335-14-806(5) (d)5.		
burn.	270.66(d)(5)	333 11 0 .00(3) (d)3.		
A quantitative analysis of the levels of antimony, arsenic, barium, beryllium, cadmium, chromium, lead, mercury, thallium, silver, and chlorine/chloride, in the feed streams (hazardous waste, other fuels, and industrial furnace feedstocks).	270.66(f)(1)	335-14-806(5) (f)1.		
If a DRE trial burn was required under 266.104(a):	270.66(f)(2)	335-14-806(5) (f)2.		

	1			Boiler and Industrial Furnaces Standards - Module D-9
Subject Requirement	40 CFR Section Nos.	ADEM Regulation Nos.	Location in Application	Comments
 A quantitative analysis of the trial POHCs in the hazardous waste feed. 				
 A quantitative analysis of the stack gas for the concentration and mass emissions of the trial POHCs. 				
 A computation of destruction and removal efficiency (DRE) in accordance with the DRE formula specified in 266.104(a). 				
If a trial burn for chlorinated dioxins and furans was required under §266.104(e):	270.66(f)(3)	335-14-806(5) (f)3.		
 A quantitative analysis of the stack gas for the concentration and mass emission rate of the 2,3,7,8chlorinated tetraocta congeners of chlorinated dibenzopdioxins and furans. 				
 A computation showing conformance with the emission standard. 				
• If a trial burn for particulate matter, metals, or HCl/Cl ₂ was required under §§266.105, 266.106(c) or (d), or 266.107(b)(2) or (c):	270.66(f)(4)	335-14-806(5) (f)4.		
 A quantitative analysis of the stack gas for the concentrations and mass emissions of particulate matter, metals, or hydrogen chloride (HCl) and chlorine (Cl2). 				
 Computations showing conformance with the applicable emissions performance standards. 				
• If a trial burn for DRE, metals, or HCl/Cl ₂ was required under §§266.104(a), 266.106(c) or (d), or 266.107(b)(2) or (c), a quantitative analysis of the scrubber water (if any), ash residues, other residues, and products for the purpose of estimating the fate of the trial POHCs, metals, and chlorine/chloride.	270.66(f)(5)			
An identification of sources of fugitive emissions and their means of control.	270.66(f)(6)	335-14-806(5) (f)6.		
Records of continuous measurement of carbon monoxide (CO), oxygen, and where required, hydrocarbons (HC) in the stack gas.	270.66(f)(7)	335-14-806(5) (f)7.		

		Boiler and Industrial Furnaces Standards - Module D-9			
Subject Requirement	40 CFR Section Nos.	ADEM Regulation Nos.	Location in Application	Comments	
• Such other information as necessary to ensure that the trial burn will determine compliance with the performance standards in 266.104 through 266.107.	270.66(f)(8)	335-14-806(5) (f)8.			
D-9e Post-Trial Burn Requirements for New BIFs Post-trial burn requirements for new BIFs are the same as the pretrial burn requirements for new BIFs listed in checklist Section D-9b, with the following exceptions:	270.66(b)(3) (ii) 266.102(d)(4) (iii) 266.102(e)	335-14-806(5) (b)3.(ii) 335-14-708(3) (d)4.(iii) 335-14-708(3) (e)			
1. The total length of time during which a facility may burn hazardous waste is not limited after the trial burn. Therefore, no documentation of total burning hours is required.					
2. For the pretrial burn period, a BIF must submit a statement that <u>suggests</u> the conditions necessary to operate in compliance with the standards of 266.104 through 266.107. For the post-trial burn period, a BIF must submit a statement that, based upon the results of the trial burn, <u>identifies</u> the conditions necessary to operate in compliance with the standards of 266.104 through 266.107.					
3. For the post trial burn period, a BIF must submit a statement specifying that the BIF will stop burning hazardous waste when changes in combustion properties or feed rates of hazardous waste, other fuels, or industrial furnace feedstocks, or changes in BIF design or operating conditions deviate from those specified above for the post-trial burn period.					
D-9f Data in Lieu of a Trial Burn	270.22(a)(6)	335-14-802(13) (a)6.			
A BIF may seek an exemption from trial burn requirements by submitting the following information provided by previous compliance testing of the same device, or from compliance testing or trial or operational burns of similar BIFs burning similar hazardous wastes under similar conditions:					
A description and analysis of the hazardous					

<u></u>			·	Boiler and Industrial Furnaces Standards - Module D-9
Subject Requirement	40 CFR Section Nos.	ADEM Regulation Nos.	Location in Application	Comments
waste to be burned <u>compared with</u> the hazardous waste for which data from compliance testing, operational burns, or trial burn(s) are provided to support the contention that a trial burn is not needed.				
• Design and operating conditions of the boiler or industrial furnace to be used <u>compared with</u> that for which data is available and being submitted.				
A detailed engineering description of the boiler or industrial furnace to be used compared with that for which data is available and being submitted. The following must be described for both BIF units:	270.22(a)(6) 270.66(c)(3)			
 Manufacturer's name and model number of the BIF; 				
 Type of boiler or industrial furnace; 				
 Maximum design capacity; 				
 Description of the feed system for the hazardous waste, other fuels, and industrial furnace feedstocks; 				
 Capacity of hazardous waste feed system; 				
 Description of automatic hazardous waste feed cutoff system(s); 				
 Description of APCS; and 				
 Description of stack gas monitoring and air pollution control monitoring systems. 				
Such other information necessary to support the contention that a trial burn is not needed.				
All data and results from the previous testing. The data and results submitted must include all of the information listed under Trial Burn Results in checklist Section D-9d.				
D-9g Alternative HC Limit for Industrial	270.22(b)	335-14-802(13) (b)		
Furnaces with Organic Matter in Raw Materials	266.104(f)	335-14-708(5) (f)		

				Boiler and Industrial Furnaces Standards - Module D-9
Subject Requirement	40 CFR Section Nos.	ADEM Regulation Nos.	Location in Application	Comments
Industrial furnaces requesting the alternative HC limit must submit the following information:				
Documentation that the furnace is designed and operated to minimize HC emissions from fuels and raw materials.				
Statement of proposed baseline HC and CO levels.				
Basis for the proposed baseline flue gas HC and CO concentrations, including data on HC and CO levels during tests when the facility produced normal products under normal operating conditions from normal raw materials while burning normal fuels and when not burning hazardous waste.				
• Test burn protocol to confirm baseline HC and CO levels, including information on type and flow rate of all feed streams, point of introduction of feed streams, total organic carbon content (or other appropriate measure of organic content) of all nonfuel feed streams and operating conditions that affect combustion of fuel(s) and hydrocarbon emissions from nonfuel sources.				
Trial burn plan to: Trial burn plan to:				
 Demonstrate that flue gas HC and CO concentrations when burning hazardous waste do not exceed baseline levels. 				
 Identify types and concentrations of organic compounds listed in Appendix VIII, Part 261, that are emitted when burning hazardous waste. 				
Implementation plan to monitor over time changes in operation that could reduce the baseline HC levels.				
Procedures to periodically confirm baseline levels.				
Such other information as necessary to ensure				

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	T		Boiler and Industrial Furnaces Standards - Module D-9		
Subject Requirement	40 CFR Section Nos.	ADEM Regulation Nos.	Location in Application	Comments	
that the requirements of 266.104(f) are met.					
D-9h Alternative Metals Implementation Approach	270.22(c)	335-14-802(13) (c)			
For conformance with an alternative metals implementation approach, the information must:	266.106(f)	335-14-708(7) (f)			
Describe the approach which will be used to comply.					
• Specify how the approach ensures compliance with the metals emissions standards of 266.106(c) or (d).					
• Specify how the approach can be effectively implemented and monitored.					
• Provide such other information as necessary to ensure that the standards of 266.106(c) or (d) are met.					
D-9i Monitoring Requirements	266.102(e)(6)	335-14-708(3) (e)6.			
The following must be monitored on a continuous basis per 266.102(e)(6) while burning hazardous waste. Feed rates for metals, total chlorine and chloride, and ash are continuously monitored by knowing the concentration of the constituent (through periodic waste analyses) in each feed stream and continuously monitoring the flow rate of each feed stream. Data must be maintained in the operating record until closure of the facility.	266.102(e)(8)	335-14-708(3) (e)8.			
• For conformance with the organic emission standards in 266.104:					
 Feed rate of hazardous waste and other fuels. 					
 Device production rate. 					
 Combustion gas temperature. 					
 Appropriate indicator of combustion gas velocity. 					
 Carbon monoxide and oxygen. 					
 Total hydrocarbons (if complying with 					

Subject Requirement	40 CFR Section	ADEM Regulation	Location in	Comments
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266.104(c), (d), or (f)).				
• <u>or</u> , if the waiver of DRE trial burn for boilers applies:				
 Carbon monoxide and oxygen. 				
• <u>or</u> , if the low risk waste exemption applies:				
 Carbon monoxide and oxygen. 				
• For conformance with the particulate emission standard in 266.105, unless the particulate standard is waived under 266.109(b):				
 Total ash feed rate from hazardous waste, other fuels, and industrial furnace feed stocks [except for cement kilns and lightweight aggregate kilns]. 				
 Device production rate. 				
• For conformance with the metal emission standards in 266.106:				
Tier I or adjusted Tier I:				
 Total feed rate of each metal in hazardous waste, other fuels, and industrial furnace feed stocks. 				
 Total feed rate of hazardous waste. 				
Tier II or Tier III:				
 Feed rate of total hazardous waste. 				
Feed rate of pumpable hazardous waste.				
Feed rate of each metal in the following feed streams:				
 Total feed streams. 				
 Total hazardous waste feed. 				
 Total pumpable hazardous waste feed. 				
Total feed rate of chlorine/chloride in total				

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Subject Requirement	40 CFR Section Nos.	ADEM Regulation Nos.	Location in Application	Comments
feed streams.				
Combustion gas temperature.				
Flue gas temperature at the inlet to the air pollution control system.				
Device production rate.				
Alternative Metals Approach (including the Kiln Dust Monitoring Approach in 266 Appendix IX):				
(same as Tier II requirements <u>except</u> for feed rate of metals in total feed streams)				
• For conformance with HCl/Cl ₂ emission standards in 266.107:				
Tier I or adjusted Tier I:				
Feed rate of total chlorine/chloride in hazardous waste, other fuels, and industrial furnace feed stocks.				
Feed rate of total hazardous waste.				
Tier II or Tier III:				
Feed rate of total hazardous waste.				
Total feed rate of chlorine/chloride in total feed streams.				
Production rate when producing normal product.				
• For other operating requirements as may be necessary to ensure that the performance standards of 266.104 through 266.107 are met:				
Wet scrubbers/wet ionizing scrubbers.				
Liquid to flue gas ratio.				
— Scrubber blowdown or suspended solids content of scrubber water.				
pH of scrubber water.				

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				Boiler and Industrial Furnaces Standards - Module D-9
Subject Requirement	40 CFR Section Nos.	ADEM Regulation Nos.	Location in Application	Comments
Venturi scrubbers.				
Minimum differential gas pressure.				
 Scrubber blowdown or suspended solids content of scrubber water. Also important for venturis 				
 Dry scrubbers. 				
Caustic feed rate.				
Flue gas flow rate.				
 Wet ionizing scrubbers/electrostatic precipitators. 				
Electrical power (kVA).				
Flue gas flow rate.				
– Baghouses.				
Pressure drop.				
D-9j Automatic Waste Feed Cutoff System	270.22(d)	335-14-802(13) (d)		
All facilities must submit a description of the automatic waste feed cutoff system, including any pre-alarm systems that may be used. The description must include:	266.102(e)(7) (ii)	335-14-708(3) (e)7.(ii)		
A statement that hazardous waste feed will be automatically cutoff when operating conditions deviate from those established under 266.102.				
A list of all parameters tied into the automatic waste feed cutoff system. At a minimum, the system must be tied to all parameters listed under monitoring requirements in checklist Section D-9i.				
A description of procedures and controls used to maintain the minimum combustion chamber temperature while hazardous waste residues remain in the combustion chamber.				
A statement that exhaust gases will be ducted to the APCS while hazardous waste or its residues				

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	1		T	Boiler and Industrial Furnaces Standards - Module D-9
Subject Requirement	40 CFR Section Nos.	ADEM Regulation Nos.	Location in Application	Comments
remain in the combustion chamber.				
A statement that operating parameters will be monitored during the cutoff and hazardous waste feed may not be restarted until the parameters are within allowable limits. For parameters that may be measured on an instantaneous basis, the statement should propose a period of time after waste feed cutoff during which a parameter must not exceed the permit limit before hazardous waste feed may be restarted. The proposed period of time will be subject to the Director's approval.				
D-9kDirect Transfer Standards	266.111	335-14-708(12)		
 BIFs that directly feed hazardous waste from a transport vehicle to a BIF without the use of a storage unit must submit the following: A description of direct transfer procedures that will be used. A statement and description of procedures to ensure that no direct transfer of a pumpable hazardous waste shall be conducted from an open-top container to a boiler or industrial furnace. 	Additional information on containers and tank systems is provided in Subparts I and J of Parts 264 and 265	335-14-802(13) (e)		
A statement and description of procedures to ensure that direct transfer equipment used for pumpable hazardous waste shall always be closed, except when necessary to add or remove the waste, and shall not be opened, handled, or stored in a manner that may cause any rupture or leak.				
A description of direct transfer operations, including procedures and controls implemented so that transfer operations do not: Generate extreme heat or pressure, fire, explosion, or violent reaction. Produce uncontrolled toxic mists, fumes, dusts, or gases in sufficient quantities to threaten human health.				

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	1			Boiler and Industrial Furnaces Standards - Module D-9
Subject Requirement	40 CFR Section Nos.	ADEM Regulation Nos.	Location in Application	Comments
 Produce uncontrolled flammable fumes or gases in sufficient quantities to pose a risk of fire or explosion. 				
 Damage the structural integrity of the container or direct transfer equipment containing the waste. 				
 Adversely affect the capability of the BIF to meet the standards provided in 266.104 through 266.107. 				
Threaten human health and the environment.				
A statement and description of procedures to ensure that hazardous waste shall not be placed in direct transfer equipment if it could cause the equipment or its secondary containment system to rupture, leak, corrode, or otherwise fail.				
A description of controls and practices which will be used to prevent spills and overflows from the direct transfer equipment or its secondary containment systems including at a minimum:				
 Spill prevention controls (e.g., check valves, dry discount couplings). 				
 Automatic waste feed cutoff if a leak or spill occurs from the equipment. 				
D-9k(1)Direct Transfer Standards - Containment System	264.175	335-14-509(6)		
In areas where direct transfer vehicles are located, a description of the containment system, demonstrating that the containment system is designed and operated as follows (containment system requirements also apply to areas that store containers with F020, F021, F022, F023, F026, or F027 even though the containers may not contain free liquids):				
A base underlies the containers which is free of cracks or gaps and is sufficiently impervious to contain leaks, spills, and accumulated precipitation until the collected material is				

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	1	1		Boiler and Industrial Furnaces Standards - Module D-9
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detected and removed.				
• The base is sloped or the containment system is otherwise designed and operated to drain and remove liquids resulting from leaks, spills, or precipitation, unless the containers are elevated or are otherwise protected from contact with accumulated liquids.				
• The containment system has sufficient capacity to contain 10% of the volume of containers or the volume of the largest container, whichever is greater. Containers that do not contain free liquids need not be considered in this determination.				
• Run-on into the containment system is prevented unless the collection system has sufficient excess capacity to contain any run-on which might enter the system.				
 Spilled or leaked waste and accumulated precipitation is removed from the sump or collection area in as timely a manner as is necessary to prevent overflow of the collection system. 				
• Except for areas with containers storing F020, F021, F022, F023, F026, and F027, storage areas that store containers holding only wastes that do not contain free liquids need not have a containment system defined above provided that:				
 The storage area is sloped or is otherwise designed and operated to drain and remove liquid resulting from precipitation. 				
 The containers are elevated or are otherwise protected from contact with accumulated liquid. 				
D-9k(2)Direct Transfer Standards - Condition of Containers (defined in 266.111)	265.171	335-14-609(2)		
Provide a statement and description of procedures to ensure that if a container holding hazardous waste is not in good condition, or if it begins to leak, the				

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			Boiler and Industrial Furnaces Standards - Module D-9		
Subject Requirement	40 CFR Section Nos.	ADEM Regulation Nos.	Location in Application	Comments	
owner or operator will transfer the hazardous waste from this container to a container that is in good condition, or manage the waste in some other way that complies with the requirements of this part.					
D-9k(3)Direct Transfer Standards - Compatibility of Waste with Container	265.172	335-14-609(3)			
Provide a statement that the owner or operator will use a container made of or lined with materials which will not react with, and are otherwise compatible with, the hazardous waste to be stored, so that the ability of the container to contain the waste is not impaired.					
$\begin{array}{c} \textbf{D-9k(4)} \textbf{Direct Transfer Standards - Management} \\ \textbf{of Containers} \end{array}$	265.173	335-14-609(4)			
Provide a statement that:					
 A container holding hazardous waste will always be closed during storage, except when it is necessary to add or remove waste. 					
A container holding hazardous waste will not be opened, handled, or stored in a manner which may rupture the container or cause it to leak.					
D-9k(5)Direct Transfer Standards - Special Requirements for Ignitable or Reactive Waste	265.176	335-14-609(7)			
Provide documentation of the location of all containers holding ignitable/ reactive waste. Containers holding ignitable/reactive waste must be located at least 50 feet from the facility property line or comply with requirements for the maintenance of distances between waste management areas and any public ways, streets, alleys, or adjacent property line that can be built upon as required in Tables 2-1 through 2-6 of the National Fire Protection Association's "Flammable and Combustible Liquids Code," (1977 or 1981).					
D-9k(6)Direct Transfer Standards - Special Requirements for Incompatible Wastes	265.177	335-14-609(8)			
Provide a statement and description of procedures to ensure that:					

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Subject Requirement	40 CFR Section Nos.	ADEM Regulation Nos.	Location in Application	Comments
• Incompatible wastes, or incompatible wastes and materials will not be placed in the same container.				
 Hazardous waste will not be placed in an unwashed container that previously held an incompatible waste or material. 				
 A storage container holding a hazardous waste that is incompatible with any waste or other materials stored nearby in other containers, piles, open tanks, or surface impoundments will be separated from the other materials or protected from them by means of a dike, berm, wall, or other device. 				
D-9k(7)Direct Transfer Standards - Closure	264.178	335-14-509(9)		
Describe how all hazardous waste and hazardous waste residues will be removed from the containment system at closure. Remaining containers, liners, bases, and soil containing or contaminated with hazardous waste or hazardous waste residues must be decontaminated or removed.				
D-9k(8)Direct Transfer Standards - Secondary Containment Requirements	266.111(e)(1)	335-14-708(12) (e)1.		
Owners/operators must submit documentation demonstrating conformance with secondary containment requirements of 265.193(b), (c), and (f)-(h):				
• For new direct transfer equipment, prior to their being put into service; and				
• For existing direct transfer equipment, by August 21, 1993.				
Prior to meeting secondary containment requirements, existing direct transfer without such containment must be assessed to determine its fitness for use. The owner shall keep on file a written assessment reviewed and certified by a registered professional engineer that attests to the equipments integrity by August 21, 1992. At a	266.111(e)(2)	335-14-708(12) (e)2.		

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Boiler and Industrial Furnaces Standards - Module D-9				
Subject Requirement	40 CFR Section Nos.	ADEM Regulation Nos.	Location in Application	Comments
minimum, this assessment should consider:				
Design standards;				
Waste characteristics;				
Existing corrosion protection measures;				
Documented age;				
Results of leak test or other integrity determination.				
If leaking or unfit, the requirements of 265.196(a) and (b) must be followed.				
Inspections must be made at least once each hour when hazardous waste is being transferred and records made in accordance with 266.111(e)(3).	266.111(e)(3)	335-14-708(12) (e)3.		
Provide documentation that design and installation of new ancillary equipment meets 265.192.	266.111(e)(4)	335-14-708(12) (e)4.		
Provide documentation that responses to leaks or spills comply with 265.196.	266.111(e)(5)	335-14-708(12) (e)5.		
D-91 Bevill Residues	266.112	335-14-708(13)		
Owners/operators claiming residues are excluded	(8/27/91)			
from regulation must submit the following applicable information to demonstrate conformance with 266.112:	Part 266, Appendices VII and IX	335-14-7, Appendices VII and IX		
		335-14-802(13) (f)		
	270.22(f)			
Boilers: Boilers must burn at least 50% coal on a total heat input or mass input basis, whichever results in the greater mass feed rate of coal.	266.112(a)	335-14-708(13) (a)		
Ore or Mineral Furnaces: Industrial furnaces subject to §261.4(b)(7) must process at least 50% by weight normal, nonhazardous raw materials.				
Cement Kilns: Cement kilns must process at least 50% by weight normal cement-production raw materials.				

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Subject Requirement	40 CFR Section Nos.	ADEM Regulation Nos.	Location in Application	Comments
Either of the following two criteria must be demonstrated to show that the hazardous waste does not significantly affect the residue:	266.112(b)	335-14-708(13) (b)		
 Comparison of Waste-Derived Residue with Normal Residue 				
The waste-derived residue does not contain Appendix VIII, Part 261 constituents (toxic constituents) that could reasonably be attributable to the hazardous waste at concentrations significantly higher than in residue generated without burning or processing of hazardous waste. Toxic constituents include Appendix VIII constituents in the waste and those Appendix VIII constituents that may be generated as products of incomplete combustion.				
Concentrations of toxic constituents of concern in <u>normal residue</u> shall be determined based on analyses of a minimum of 10 samples representing a minimum of 10 days of operation. Composite samples may be used to develop a sample for analysis provided that the compositing period does not exceed 24 hours. The upper tolerance limit (at 95% confidence with a 95% proportion of the sample distribution) of the concentration in the normal residue shall be considered the statistically-derived concentration in the normal residue. The baseline must be revised if changes in the raw material or fuel occur. The statistical procedures in "Statistical Methodology for Bevill Residue Determinations" in Appendix IX shall be used to determine upper tolerance limit.				
Waste-derived residue shall be sampled and analyzed as often as necessary to determine whether the residue generated during each 24-hour period has concentrations of toxic constituents that are higher than the concentrations established for the normal residues. If so, the residue shall not be excluded from the definition of a hazardous				

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Boiler and Industrial Furnaces Standards - Module D-9				
Subject Requirement	40 CFR Section Nos.	ADEM Regulation Nos.	Location in Application	Comments
waste. Concentrations of toxic constituents of concern in the waste-derived residue shall be determined based on analysis of one or more samples obtained over a 24-hour period.				
 Comparison of Waste-Derived Residue Concentrations with Health-Based Limits 				
The concentration of each nonmetal toxic constituent of concern in the waste-derived residue does not exceed the health based levels specified in Appendix VII of Part 266. If a health-based limit for a constituent of concern is not listed in Appendix VII of this part, then a limit of 0.002 micrograms per kilogram or the level of detection, whichever is higher, shall be used.				
The concentration of each metal in an extract obtained using the Toxicity Characteristic Leaching Procedure of 261.24 does not exceed the levels specified in 266 Appendix VII.				
Waste-derived residue shall be sampled and analyzed as often as necessary to determine whether the residue generated during each 24-hour period has concentrations of toxic constituents that are higher than the health-based levels. Concentrations of toxic constituents of concern in the waste-derived residue shall be determined based on analysis of one or more samples obtained over a 24-hour period.				
Documentation: Records sufficient to document the following shall be retained until closure of the BIF:	266.112(c)	335-14-708(13) (c)		
 Levels of Appendix VIII constituents that are present in the waste-derived residues. 				
If the waste-derived residue is compared with normal residue:				
 Levels of Appendix VIII constituents that are present in normal residues. 				

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				Boiler and Industrial Furnaces Standards - Module D-9
Subject Requirement	40 CFR Section Nos.	ADEM Regulation Nos.	Location in Application	Comments
 Data and information obtained to determine if changes in raw materials or fuels would reduce the concentrations of toxic constituents of concern in the normal residue. 				

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D10 REGULATORY COMPLETENESS CHECKLIST FOR HAZARDOUS WASTE STORAGE, TREATMENT AND DISPOSAL FACILITIES

Facility Name Address	Clean Earth of Alabama, Inc. 402 Webster Chapel Road Glencoe, AL 35905	EPA ID Number ALD981020894 Permit Review Team
Contact Name Contact Phone	Bryan Jones Number 256.492.8340	Date Application Received Date Review Completed

			Containment Buil	dings - Module D10
Subject Requirement	40 CFR Section Nos.	ADEM Regulation Nos.	Location in Application	Comments
PART D10 - CONTAINMENT BUILDINGS	Subpart DD	335-14-530	N/A	There are no containment
D10-1Design/Operating Standards	265.1101	335-14-530(2)		buildings at the facility.
D10-la All Containment Buildings must have:				
 a floor, walls, and roof sufficient to prevent exposure to elements 	265.1101(a)(1)	335-14-530(2) (a)1.		
• the unit and materials used to construct it must be of sufficient strength to support the structure, waste, and any equipment or personnel operating within the containment building	265.1101(a)(2)	335-14-530(2) (a)2.		
• Incompatible wastes or treatment reagents must not be placed in the unit or secondary containment system it they could cause leaks, corrosion, or any other failure of the unit	265.1101(a)(3)	335-14-530(2) (a)3.		

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• The unit must have a primary barrier designed to withstand movement of equipment, waste and personnel and be appropriate for the physical and chemical characteristics of the waste to be managed	265.1101(a)(4)	335-14-530(2) (a)4.		
D10-1b				
Requirements for Containment Buildings used to manage wastes containing free liquids must have:	265.1101(b)	335-14-530(2) (b)		
A primary barrier designed to prevent migration of contaminant liquids	265.1101(b)(1)	335-14-530(2) (b)1.		
 Liquid collection and removal system to minimize the accumulation of liquids on the primary barrier designed and operated as follows: 	265.1101(b)(2)	335-14-530(2) (b)2.		
- Primary barrier must be sloped to drain liquids to the collection system; and	265.1101(b)(a) (i)	335-14-5230(2) (b)2.(i)		
- Liquids and waste must be removed in sufficient time to minimize the hydraulic head on the system	265.1101(b)(2) (ii)	335-14-530(2) (b)2.(ii)		
 Secondary containment system and secondary barrier designed to contain liquids, and a leak detection system designed and operated as follows: 	265.1101(b)(3)	335-14-530(2) (b)3.		

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- Leak Detection System must:			
1. be constructed with a bottom slope of at least 1%; and	265.1101(b)(3) (i)(A)	335-14-530(2) (b)3.(i)(I)	
2. be constructed of a granular drainage material with a hydraulic conductivity at least 1×10^{-2} cm/sec and at a thickness of at least 12 inches, or constructed of synthetic or geonet drainage materials with a transmissivity of at least 3×10^{-5} m ² /sec	265.1101(b)(3) (i)(B)	335-14-530(2) (b)3.(i)(II)	
- if treatment is to be conducted within the unit, the treatment area must be designed to prevent the release of liquids, wet materials, or liquid aerosols to other parts of the building	265.1101(b)3. (ii)	335-14-530(2) (b)3.(ii)	
- Secondary containment System must be constructed of materials chemically resistant to the waste and of sufficient strength to support the weight of overlaying materials	265.1101(b)(3) (iii)	335-14-530(2) (b)3.(iii)	
D10-1c			
Addition Requirements	265.1101(c)	335-14-530(2)	
Must provide for:		(c)	

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- The maintenance of the primary barrier free of gaps, cracks, leaks, or corrosion	265.1101(c)(1) (i)	335-14-530(2) (c)1.(i)	
- The maintenance of the level of waste at or below the height of the containment walls	265.1101(c)(1) (ii)	335-14-530(2) (c)2.(ii)	
 Measures to prevent tracking or hazardous waste outside the unit by personnel or equipment A designated area for decontamination equipment 	265.1101(c)(1) (iii)	335-14-530(2) (c)1.(iii)	
- Measures to control fugitive dust emissions at any openings to the unit in accordance with 40 CFR Part 60, Appendix A	265.1101(c)(1) (iv)	335-14-530(2) (c)1.(iv)	
- All particulate collection devices to be operated in accordance with 40 CFR Part 60 Subpart 292			
• Must provide for certification by a professional engineer that the design meets the requirements of 335-14-530(2)(a)-(c)	265.1101(c)(2)	335-14-530(2) (c)2.	
Must provide for the detection and repair of any condition which could cause a release of hazardous waste in accordance with the following:	265.1101(c)(3)	335-14-530(2) (c)3.	

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 Upon detection of a release, the owner/operator must record the discovery in facility operating record; 	265.1101(c)(3) (i)(A)	335-14-530(2) (c)3.(i)(I)		
- Immediately remove the affected portion of the containment building from service;	265.1101(c)(3) (i)(B)	335-14-530(2) (c)3.(i)(II)		
- Determine the necessary steps to repair the containment building, remove leakage, and establish a schedule for cleanup & repairs; and	265.1101(c)(3) (i)(C)	335-14-530(2) (c)3.(i)(III)		
- Notify the director within 7 days after discovery of the condition and the corrective measures to be taken.	265.1101(c)(3) (i)(D)	335-14-530(2) (c)3.(i)(IV)		
 Provide a certification by a qualified, registered professional engineer that repairs were completed in accordance with the written plan. 	265.1101(c)(3) (i)(D)	335-14-530(2) (c)3.(iii)		
• Provide for the inspection and recording of data for facility monitoring equipment, the containment building, and the area immediately surrounding the containment building, at least every 7 days, to detect signs of release of hazardous waste.	265.1101(c)(4)	335-14-5-30.(2) (c)4.		

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D10-1d Additional Requirements for Containment Buildings that contain area with and without secondary containment.	265.1102(d)	335-14-530(2) (d)	
• Provide design and operating specifications to comply with ADEM Administrative Code 335-14-530(2)(a)-(c) [265.1101(a)-(c)]	265.1101(d)(1)	335-14-530(2) (d)1.	
Provide measures to prevent release of liquids of wet materials into areas without secondary containment	265.1101(d)(2)	335-14-530(2) (d)2.	
A description of the operating procedures used to maintain the integrity of the areas without secondary containment to be maintained in the facility operating log	265.1101(d)(3)	335-14-530(2) (d)3.	
Part D10-le Waiver Demonstration If the owner/operator is requesting a waiver of the secondary containment requirement, he must demonstrate that the only free liquids in the unit are limited amounts of dust suppression fluids required to meet occupational health and safety standards, and that all waste and liquids can be managed without secondary containment	265.1101(e)	335-14-530(2) (e)	

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Part D10-2 Closure and Post- Closure Care	265.1102	335-14-530(3)	
Part D10-2a Closure Plan Requirements	265.1102(a)	335-14-530(3) (a)	
A description of the procedures to remove and/or decontaminate all waste residues, contaminated containment system components (liner, etc.) contaminated subsoils, and structures and equipment contaminated with waste and leachate, and to manage them as hazardous unless ADEM Administrative Code Rule 335-14-201(3)(d) applies.			
A description of all the closure procedures necessary to meet the requirements of AAC Rule 335-14-507 and .08.	265.1102(a)	335-14-530(3) (a)	
Part D10-2b Post Closure Plan Requirements	265.1102(b)	335-14-530(3) (b)	
A description of post-closure care meeting the requirements of 335-14-514(11)			
A description of the post- closure procedure and necessary documentation to show compliance with 335-14-507 and .08.			

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D11 REGULATORY COMPLETENESS CHECKLIST FOR HAZARDOUS WASTE STORAGE, TREATMENT AND DISPOSAL FACILITIES

Facility Name	Clean Earth of Alabama, Inc.	EPA ID Number ALD981020894
Address	402 Webster Chapel Road	Permit Review Team
	Glencoe, AL 35905	
Contact Name	Bryan Jones	Date Application Received
Contact Phone	Number 256.492.8340	Date Review Completed

Boiler and Industrial Furnaces Standards - Module D-9						
Subject Requirement	40 CFR Section Nos.	ADEM Regulation Nos.	Location in Application	Comments		
D11 - Subpart AA This checklist information to be added at a later date.			N/A see D-11			

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D12 REGULATORY COMPLETENESS CHECKLIST FOR HAZARDOUS WASTE STORAGE, TREATMENT AND DISPOSAL FACILITIES

Facility Nam	e Clean Earth of Alabama, Inc.	EPA ID Number ALD981020894
Address	402 Webster Chapel Road	Permit Review Team
	Glencoe, AL 35905	
Contact Name	Bryan Jones	 Date Application Received
Contact Phon	Number 256.492.8340	Date Review Completed

Boiler and Industrial Furnaces Standards - Module D-9						
Subject Requirement	40 CFR Section Nos.	ADEM Regulation Nos.	Location in Application	Comments		
D12 - Subpart BB This checklist information to be added at a later date.			D-12, Appendix D-12-1			

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D13 REGULATORY COMPLETENESS CHECKLIST FOR HAZARDOUS WASTE STORAGE, TREATMENT AND DISPOSAL FACILITIES

Facility Name	Clean Earth of Alabama, Inc.	EPA ID Number ALD981020894
Address	402 Webster Chapel Road	Permit Review Team
	Glencoe, AL 35905	
Contact Name	Bryan Jones	Date Application Received
Contact Phone	Number 256.492.8340	Date Review Completed

Boiler and Industrial Furnaces Standards - Module D-9						
Subject Requirement	40 CFR Section Nos.	ADEM Regulation Nos.	Location in Application	Comments		
D13 - Subpart CC This checklist information to be added at a later date.			D-13, Appendix D-13-1			

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REGULATORY COMPLETENESS CHECKLIST FOR HAZARDOUS WASTE STORAGE, TREATMENT AND DISPOSAL FACILITIES

E

Clean Earth of Alabama, Inc.	EPA ID Number <u>ALD981020894</u>
402 Webster Chapel Road	Permit Review Team
Glencoe, AL 35905	
Bryan Jones	Date Application Received
Number <u>256.492.8340</u>	Date Review Completed
	Glencoe, AL 35905 Bryan Jones

Groundwater Monitoring - Module E

Groundwater wormoring - woulde b				
Subject Requirement	40 CFR Section Nos.	ADEM Regulation Nos.	Location in Application	Comments
PART E - GROUNDWATER MONITORING			N/A	Groundwater monitoring is not required at the facility
E-1 Interim Status Groundwater Monitoring Data	270.14(c)(1)	335-14-802(5)(c)1.		
Initial Permits Initial permit applications must include a summary of the data obtained in accordance with 335-14-606(1) - (5) during Interim Status or during the groundwater quality assessment. Permit Renewals Applicants for a permit renewal should also provide a summary of the groundwater data collected in accordance with the previous permit. For renewal applications, the applicant is encouraged to include summary trend information for each applicable class of constituents (e.g., metals, VOCs, etc.) for each well including both interim status data and data collected during permit periods. This data should be presented in graphical form in the body of the application. In addition, one paper hardcopy and (if possible) one electronic spreadsheet copy of	265.90-265.94	335-14-606(1) - (5)		
all individual constituent data for all wells monitored during interim status and/or permit periods should be provided. The electronic spreadsheet should be provided in a format acceptable to the Department (e.g., EXCEL® spreadsheet).				

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Subject Requirement	40 CFR Section Nos.	ADEM Regulation Nos.	Location in Application	Comments
The individual constituent data may be submitted as an appendix to the application or as a separate document referenced in the application.				
E-1a Description of Wells	265.91	335-14-606(2)		
• Number of wells				
• Locations				
Depths and screened intervals				
Casing description				
Other well construction details				
 Identifications of upgradient wells and downgradient wells 				
E-1bDescription of Sampling/Analysis Procedures	265.92	335-14-606(3)		
Sample collection				
Sample preservation and shipment				
Analytical procedures				
Chain-of-custody control				
E-1c Monitoring Data	265.92	335-14-606(3)		
All interim status monitoring results must be provided, including the following:				
• Copies of each quarterly (from first year) analytical results for each well	265.92(c)(1)	335-14-606(3)(c)1. & 2.		
Copies of subsequent (annual and/or semi- annual) analytical results for each well	265.92(d)	335-14-606(3)(d)1. & 2.		
Results of groundwater surface evaluation measurements for each sampling event	265.92(e)	335-14-606(3)(e)		
Initial background arithmetic mean and variance for each indicator parameter based	265.92(c)	335-14-606(3)(c)2.		

Subject Requirement	40 CFR Section Nos.	ADEM Regulation Nos.	Location in Application	Comments
on replicate measurements from upgradient wells during first year				
E-1dStatistical Procedures	265.93	335-14-606(4)(b)		
Description of the statistical procedures employed to make the required statistical comparisons				
Results of statistical comparisons between upgradient and downgradient well sampling results and first year background values for each indicator parameter		335-14-606(4)(c) & (d)		
E-1e Groundwater Assessment Plan	265.93(d)(2)	335-14-606(4)(d)2., 3.,		
If required, based on statistical comparison results, the specific plan for a groundwater quality assessment program, along with the results obtained from implementation of the plan. Include results of the following determinations, considering (at a minimum) the hazardous constituents listed in Appendix VIII to ADEM Administrative Code 335-14-2. • Whether hazardous waste or hazardous		& 4. 335-14-606(4)(d)4., 5.,		
The rate and extent of migration of hazardous waste or hazardous waste constituents in the groundwater		6., & 7.		
Concentrations of hazardous waters or hazardous waste constituents in the groundwater				
E-2 General Hydrogeologic Information	270.14(c)(2)	335-14-802(5)(c)2.		
Identification of uppermost aquifer and aquifers hydraulically interconnected beneath facility, including:				
Groundwater flow direction and rate				
Basis for identification				

Subject Requirement	40 CFR Section Nos.	ADEM Regulation Nos.	Location in Application	Comments
E-3 Topographic Map Requirements	270.14(c)(2), (3) &	335-14-802(5)(c)2., 3.,		
Unless exempt from groundwater monitoring requirements, surface impoundments, waste piles, land treatment, and landfill facilities must include the following information on the topographic map:	(4)(i)	& 4.(i)		
Groundwater flow direction and rate (isometric graph)				
Point of compliance				
Groundwater monitoring wells				
The extent of any plume (horizontal and vertical)				
Hazardous waste management area				
Property boundary				
The following required information may be incorporated into the topographic map if possible, or at least should be discussed in the text:				
Groundwater flow rate				
Boundaries of uppermost aquifer				
Underlying interconnection between uppermost aquifer and lower aquifer				
Hydraulic downgradient limit of waste management units/area				
Waste management area				
Uppermost aquifer				
(Although many of these items can be shown on a single map, it is allowable to use additional maps to display some of the information. Presentation of all of this information on a single map may sacrifice clarity.): where multiple maps are submitted all maps should				

Subject Requirement	40 CFR Section Nos.	ADEM Regulation Nos.	Location in Application	Comments
give an outline of units in a similar frame of reference				
E-4 Contaminant Plume Description	270.14(c)(4)	335-14-802(5)(c)4.		
Description of any plume of contamination that	261, Appendix VIII	335-14-5, Appendix IX		
has already entered groundwater from a regulated unit:	270.14(c)(2)	335-14-802(5)(c)2.		
Delineation of extent of the plume on the topographic map	270.14(c)(7)(ii)	335-14-802(5)(c)7.(ii)		
Identification and concentrations of Appendix IX constituents throughout the plume or maximum concentrations of these constituents in the plume				
Delineation of the vertical extent of the plume in a cross-section				
E-5 General Monitoring Program	270.14(c)(5)	335-14-802(5)(c)5.		
Requirements	264.97	335-14-506(8)		
Waiver request - applicant must certify that there will be no migration of liquid to uppermost aquifer during active life and post-closure. If waiver is not requested, applicant must provide detailed plans and an engineering report describing proposed groundwater monitoring program to meet general groundwater monitoring requirements. The following information is required:	264.90(b)(4)	335-14-506(1)(b)4.		
E-5a Description of Wells	264.97(a),(b)	335-14-506(8)(a) & (b)		
• Number of wells	264.97(c)	335-14-506(8)(c)		
• Locations				
• Depths				
Casing description				
Assurance of unaffected background water measurement				
Assurance of compliance point				

Subject Requirement	40 CFR Section Nos.	ADEM Regulation Nos.	Location in Application	Comments
groundwater measurement				
E-5bDescription of Sampling/Analysis Procedures Sample of collection methods Sample preservation/shipment Analytical procedures Chain-of-custody control	264.97(d) 264.97(e) 264.97(f)	335-14-506(8)(d) 335-14-506(8)(e) 335-14-506(8)(f)		
 Documentation of proper sampling and analysis procedures Procedure for determination of groundwater elevation with each sample 				
 E-5c Procedures for Establishing Background Quality Representative of background quality not affected by the unit Each hazardous constituent, or monitoring parameters and other constituents May include wells not hydraulically upgradient of the waste management area where: upgradient cannot be determined due to hydrogeologic conditions other wells provide background groundwater quality that is representative or more representative of background than upgradient wells 	264.97(a)(1) 264.97(g)	335-14-506(8)(a)1. 335-14-506(8)(g)		
E-5dStatistical Procedures Use one of following statistical methods (E-5d(1)-(5)) to evaluate groundwater monitoring data for each hazardous constituent, consistent with the following:	264.97(h) 264.97(i)(1), (5) & (6)	335-14-506(8)(h) 335-14-506(8)(i)1., 5., & 6.		

Subject Requirement	40 CFR Section Nos.	ADEM Regulation Nos.	Location in Application	Comments
Conduct test separately for each hazardous constituent in each well				
Appropriate for distribution of chemical parameters or hazardous constituents. More than one method necessary if distributions differ				
Account for data below the detection limit				
Any practical quantification limit (PQL) shall be lowest concentration level within levels of precision and accuracy for routine lab operations				
Procedure to control or correct for seasonal and spatial variability and temporal correlation in data				
E-5d(1) Parametric Analysis of Variance	264.97(h)(1)	335-14-506-(8)(h)1.		
(ANOVA) ANOVA followed by multiple comparisons procedures:	264.97(i)(2)	335-14-506(8)(i)2.		
Include estimation and testing of contrasts between each compliance well's <u>mean</u> and the background <u>mean</u> levels for each constituent				
• If using individual well comparison procedure, Type 1 error level of no less than 0.01 shall be maintained. If using multiple comparison procedure, Type 1 error level no less than 0.05 for each testing period must be used.				
E-5d(2) Non-parametric ANOVA (Based	264.97(h)(2),	335-14-506(8)(h)2.		
on Ranks) ANOVA based on Ranks followed by multiple comparisons procedures:	264.97(i)(2)	335-14-506(8)(i)2.		
Estimation and testing of each compliance well's <u>median</u> and background <u>median</u>				

Subject Requirement	40 CFR Section Nos.	ADEM Regulation Nos.	Location in Application	Comments
levels for each constituent				
If using individual well comparison procedure, Type 1 error level of no less than 0.01 shall be maintained. If using multiple comparison procedure, Type 1 error level no less than 0.05 for each testing period must be used.				
E-5d(3) Tolerance or Prediction Interval	264.97(h)(3),	335-14-506(8)(h)3.		
Procedure	264.97(i)(4)	335-14-506(8)(i)4.		
Establish interval for each constituent based on distribution of background data				
Compare level of each constituent in each compliance well to the upper tolerance or prediction limit				
Prepare levels of confidence and/or percentage of the population that the interval must contain considering number of samples in the background data base, data distribution, and range of concentration values for each constituent of concern.				
E-5d(4) Control Chart Approach	264.97(h)(4),	335-14-506(8)(h)4.		
Control limits for each constituent	264.97(i)(3)	335-14-506(8)(i)3.		
Specify type of control chart and associated parameter values				
E-5d(5) Alternative Approach	264.97(h)(5),	335-14-506(8)(h)5.		
An alternative approach can be proposed which complies with all performance standards set in 335-14-506(8)(i).	264.97(i)	335-14-506(8)(i)		
E-6 Description of Detection Monitoring	270.14(c)(6)	335-14-802(5)(c)6.		
Program for Facilities not Detecting the Presence of Hazardous Constituents,	264.91(a)(4)	335-14-506(2)(a)4.		
Including:	264.98	335-14-506(9)		

Subject Requirement	40 CFR Section Nos.	ADEM Regulation Nos.	Location in Application	Comments
E-6a List of Indicator Parameters, Waste	270.14(c)(6)(i)	335-14-802(5)(c)6.(i)		
Constituents, Reaction Products to be Monitored for, Including:	264.93	335-14-506(4)		
Type, quantities, concentrations, expected wastes	264.98(a)	335-14-506(9)(a)		
Mobility, stability, persistence in unsaturated zone				
Detectability in groundwater				
Concentrations or values and coefficients of variation of proposed parameters in the groundwater background				
E-6bDescription of Groundwater	270.14(c)(6)(ii)	335-14-802(5)(c)6.(ii)		
Monitoring System	264.98(b)	335-14-506(9)(b)		
Hydraulic downgradient limit per unit/area	264.95,	335-14-506(6)		
Waste management area	264.97(a)(2), (b), (c)	335-14-506(8)(a)2.,(b)		
Uppermost aquifer		& (c)		
E-6c Background Groundwater Concentration Values for Proposed	270.14(c)(6)(iii)	335-14-802(5)(c)6.(iii)		
Parameters	264.98(c)	335-14-506(9)(c)		
Use of an appropriate groundwater monitoring system, to establish background per E-5d specifying number and type of samples for each hazardous constituent appropriate to form of statistical test employed	264.97(g)(1), (2)	335-14-506(8)(g)1. & 2.		
Sampling procedure shall be a sequence of at least four samples from each well in the entire system at an interval assuring an independent sample relative to the uppermost aquifer's effective porosity, hydraulic conductivity, hydraulic gradient and fate and transport characteristics of the potential contaminants but at least semiannually; or				

270.14(c)(6)(iv) 264.97(f)	335-14-802(5)(c)6.(iv)		
264.97(f)			
264.98(d) 264.98(e)	335-14-506(8)(f) 335-14-506(9)(f) 335-14-506(9)(d) 335-14-506(9)(e) 335-14-506(8)(d) & (e)		
270.14(c)(7) 264.98(g)	335-14-802(5)(c)7. 335-14-506(9)(g)		
	225 14 0 02/5/)7		
226	54.98(e) 70.14(c)(7)	335-14-506(9)(d) 335-14-506(9)(e) 335-14-506(8)(d) & (e) 70.14(c)(7) 335-14-802(5)(c)7. 335-14-506(9)(g)	335-14-506(9)(d) 335-14-506(9)(e) 335-14-506(8)(d) & (e) 335-14-802(5)(c)7. 335-14-506(9)(g)

Subject Requirement	40 CFR Section Nos.	ADEM Regulation Nos.	Location in Application	Comments
Facilities Which Have Detected Presence of Hazardous Constituents	264.99	335-14-506(10)		
E-7a Description of Monitoring Program				
E-7a(1) Description of Wastes Previously Handled at Facility	270.14(c)(7)(i)	335-14-802(5)(c)7.(i)		
E-7a(2) Characterization of Contaminated Groundwater	270.14(c)(7)(ii)	335-14-802(5)(c)7.(ii)		
Hazardous constituents identified				
Hazardous constituents concentrations				
E-7a(3) List of Hazardous Constituents to be Monitored in Compliance Program May resample within one month and repeat analysis for compounds detected. Constituents identified in both initial and repeat analysis in the decontamination monitoring program will form basis for compliance monitoring program.	270.14(c)(7)(iii) 264.99(a)(1) 264.98(g)(3)	335-14-802(5)(c)7.(iii) 335-14-506(10)(a)1. 335-14-506(9)(g)3.		
E-7a(4) Proposed Concentration Limits for Each Constituent	270.14(c)(7)(iv) 264.99(a)(2)	335-14-802(5)(c)7.(iv) 335-14-506(10)(a)2.		
Justification for establishing alternative limits	264.94	335-14-506(5)		
Conditions warranting special sampling procedures		335-14-808(1)(d)		
Importance of statistically significant values				
 Procedures for establishing background concentration values for constituents that are based on: use of an appropriate groundwater 	264.99(c)(3) 264.97(g), (h)	335-14-506(10)(c)1. & 2. 335-14-506(8)(g) & (h)		
monitoring system – data that is available prior to permit issuance				

Subject Requirement	40 CFR Section Nos.	ADEM Regulation Nos.	Location in Application	Comments
 data that accounts for measurement errors in sampling analysis 				
 data that accounts for seasonal groundwater quality fluctuations 				
data from a minimum of four samples per well collected at least semiannually				
E-7a(5) Detailed Plans of an Engineering	270.14(c)(7)(v)	335-14-802(5)(c)7.(v)		
Report Describing Groundwater Monitoring System	264.99(b)	335-14-506(10)(b)		
Represent quality of groundwater passing point of compliance	264.97(a)(2)	335-14-506(8)(a)2.		
Proposed compliance point	264.95	335-14-506(6)		
Number of wells	264.97(a)(2)	335-14-506(8)(a)		
Location and depths of wells	264.97(a)(2)	335-14-506(8)(a)		
Casing and construction of wells	264.97(c)	335-14-506(8)(c)		
E-7a(6) Description of Proposed Sampling	270.14(c)(7)(vi)	335-14-802(5)(c)7.(vi)		
and Statistical Analysis Procedures for Groundwater Data	264.99(c), (d), (e), (f), & (g)	335-14-506(10)(c), (d), (e), (f), & (g)		
Compliance period (The Department will specify the compliance period in the permit.)		335-14-506(7)		
Sample collection methods	264.97(d)	335-44-506(8)(d)		
Sample preservation/shipment	264.97(d)	335-14-506(8)(d)		
Analytical procedures	264.97(d)	335-14-506(8)(d)		
Chain-of-custody control	264.97(d)	335-14-506(8)(d)		
Documentation of proper sampling and analysis procedures	264.97(e)	335-14-506(8)(e)		
Procedures for determining groundwater elevation	264.97(f)	335-14-506(8)(f)		

Subject Requirement	40 CFR Section Nos.	ADEM Regulation Nos.	Location in Application	Comments
Procedures for annual determination of uppermost aquifer flow rate and direction	264.99(e)	335-14-506(10)(e)		
Annual testing procedures for Appendix IX constituents	264.99(g)	335-14-506(10)(g)		
Procedures for determining a statistically significant increase for any monitored parameters or hazardous constituent:	264.99(d) & (f)	335-14-506(10)(d) & (f)		
• Comparing compliance point using the procedure in ADEM Administrative Code 335-14-506(8)(h) to the concentration limit developed in accordance with 335-14-506(5)				
At least four samples from each well (compliance and background) must be collected at least semi-annually				
E-7a(7) Procedures to be Implemented if Groundwater Protection Standard is Exceeded at Compliance Point Monitoring Well	264.99(i) 264.99(h)	335-14-506(10)(i) 335-14-506(10)(h)		
Written notification to ADEM within seven days				
An application for permit modification to establish a corrective action program, including details of the program to comply with groundwater protection standard and details of groundwater monitoring to demonstrate effectiveness of the corrective action program, or				
Submit demonstration that concentration limits were exceeded due to source other than regulated unit, or due to statistical error				
E-7bAn Engineering Feasibility Plan for	270.14(c)(7)	335-14-802(5)(c)7.		
Corrective Action Program Engineering feasibility plan for a corrective	270.14(c)(8)(v)	335-14-802(5)(c)8.(v)		

Subject Requirement	40 CFR Section Nos.	ADEM Regulation Nos.	Location in Application	Comments
action program to meet requirements of 335-14-506(11), or	264.98(g)(5)(ii)	335-14-506(9)(g)5.(ii)		
Request authorization from ADEM to submit schedule for a submittal plan				
E-8 Corrective Action Program	270.14(c)(8)(i)	335-14-802(5)(c)8.(i) - (v)		
E-8a Characterization of Contamination				
Identification of hazardous constituents detected in groundwater		335-14-802(5)(c)8.(i)		
Concentrations of hazardous constituents		335-14-506(11)(a)1.		
E-8b Concentration Limits	270.14(c)(8)(ii)	335-14-802(5)(c)8.(ii)		
	264.100(a)	335-14-506(11)(a)2.		
E-8b(1) Concentration Limits Established Under ADEM 335-14-506(5)	264.97(a)	335-14-506(11)(a)2.		
E-8b(2) Alternate Concentration Limits	264.94(b)	335-14-506(5)(b)		
Proposed alternate concentration limits		335-14-802(5)(c)8.		
Justification for proposed alternate limits, including assessment of potential adverse effects on groundwater quality and on the quality of hydraulically connected surface waters, and assessment of the potential for health risks caused by human exposure to waste constituents				
E-8c Corrective Action Plan	270.14(c)(8)(iii)	335-14-802(5)(c)8.(iii)		
A corrective action program must prevent hazardous constituents from exceeding their respective concentration limits at the compliance point, and between the compliance point and the downgradient facility property boundary. The corrective action plan must consist of detailed engineering plans and report, and must address the following:	264.100	335-14-506(11)		

Subject Requirement	40 CFR Section Nos.	ADEM Regulation Nos.	Location in Application	Comments
Identification of compliance point				
Plans for removing and handling of hazardous wastes (if proposed)				
Design and construction plans and specifications from any proposed features to contain groundwater or redirect its flow (e.g., drains, engineered barriers, wells)				
A description of the treatment technologies to be employed to remove hazardous constituents from contaminated groundwater				
Description of the operation and maintenance plans for the corrective action measures				
Description of any additional hydrogeologic data collected for use in designing the corrective action measures				
Schedule for implementation of the corrective action measures				
E-8dGroundwater Monitoring Program	270.14(c)(8)	335-14-802(5)(c)8.(iv)		
In conjunction with a corrective action program, a groundwater monitoring program must be implemented to determine compliance with the concentration limits established under 335-14-506(3), and to determine the effectiveness of the corrective action program.	264.100(d)	335-14-506(11)(d)		
E-8d(1) Description of Monitoring System	270.14(c)(8)	335-14-802(5)(c)8.(iv)		
Number of wells	270.14(c)(7)(v)	335-14-802(5)(c)7.(v)		
• Locations				
Depths and screened intervals				
Casing descriptions				
Other well construction details				

Subject Requirement	40 CFR Section	ADEM Regulation Nos.	Location in Application	Comments
-	Nos.			
Description of how the groundwater monitoring program will demonstrate the adequacy of the corrective action				
E-8d(2) Description of Sampling and Analysis Procedures Sampling frequency Sample collection Sample preservation and shipment Analytical procedures Chain-of-custody control Procedures for determining groundwater elevations Procedure for annual determination of	270.14(c)(8) 270.14(c)(7)(vi)	335-14-802(5)(c)8. 335-14-802(5)(c)7.(vi) 335-14-506(8)		
groundwater flow rate and direction E-8d(3) Monitoring Data and Statistical Analysis Procedures	270.14(c)(8)	335-14-802(5)(c)8.		
 Procedure for establishing background concentration values 	270.14(c)(7)(vi)	335-14-802(5)(c)7.(vi) 335-14-506(8)		
Statistical procedures for comparing compliance point data to the concentration limits				
Statistical procedures for evaluating effectiveness of the corrective action program between the compliance point and the property boundary				
E-8d(4) Reporting Requirements	264.100(g)	335-14-506(11)(g)		
• Semi-annual report to Regional Administrator evaluating the effectiveness of the corrective action program				

REGULATORY COMPLETENESS CHECKLIST FOR HAZARDOUS WASTE STORAGE, TREATMENT AND DISPOSAL FACILITIES

F

Facility Name Address Clean Earth of Alabama, Inc. 402 Webster Chapel Road Glencoe, AL 35905	EPA ID Number ALD981020894 Permit Review Team
Contact Name Bryan Jones Contact Phone Number 256.492.8340	Date Application Received Date Review Completed

Hazard Prevention - Module F			ention - Module F	
Subject Requirement	40 CFR Section Nos.	ADEM Regulation Nos.	Location in Application	Comments
PART F - PROCEDURES TO PREVENT HAZARDS				
F-1 Security				
F-la Security Procedures and Equipment Unless a waiver is granted, the Part B must include a description of the security procedures and equipment required by 264.14:	264.14 270.14(b)(4)	335-14-502(5) 335-14-802(5) (b)4.	F-1a	There are no landfills at the facility.
F-la(1)24-Hour Surveillance Systems A 24-hour surveillance system (e.g., television monitoring or surveillance by guards or facility personnel) that continuously monitors and controls entry onto the active portion of the facility:	264.14(b)(1)	335-14-502(5) (b)1.	F-1a(1)	
Procedures and personnel to be used	Guidance		F-1a(1)	
Location and description of equipment	Guidance		F-1a(1)	

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F-1a(2)Barrier and Means to Control Entry (In lieu of a 24-hour surveillance system, the applicant may elect to use a barrier and other means to control entry.)	264.14(b)(2) (i)	335-14-502(5) (b)2.(i)	F-1a(3)	
F-la(2)(a) Barrier An artificial or natural barrier (e.g., a fence in good repair or a fence combined with a cliff) that completely surrounds the active portion of the facility:	264.14(b)(2) (i)	335-14-502(5) (b)2.(i)	F-1(a)(2)	
Height	Guidance		F-1(a)(2)	
Material of construction	Guidance		F-1(a)(2)	
F-1a(2)(b) Means to Control Entry A means to control entry, at all times, through the gates or other entrances to the active portion of the facility (e.g., an attendant, television monitors, locked entrance, or controlled roadway access to the facility):	264.14(b)(2) (ii)	335-14-502(5) (b)2.(ii)	F-1a(2)(b)	
Procedure and personnel to be used	Guidance			
Location and description of equipment	Guidance			

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- 4 (0) 1	054 147	225 14 5 22(5)	F-1a(3)	
F-la(3)Warning Signs The facility must have a sign with the legend, "Danger - Unauthorized Personnel Keep Out", which must:	264.14(c)	335-14-502(5) (c)	r-1a(3)	
Be posted at each entrance to the active portion of the facility			F-1a(3)	
Be in sufficient numbers be seen from any approach to the active portion of the facility			F-1a(3)	
Legend the be in English and any other language predominating in the area			F-1a(3)	
Be legible from a distance of at least 25 feet			F-1a(3)	
Existing signs with a legend other than "Danger - Unauthorized Personnel Keep Out" may be used if the legend on the sign indicates that only authorized personnel are allowed to enter the active portion and that entry onto the active portion can be dangerous.			F-1a(3)	
F-1b Waiver If a waiver of these requirements is requested, the owner or operator must demonstrate the following:	264.14(a)	335-14-502(5) (a)	F-1b	A Waiver from security requirements is not requested.

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	Γ	T	T	
F-1b(1)Injury to Intruder	264.14(a)(1)	335-14-502(5) (a)1.	N/A	
Physical contact with the waste, structure, or equipment within the active portion of the facility will not injure unknowing or unauthorized persons or livestock that may enter the active portion of a facility; and		(a)1.		
F-1b(2)Violation Caused by Intruder	264.14(a)(2)	335-14-502(5) (a)2.	N/A	
Disturbance of the waste or equipment by the unknowing or unauthorized entry of persons or livestock onto the active portion of a facility will not cause a violation of the requirement of 40 CFR Part 264.				
Note: To address F-lb(1) and F-lb(2), the applicant should include:				
Nature and duration of hazardous potential from wastes	Guidance			
• Equipment and structures to minimize potential for an intruder to 1) cause a spill; 2) mix incompatible wastes; 3) ignite ignitable or reactive wastes; 4) damage containment or monitoring systems	Guidance			
Features that prevent contact with waste	Guidance			

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	T	T	
F-2 Inspection Schedule	270.14(b)(5)	335-14-802(5) (b)5.	F-2
A copy of the general inspection schedule required by 264.15(b) including, where applicable, specific requirements of 264.174, 264.194, 264.226, 264.254, 264.273, 264.303, and 264.347	264.15	335-14-502(6)	
F-2a General Inspection Requirements	270.14(b)(5)	335-14-802(5) (b)5.	F-2a
A description of the facility inspection schedule (schedule must be kept at the facility) for the following equipment:	264.15(a) & (b)	335-14-502(6) (a) & (b)	
Monitoring equipment	264.15(a) & (b)	335-14-502(6) (a) & (b)	Appendix F-2-1
Emergency and safety equipment			Appendix F-2-1
Security devices			Appendix F-2-1
Operating and structural equipment that are vital to prevent, detect, or respond to environmental or human health hazards			Appendix F-2-1
Testing as necessary of communications or alarm systems, fire protection equipment, and decontamination equipment.	264.33	335-14-503(4)	Appendices F-2-1 and F-2-2

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Examples of monitoring equipment that should be inspected at treatment, storage, and disposal facilities are:	Guidance		
• Scales			
Flow and liquid level monitors			
Hazardous gas detectors			
• pH monitors			
Leachate monitors			
Pressure sensors			
Temperature gauges			
Examples of monitoring equipment that should be inspected at facilities with incinerators are:	Guidance	N/A	The facility does not have incinerators
Waste flow monitors and recorders			
Auxiliary fuel flow monitors			
Combustion air flow monitors			
Temperature monitors			
• Flame sensors			
CO monitors and recorders			
Pressure differential indicators			
• Pressure sensors			
• pH monitors			
Ammeters for measuring blower current draw			

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	Т	T	1
Examples of safety and emergency equipment to be inspected at TSD facilities are:	Guidance	F2a, Appendix F-2-1	
• Respirators			
Communication systems			
Alarm systems			
Emergency lighting and power systems			
Smoke detectors			
Fire protection equipment			
First aid equipment and supplies			
Decontamination equipment			
Protective clothing			
Examples of security devices to be inspected at TSD facilities are:	Guidance	F-2a , Appendix F-2-1	
Surveillance system			
Barrier surrounding facility			
Locking devices			
Examples of operating and structural equipment at TSD facilities are:	Guidance	 F-2a, Appendix F-2-1	
Spill detection devices			
Spill control and collection equipment			
Fire and explosion barriers			

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Ventilation equipment				
Sump pumps				
Dikes, bases, and foundations				
In addition, areas such as waste storage, mixing, loading, and unloading areas, which are subject to spills, must be inspected.				
F-2a(1)Types of Problems	264.15(b)(3)	335-14-502(6) (b)3.	Appendix F-2-2	
The schedule must identify the types of problems to look for during the inspection (e.g., leaks, deterioration, readings out of specified range, missing items or materials, inoperative equipment, etc.)		(1) 3.		
F-2a(2)Frequency of Inspection A description of the inspection frequency must be provided for items on the schedule. The frequency of inspection should be based on the rate of possible deterioration of equipment and the probability of an environmental or human health incident if the deterioration, malfunction, or operator error goes undetected between inspections. Areas subject to spills, such as loading and unloading areas, must be inspected daily when in use.	264.15(b)(4)	335-14-502(6) (b)4.	F-2 F-2a F-2b Appendix F-1-2	

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			-	
All emergency waste feed cut- off valves must be inspected at least prior to operation. All system alarms must also be tested weekly.	264.347(c) (incinerators only)	335-14-515(8) (c)		
F-2b Specific Process Inspection Requirements	270.14(b)(5)	335-14-802(5) (b)5.	F-23(b)(1)	
At a minimum, the inspection schedule must include the terms and frequencies called for in 264.174, 264.194, 264.226, 264.253, 264.254, 264.303, and 264.347, where applicable.	264.15(b)(4)	335-14-502(6) (b)4.		
F-2b(1)Container Inspection	264.174	335-14-509(5)	F-2b(1), Appendix F-2-1	
A description of the every seven days_inspection of containers and container storage areas for leaks in containers or deterioration of containers and the containment system caused by corrosion or other factors.				
F-2b(2)Tank System Inspection	264.195	335-14-510(6)	F-2b(2), Appendix F-2-1	
• A description of the inspection each operating day of overfilling control equipment, monitoring equipment and levels of waste in uncovered tanks.	[7/14/86]			
• A description of the daily inspection of tank construction materials and the area surrounding the tank including secondary containment system (e.g., dikes)			F-2v(2), Appendix F-2-1	

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• A schedule describing the monitoring of each operating day of monitoring equipment (e.g., pressure and temperature gauges) where present to ensure that the tank is operated according to design specifications			
A schedule showing the level of waste in uncovered tanks is inspected each operating day		N/A	All tanks are covered.
A schedule and procedure for assessing the condition of the tank, including detection of leaks, cracks, or wall thinning to less than minimal shell thickness		F-2b(2), Appendix F-2-1	
A procedure for emptying a tank to allow entry and inspection when necessary to detect corrosion or erosion of the tank sides and bottom		N/A - Tank thickness testing is conducted using annual ultrasonic thickness testing see F-2b(2).	
Confirm proper operation of cathodic protection system (if present) within six months after installation and at least annually thereafter		N/A - Cathodic protection is not required or present.	
Schedule showing all sources of impressed current are inspected and/or tested at least bimonthly.		N/A - Cathodic protection is not required or present, thus there are no sources of impressed current	

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F-2b(3)Waste Pile Inspection	270.14(b)(5)	335-14-802(5) (b)5.	N/A	There are no waste piles at the facility.
The application must provide a description of the procedures to:	270.18(d)	335-14-802(9) (d)		
 Inspect liners and covers during construction and immediately after installation for: 	264.254	335-14-512(5)		
 uniformity, damage, and imperfections, holes, cracks, thin spots, bulges, root holes, tight seams and joints, permeability, and compaction 				
 Remove the waste pile and periodically inspect liners for deterioration, cracks, and other imperfections 				
• Perform <u>weekly</u> inspections and <u>after storms</u> to detect:				
 deterioration, malfunctions, or improper operation of run-on and run-off control systems 				
 the presence of liquids in leak detection systems, where installed 				
 proper functioning of wind dispersal control systems, where present 				
 the presence of leachate in and proper functioning of leachate collection and removal systems, where present 				

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F-2b(4)Surface Impoundment Inspection	270.24(b)(5)	335-14-802(15) (b)5.	N/A	There are no Surface Impoundments at the facility.
<pre>Inspection The application must provide a description of how each surface impoundment, including the liner and cover systems and appurtenances for control of overtopping, will be inspected weekly and after storms to detect evidence of any of the following: • Deterioration, malfunctions, or improper operation of overtopping topping control systems • Sudden drops in the level of the impoundment's contents • The presence of liquids in leak detection systems, where installed</pre>	270.17(c) 264.226(b)	(b)5. 335-14-802(8) (c). 335-14-511(7) (b)		at the facility.
 Severe erosion or other signs of deterioration in dikes or other containment devices 				
For new facilities, a description of how the liners will be inspected during construction and immediately after installation to detect nonuniformity, damages, and imperfections (holes, cracks, thin spots, bulges, root holes, tight seams and joints, permeability, and compaction).	264.226(a)	335-14-511(7) (a)		
See Item D-4b(2) concerning inspection of dikes for structural integrity.				

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F-2b(5)Incinerator Inspection	264.347	335-14-516(8)		There are no incinerators at
 Incinerator and associated equipment must be inspected visually at least <u>daily</u> for leaks, spills, fugitive emissions and signs of tampering. 				the facility
• Emergency waste feed, cut-off system and associated alarms must be tested weekly unless the applicant demonstrates that weekly frequency is unduly restrictive and that less frequent inspection will be adequate. At minimum, operational testing must be conducted monthly.				
F-2b(6)Landfill Inspection	270.21(d)	335-14-802(12) (d)	N/A	There are no landfills at the
Landfill owners or operators must provide a description of procedures for:	264.15(a)	335-14-502(6) (a)		facility.
	264.303	335-14-514(4)		
For new facilities, inspection of liners/covers during and immediately after installation				
Inspections <u>every seven days</u> and <u>after storms</u> for:				
<pre>- operation of run-on/run-off controls</pre>				
- liquids in leak detection system				
 proper functioning of wind dispersal controls 				
 leachate in and proper operation of leachate collection/removal system 				

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F-2b(7)Land Treatment Inspection	270.20(c)(5)	335-14-802(11) (c)5.	N/A	There are no land treatment units at the facility
A description of the inspection procedures. Specifically the unit must be inspected weekly and after storms for:	264.273(g)	335-14-513(4) (g)		
Deterioration, malfunctions, or improper operation of run-on and run-off control systems				
Improper functioning of wind dispersal control measures				
F-2b(8)Miscellaneous Unit Inspections	270.14(b)(5)	335-14-802(5) (b)5.	N/A	There are no miscellaneous units at the facility.
Provide an inspection program which ensures compliance with the standards specified in F-2b(1) through F-2b(7), where applicable.	[11/7/86] 264.602	335-14-524(3)		
F-2c Remedial Action	264.15(c)	335-14-502(6)	F-2c	
A description of procedures for taking remedial actions when inspections reveal problems or when problems are imminent. These may alternately be described in the contingency plan (see 264.194(c), 264.227, 264.171).		(c)		
F-2d Inspection Log	264.73(b)(5)	335-14-505(4)	F-2c, Appendix F-2-1	
A copy or description of the inspection log or summary form including the following:	264.15(d)	(b)5. 335-14-502(5) (d)		

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Dates and times of inspections				
• Name(s) and inspector(s)				
Observations made				
Date and nature of repairs or remedial actions taken				
F-3 Waiver of Preparedness and Prevention Requirements	270.14(b)(6)	335-14-802(5) (b)6.	N/A	A waiver is not requested.
A justification of any request for a waiver of preparedness and prevention requirements of Part 264, Subpart C				
F-3a Equipment Requirements	264.32	335-14-503(3)	F-3a, Appendix F-3-1	
Unless it can be demonstrated that none of the hazards posed by waste handled at the facility would require a particular kind of equipment specified below, the facility must have the following equipment: (These requirements are not specifically listed in 270.14-270.29 for inclusion in a Part B).				
F-3a(1)Internal Communications	264.32(a)	335-14-503(3) (a)	F-3a, Appendix F-3-1	
An internal communications or alarm system capable of providing immediate emergency instruction (voice or signal) to facility personnel.				

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F-3a(2)External Communications A device such as telephone (immediately available at the scene of operations) or a handheld two-way radio, for summoning emergency assistance from local police departments, or state or local emergency response teams.	264.32(b)	335-14-503(3) (b)	F-3a, Appendix F-3-1	
 F-3a(3)Emergency Equipment Fire control equipment (including special extinguishing equipment, such as that using foam, inert gas, or dry chemicals, and portable fire extinguishers) Spill control equipment Decontamination equipment 	264.32(c)	335-14-503(3) (c)	F-3a, Appendix F-3-1	
F-3a(4)Water for Fire Control One of the following: • Water at adequate volume and pressure to supply water hose streams, or • Foam-producing equipment, or • Automatic sprinklers or water spray systems	264.32(d)	335-14-503(3) (d)	F-3a, Appendix F-3-1	

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F-3b Aisle Space Requirements Requests for a waiver of the aisle space requirement must be accompanied by a demonstration that aisle space is not needed to allow the unobstructed movement of personnel, fire protection equipment, or spill control equipment to any area of facility operation in an emergency.	264.35	335-14-503(6)	F-3b N/A	A waiver from aisle space requirements is not requested.
F-4 Preventive Procedures, Structures, and Equipment	270.14(b)(8)	335-14-802(5) (b)8.	F-4	
A description of procedures, structures, or equipment used at the facility for the following must be included:				
F-4a Unloading Operations	270.14(b)(8)	335-14-802(5) (b)8.(i)	F-4a	
Prevention of hazardous in unloading operation (e.g., use of ramps or special forklifts).	(i)	(D)8.(1)		
F-4b Run-Off	270.14(b)(8)	335-14-802(5) (b)8.(ii)	F-4b	
Prevention of runoff from hazardous waste handling areas to other areas of the facility or environment, or prevention of flooding (e.g., berms, dikes, trenches).	(11)	(5)0.(11)		
F-4c Water Supplies	270.14(b)(8) (iii)	335-14-802(5) (b)8.(iii)	F-4c	
Prevention of contamination of water supplies.	(+ + + /	(5)(0.(111)		

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F-4d Equipment and Power Failure	270.14(b)(8) (iv)	335-14-802(5) (b)8.(iv)	F-4d	
Mitigation of effects of equipment failure and power outages.				
F-4e Personal Protection Equipment	270.14(b)(8) (v)	335-14-802(5) (b)8.(v)	F-4e	
Prevention of undue exposure of personnel to hazardous waste (e.g., protective clothing).				
F-5 Prevention of Reaction of Ignitable, Reactive and incompatible Wastes			F-5	
F-5a Precautions to Prevent Ignition or Reaction of Ignitable or Reactive Wastes A description of the precautions taken by a facility that handles ignitable, reactive, or incompatible waste to demonstrate compliance with 264.17 including documentation demonstrating compliance with 264.17(c). Precautions to prevent actual ignition, including separation from sources of ignition such as:	270.14(b)(9) 264.17(a) & (c)	335-14-802(5) (b)9. 335-14-502(8) (a) & (c)	F-5a	
• Open flames				
• Smoking				
Cutting and weldingHot surface				

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• Frictional heat			
Sparks (static, electrical, or mechanical)			
Spontaneous ignition (heat producing chemical reactions)			
Radiant heat			
Demonstrations that when ignitable or reactive waste is being handled, the owner or operator confines smoking and open flames to specifically designated locations. "No Smoking" signs must be conspicuously placed wherever a hazard exists for ignitable or reactive waste.			
F-5b General Precautions for Handling Ignitable or Reactive Waste and Mixing of Incompatible Waste		F-5b	
A description of the precautions taken by a facility that treats, stores, or disposes of ignitable or reactive waste, or accidentally mixes incompatible waste or incompatible wastes or other materials, to prevent reactions which:			

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- generate extreme heat or pressure, fire or explosions, or violent reactions;			
<pre>- produce uncontrolled flammable fumes, dusts, or gases in sufficient quantities to threaten human health or the environment;</pre>			
<pre>- produce uncontrolled flammable fumes or gases in sufficient quantities to pose a risk of fire or explosions;</pre>			
 damage the structural integrity of the device or facility; 			
 by similar means threaten human health or the environment. 			
Documentation to meet requirements of 264.17(a) or (b) may be based on references to published scientific or engineering literature, data from trial tests, waste analyses, or results of treatment of similar wastes by similar treatment processes and under similar operating conditions.	264.17(c)	335-14-502(8) (c)	

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F-5c Management of Ignitable or Reactive Wastes in Containers Sketches, drawings, or data demonstrating that containers of ignitable or reactive wastes are located at least 15 meters (50 feet) from the facility's property line.	270.15(c) 264.176	335-14-802(6) (c) 335-14-509(7)	F-5c, Appendix D-1-5
F-5d Management of Incompatible Wastes in Containers A description of procedures to demonstrate compliance with 264.177(a) and (b) and 264.17(b) and (c):	270.15(d) 264.177	335-14-802(6) (d) 335-14-509(8)	F-5d
• The procedures used to ensure that incompatible wastes and materials are not placed in the same container (unless 264.17(b) is complied with) or in an unwashed container that previously held compatible waste	264.177(a) 264.177(b)	335-14-509(8) (a) 335-14-509(8) (b)	
Dikes, berms, walls, or other devices used to separate containers, holding wastes which are incompatible with wastes or materials stored nearby.	264.177(c)	335-14-509(8) (c)	

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F-5e Management of Ignitable or Reactive Wastes in Tanks	270.16(f)	335-14-802(7) (f)		
A description of the procedures for handling compatible, ignitable, or reactive wastes, including the use of buffer zones. 264 requirements include:	264.198	335-14-510(9)		
• Waste must be created, rendered, or mixed before or immediately after placement in the tank so that it is no longer considered ignitable and complies with 264.17(b); or the waste is stored or treated in such a way that it is protected from any material or conditions that may cause the waste to react or ignite; or the tank is used solely for emergencies				
• Facilities that treat or store ignitable or reactive waste in covered tanks must comply with the National Fire Protection Association's buffer zone requirements for tanks				
F-5f Incompatible Wastes in Tanks	270.16(f)	335-14-802(7) (f)	F-5f	N/A - Incompatible Wastes are not managed in tanks.
A statement that incompatible wastes and materials are not stored in the same tank or in an unwashed tank that previously held an incompatible waste or material (unless 264.17(b) is complied with).	264.199	335-14-510(10)		

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F-5g Ignitable or Reactive Wastes in Waste Piles	270.18(f)	335-14-802(9) (f)	N/A	There are no waste piles at the facility.
The application must include a description of the procedure for handling ignitable or reactive wastes, including the use of buffer zones. Waste must be treated, rendered, or mixed before or immediately after placement in the wastes pile so that it is no longer considered ignitable and complies with 264.17(b); or the waste is stored or treated in such a way that it is protected from any material or conditions that may cause the waste to react or ignite.	264.256	335-14-512(7)		
F-5h Incompatible Waste in Waste Piles	270.18(g)	335-14-802(8) (g)	N/A	There are no waste piles at the facility.
The applicant must include:	264.257	335-14-512(8)		
• A statement that compatible wastes and materials are not stored in the same waste pile or on the same base that previously held an incompatible waste or material unless 264.17(b) is complied with				
• A description of the procedures (dikes, beams, walls, distances) utilized to separate a waste pile of hazardous waste that is incompatible with any waste or other material stored nearby.				

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F-5i Ignitable or Reactive Wastes in Surface Impoundments	270.17(g)	335-14-802(8) (g)	N/A	There are no surface impoundments at the facility.
• The application must include a description of the procedures for handling ignitable or reactive wastes, including the use of buffer zones. Waste must be treated, rendered, or mixed before or immediately after placement in the waste pile so that it is no longer considered ignitable and complies with 264.17(b); or				
 The waste is stored or treated in such a way that it is protected from any material or conditions that may cause the waste to react or ignite; 				
 The impoundment is used only for emergencies 				
F-5j Incompatible Wastes in Surface Impoundments	270.17(h)	335-14-802(8) (h)	N/A	There are no surface impoundments at the facility.
The application must include:	264.230	335-14-511(11)		
• A statement that incompatible wastes and materials are not stored in the same surface impoundments or in the impoundments that previously held an incompatible waste or material unless 264.17(b) is complied with.				

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			NI/A	
F-5k Ignitable or Reactive Wastes in Landfills	270.21(f)	335-14-802(12) (f)	N/A	There are no landfills at the facility.
Documentation of procedures for:	264.312	335-14-514(13)		
 Rendering wastes nonreactive or prior to or immediately after placement in the landfill 				
Preventing reactions				
 Protecting ignitable wastes in containers from materials or conditions that may cause them to ignite 				
F-51 Incompatible Wastes in Landfills			N/A	
Applicant must provide procedures for insuring that incompatible wastes will not be disposed of in the same landfill cell, unless 264.17(b) is complied with.				
F-5m Ignitable or Reactive Wastes in Land Treatment	270.20(g)	335-14-802(11) (g)	N/A	There are no land treatment units at the facility.
A description of the management of ignitable or reactive wastes which will be placed in or on the treatment zone, if applicable, and an explanation of how the following requirements will be complied with:				

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 The waste is immediately incorporated into the soil so that the resulting waste, mixture, or dissolution of material no longer meets the definition of ignitable or reactive waste and the requirements of 264.17(b) and complied with, or The waste is managed in such a way that it is protected from any material or conditions which may cause it to ignite or react. 				
F-5n Incompatible Wastes in Land Treatment	270.20(h)	335-14-802(11) (h)	N/A	There are no land treatment units at the facility.
A description of the management of incompatible wastes must be submitted if incompatible wastes, or incompatible wastes and materials, will be placed in or on the same treatment zone, including an explanation of how the requirements of 264.17(b) are complied with.	264.282	335-14-513(13)		

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REGULATORY COMPLETENESS CHECKLIST FOR HAZARDOUS WASTE STORAGE, TREATMENT AND DISPOSAL FACILITIES

G

Facility Name Address	Clean Earth of Alabama, Inc. 402 Webster Chapel Road	EPA ID Number ALD981020894 Permit Review Team
	Glencoe, AL 35905	
Contact Name		Date Application Received
Contact Phone	Number 256.492.8340	Date Review Completed

			Contir	ngency Plan - Module G	
Subject Requirement	40 CFR Section Nos.	ADEM Regulation Nos.	Location in Application	Comments	
PART G - CONTINGENCY PLAN A copy of the contingency plan	270.14(b)(7)	335-14-802(5) (b)7.	G		
required in Part 264, Subpart D. Include, where applicable, specific requirements in 264.227 and 264.225.	264.50 through 264.56	335-14-504(1) through (7)			
An existing spill prevention control plan can be amended to incorporate hazardous waste management provisions sufficient to comply with 264, Subpart D requirements.	264.52(b)	335-14-504(3) (b)			
G-1General Information	264.52	335-14-504(3)	G-1		
Facility name and location and	264.53	335-14-504(4)	G-1		
owner or operator name	265.37	335-14-503(8)			
• Site plan			Appendix G-1-1		
Description of facility operations			G-1		

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G-2 Emergency Coordinators	264.52(d)	335-14-504(3) (d)	G-2	
 Names, addresses, office and home phone numbers, and duties of primary and alternate coordinators in sequences as alternates 	264.55	335-14-504(6)	Table G-2-1	
A statement authorizing designated coordinators to commit the necessary resources to implement the contingency			G-2	
PlanCan reach facility in short period of time			G-2	
G-3 Implementation	264.52(a)	335-14-504(3)	G-3	
Criteria for implementation of contingency plan for any potential emergency:	264.56(d)	(a) 335-14-504(7) (d)		
• Fires/explosions				
Unplanned sudden or non-sudden release of hazardous waste or hazardous waste constituents to air, soil, or surface water				
G-4 Emergency Response Procedures	264.56(a)	335-14-504(7) (a)		
G-4a Notification			G-4a	
Methodology for immediate notification of facility personnel and necessary state or local agencies.				

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G-4b Identification of Hazardous Materials Available data and/or procedures for identification of hazardous materials involved in the emergency and quantity and areal extent of release. Include information on: Characteristics of waste Exact source Amount Areal extent of release	264.56(b)	335-14-504(7) (b)	G-4b	
 G-4c Hazardous Assessment Procedure for assessment of possible hazards to the environment and human health Procedures for determining the need for evacuation and notification of authorities. The authorities to be notified must include the On-Scene-Coordinator for that area or the National Response Center. 	264.56(c) 264.56(d)	335-14-504(7) (c) 335-14-504(7) (d)	G-4c	
 G-4d Control Procedures Specific responses and control procedures to be taken in the event of a fire, explosion, or release of hazardous waste to air, land, or water. 	264.52(a)	335-14-504(3) (a)	G-4d	

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G-4e Prevention of Recurrence or Spread of Fires, Explosions, or Releases	264.56(e)	335-14-504(7) (e)	G-4e	
During an emergency situation, a description of the necessary steps to be taken to ensure that fires, explosions, or releases do not occur, reoccur, or spread to other hazardous waste at the facility. Steps must include, where applicable:				
Shut-down of processes and continued monitoring of them				
Collecting, containing, and treating released wastes	Guidance			
Removing and isolating containers				
 Proper use of fire control structures (e.g., fire doors), systems (e.g., sprinkler systems), and equipment (e.g., extinguishers) 				
G-4f Storage and Treatment of Released Material	264.56(f)	335-14-504(7) (f)	G-4f	
	264.56(g)	335-14-504(7) (g)		
 Provisions to monitor for leaks, pressure buildup, gas generation, or ruptures as appropriate if operations at the facility are stopped in response to a release, fire, or explosion 				
Provisions for treatment, storage, or disposal of any hazardous waste resulting from a release, fire, or explosion at the facility				

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Equipment available	Guidance			
Procedures for deployment of these resources	Guidance			
 Methods to contain, treat, and clean up a hazardous release and decontaminate the affected area 	Guidance			
G-4g Incompatible Waste	264.56(h)(l)	335-14-504(7)	G-4g	
Provisions for preventing waste which is incompatible with the released material from being treated, stored, or located in the affected areas until cleanup procedures are completed.		(h)1.		
G-4h Post-Emergency Equipment Maintenance	264.56(h)(2)	335-14-504(7) (h)2.	G-4h	
Procedures for ensuring that all emergency equipment listed in the contingency plan is cleaned and fit for its intended use before operations are resumed. (This includes advising authorities.)	264.56(i)	335-14-504(7) (i)		
G-4i Container Spills and Leakage	264.171	335-14-509(2)	G-4i	
Procedures for responding to container spills or leakage including removal of spilled waste and repair or replacement of containers.				
G-4j Tank Spills and Leakage	264.194(c),	335-14-510(5) (c)	G-4j	
Procedures for responding to tank spills or leakage including removal of spilled	264.200(a)(2),	335-14-5- .????????		
waste and repair of tank	264.194(c)(2)	335-14-510(5) (c)		

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• Procedures for responding to leaks or spills from tanks containing hazardous wastes F020, F021, F022, F023, F026, and F027; and procedures for immediate removal of these wastes from the containment systems and replacement or repair of the leaking tank	264.200(a)(2), 264.194(c)(2)	335-14-5- .?????????? 335-14-510(5) (c)2.		
G-4k Surface Impoundment Spills, Leakage, and Sudden Drops	270.14(b)(7),	335-14-802(5) (b)7.	N/A	There are no surface impoundments at the facility.
	264.227	335-14-511(8)		
Procedures for stopping waste additions	264.227(b)(1)	335-14-511(8) (b)1.		
	264.227(b)(2)	335-14-511(8) (b)2.		
Procedures for containing any leakage	264.227(b)(3)	335-14-511(8) (b)3.		
	264.227(b)(4)	335-14-511(8) (b)4.		
 Procedures for stopping leaks and preventing sudden drops and preventing catastrophic failure 				
Procedures and criteria for emptying impoundment	264.227(b)(5)	335-14-511(8) (b)5.		
• Procedures for installing a liner in existing portions of the impoundment or procedures for certification of the liner in other than existing portions when the impoundment is removed from service as the result of a sudden drop in liquid level	264.227(d)(2)	335-14-511(8) (d)2.		

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Obtain qualified engineers certification of repairs and probability of leakage or failure				
G-5 Emergency Equipment	264.52(e)	335-14-504(3)		
Location, description, and capabilities of emergency equipment. This should include:		(e)		
Spill control equipment			G-5 Appendix G-5-1	
Fire control equipment	Guidance		Appendix G-5-2	
 Personal protective items such as respirators and protective clothing 				
First aid and medical supplies				
Emergency decontamination equipment				
Emergency communication and alarm systems				
G-6 Coordination Agreements	264.37	335-14-503(8)		
	264.52(c)	335-14-504(3) (c)		
• A description of coordination agreement with local police and fire departments, hospitals, contractors, and state and local emergency response teams to familiarize them with the facility and actions needed in case of emergency			G-6 Appendix G-6-2	
A statement indicating that a copy of the contingency plan has been submitted to these organizations	264.53(b)	335-14-504(4) (b)	G-6	

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If applicable, document of refusal to enter into a coordination agreement	265.37(b)	335-14-503(8) (b)	N/A	
G-7 Evacuation Plan	264.52(f)	335-14-504(3) (f)	G-7	
The plan must include:		(- /		
Criteria for evacuation				
A description of signal(s) to be used to begin evacuation				
Primary and alternate evacuation routes				
G-8 Required Reports	264.56(u)	335-14-504(7)	G-8	
Provisions for submission of reports of emergency incidents within 15 days of occurrence				
 Notation of such incidents in the operating record identifying the time, date, and details of these emergency incidents 				

REGULATORY COMPLETENESS CHECKLIST FOR HAZARDOUS WASTE STORAGE, TREATMENT AND DISPOSAL FACILITIES

Н

Facility Name Address	Clean Earth of Alabama, Inc. 402 Webster Chapel Road	EPA ID Number ALD981020894 Permit Review Team
	Glencoe, AL 35905	
Contact Name Contact Phone	Bryan Jones Number 256.492.8340	Date Application Received

Personnel Training - Module				
Subject Requirement	40 CFR Section Nos.	ADEM Regulation Nos.	Location in Application	Comments
PART H - PERSONNEL TRAINING	270.14(b)(12),	335-14-802(5) (b)12.		
	264.16	335-14-502(7)		
H-1 Outline of Training Program			Section H	
An outline of both the introductory and continuing training programs by owners or operators to prepare the personnel to operate and maintain the facility in a safe manner as required to demonstrate compliance with 264.16. Include a brief description of how training will be designed to meet actual job tasks in accordance with requirements in 264.16(a)(3). (Note: On-the-job training may be used to comply with these requirements).				

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H-la Job Titles and Duties	264.16(d)(1),	335-14-502(7) (d)1.	H-1a
For each employee whose position at the facility is related to hazardous waste management, the following must be maintained at the facility:	264.16(d)(2)	335-14-502(7) (d)2.	
• Job title			
• Job duties			
Job description			
H-1b Training Content, Frequency, and Techniques	264.16(a)(3),	335-14-502(7) (a)3.	H-1b
In both introductory and continuing training (including	264.16(c),	335-14-502(7) (c)	
an annual review of the initial training) for <u>each</u> employee, describe:	264.16(d)(3)	335-14-502(7) (d)3.	
Training content			
Frequency of training			
• Technique(s) used in training			
H-1c Training Director	264.16(a)(2)	335-14-502(7)	H-1c
Demonstration that the program is directed by a person trained in hazardous waste management:		(a)2.	
Credentials of training director	Guidance		

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H-1d Relevance of Training to Job Position	264.16(a)(2)	335-14-502(7) (a)2.	H-1d	
A brief description of how instructions of facility personnel in hazardous waste management procedures (including contingency plan implementation) is relevant to their positions. [To demonstrate compliance with 264.16(a)(2).]				
H-le Training for Emergency Response	264.16(a)(3)	335-14-502(7) (a)3.	H-1e	
Documentation that the training program trains facility personnel to respond effectively to emergencies and trains them to be familiar with emergency procedures, emergency equipment, and emergency systems, include where applicable:				
 Procedures for using, inspecting, repairing, and replacing facility emergency and monitoring equipment 	264.16(a)(3) (i)	335-14-502(7) (a)3.(i)	H-1e	
Key parameters for automatic waste feed cut-off systems	264.16(a)(3) (ii)	335-14-502(7) (a)3.(ii)	H-1e	
Communications or alarm systems	264.16(a)(3) (iii)	335-14-502(7) (a)3.(iii)	H-1e	
Response to fires or explosions	264.16(a)(3) (iv)	335-14-502(7) (a)3.(iv)	H-1e	
Response to groundwater contamination incidents	264.16(a)(3) (v)	335-14-502(7) (a)3.(v)	H-1e	
Shutdown of operations	264.16(a)(3) (vi)	335-14-502(7) (a)3.(vi)	H-1e	

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H-2 Implementation of Training Program	264.16(d)(4)	335-14-502(7) (d)4.	H-2
• Indication that training has been and will be successfully completed by facility personnel within 6 months of their employment or assignment to a facility, or transfer to a new position at a facility, whichever is later. (Note: Employees hired after the effective date of these regulations must not work in unsupervised positions until they have completed the training requirements).	264.16(b) 264.16(e)	335-14-502(7) (b) 335-14-502(7) (e)	
 Records documenting that the required training has been given to and completed by facility personnel must be maintained 			H-2

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I REGULATORY COMPLETENESS CHECKLIST FOR HAZARDOUS WASTE STORAGE, TREATMENT AND DISPOSAL FACILITIES

Facility Name Address	Clean Earth of Alabama, Inc. 402 Webster Chapel Road	EPA ID Number ALD981020894 Permit Review Team
	Glencoe, AL 35905	
	Bryan Jones	Date Application Received

Closure/Post-	Closure and Financial R	equirements - Module I

Closure/Fost Closure and Financial Requirements Modul				
Subject Requirement	40 CFR Section Nos.	ADEM Regulation Nos.	Location in Application	Comments
PART I - CLOSURE PLANS, POST- CLOSURE PLANS, AND FINANCIAL REQUIREMENTS	270.14(b)(13)	335-14-802(5) (b)13.	Section I	
	[12/10/87]			
	270.14(b)(15)	335-14-802(5) (b)15.		
	[5/02/86]			
	270.14(b)(16),	335-14-802(5) (b)16.		
	[5/02/86]			
	270.14(b)(17)	335-14-802(5) (b)17.		
	270.14(b)(18),	335-14-802(5) (b)18.		
	264.110- 264.151,	335-14-507(1) - 335-14-508(12)		
	264.178,	335-14-509(9)		
	264.197,	335-14-510(8)		
	264.228,	335-14-511(9)		
	264.258,	335-14-512(9)		
	264.280,	335-14-513(11)		
	264.310,	335-14-514(11)		
	264.351	335-14-515(12)		

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I-1 Closure Plans A copy of the written closure plan required by 264.112 and consistent with Items I-la through I-le.	270.14(b)(13), 264.112 [5/02/86]	335-14-802(5) (b)13. 335-14-507(3)		
I-la Closure Performance Standard A description of how closure: • Minimizes the need for	264.111 [264.112 requires consistency with 264.111)	335-14-507(2)	I-1a	
further maintenanceControls, minimizes, or eliminates post-closure	[5/02/86]		 -1a	
escape of hazardous waste, hazardous constituents, leachate, contaminated run- off, or hazardous waste decomposition products to the ground or surface waters or to the atmosphere				
Complies with the closure requirements of Subpart G and unit-specific closure requirements			I-1a	
• Estimated expected year of closure for facilities that use trust funds to establish financial assurance and that are expected to close prior to the expiration of the permit			N/A	The facility does not use a trust fund to establish financial assurance.

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I-1b Partial Closure and Final Closure Activities	264.112(b),	335-14-507(3) (b)		
Fully describe time and all activities required for:	264.112(b)(1) through 264.112(b)(7)			
 Partial closure, if applicable 	outline minimum		I-1b	
• Final closure	acceptable plan			
Maximum extent of operation which will be active during	acceptable plan			
life of facility.	[5/02/86]			
Description must identify how requirements of 264.111, 264.113, 264.114, 264.115 and applicable requirements of 264.178, 264.197, 264.228, 264.258, 264.280, 264.310, and 264.351 will be met				
I-1c Maximum Waste Inventory	264.112(b)(3)	335-14-507(3_		
A description of the maximum inventory of wastes that could be in storage, treatment, and disposal at any time during the life of the facility.	[5/01/86]	(b)3.	I-1c	
Methods for removing, transporting, treating, storing, or disposing of all hazardous wastes. Identification of the type(s) of off-site hazardous waste management units to be used.			I-1c	

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		005 14 5 05/0		
I-1d Schedule for Closure	264.112(b)(6)	335-14-507(3) (b)6.		
A schedule for final closure including:	[5/02/86]			
Each HWMU and final closure of the facility			I-1d	
Closure schedule with total time to close, time for intervening closure activities, and inspection schedule during closure			I-1d	
• Estimated expected year of closure for facilities that use trust funds to establish financial assurance and that are expected to close prior to the expiration of the permit			N/A	The facility does not use a trust fund to establish financial assurance.
I-1d(1)Time Allowed for Closure	264.112(b)(2),	335-14-507(3) (b)2.		
 The schedule for closure must show: All hazardous wastes will be treated, removed off-site, or disposed of on-site within 90 days from receipt of final volume of waste at the unit or facility 	264.113(a) & (b) [5/02/86]	335-14-507(4) (a) & (b)	I-1d(1)	
All closure activities will be completed within 180 days from receipt of final volume of waste at the unit or facility			1-10(1)	

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I-1d(1)(a) Extensions for Closure Time	264.113(a),	335-14-507(4) (a)		
A petition made to the Regional Administrator for a schedule for closure which exceeds the 90 days for treatment, removal, or disposal of wastes and/or the 180 days for completion of closure activities made to the Regional Administrator. One of the following must be demonstrated. • Closure activities require longer than 90 or 180 days	264.113(b) [5/02/86]	335-14-507(4) (b)	I-1d(1)(a)	An extention of closure time is not anticipated.
Unit or facility has capacity to receive additional wastes				
There is a reasonable likelihood that another person other than owner or operator will recommend operation of the site within one year				
Closure would be incompatible with continued operation				
Demonstrate that all steps have and will be taken to prevent threats to human health and environment from unclosed but inactive facility.				
I-1e Closure Procedures	264.112,	335-14-507(3)		
	264.114	335-14-507(5)		
	[5/02/86],			
	270.14(b)(13)	335-14-802(5) (b)13.		
	[5/02/86]			

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I-1e(1)Inventory Removal, Disposal, or Decontamination of Equipment A description of how all facility equipment and structures will be decontaminated or disposed of when closure is completed. The following should be included:	264.112(b)(4) [5/02/86]	335-14-507(3) (b)4.	I-1e	
Decontamination procedures			I-1e(1) , I-1e(4)	
Criteria for determining decontamination			I-1e(1), I-1e(4)	
List of equipment, structures, and soils			I-1e(1), I-1e(4)	
Disposal of contaminated soil and residues			I-1e(3), I-1e(4)	
Decontamination of cleanup materials and equipment			I-1e(1), I-1e(4)	
Demonstrate decontamination has been effective			I-1e(1), I-1e(4)	
A demonstration that any hazardous constituents left will not impact environmental media in excess of agency established exposure levels, and direct contact will not pose a threat to human health and the environment.	264.111(b) [05/02/86] Guidance (Preamble 51 FR 16444, May 2, 1986)	335-14-507(2) (b)	N/A	All units will be clean closed.

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I-1e(2)Closure of Disposal Units	270.14(b)(13),	335-14-802(5)	N/A	There are no disposal units
Closure plans for all piles,		(b)13.	1.97.	at the facility.
landfills, surface impoundments, and miscellaneous	270.17(f),	335-14-802(8) (f)		
disposal units in which wastes or contaminated materials are to remain at closure must	270.18(h),	335-14-802(9) (h)		
describe how the unit will be closed, including a description of the final cover to be	270.21(e),	335-14-802(12) (e)		
established and its expected performance. contingent closure plan for tanks, surface	264.228(a)(2),	335-14-511(9) (a)2.		
impoundments, and waste piles also must provide these	264.228(c)(1) (i),	335-14-511(9) (c)1.(i)		
descriptions.	264.258(c),	335-14-512(9) (c)		
	264.310(a),	335-14-514(11) (a)		
	264.601	335-14-524(2)		
I-1e(3)Closure of Containers	264.178	335-14-509(9)	I-1e(3)	
A description of how at closure, all hazardous waste residues will be removed from the containment system, and how remaining containers, bases, and soil containing or contaminated with hazardous waste or hazardous waste residues will be decontaminated or removed.				
The description should address the following:				
Hazardous waste removal and disposal	Guidance		I-1e(1)	
Container decontamination and disposal	Guidance		N/A	Containers will be removed for disposal.

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Site decontamination and disposal including linings, soil, and washes	Guidance		I-ie(3)	
Verification of decontamination	Guidance		I-ie(3)	
Maximum inventory	264.112(b)(3)	335-14-507(3) (b)3.	I-1c	
I-le(4)Closure of Tanks A description of how at closure, all hazardous waste residues will be removed from tanks, discharge control equipment, and secondary containment structure, and the facility will be decontaminated. The description should address the following:	264.197(a)	335-14-510(8) (a)	I-1e(4)	
Waste removal from tanks and equipment	Guidance		I-1e(4)	
Decontamination of all components	Guidance		I-1e(4)	
Verification of decontamination	Guidance		I-1e(4)	
Disposal of wastes and residues	Guidance		I-1e(4)	

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Maximum inventory	264.112(b)(3)	335-14-507(3) (b)3.	I-1c	
If not all contaminated soils can be removed or decontaminated at closure, a closure and post-closure plan for a landfill must be included. If the tank systems do not have secondary containment or are not exempt, the a contingent closure and post-closure plan for a landfill must be provided.	264.197(b) [5/02/86] 264.197(c)	335-14-510(8) (b) 335-14-510(8) (c)	I-13(4)	
I-1e(5)Closure of Waste Piles The application must describe how all hazardous waste residues, contaminated containment system components (liners, etc.), contaminated subsoils, and structures and equipment contaminated with waste and leachate will be removed or decontaminated at closure and managed as hazardous waste.	270.18(h) 264.258 264.112(b)(4)	335-14-802(9) (h) 335-14-512(9) 335-14-507(3) (b) 4.	N/A	There are no waste piles at the facility.
If any wastes, waste residues, or contaminated materials or soils will remain after closure, provide plans for closing the pile as a landfill [I-1f(6)] and provide postclosure plan [I-2].				

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Piles without liners or with liners that do not meet the requirements of D-3e must also provide contingent plans for closing the facility as a landfill [I-ld(6)] and a contingent post-closure [I-2], except for dry, enclosed piles meeting the requirements of D-3b or piles for which a liner exemption is sought in accordance with D-3c. The description should address the following: • Procedure and criteria for determining whether or not decontamination has been successful • Sampling and analytical techniques			N/A	
A description of how all hazardous waste residues, contaminated containment system components (liners, etc.), contaminated subsoils, and structures and equipment contaminated with waste and leachate will be removed or decontaminated at closure and managed as hazardous waste.	264.228(a)(1), (2) 264.228(b)	335-14-511(9) (a)1. & 2. 335-14-511(9) (b)		,
The description should address the following:Procedures and criteria for determining whether or not decontamination has been successful	Guidance			

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Sampling and analytical	Guidance		
techniques			
• Continuance of treatment during closure (if appropriate).	Guidance		
 If any wastes, waste residues or contaminated materials or soils will remain after closure, provide plans for closing the surface impoundment in place and provide post-closure plans [I-2]. Plans for closing a surface impoundment in place must address the following: Elimination of liquids by removal or solidification 			
Stabilization of wastes to sufficient bearing capacity			
• Final cover designed and constructed to provide long-term minimization of migration of liquids through the closed impoundment, function with minimal maintenance, promote drainage, and minimize erosion of final cover, accommodate settling and subsidence, and have a permeability less than or equal to that of the bottom liner system or natural subsoils present.			

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Surface impoundments without liners or with liners that do not meet requirements of D-4c must also provide contingent plans for closure in place and a contingent post-closure plan [I-2], except for impoundments requesting a liner exemption in accordance with D-4b.				
I-1e(7)Closure of Incinerators Description of how at closure all hazardous waste and hazardous waste residues including ash, scrubber waters, and scrubber sludges will be removed from the incinerator, associated duct work, piping, air pollution control equipment, sumps and any other structures or operating equipment such as pumps, valves etc., that have come into contact with the hazardous waste. Alternatively, a description of how the incinerator and associated units and equipment will be dismantled and disposed of as a hazardous waste will suffice.	264.351	335-14-515(12)	N/A	There are no incinerators at the facility.
I-1e(8)Closure for Landfills Provide detailed plans and an engineering report which describe the final cover components in detail. Cover installation and construction quality assurance procedures should be thoroughly described. these detailed plans and engineering reports must describe how the final cover will:	270.21(e), 264.310(a), 264.280(b)	335-14-802(12) (e) 335-14-514(11) (a) 335-14-513(11)	N/A	There are no landfills at the facility.

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Provide long-term minimization of migration of liquids through closed landfill				
Function with minimum maintenance				
Promote drainage and minimize erosion/abrasion				
Settle/subside without losing integrity				
Be less permeable than bottom liners or subsoils				
Withstand freeze/thaw cycles				
I-1e(9)Closure of Land Treatment	270.20(f),	335-14-802(11) (f)	N/A	There are no land treatment units at the facility.
During closure of land treatment facilities, the owner or operator must comply with the following:	264.280(a)	335-14-513(11) (a)		,
• Continue all operations (including pH control) necessary to maximize degradation, transformation, or immobilization of hazardous constituents within the treatment zone as required, except to the extent such measures are inconsistent with 264.280(a)(8).				
Continue all operations in the treatment zone to minimize run-off of hazardous constituents				
Maintain the run-on control system				

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Maintain the run-off management system		
Control wind dispersal of hazardous waste if required		
Continue to comply with any prohibitions or conditions concerning growth of food-chain crops		
Continue unsaturated zone monitoring except that soil-pore liquid monitoring may be terminated 90 days after the last application of waste to the treatment zone		
• Establish a vegetative cover on the portion of the facility being closed at such time that the cover will not substantially impede degradation, transformation, or immobilization of hazardous constituents in the treatment zone. The vegetative cover must be capable of maintaining growth without extensive maintenance.		
When closure is complete the owner-operator may submit to the Regional Administrator certification by an independent qualified soil scientist, in lieu of an independent registered professional engineer, that the facility has been closed in accordance with the specifications in the approved closure plan.		

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I-1e(10) Closure of	264.601	335-14-524(2)	N/A	There are no miscellaneous units at the facility.
Miscellaneous Units	270.23(a)(2)	335-14-802(14)		units at the facility.
Show that at closure, all		(a)2.		
hazardous waste and hazardous waste residues will be removed	[12/10/87]			
from the treatment process or				
equipment, discharge control				
equipment, and discharge confinement structures, and				
that the facility will be				
decontaminated. Description of				
the sampling/test procedures or other means used to ensure that				
no contamination remains on,				
in, or around the units and				
associated equipment and				
structures. If any wastes,				
waste residues, or contaminated materials or soils will remain				
after closure, provide plans				
for closing the miscellaneous				
unit as a disposal unit [I-				
<pre>le(2)] and provide post-closure plans [I-2].</pre>				

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I-2 Post-Closure Plan	270.14(b)(13),	335-14-802(5)	N/A	The facility intends to clean
An owner /operator of a disposal facility must have a written post-closure plan, or, of	270.17(f),	(b)13. 335-14-802(8) (f)		close, thus post-closure care is not anticipated.
applicable, a contingent post- closure plan. A copy of the approved plan and all revisions	270.18(h),	335-14-802(9) (h)		
to the plan must be kept at the facility until the post-closure care begins. Landfill, surface	270.20(f),	335-14-802(11) (f)		
impoundment, waste pile, and tank post-closure plans should address items I-2a, b, c, f, g,	270.21(e),	335-14-802(12) (e)		
h; land treatment unit post- closure plan, items I-2d, f, g, and h; miscellaneous units	270.23(a)(3),	335-14-802(14) (a)3.		
should address items I-2a, b,	264.118	335-14-507(9)		
c, e, f, g, and h.	[5/02/86],			
	264.197(b),	335-14-510(8) (b)		
	264.197(c)(2),	335-14-510(8) (c)2.		
	264.228(b),	335-14-511(9) (b)		
	264.228(c)(1) (ii),	335-14-511(9) (c)1.(ii)		
	264.258(b),	335-14-512(9) (b)		
	264.258(c)(1) (ii),	335-14-512(9) (c)1.(ii)		
	264.280(c),	335-14-513(11) (c)		
	264.310(b),	335-14-513(11) (b)		
	264.603	335-14-524(4)		

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I-2a Inspection Plan	264.118(a),	335-14-507(9) (a)	
A description of the inspections to be conducted during the post-	[5/12/86]		
<pre>closure care period, their frequency, the inspection procedures, and the logs to be</pre>	264.197(b),	335-14-510(8) (b)	
kept. The following items, as applicable, should be included in the inspection plan:	264.197(c)(2),	335-14-510(8) (c)2.	
Security control devices	264.228(b),	335-14-511(9) (b)	
• Erosion damage	264.228(c)(1) (ii),	335-14-511(9) (c)1.(ii)	
 Cover settlement, subsidence, and displacement 	264.258(b),	335-14-512(9) (b)	
Vegetative cover condition	264.258(c)(1)	335-14-512(9)	
 Integrity of run-on and run- off control measures 	(ii),	(c)1.(ii)	
Cover drainage system function	264.310(b)	335-14-514(11) (b)	
 Leachate collection/detection and removal system maintenance 			
Gas venting system			
• Well condition			
Benchmark integrity			
 The rationale to be used to determine the need for corrective maintenance activities. 			

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I-2b Monitoring Plan	264.118(b)(1)		
A description of the monitoring to be conducted during the	[5/02/86]		
<pre>post-closure care period, including, as applicable, the procedures for conducting the</pre>	264.228(b),		
following operations an evaluating the data gathered should include:	264.197(b),		
- Groundwater monitoring	264.197(c)(2),		
 Leachate collection/detection and removal 	264.228(c)(1)(ii),		
	264.258(b),		
	264.258(c)(1)(ii),		
	264.310(b)		
I-2c Maintenance Plan	264.118(b)(2),	335-14-507(9) (b)2.	
A description of preventative and corrective maintenance	[5/02/86]	(3)2.	
<pre>procedures, equipment procedures, equipment requirements, and material</pre>	264.197(b),	335-14-510(8) (b)	
<pre>needs. Include the following items in the maintenance plan, as applicable:</pre>	264.197(c)(2),	335-14-510(8) (c)2.	
Repair of security control devices	264.228(b),	335-14-511(9) (b)	
Erosion damage repair	274.228(c)(1) (ii),	335-14-511(9) (c)1.(ii)	
Correction of settlement, subsidence, and displacement	264.258(b)	335-14-512(9) (b)	
Mowing, fertilization, and other vegetative cover maintenance	264.258(c)(1) (ii),	335-14-512(9) (c)1.(ii)	

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Repair of run-on and run-off control structures	264.310(b)	335-14-514(11) (b)		
Leachate collection/detection system maintenance				
• Well replacement				
 The rationale to be used to determine the need for corrective maintenance activities 				
I-2d Land Treatment	264.280(c)	335-14-513(11)		
A description of the operation, inspection, and maintenance programs to be used at the closed facility. Include descriptions of the procedures for conducting the following activities and identify frequencies at which they are to be conducted:				
Continuance of land treatment				
Vegetative cover maintenance				
 Maintenance of run-on control system and run-off management systems 				
Wind dispersal control				
Control of food chain crops				
Unsaturated zone monitoring				

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I-2e Post-Closure Care for Miscellaneous Units	270.23(a)(3),	335-14-802(14) (a)3.	
A detailed description of the	264.603	335-14-524(4)	
plans to ensure protection of human health and the environment. Include the prevention of any releases to groundwater or subsurface environment; surface water or wetlands or on the soil surface; or to air. This will include providing related information from [D-8].	[12/10/87]		
I-2f Post-Closure Security	264.117(b)	335-14-507(8)	
Indicate which security provisions will continue during closure when hazardous wastes will remain exposed after completion of partial or final closure or access by the public or domestic livestock may pose a hazard to human health.	[5/02/86]	(b)	
I-2g Post-Closure Contact	264.118(b)(3)	335-14-507(9)	
Provide the name, address, and phone number of the person or office to contact about the hazardous waste disposal unit or facility during the postclosure care period.	[5/02/86]	(b)3.	
I-3 Notices Required for Disposal Facilities			

I-3a Certification of Closure	264.115	335-14-507(6)	N/A	There are no hazardous waste
A statement by the applicant which indicates that within 60 days of completion of closure of each hazardous waste surface impoundment, waste pile, land treatment, and landfill unit, and within 60 days of the completion of final closure, closure certification will be submitted to the Regional Administrator. The certification must certify that the hazardous waste management unit or facility, as applicable, has been closed in accordance with the specifications of the approved closure plan. The certification must be signed by the owner/operator and by an independent registered professional engineer (or by independent qualified soil scientist in the case of a land treatment closure).	[5/02/86], 264.280(b)	335-14-5-13(11) (b)		surface impoundments, waste piles, land treatment or Landfill units at the CEA facility.

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			1.1/4	There are no disposal units at
I-3b Survey Plat	264.116	335-14-507(7)	N/A	
A statement by the applicant which indicates that no later than the submission of certification of closure of each hazardous waste disposal unit, a survey plat indicating the location and dimensions of landfill cells or other disposal units with respect to permanently surveyed benchmarks, will be submitted to the local zoning authority (or authority with jurisdiction over local land use) and to the Regional Administrator. The plat must be prepared and certified by a professional land surveyor and must contain a note, prominently displayed, which states the owner-operator's obligation to restrict disturbance of the disposal unit in accordance with applicable 40 CFR 264 Subpart G regulations.	[5/02/86]			the facility.
I-3c Notice to Local Land Authority	264.119 [5/02/86]	335-14-507(10)	N/A	There are no disposal units at the facility.
Documentation by applicant that within 60 days after closure, a record of the type, location, and quantity of hazardous waste within each cell or disposal area will be submitted to the appropriate local land use authority and to the Regional Administrator.	, , , , , , , , , , , , , , , , , , ,			

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I-3d Post-Closure Certification	264.120	335-14-507(11)	N/A	There are no disposal units at
Provide a statement which indicates that within 60 days of completion of the post-closure care period for each hazardous waste disposal unit, certification will be submitted to the Regional Administrator. The certification must certify that the post-closure care period for the hazardous waste disposal unit was performed in accordance with the specifications of the approved post-closure plan. The certification must be signed by the owner/operator and by an independent registered professional engineer.	[5/02/86]			the facility.
I-3e Notice in Deed to Property Documentation by applicant that she/he has or will record a notation on the facility deed,	270.14(b)(14), 264.119	335-14-802(5) (b)14. 335-14-507(10)	N/A	There are no disposal units at the facility.
or other instrument examined during a title search, that notifies any potential purchase of the property that:	[5/02/86]			
The property has been used to manage hazardous wastes				
Use of the land is restricted to activities that will not disturb integrity of final cover system, or monitoring system during post-closure care period				
 Requirements stated under I- 3a above have been complied with 				

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I-4 Closure Cost Estimate	270.14(b)(15)	335-14-802(5)	I-4, Appendix I-4-1	
A copy of the most recent closure or contingent closure cost estimate, prepared in accordance with 264.142.	[5/02/86]	(b)15.		
Cost estimate based on third party costs	264.142(a)(2)	335-14-508(3) (a)2.		
Fully loaded (most costly)	Guidance			
No salvage credits	264.142(a)(3), (4)	335-14-508(3) (a)3. & 4.		
Current year costs	264.142(a)	335-14-508(3) (a)		
 Cost adjusted annually from anniversary date of first cost estimate 	264.142(b)	335-14-508(3) (b)		
Based on point in operating life when extent and manner of operation would make closure most expensive.	264.142(a) [5/02/86]	335-14-508(3) (a)		
I-5 Financial Assurance Mechanism for Closure	270.14(b)(15)	335-14-802(5) (b)15.	Appendix I-5-1	Per discussions with ADEM personnel, the present
A copy of the established	264.143	335-14-508(4)		financial assurance mechanism is provided. An updated
financial assurance mechanism for facility closure adopted in	264.151	335-14-508(12)		mechanism will be submitted
compliance with 264.143. The mechanism must be one of the	[5/02/86]			prior to begining operation of proposed changes.
following [I-5(a) through I-5(f)] and include due dates and use standard wording.				, , , , , , , , , , , , , , , , , , , ,

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I-5a Closure Trust Fund	264.143(a),	335-14-508(4) (a)	N/A	
A copy of the closure trust fund agreement with the wording required in 264.151(a)(1) and a formal certification of acknowledgment.	264.151(a)(1)	335-14-508(12) (a)1.		
Bank or approval institution				
• Mechanics:				
 pay-in period; life of permit or remaining life of facility, whichever is shorter, 				
 annual payment; unfunded liability divided by years left in pay-in period 				
I-5b Surety Bond	264.143(b) & (c),	335-14-508(4) (b) & (c)	N/A	
A surety bond from a federally acceptable surety company meeting one of the following requirements:	264.151(b) & (c) [5/02/86]	335-14-508(12) (b) & (c)		
Surety bond guaranteeing payment into a closure trust	264.143(b),	335-14-508(4) (b)		
fund. A copy of the surety bond with the wording required in 264.151(b), a copy of the	264.151(b)	335-14-508(12) (b)		
standby trust fund agreement	[5/02/86]			
Surety bond guaranteeing performance of closure. A copy	264.143(c),	335-14-508(4) (c)		
of the surety bond with the wording required in part 264.151(c), guaranteeing that the owner/operator will perform closure according to the closure plan and the requirements of Subpart G.	264.151(c)	335-14-508(12) (c)		

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	1	1		
I-5c Closure Letter of Credit	264.143(d),	335-14-508(4) (d)	N/A	
A copy of a closure letter of credit with the wording required in 264.151(d):	264.151(d)	335-14-508(12) (d)		
• Irrevocable letter of credit				
At least one year period, automatic renewal				
Standby trust fund				
Amount reflects current cost estimate				
I-5d Closure Insurance	264.143(e)	335-14-508(4)	Appendix I-5-1	
To demonstrate that the owner/operator has closure insurance, she/he must submit to the Regional Administrator 60 days before hazardous waste is received a certificate of insurance worded as specified in 264.151(e).	264.151(e)	335-14-508(12) (e)		
Non-cancelable policy, automatic renewal				
Insurer licensed or eligible surplus lines carrier				
Certificate of insurance				
Funds available whenever final closure occurs				

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I-5e Financial Test and Corporate Guarantee for Closure	264.143(f),	335-14-508(4) (f)	N/A	
To demonstrate that this test is met, an owner/operator must	264.151(f),	335-14-508(12) (f)		
submit a letter signed by the company's chief financial officer that is worded as	264.151(h)	335-14-508(12) (h)		
specified in 264.151(f) and meets the following criteria:	[5/02/86]			
Tangible net worth \$10 million				
Tangible net worth six times all closure and post-closure costs				
U.S. assets at least 90% of total assets or at least six times all closure and post-closure costs				
Bond rating requirement or alternative financial ratio tests				
Application must include:				
- copy of a report from the owner's/operator's independent CPA to the owner/operator stating that she/he has examined the data in the letter from the chief financial officer and that it is consistent with the amounts in the independently-audited yearend financial statements				
for the latest fiscal year and that no matters came to attention to cause her/him to believe that the data should be adjusted				

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In lieu of the above items, the owner/operator may submit a corporate guarantee worded as required by 264.151(h). This guarantee provides that the guarantor must be the parent company of the owner/operator. A copy of these items should be submitted with the Part B for review by the permit writer.	264.143(f)(10)	335-14-508(4) (f)10.		
I-5f Combinations				
I-5f(1)Use of Multiple Financial Mechanisms A copy of a combination of trust fund agreements, surety bond guaranteeing payment into a closure trust fund, letter of credit, or insurance, and state assumption of responsibility, which provide financial assurance for the amount of closure. Combine financial assurance must be at least equal to the adjusted closure cost estimate. Financial assurance instruments must meet requirements 264.143(a),(b),(d), or (e) which include closure trust fund, surety bond guaranteeing payment into a closure trust fund, closure letter of credit, and closure insurance, respectively.	264.143(g)	335-14-508(4) (g)	N/A	

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I-5f(2)Use of Financial Mechanism for Multiple Facilities	264.143(h)	335-14-508(4) (h)	N/A	
A copy of a financial assurance mechanism for more than one facility showing, for each facility, the EPA ID number, name, address, and amount of closure funds assured by the mechanism.				
Total funding must be no less than the sum required for each facility considered separately. Documents must be submitted to each Region where facilities are located. Financial test applies to sum of closure and post-closure costs for all facilities.	264.143(h)	335-14-508(4) (h)		
I-6 Post-Closure Cost Estimate If landfill, land treatment, surface impoundments, or waste piles are utilized, the application must include a post-closure or a contingent post-closure cost estimate prepared in accordance with 264.144:	270.14(b)(16) 264.144 [5/02/86]	335-14-802(5) (b)16. 335-14-508(5)	N/A	
Fully loaded labor rate (third party)	Guidance			
No salvage values	Guidance			
No operation credits (gas, crops, livestock)	Guidance			
• Current year	Guidance			

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Based on the extent of operation most likely to make post-closure most expensive	Guidance			
• Inspection costs	Guidance			
Administration	Guidance			
Transportation	Guidance			
I-7 Financial Assurance Mechanism for Post-Closure	270.14(b)(16)	335-14-802(5) (b)16.	N/A	Post-closure care is not applicable to this facility.
A copy of the established	264.145	335-14-508(6)		
financial assurance mechanism for post-closure care adopted	264.151	335-14-508(12)		
in compliance with 264.145. the mechanism must be one of the following: [I-7(a) through I-7(f)] and include due dates and use standard wording	[5/02/86]			
I-7a Post-Closure Trust Fund	264.145(a),	335-14-508(6)		
A copy of the post-closure trust fund agreement with the wording required in 264.151(a)(1) and a formal certification of acknowledgment:	264.151(a)(1)	(a) 335-14-508(12) (a)1.		
Bank or approval institution				
Mechanics				
 pay-in period, life of permit or remaining life of facility, whichever is shorter 				
 annual payment; unfunded liability divided by years left in pay-in period 				

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I-7b Surety Bond	264.145(b) & (c),	335-14-508(6) (b) & (c)	
A surety bond from a federally acceptable surety company meeting one of the following requirements:	264.151(b) & (c) [5/02/86]	335-14-508(12) (b) & (c)	
• Surety bond guaranteeing payment into a post-closure trust fund. A copy of the surety bond with the wording required in 264.151(b), a copy of the standby trust fund agreement.	264.145(b), 264.151(b) [5/02/86]	335-14-508(6) (b) 335-14-508(12) (b)	
• Surety bond guaranteeing performance of post-closure activities. A copy of the surety bond with the wording required in Part 264.151(c), guaranteeing that the owner/operator will perform post-closure plan and the requirements of Subpart H.	264.145(c), 264.151(c)	335-14-508(6) (c) 335-14-508(12) (c)	
I-7c Post-Closure Letter of Credit	264.145(d),	335-14-508(6) (d)	
A copy of post-closure letter of credit with the wording required in 264.151(d):	264.151(d)	335-14-508(12) (d)	
Irrevocable letter of credit			
At least one year period, automatic renewal			
Standby trust fund			
Amount reflects current cost estimate			

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T 74 Dort Clarum Traumara	264 145(2)	225 14 5 00/6	
I-7d Post-Closure Insurance	264.145(e),	335-14-508(6) (e)	
To demonstrate that the owner/operator has post-closure insurance, she/he must submit to the Regional Administrator 60 days before hazardous waste is received a certificate of insurance worded as specified in 264.151(e):	264.151(e)	335-14-508(12) (e)	
 Noncancellable policy, automatic renewal 			
Insurer licensed or eligible surplus lines carrier			
Certificate of insurance			
Funds available whenever final post-closure occurs			
I-7e Financial Test and Corporate Guarantee for Post-	264.145(f)	335-14-508(6) (f)	
Closure	[5/02/86]		
To demonstrate that this test is met, an owner/operator must submit a letter signed by the	264.151(f)	335-14-508(12) (f)	
company's chief financial officer that his worded as specified in 264.151(f) and	264.151(h)	335-14-508(12) (h)	
meets the following criteria:	[11/18/87]		
Tangible net worth \$10 million			
Tangible net worth six times all closure and post-closure costs			
U.S. assets at least 90 percent of total assets or at least six times all closure and post-closure costs			

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Bond rating requirements or alternative			
 Application must include: copy of a report on the company's latest financial statements drafted by an independent certified public accountant (CPA) 			
- copy of a report from the owner's/operator's independent CPA to the owner/operator stating that she/he has examined the data in the letter from the chief financial officer and that it is consistent with the amounts in the independently-audited year-end financial statements for the latest fiscal year and that no matters came to attention to cause him to believe that the data should be adjusted			
In lieu of the above items, the owner/operator may submit a corporate guarantee worded as required by 264.151(h). This guarantee provides that the guarantor, which must be the parent company of the owner/operator, will perform post-closure activities in accordance with the post-closure plan if the owner/operator fails to do so or will establish a post-closure trust fund for the owner/operator. A copy of these items should be submitted with the Part B for review by the permit writer.	264.145(f)(10)	335-14-508(6) (f)10.	

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I-7f Combinations			
I-7f(1)Use of Multiple Financial Mechanisms	264.145(g)	335-14-508(6) (g)	
A copy of a combination of trust fund agreements, surety bond guaranteeing payment into a post-closure trust fund or letters of credit, insurance, and state assumption of responsibility, which provide financial assurance for the amount of post-closure. Combined financial assurance must be at least equal to the adjusted post-closure cost estimate. Financial assurance instruments must meet the requirements of 264.143(a), (b), (d), or (e) which include post-closure trust fund, surety bond guaranteeing payment into a post-closure trust fund, post-closure letter of credit, and post-closure insurance, respectively.			
I-7f(2)Use of Financial Mechanism for Multiple Facilities	264.145(h)	335-14-508(6) (h)	
A copy of a financial assurance mechanism for more than one facility showing, for each facility, the EPA ID number, name, address, and amount of closure funds assured by the mechanism. Total funding must be no less than the sum required for each facility considered separately. Documents must be submitted to each Region where facilities are located. Financial test applies to the sum of closure and post-closure costs for all facilities.			

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I-8 Liability Requirements Where applicable, a copy of the insurance policy or other documentation which comprises compliance with the requirements of 264.147. (Coverage is for all facilities owned and operated and applies until certification for closure and post-closure is completed. For facilities in Phase I authorized states, originally signed duplicates of executed instruments or certificates of insurance are not required until the time of permit issuance, except as required by state law.)	270.14(b)(17) 264.147(a) & (b)	335-14-802 (b)17. 335-14-508(8) (a) & (b)		
 I-8a Sudden Insurance Hazardous waste treatment, storage, or disposal facilities must demonstrate financial responsibility for bodily injury and property damage to third parties caused by sudden accidental occurrences. Amount of at least \$1 million per occurrence 	264.147(a), 264.147(g), 264.151(g),(i) &(j) [5/02/86]	335-14-508(8) (a) 335-14-508(8) (g) 335-14-508(12) (g), (i), & (j)	I-8a	
An annual total of at least \$2 million, exclusive of legal costs				
A signed duplicate original of the Hazardous Waste Facility Liability Endorsement worded as specified in ????				

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• A Certificate of Liability Insurance worded as specified in 264.151(j), or				
Financial test				
- letter from CFO				
- auditor report				
- auditor opinion				
 other information requested by R.A. 				
- acceptable ratios				
 notification to EPA by Attorneys General or insurance commissioner of guarantors state and facility state that corporate guarantee is legally valid and enforceable 				
• A combination of endorsement of certification and financial test or a combination of endorsement or certification and corporate guarantee. Amounts of coverage must total at least the minimum amounts required by 264.147(a).				
I-8b Nonsudden Insurance This applies to high-risk storage facilities (designated by Regional Administrator), surface impoundments, land disposal and land treatment.	264.147(b) & (d) 264.151(i) & (j) 264.147(f)	335-14-508(8) (b) & (d) 335-14-508(12) (i) &(j) 335-14-508(8) (j)	N/A	The CEA facility has not been designated high-risk, nor is the have surface impoundments, land disposal or land treatment units.

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At least \$3 million per occurrence			
An annual total of at least \$6 million is required, exclusive of legal costs			
Same endorsement or certification requirements as for sudden insurance coverage, or			
 Financial test letter from CFO (264.151(g)) auditor's report auditor's opinion other information requested by R.A. 			
 Corporate guarantee guarantor must be parent corporation certified copy of corporate guarantee with wording as specified in 264.151(h)(2) financial test for guarantor 	264.147(b)(2) 264.147(g)(2) (i), 264.151(h)(2) [11/18/87]	335-14-508(8) (b)2. 335-14-508(8) (g)2.(i) 335-14-508(12) (h)2.	

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I-8c Variance Procedures and R.A. Adjustments	264.147(c) & (d)	335-14-508(8) (c) & (d)		
Evaluation of degree and duration of risk sufficient to allow R.A. to make a judgment on reduction of required liability. The financial responsibility levels specified above for liability insurance for sudden accidental occurrences may be adjusted downward if the owner/operator can prove to the Regional Administrator that these levels are not consistent with the degree and duration of risk at the owner's/operator's facility. Conversely, the Regional Administrator may adjust the levels of financial responsibility up or down, based on the administrator's assessment of the degree and duration of risk associated with the facility.				
I-9 State Financial Mechanism Where appropriate, proof of coverage by a state financial mechanism in compliance with 264.149 or 264.150.	270.14(b)(18)	335-14-802(5) (b)18.	N/A	

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I-9a Use of State-Required	264.149(a)	335-14-508(10)	
Mechanisms Where a state has hazardous waste	264.149(b)	(a) 335-14-508(10)	
regulations with equivalent or greater liability requirements for financial assurance for closure and post-closure care, evidence of establishment of the state-required financial mechanisms, including the facility EPA ID number, name, address, and required mechanisms do not satisfy amount of funds required, funds may be made available through the state-required mechanisms or by using additional mechanisms specified in 264.143.		(b)	
I-9b State Assumption of Responsibility	264.150	Not In State Code	
If a state assumes legal responsibility for compliance with closure, post-closure, or liability requirements or the state assures that state funds are available to cover those requirements, then facility is in compliance and must include a copy of a letter from the state describing the state assumption of responsibility and a letter from the owner/operator requesting that the state's assumption of responsibility be considered acceptable in meeting the financial coverage requirements, and including the facility EPA ID number, name, address, and amounts of liability coverage or funds for closure or post-closure care that are assured by the state.			

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REGULATORY COMPLETENESS CHECKLIST FOR HAZARDOUS WASTE STORAGE, TREATMENT AND DISPOSAL FACILITIES

J

Facility Name Address	Clean Earth of Alabama, Inc. 402 Webster Chapel Road Glencoe, AL 35905	EPA ID Number ALD981020894 Permit Review Team
Contact Name Contact Phone	Bryan Jones Number 256.492.8340	Date Application Received

			Other	Federal Laws - Module J
Subject Requirement	40 CFR Section Nos.	ADEM Regulation Nos.	Location in Application	Comments
PART J - OTHER FEDERAL LAWS Demonstration of compliance with the requirements of other applicable federal laws such as the Wild and Scenic rivers Act, National Historic Preservation Act of 1966, Endangered Species Act, Coastal Zone Management Act, Fish and Wildlife Coordination Act.	270.14(b)(20) 270.3	335-14-802(5) (b)20. 335-14-801(3)	Section J	

REGULATORY COMPLETENESS CHECKLIST FOR HAZARDOUS WASTE STORAGE, TREATMENT AND DISPOSAL FACILITIES

K

Facility Name Address	Clean Earth of Alabama, Inc. 402 Webster Chapel Road Glencoe, AL 35905	EPA ID Number ALD981020894 Permit Review Team
Contact Name Contact Phone	Bryan Jones Number 256.492.8340	Date Application Received Date Review Completed

			Certific	ation - Module K
Subject Requirement	40 CFR Section	ADEM Regulation Nos.	Location in Application	Comments
PART K - CERTIFICATION	270.11	335-14-802(2)	Section K	
Certification of application by a principal executive of the company of at least the level of vice president				
Certification by a general partner or proprietor for a partnership or sole proprietorship, respectively.				
Certification by a principal executive officer or ranking elected official for a municipality, state, federal, or other public agency				

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L REGULATORY COMPLETENESS CHECKLIST FOR HAZARDOUS WASTE STORAGE, TREATMENT AND DISPOSAL FACILITIES

Facility Name Address	Clean Earth of Alabama, Inc. 402 Webster Chapel Road	EPA ID Number ALD981020894 Permit Review Team
	Glencoe, AL 35905	
Contact Name	Bryan Jones	Date Application Received
Contact Phone	Number 256.492.8340	Date Review Completed

Corrective Action - Module L				
Subject Requirement	40 CFR Section Nos.	ADEM Regulation Nos.	Location in Application	Comments
PART L - INFORMATION REQUIREMENTS FOR SOLID WASTE MANAGEMENT UNITS				
L-1 Description of Solid Waste Management Units	270.14(d)(1)	335-14-802(5) (d)1.	L-1	
A description of each solid waste management unit at the facility including:	[12/01/87]			
 Location of the unit on the topographic map required under 270.14(b)(19) 			Appendix L-1-1	
• Type of unit			Appendix L-1-2	
 General dimensions and structural description (provide drawings if available) 			Appendix L-1-3	
Dates of operation of the unit			Appendix L-1-2	
Description of all wastes that have been managed at the unit			Appendix L-1-2	
L-2 Information Pertaining to Releases	270.14(d)(2)	335-14802(5) (d)2.	L-2	
The applicant must provide all available information pertaining to releases of hazardous wastes or hazardous constituents from solid waste management units at the facility.	[12/01/87]			

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L-3 Sampling and Analysis	270.14(d)(3)	335-14-802(5) (d)3.	L-3	
The applicant must provide the results of sampling and analysis of groundwater, land surface and subsurface strata, surface water, and air which has been conducted (voluntarily, or) at the request of the Agency to complete a RCRA Facility Assessment.	[12/01/87]			

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REGULATORY COMPLETENESS CHECKLIST FOR HAZARDOUS WASTE STORAGE, TREATMENT AND DISPOSAL FACILITIES

M

Facility Name Address	Clean Earth of Alabama, Inc. 402 Webster Chapel Road	EPA ID Number ALD981020894 Permit Review Team
	Glencoe, AL 35905	
Contact Name Contact Phone	Bryan Jones Number 256.492.8340	Date Application Received Date Review Completed

Closure Equivalency Determination - Module M				
Subject Requirement	40 CFR Section Nos.	ADEM Regulation Nos.	Location in Application	Comments
PART M - CLOSURE EQUIVALENCY DETERMINATION Owners/operators of surface impoundments, land-fills, land treatment units, and waste piles that received wastes after July 26, 1982 or	270.1(c) [12/01/87]	335-14-801(1) (c)	N/A	There are no surface impoundments, landfills, land treatment nits or waste piles at the facility.
certified closure according to 265.115 after January 26, 1983 must do one of the following:				
 Obtain post-closure permits for those units 				
 Demonstrate closure by removal in accordance with 260.1(c)(5) and (6) 				
M-1 Closure by Removal	270.1(c)(5)	335-14-801(1) (c)5.		
Basic information requirements:	[12/01/87]	(0)3.		
List of contaminants managed in the closed unit	270.1(c)(6)	335-14-801(1) (c)6.		
 List of cleanup levels for each contaminant 				
 List of 40 CFR Part 264 acceptable cleanup level for each contaminant 				

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M-1a Requirement for Closure Equivalency Determination			
Demonstrate that the closure met the standards for closure by removal or decontamination in 264.228, 264.258, or 264.280(e):			
• If a Part B application for a post-closure permit has been submitted, the applicant may request a determination, based on information in the application, that the 264 closure standards were met			
<u>0r</u>			
• If a Part B application for a post-closure permit has not been submitted, the owner/operator may petition the R.A. for a determination that the closure met the 264 standards and a permit is not required. The petition must include:			
 data demonstrating closure standards were met 			
<u>Or</u>			
 data demonstrating that the unit closed under equally or more stringent state requirements. 			

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	T	T	
M-1b Denial of Closure Equivalency	270.1(c)(6) (iii)	335-14-801(1) (c)6.(iii)	
If the R.A. determines that closure does not meet 264 standards, the owner/operator must submit a Part B application for a post-closure permit.	[12/01/87]		
Note: If an equivalency determination is requested, a very tight regulatory schedule applies:			
1. R.A. determines within 90 days whether Part 265 closure met 264 closure by removal or decontamination requirements within 90 days.			
2. If the R.A. finds the Part 265 closure did not meet Part 264 standards, owner/operator has 30 days to submit additional supporting information after receipt of notice.			
3. The R.A. will review additional submittal and make final determination within 60 days.			
M-2 Post-Closure Permit Application Requirements	270.1(c)(6) (iii)	335-14-801(1) (c)6.(iii)	
• Checklist items I-2, I-6, and I-7, post-closure requirements	[12/01/87]		
Checklist item E, groundwater monitoring requirements			

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