LANCE R. LEFLEUR
DIRECTOR

KAY IVEY
GOVERNOR

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

April 4, 2025

Ms. Mary Box
c/o The Broadway Group
216 Westside Square
Sheffield, Alabama 35661

Dear Ms. Box:

RE: REVIEW OF FOR CORRECTIVE ACTION PLAN (CP12)
JC Box Texaco
400 East 2nd Street & Atlanta Street
Sheffield, Colbert County, Alabama
Facility I.D. No.: 11732-033-04341
UST Incident No.: UST21-09-05
ADEM File Code: UST210905/CORR09902

The Department has completed a review of the Corrective Action Plan (CAP) dated March 31, 2025 for the above referenced site. **The Plan is approved.** Please prepare Cost Proposal 15 to implement the CAP. Cost Proposal 15 should be uploaded into the appropriate AEPACS schedule by **April 30, 2025**.

If you have any questions regarding this matter, please call 334-271-7704 or email james.robinson@adem.alabama.gov.

Sincerely,

James Robinson

James Robinson, PG
Hydrogeologist
UST Corrective Action State Fund Section
Groundwater Branch
Land Division
JLR

Cc: Suzanne Evans, PM Environmental, 717 HWY 67 South, Suite 26, Decatur, AL 35803

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

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

Coastal Office
1615 South Broad Street
Mobile, AL 36605
(251) 450-3400
(251) 479-2593 (FAX)

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REVISED CORRECTIVE ACTION PLAN

JC Box Texaco
400 East 2nd Street | Sheffield, Colbert County, Alabama
UST21-09-05, Facility ID No. 11732-033-004341, ATTF CP #12
PM Project Number R070.00818.00A.0012

Prepared for:

Mary and Daniel Box
c/o The Broadway Group
216 Westside Square
Huntsville, Alabama 35801

Prepared by:

PM Environmental, a Pinchin Company
717 Highway 67 South, Suite 26
Decatur, Alabama 35603

Birmingham
201 Cahaba Valley Pkwy
Suite 5
Pelham, AL 35124
f: 877.884.6775
t: 205.986.0270

Decatur
717 Highway 67 South
Suite 26
Decatur, AL 35603
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Florence
4050 Helton Drive
Suite 111
Florence, AL 35633
f: 877.884.6775
t: 256.812.6000

Starkville
500 Russell Street
Suite 106
Starkville, MS 39759
f: 877.884.6775
t: 800.313.2966

March 31, 2025

James Robinson, Hydrogeologist
Alabama Department of Environmental Management
Post Office Box 301463
Montgomery, Alabama 36130-1463

RE: Revised Corrective Action Plan
Former JC Box Texaco
400 East 2nd Street
Sheffield, Colbert County, Alabama
Facility I.D. No. 11732-033-004341
Incident No. UST21-09-05
PM Project No. R070.00818.00A.0012
ATTF Cost Proposal No. 12

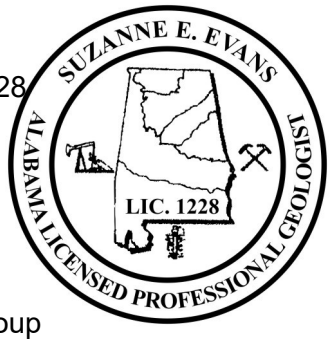
Dear Mr. Robinson:

On behalf of Mary and Daniel Box and The Broadway Group, LLC, PM Environmental, a Pinchin Company (PM), is pleased to present this Revised Corrective Action Plan for the above referenced site.

If you have any questions, please feel free to Suzanne Evans in our Florence, Alabama office at (256) 367-0637.

Sincerely,
PM Environmental, a Pinchin Company

Suzanne Evans, P.G.
Project Manager
Alabama P.G. No. 1228



Peter S. Bosanic, P.E.
Senior Consultant
Alabama P.E. No. 29882

cc. The Broadway Group

PM ENVIRONMENTAL, A PINCHIN COMPANY

RISK WELL MANAGED

PROJECT NO. R070.00818.00A.0012

REVISED CORRECTIVE ACTION PLAN

Site Location:

FORMER JC BOX TEXACO

400 EAST 2ND STREET

SHEFFIELD, COLBERT COUNTY, ALABAMA

FACILITY ID NO. 11732-033-004341

UST RELEASE INCIDENT NO. UST21-09-05

COST PROPOSAL NO. 12

MARCH 31, 2025

Prepared for:

MARY AND DANIEL BOX
C/O THE BROADWAY GROUP, LLC
216 WESTSIDE SQUARE
HUNTSVILLE, ALABAMA 35801
Trey.Lewis@broadwaygroup.net
(256) 533-7287

Prepared by:

PM ENVIRONMENTAL
a PINCHIN COMPANY
717 HWY 67 S. SUITE 26
DECATUR, ALABAMA 35603
Suzanne.Evans@pmenv.com
(256) 367-0637

TABLE OF CONTENTS

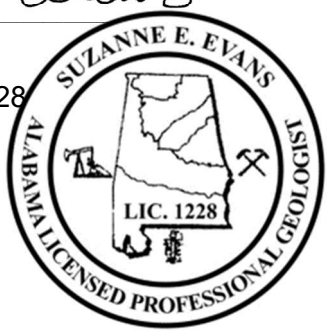
TABLES

LIST OF APPENDICES

CERTIFICATION PAGE

"I certify under penalty of law that this Revised Corrective Action Plan and all technical data submitted within were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiring of the person or persons who directly gathered the enclosed 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."

Suzanne Evans, P.G.
Alabama P.G. No. 1228
Date: 03/31/2025



CERTIFICATION PAGE

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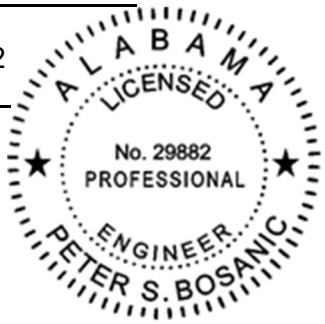
Peter S. Bosanic, P.E.
Alabama P.E. No. 29882
Date: 03/31/2025



1.0 UST RELEASE FACT SHEET AND SITE CLASSIFICATION CHECKLIST

UST RELEASE FACT SHEET

GENERAL INFORMATION:

SITE NAME: JC Box Texaco

ADDRESS: 400 East 2nd Street (& Atlanta Ave), Sheffield, Colbert County, Alabama

FACILITY I.D. NO.: 11732-033-004341

UST INCIDENT NO.: UST21-09-05

RESULTS OF EXPOSURE ASSESSMENT:

How many private drinking water wells are located within 1,000 ft. of site?	0
How many public water supply wells are located within 1 mile of the site?	0
Have any drinking water supply wells been impacted by contamination from this release?	NO
Is there an imminent threat of contamination to any drinking water wells?	{ } Yes {X} No
Have vapors or contaminated groundwater posed a threat to the public?	{ } Yes {X} No
Are any underground utilities impacted or imminently threatened by the release?	{ } Yes {X} No
Have surface waters been impacted by the release?	{ } Yes {X} No
Is there an imminent threat of contamination to surface waters?	{ } Yes {X} No
What is the type of surrounding population?	Commercial, Residential, & Vacant

CONTAMINATION DESCRIPTION:

Type of contamination at site: {X} Gasoline, { } Diesel, { } Waste Oil
{ } Kerosene, { } Other _____

Free product present in wells? { } Yes {X} No Maximum thickness measured: Not Detected

Maximum BTEX concentrations measured in soil: 63.2 ppm in MW-3 at 34-36 feet below ground surface (bgs)

Maximum BTEX concentrations measured in groundwater: Historic: 11.8 ppm in RW-3 on 11/14/2024
Most Recent: 11.5 ppm in RW-1 on 02/20/2025

ADEM UST Form - 001 (04/22/93)

ADEM GROUNDWATER BRANCH
UST SITE CLASSIFICATION SYSTEM
CHECKLIST

Please read all of the following statements and mark either yes or no if the statement applies to your site. If you have conducted a Preliminary or Secondary Investigation, all questions should be answered. Closure site assessment reports may not provide you with all the necessary information, but answer the statements with the knowledge obtained during the closure site assessment.

SITE NAME:	JC Box Texaco
SITE ADDRESS:	400 East 2nd Street
	Sheffield, Colbert County, Alabama
FACILITY I.D. NO.:	11732-033-004341
UST INCIDENT NO.:	UST21-09-05
OWNER NAME:	Mary & Daniel Box c/o The Broadway Group
OWNER ADDRESS:	216 Westside Square
	Huntsville, Alabama 35801
NAME & ADDRESS OF PERSON COMPLETING THIS FORM:	Suzanne Evans, P.G.
	PM Environmental, a Pinchin Company
	717 Highway 67 South, Suite 26
	Decatur, Alabama 35603

CLASSIFICATION	***DESCRIPTION***	***YES***	***NO***
CLASS A	IMMEDIATE THREAT TO HUMAN HEALTH, HUMAN SAFETY OR SENSITIVE ENVIRONMENTAL RECEPTOR		
A.1	Vapor concentrations at or approaching explosive levels that could cause health effects, are present in a residence or building.	☐	☒
A.2	Vapor concentrations at or approaching explosive levels are present in subsurface utility system(s), but no buildings or residences are impacted.	☐	☒
CLASS B	IMMEDIATE THREAT TO HUMAN HEALTH, HUMAN SAFETY OR SENSITIVE ENVIRONMENTAL RECEPTOR		
B.1	An active public water supply well, public water supply line, or public surface water intake is impacted or immediately threatened.	☐	☒
B.2	An active domestic water supply well, domestic water supply line or domestic surface water intake is impacted or immediately threatened.	☐	☒
B.3	The release is located within a designated Wellhead Protection Area I.	☐	☒
CLASS C	IMMEDIATE THREAT TO HUMAN HEALTH, HUMAN SAFETY OR SENSITIVE ENVIRONMENTAL RECEPTOR		
C.1	Ambient vapor/particulate concentrations exceed concentrations of concern from an acute exposure, or safety viewpoint.	☐	☒
C.2	Free product is present on the groundwater, at ground surface, on surface water bodies, in utilities other than water supply lines, or in surface water runoff.	☐	☒

CLASSIFICATION	*DESCRIPTION*	*YES*	*NO*
CLASS D	SHORT TERM THREAT TO HUMAN HEALTH, SAFETY, OR SENSITIVE ENVIRONMENTAL RECEPTORS		
D.1	There is a potential for explosive levels, or concentrations of vapors that could cause acute effects, to accumulate in a residence or other building.	☐	☒
D.2	A non-potable water supply well is impacted or immediately threatened.	☐	☒
D.3	Shallow contaminated surface soils are open to public access, and dwellings, parks, playgrounds, day care centers, schools or similar use facilities are within 500 feet of those soils.	☐	☒
CLASS E	SHORT TERM THREAT TO HUMAN HEALTH, SAFETY, OR SENSITIVE ENVIRONMENTAL RECEPTORS		
E.1	A sensitive habitat or sensitive resources (sport fish, economically important species, threatened and endangered species, etc.) are impacted and affected.	☐	☒
CLASS F	SHORT TERM THREAT TO HUMAN HEALTH, SAFETY, OR SENSITIVE ENVIRONMENTAL RECEPTORS		
F.1	Groundwater is impacted and a public well is located within 1 mile of the site.	☐	☒
F.2	Groundwater is impacted and a domestic well is located within 1,000 feet of the site.	☐	☒
F.3	Contaminated soils and/or groundwater are located within designated Wellhead Protection Areas (Areas II or III).	☐	☒
CLASS G	SHORT TERM THREAT TO HUMAN HEALTH, SAFETY, OR SENSITIVE ENVIRONMENTAL RECEPTORS		
G.1	Contaminated soils and/or groundwater are located within areas vulnerable to contamination from surface sources.	☐	☒
GLASS H	SHORT TERM THREAT TO HUMAN HEALTH, SAFETY, OR SENSITIVE ENVIRONMENTAL RECEPTORS		
H.1	Impacted surface water, stormwater or groundwater discharges within 500 feet of a surface water body used for human drinking water, whole body water-contact sports, or habitat to a protected or listed endangered plant and animal species.	☐	☒
CLASS I	LONG TERM THREAT TO HUMAN HEALTH, SAFETY, OR SENSITIVE ENVIRONMENTAL RECEPTORS		
I.1.	Site has contaminated soils and/or groundwater but does not meet any of the above mentioned criteria.	☒	☐

ADDITIONAL COMMENTS:

NAPL last detected at the site in November 2023.

Complete the classification evaluation questions listed above. Upon completion, determine the highest rank of the site (A.1 is the highest rank) based on the statements answered with a yes.

Enter the determined classification ranking:	I.1

ADEM GROUNDWATER BRANCH
SITE CLASSIFICATION CHECKLIST
(5/8/95)

2.0 INTRODUCTION

This Revised Corrective Action Development portion of the Corrective Action Plan (CAP) has been prepared in response to a directive provided by the Alabama Department of Environmental Management (ADEM) and was developed in accordance with the CAP requirements of the ADEM Administrative Code R. 335-6-15-29. ADEM requires that corrective actions be taken when soil and/or groundwater contamination is found to exceed the established corrective action limits. Measured concentrations of gasoline constituents in the soils and groundwater at the subject site exceed the established corrective action limits. The objective of this CAP is to:

- Evaluate the current condition of the groundwater and soil contamination at the subject site;
- Evaluate potential remediation technologies which will result in soil and groundwater contaminants below the corrective action limits in an effective and timely matter;
- Address the measures to be taken to control concentrations of COC's above the Alabama Risked Based Corrective Actions Groundwater Resource Protection Target Levels (ARBCA GRP Target Levels); and
- Provide a proposed schedule for a monitoring plan.

The geographic location, site description, site history and status, surrounding development, water well inventory, underground utilities, regional geology and hydrology, local geology and hydrology, groundwater flow and gradient, surface water drainage, and physical soil characteristics were evaluated in the Corrective Action Evaluation and are not being re-evaluated here. Please refer to Figures 1-10 for site vicinity, site diagram, and historical data. Please refer to Tables 1, 2, and 3 for tables summarizing the soil and groundwater data for the site. Please refer to Appendix A for the boring logs associated with the site.

3.0 SUMMARY OF PREVIOUSLY CONDUCTED SITE ASSESSMENTS AND REMEDIAL ACTIVITIES

This section lists the previously conducted site assessments including the Preliminary Investigation, the Secondary Investigation, the Additional Well Installation Report, Groundwater Monitoring Reports, the Tier II Alabama Risk Based Corrective Action Report, and the Corrective Action Evaluation which were summarized in the Corrective Action Evaluation.

Date:	Chronology Of Events
October 28, 2021	Based upon the finding of a Phase II Environmental Site Assessment conducted by PM, The ADEM issued a Notification of Requirement to Conduct Investigative and Corrective Actions to Estes Oil Company.
December 20, 2021	Daniel Box, as tank operator, and his wife Mary Box agreed to be responsible to sign the Cost Proposals and Payment Request.
April 29, 2022	A Preliminary Investigation Report was submitted to ADEM by PM. Cost Proposal-1 (CP-1)
December 6, 2023	An On-site Secondary Site Investigation Report was submitted to ADEM by PM. (CP-2)
July 24, 2023	A Monitoring Well Installation and Groundwater Monitoring Report was submitted to ADEM by PM. (CP-3)
July 24, 2023	A Groundwater Monitoring Report was submitted to ADEM by PM. (CP-4)

Date:	Chronology Of Events
October 30, 2023	A Groundwater Monitoring Report was submitted to ADEM by PM. (CP-5)
March 8, 2024	A Groundwater Monitoring with Monitoring Well Installation Report was submitted to ADEM by PM. (CP-6)
March 15, 2024	The ARBCA Tier 1 and Tier 2 Evaluation was submitted to ADEM by PM. (CP-7)
March 26, 2024	The ARBCA Tier I and Tier II Evaluation was approved by ADEM.
August 19, 2024	A Groundwater Monitoring with MEME Event and Free Product Check Report was submitted to ADEM by PM. (CP-8)
September 5, 2024	The Corrective Action Evaluation was submitted to ADEM by PM. (CP-10)
November 15, 2024	A Groundwater Monitoring with MEME Event and Free Product Check Report was submitted to ADEM by PM. (CP-9)
January 10, 2025	An Additional Well Installation Report was submitted to ADEM by PM. (CP-11)
March 31, 2025	A Quantitative High Resolution Site Characterization Report was submitted to ADEM by PM. (CP-13)
March 31, 2025	A Groundwater Monitoring with MEME Event Report was submitted to ADEM by PM. (CP-14)

4.0 PROJECT PERSONNEL

The Project Manager for this project is Suzanne Evans (PG #1228) a Professional Geologist with PM. The Professional Geologist reviewing the CAP is Suzanne Evans, P.G. The Professional Engineer reviewing the CAP is Peter S. Bosanic (P.E. # 29882). The Cost Proposal, Work Plan, and CAP were written by Suzanne Evans. The report was compiled by Marian Edmonson, a staff scientist with PM, and the figures were created by Chad Seely, Brian Bradford, and Matt Miner of PM.

5.0 SUMMARY OF PREVIOUS CONDUCTED CORRECTIVE ACTIONS

PM has conducted four (4) MEME events at this site. Since the last reporting period, a MEME event was conducted on January 9, 2025. In summary, during the 4 MEME events conducted since May 2024, approximately 217 gallons of liquid have been removed with 8.2 equivalent gallons of hydrocarbons. Free product has not been detected at the site during any of these MEME events. A summary of MEME data is included in Table 4.

6.0 EXPOSURE ASSESSMENT

The exposure assessment was completed during the Corrective Action Evaluation and is not being repeated in this CAP Development.

7.0 RATIONALE FOR SELECTION OF BIOSPHERE ORGANIC SOLUTION (BOS) 200+ INJECTION

The following is a discussion of the proposed remedial methods for the impacted soils and groundwater at the subject site.

7.1 Site Characterization

The site characterization was completed during the Corrective Action Evaluation and is not being repeated in this CAP Development.

7.2 Site Remediation Goals Based on ARBCA Evaluation Data

Based on the findings of the 2024 ARBCA Tier I and II evaluation, it is recommended that remedial activities be instituted in order to reach the GRP Target Levels. Therefore, it is proposed that *BOS 200+*® be injected into the area of concern. *BOS 200+*® *provides a unique opportunity to utilize the proven technology to effectively remediate petroleum hydrocarbon sites. The technology incorporates the treatment via biological degradation within the BOS 200+*® *matrix as the product incorporates both aerobic and anaerobic microbial processes.*

The *BOS 200+*® injection design by AST is described on pages 3 through 6 of the AST report in Appendix B. "*The product comes as a fine-grained dry material which consists of carbon, calcium sulfate, nitrate, phosphate, and ammonia in a proprietary blend.*" The contaminant plume has been divided into four areas (Area A, Area B, Area C, and Area D) each requiring a different treatment interval and concentration of application of *BOS 200+*®. Within each treatment area borings should be spaced on a six-foot grid (horizontal) with two-foot injection intervals (vertical). The treatment design for the seven borings in Area A is 12 intervals from 32 to 55 feet bgs, for the seven borings in Area B is three intervals from 35 to 40 feet bgs, for the 20 borings in Area C is approximately 15 intervals from 35 to 65 feet bgs, and for the nine borings in Area D is approximately five intervals from 30 to 40 feet. Please refer to Figure 11 for the Proposed Injection Diagram for proposed soil boring locations.

No injection activities will be initiated until after the UIC permit has been approved. Additionally, prior to soil boring advancement the area will be cleared utilizing ground penetrating radar. All borings will be advanced utilizing direct push technology to the appropriate depths. Due to the soil type and cherty zones encountered during previous drilling events a Geoprobe 3200 DT or equivalent will be utilized for the injections.

Daylighting
Daylighting, during injection activities, is surfacing of injected materials. Due to the shallowest depths of the injections in the proposed borings ranging from 30 to 35 feet bgs, daylighting is not anticipated at the site. However, as stated in the AST proposal, daylighting requires recognition and immediate action (injections will stop in that boring at that depth, given a chance to stabilize, and investigate and address the root cause before resuming injections) and proper housekeeping (materials that reach the surface will be cleaned up and drummed for proper disposal later). Drumming and disposal of any material recovered during daylighting is not covered by the AST proposal.

7.3 Receptor Evaluation

The Receptor Evaluation was completed during the Corrective Action Evaluation and is not being repeated in this CAP Development.

7.4 Evaluation of Plume

The plume evaluation was completed during the Corrective Action Evaluation and is not being repeated in this CAP Development.

7.5 Remedial Goals

Groundwater concentrations of benzene have exceeded the ARBCA GRP Target Levels during groundwater sampling events within the last two years at MW-1 and MW-5. The application of *BOS 200*+® would remediate groundwater at the site to achieve the remedial goals set by the ARBCA Assessment. Groundwater sampling events will be conducted tri-annually with the first sample event being collected four months after the application of the *BOS 200*+®. The proposed sampling parameters BTEX, MTBE, and naphthalene via EPA Method 8260B, Anions using EPA Method 300.1 Ion Chromatography, and Dissolved Gases using RSK 175 will be submitted for laboratory analysis.

8.0 GROUNDWATER MONITORING PROGRAM

Monitoring Wells

Proposed monitoring wells to encompass all wells (MW-1 through MW-11; and RW-1, through RW-4) associated with the site. A copy of the Health and Safety Plan is included in Appendix C.

Determination of Static Water Level/Free Product Thickness

Static water level and free product thickness, if any, measurements will be recorded using an electronic interface probe, accurate to 0.01-foot, from each monitoring well prior to purging and sampling activities. To avoid the potential for cross contamination, the interface probe will be decontaminated by washing and rinsing between each use. All groundwater level measurements will be recorded within a 24-hour time period to avoid any temporal variations which may occur in groundwater flow systems. Measurements will be made from the top of the casing which have been surveyed to feet above mean sea level. After measuring the static water level, sampling personnel will determine the total depth of the monitoring well to evaluate if excessive siltation has occurred within the well and to determine purge volumes.

Sampling Procedures

Sample Collection: Groundwater samples will be collected by personnel who have thoroughly reviewed this monitoring program and are familiar with the sampling procedures. Care will be taken to avoid the potential for cross contamination between samples and to prevent loss of volatiles to the atmosphere. Groundwater samples will be collected using a new disposable bailer with new nylon cord. Prior to sample collection, wells will be purged until a minimum of three well casing volumes are evacuated.

Groundwater sampling will proceed from the least contaminated well to the most contaminated well. Equipment decontamination fluids and purged groundwater evacuated from each monitoring well will be transported to a disposal facility after the groundwater sampling event.

Sample Preservation: Groundwater samples will be collected in the designated size and type of containers required for specific parameters. Sample containers will be filled in such a manner as not to lose any preservative chemicals from the containers.

Sample Shipment: The samples will be stored in an ice-packed cooler and transported, with appropriate trip blanks and chain-of-custody forms, to the laboratory for chemical analysis within the appropriate holding times.

Chain-of-Custody: Chain-of-custody procedures will be used to allow for the tracing of possession and handling of samples from the time of collection to the completion of laboratory analysis. A chain-of-custody form will accompany each set of samples transported to the laboratory.

Detection Limits: Laboratory analysis of all test parameters listed as part of the groundwater monitoring plan will meet or exceed the site specific target levels.

Quality Assurance/Quality Control

Laboratory QA/QC: At least one duplicate sample from a monitoring well within the contaminant plume will be submitted to the laboratory for analysis of VOCs. This will be done to evaluate sampling and analysis reproducibility. The sample duplicate will be labeled Duplicate. Sampling personnel will record the actual well number of the duplicate in their field notes. The duplicate location and sample results will be reported in each monitoring report.

Well Maintenance

The condition of each monitoring well will be evaluated for integrity during each monitoring event. All monitoring wells at the subject site will be clearly labeled, securely capped, locked, and covered with protective casings. ADEM will be notified in advance of replacing or repairing any monitoring well.

9.0 CLEAN-UP GOALS

The subject site-specific clean-up goals will be determined by the Rule 335-6-15.32 which allows for the development of alternative corrective action limits through a Risk Assessment (Rule 335-6-15.33) or when the concentrations of groundwater contamination have reached asymptotic levels.

Please refer Appendix D for ARBCA Tier II forms for the GRP Target Levels. Additionally the ARBCA GRP Target Levels can be found on Tables 1 and 2.

9.1 Verification of Clean-up Goals

Verification of clean-up goals sampling will be initiated when the following benchmark criteria has been met during implementation of the remediation plan:

- The concentrations in the source area monitoring wells have demonstrated a reduction of contaminants from pre-treatment groundwater concentrations to below the site specific Tier II cleanup criteria for the subject site, for a period of one year (3 tri-annual sampling events).

10.0 PROPOSED REPORTING REQUIREMENTS

An Injection Implementation Report will be submitted to ADEM upon completion of the injection activities and receipt of the AST Report.

Tri-annual Post Injection Groundwater Monitoring Reports will be submitted to ADEM for one year. The first groundwater sampling event will be conducted approximately four months post injection. Each report will include the following:

A. Site Summary
B. Site Vicinity Map
C. Generalized Diagram of the Subject Property and Adjoining Properties
D. Natural Attenuation Monitoring Report forms
    a. Site Summary
    b. Well Inventory Data
    c. History of Sampling
    d. Sampling Methodology
    e. Cost versus Time
    f. Current Sampling Data
E. Laboratory Reports and Chain of Custody

When monitoring reports indicate the remediation activities have achieved the clean-up goals or the remaining contamination has reached asymptotic levels, a request for cessation of corrective action (or monitoring only) will be submitted to the ADEM. It will include data indicating that the clean-up goals have been achieved or the remaining contamination has reached asymptotic levels and proposed methods to abandon the monitoring and recovery wells.

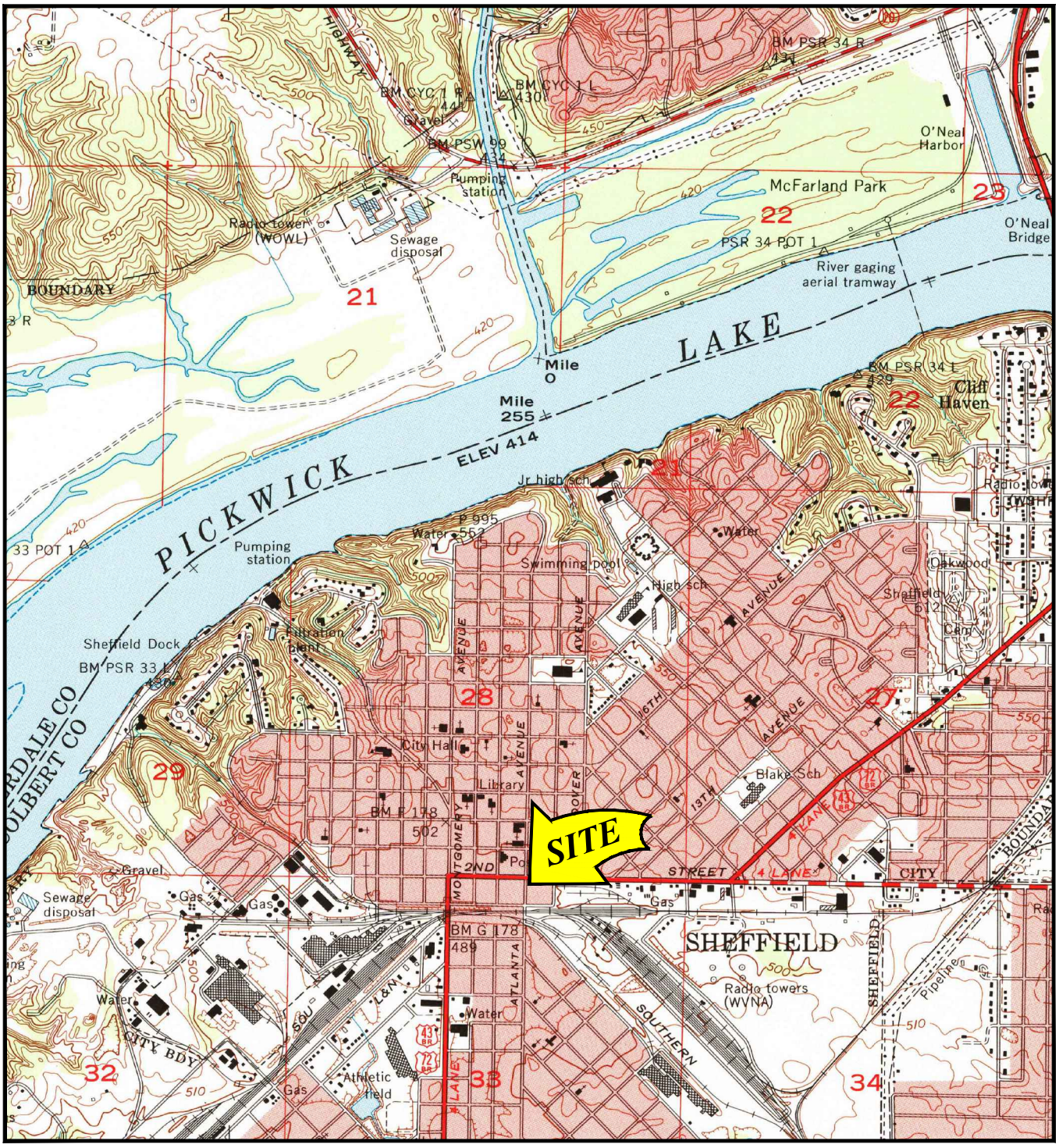
Upon approval of the request for cessation of the corrective action from ADEM, a site closure report summarizing closure activities will be prepared and submitted to the ADEM. This report will include the details of the well abandonment.

11.0 CONCLUSIONS AND RECOMMENDATIONS

This CAP has developed a remediation alternative within the limits that are currently set for the site. Further PM recommends that the proposed remedial activities be evaluated at one year to ensure remedial goals have been meet.

Figures

PM ENVIRONMENTAL PINCHIN company
Environmental & Engineering Services



ALABAMA COUNTY LOCATIONS

COLBERT COUNTY

FIGURE 1

SITE VICINITY MAP

UNITED STATES GEOLOGICAL SURVEY, 7.5 MINUTE SERIES

FLORENCE, AL QUADRANGLE, 1971.

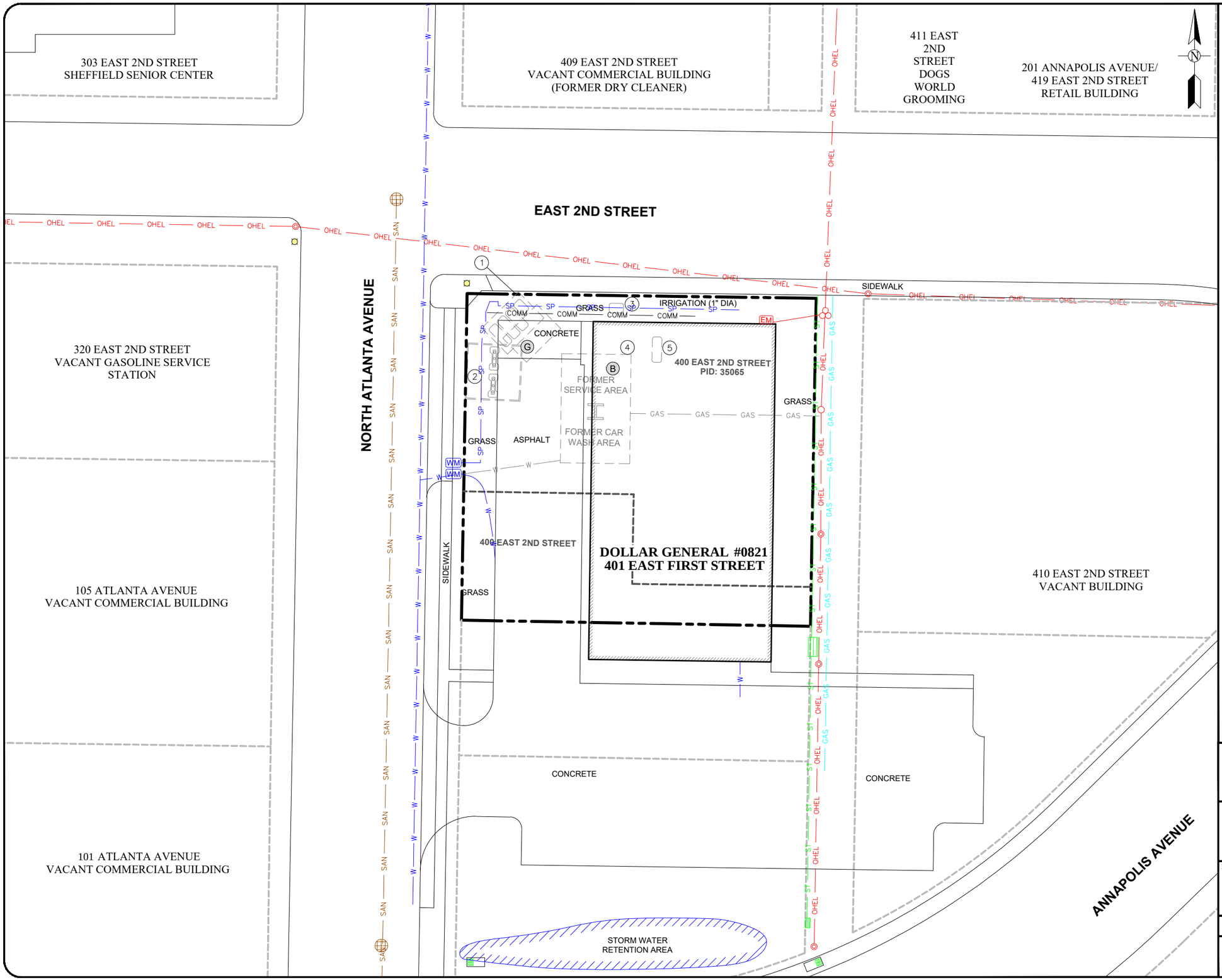
PM ENVIRONMENTAL (PINCHIN company) Environmental & Engineering Services

PROJ:
FORMER GASOLINE SERVICE STATION
400 EAST 2ND STREET
SHEFFIELD, AL

THIS IS NOT A LEGAL SURVEY

VERIFY SCALE
0 2000'
IF NOT 1" ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

DRN BY: KS/CS	DATE: 4/19/2022
CHKD BY: ES/SE	DATE REVISED: 7/19/2023
FILE NAME: 70-818-A-003F00R00	



LEGEND:

- SUBJECT SITE
- PARCEL / LOT BOUNDARIES
- APPROXIMATE FORMER/HISTORICAL SITE FEATURES
- W — WATER
- W — ABANDONED WATER LINE
- GAS — GAS
- GAS — ABANDONED GAS LINE
- OHUL — OVERHEAD UTILITY LINE
- OHEL — OVERHEAD ELECTRIC LINE
- COMM — PRIVATE COMMUNICATION
- SP — IRRIGATION LINE TO SPRINKLER SYSTEM
- SAN — SANITARY SEWER
- ST — STORM SEWER
- STORM WATER INLETS WITH CONCRETE COVERS
- CATCH BASIN
- WM — WATER METER - (2) IRRIGATION & SITE
- EM — ELECTRIC METER
- SANITARY MANHOLE
- POLE MOUNTED TRANSFORMER
- 3 POLE MOUNTED TRANSFORMERS
- POWER POLE
- STREET LIGHT / TRAFFIC SIGNAL
- IN-GROUND HOIST
- FORMER FUEL DISPENSER
- UST — UNDERGROUND STORAGE TANK
- AST — ABOVEGROUND STORAGE TANK
- (B) — FORMER BUILDING
- (G) — FORMER GASOLINE DISPENSING STATION

#	SITE FEATURES
1	FORMER UST BASIN 3: (3) 1,000-GALLON GASOLINE USTs (1) 575-GALLON GASOLINE UST
2	FORMER CANOPY
3	FORMER UST BASIN 1: (1) 575-GALLON GASOLINE UST
4	(1) FORMER AST (3) FORMER 55-GALLON DRUMS OF WATER
5	FORMER UST BASIN 2: (1) 960-GALLON GASOLINE UST

NOTE:

1. LOCATION OF HISTORICAL SITE FEATURES AND SAMPLE LOCATIONS ARE APPROXIMATE ONLY.
2. REFERENCES: AERIAL PHOTOGRAPH FROM GOOGLE EARTH, IMAGERY DATE 7/19/2023.
3. UTILITY INFORMATION ON THIS DRAWING MAY BE FROM INFORMATION DISCLOSED TO PM ENVIRONMENTAL, INC. BY THE VARIOUS COMPANIES, CITY/COUNTY AGENCIES AND OTHER VARIOUS SOURCES. UNDERGROUND UTILITIES WHICH ARE ON PRIVATE PROPERTY ARE USUALLY NOT DELINEATED UPON A UTILITY COMPANY'S PUBLISHED PLANS. THEIR LOCATION, IF SHOWN UPON THIS SURVEY, ARE APPROXIMATED FROM FOUND PAINT MARKS/STAKES, ETC. AS LOCATED BY THIS FIRM FROM SOURCES WHICH ARE UNKNOWN. NO GUARANTEE IS GIVEN AS TO THE COMPLETENESS OR ACCURACY THEREOF. PRIOR TO CONSTRUCTION, ALL LOCATIONS AND DEPTHS OF EXISTING UTILITIES (IN CONFLICT WITH PROPOSED IMPROVEMENTS) SHALL BE VERIFIED IN THE FIELD. CALL MISS DIG.

PM ENVIRONMENTAL PINCHIN — Environmental & Engineering Services

FIGURE 2A

SITE AND ADJOINING PROPERTIES

PROJECT:
FORMER GASOLINE SERVICE STATION
400 EAST 2ND STREET
SHEFFIELD, ALABAMA

THIS IS NOT A LEGAL SURVEY	DRAWN BY: BB	DATE: 11/13/2024
VERIFY SCALE 0 — 40' IF NOT 1" ON THIS SHEET, ADJUST SCALES ACCORDINGLY.	CHECKED BY: SE	DATE REVISED: 2/27/2025
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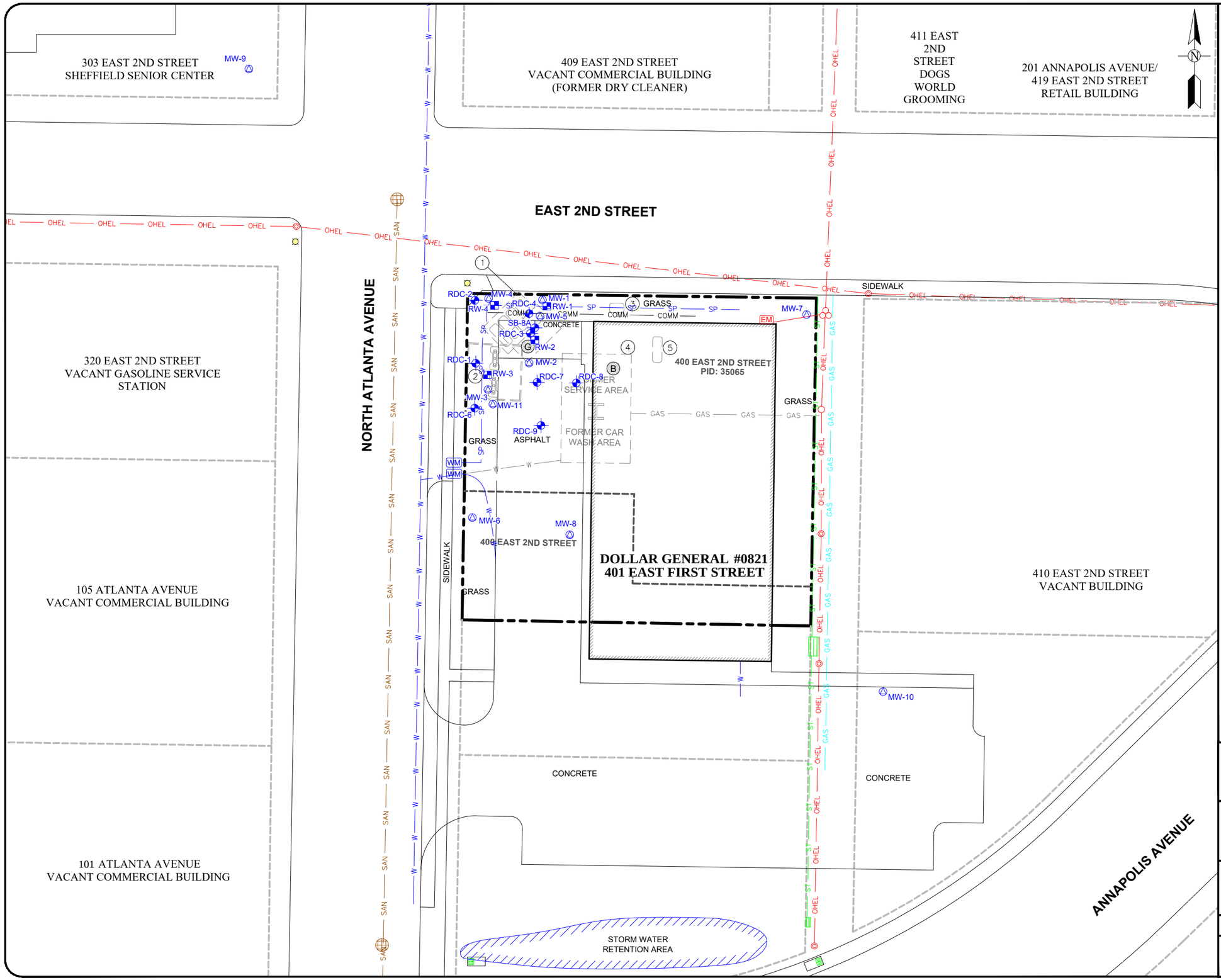


LEGEND:

- SUBJECT SITE
- PARCEL / LOT BOUNDARIES
- APPROXIMATE FORMER/HISTORICAL SITE FEATURES
- W — WATER
- W — ABANDONED WATER LINE
- GAS — GAS
- GAS — ABANDONED GAS LINE
- OHUL — OVERHEAD UTILITY LINE
- OHUL — ABANDONED OVERHEAD UTILITY LINE
- OHEL — OVERHEAD ELECTRIC LINE
- COMM — PRIVATE COMMUNICATION
- SP — IRRIGATION LINE TO SPRINKLER SYSTEM
- SAN — SANITARY SEWER
- ST — STORM SEWER
- STORM WATER INLETS WITH CONCRETE COVERS
- CATCH BASIN
- WM — WATER METER - (2) IRRIGATION & SITE
- EM — ELECTRIC METER
- SANITARY MANHOLE
- POLE MOUNTED TRANSFORMER
- 3 POLE MOUNTED TRANSFORMERS
- POWER POLE
- ABANDONED/ REMOVED POWER POLE
- STREET LIGHT / TRAFFIC SIGNAL
- IN-GROUND HOIST
- FORMER FUEL DISPENSER
- UST — UNDERGROUND STORAGE TANK
- AST — ABOVEGROUND STORAGE TANK
- (B) — FORMER BUILDING
- (G) — FORMER GASOLINE DISPENSING STATION
- MONITORING WELL
- SOIL BORING
- RECOVERY WELL

#	SITE FEATURES
1	FORMER UST BASIN 3: (3) 1,000-GALLON GASOLINE USTs (1) 575-GALLON GASOLINE UST
2	FORMER CANOPY
3	FORMER UST BASIN 1: (1) 575-GALLON GASOLINE UST
4	(1) FORMER AST (3) FORMER 55-GALLON DRUMS OF WATER
5	FORMER UST BASIN 2: (1) 960-GALLON GASOLINE UST

NOTE:
1. REFER TO FIGURE 2A FOR UTILITY DEPTHS AND DIAMETERS.
2. LOCATION OF HISTORICAL SITE FEATURES AND SAMPLE LOCATIONS ARE APPROXIMATE ONLY.

PM ENVIRONMENTAL, INC. — Environmental & Engineering Services

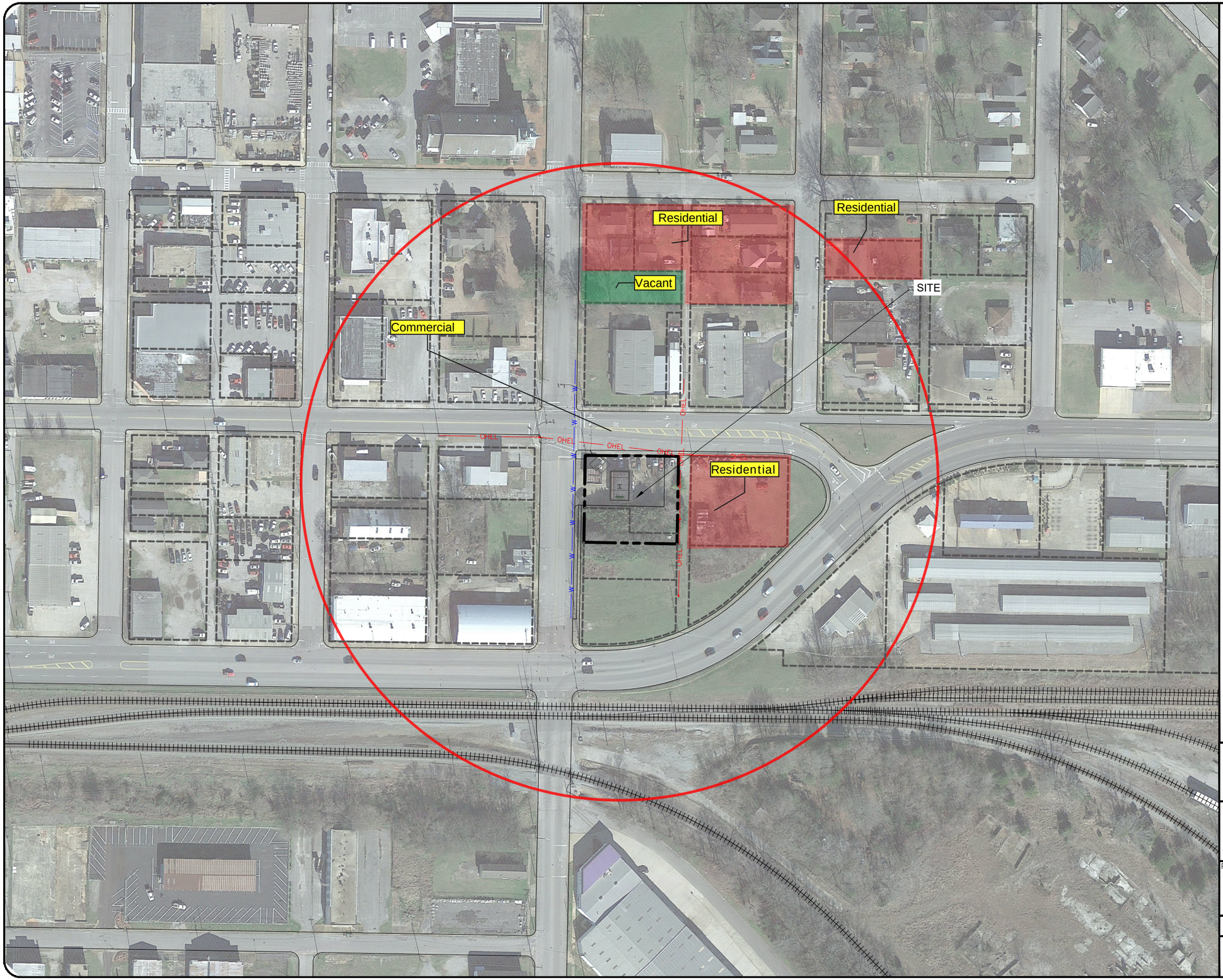
FIGURE 2B
SAMPLE LOCATION MAP

PROJECT:
FORMER GASOLINE SERVICE STATION
400 EAST 2ND STREET
SHEFFIELD, ALABAMA

THIS IS NOT A LEGAL SURVEY

VERIFY SCALE
0 40'
IF NOT 1" ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

DRAWN BY: KS/BB	DATE: 4/19/2022
CHECKED BY: SE	DATE REVISED: 2/27/2025
FILE NAME: R070.00818-A-012F00R00	



LEGEND:

- SUBJECT PROPERTY
- PARCEL / LOT BOUNDARIES
- APPROXIMATE FORMER/HISTORICAL SITE FEATURES
- W — WATER
- GAS — GAS
- OHUL — OVERHEAD UTILITY LINE
- OHEL — OVERHEAD ELECTRIC LINE
- POLE MOUNTED TRANSFORMER
- POWER POLE
- STREET LIGHT / TRAFFIC SIGNAL
- FORMER IN-GROUND HOIST
- FORMER FUEL DISPENSER
- UST — UNDERGROUND STORAGE TANK
- AST — ABOVEGROUND STORAGE TANK
- G — FORMER GASOLINE DISPENSING STATION
- VACANT
- RESIDENTIAL
- COMMERCIAL

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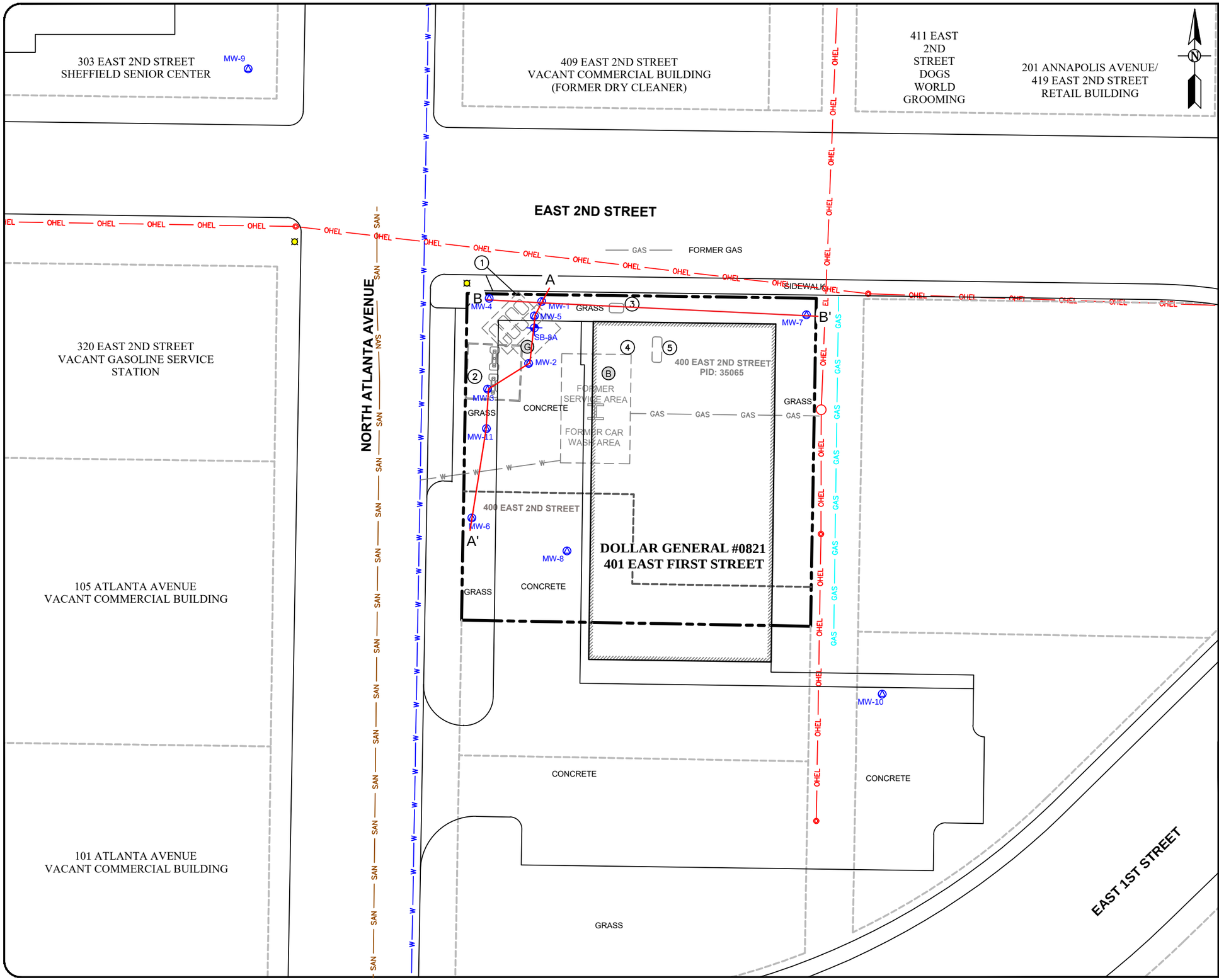
FIGURE 3

LAND USE MAP
(RADIUS OF 500 FEET)

PROJ:

FORMER GASOLINE SERVICE STATION
400 EAST 2ND STREET
SHEFFIELD, AL

THIS IS NOT A LEGAL SURVEY	DRN BY: KS	DATE: 4/19/2022
VERIFY SCALE 0 — 150' IF NOT 1" ON THIS SHEET, ADJUST SCALES ACCORDINGLY.	CHKD BY: ES/SE	SCALE: 1" = 150'
	FILE NAME: 70-818-A-001F00R00	



LEGEND:

- SUBJECT SITE
- PARCEL / LOT BOUNDARIES
- APPROXIMATE FORMER/HISTORICAL SITE FEATURES
- W — WATER
- W — FORMER WATER
- GAS — FORMER GAS
- GAS — GAS
- SAN — SANITARY SEWER
- OHEL — OVERHEAD ELECTRIC LINE
- POLE MOUNTED TRANSFORMER
- POWER POLE
- FORMER POWER POLE
- STREET LIGHT / TRAFFIC SIGNAL
- FORMER IN-GROUND HOIST
- FORMER FUEL DISPENSER
- UST — UNDERGROUND STORAGE TANK
- AST — ABOVEGROUND STORAGE TANK
- (B) — FORMER BUILDING
- (G) — FORMER GASOLINE DISPENSING STATION
- MONITORING WELL
- SOIL BORING

#	SITE FEATURES
1	FORMER UST BASIN 3: (3) 1,000-GALLON GASOLINE USTs (1) 575-GALLON GASOLINE UST
2	FORMER CANOPY
3	FORMER UST BASIN 1: (1) 575-GALLON GASOLINE UST
4	(1) AST (3) 55-GALLON DRUMS OF WATER
5	FORMER UST BASIN 2: (1) 960-GALLON GASOLINE UST

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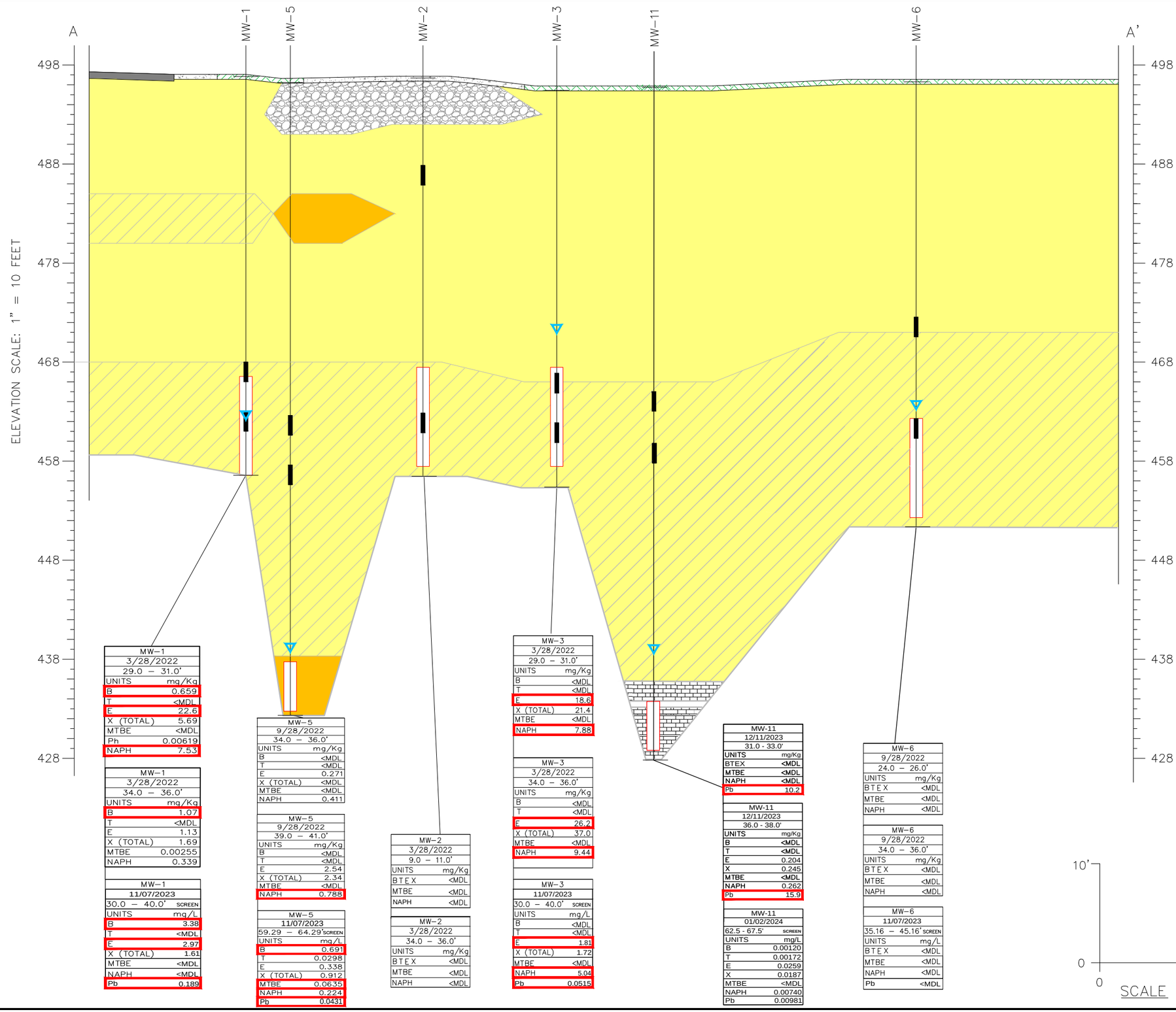
FIGURE 4
CROSS SECTION LOCATION MAP

PROJ:
FORMER GASOLINE SERVICE STATION
400 EAST 2ND STREET
SHEFFIELD, AL

THIS IS NOT A LEGAL SURVEY	DRN BY: KS	DATE: 4/19/2022
VERIFY SCALE 0 — 30' IF NOT 1" ON THIS SHEET, ADJUST SCALES ACCORDINGLY.	CHKD BY: ES/SE	DATE REVISED: 7/19/2023
	FILE NAME: 70-818-A-003F00R00	



LEGEND:

- ASPHALT
- CONCRETE PAVEMENT
- TOP SOIL
- GRAVEL
- SANDY CLAY
- CLAY
- CLAY WITH WEATHERED CHERT
- LIMESTONE
- VOID IN LIMESTONE
- SOIL SAMPLE COLLECTED FOR LABORATORY ANALYSIS
- SCREEN
- GROUNDWATER ELEVATION (11/07/2023)

B	BENZENE
T	TOLUENE
E	ETHYLBENZENE
X	TOTAL XYLENES
MTBE	METHYL-TERT-BUTYL-ETHER
NAPH	NAPHTHALENE
Pb	LEAD
MDL	METHOD DETECTION LIMIT

- VALUE EXCEEDS APPLICABLE SCREENING LEVEL

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FIGURE 5

STRATIGRAPHIC CROSS SECTION A-A'

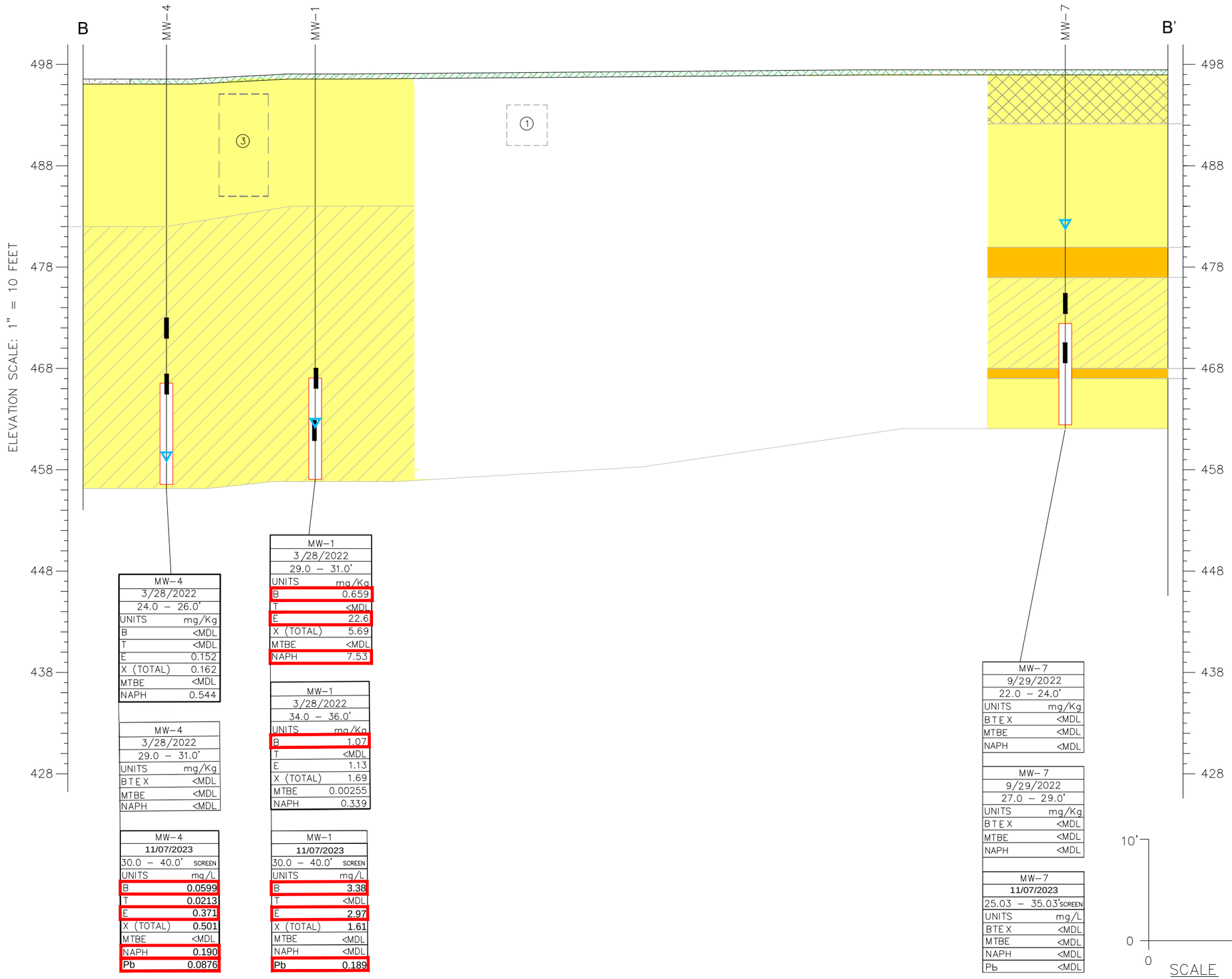
PROJ:

FORMER GASOLINE SERVICE STATION
400 EAST 2ND STREET
SHEFFIELD, AL

THIS IS NOT A LEGAL SURVEY

VERIFY SCALE
0 [redacted] NOTED
IF NOT 1" ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

DRN BY: KS
DATE: 11/28/2022
CHKD BY: ES/SE
SCALE: NOTED
FILE NAME: 70-818-A-002F00R00



MW-4
3/28/2022
24.0 – 26.0'
UNITS mg/Kg
B <MDL
T <MDL
E 0.152
X (TOTAL) 0.162
MTBE <MDL
NAPH 0.544

MW-4
3/28/2022
29.0 – 31.0'
UNITS mg/Kg
BTEX <MDL
MTBE <MDL
NAPH <MDL

MW-4
11/07/2023
30.0 – 40.0' SCREEN
UNITS mg/L
B 0.0599
T 0.0213
E 0.371
X (TOTAL) 0.501
MTBE <MDL
NAPH 0.190
Pb 0.0876

MW-1
3/28/2022
29.0 – 31.0'
UNITS mg/Kg
B 0.659
T <MDL
E 22.6
X (TOTAL) 5.69
MTBE <MDL
NAPH 7.53

MW-1
3/28/2022
34.0 – 36.0'
UNITS mg/Kg
B 1.07
T <MDL
E 1.13
X (TOTAL) 1.69
MTBE 0.00255
NAPH 0.339

MW-1
11/07/2023
30.0 – 40.0' SCREEN
UNITS mg/L
B 3.38
T <MDL
E 2.97
X (TOTAL) 1.61
MTBE <MDL
NAPH <MDL
Pb 0.189

MW-7
9/29/2022
22.0 – 24.0'
UNITS mg/Kg
BTEX <MDL
MTBE <MDL
NAPH <MDL

MW-7
9/29/2022
27.0 – 29.0'
UNITS mg/Kg
BTEX <MDL
MTBE <MDL
NAPH <MDL

MW-7
11/07/2023
25.03 – 35.03' SCREEN
UNITS mg/L
BTEX <MDL
MTBE <MDL
NAPH <MDL
Pb <MDL

10'
0
0
SCALE
15'

LEGEND:

- CONCRETE PAVEMENT
- TOP SOIL
- GRAVEL
- SANDY CLAY
- CLAY
- CLAY / BRICK / CONCRETE FILL
- CLAY WITH WEATHERED CHERT
- SOIL SAMPLE COLLECTED FOR LABORATORY ANALYSIS
- SCREEN
- GROUNDWATER ELEVATION
- B — BENZENE
- T — TOLUENE
- E — ETHYLBENZENE
- X — TOTAL XYLENES
- MTBE — METHYL-TERT-BUTYL-ETHER
- NAPH — NAPHTHALENE
- Pb — LEAD
- MDL — METHOD DETECTION LIMIT
- VALUE EXCEEDS APPLICABLE SCREENING LEVEL

#	SITE FEATURES
1	FORMER UST BASIN 1: (1) 575-GALLON GASOLINE UST
2	FORMER UST BASIN 2: (1) 960-GALLON GASOLINE UST
3	FORMER UST BASIN 3: (3) 1,000-GALLON GASOLINE UST (1) 574 GALLON GASOLINE UST
4	(1) FORMER AST (3) FORMER 55-GALLON DRUMS OF WATER

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FIGURE 6

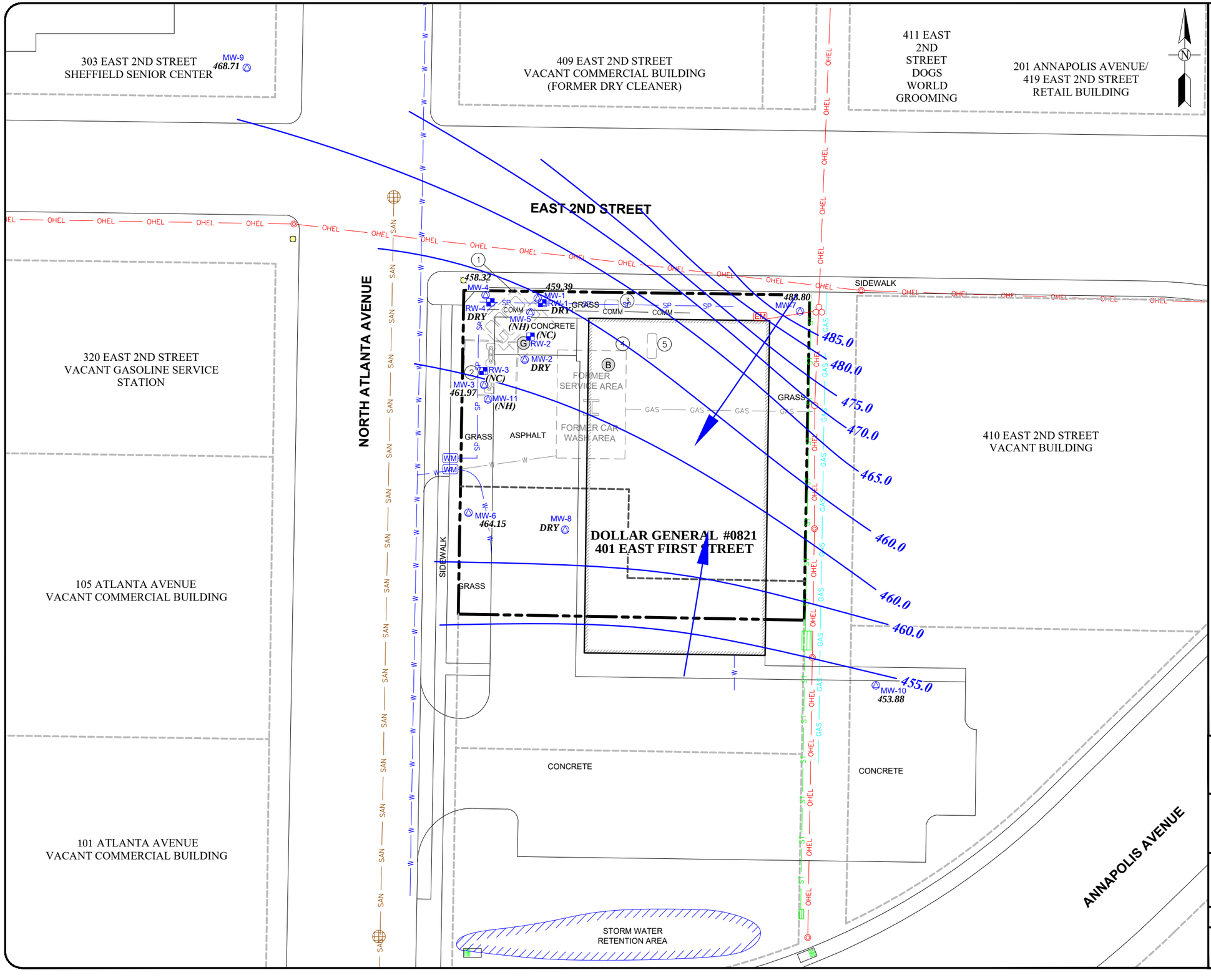
STRATIGRAPHIC CROSS SECTION B-B'

PROJ:
FORMER GASOLINE SERVICE STATION
400 EAST 2ND STREET
SHEFFIELD, AL

THIS IS NOT A LEGAL SURVEY

VERIFY SCALE
0 NOTED
IF NOT 1" ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

DRN BY: KS
DATE: 11/28/2022
CHKD BY: ES/SE
SCALE: NOTED
FILE NAME: 70-818-A-002F00R00



LEGEND:

- SUBJECT SITE
- PARCEL / LOT BOUNDARIES
- APPROXIMATE FORMER/HISTORICAL SITE FEATURES
- W — WATER
- W — ABANDONED WATER LINE
- GAS — GAS
- GAS — ABANDONED GAS LINE
- OHEL — OVERHEAD ELECTRIC LINE
- COMM — PRIVATE COMMUNICATION
- SP — IRRIGATION LINE TO SPRINKLER SYSTEM
- SAN — SANITARY SEWER
- ST — STORM SEWER
- STORM WATER INLETS WITH CONCRETE COVERS
- CATCH BASIN
- WM — WATER METER - (2) IRRIGATION & SITE
- EM — ELECTRIC METER
- SANITARY MANHOLE
- POLE MOUNTED TRANSFORMER
- 3 POLE MOUNTED TRANSFORMERS
- POWER POLE
- STREET LIGHT / TRAFFIC SIGNAL
- IN-GROUND HOIST
- FORMER FUEL DISPENSER
- UST — UNDERGROUND STORAGE TANK
- AST — ABOVEGROUND STORAGE TANK
- (B) — FORMER BUILDING
- (G) — FORMER GASOLINE DISPENSING STATION
- MONITORING WELL
- RECOVERY WELL
- GROUNDWATER FLOW DIRECTION
- 470.0 — GROUNDWATER ELEVATION CONTOUR
- 472.70 — GROUNDWATER ELEVATION
- (NH) — GROUNDWATER ELEVATION NOT HONORED
- (NC) — GROUNDWATER ELEVATION NOT CALCULATED

#	SITE FEATURES
1	FORMER UST BASIN 3: (3) 1,000-GALLON GASOLINE USTs (1) 575-GALLON GASOLINE UST
2	FORMER CANOPY
3	FORMER UST BASIN 1: (1) 575-GALLON GASOLINE UST
4	(1) FORMER AST (3) FORMER 55-GALLON DRUMS OF WATER
5	FORMER UST BASIN 2: (1) 960-GALLON GASOLINE UST

NOTE:
1. REFER TO FIGURE 2A FOR UTILITY DEPTHS AND DIAMETERS.
2. LOCATION OF HISTORICAL SITE FEATURES AND SAMPLE LOCATIONS ARE APPROXIMATE ONLY.

PM ENVIRONMENTAL PINCHIN — Environmental & Engineering Services

FIGURE 7

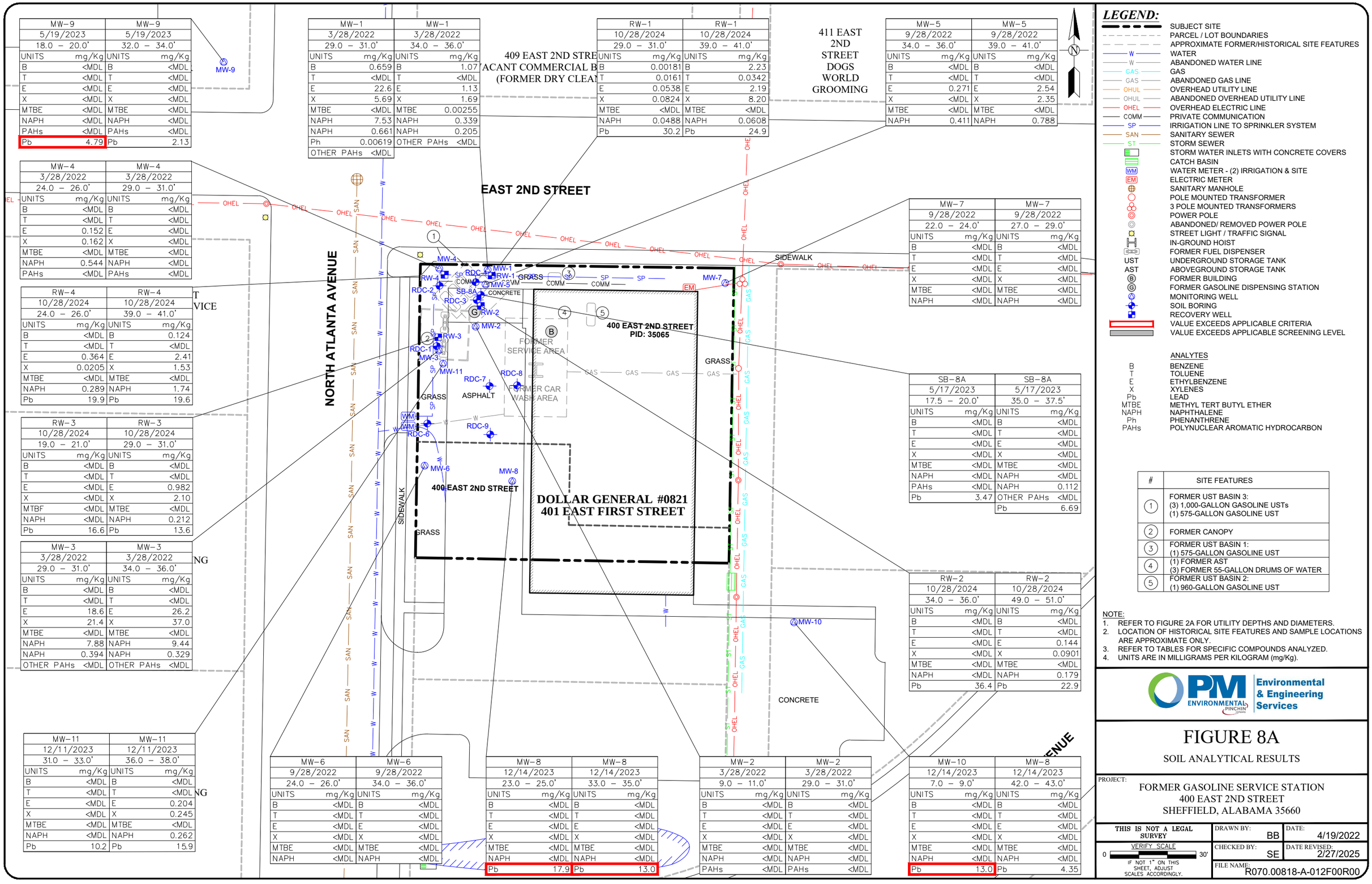
GROUNDWATER CONTOUR INTERVAL
FEBRUARY 14, 2025

PROJECT:
FORMER JC BOX TEXACO
400 EAST 2ND STREET
SHEFFIELD, ALABAMA

THIS IS NOT A LEGAL SURVEY

VERIFY SCALE
0 — 40'
IF NOT 1" ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

DRAWN BY: BB
DATE: 1/7/2025
CHECKED BY: SE
DATE REVISED:
FILE NAME: R070.00818-A-013F00R00



MW-9	
5/19/2023	
18.0 – 20.0'	
UNITS	mg/Kg
B	<MDL
T	<MDL
E	<MDL
X	<MDL
MTBE	<MDL
NAPH	<MDL
PAHs	<MDL
Pb	4.79

MW-9	
5/19/2023	
32.0 – 34.0'	
UNITS	mg/Kg
B	<MDL
T	<MDL
E	<MDL
X	<MDL
MTBE	<MDL
NAPH	<MDL
PAHs	<MDL
Pb	2.13

MW-1	
3/28/2022	
29.0 – 31.0'	
UNITS	mg/Kg
B	0.659
T	<MDL
E	22.6
X	5.69
MTBE	<MDL
NAPH	7.53
NAPH	0.661
Ph	0.00619
OTHER PAHs	<MDL

MW-1	
3/28/2022	
34.0 – 36.0'	
UNITS	mg/Kg
B	1.07
T	<MDL
E	1.13
X	1.69
MTBE	0.00255
NAPH	0.339
NAPH	0.205
OTHER PAHs	<MDL

RW-1	
10/28/2024	
29.0 – 31.0'	
UNITS	mg/Kg
B	0.00181
T	0.0161
E	0.0538
X	0.0824
MTBE	<MDL
NAPH	0.0488
Pb	30.2

RW-1	
10/28/2024	
39.0 – 41.0'	
UNITS	mg/Kg
B	2.23
T	0.0342
E	2.19
X	8.20
MTBE	<MDL
NAPH	0.0608
Pb	24.9

MW-5	
9/28/2022	
34.0 – 36.0'	
UNITS	mg/Kg
B	<MDL
T	<MDL
E	0.271
X	<MDL
MTBE	<MDL
NAPH	0.411

MW-5	
9/28/2022	
39.0 – 41.0'	
UNITS	mg/Kg
B	<MDL
T	<MDL
E	2.54
X	2.35
MTBE	<MDL
NAPH	0.788

MW-4	
3/28/2022	
24.0 – 26.0'	
UNITS	mg/Kg
B	<MDL
T	<MDL
E	0.152
X	0.162
MTBE	<MDL
NAPH	0.544
PAHs	<MDL

MW-4	
3/28/2022	
29.0 – 31.0'	
UNITS	mg/Kg
B	<MDL
T	<MDL
E	<MDL
X	<MDL
MTBE	<MDL
NAPH	<MDL
PAHs	<MDL

RW-4	
10/28/2024	
24.0 – 26.0'	
UNITS	mg/Kg
B	<MDL
T	<MDL
E	0.364
X	0.0205
MTBE	<MDL
NAPH	0.289
Pb	19.9

RW-4	
10/28/2024	
39.0 – 41.0'	
UNITS	mg/Kg
B	0.124
T	<MDL
E	2.41
X	1.53
MTBE	<MDL
NAPH	1.74
Pb	19.6

RW-3	
10/28/2024	
19.0 – 21.0'	
UNITS	mg/Kg
B	<MDL
T	<MDL
E	<MDL
X	<MDL
MTBF	<MDL
NAPH	<MDL
Pb	16.6

RW-3	
10/28/2024	
29.0 – 31.0'	
UNITS	mg/Kg
B	<MDL
T	<MDL
E	0.982
X	2.10
MTBE	<MDL
NAPH	0.212
Pb	13.6

MW-3	
3/28/2022	
29.0 – 31.0'	
UNITS	mg/Kg
B	<MDL
T	<MDL
E	18.6
X	21.4
MTBE	<MDL
NAPH	7.88
NAPH	0.394
OTHER PAHs	<MDL

MW-3	
3/28/2022	
34.0 – 36.0'	
UNITS	mg/Kg
B	<MDL
T	<MDL
E	26.2
X	37.0
MTBE	<MDL
NAPH	9.44
NAPH	0.329
OTHER PAHs	<MDL

MW-11	
12/11/2023	
31.0 – 33.0'	
UNITS	mg/Kg
B	<MDL
T	<MDL
E	<MDL
X	<MDL
MTBE	<MDL
NAPH	<MDL
Pb	10.2

MW-11	
12/11/2023	
36.0 – 38.0'	
UNITS	mg/Kg
B	<MDL
T	<MDL
E	0.204
X	0.245
MTBE	<MDL
NAPH	0.262
Pb	15.9

MW-6	
9/28/2022	
24.0 – 26.0'	
UNITS	mg/Kg
B	<MDL
T	<MDL
E	<MDL
X	<MDL
MTBE	<MDL
NAPH	<MDL

MW-6	
9/28/2022	
34.0 – 36.0'	
UNITS	mg/Kg
B	<MDL
T	<MDL
E	<MDL
X	<MDL
MTBE	<MDL
NAPH	<MDL

MW-8	
12/14/2023	
23.0 – 25.0'	
UNITS	mg/Kg
B	<MDL
T	<MDL
E	<MDL
X	<MDL
MTBE	<MDL
NAPH	<MDL
Pb	17.9

MW-8	
12/14/2023	
33.0 – 35.0'	
UNITS	mg/Kg
B	<MDL
T	<MDL
E	<MDL
X	<MDL
MTBE	<MDL
NAPH	<MDL
Pb	13.0

MW-2	
3/28/2022	
9.0 – 11.0'	
UNITS	mg/Kg
B	<MDL
T	<MDL
E	<MDL
X	<MDL
MTBE	<MDL
NAPH	<MDL
PAHs	<MDL

MW-2	
3/28/2022	
29.0 – 31.0'	
UNITS	mg/Kg
B	<MDL
T	<MDL
E	<MDL
X	<MDL
MTBE	<MDL
NAPH	<MDL
PAHs	<MDL

MW-7	
9/28/2022	
22.0 – 24.0'	
UNITS	mg/Kg
B	<MDL
T	<MDL
E	<MDL
X	<MDL
MTBE	<MDL
NAPH	<MDL

MW-7	
9/28/2022	
27.0 – 29.0'	
UNITS	mg/Kg
B	<MDL
T	<MDL
E	<MDL
X	<MDL
MTBE	<MDL
NAPH	<MDL

SB-8A	
5/17/2023	
17.5 – 20.0'	
UNITS	mg/Kg
B	<MDL
T	<MDL
E	<MDL
X	<MDL
MTBE	<MDL
NAPH	<MDL
PAHs	<MDL
Pb	3.47

SB-8A	
5/17/2023	
35.0 – 37.5'	
UNITS	mg/Kg
B	<MDL
T	<MDL
E	<MDL
X	<MDL
MTBE	<MDL
NAPH	<MDL
NAPH	0.112
OTHER PAHs	<MDL
Pb	6.69

RW-2	
10/28/2024	
34.0 – 36.0'	
UNITS	mg/Kg
B	<MDL
T	<MDL
E	<MDL
X	<MDL
MTBE	<MDL
NAPH	<MDL
Pb	36.4

RW-2	
10/28/2024	
49.0 – 51.0'	
UNITS	mg/Kg
B	<MDL
T	<MDL
E	0.144
X	0.0901
MTBE	<MDL
NAPH	0.179
Pb	22.9

MW-10	
12/14/2023	
7.0 – 9.0'	
UNITS	mg/Kg
B	<MDL
T	<MDL
E	<MDL
X	<MDL
MTBE	<MDL
NAPH	<MDL
Pb	13.0

MW-8	
12/14/2023	
42.0 – 43.0'	
UNITS	mg/Kg
B	<MDL
T	<MDL
E	<MDL
X	<MDL
MTBE	<MDL
NAPH	<MDL
Pb	4.35

LEGEND:

- SUBJECT SITE
- PARCEL / LOT BOUNDARIES
- APPROXIMATE FORMER/HISTORICAL SITE FEATURES
- W — WATER
- W — ABANDONED WATER LINE
- GAS — GAS
- GAS — ABANDONED GAS LINE
- OHUL — OVERHEAD UTILITY LINE
- OHUL — ABANDONED OVERHEAD UTILITY LINE
- OHEL — OVERHEAD ELECTRIC LINE
- COMM — PRIVATE COMMUNICATION
- SP — IRRIGATION LINE TO SPRINKLER SYSTEM
- SAN — SANITARY SEWER
- ST — STORM SEWER
- STORM WATER INLETS WITH CONCRETE COVERS
- CATCH BASIN
- WM — WATER METER - (2) IRRIGATION & SITE
- EM — ELECTRIC METER
- SANITARY MANHOLE
- POLE MOUNTED TRANSFORMER
- 3 POLE MOUNTED TRANSFORMERS
- POWER POLE
- ABANDONED/ REMOVED POWER POLE
- STREET LIGHT / TRAFFIC SIGNAL
- IN-GROUND HOIST
- FORMER FUEL DISPENSER
- UST — UNDERGROUND STORAGE TANK
- AST — ABOVEGROUND STORAGE TANK
- B — FORMER BUILDING
- G — FORMER GASOLINE DISPENSING STATION
- MONITORING WELL
- SOIL BORING
- RECOVERY WELL
- VALUE EXCEEDS APPLICABLE CRITERIA
- VALUE EXCEEDS APPLICABLE SCREENING LEVEL

ANALYTES

B	BENZENE
T	TOLUENE
E	ETHYLBENZENE
X	XYLENES
Pb	LEAD
MTBE	METHYL TERT BUTYL ETHER
NAPH	NAPHTHALENE
Ph	PHENANTHRENE
PAHs	POLYNUCLEAR AROMATIC HYDROCARBON

#	SITE FEATURES
1	FORMER UST BASIN 3: (3) 1,000-GALLON GASOLINE USTs (1) 575-GALLON GASOLINE UST
2	FORMER CANOPY
3	FORMER UST BASIN 1: (1) 575-GALLON GASOLINE UST
4	(1) FORMER AST (3) FORMER 55-GALLON DRUMS OF WATER
5	FORMER UST BASIN 2: (1) 960-GALLON GASOLINE UST

NOTE:
1. REFER TO FIGURE 2A FOR UTILITY DEPTHS AND DIAMETERS.
2. LOCATION OF HISTORICAL SITE FEATURES AND SAMPLE LOCATIONS ARE APPROXIMATE ONLY.
3. REFER TO TABLES FOR SPECIFIC COMPOUNDS ANALYZED.
4. UNITS ARE IN MILLIGRAMS PER KILOGRAM (mg/Kg).

PM ENVIRONMENTAL, PINCHIN — Environmental & Engineering Services

FIGURE 8A

SOIL ANALYTICAL RESULTS

PROJECT:
FORMER GASOLINE SERVICE STATION
400 EAST 2ND STREET
SHEFFIELD, ALABAMA 35660

THIS IS NOT A LEGAL SURVEY

VERIFY SCALE
0 30'
IF NOT 1" ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

DRAWN BY:	DATE:
BB	4/19/2022
CHECKED BY:	DATE REVISED:
SE	2/27/2025

FILE NAME: R070.00818-A-012F00R00

RDC-1		RDC-1		RDC-1	
11/12/2024		11/13/2024		11/13/2024	
18.0 – 20.0'		38.0 – 40.0'		42.0 – 44.0'	
UNITS	ug/Kg	UNITS	ug/Kg	UNITS	ug/Kg
B	<MDL	B	0.137	B	0.229
T	<MDL	T	<MDL	T	0.779
E	<MDL	E	1.23	E	26.6
X	<MDL	X	5.29	X	0.104
MTBE	<MDL	MTBE	<MDL	MTBE	<MDL
NAPH	0.0208	NAPH	0.220	NAPH	7.33
Pb	24.9	Pb	28.5	Pb	26.6

RDC-2		RDC-2		RDC-2	
11/13/2024		11/13/2024		11/13/2024	
32.0 – 34.0'		38.0 – 40.0'		52.0 – 54.0'	
UNITS	ug/Kg	UNITS	ug/Kg	UNITS	ug/Kg
B	<MDL	B	<MDL	B	0.130
T	<MDL	T	<MDL	T	<MDL
E	0.113	E	1.12	E	1.05
X	0.253	X	0.536	X	1.08
MTBE	<MDL	MTBE	<MDL	MTBE	<MDL
NAPH	<MDL	NAPH	<MDL	NAPH	1.09
Pb	22.1	Pb	33.7	Pb	44.9

RDC-4		RDC-4		RDC-4	
11/12/2024		11/13/2024		11/13/2024	
22.0 – 24.0'		38.0 – 40.0'		46.0 – 48.0'	
UNITS	ug/Kg	UNITS	ug/Kg	UNITS	ug/Kg
B	<MDL	B	0.599	B	1.55
T	<MDL	T	0.260	T	0.254
E	0.0566	E	9.49	E	1.09
X	<MDL	X	35.0	X	4.25
MTBE	<MDL	MTBE	<MDL	MTBE	0.0268
NAPH	<MDL	NAPH	6.54	NAPH	0.441
Pb	15.8	Pb	28.0	Pb	26.3

RDC-3		RDC-3		RDC-3	
11/14/2024		11/14/2024		11/14/2024	
32.0 – 34.0'		38.0 – 40.0'		56.0 – 58.0'	
UNITS	ug/Kg	UNITS	ug/Kg	UNITS	ug/Kg
B	<MDL	B	<MDL	B	1.73
T	<MDL	T	<MDL	T	0.0179
E	0.0921	E	3.36	E	0.515
X	0.233	X	1.9	X	0.769
MTBE	<MDL	MTBE	<MDL	MTBE	0.310
NAPH	<MDL	NAPH	1.80	NAPH	0.170
Pb	49.8	Pb	16.1	Pb	25.8

RDC-8		RDC-8	
11/14/2024		11/14/2024	
22.0 – 24.0'		36.0 – 38.0'	
UNITS	ug/Kg	UNITS	ug/Kg
B	<MDL	B	<MDL
T	<MDL	T	<MDL
E	<MDL	E	<MDL
X	<MDL	X	<MDL
MTBE	<MDL	MTBE	<MDL
NAPH	<MDL	NAPH	<MDL
Pb	17.9	Pb	18.2

RDC-6		RDC-6		RDC-6	
11/14/2024		11/13/2024		11/13/2024	
6.0 – 8.0'		34.0 – 36.0'		56.0 – 58.0'	
UNITS	ug/Kg	UNITS	ug/Kg	UNITS	ug/Kg
B	<MDL	B	0.161	B	0.278
T	<MDL	T	<MDL	T	<MDL
E	0.00472	E	0.936	E	0.458
X	0.0141	X	1.15	X	1.31
MTBE	<MDL	MTBE	<MDL	MTBE	<MDL
NAPH	<MDL	NAPH	0.184	NAPH	0.619
Pb	24.6	Pb	18.6	Pb	29.4

RDC-9		RDC-9	
11/15/2024		11/15/2024	
22.0 – 24.0'		36.0 – 38.0'	
UNITS	ug/Kg	UNITS	ug/Kg
B	<MDL	B	<MDL
T	<MDL	T	<MDL
E	<MDL	E	<MDL
X	<MDL	X	<MDL
MTBE	<MDL	MTBE	<MDL
NAPH	<MDL	NAPH	<MDL
Pb	12.8	Pb	31.3

RDC-7		RDC-7	
11/12/2024		11/12/2024	
35.0 – 37.0'		50.0 – 53.0'	
UNITS	ug/Kg	UNITS	ug/Kg
B	<MDL	B	0.0678
T	<MDL	T	0.00933
E	0.00418	E	0.192
X	<MDL	X	0.443
MTBE	<MDL	MTBE	<MDL
NAPH	<MDL	NAPH	0.104
Pb	13.2	Pb	19.7

303 E
SHEFFIE

ING

ANNAPOLIS AVENUE/
19 EAST 2ND STREET
RETAIL BUILDING

EAST 2ND STREET

320 EAST 2ND STREET
VACANT GASOLINE SERVICE
STATION

NORTH ATLANTA AVENUE

SIDEWALK

400 EAST 2ND STREET
PID: 35065

FORMER
SERVICE AREA

FORMER CAR
WASH AREA

ASPHALT

GRASS

CONCRETE

SIDEWALK

DOLLAR GENERAL #0821
401 EAST FIRST STREET

400 EAST 2ND STREET

105 ATLANTA AVENUE
VACANT COMMERCIAL BUILDING

101 ATL
VACANT CON

STORM WATER
TENTION AREA

CONCRETE

ANNAPOLIS AVENUE

LEGEND:

- SUBJECT SITE
- PARCEL / LOT BOUNDARIES
- APPROXIMATE FORMER/HISTORICAL SITE FEATURES
- W — WATER
- W — ABANDONED WATER LINE
- GAS — GAS
- GAS — ABANDONED GAS LINE
- OHUL — OVERHEAD UTILITY LINE
- OHUL — ABANDONED OVERHEAD UTILITY LINE
- OHEL — OVERHEAD ELECTRIC LINE
- COMM — PRIVATE COMMUNICATION
- SP — IRRIGATION LINE TO SPRINKLER SYSTEM
- SAN — SANITARY SEWER
- ST — STORM SEWER
- STORM WATER INLETS WITH CONCRETE COVERS
- CATCH BASIN
- WM — WATER METER - (2) IRRIGATION & SITE
- EM — ELECTRIC METER
- SANITARY MANHOLE
- POLE MOUNTED TRANSFORMER
- 3 POLE MOUNTED TRANSFORMERS
- POWER POLE
- ABANDONED/ REMOVED POWER POLE
- STREET LIGHT / TRAFFIC SIGNAL
- IN-GROUND HOIST
- FORMER FUEL DISPENSER
- UST — UNDERGROUND STORAGE TANK
- AST — ABOVEGROUND STORAGE TANK
- (B) — FORMER BUILDING
- (G) — FORMER GASOLINE DISPENSING STATION
- MONITORING WELL
- SOIL BORING
- RECOVERY WELL
- VALUE EXCEEDS APPLICABLE SCREENING LEVEL

ANALYTES

B	BENZENE
T	TOLUENE
E	ETHYLBENZENE
X	XYLENES
Pb	LEAD
MTBE	METHYL TERT BUTYL ETHER
NAPH	NAPHTHALENE

#	SITE FEATURES
1	FORMER UST BASIN 3: (3) 1,000-GALLON GASOLINE USTs (1) 575-GALLON GASOLINE UST
2	FORMER CANOPY
3	FORMER UST BASIN 1: (1) 575-GALLON GASOLINE UST
4	(1) FORMER AST (3) FORMER 55-GALLON DRUMS OF WATER
5	FORMER UST BASIN 2: (1) 960-GALLON GASOLINE UST

NOTE:
1. REFER TO FIGURE 2A FOR UTILITY DEPTHS AND DIAMETERS.
2. LOCATION OF HISTORICAL SITE FEATURES AND SAMPLE LOCATIONS ARE APPROXIMATE ONLY.
3. REFER TO TABLES FOR SPECIFIC COMPOUNDS ANALYZED.
4. UNITS ARE IN MICROGRAMS PER KILOGRAM (µg/Kg).

PM ENVIRONMENTAL, PINCHIN — Environmental & Engineering Services

FIGURE 8B

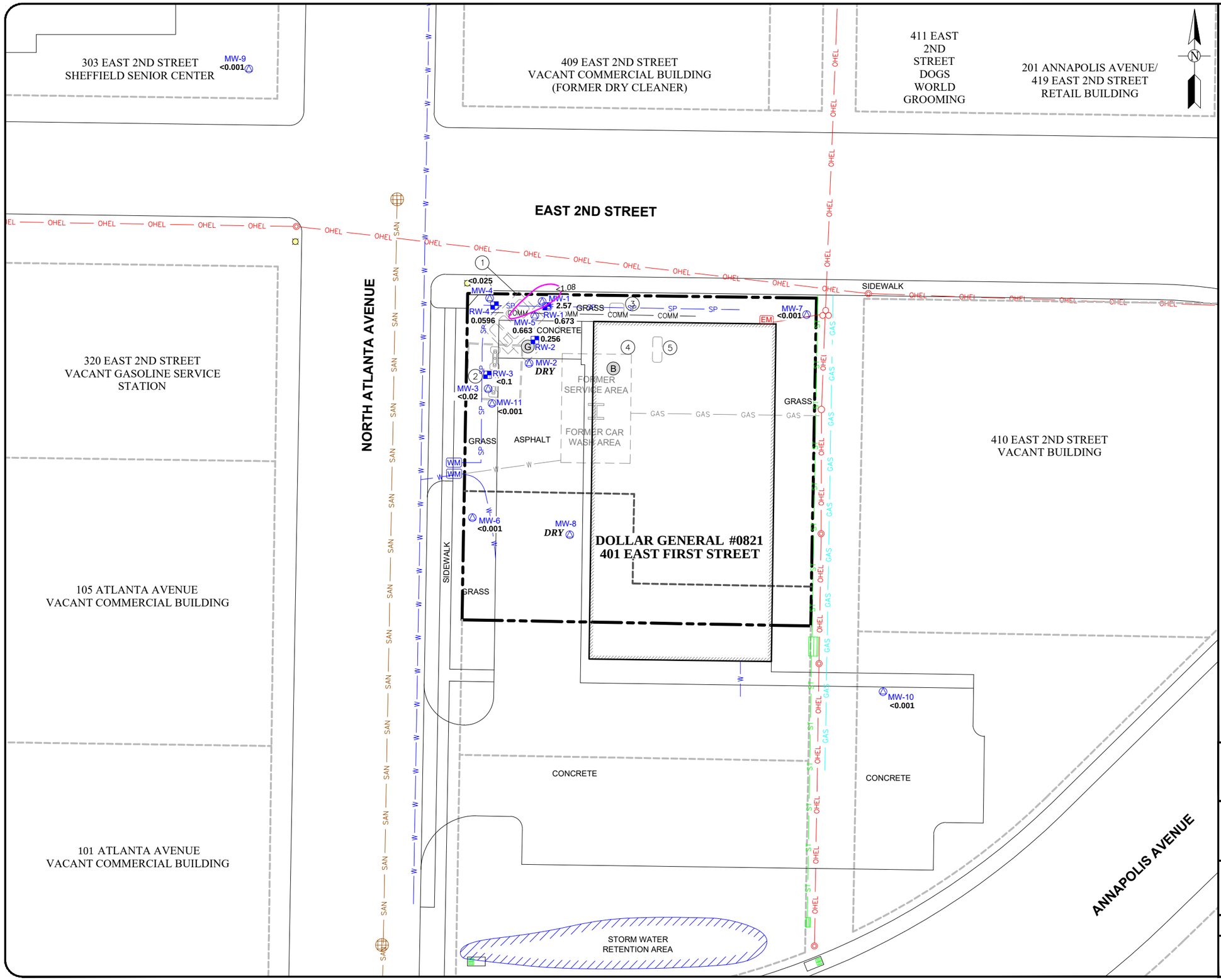
RDC SOIL ANALYTICAL RESULTS

PROJECT:
FORMER GASOLINE SERVICE STATION
400 EAST 2ND STREET
SHEFFIELD, ALABAMA 35660

THIS IS NOT A LEGAL SURVEY

VERIFY SCALE
0 30'
IF NOT 1" ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

DRAWN BY: BB
DATE: 1/3/2025
CHECKED BY: SE
DATE REVISED: 2/27/2025
FILE NAME: R070.00818-A-012F00R00



LEGEND:

- SUBJECT SITE
- PARCEL / LOT BOUNDARIES
- APPROXIMATE FORMER/HISTORICAL SITE FEATURES
- W — WATER
- W — ABANDONED WATER LINE
- GAS — GAS
- GAS — ABANDONED GAS LINE
- OHEL — OVERHEAD ELECTRIC LINE
- COMM — PRIVATE COMMUNICATION
- SP — IRRIGATION LINE TO SPRINKLER SYSTEM
- SAN — SANITARY SEWER
- ST — STORM SEWER
- STORM WATER INLETS WITH CONCRETE COVERS
- CATCH BASIN
- WM — WATER METER - (2) IRRIGATION & SITE
- EM — ELECTRIC METER
- SANITARY MANHOLE
- POLE MOUNTED TRANSFORMER
- 3 POLE MOUNTED TRANSFORMERS
- POWER POLE
- STREET LIGHT / TRAFFIC SIGNAL
- IN-GROUND HOIST
- FORMER FUEL DISPENSER
- UST — UNDERGROUND STORAGE TANK
- AST — ABOVEGROUND STORAGE TANK
- (B) — FORMER BUILDING
- (G) — FORMER GASOLINE DISPENSING STATION
- MONITORING WELL
- RECOVERY WELL
- 472.70 — BENZENE GROUNDWATER CONCENTRATION
- 1.0 — BENZENE CONTOUR

#	SITE FEATURES
1	FORMER UST BASIN 3: (3) 1,000-GALLON GASOLINE USTs (1) 575-GALLON GASOLINE UST
2	FORMER CANOPY
3	FORMER UST BASIN 1: (1) 575-GALLON GASOLINE UST
4	(1) FORMER AST (3) FORMER 55-GALLON DRUMS OF WATER
5	FORMER UST BASIN 2: (1) 960-GALLON GASOLINE UST

NOTE:
1. REFER TO FIGURE 2A FOR UTILITY DEPTHS AND DIAMETERS.
2. LOCATION OF HISTORICAL SITE FEATURES AND SAMPLE LOCATIONS ARE APPROXIMATE ONLY.

PM ENVIRONMENTAL PINCHIN — Environmental & Engineering Services

FIGURE 9

BENZENE GROUNDWATER ANALYTICAL RESULTS
FEBRUARY 14, 2025

PROJECT:
FORMER JC BOX TEXACO
400 EAST 2ND STREET
SHEFFIELD, ALABAMA

THIS IS NOT A LEGAL SURVEY	DRAWN BY: BB	DATE: 1/7/2025
VERIFY SCALE 0 — 40' IF NOT 1" ON THIS SHEET, ADJUST SCALES ACCORDINGLY.	CHECKED BY: SE	DATE REVISED:
	FILE NAME: R070.00818-A-013F00R00	

MW-4	
2/14/2025	
29.52 – 39.52'SCREEN	
UNITS	mg/L
B	<MDL
T	<MDL
E	0.271
X	0.343
MTBE	<MDL
NAPH	0.129
Pb	0.0881

MW-9	
2/14/2025	
29.47 – 39.47'SCREEN	
UNITS	mg/L
B	<MDL
T	<MDL
E	<MDL
X	<MDL
MTBE	<MDL
NAPH	<MDL
Pb	<MDL

MW-2	
2/14/2025	
30.20 – 40.20'SCREEN	
UNITS	mg/L
DRY	

MW-1	
2/14/2025	
30.26 – 40.26'SCREEN	
UNITS	mg/L
B	2.57
T	<MDL
E	0.910
X	2.07
MTBE	<MDL
NAPH	<MDL
Pb	0.766

RW-1	
2/14/2025	
10.0 – 50.0' SCREEN	
UNITS	mg/L
B	2.57
T	<MDL
E	0.910
X	2.07
MTBE	<MDL
NAPH	<MDL
Pb	0.766

MW-7	
2/14/2025	
24.66 – 34.66'SCREEN	
UNITS	mg/L
B	<MDL
T	<MDL
E	<MDL
X	<MDL
MTBE	<MDL
NAPH	<MDL
Pb	<MDL

RW-4	
2/14/2025	
6.0 – 46.0' SCREEN	
UNITS	mg/L
B	0.0596
T	0.0487
E	0.129
X	2.07
MTBE	0.0201
NAPH	0.0459
Pb	0.0271

RW-3	
2/14/2025	
10.0 – 50.0' SCREEN	
UNITS	mg/L
B	<MDL
T	0.391
E	0.800
X	8.83
MTBE	<MDL
NAPH	<MDL
Pb	<MDL

MW-3	
2/14/2025	
30.09 – 40.09'SCREEN	
UNITS	mg/L
B	<MDL
T	<MDL
E	0.737
X	1.11
MTBE	<MDL
NAPH	0.135
Pb	<MDL

MW-11	
2/14/2025	
62.11 – 67.11' SCREEN	
UNITS	mg/L
B	<MDL
T	<MDL
E	<MDL
X	<MDL
MTBE	<MDL
NAPH	<MDL
Pb	<MDL

MW-6	
2/14/2025	
34.91 – 44.91' SCREEN	
UNITS	mg/L
B	<MDL
T	<MDL
E	<MDL
X	<MDL
MTBE	<MDL
NAPH	<MDL
Pb	0.0613

MW-8	
2/14/2025	
34.67 – 44.67'SCREEN	
UNITS	mg/L
DRY	

MW-5	
2/14/2025	
58.89 – 63.89'SCREEN	
UNITS	mg/L
B	0.663
T	0.0133
E	0.201
X	0.331
MTBE	0.206
NAPH	0.0521
Pb	0.206

RW-2	
2/14/2025	
25.0 – 65.0' SCREEN	
UNITS	mg/L
B	0.256
T	<MDL
E	0.0984
X	0.300
MTBE	0.658
NAPH	<MDL
Pb	0.114

MW-10	
2/14/2025	
39.74 – 49.74'SCREEN	
UNITS	mg/L
B	<MDL
T	<MDL
E	<MDL
X	<MDL
MTBE	<MDL
NAPH	<MDL
Pb	<MDL

EAST 2ND STREET

NORTH ATLANTA AVENUE

DOLLAR GENERAL #0821
401 EAST FIRST STREET

411 EAST 2ND STREET DOGS WORLD GROOMING

201 ANNAPOLIS AVENUE/ 419 EAST 2ND STREET RETAIL BUILDING

410 EAST 2ND STREET VACANT BUILDING

FORMER SERVICE AREA

FORMER CAR WASH AREA

GRASS

ASPHALT

CONCRETE

SIDEWALK

STORM WATER RETENTION AREA

LEGEND:

- SUBJECT SITE
- PARCEL / LOT BOUNDARIES
- APPROXIMATE FORMER/HISTORICAL SITE FEATURES
- W — WATER
- W — ABANDONED WATER LINE
- GAS — GAS
- GAS — ABANDONED GAS LINE
- OHEL — OVERHEAD ELECTRIC LINE
- COMM — PRIVATE COMMUNICATION
- SP — IRRIGATION LINE TO SPRINKLER SYSTEM
- SAN — SANITARY SEWER
- ST — STORM SEWER
- STORM WATER INLETS WITH CONCRETE COVERS
- CATCH BASIN
- WM — WATER METER - (2) IRRIGATION & SITE
- EM — ELECTRIC METER
- SANITARY MANHOLE
- POLE MOUNTED TRANSFORMER
- 3 POLE MOUNTED TRANSFORMERS
- POWER POLE
- STREET LIGHT / TRAFFIC SIGNAL
- IN-GROUND HOIST
- FORMER FUEL DISPENSER
- UST — UNDERGROUND STORAGE TANK
- AST — ABOVEGROUND STORAGE TANK
- (B) — FORMER BUILDING
- (G) — FORMER GASOLINE DISPENSING STATION
- MONITORING WELL
- SOIL BORING
- RECOVERY WELL

ANALYTES

- B — BENZENE
- T — TOLUENE
- E — ETHYLBENZENE
- X — XYLENES
- Pb — LEAD
- MTBE — METHYL TERT BUTYL ETHER
- NAPH — NAPHTHALENE

#	SITE FEATURES
1	FORMER UST BASIN 3: (3) 1,000-GALLON GASOLINE USTs (1) 575-GALLON GASOLINE UST
2	FORMER CANOPY
3	FORMER UST BASIN 1: (1) 575-GALLON GASOLINE UST
4	(1) FORMER AST (3) FORMER 55-GALLON DRUMS OF WATER
5	FORMER UST BASIN 2: (1) 960-GALLON GASOLINE UST

NOTE:
1. REFER TO FIGURE 2A FOR UTILITY DEPTHS AND DIAMETERS.
2. LOCATION OF HISTORICAL SITE FEATURES AND SAMPLE LOCATIONS ARE APPROXIMATE ONLY.
3. REFER TO TABLES FOR SPECIFIC COMPOUNDS ANALYZED.
4. UNITS ARE IN MICROGRAMS PER LITER.

PM ENVIRONMENTAL PINCHIN — Environmental & Engineering Services

FIGURE 10

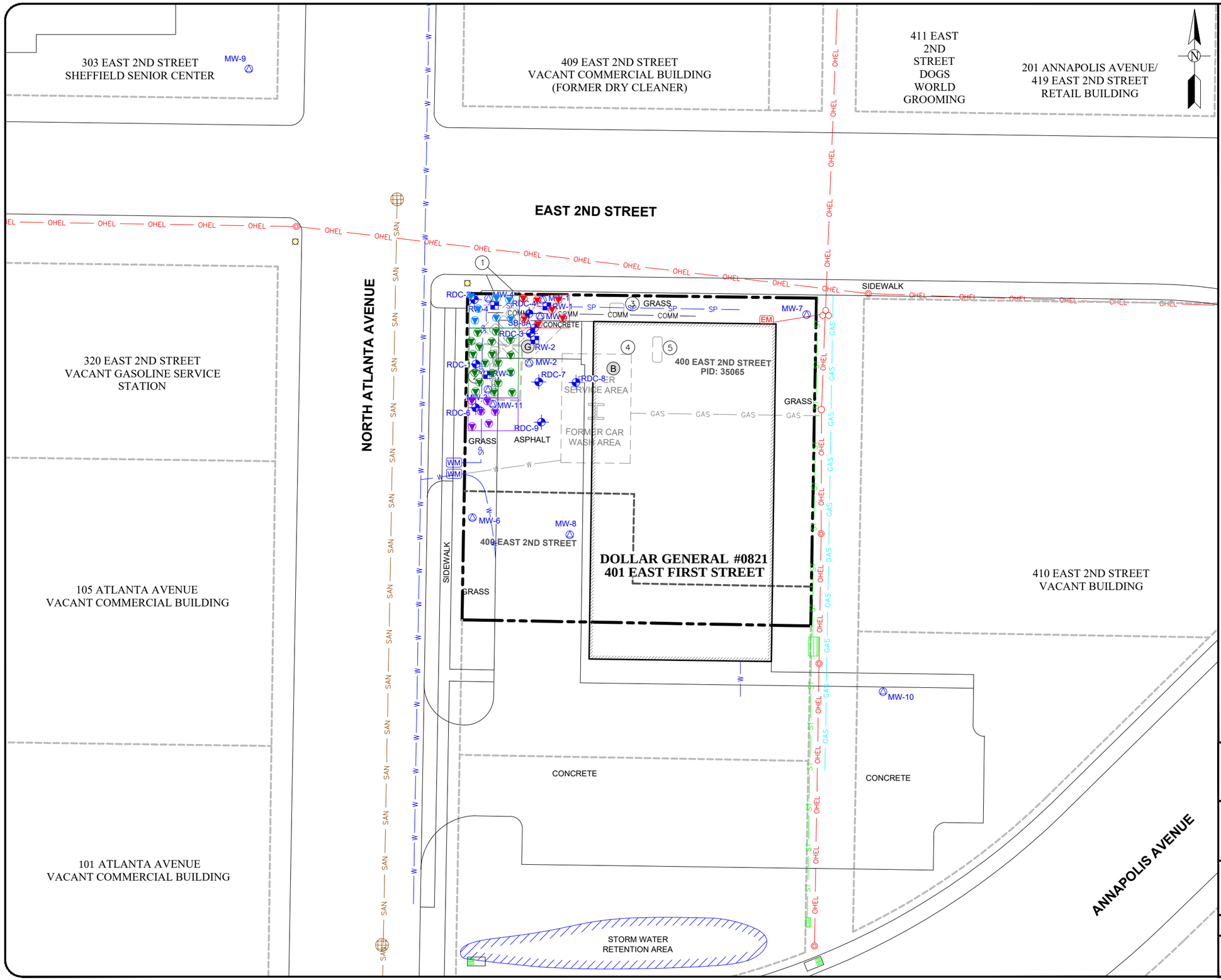
GROUNDWATER ANALYTICAL RESULTS
FEBRUARY 14, 2025

PROJECT:
FORMER GASOLINE SERVICE STATION
400 EAST 2ND STREET
SHEFFIELD, ALABAMA 35660

THIS IS NOT A LEGAL SURVEY

VERIFY SCALE
0 30'
IF NOT 1" ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

DRAWN BY: BB
DATE: 4/19/2022
CHECKED BY: SE
DATE REVISED: 1/6/2025
FILE NAME: R070.00818-A-012F00R00



LEGEND:

- SUBJECT SITE
- PARCEL / LOT BOUNDARIES
- APPROXIMATE FORMER/HISTORICAL SITE FEATURES
- W — WATER
- W — ABANDONED WATER LINE
- GAS — GAS
- GAS — ABANDONED GAS LINE
- OHUL — OVERHEAD UTILITY LINE
- OHUL — ABANDONED OVERHEAD UTILITY LINE
- OHEL — OVERHEAD ELECTRIC LINE
- COMM — PRIVATE COMMUNICATION
- SP — IRRIGATION LINE TO SPRINKLER SYSTEM
- SAN — SANITARY SEWER
- ST — STORM SEWER
- STORM WATER INLETS WITH CONCRETE COVERS
- CATCH BASIN
- WM — WATER METER - (2) IRRIGATION & SITE
- EM — ELECTRIC METER
- SANITARY MANHOLE
- POLE MOUNTED TRANSFORMER
- 3 POLE MOUNTED TRANSFORMERS
- POWER POLE
- ABANDONED/ REMOVED POWER POLE
- STREET LIGHT / TRAFFIC SIGNAL
- IN-GROUND HOIST
- FORMER FUEL DISPENSER
- UST — UNDERGROUND STORAGE TANK
- AST — ABOVEGROUND STORAGE TANK
- B — FORMER BUILDING
- G — FORMER GASOLINE DISPENSING STATION
- MONITORING WELL
- SOIL BORING
- RECOVERY WELL
- PROPOSED INJECTION BORING (AREA A)
- PROPOSED INJECTION BORING (AREA B)
- PROPOSED INJECTION BORING (AREA C)
- PROPOSED INJECTION BORING (AREA D)

#	SITE FEATURES
1	FORMER UST BASIN 3: (3) 1,000-GALLON GASOLINE USTs (1) 575-GALLON GASOLINE UST
2	FORMER CANOPY
3	FORMER UST BASIN 1: (1) 575-GALLON GASOLINE UST
4	(1) FORMER AST (3) FORMER 55-GALLON DRUMS OF WATER
5	FORMER UST BASIN 2: (1) 960-GALLON GASOLINE UST

NOTE:
1. REFER TO FIGURE 2A FOR UTILITY DEPTHS AND DIAMETERS.
2. LOCATION OF HISTORICAL SITE FEATURES AND SAMPLE LOCATIONS ARE APPROXIMATE ONLY.

PM ENVIRONMENTAL, INC. — Environmental & Engineering Services

FIGURE 11
PROPOSED INJECTION DIAGRAM

PROJECT:
FORMER GASOLINE SERVICE STATION
400 EAST 2ND STREET
SHEFFIELD, ALABAMA

THIS IS NOT A LEGAL SURVEY	DRAWN BY: KS/BB	DATE: 4/19/2022
VERIFY SCALE: 0 — 40' IF NOT 1" ON THIS SHEET, ADJUST SCALES ACCORDINGLY.	CHECKED BY: SE	DATE REVISED: 2/27/2025
	FILE NAME: R070.00818-A-012F00R00	

Tables

PM ENVIRONMENTAL a PINCHIN company | Environmental & Engineering Services

TABLE 1
SUMMARY OF SOIL SAMPLE ANALYTICAL RESULTS
FORMER JC BOX TEXACO
400 E. 2ND ST ATLANTA AVE, SHEFFIELD, COLBERT COUNTY, ALABAMA
FACILITY I.D. #11732-033-004341; UST INCIDENT #UST21-09-05

Benzene, Toluene, Ethylbenzene, Total Xylenes (BTEX), Methyl-tert-butyl-ether (MTBE), Polynuclear Aromatic Hydrocarbons (PAHs), and Lead, (mg/Kg)			Benzene	Toluene	Ethylbenzene	Total Xylenes	Methyl-tert-butyl ether (MTBE)	Naphthalene	Anthracene	Benzo (a) anthracene	Benzo (a) pyrene	Benzo (b) fluoranthene	Benzo (g,h,i) perylene	Benzo (k) fluoranthene	Chrysene	Fluoranthene	Fluorene	Naphthalene	Phenanthrene	Pyrene	Lead
CAS#			71-43-2	108-88-3	100-41-4	1330-20-7	1634-04-4	91-20-3	120-12-7	56-55-3	50-32-8	205-99-2	191-24-2	207-08-9	218-01-9	206-44-0	86-73-7	91-20-3	85-01-8	129-00-0	7439-92-1
Sample ID	**Sample Date**	**Sample Depth (feet bgs)**	**BTEX, MTBE, & Naphthalene - 8260B**						**PAHs - 8270C - SIM**												**LEAD - 6010B**
MW-1	3/28/2022	29-31'	0.659	<0.2	22.6	5.69	<0.04	7.53	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	0.661	0.00619	<0.006	NS
		34-36'	1.07	<0.005	1.13	1.69	0.00255	0.339	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	0.205	<0.006	<0.006	NS
MW-2	3/28/2022	9-11'	<0.001	<0.005	<0.0025	<0.0065	<0.001	<0.0125	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.02	<0.006	<0.006	NS
		29-31'	<0.001	<0.005	<0.0025	<0.0065	<0.001	<0.0125	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.02	<0.006	<0.006	NS
MW-3	3/28/2022	29-31'	<0.02	<0.1	18.6	21.4	<0.02	7.88	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	0.394	<0.006	<0.006	NS
		34-36'	<0.02	<0.1	26.2	37.0	<0.02	9.44	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	0.329	<0.006	<0.006	NS
MW-4	3/28/2022	24-26'	<0.02	<0.1	0.152	0.162	<0.02	0.544	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.02	<0.006	<0.006	NS
		29-31'	<0.008	<0.04	<0.02	<0.052	<0.008	<0.1	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.02	<0.006	<0.006	NS
MW-5	9/28/2022	34-36'	<0.008	<0.04	0.271	<0.052	<0.008	0.411	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
		39-41'	<0.008	<0.04	2.54	2.34	<0.008	0.788	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
GRP Target Level			**31.0**	**4,700**	**2,190**	**2,770**	**25.6**	**2,330**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**2,330**	**--**	**--**	**2,840**
MW-6	9/28/2022	24-26'	<0.001	<0.005	<0.0025	<0.0065	<0.001	<0.125	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
		34-36'	<0.001	<0.005	<0.0025	<0.0065	<0.001	<0.125	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-7	9/28/2022	22-24'	<0.001	<0.005	<0.0025	<0.0065	<0.001	<0.125	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
		27-29'	<0.001	<0.005	<0.0025	<0.0065	<0.001	<0.125	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
ARBCA ISLs			**0.00845**	**3.6**	**3.61**	**62.4**	**0.00862**	**0.579**	**11.2**	**10.1**	**2.24**	**18.5**	**11.1**	**9.84**	**6.37**	**101**	**153**	**0.579**	**141**	**91.8**	**4.43**
SB-8A	5/17/2023	17.5-20'	<0.001	<0.005	<0.0025	<0.0065	<0.001	<0.0125	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.02	<0.006	<0.006	3.47
		35-37.5'	<0.001	<0.005	<0.0025	<0.0065	<0.001	<0.0125	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	0.112	<0.006	<0.006	6.69
GRP Target Level			**31.0**	**4,700**	**2,190**	**2,770**	**25.6**	**2,330**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**2,330**	**--**	**--**	**2,840**
MW-8	12/14/2023	23-25'	<0.001	<0.005	<0.0025	<0.0065	<0.001	<0.0125	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	**17.9**
		33-35'	<0.001	<0.005	<0.0025	<0.0065	<0.001	<0.0125	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	**13.0**
MW-9	5/19/2023	18-20'	<0.001	<0.005	<0.0025	<0.0065	<0.001	<0.0125	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.02	<0.006	<0.006	**4.79**
		32-34'	<0.001	<0.005	<0.0025	<0.0065	<0.001	<0.0125	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.02	<0.006	<0.006	2.13
MW-10	12/14/2023	7-9'	<0.001	<0.005	<0.0025	<0.0065	<0.001	<0.0125	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	**13.0**
		42-43'	<0.001	<0.005	<0.0025	<0.0065	<0.001	<0.0125	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	4.35
MW-11	12/11/2023	31-33'	<0.001	<0.005	<0.0025	<0.0065	<0.001	<0.0125	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	**10.2**
		36-38'	<0.001	<0.005	0.204	0.245	<0.001	0.262	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	**15.9**
ARBCA ISLs			**0.00845**	**3.6**	**3.61**	**62.4**	**0.00862**	**0.579**	**11.2**	**10.1**	**2.24**	**18.5**	**11.1**	**9.84**	**6.37**	**101**	**153**	**0.579**	**141**	**91.8**	**4.43**

TABLE 1
SUMMARY OF SOIL SAMPLE ANALYTICAL RESULTS
FORMER JC BOX TEXACO
400 E. 2ND ST ATLANTA AVE, SHEFFIELD, COLBERT COUNTY, ALABAMA
FACILITY I.D. #11732-033-004341; UST INCIDENT #UST21-09-05

Benzene, Toluene, Ethylbenzene, Total Xylenes (BTEX), Methyl-tert-butyl-ether (MTBE), Polynuclear Aromatic Hydrocarbons (PAHs), and Lead, (mg/Kg)			Benzene	Toluene	Ethylbenzene	Total Xylenes	Methyl-tert-butyl ether (MTBE)	Naphthalene	Anthracene	Benzo (a) anthracene	Benzo (a) pyrene	Benzo (b) fluoranthene	Benzo (g,h,i) perylene	Benzo (k) fluoranthene	Chrysene	Fluoranthene	Fluorene	Naphthalene	Phenanthrene	Pyrene	Lead
CAS#			71-43-2	108-88-3	100-41-4	1330-20-7	1634-04-4	91-20-3	120-12-7	56-55-3	50-32-8	205-99-2	191-24-2	207-08-9	218-01-9	206-44-0	86-73-7	91-20-3	85-01-8	129-00-0	7439-92-1
Sample ID	**Sample Date**	**Sample Depth (feet bgs)**	**BTEX, MTBE, & Naphthalene - 8260B**						**PAHs - 8270C - SIM**												**LEAD - 6010B**
RW-1	10/28/2024	29-31	0.00181	0.0161	0.0538	0.0824	<0.00181	0.0488	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	30.2
		39-41	2.23	0.0342	2.19	8.20	<0.00199	0.0608	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	24.9
RW-2	10/28/2024	34-36	<0.00157	<0.00785	<0.00393	<0.0102	<0.00157	<0.0196	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	36.4
		49-51	<0.00658	<0.0329	0.144	0.0901	<0.00658	0.179	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	22.9
RW-3	10/28/2024	19-21	<0.0164	<0.08231	<0.0411	<0.107	<0.0164	<0.205	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	16.6
		29-31	<0.00179	<0.00897	0.982	2.10	<0.00179	0.212	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	13.6
RW-4	10/28/2024	24-26	<0.00167	<0.00834	0.364	0.0205	<0.00167	0.289	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	19.9
		39-41	0.124	<0.0868	2.41	1.53	<0.0174	1.74	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	19.6
RDC-1	11/12/2024	18-20	<0.00166	<0.00832	<0.00416	<0.018	<0.00166	0.0208	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	24.9
	11/13/2024	38-40	0.137	<0.07454	1.23	5.29	<0.0149	0.220	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	28.5
		42-44	0.229	0.779	26.6	0.104	<0.0366	7.33	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	26.6
RDC-2	11/13/2024	32-34	<0.00140	<0.00698	0.113	0.253	<0.00140	<0.174	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	22.1
		38-40	<0.00142	<0.00710	1.12	0.536	<0.00142	<0.177	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	33.7
		52-54	0.130	<0.0768	1.05	1.08	<0.0154	1.09	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	44.9
RDC-3	11/14/2024	32-34	<0.0348	<0.174	0.0921	0.233	<0.0348	<0.435	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	49.8
		38-40	<0.0655	<0.328	3.36	1.90	<0.0655	1.80	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	16.1
		56-58	1.73	0.0179	0.515	0.769	0.310	0.170	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	25.8
RDC-4	11/12/2024	22-24	<0.0128	<0.0641	0.0566	<0.0833	<0.0128	<0.160	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	15.8
	11/13/2024	38-40	0.599	0.260	9.49	35.0	<0.0141	6.54	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	28.0
		46-48	1.55	0.254	1.09	4.25	0.0268	0.441	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	26.3
RDC-6	11/14/2024	6-8	<0.00160	<0.00798	0.00472	0.0141	<0.00160	<0.0199	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	24.6
	11/13/2024	34-36	0.161	<0.00875	0.936	1.15	<0.00175	0.184	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	18.6
		56-58	0.278	<0.212	0.458	1.31	<0.0424	0.619	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	29.4
RDC-7	11/12/2024	35-37	<0.00137	<0.00687	0.00418	<0.00893	<0.00137	<0.0172	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	13.2
	11/12/2024	50-53	0.0678	0.00933	0.192	0.443	<0.00155	0.104	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	19.7
RDC-8	11/14/2024	22-24	<0.00179	<0.00894	<0.00447	<0.0116	<0.00179	<0.0223	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	17.9
	11/14/2024	36-38	<0.00145	<0.00724	<0.00362	<0.00941	<0.00145	<0.0181	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	18.2
RDC-9	11/15/2024	22-24	<0.00159	<0.00795	<0.00397	<0.0103	<0.00159	<0.0199	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	12.8
	11/15/2024	36-38	<0.00169	<0.00845	<0.00422	<0.0110	<0.00169	<0.0211	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	31.3
GRP Target Level			**31.0**	**4,700**	**2,190**	**2,770**	**25.6**	**2,330**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**2,330**	**--**	**--**	**2,840**

NOTES:
1. mg/kg - milligrams per liter; CAS# - Chemical Abstracts Service number; bgs - below ground surface; SIM - Selected Ion Monitoring; ppm - parts per million; NS - Not Sampled
2. GRP Target Level - Groundwater Resource Protection Target Levels approved March 26, 2024.
3. ARBCA ISLs - Alabama Risk Based Corrective Action Initial Screening Levels

TABLE 2
SUMMARY OF WELL CONSTRUCTION, GROUNDWATER ELEVATION, & ANALYTICAL RESULTS
FORMER JC BOX TEXACO
400 E. 2ND ST ATLANTA AVE, SHEFFIELD, COLBERT COUNTY, ALABAMA
FACILITY I.D. #11732-033-004341; UST INCIDENT #UST21-09-05

Benzene, Toluene, Ethylbenzene, Total Xylenes (BTEX), Methyl-tert butyl ether (MTBE), Polynuclear Aromatic Hydrocarbons (PAHs), and Lead (mg/L)				Benzene	Toluene	Ethylbenzene	Total Xylenes	Methyl-tert-butyl ether (MTBE)	Naphthalene	Anthracene	Benzo (a) anthracene	Benzo (a) pyrene	Benzo (b) fluoranthene	Benzo (g,h,i) perylene	Benzo (k) fluoranthene	Chrysene	Fluoranthene	Fluorene	Naphthalene	Phenanthrene	Pyrene	Lead
CAS #				71-43-2	108-88-3	100-41-4	1330-20-7	1634-04-4	91-20-3	120-12-7	56-55-3	50-32-8	205-99-2	191-24-2	207-08-9	218-01-9	206-44-0	86-73-7	91-20-3	85-01-8	129-00-0	7439-92-1
Sample Date	Depth to Water (feet below TOC)	Free Product (feet)	Water Table Elevation (feet above msl)	BTEX, MTBE, & Naphthalene - 8260B						POLYNUCLEAR AROMATIC HYDROCARBONS - 8270C-SIM												LEAD - 6010B
MW-1	*Date of Installation:*		*March 28-29, 2022*	*Surface Elevation in feet above msl:*					*497.05*	*TOC Elevation in feet above msl:*			**496.83**	*Well Type:*		*2" Type II*	*Screened Interval in feet below TOC:*				*30.26-40.26'*	
03/30/22	34.50	ND	462.33	**2.96**	0.145	3.29	3.94	<0.001	0.563	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.0001	0.283	0.574	0.352	0.0000527	NS
10/05/22	34.62	ND	462.21	0.718	<0.010	2.13	0.830	<0.010	0.523	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
		DUPLICATE		0.768	0.00290	1.96	0.806	<0.001	0.425	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
05/24/23	38.03	ND	458.80	**2.03**	<0.1	2.17	0.792	<0.1	<0.5	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.0001	0.000192	0.661	0.000255	<0.00005	0.0926
07/13/23	38.97	ND	457.86	**2.26**	<0.1	2.64	1.26	<0.1	NS	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.0001	0.000187	0.615	0.000239	<0.00005	0.0957
09/07/23	37.60	ND	459.23	**1.62**	0.07970	2.74	1.33	<0.005	0.576	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.0001	0.000221	0.436	0.000301	0.0000544	0.0633
11/07/23	39.80	ND	457.03	**3.38**	<0.2	2.97	1.61	<0.2	<1.0	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	0.189
07/12/24	38.78	ND	458.05	**2.59**	<0.2	2.28	1.72	<0.2	<1.0	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	0.00369
10/16/24	37.58	ND	459.25	**1.56**	<0.2	2.17	3.79	<0.2	<1.0	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	0.0233
11/14/24	DRY			NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
02/14/25	37.44	ND	459.39	**2.57**	<0.2	0.91	2.07	<0.2	<1.0	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	0.766
GRP Target Level				**1.08**	**215**	**151**	**175**	**4.30**	**4.30**	--	--	--	--	--	--	--	--	--	**4.30**	--	--	**3.23**
MW-2	*Date of Installation:*		*March 28-29, 2022*	*Surface Elevation in feet above msl:*					*496.86*	*TOC Elevation in feet above msl:*			**496.67**	*Well Type:*		*2" Type II*	*Screened Interval in feet below TOC:*				*30.20-40.20'*	
03/30/22	29.30	ND	467.37	<0.001	<0.01	<0.001	<0.003	<0.001	<0.005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.0001	<0.00005	0.378	0.0651	<0.00005	NS
10/05/22	DRY			NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
05/24/23	DRY			NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
07/13/23	DRY			NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
09/07/23	DRY			NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
11/07/23	DRY			NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
07/12/24	DRY			NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
10/16/24	DRY			NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
11/14/24	DRY			NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
02/14/25	DRY			NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
GRP Target Level				**1.08**	**215**	**151**	**175**	**4.30**	**4.30**	--	--	--	--	--	--	--	--	--	**4.30**	--	--	**3.23**

TABLE 2
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FORMER JC BOX TEXACO
400 E. 2ND ST ATLANTA AVE, SHEFFIELD, COLBERT COUNTY, ALABAMA
FACILITY I.D. #11732-033-004341; UST INCIDENT #UST21-09-05

Benzene, Toluene, Ethylbenzene, Total Xylenes (BTEX), Methyl-tert butyl ether (MTBE), Polynuclear Aromatic Hydrocarbons (PAHs), and Lead (mg/L)				Benzene	Toluene	Ethylbenzene	Total Xylenes	Methyl-tert-butyl ether (MTBE)	Naphthalene	Anthracene	Benzo (a) anthracene	Benzo (a) pyrene	Benzo (b) fluoranthene	Benzo (g,h,i) perylene	Benzo (k) fluoranthene	Chrysene	Fluoranthene	Fluorene	Naphthalene	Phenanthrene	Pyrene	Lead
CAS #				71-43-2	108-88-3	100-41-4	1330-20-7	1634-04-4	91-20-3	120-12-7	56-55-3	50-32-8	205-99-2	191-24-2	207-08-9	218-01-9	206-44-0	86-73-7	91-20-3	85-01-8	129-00-0	7439-92-1
Sample Date	Depth to Water (feet below TOC)	Free Product (feet)	Water Table Elevation (feet above msl)	BTEX, MTBE, & Naphthalene - 8260B						POLYNUCLEAR AROMATIC HYDROCARBONS - 8270C-SIM												LEAD - 6010B
MW-3	*Date of Installation:*		*March 28-29, 2022*	*Surface Elevation in feet above msl:*			*495.87*	*TOC Elevation in feet above msl:*	**495.42**	*Well Type:*	*2" Type II*	*Screened Interval in feet below TOC:*		*30.09-40.09'*								
03/30/22	21.66	ND	473.76	<0.001	<0.01	2.06	3.42	<0.001	0.566	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.0001	0.227	0.425	0.155	<0.00005	NS
10/05/22	24.49	ND	470.93	<0.001	0.00138	0.997	1.27	<0.001	0.173	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
05/24/23	31.50	ND	463.92	<0.05	<0.05	2.15	2.17	<0.05	0.471	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.0001	0.0000967	0.300	<0.00005	<0.00005	0.0289
07/13/23	34.17	ND	461.25	<0.05	<0.05	1.86	1.79	<0.05	NS	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.0001	0.000128	0.237	<0.00005	<0.00005	0.0153
09/07/23	33.62	ND	461.80	<0.1	<0.1	1.79	2.08	<0.1	<0.0005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.0001	0.000143	0.273	0.0000689	<0.00005	0.00803
11/07/23	37.77	0.03	457.67	<0.05	<0.05	1.81	1.72	<0.05	0.504	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	0.0515
07/12/24	36.84	ND	458.58	<0.5	<0.5	1.11	1.68	<0.5	0.435	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	0.00540
10/16/24	36.76	ND	458.66	<0.05	<0.05	0.880	1.37	<0.05	0.361	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	0.0118
11/14/24	40.04	ND	455.38	<0.02	<0.02	1.01	1.01	<0.02	0.499	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	0.0607
02/14/25	33.45	ND	461.97	<0.02	<0.02	0.74	1.11	<0.02	0.135	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	<0.006
GRP Target Level				**1.08**	**215**	**151**	**175**	**4.30**	**4.30**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**4.30**	**--**	**--**	**3.23**
MW-4	*Date of Installation:*		*March 28-29, 2022*	*Surface Elevation in feet above msl:*			*496.55*	*TOC Elevation in feet above msl:*	**496.15**	*Well Type:*	*2" Type II*	*Screened Interval in feet below TOC:*		*29.52-39.52'*								
03/30/22	36.20	ND	459.95	0.0409	0.0415	0.833	1.56	<0.001	0.272	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.0001	0.278	0.165	0.341	0.0000810	NS
		DUPLICATE		0.0604	0.0397	0.767	1.41	<0.010	0.298	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.0001	0.271	0.183	0.360	0.0000847	NS
10/05/22	37.26	ND	458.89	0.0224	0.0257	0.856	1.78	<0.02	0.224	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
05/24/23	37.83	ND	458.32	<0.001	<0.01	0.266	0.426	<0.001	0.0792	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.0001	0.000275	0.0812	0.000237	<0.00005	0.183
07/13/23	38.00	ND	458.15	0.0126	<0.01	0.298	0.514	<0.01	NS	<0.00005	0.0000583	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	0.000136	0.000916	0.160	0.00129	0.000317	0.0265
		DUPLICATE		<0.020	<0.020	0.438	0.750	<0.020	NS	<0.00005	0.000057	<0.00005	<0.00005	<0.00005	<0.00005	0.0000507	0.000135	0.000946	0.194	0.00133	0.000343	0.0415
09/07/23	38.10	ND	458.05	<0.020	<0.020	0.215	0.350	<0.020	0.101	<0.00005	0.000110	<0.00005	<0.00005	0.0000551	<0.00005	0.0000859	0.000318	0.00242	0.124	0.00268	0.000622	0.0415
		DUPLICATE		<0.010	<0.01	0.508	0.885	<0.010	0.263	<0.00005	0.000104	<0.00005	<0.00005	<0.00005	<0.00005	0.0000884	0.000335	0.00245	0.123	0.00281	0.000647	0.0563
11/07/23	39.00	0.26	457.34	0.0599	0.0213	0.371	0.501	<0.010	0.190	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	0.0876
01/26/24	36.60	ND	459.55	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
07/12/24	37.51	ND	458.64	<0.1	<0.1	0.102	0.0930	<0.1	<0.5	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	0.0244
		DUPLICATE		0.00630	0.00262	0.105	0.0957	0.00158	0.0462	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	0.0179
10/16/24	37.70	ND	458.45	0.0110	<0.01	0.128	0.114	<0.01	0.0539	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	0.0163
		DUPLICATE		0.00588	0.00221	0.0851	0.0644	<0.001	0.0406	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	0.0195
11/14/24	39.08	ND	457.07	<0.025	<0.025	0.571	0.817	<0.025	0.372	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	0.512
02/14/25	37.83	ND	458.32	<0.025	<0.025	0.271	0.343	<0.025	0.129	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	0.0881
GRP Target Level				**1.08**	**215**	**151**	**175**	**4.30**	**4.30**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**4.30**	**--**	**--**	**3.23**

TABLE 2
SUMMARY OF WELL CONSTRUCTION, GROUNDWATER ELEVATION, & ANALYTICAL RESULTS
FORMER JC BOX TEXACO
400 E. 2ND ST ATLANTA AVE, SHEFFIELD, COLBERT COUNTY, ALABAMA
FACILITY I.D. #11732-033-004341; UST INCIDENT #UST21-09-05

Benzene, Toluene, Ethylbenzene, Total Xylenes (BTEX), Methyl-tert butyl ether (MTBE), Polynuclear Aromatic Hydrocarbons (PAHs), and Lead (mg/L)				Benzene	Toluene	Ethylbenzene	Total Xylenes	Methyl-tert-butyl ether (MTBE)	Naphthalene	Anthracene	Benzo (a) anthracene	Benzo (a) pyrene	Benzo (b) fluoranthene	Benzo (g,h,i) perylene	Benzo (k) fluoranthene	Chrysene	Fluoranthene	Fluorene	Naphthalene	Phenanthrene	Pyrene	Lead
CAS #				71-43-2	108-88-3	100-41-4	1330-20-7	1634-04-4	91-20-3	120-12-7	56-55-3	50-32-8	205-99-2	191-24-2	207-08-9	218-01-9	206-44-0	86-73-7	91-20-3	85-01-8	129-00-0	7439-92-1
Sample Date	Depth to Water (feet below TOC)	Free Product (feet)	Water Table Elevation (feet above msl)	BTEX, MTBE, & Naphthalene - 8260B						POLYNUCLEAR AROMATIC HYDROCARBONS - 8270C-SIM												LEAD - 6010B
MW-5	*Date of Installation:*		*Sept. 28 - Oct. 3, 2022*	*Surface Elevation in feet above msl:*					*496.62*	*TOC Elevation in feet above msl:*			**496.22**	*Well Type:*		*2" Type III*	*Screened Interval in feet below TOC:*				*58.89-63.89'*	
10/05/22	57.47	ND	438.75	0.691	0.0298	0.338	0.912	0.0635	0.0844	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
05/24/23	52.60	ND	443.62	**2.25**	0.0066	0.183	0.12	0.383	<0.1	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.0001	<0.00005	0.137	<0.00005	<0.00005	0.0609
		DUPLICATE		**2.05**	0.00725	0.174	0.116	0.353	<0.1	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.0001	<0.00005	0.101	<0.00005	<0.00005	0.0613
07/13/23	57.24	ND	438.98	0.889	<0.02	0.120	0.104	0.164	NS	<0.000106	<0.000106	<0.000106	<0.000106	<0.000106	<0.000106	<0.000106	<0.000211	<0.000106	0.00855	<0.000106	<0.000106	0.0245
09/07/23	56.97	ND	439.25	1.02	<0.05	0.0500	<0.150	0.201	<0.250	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.0001	<0.00005	0.00158	<0.00005	<0.00005	0.0443
11/07/23	59.70	ND	436.52	**3.08**	0.00988	0.238	0.208	0.539	0.0349	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	0.0431
07/12/24	56.70	ND	439.52	0.450	<0.025	0.0337	<0.075	0.131	<0.125	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	0.0264
10/16/24	56.50	ND	439.72	0.917	<0.025	0.195	0.275	0.215	<0.125	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	0.0524
11/14/24	58.74	ND	437.48	<0.005	<0.005	0.905	0.925	<0.005	0.389	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	0.0347
02/14/25	48.69	ND	447.53	0.663	0.0133	0.201	0.331	0.206	0.0521	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	0.206
GRP Target Level				**1.08**	**215**	**151**	**175**	**4.30**	**4.30**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**4.30**	**--**	**--**	**3.23**
MW-6	*Date of Installation:*		*Sept. 28-29, 2022*	*Surface Elevation in feet above msl:*					*496.54*	*TOC Elevation in feet above msl:*			**496.29**	*Well Type:*		*2" Type II*	*Screened Interval in feet below TOC:*				*34.91-44.91'*	
10/05/22	33.04	ND	463.25	<0.001	<0.001	<0.001	<0.003	<0.001	<0.005	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
05/24/23	38.00	ND	458.29	<0.001	<0.001	<0.001	<0.003	<0.001	<0.005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.0001	<0.00005	<0.00025	<0.00005	<0.00005	0.00637
07/13/23	38.30	ND	457.99	<0.001	<0.001	<0.001	<0.003	<0.001	NS	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.0001	<0.00005	<0.00025	<0.00005	<0.00005	<0.006
09/07/23	38.34	ND	457.95	<0.001	<0.001	<0.001	<0.003	<0.001	<0.005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.0001	<0.00005	<0.00025	<0.00005	<0.00005	<0.006
11/07/23	39.98	ND	456.31	<0.001	<0.001	<0.001	<0.003	<0.001	<0.005	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	<0.006
07/12/24	38.30	ND	457.99	<0.001	<0.001	<0.001	<0.003	<0.001	<0.005	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	0.00202
10/16/24	38.08	ND	458.21	<0.001	<0.001	<0.001	<0.003	<0.001	<0.005	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	<0.006
11/14/24	39.24	ND	457.05	<0.001	<0.001	<0.001	<0.003	<0.001	<0.005	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	0.0613
02/14/25	32.14	ND	464.15	<0.001	<0.001	<0.001	<0.003	<0.001	<0.005	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	<0.006
GRP Target Level				**0.547**	**109**	**76.6**	**175**	**2.19**	**2.19**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**2.19**	**--**	**--**	**1.64**

TABLE 2
SUMMARY OF WELL CONSTRUCTION, GROUNDWATER ELEVATION, & ANALYTICAL RESULTS
FORMER JC BOX TEXACO
400 E. 2ND ST ATLANTA AVE, SHEFFIELD, COLBERT COUNTY, ALABAMA
FACILITY I.D. #11732-033-004341; UST INCIDENT #UST21-09-05

Benzene, Toluene, Ethylbenzene, Total Xylenes (BTEX), Methyl-tert butyl ether (MTBE), Polynuclear Aromatic Hydrocarbons (PAHs), and Lead (mg/L)				Benzene	Toluene	Ethylbenzene	Total Xylenes	Methyl-tert-butyl ether (MTBE)	Naphthalene	Anthracene	Benzo (a) anthracene	Benzo (a) pyrene	Benzo (b) fluoranthene	Benzo (g,h,i) perylene	Benzo (k) fluoranthene	Chrysene	Fluoranthene	Fluorene	Naphthalene	Phenanthrene	Pyrene	Lead
CAS #				71-43-2	108-88-3	100-41-4	1330-20-7	1634-04-4	91-20-3	120-12-7	56-55-3	50-32-8	205-99-2	191-24-2	207-08-9	218-01-9	206-44-0	86-73-7	91-20-3	85-01-8	129-00-0	7439-92-1
Sample Date	Depth to Water (feet below TOC)	Free Product (feet)	Water Table Elevation (feet above msl)	BTEX, MTBE, & Naphthalene - 8260B						POLYNUCLEAR AROMATIC HYDROCARBONS - 8270C-SIM												LEAD - 6010B
MW-7	*Date of Installation:*		*September 28, 2022*	*Surface Elevation in feet above msl:*					*497.47*	*TOC Elevation in feet above msl:*			**497.10**	*Well Type:*		*2" Type II*	*Screened Interval in feet below TOC:*				*24.66-34.66'*	
10/05/22	15.30	ND	481.80	<0.001	<0.001	<0.001	<0.003	<0.001	<0.005	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
05/24/23	20.54	ND	476.56	<0.001	<0.001	<0.001	<0.003	<0.001	<0.005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.0001	<0.00005	<0.00025	<0.00005	<0.00005	0.0207
07/13/23	22.34	ND	474.76	<0.001	<0.001	<0.001	<0.003	<0.001	NS	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.0001	<0.00005	<0.00025	<0.00005	<0.00005	<0.006
09/07/23	23.05	ND	474.05	<0.001	<0.001	<0.001	<0.003	<0.001	<0.005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.0001	<0.00005	<0.00025	<0.00005	<0.00005	0.014
11/07/23	27.50	ND	469.60	<0.001	<0.001	<0.001	<0.003	<0.001	<0.005	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	<0.006
07/12/24	21.39	ND	475.71	<0.001	<0.001	<0.001	<0.003	<0.001	<0.005	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	0.00446
10/16/24	22.53	ND	474.57	<0.001	<0.001	<0.001	<0.003	<0.001	<0.005	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	0.0253
11/14/24	24.40	ND	472.70	<0.001	<0.001	<0.001	<0.003	<0.001	<0.005	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	0.0143
02/14/25	8.30	ND	488.80	<0.001	<0.001	<0.001	<0.003	<0.001	<0.005	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	<0.006
GRP Target Level				**0.172**	**34.3**	**24.0**	**175**	**0.686**	**0.686**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**0.686**	**--**	**--**	**0.515**
MW-8	*Date of Installation:*		*December 14, 2023*	*Surface Elevation in feet above msl:*					*496.64*	*TOC Elevation in feet above msl:*			**496.31**	*Well Type:*		*2" Type II*	*Screened Interval in feet below TOC:*				*34.67-44.67'*	
01/02/24	DRY			NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
07/12/24	DRY			NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
10/16/24	DRY			NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
11/14/24	DRY			NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
02/14/25	DRY			NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
GRP Target Level				**0.361**	**72.2**	**50.6**	**175**	**1.44**	**1.44**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**1.44**	**--**	**--**	**1.08**
MW-9	*Date of Installation:*		*May 19, 2023*	*Surface Elevation in feet above msl:*					*497.86*	*TOC Elevation in feet above msl:*			**497.33**	*Well Type:*		*2" Type II*	*Screened Interval in feet below TOC:*				*29.47-39.47'*	
05/24/23	28.70	ND	468.63	<0.001	<0.001	<0.001	<0.003	<0.001	<0.005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.0001	<0.00005	<0.00025	<0.00005	<0.00005	0.0613
07/13/23	32.30	ND	465.03	<0.001	<0.001	<0.001	<0.003	<0.001	NS	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.0001	<0.00005	<0.00025	<0.00005	<0.00005	<0.006
09/07/23	32.99	ND	464.34	<0.001	<0.001	<0.001	<0.003	<0.001	<0.005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.0001	<0.00005	<0.00025	<0.00005	<0.00005	<0.006
11/07/23	35.27	ND	462.06	<0.001	<0.001	0.00109	<0.003	<0.001	<0.005	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	<0.006
07/12/24	31.35	ND	465.98	<0.001	<0.001	<0.001	<0.003	<0.001	<0.005	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	<0.002
10/16/24	33.25	ND	464.08	<0.001	<0.001	<0.001	<0.003	<0.001	<0.005	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	<0.006
11/14/24	39.15	ND	458.18	<0.001	<0.001	<0.001	<0.003	<0.001	<0.005	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	<0.006
02/14/25	28.62	ND	468.71	<0.001	<0.001	<0.001	<0.003	<0.001	<0.005	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	<0.006
GRP Target Level				**0.101**	**20.1**	**14.1**	**175**	**0.402**	**0.402**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**0.402**	**--**	**--**	**0.302**

TABLE 2
SUMMARY OF WELL CONSTRUCTION, GROUNDWATER ELEVATION, & ANALYTICAL RESULTS
FORMER JC BOX TEXACO
400 E. 2ND ST ATLANTA AVE, SHEFFIELD, COLBERT COUNTY, ALABAMA
FACILITY I.D. #11732-033-004341; UST INCIDENT #UST21-09-05

Benzene, Toluene, Ethylbenzene, Total Xylenes (BTEX), Methyl-tert butyl ether (MTBE), Polynuclear Aromatic Hydrocarbons (PAHs), and Lead (mg/L)				Benzene	Toluene	Ethylbenzene	Total Xylenes	Methyl-tert-butyl ether (MTBE)	Naphthalene	Anthracene	Benzo (a) anthracene	Benzo (a) pyrene	Benzo (b) fluoranthene	Benzo (g,h,i) perylene	Benzo (k) fluoranthene	Chrysene	Fluoranthene	Fluorene	Naphthalene	Phenanthrene	Pyrene	Lead
CAS #				71-43-2	108-88-3	100-41-4	1330-20-7	1634-04-4	91-20-3	120-12-7	56-55-3	50-32-8	205-99-2	191-24-2	207-08-9	218-01-9	206-44-0	86-73-7	91-20-3	85-01-8	129-00-0	7439-92-1
Sample Date	Depth to Water (feet below TOC)	Free Product (feet)	Water Table Elevation (feet above msl)	BTEX, MTBE, & Naphthalene - 8260B						POLYNUCLEAR AROMATIC HYDROCARBONS - 8270C-SIM												LEAD - 6010B
MW-10	*Date of Installation:*		*December 14, 2023*	*Surface Elevation in feet above msl:*					*496.65*	*TOC Elevation in feet above msl:*			**496.39**	*Well Type:*		*2" Type II*	*Screened Interval in feet below TOC:*				*39.74-49.74'*	
01/02/24	45.92	ND	450.47	<0.001	<0.001	<0.001	<0.003	<0.001	<0.005	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	<0.006
07/12/24	41.40	ND	454.99	<0.001	<0.001	<0.001	<0.003	<0.001	<0.005	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	<0.002
10/16/24	46.10	ND	450.29	<0.001	<0.001	<0.001	<0.003	<0.001	<0.005	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	<0.006
11/14/24	47.31	ND	449.08	<0.001	<0.001	<0.001	<0.003	<0.001	<0.005	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	<0.006
02/14/25	42.51	ND	453.88	<0.001	<0.001	<0.001	<0.003	<0.001	<0.005	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	<0.006
GRP Target Level				**0.0544**	**10.9**	**7.62**	**109**	**0.218**	**0.218**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**0.218**	**--**	**--**	**0.163**
MW-11	*Date of Installation:*		*December 11-13, 2023*	*Surface Elevation in feet above msl:*					*496.86*	*TOC Elevation in feet above msl:*			**496.47**	*Well Type:*		*2" Type III*	*Screened Interval in feet below TOC:*				*62.11-67.11'*	
01/02/24	57.90	ND	438.57	0.00120	0.00172	0.0259	0.0187	<0.001	0.00740	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	0.00981
07/12/24	54.65	ND	441.82	<0.001	<0.001	0.00502	0.00396	0.00251	<0.005	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	0.00324
10/16/24	DRY			NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	0.0195
11/14/24	52.22	ND	444.25	<0.001	<0.001	<0.001	<0.003	0.00137	<0.005	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	0.00639
02/14/25	56.90	ND	439.57	<0.001	<0.001	<0.001	<0.003	<0.001	<0.005	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	<0.006
	DUPLICATE			<0.001	<0.001	<0.001	<0.003	<0.001	<0.005	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	0.00929
GRP Target Level				**1.07**	**214**	**150**	**175**	**4.29**	**4.29**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**4.29**	**--**	**--**	**3.22**
RW-1	*Date of Installation:*		*October 22-23, 2024*	*Surface Elevation in feet above msl:*						*TOC Elevation in feet above msl:*				*Well Type:*		*4" Type II*	*Screened Interval in feet below TOC:*				*10.0-50.0'*	
11/14/24	DRY			NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
02/14/25	47.30	ND	NC	0.673	0.334	2.13	8.35	<0.02	0.328	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	0.0439
GRP Target Level				**1.08**	**215**	**151**	**175**	**4.30**	**4.30**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**4.30**	**--**	**--**	**3.23**
RW-2	*Date of Installation:*		*October 28-29, 2024*	*Surface Elevation in feet above msl:*						*TOC Elevation in feet above msl:*				*Well Type:*		*4" Type II*	*Screened Interval in feet below TOC:*				*25.0-65.0*	
11/15/24	58.65	ND	NC	0.653	0.0116	0.125	1.36	0.121	0.171	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	0.00834
	DUPLICATE			0.660	0.0115	0.148	1.32	0.120	0.170	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	<0.006
02/14/25	48.66	ND	NC	0.256	<0.01	0.0984	0.300	0.658	<0.05	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	0.0114
GRP Target Level				**1.08**	**215**	**151**	**175**	**4.30**	**4.30**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**4.30**	**--**	**--**	**3.23**

TABLE 2
SUMMARY OF WELL CONSTRUCTION, GROUNDWATER ELEVATION, & ANALYTICAL RESULTS
FORMER JC BOX TEXACO
400 E. 2ND ST ATLANTA AVE, SHEFFIELD, COLBERT COUNTY, ALABAMA
FACILITY I.D. #11732-033-004341; UST INCIDENT #UST21-09-05

Benzene, Toluene, Ethylbenzene, Total Xylenes (BTEX), Methyl-tert butyl ether (MTBE), Polynuclear Aromatic Hydrocarbons (PAHs), and Lead (mg/L)				Benzene	Toluene	Ethylbenzene	Total Xylenes	Methyl-tert-butyl ether (MTBE)	Naphthalene	Anthracene	Benzo (a) anthracene	Benzo (a) pyrene	Benzo (b) fluoranthene	Benzo (g,h,i) perylene	Benzo (k) fluoranthene	Chrysene	Fluoranthene	Fluorene	Naphthalene	Phenanthrene	Pyrene	Lead
CAS #				71-43-2	108-88-3	100-41-4	1330-20-7	1634-04-4	91-20-3	120-12-7	56-55-3	50-32-8	205-99-2	191-24-2	207-08-9	218-01-9	206-44-0	86-73-7	91-20-3	85-01-8	129-00-0	7439-92-1
Sample Date	Depth to Water (feet below TOC)	Free Product (feet)	Water Table Elevation (feet above msl)	BTEX, MTBE, & Naphthalene - 8260B						POLYNUCLEAR AROMATIC HYDROCARBONS - 8270C-SIM												LEAD - 6010B
RW-3	*Date of Installation:*	*October 24-28, 2024*	*Surface Elevation in feet above msl:*							*TOC Elevation in feet above msl:*				*Well Type:*		*4" Type II*	*Screened Interval in feet below TOC:*				*10.0-50.0'*	
11/14/24	48.25	ND	NC	0.0608	0.864	1.02	9.83	<0.01	0.281	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	0.0161
02/14/25	41.57	ND	NC	<0.1	0.391	0.8	8.83	<0.1	<0.5	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	<0.006
GRP Target Level				**1.08**	**215**	**151**	**175**	**4.30**	**4.30**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**4.30**	**--**	**--**	**3.23**
RW-4	*Date of Installation:*	*October 23-24, 2024*	*Surface Elevation in feet above msl:*							*TOC Elevation in feet above msl:*				*Well Type:*		*4" Type II*	*Screened Interval in feet below TOC:*				*6.0-46.0'*	
11/14/24	DRY			NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
02/14/25	44.70	ND	NC	0.0596	0.00487	0.129	0.207	0.00201	0.0459	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	0.0271
GRP Target Level				**1.08**	**215**	**151**	**175**	**4.30**	**4.30**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**4.30**	**--**	**--**	**3.23**

NOTES:

1.) mg/L - milligrams per liter or ppm - parts per million; CAS# - Chemical Abstracts Service number; TOC - Top of Casing; msl - mean sea level; SIM - Selected Ion Monitoring; ND - Non Detect; NS - Not Sampled

2.) ARBCA ISLs - Alabama Risk Based Corrective Action Initial Screening Levels

3.) GRP Target Levels - Groundwater Resource Protection Target Levels (Approved March 26, 2024)

4.) The surface elevation and top of casing data were calibrated based upon the elevation data from Google Earth as collected on April 13, 2022 at 497 feet above msl.

5.) **2.96** = Bolded and Highlighted values exceed the GRP Target Levels

TABLE 3
SUMMARY OF WELL INTRINSIC PARAMETERS DATA
FORMER JC BOX TEXACO
400 E. 2ND ST ATLANTA AVE, SHEFFIELD, COLBERT COUNTY, ALABAMA
FACILITY I.D. #11732-033-004341; UST INCIDENT #UST21-09-05

DATE	STATIC WATER LEVEL feet below TOC	TEMPERATURE Celcius	CONDUCTIVITY mS/cm	DISSOLVED OXYGEN mg/L	pH	ORP mV
MW-1	*Date of Installation: March 28-29, 2022*			*Size and Type of Well*		*2" Type II*
	TOC Elevation in feet above msl:		496.83	*Screened Interval in feet bgs:*		*30.26-40.26'*
07/06/18	16.34	20.2	0.138	1.50	5.76	79.3
10/05/22	34.62	21.1	0.299	0.76	5.94	0.323
05/24/23	38.03	23.2	766.9	0.31	6.74	0.351
07/13/23	38.97	22.1	0.2823	8.23	6.84	-85.7
09/07/23	37.60	21.6	0.309	0.77	5.96	0.339
11/07/23	39.80	Insufficient Volume				
07/12/24	38.78	22.7	0.386	3.91	7.49	-32.6
10/16/24	37.58	20.1	0.312	1.02	7.05	-42.1
11/14/24	DRY					
02/14/25	37.44	16.70	0.2613	2.49	6.92	-34.7
MW-2	*Date of Installation: March 28-29, 2022*			*Size and Type of Well*		*2" Type II*
	TOC Elevation in feet above msl:		496.67	*Screened Interval in feet bgs:*		*30.20-40.20'*
07/06/18	54.94	20.1	0.112	1.61	5.83	80.1
10/05/22	DRY					
05/24/23	DRY					
07/13/23	DRY					
09/07/23	DRY					
11/07/23	DRY					
07/12/24	DRY					
10/16/24	DRY					
11/14/24	DRY					
02/14/25	DRY					
MW-3	*Date of Installation: March 28-29, 2022*			*Size and Type of Well*		*2" Type II*
	TOC Elevation in feet above msl:		495.42	*Screened Interval in feet bgs:*		*30.09-40.09'*
07/06/18	12.46	20.5	0.231	2.95	6.11	80.9
10/05/22	24.49	21.2	0.910	0.81	5.86	0.980
05/24/23	31.50	21.7	767.3	0.77	6.36	0.522
07/13/23	34.17	20.9	0.396	0.80	6.50	-88.6
09/07/23	33.62	21.5	0.458	1.12	6.11	0.489
11/07/23	37.80	21.9	0.499	0.12	7.36	529.3
07/12/24	36.84	27.1	0.257	1.32	6.67	-73.9
10/16/24	36.76	20.2	0.343	0.99	6.52	-54.9
11/14/24	40.04	Insufficient Volume				
02/14/25	33.45	19	0.3006	3.75	6.9	-64.7
MW-4	*Date of Installation: March 28-29, 2022*			*Size and Type of Well*		*2" Type II*
	TOC Elevation in feet above msl:		496.15	*Screened Interval in feet bgs:*		*29.52-39.52'*
07/06/18	17.06	20.0	0.109	2.18	6.21	68.8
10/05/22	37.26	22.0	0.426	0.40	5.87	0.450
05/24/23	37.83	23.9	767.0	0.34	6.75	0.485
07/13/23	38.00	21.6	0.381	7.03	6.6	-108.4
09/07/23	38.10	21.7	0.452	0.56	6.33	0.469
11/07/23	38.81	Insufficient Volume				
07/12/24	37.51	28.3	0.42	0.72	6.77	95.4
10/16/24	37.70	20.1	0.394	0.98	6.79	-45.1
11/14/24	39.08	20.6	0.261	1.47	7.19	36.5
02/14/25	37.83	17.2	0.3320	2.91	6.94	-59.0

TABLE 3
SUMMARY OF WELL INTRINSIC PARAMETERS DATA
FORMER JC BOX TEXACO
400 E. 2ND ST ATLANTA AVE, SHEFFIELD, COLBERT COUNTY, ALABAMA
FACILITY I.D. #11732-033-004341; UST INCIDENT #UST21-09-05

DATE	STATIC WATER LEVEL feet below TOC	TEMPERATURE Celcius	CONDUCTIVITY mS/cm	DISSOLVED OXYGEN mg/L	pH	ORP mV
MW-5	*Date of Installation: Sept. 28 - Oct. 3, 2022*			*Size and Type of Well*		*2" Type III*
	TOC Elevation in feet above msl:		496.22	*Screened Interval in feet bgs:*		*58.89-63.89'*
10/05/22	57.47	21.2	1.200	1.45	7.76	1.29
05/24/23	52.60	22.5	767.1	0.23	6.98	0.92
07/13/23	57.24	20.8	0.680	2.37	7.08	-39.7
09/07/23	56.97	20.6	0.670	0.76	7.13	0.730
11/07/23	59.70	20.7	0.700	1.21	6.03	599.3
07/12/24	56.70	26.2	0.682	1.46	7.94	-43.6
10/16/24	56.50	19.4	0.425	1.43	6.60	-60.5
11/14/24	58.74	21.1	0.475	2.75	6.68	-40.4
02/14/25	48.69	18.4	0.3619	2.06	7.05	-53.2
MW-6	*Date of Installation: September 28 - 29, 2022*			*Size and Type of Well*		*2" Type II*
	TOC Elevation in feet above msl:		496.29	*Screened Interval in feet bgs:*		*34.91-44.91'*
10/05/22	33.04	19.7	0.125	1.32	6.51	0.138
05/24/23	38.00	21.0	767.5	1.77	7.47	0.119
07/13/23	38.30	20.4	0.101	6.26	6.40	17.17
09/07/23	38.34	20.3	0.081	5.19	5.93	0.089
11/07/23	39.98	19.9	0.082	5.42	7.11	650.2
07/12/24	38.30	23.5	0.087	3.90	6.05	20.6
10/16/24	38.08	19.6	0.090	4.97	6.42	-45.6
11/14/24	39.24	18.8	0.087	6.48	7.24	22.7
02/14/25	32.14	19.2	0.1083	3.71	6.90	-1.4
MW-7	*Date of Installation: September 29 - 30, 2022*			*Size and Type of Well*		*2" Type II*
	TOC Elevation in feet above msl:		497.10	*Screened Interval in feet bgs:*		*24.66-34.66'*
10/05/22	15.23	20.9	0.510	1.38	5.86	0.550
05/24/23	20.54	23.0	767.2	1.50	10.85	2.4
07/13/23	22.34	22.2	0.177	10.65	6.14	116.4
09/07/23	23.05	20.4	0.402	5.11	6.36	0.4
11/07/23	27.50	20.6	0.400	5.27	7.12	670.3
07/12/24	21.39	22.4	0.381	3.88	7.68	-30.2
10/16/24	22.53	20.0	0.430	5.46	6.77	758.3
11/14/24	24.40	21.0	0.384	5.04	7.24	22.7
02/14/25	8.30	19.0	0.3622	2.59	6.74	-11.1
MW-8	*Date of Installation: December 14, 2023*			*Size and Type of Well*		*2" Type II*
	TOC Elevation in feet above msl:		496.31	*Screened Interval in feet bgs:*		*35.0-45.0'*
01/02/24	DRY					
07/12/24	DRY					
10/16/24	DRY					
11/14/24	DRY					
02/14/25	DRY					

TABLE 3
SUMMARY OF WELL INTRINSIC PARAMETERS DATA
FORMER JC BOX TEXACO
400 E. 2ND ST ATLANTA AVE, SHEFFIELD, COLBERT COUNTY, ALABAMA
FACILITY I.D. #11732-033-004341; UST INCIDENT #UST21-09-05

DATE	STATIC WATER LEVEL feet below TOC	TEMPERATURE Celcius	CONDUCTIVITY mS/cm	DISSOLVED OXYGEN mg/L	pH	ORP mV
MW-9	*Date of Installation: May19, 2023*			*Size and Type of Well*		*2" Type II*
	TOC Elevation in feet above msl:		497.86	*Screened Interval in feet bgs:*		*29.47-39.47'*
05/24/23	28.70	23.1	766.8	1.50	10.85	2.42
07/13/23	32.30	22.1	3.61	8.10	12.36	-111.2
09/07/23	32.99	21.8	2.58	2.80	6.47	2.74
11/07/23	35.27	21.6	3.03	3.81	6.99	672.3
07/12/24	31.35	26.7	0.68	3.31	9.73	-74.2
10/16/24	33.25	21.5	0.95	3.24	7.33	-46.1
11/14/24	35.15	18.7	1.13	4.24	9.31	24.6
02/14/25	28.62	19.4	0.7270	2.03	10.6	-75.3
MW-10	*Date of Installation: December 14, 2023*			*Size and Type of Well*		*2" Type II*
	TOC Elevation in feet above msl:		496.39	*Screened Interval in feet bgs:*		*40.0-50.0'*
01/02/24	45.92	17.2	0.310	4.33	7.97	2.3
07/12/24	41.40	23.0	0.257	2.67	8.16	-33.5
10/16/24	46.10	20.1	0.283	3.50	6.37	-124.1
11/14/24	47.31	18.5	0.249	4.12	6.47	29.2
02/14/25	42.51	17.0	0.2327	3.29	6.44	-1.2
MW-11	*Date of Installation: December 11-13, 2023*			*Size and Type of Well*		*2" Type III*
	TOC Elevation in feet above msl:		496.47	*Screened Interval in feet bgs:*		*62.5-67.5'*
01/02/24	57.90	17.2	0.417	5.07	9.01	38.2
07/12/24	54.65	22.3	0.360	1.68	8.17	-138.5
10/16/24	DRY					
11/14/24	52.22	19.0	0.33	4.71	6.32	20.60
02/14/25	56.90	18.0	0.3727	1.28	7.48	-64.7
RW-1	*Date of Installation: October 22-23, 2024*			*Size and Type of Well*		*4" Type III*
	TOC Elevation in feet above msl:			*Screened Interval in feet bgs:*		*10.0-50.0'*
11/14/24	DRY					
02/14/25	47.30	20.0	0.3406	1.32	6.75	-27.7
RW-2	*Date of Installation: October 28-29, 2024*			*Size and Type of Well*		*4" Type III*
	TOC Elevation in feet above msl:			*Screened Interval in feet bgs:*		*25.0-65.0'*
11/14/24	58.65	19.7	0.464	2.08	7.12	28.1
02/14/25	48.66	19.3	0.3904	1.50	7.03	-44.2
RW-3	*Date of Installation: October 24-28, 2024*			*Size and Type of Well*		*4" Type III*
	TOC Elevation in feet above msl:			*Screened Interval in feet bgs:*		*10.0-50.0'*
11/14/24	48.25	18.5	0.305	3.41	6.69	-35.2
02/14/25	41.57	19.5	0.3211	1.00	6.69	-29.1
RW-4	*Date of Installation: October 23-24, 2024*			*Size and Type of Well*		*4" Type III*
	TOC Elevation in feet above msl:			*Screened Interval in feet bgs:*		*6.0-46.0'*
11/14/24	DRY					
02/14/25	44.70	19.3	0.4358	1.34	6.87	-66.0

NOTES: TOC - Top Of Casing; MSL - Mean Sea Level; ppm - Parts Per Million; NS - Not Sampled; mS/cm - Millisiemens Per Centimeter

TABLE 4
SUMMARY OF MOBILE ENHANCED MULIT-PHASE EXTRACTION DATA
FORMER JC BOX TEXACO
400 E. 2ND ST ATLANTA AVE, SHEFFIELD, COLBERT COUNTY, ALABAMA
FACILITY I.D. #11732-033-004341; UST INCIDENT #UST21-09-05

MEME DATE	MEME Provider	Duration (hours)	Equivalent Gallons of Hydrocarbons (gallons)	Hydrocarbons (pounds)	Total Liquid (gallons)	Extraction Wells (per event)
05/13-05/14/2024	PM	8	0.73	4.5	122	MW-1, MW-3, MW-4, & MW-5
08/07-08/08/2024	PM	8	0.60	3.67	65	MW-1, MW-3, MW-4, & MW-5
11/05-11/06/2024	PM	8	3.46	21.21	9	RW-1, RW-2, RW-3, & RW-4
01/09/2025	PM	8	3.41	20.90	21	RW-1, RW-2, RW-3, & RW-4
SUB-TOTAL		**32**	**8.20**	**50.2**	**217**	---

Appendix A

PM ENVIRONMENTAL a PINCHIN company
Environmental & Engineering Services

Well Log

Project No.: 70-818-A-001
Project Name: JC Box Texaco
Address: 400 E 2nd St, Sheffield, AL
Facility ID#: 11732-033-004341
Date Drilled: 3/28/2022
Logged By: SH

Well No.: MW-1
Drill Rig: CME-75
Drilling Method: Hollow Stem Auger
Sampling Method: PHD/ SSS
Drilling Contractor: TDS (Technical Drilling Services, Inc.)

Depth (ft)	Soil Type Graphic	Description and Comments	Sample Interval	% Recovery	PID (ppm)
0		Ground Surface			
0		***CL- (Firm) CLAY (damp)*** FILL, Reddish/Brown		-	2.2
2				-	3.6
4		***CL- (Soft) CLAY (damp)*** FILL, Brown		-	5.4
6				-	-
8		***CL- (Soft) CLAY (damp)*** Brown		-	33.9
10				-	-
12				-	12.4
14		***CL- (Soft) CLAY (damp)*** Dark Brown, minor chert gravel		-	-
16				-	437.7
18		***CL- (Soft) CLAY (damp)*** Dark Brick Red, moderate OPO OPO - Old Petroleum odor			
20					

Completion Details: Ground Surface; 2" PVC Casing

Completion Notes: EOB @ 41.0' bgs. Hole filled with MW-1.

Legend:

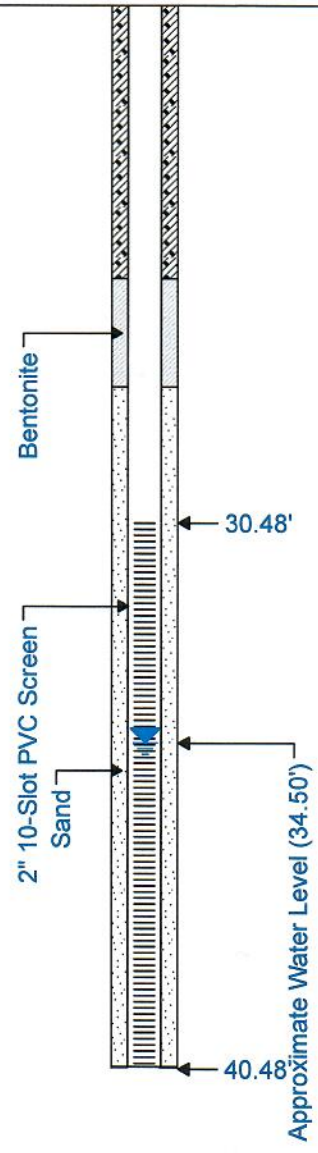
EOB	End of Boring
bgs	Below Ground Surface
NR	No Recovery
NA	Not Applicable
ft	Feet
in	Inches
PHD	Post Hole Digger
SSS	Split Spoon Sampler

Well Log

Project No.: 70-818-A-001
Project Name: JC Box Texaco
Address: 400 E 2nd St, Sheffield, AL
Facility ID#: 11732-033-004341
Date Drilled: 3/28/2022
Logged By: SH

Well No.: MW-1
Drill Rig: CME-75
Drilling Method: Hollow Stem Auger
Sampling Method: PHD/ SS
Drilling Contractor: TDS

Depth (ft)	Soil Type Graphic	Description and Comments	Sample Interval	% Recovery	PID (ppm)
22				-	-
24		**CL- (Soft) CLAY (damp)** Brown, moderate OPO		-	1,236.1
26				-	-
28					
30		**CL- (Firm) CLAY (damp)** Brown, with weathered chert gravel, moderate OPO	MW-1 29.0 - 31.0'	-	1,620
32				-	-
34		**CL- (Soft) CLAY (wet)** Light Brown, with abundant chert gravel, strong OPO	MW-1 34.0 - 36.0'	-	1,282
36					
38				-	-
40		**CL- (Firm) CLAY (damp)** Brown, weathered chert gravel, strong OPO		-	1,173
42					



Completion Notes: EOB @ 41.0' bgs. Hole filled with MW-1.

STEVE HICKS, P.G. LIC. 002 ALABAMA LICENSED PROFESSIONAL GEOLOGIST

Legend:

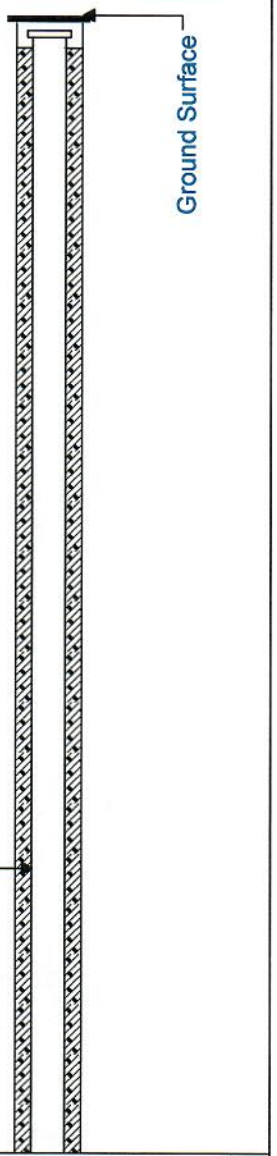
EOB	End of Boring
bgs	Below Ground Surface
NR	No Recovery
NA	Not Applicable
ft	Feet
in	Inches
PHD	Post Hole Digger
SSS	Split Spoon Sampler

Well Log

Project No.: 70-818-A-001
Project Name: JC Box Texaco
Address: 400 E 2nd St, Sheffield, AL
Facility ID#: 11732-033-004341
Date Drilled: 3/28/2022
Logged By: SH

Well No.: MW-2
Drill Rig: CME-75
Drilling Method: Hollow Stem Auger
Sampling Method: PHD/ SS
Drilling Contractor: TDS

Depth (ft)	Soil Type Graphic	Description and Comments	Sample Interval	% Recovery	PID (ppm)
0		Ground Surface			
		CRUSHER RUN		-	0.0
2				-	0.0
4		CL- (Firm) CLAY (damp) Brick Red		-	0.0
6				-	-
8					
10		CL- (Firm) CLAY (damp) Brick Red	MW-2 9.0 - 11.0'	-	0.7
12				-	-
14		CL- (Firm) CLAY (damp) Brick Red		-	0.0
16				-	-
18					
20		CL- (Firm) CLAY (damp) Brick Red		-	0.0



Completion Notes: EOB @ 41.0' bgs. Hole filled with MW-2.

STEVE HICKS, P.G.
LIC: 0412
ALABAMA LICENSED PROFESSIONAL GEOLOGIST

Legend:

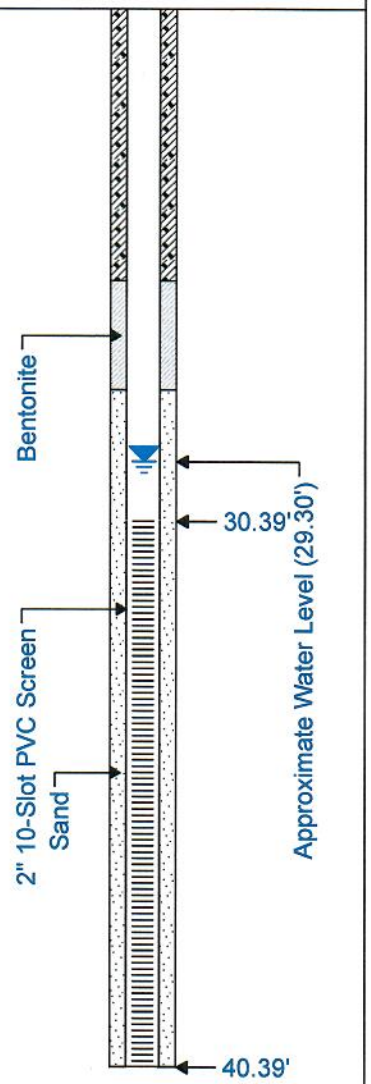
EOB	End of Boring
bgs	Below Ground Surface
NR	No Recovery
NA	Not Applicable
ft	Feet
in	Inches
PHD	Post Hole Digger
SSS	Split Spoon Sampler

Well Log

Project No.: 70-818-A-001
Project Name: JC Box Texaco
Address: 400 E 2nd St, Sheffield, AL
Facility ID#: 11732-033-004341
Date Drilled: 3/28/2022
Logged By: SH

Well No.: MW-2
Drill Rig: CME-75
Drilling Method: Hollow Stem Auger
Sampling Method: PHD/ SS
Drilling Contractor: TDS

Depth (ft)	Soil Type Graphic	Description and Comments	Sample Interval	% Recovery	PID (ppm)
22				-	-
24		***CL- (Firm) CLAY (damp)*** Light Brown		-	0.0
26				-	-
28		***CL- (Firm) CLAY (damp)*** Light Brown, abundant weathered chert gravel		-	0.0
30				-	-
32		***CL- (Firm) CLAY (damp)*** Light Brown and Yellowish-orange, abundant weathered chert gravel	MW-2 34.0 - 36.0'	-	0.0
34				-	-
36		***CL- (Firm) CLAY (damp)*** Yellowish-orange, abundant weathered chert gravel		-	0.0
38					
40					
42					



Completion Notes: EOB @ 41.0' bgs. Hole filled with MW-2.

STEVE HICKS, P.G. LIC: 0412 ALABAMA LICENSED PROFESSIONAL GEOLOGIST

Legend:

EOB	End of Boring
bgs	Below Ground Surface
NR	No Recovery
NA	Not Applicable
ft	Feet
in	Inches
PHD	Post Hole Digger
SSS	Split Spoon Sampler

Well Log

Project No.: 70-818-A-001
Project Name: JC Box Texaco
Address: 400 E 2nd St, Sheffield, AL
Facility ID#: 11732-033-004341
Date Drilled: 3/28/2022
Logged By: SH

Well No.: MW-3
Drill Rig: CME-75
Drilling Method: Hollow Stem Auger
Sampling Method: PHD/ SS
Drilling Contractor: TDS

Depth (ft)	Soil Type Graphic	Description and Comments	Sample Interval	% Recovery	PID (ppm)
0		Ground Surface			
0		CL- (Soft) CLAY (damp) Brick Red		-	0.0
2				-	1.5
4		CL- (Soft) CLAY (damp) Brick Red		-	6.2
6				-	-
8					
10		CL- (Firm) CLAY (damp) Brick Red		-	4.3
12				-	-
14		CL- (Firm) CLAY (damp) Brick Red		-	4.2
16				-	-
18					
20		CL- (Firm) CLAY (damp) Brick Red		-	17.2
		CL- (Firm) CLAY (damp) Light Brown			

Completion Details: Ground Surface; 2" PVC Casing

Completion Notes: EOB @ 41.0' bgs. Hole filled with MW-3.

STEVE HICKS, P.G. ALABAM LICENSED PROFESSIONAL GEOLOGIST LIC. 0412

Legend:

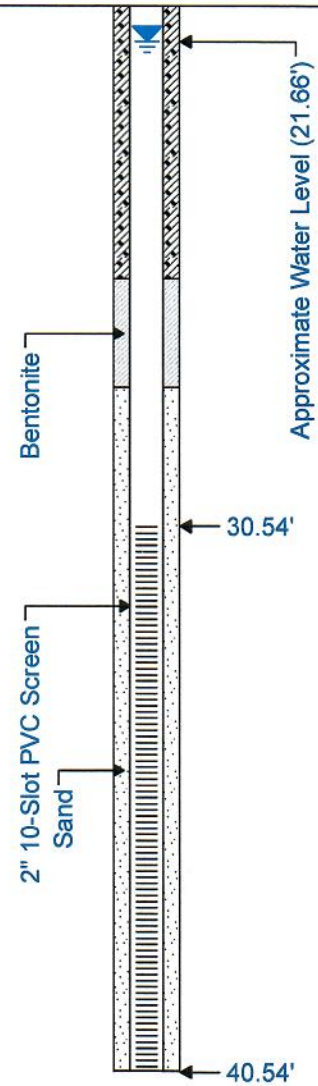
EOB	End of Boring
bgs	Below Ground Surface
NR	No Recovery
NA	Not Applicable
ft	Feet
in	Inches
PHD	Post Hole Digger
SSS	Split Spoon Sampler

Well Log

Project No.: 70-818-A-001
Project Name: JC Box Texaco
Address: 400 E 2nd St, Sheffield, AL
Facility ID#: 11732-033-004341
Date Drilled: 3/28/2022
Logged By: SH

Well No.: MW-3
Drill Rig: CME-75
Drilling Method: Hollow Stem Auger
Sampling Method: PHD/ SS
Drilling Contractor: TDS

Depth (ft)	Soil Type Graphic	Description and Comments	Sample Interval	% Recovery	PID (ppm)
22				-	-
24		**CL- (Firm) CLAY (damp)** Brown, slight OPO		-	27.3
26				-	-
28		**CL- (Firm) CLAY (damp)** Light Brown, minor weathered chert gravel, strong OPO	MW-3 29.0 - 31.0'	-	1,033
30				-	-
32		**CL- (Firm) CLAY (damp)** Light Brown, abundant weathered chert gravel	MW-3 34.0 - 36.0'	-	732
34				-	-
36		**CL- (Firm) CLAY (damp)** Light Brown, abundant weathered chert gravel		-	610.2
38					
40					
42					



Completion Notes: EOB @ 41.0' bgs. Hole filled with MW-3.

STEVE HICKS, P.G.
ALABAMA LICENSED PROFESSIONAL GEOLOGIST

Legend:

EOB	End of Boring
bgs	Below Ground Surface
NR	No Recovery
NA	Not Applicable
ft	Feet
in	Inches
PHD	Post Hole Digger
SSS	Split Spoon Sampler

PM ENVIRONMENTAL

Project No.: 70-818-A-001

Project Name: JC Box Texaco

Address: 400 E 2nd St, Sheffield, AL

Facility ID#: 11732-033-004341

Date Drilled: 3/28/2022

Logged By: SH

Well Log

Well No.: MW-4

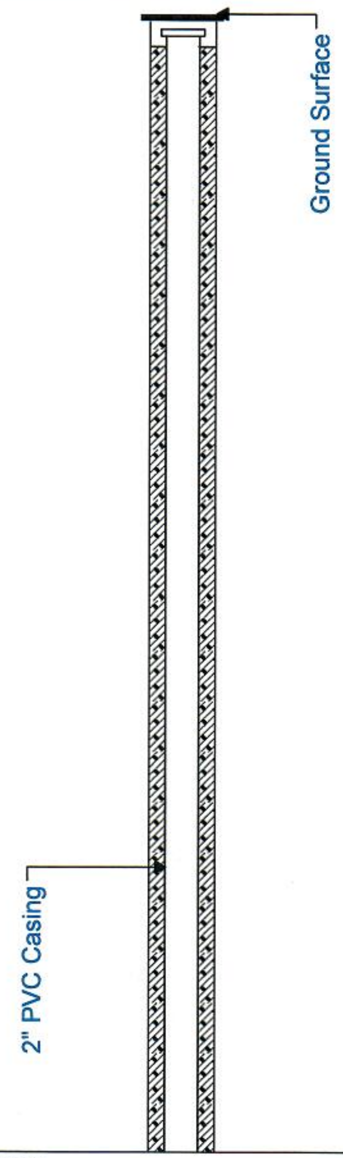
Drill Rig: CME-75

Drilling Method: Hollow Stem Auger

Sampling Method: PHD/ SS

Drilling Contractor: TDS

SUBSURFACE PROFILE			SAMPLE			
Depth (ft)	Soil Type Graphic	Description and Comments	Sample Interval	% Recovery	PID (ppm)	Completion Details
0		Ground Surface				
0–6		***CL- (Soft) CLAY (damp)*** Brown		-	0.6	
				-	5.1	
				-	7.9	
6–9				-	-	
9–11		***CL- (Soft) CLAY (damp)*** Dark Brick Red		-	13.1	
11–14				-	-	
14–16		***CL- (Firm) CLAY (damp)*** Dark Brick Red/Brown, minor chert gravel		-	14.5	
16–19				-	-	
19–21		***CL- (Firm) CLAY (damp)*** Dark Brown, strong OPO		-	94.2	



Completion Notes: EOB @ 41.0' bgs. Hole filled with MW-4.

STEVE HICKS, P.G.
ALABAMA LICENSED PROFESSIONAL GEOLOGIST

Legend:

EOB	End of Boring
bgs	Below Ground Surface
NR	No Recovery
NA	Not Applicable
ft	Feet
in	Inches
PHD	Post Hole Digger
SSS	Split Spoon Sampler

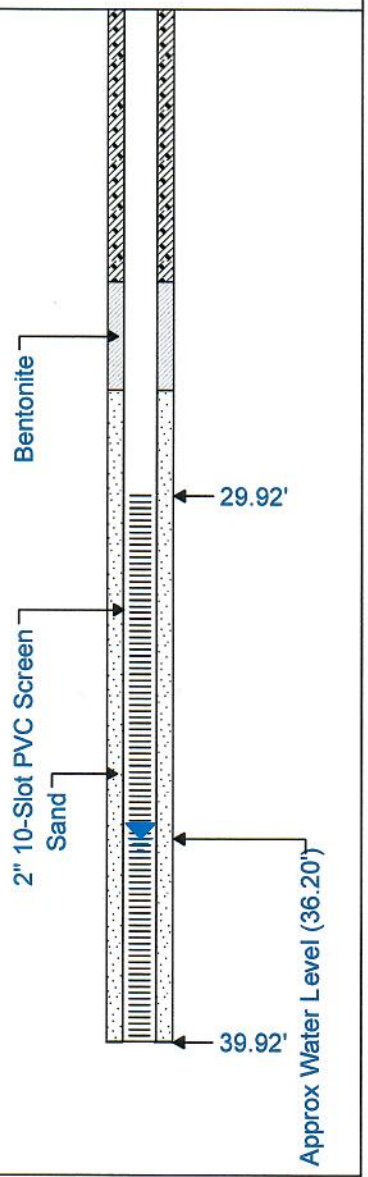
Sheet: 1 of 2

Well Log

Project No.: 70-818-A-001
Project Name: JC Box Texaco
Address: 400 E 2nd St, Sheffield, AL
Facility ID#: 11732-033-004341
Date Drilled: 3/28/2022
Logged By: SH

Well No.: MW-4
Drill Rig: CME-75
Drilling Method: Hollow Stem Auger
Sampling Method: PHD/ SS
Drilling Contractor:

Depth (ft)	Soil Type Graphic	Description and Comments	Sample Interval	% Recovery	PID (ppm)
22				-	-
24		**CL- (Firm) CLAY (damp)** Brown/Tan, minor weathered chert gravel, stong OPO	MW-4 24.0 - 26.0'	-	1,401
26					
28				-	-
30		**CL- (Firm) CLAY (damp)** Brown, abundant weathered chert gravel, moderate OPO	MW-4 29.0 - 31.0'	-	164.6
32				-	-
34		**CL- (Firm) CLAY (wet)** Brown, abundant weathered chert gravel, strong OPO		-	381.8
36				-	-
38					
40		**CL- (Firm) CLAY (wet)** Brown, abundant weathered chert gravel, moderate OPO		-	210.6
42					



Completion Notes: EOB @ 41.0' bgs. Hole filled with MW-4.

STEVE HICKS, P.G. LIC: 0402 ALABAMA LICENSED PROFESSIONAL GEOLOGIST

Legend:

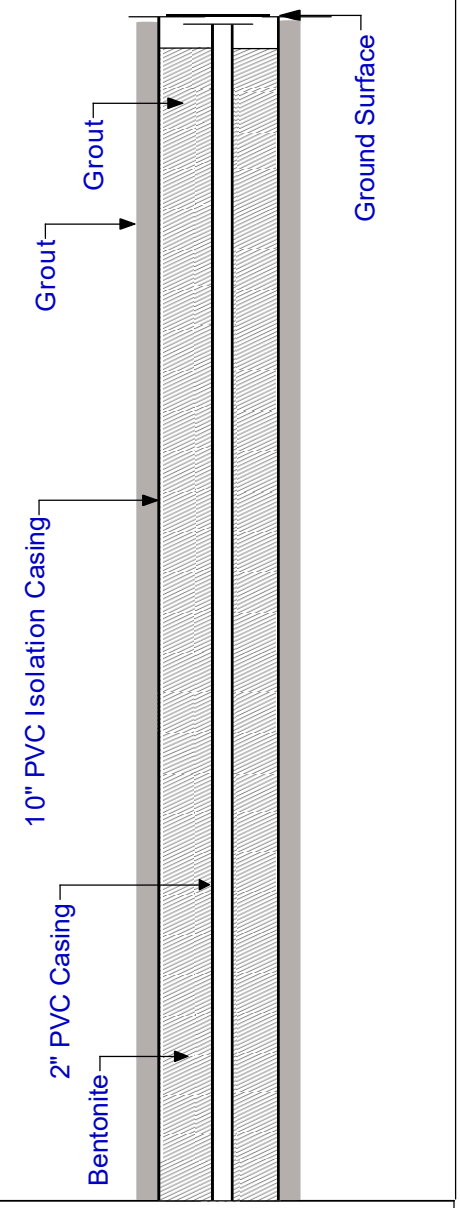
EOB	End of Boring
bgs	Below Ground Surface
NR	No Recovery
NA	Not Applicable
ft	Feet
in	Inches
PHD	Post Hole Digger
SSS	Split Spoon Sampler

Well Log

Project No.: 70-818-A-002
Project Name: JC Boc Texaco
Address: 400 E 2nd St, Sheffield, AL
Facility ID#: 11732-033-004341
Date Drilled: 9/28-10/03/2022
Logged By: SH

Well No.: MW-5
Drill Rig: CME-75
Drilling Method: HSA
Sampling Method: SSS/PHD
Drilling Contractor: Technical Drilling Servic

Depth (ft)	Soil Type Graphic	Description and Comments	Sample Interval	% Recovery	PID (ppm)
		Ground Surface			
0		**TOPSOIL**		-	0.0
2		**LS- CRUSHED ROCK**		-	0.0
4				-	-
6				-	0.0
8		**CL- (Firm) CLAY (damp)** Dark Brown, sandy		-	-
10		**CL- (Firm) CLAY (damp)** Dark Brown, sandy		-	-
12				-	0.0
14		**CL- (Firm) CLAY (damp)** Dark Brown, sandy		-	-
16				-	0.0
18				-	-
20		**CL- (Firm) CLAY (damp)** Dark Brown, sandy, minor highly weathered chert gravel		-	2.2
22				-	-
24		**CL- (Soft) CLAY (damp)** Light Brown, sandy, minor weathered chert gravel, moderate OPO		-	124.6
26				-	-
28				-	-
30		**CL- (Soft) CLAY (damp)** Light Brown, sandy, minor weathered chert gravel, moderate OPO		-	206.9
32				-	-



Completion Notes: EOB @ 66.0' bgs. Hole filled with MW-5.

Legend:

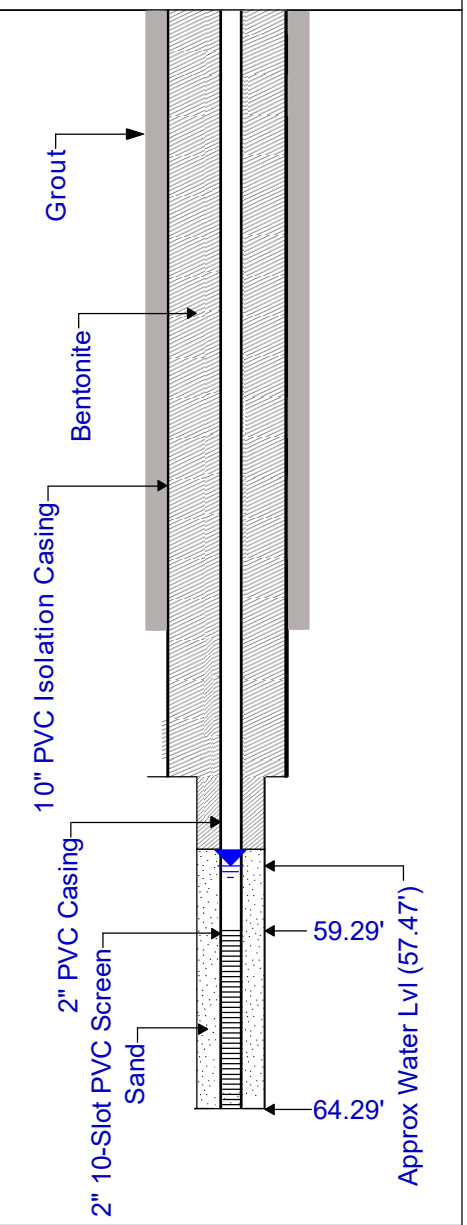
EOB	End of Boring
bgs	Below Ground Surface
NR	No Recovery
NA	Not Applicable
ft	Feet
in	Inches

Well Log

Project No.: 70-818-A-002
Project Name: JC Boc Texaco
Address: 400 E 2nd St, Sheffield, AL
Facility ID#: 11732-033-004341
Date Drilled: 9/28-10/03/2022
Logged By: SH

Well No.: MW-5
Drill Rig: CME-75
Drilling Method: HSA
Sampling Method: SSS/PHD
Drilling Contractor: Technical Drilling Servic

Depth (ft)	Description and Comments	Sample Interval	% Recovery	PID (ppm)
34	**CL- (Soft) CLAY (damp)** Light Brown, sandy, minor weathered chert gravel, strong OPO	MW-5 34.0 - 36.0'	-	1,176
36			-	-
38	**CL- (Soft) CLAY (damp)** Light Brown, sandy, minor weathered chert gravel, strong OPO	MW-5 39.0 - 41.0'	-	1,610
40			-	-
42	**CL- (Soft) CLAY (damp)** Light Brown, sandy, moderate weathered fine chert gravel, slight OPO		-	166.6
44			-	-
46	**CL- (Soft) CLAY (damp)** Light Brown, sandy, moderate weathered fine chert gravel, slight OPO		-	97.1
48			-	-
50	**CL- (Soft) CLAY (damp)** Light Brown, sandy, moderate weathered fine chert gravel, slight OPO		-	32.8
52			-	-
54	**NO RECOVERY**		-	-
56			-	-
58	**NO RECOVERY**		-	-
60			-	-
62			-	-
64			-	-
66				



Completion Notes: EOB @ 66.0' bgs. Hole filled with MW-5.

Legend:

EOB	End of Boring
bgs	Below Ground Surface
NR	No Recovery
NA	Not Applicable
ft	Feet
in	Inches

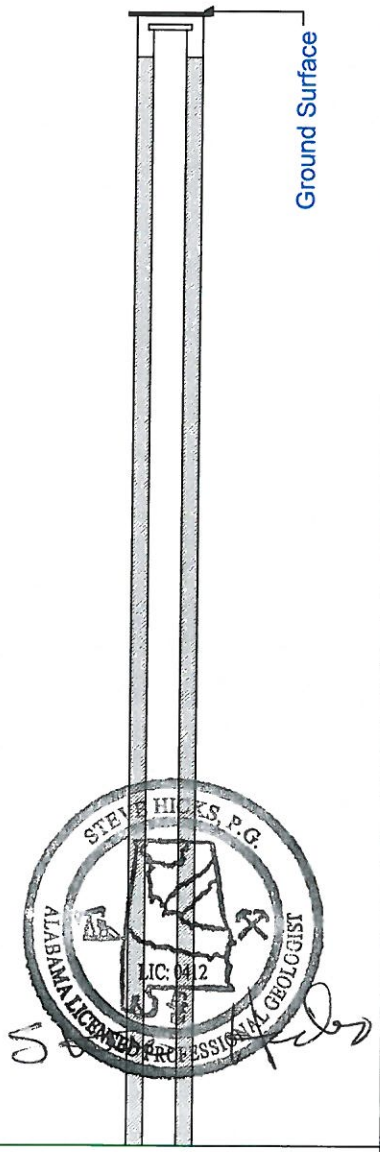
Well Log

Project No.: 70-818-A-002
Project Name: JC Boc Texaco
Address: 400 E 2nd St, Sheffield, AL
Facility ID#: 11732-033-004341
Date Drilled: 9/28-29/2022
Logged By: SH

Well No.: MW-6
Drill Rig: CME-75
Drilling Method: HSA
Sampling Method: SSS/PHD
Drilling Contractor: Technical Drilling Servic

Depth (ft)	Soil Type Graphic	Description and Comments	Sample Interval	% Recovery	PID (ppm)
		Ground Surface			
0		***TOPSOIL***			
		CL- CLAY Brick Red, Fill, topsoil		-	0.0
4					
6				-	-
8				-	0.0
				-	-
10		***CL- (Firm) CLAY (damp)*** Brick Red		-	0.0
12				-	-
14		***CL- (Firm) CLAY (damp)*** Brick Red		-	0.0
16				-	-
18					
20		***CL- (Firm) CLAY (damp)*** Light Brown		-	0.00
22				-	-

Completion Details



Completion Notes: EOB @ 46.0' bgs. Hole filled with MW-6.

Legend:

EOB	End of Boring
bgs	Below Ground Surface
NR	No Recovery
NA	Not Applicable
ft	Feet
in	Inches

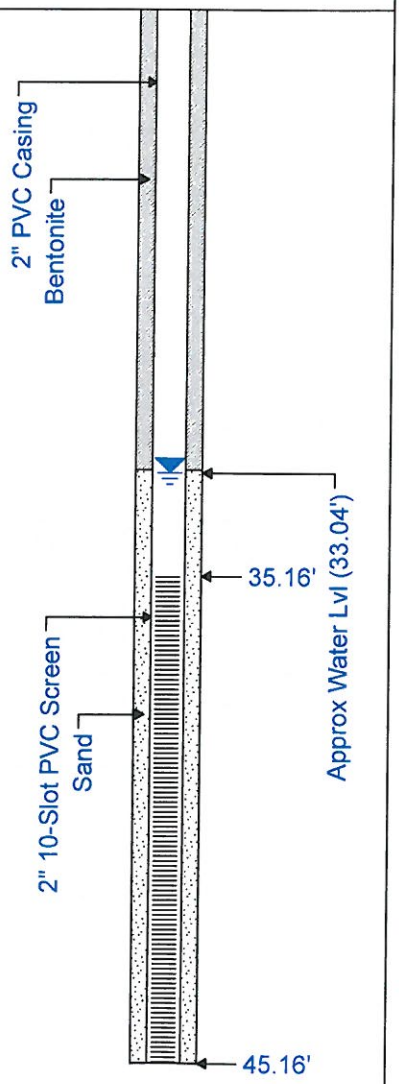
Well Log

Project No.: 70-818-A-002
Project Name: JC Boc Texaco
Address: 400 E 2nd St, Sheffield, AL
Facility ID#: 11732-033-004341
Date Drilled: 9/28-29/2022
Logged By: SH

Well No.: MW-6
Drill Rig: CME-75
Drilling Method: HSA
Sampling Method: SSS/PHD
Drilling Contractor: Technical Drilling Servic

Depth (ft)	Soil Type Graphic	Description and Comments	Sample Interval	% Recovery	PID (ppm)
24		***CL- (Firm) CLAY (damp)*** Light Brown, minor weathered chert gravel	MW-6 24.0 - 26.0'	-	0.8
26					
28				-	-
30		***CL- (Firm) CLAY (damp)*** Light Brown, chert gravel		-	0.0
32				-	-
34		***CL- (Firm) CLAY (damp)*** Light Brown	MW-6 34.0 - 36.0'	-	0.0
36					
38				-	-
40		***CHERT GRAVEL*** Poor recovery (5%)		-	0.0
42					-
44		***CL- (Soft) CLAY (damp)*** Light Brown, weathered chert gravel		-	1.3
46					

Completion Details



Completion Notes: EOB @ 46.0' bgs. Hole filled with MW-6.

Legend:

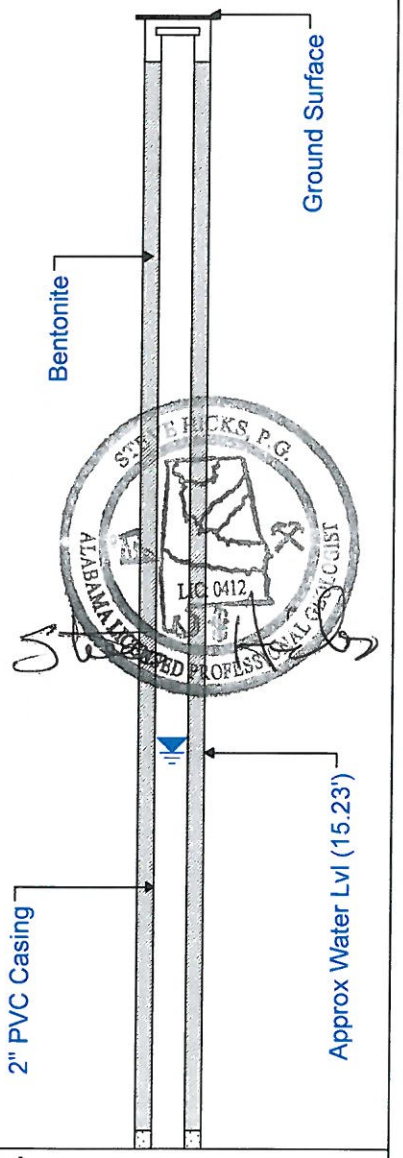
EOB	End of Boring
bgs	Below Ground Surface
NR	No Recovery
NA	Not Applicable
ft	Feet
in	Inches

Well Log

Project No.: 70-818-A-002
Project Name: JC Boc Texaco
Address: 400 E 2nd St, Sheffield, AL
Facility ID#: 11732-033-004341
Date Drilled: 9/29/2022
Logged By: SH

Well No.: MW-7
Drill Rig: CME-75
Drilling Method: HSA
Sampling Method: SSS/PHD
Drilling Contractor: Technical Drilling Servic

SUBSURFACE PROFILE			SAMPLE			
Depth (ft)	Soil Type Graphic	Description and Comments	Sample Interval	% Recovery	PID (ppm)	Completion Details
		Ground Surface				
0		***TOPSOIL/GRASS***				
		CL- CLAY Fill, bricks, concrete, asphalt		-	0.0	
4		***CL- (Firm) CLAY (damp)*** Light Brown		-	0.0	
6				-	0.0	
8						
10						
12						
14		***CL- (Firm) SANDY CLAY (damp)*** Light Brown		-	4.0	
16						
18						
20		***CL- (Firm) CLAY (wet)*** Light Brown, minor chert gravel	MW-7	-	21.7	
22						



Completion Notes: EOB @ 46.0' bgs. Hole filled with MW-7.

Legend:

EOB	End of Boring
bgs	Below Ground Surface
NR	No Recovery
NA	Not Applicable
ft	Feet
in	Inches

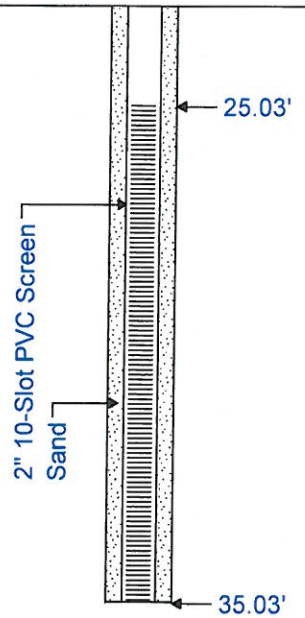
Well Log

Project No.: 70-818-A-002
Project Name: JC Boc Texaco
Address: 400 E 2nd St, Sheffield, AL
Facility ID#: 11732-033-004341
Date Drilled: 9/29/2022
Logged By: SH

Well No.: MW-7
Drill Rig: CME-75
Drilling Method: HSA
Sampling Method: SSS/PHD
Drilling Contractor: Technical Drilling Servic

Depth (ft)	Soil Type Graphic	Description and Comments	Sample Interval	% Recovery	PID (ppm)
24			22.0 - 24.0'		
26		***CL- (Firm) CLAY (wet)*** Light Brown, minor chert gravel, sandy @ 29.5'			
28			MW-7 27.0 - 29.0'	-	10.6
30		***CL- (Firm) CLAY (damp)*** Light Brown			
32				-	0.0
34					
36				-	-
38					
40				-	-
42					
44				-	-
46					

Completion Details



Completion Notes: EOB @ 46.0' bgs. Hole filled with MW-7.

Legend:

EOB	End of Boring
bgs	Below Ground Surface
NR	No Recovery
NA	Not Applicable
ft	Feet
in	Inches

Boring Log

Project No.: 70-00818-A-0003
Project Name: Former J.C. Box Texaco
Address: 400 East 2nd St, Sheffield, AL
Facility ID#: 11732-033-004341
Date Drilled: 5/17/2023
Logged By: Steve Hicks

Boring No.: SB-8A (ABANDONED)
Drill Rig: Terra Sonic
Drilling Method: Sonic
Sampling Method: Sonic
Drilling Contractor: Hawkston, LLC

SUBSURFACE PROFILE			SAMPLE			
Depth (ft)	Soil Type Graphic	Description and Comments	Sample Interval	% Recovery	PID (ppm)	No Well Installed
0		Ground Surface				
		CONCRETE			0.0	
2		***FILL - Minor clay***			0.0	
		FILL - Limestone gravel Light Gray			0.0	
4						
6		***CL- (Soft) CLAY (damp)*** Light Brown			15.1	
8					83.6	
10		***CL- (Firm) CLAY (damp)*** Brown, moderate petroleum odor			206	
12						
14					191.8	
16					278	
18			SB-8A 17.5' - 20.0'		383	
20		***CL- (Firm) CLAY (damp)*** Light Brown, w/moderate weathered chert blocks			239	
22						
24					245	
26					173	
28					119	
30					198	
32						
34					239	
36		***CL- (Soft) CLAY (wet)*** Light Brown w/moderate weathered chert gravel, strong old petroleum odor, wet @ 37.5'	SB-8A 35.0' - 37.5'		691	
38					768	
40						

Completion Notes: EOB @ 71.0' bgs: 8" diameter/borehole

Legend:

EOB	End of Boring
Bgs.	Below Ground Surface
NR	No Recovery
NA	Not Applicable
ft	Feet

Boring Log

Project No.: 70-00818-A-0003
Project Name: Former J.C. Box Texaco
Address: 400 East 2nd St, Sheffield, AL
Facility ID#: 11732-033-004341
Date Drilled: 5/17/2023
Logged By: Steve Hicks

Boring No.: SB-8A (ABANDONED)
Drill Rig: Terra Sonic
Drilling Method: Sonic
Sampling Method: Sonic
Drilling Contractor: Hawkston, LLC

SUBSURFACE PROFILE			SAMPLE			
Depth (ft)	Soil Type Graphic	Description and Comments	Sample Interval	% Recovery	PID (ppm)	No Well Installed
42		***CL- (Soft) CLAY (moist)*** Light Brown, w/abundant chert blocks and gravel			610	
44					508	
46		***CL- (Soft) CLAY (moist)*** Light Brown, w/abundant chert blocks and gravel, very strong old petroleum odor			2,180	
48					3,365	
50		***CL- (Soft) CLAY (moist)*** Light Brown, w/abundant chert blocks and gravel			3,980	
52					4,473	
54					3,980	
56					3,624	
58					566	
60					419	
62					317	
64					-	
66		***LIMESTONE LENS***			333.6	
68		***VOID***				
70		***LS- (Hard) LIMESTONE (damp)*** Light Gray, abundant brackiopods				
72		***LS- (Hard) LIMESTONE (damp)*** Medium Gray, siliceous/cherty w/minor brackiopods				
74		***LS- (Hard) LIMESTONE (damp)*** Dark Gray, siliceous, w/minor brackiopods				
76		***END OF BORING @ 71'***				
78						
80						

STEVE HICKS, P.G. LIC: 0412 ALABAMA LICENSED PROFESSIONAL GEOLOGIST

Completion Notes: EOB @ 71.0' bgs: 8" diameter/borehole

Legend:

EOB	End of Boring
Bgs.	Below Ground Surface
NR	No Recovery
NA	Not Applicable
ft	Feet

Boring Log

Project No.: 70-00818-A-0003
Project Name: Former J.C. Box Texaco
Address: 400 East 2nd St, Sheffield, AL
Facility ID#: 11732-033-004341
Date Drilled: 5/23/2023
Logged By: Steve Hicks

Boring No.: SB-8B (ABANDONED)
Drill Rig: Terra Sonic
Drilling Method: Sonic
Sampling Method: Sonic
Drilling Contractor: Hawkston, LLC

SUBSURFACE PROFILE			SAMPLE			
Depth (ft)	Soil Type Graphic	Description and Comments	Sample Interval	% Recovery	PID (ppm)	No Well Installed
		Ground Surface				
0		***CONCRETE***				
		FILL - Minor clay				
10		***CL- (Soft) CLAY (damp)*** Brown				

Completion Notes: EOB @ 61.0' bgs: 6" diameter/borehole

Legend:

EOB	End of Boring
Bgs.	Below Ground Surface
NR	No Recovery
NA	Not Applicable
ft	Feet

Boring Log

Project No.: 70-00818-A-0003
Project Name: Former J.C. Box Texaco
Address: 400 East 2nd St, Sheffield, AL
Facility ID#: 11732-033-004341
Date Drilled: 5/23/2023
Logged By: Steve Hicks

Boring No.: SB-8B (ABANDONED)
Drill Rig: Terra Sonic
Drilling Method: Sonic
Sampling Method: Sonic
Drilling Contractor: Hawkston, LLC

SUBSURFACE PROFILE			SAMPLE			
Depth (ft)	Soil Type Graphic	Description and Comments	Sample Interval	% Recovery	PID (ppm)	No Well Installed
34						
36						
38						
40						
42						
44						
46						
48						
50		***CL- (Soft) CLAY (damp)*** Brown, chert blocks				
52						
54						
56						
58		***CHERT BLOCKS***				
		VOID				
60						
62		Abandon w/bentonite chip in void, bentonite to grout to about one foot below grade				
64						

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Completion Notes: EOB @ 61.0' bgs: 6" diameter/borehole

Legend:

EOB	End of Boring
Bgs.	Below Ground Surface
NR	No Recovery
NA	Not Applicable
ft	Feet

Well Log

Project No.: 70-00818-A-0006
Project Name: Former J.C. Box Texaco
Address: 400 East 2nd Street, Sheffield, AL
Facility ID#: 11732-033-004341
Date Drilled: 12/14/2023
Logged By: Suzanne Evans

Well No.: MW-8
Drill Rig: Sonic
Drilling Method: HA/ Sonic
Sampling Method: VersaSonic
Drilling Contractor: Walker-Hill Environmental

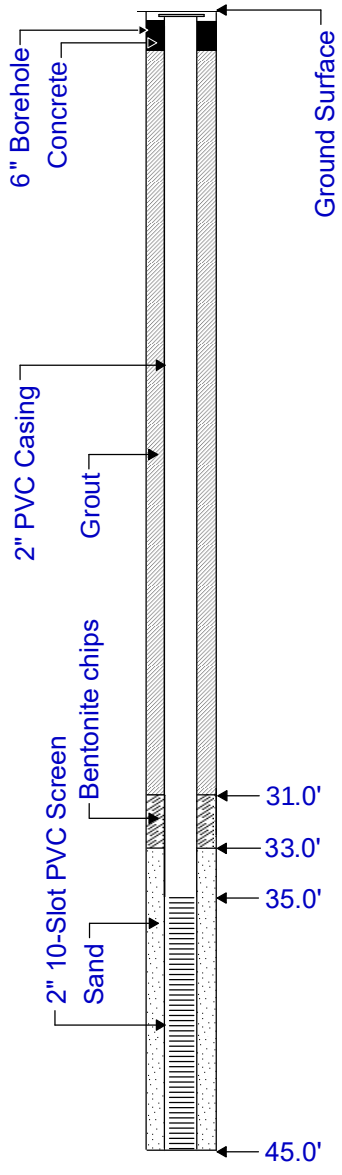
SUBSURFACE PROFILE

Depth (ft)	Soil Type Graphic	Description and Comments	Sample Interval	% Recovery	PID (ppm)
0		Ground Surface			
0		***ASPHALT***		-	-
2		***CRUSH AND RUN GRAVEL***			
4				100	0.0
6					0.3
8		***CL- (Very Stiff) CLAY (moist)*** Red Brown, with 5% gravel, medium plasticity			0.2
10					0.1
12				80	0.1
14		***CL- (Very Stiff) CLAY (moist)*** Red Brown, with 20% gravel, medium plasticity			0.1
16					0.1
18					0.1
18		***CL- (Very Stiff) CLAY (moist)*** Red Brown, low plasticity, with 10-20% gravel			0.0
20					0.3
22					0.1
24			MW-8 23' - 25'	70	3.4
26					0.9
28					0.8
30					0.1
32					0.1
34		***CL- (Medium Stiff) CLAY (moist)*** Red Brown, medium plasticity, 30% gravel	MW-8 33' - 35'	90	0.2
36		***CL- (Soft) CLAY (moist)*** Red Brown, medium plasticity, 40% gravel and cobbles			0.1
38		***CL- (Very Soft) CLAY (very moist)*** Red Brown, medium plasticity			
40		***CL- (Soft) CLAY (moist- very moist)*** Red Brown, medium plasticity, 30- 40% gravel and cobbles		100	
42					
44					
46					

SUZANNE E. EVANS ALABAMA LICENSED PROFESSIONAL GEOLOGIST LIC. 1228

SAMPLE

Completion Details



Completion Notes: EOB @ 45' Bgs.

Legend:

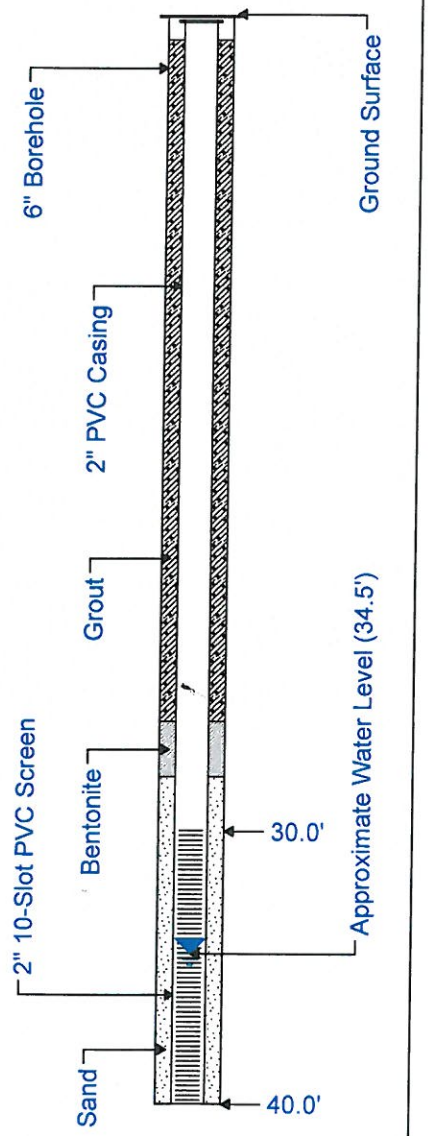
EOB	End of Boring
bgs	Below Ground Surface
HA	Hand Auger
ft	Feet
ppm	Parts Per Million

Well Log

Project No.: 70-00818-A-0003
Project Name: Former J.C. Box Texaco
Address: 400 East 2nd St, Sheffield, AL
Facility ID#: 11732-033-004341
Date Drilled: 5/19/2023
Logged By: Steve Hicks

Well No.: MW-9
Drill Rig: Terra Sonic
Drilling Method: Sonic
Sampling Method: Sonic
Drilling Contractor: Hawkston, LLC

Depth (ft)	Soil Type Graphic	Description and Comments	Sample Interval	% Recovery	PID (ppm)
0		Ground Surface			
0		**ASPHALT**			7.9
2		**CL- (Firm) CLAY (damp)** Dark, brick-Red			9.2
4					31.6
6					97.6
8					110.3
10					280.1
12					318.8
14					376.1
16			MW-9 18.0' - 20.0'		201.6
18					130
20					111.4
22					96.7
24					81.1
26					36.1
28					
30		**CL- (Firm) CLAY (damp)** Brown, w/abundant chert gravel, wet @ 34.5'			
32			MW-9 32.0' - 34.0		
34					
36					
38					
40					



Completion Notes: EOB @ 40.0' bgs: 6" diameter

STEVE HICKS, P.G. LIC: 0412 ALABAMA LICENSED PROFESSIONAL GEOLOGIST

Legend:
EOB – End of Boring
bgs – Below Ground Surface
NR – No Recovery
NA – Not Applicable
ft – Feet
in – Inches

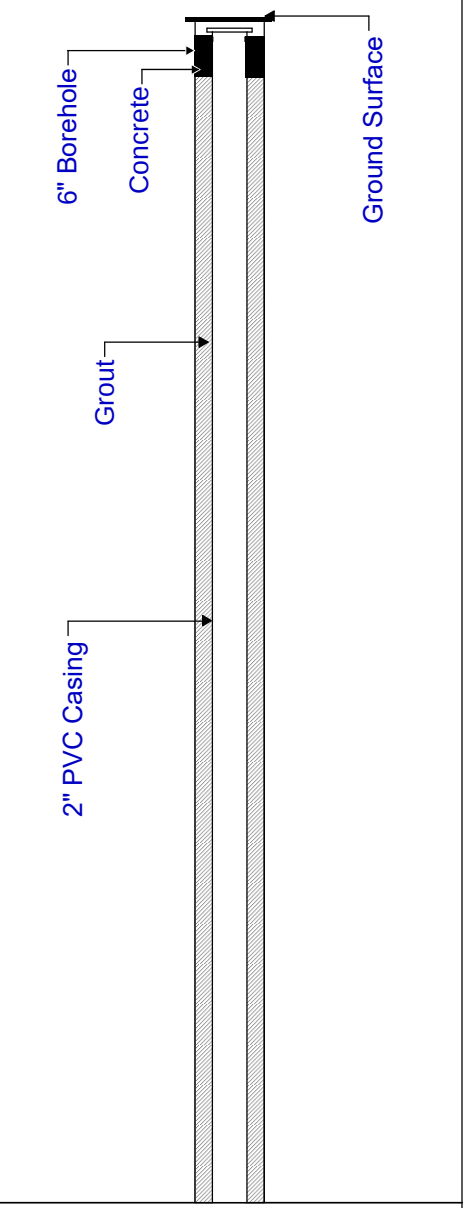
Sheet: 1 of 1

Well Log

Project No.: 70-00818-A-0006
Project Name: Former J.C. Box Texaco
Address: 400 East 2nd Street, Sheffield, AL
Facility ID#: 11732-033-004341
Date Drilled: 12/14/2023
Logged By: Suzanne Evans

Well No.: MW-10
Drill Rig: Sonic
Drilling Method: HA/ Sonic
Sampling Method: VersaSonic
Drilling Contractor: Walker-Hill Environmental

SUBSURFACE PROFILE			SAMPLE			
Depth (ft)	Soil Type Graphic	Description and Comments	Sample Interval	% Recovery	PID (ppm)	Completion Details
0		Ground Surface				
		ASPHALT				
2		***CL- (Firm) CLAY (moist)*** Red-Brown, with 10% gravel (chert), medium plasticity		-	-	
4		***CL- (Firm) CLAY (moist)*** Red-Brown, with 10% gravel (chert), medium plasticity		100	7.0	
6					7.9	
8			MW-10 7.0' - 9.0'		11.6 11.6	
10		***CL- (Very Firm) CLAY (moist)*** Red-Brown, with 10% gravel (chert), medium plasticity		50	2.2	
12					2.2	
14					0.6	
16					0.3	
18					3.1	
20		***CL- (Very Firm) CLAY (moist)*** Red-Brown, with 20- 30% gravel (chert), medium plasticity		80	0.3	
22					0.3	
24					0.3	
26					0.2	



Completion Notes: EOB @ 50' Bgs.

Legend:

EOB	End of Boring
bgs	Below Ground Surface
HA	Hand Auger
ft	Feet
ppm	Parts Per Million

Well Log

Project No.: 70-00818-A-0006
Project Name: Former J.C. Box Texaco
Address: 400 East 2nd Street, Sheffield, AL
Facility ID#: 11732-033-004341
Date Drilled: 12/14/2023
Logged By: SEE

Well No.: MW-10
Drill Rig: Sonic
Drilling Method: HA/ Sonic
Sampling Method: VersaSonic
Drilling Contractor: WHE

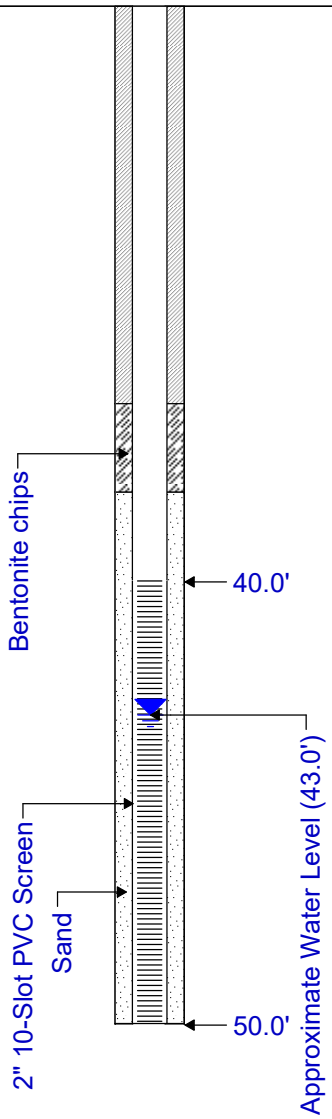
SUBSURFACE PROFILE

Depth (ft)	Description and Comments
28	**CL- (Firm) CLAY (moist)** Red-Brown, with 20- 30% gravel (chert), medium plasticity
30	
32	
34	
36	
38	**CL- (Firm) CLAY (moist)** Red Brown, medium plasticity, 30% gravel
40	
42	**CL- (Firm) CLAY (moist)** Red-Brown, with 20- 30% gravel (chert), medium plasticity
44	**SAND SEAM (wet)**
46	**CL- (Firm) CLAY (wet)** Red-Brown, with 20- 30% gravel (chert), medium plasticity
48	**CL- (Firm) CLAY (moist)** Red Brown, 30- 40% gravel and cobbles chert
50	
52	
54	

SAMPLE

Sample Interval	% Recovery	PID (ppm)
		0.3
		0.4
	80	1.0
		0.3
		0.2
		0.2
		0.7
MW-10		0.7
42' - 43'	100	0.6
	100	

Completion Details



SUZANNE E. EVANS
ALABAMA LICENSED PROFESSIONAL GEOLOGIST
LIC. 1228

Completion Notes: EOB @ 50' Bgs.

Legend:

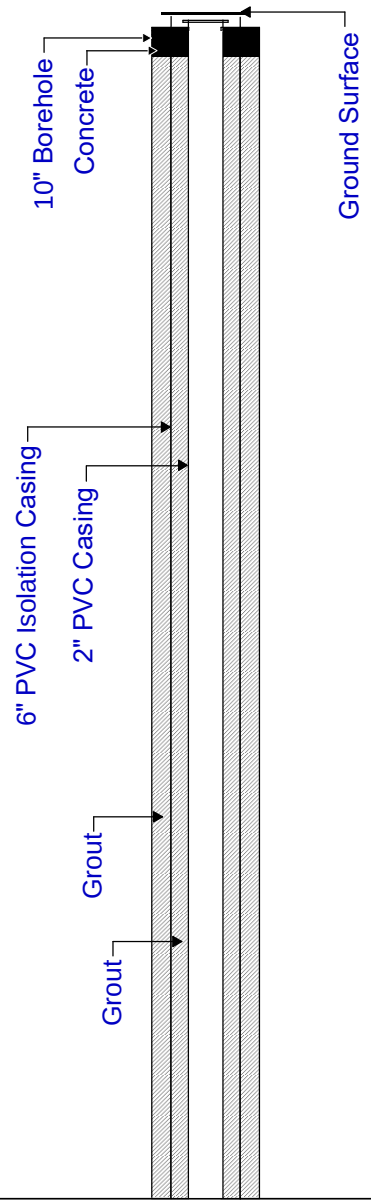
EOB	End of Boring
bgs	Below Ground Surface
HA	Hand Auger
ft	Feet
ppm	Parts Per Million

Well Log

Project No.: 70-00818-A-0006
Project Name: Former J.C. Box Texaco
Address: 400 East 2nd Street, Sheffield, AL
Facility ID#: 11732-033-004341
Date Drilled: 12/11 - 12/13/2023
Logged By: SH/SEE

Well No.: MW-11
Drill Rig: Sonic
Drilling Method: HA/ Sonic
Sampling Method: PHD/ Sonic
Drilling Contractor: WHE

SUBSURFACE PROFILE			SAMPLE			
Depth (ft)	Soil Type Graphic	Description and Comments	Sample Interval	% Recovery	PID (ppm)	Completion Details
0		Ground Surface				
2		***CL- (Soft) CLAY (damp)*** Brown			0.0	
4						
6		***CL- (Soft) CLAY (damp)*** Brown, with minor chert gravel			0.0	
8					0.8	
10						
12					0.0	
14					0.0	
16					0.0	
18						
20					0.0	
22		***CL- (Soft) CLAY (damp)*** Brown with moderate chert gravel			0.3	
24					1.1	
26		***CL- (Soft) CLAY moist)*** Light Brown, slight old petroleum odor			1.8	
28						
30					8.9	
32		***CL- (Soft) CLAY (moist)*** Light Brown, with chert blocks, slight old petroleum odor	MW-11 31' - 33'		27.3	
34		***CL- (Soft) CLAY (moist)*** Light Brown, with chert blocks, moderate old petroleum odor			197.6	
36						



Completion Notes: EOB @ 68' Bgs.

Legend:

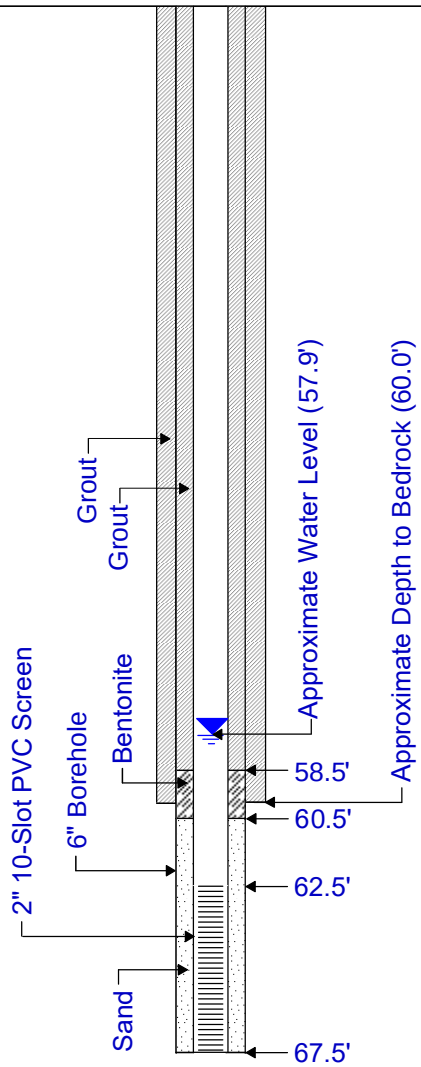
EOB	End of Boring
bgs	Below Ground Surface
HA	Hand Auger
ft	Feet
ppm	Parts Per Million

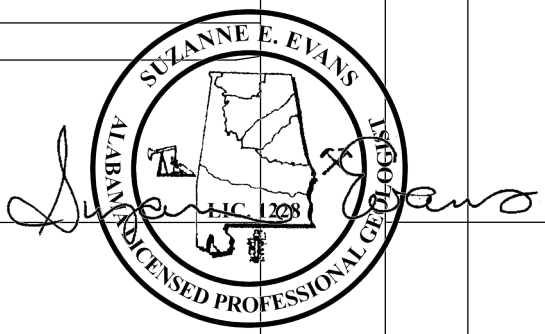
Well Log

Project No.: 70-00818-A-0006
Project Name: Former J.C. Box Texaco
Address: 400 East 2nd Street, Sheffield, AL
Facility ID#: 11732-033-004341
Date Drilled: 12/11 - 12/13/2023
Logged By: SH/SEE

Well No.: MW-11
Drill Rig: Sonic
Drilling Method: HA/ Sonic
Sampling Method: PHD/ Sonic
Drilling Contractor: WHE

Depth (ft)	Description and Comments	Sample Interval	% Recovery	PID (ppm)
38	***CL- (Soft) CLAY (moist)*** Light Brown, with chert blocks, strong old petroleum odor	MW-11 36' - 38'		558.3
40	***CL- (Soft) CLAY (wet)*** Light Brown with moderate chert gravel			367.7
42				214.2
44				310.8
46	***CL- (Soft) CLAY (wet)*** Light brown with moderate chert blocks			353.4
48				330.6
50				297.5
52				388.1
54	***CL- (Soft) CLAY (wet)*** Light Brown with Abundant chert blocks			412.5
56				621.4
58				
60	***LIMESTONE*** White (Fossiliferous)			
62	***VOID***			
64	***LIMESTONE***			
66				
68				
70				
72				





Completion Notes: EOB @ 68' Bgs.

Legend:

EOB	End of Boring
bgs	Below Ground Surface
HA	Hand Auger
ft	Feet
ppm	Parts Per Million

Well Log

Project No.: 70-818-A-003
Project Name: JC Boc Texaco
Address: 400 E 2nd St, Sheffield, AL
Facility ID#: 11732-033-004341
Date Drilled: 5/22/2023
Logged By: SH

Well No.: PPB
Drill Rig: Terra Sonic
Drilling Method: Sonic
Sampling Method: Sonic
Drilling Contractor: Hawkston, LLC

SUBSURFACE PROFILE			SAMPLE			
Depth (ft)	Soil Type Graphic	Description and Comments	Sample Interval	% Recovery	PID (ppm)	No Well Installed
		Ground Surface				
0		**TOPSOIL**				
		CL- CLAY Brick Red, Fill, topsoil		-	-	
2						
4						
			ST-1	-	-	
6			5.0 - 7.0'			
8				-	-	
		CL- (Firm) CLAY (damp) Brick Red		-	-	
10						
12				-	-	
		CL- (Firm) CLAY (damp) Brick Red		-	-	
14						
16				-	-	
18				-	-	
		CL- (Firm) CLAY (damp) Light Brown		-	-	
20						
22				-	-	

STEVE HICKS, P.G. LIC: 0412 ALABAMA LICENSED PROFESSIONAL GEOLOGIST

Completion Notes: EOB @ 38.0' bgs. Hole filled with bentonite. Soil profile obtained from MW-6.

Legend:

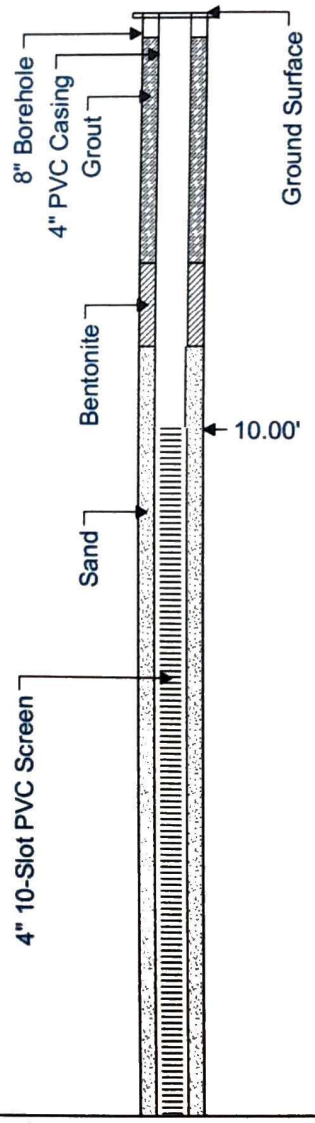
EOB	End of Boring
bgs	Below Ground Surface
NR	No Recovery
NA	Not Applicable
ft	Feet
in	Inches

Well Log RW-1

Project No.: R070.00818.00A
Project Name: Former J.C. Box Texaco
Address: 400 East 2nd Street, Sheffield, AL
Facility ID#: 11732-033-004341
Date Drilled: 10/22/2024
Logged By: Steve Hicks

Well No.: RW-1
Drill Rig: CME-75
Drilling Method: PHD/ HSA
Sampling Method: PHD/ SSS
Drilling Contractor: Challenge Testing, LLC

Depth (feet)	Soil Type Graphic	Description and Comments	Sample Interval	% Recovery	PID (ppm)
0		Ground Surface			
		CL- (Firm) CLAY (damp) Fill, Brown		100	0.0
2				100	0.2
4		***SW- (Loose) SAND (damp)*** Fill, Light Tan		10	16.8
6		***NO RECOVERY***		-	-
8					
10		***CL- (Firm) CLAY (damp)*** Dark Brown		50	17.2
12		***NO RECOVERY***		-	-
14		***CL- (Firm) CLAY (damp)*** Brown, minor chert gravel		25	13.8
16		***NO RECOVERY***		-	-
18					
20		***CL- (Soft) CLAY (damp)*** Brown, strong old petroleum odor		80	267
22		***NO RECOVERY***		-	-
24		***CL- (Soft) CLAY (damp)*** Brown, moderate old petroleum odor		80	95.4
26					



Completion Notes: EOB @ 51' bgs./ Hand Auger to 4' bgs.

Legend:

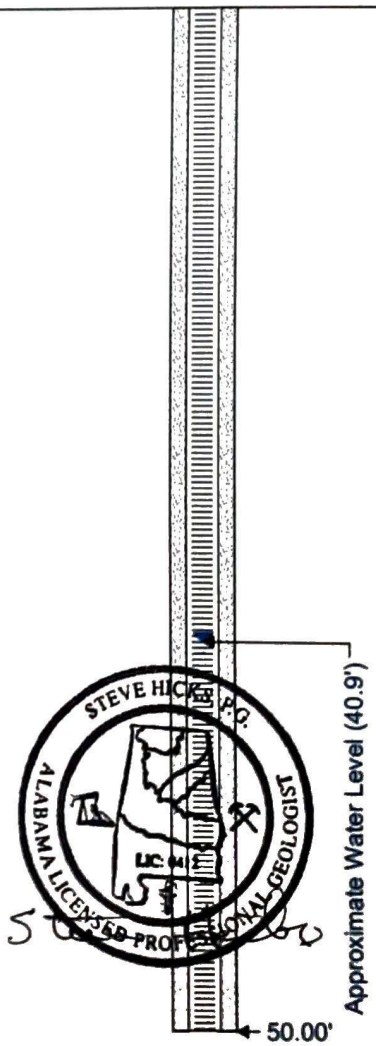
EOB	End of Boring
bgs	Below Ground Surface
PHD	Post Hole Digger
HSA	Hollow Stem Auger
SSS	Split Spoon Sampler

Well Log RW-1

Project No.: R070.00818.00A
Project Name: Former J.C. Box Texaco
Address: 400 East 2nd Street, Sheffield, AL
Facility ID#: 11732-033-004341
Date Drilled: 10/22/2024
Logged By: Steve Hicks

Well No.: RW-1
Drill Rig: CME-75
Drilling Method: PHD/ HSA
Sampling Method: PHD/ SSS
Drilling Contractor: Challenge Testing, LLC

SUBSURFACE PROFILE			SAMPLE			
Depth (feet)	Soil Type Graphic	Description and Comments	Sample Interval	% Recovery	PID (ppm)	Completion Details
28		NO RECOVERY		-	-	
30		CL- (Soft) CLAY (damp) Brown, strong old petroleum odor	RW-1 29.0 - 31.0'	50	452.8	
32		NO RECOVERY		-	-	
34		CL- (Soft) CLAY (damp) Brown, minor fine chert gravel, strong old petroleum odor		60	374.8	
36		NO RECOVERY		-	-	
38						
40		CL- (Soft) CLAY (damp) Brown, minor fine chert gravel, strong old petroleum odor	RW-1 39.0 - 41.0'	40	760.1	
42		NO RECOVERY		-	-	
44		CL- (Soft) CLAY (damp) Light Brown, slight old petroleum odor		100	198.3	
46		NO RECOVERY		-	-	
48						
50		CL- (Soft) CLAY (damp) Light Brown, strong old petroleum odor		80	239.8	
52						



Completion Notes: EOB @ 51' bgs./ Hand Auger to 4' bgs.

Legend:

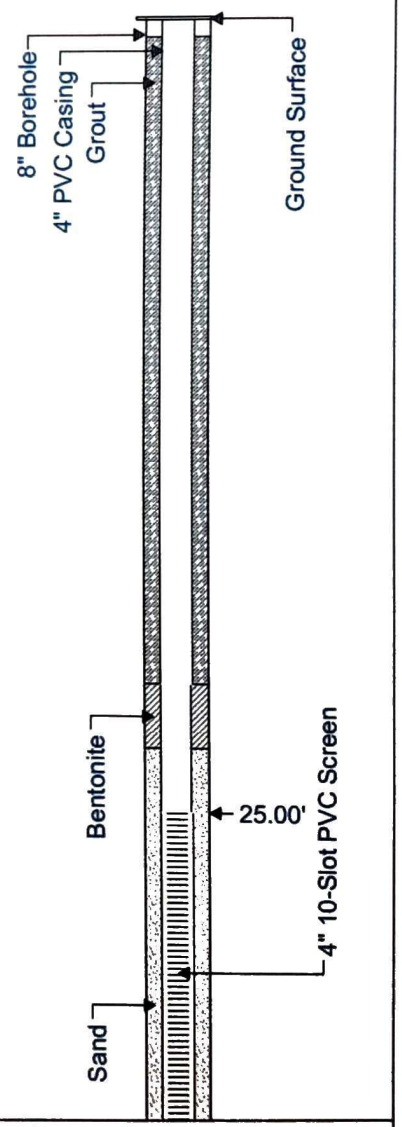
EOB	End of Boring
bgs	Below Ground Surface
PHD	Post Hole Digger
HSA	Hollow Stem Auger
SSS	Split Spoon Sampler

Well Log RW-2

Project No.: R070.00818.00A
Project Name: Former J.C. Box Texaco
Address: 400 East 2nd Street, Sheffield, AL
Facility ID#: 11732-033-004341
Date Drilled: 10/28/2024
Logged By: Steve Hicks

Well No.: RW-2
Drill Rig: CME-75
Drilling Method: PHD/ HSA
Sampling Method: PHD/ SSS
Drilling Contractor: Challenge Testing, LLC

Depth (feet)	Description and Comments	Sample Interval	% Recovery	PID (ppm)
0	Ground Surface			
0	**LS- CRUSHER RUN** Fill		100	0.0
2	**LS- CRUSHER RUN** Fill, 57 stone		100	0.0
4	**CL- (Soft) CLAY (damp)** Dark Brown		25	0.5
6	**NO RECOVERY**		-	-
8	**CL- (Soft) CLAY (damp)** Brown		5	0.1
10	**NO RECOVERY**		-	-
12	**CL- (Soft) CLAY (damp)** Brown		100	1.5
14	**NO RECOVERY**		-	-
16	**CL- (Soft) CLAY (damp)** Brown		5	0.5
18	**NO RECOVERY**		-	-
20	**CL- (Firm) CLAY (damp)** Light Brown		100	4.1
22	**NO RECOVERY**		-	-
24	**CL- (Firm) CLAY (damp)** Light Brown		5	1.5
26	**NO RECOVERY**		-	-
28				
30				
32				
34				



Completion Notes: EOB @ 66' bgs.

Legend:

EOB	End of Boring
bgs	Below Ground Surface
PHD	Post Hole Digger
HSA	Hollow Stem Auger
SSS	Split Spoon Sampler

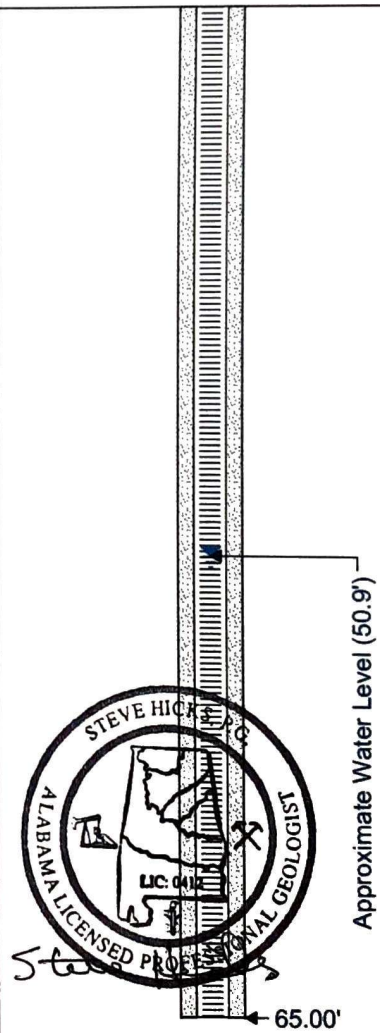
Well Log RW-2

Project No.: R070.00818.00A
Project Name: Former J.C. Box Texaco
Address: 400 East 2nd Street, Sheffield, AL
Facility ID#: 11732-033-004341
Date Drilled: 10/28/2024
Logged By: Steve Hicks

Well No.: RW-2
Drill Rig: CME-75
Drilling Method: PHD/ HSA
Sampling Method: PHD/ SSS
Drilling Contractor: Challenge Testing, LLC

Depth (feet)	Soil Type Graphic	Description and Comments	Sample Interval	% Recovery	PID (ppm)
36		**CL- (Firm) CLAY (damp)** Light Brown, abundant chert gravel	RW-2 34.0 - 36.0'	70	6.9
38		**NO RECOVERY**		-	-
40		**CL- (Firm) CLAY (damp)** Light Brown, moderate chert gravel		70	1.4
42		**NO RECOVERY**		-	-
44		**CL- (Firm) CLAY (damp)** Light Brown, moderate weathered chert gravel		60	0.6
46		**NO RECOVERY**		-	-
48		**CL- (Soft) CLAY (damp)** Light Brown, moderate weathered chert blocks		20	1,048.1
50		**NO RECOVERY**		-	-
52		**CL- (Soft) CLAY (moist)** Light Brown, moderate weathered chert gravel, strong old petroleum odor		30	32.6
54		**NO RECOVERY**		-	-
56		**CL- (Soft) CLAY (wet)** Light Brown, abundant chert gravel		40	15.1
58		**NO RECOVERY**		-	-
60		**CL- (Soft) CLAY (wet)** Light Brown, abundant weathered chert gravel		60	7.1
62					
64					
66					
68					

Completion Details



Completion Notes: EOB @ 65' bgs.

Legend:

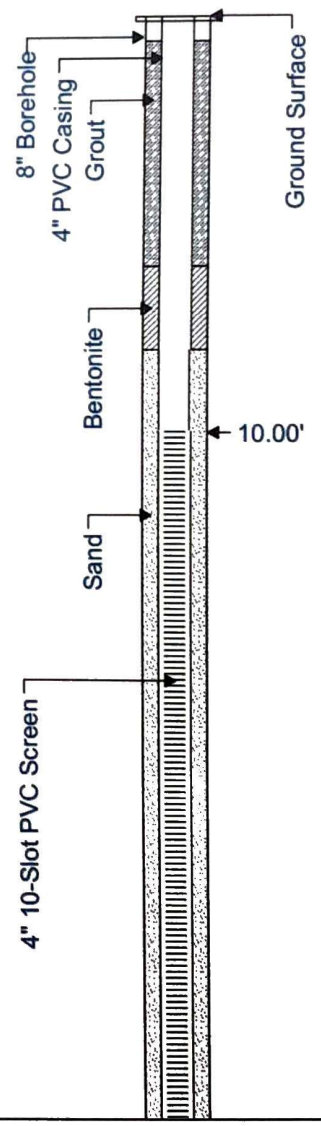
EOB	End of Boring
bgs	Below Ground Surface
PHD	Post Hole Digger
HSA	Hollow Stem Auger
SSS	Split Spoon Sampler

Well Log RW-3

Project No.: R070.00818.00A
Project Name: Former J.C. Box Texaco
Address: 400 East 2nd Street, Sheffield, AL
Facility ID#: 11732-033-004341
Date Drilled: 10/24/2024
Logged By: Steve Hicks

Well No.: RW-3
Drill Rig: CME-75
Drilling Method: PHD/ HSA
Sampling Method: PHD/ SSS
Drilling Contractor: Challenge Testing, LLC

Depth (feet)	Soil Type Graphic	Description and Comments	Sample Interval	% Recovery	PID (ppm)
0		Ground Surface			
0		***CL- (Loose) CLAY FILL (damp)*** Brown, moderate chert blocks		100	0.3
2				100	0.2
4				100	0.9
6		***NO RECOVERY***		-	-
8					
10		***CL- (Firm) CLAY (damp)*** Brown		80	1.7
12		***NO RECOVERY***		-	-
14		***CL- (Firm) CLAY (damp)*** Brown, minor chert gravel		90	11.3
16		***NO RECOVERY***		-	-
18					
20		***CL- (Firm) CLAY (damp)*** Brown, minor weathered chert gravel, moderate old petroleum odor	RW-3 19.0 - 21.0'	20	1,080.0
22		***NO RECOVERY***		-	-
24		***CL- (Firm) CLAY (damp)*** Brown, abundant chert gravel, moderate old petroleum odor		15	392
26					



Completion Notes: EOB @ 51' bgs.

Legend:

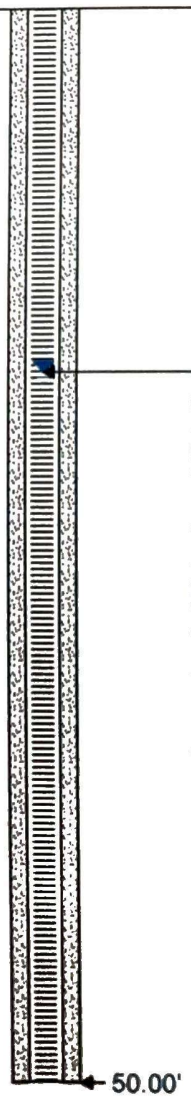
EOB	End of Boring
bgs	Below Ground Surface
PHD	Post Hole Digger
HSA	Hollow Stem Auger
SSS	Split Spoon Sampler

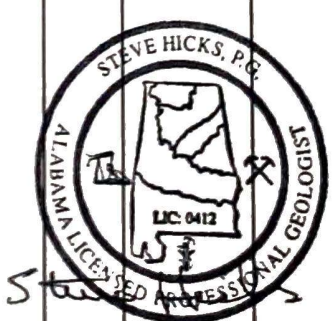
Well Log RW-3

Project No.: R070.00818.00A
Project Name: Former J.C. Box Texaco
Address: 400 East 2nd Street, Sheffield, AL
Facility ID#: 11732-033-004341
Date Drilled: 10/24/2024
Logged By: Steve Hicks

Well No.: RW-3
Drill Rig: CME-75
Drilling Method: PHD/ HSA
Sampling Method: PHD/ SSS
Drilling Contractor: Challenge Testing, LLC

Depth (feet)	Soil Type Graphic	Description and Comments	Sample Interval	% Recovery	PID (ppm)
28		NO RECOVERY		-	-
30		CL- (Firm) CLAY (damp) Brown, moderate chert gravel, strong old petroleum odor	RW-3 29.0 - 31.0'	15	287
32		NO RECOVERY		-	-
34		CL- (Firm) CLAY (damp) Brown, moderate chert gravel, moderate old petroleum odor		50	266.6
36		NO RECOVERY		-	-
38					
40		CL- (Soft) CLAY (damp) Brown, moderate chert gravel, moderate old petroleum odor		20	70.9
42		NO RECOVERY			
44					
46					
48					
50					
52					





Completion Notes: EOB @ 51' bgs.

Legend:

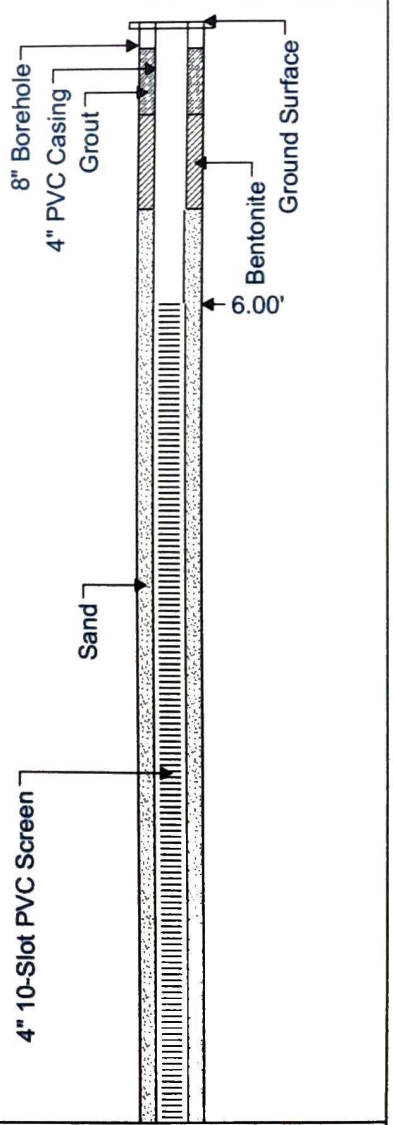
EOB	End of Boring
bgs	Below Ground Surface
PHD	Post Hole Digger
HSA	Hollow Stem Auger
SSS	Split Spoon Sampler

Well Log RW-4

Project No.: R070.00818.00A
Project Name: Former J.C. Box Texaco
Address: 400 East 2nd Street, Sheffield, AL
Facility ID#: 11732-033-004341
Date Drilled: 10/23/2024
Logged By: Steve Hicks

Well No.: RW-4
Drill Rig: CME-75
Drilling Method: PHD/ HSA
Sampling Method: PHD/ SSS
Drilling Contractor: Challenge Testing, LLC

Depth (feet)	Soil Type Graphic	Description and Comments	Sample Interval	% Recovery	PID (ppm)
0		Ground Surface			
		CL- (Firm) CLAY FILL (damp) Brown		100	0.0
2				100	0.8
4		**CL- (Soft) CLAY (damp)** Dark Brown		90	1.1
6		**NO RECOVERY**		-	-
8					
10		**CL- (Firm) CLAY (damp)** Dark Brown, moderate old petroleum odor		90	2.0
12		**NO RECOVERY**		-	-
14		**CL- (Firm) CLAY (damp)** Dark Brown, strong old petroleum odor		90	113.5
16		**NO RECOVERY**		-	-
18					
20		**CL- (Firm) CLAY (damp)** Dark Brown, strong old petroleum odor		90	283.5
22		**NO RECOVERY**		-	-



Completion Notes: EOB @ 46' bgs.

Legend:

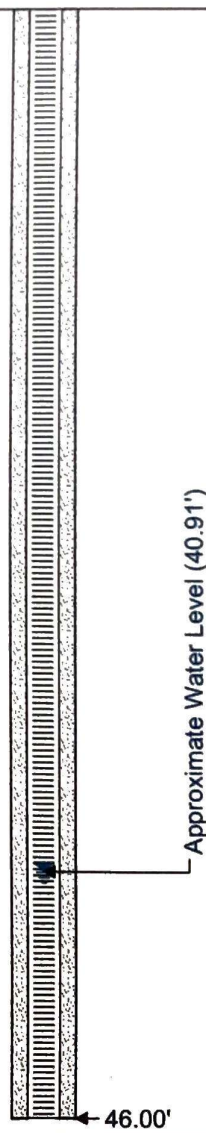
EOB	End of Boring
bgs	Below Ground Surface
PHD	Post Hole Digger
HSA	Hollow Stem Auger
SSS	Split Spoon Sampler

Well Log RW-4

Project No.: R070.00818.00A
Project Name: Former J.C. Box Texaco
Address: 400 East 2nd Street, Sheffield, AL
Facility ID#: 11732-033-004341
Date Drilled: 10/23/2024
Logged By: Steve Hicks

Well No.: RW-4
Drill Rig: CME-75
Drilling Method: PHD/ HSA
Sampling Method: PHD/ SSS
Drilling Contractor: Challenge Testing, LLC

Depth (ft)	Soil Type Graphic	Description and Comments	Sample Interval	% Recovery	PID (ppm)
24					
26		**CL- (Firm) CLAY (damp)** Dark Brown, abundant small chert gravel, strong old petroleum odor	RW-4 24.0 - 26.0'	90	886.4
28		**NO RECOVERY**		-	-
30		**CL- (Soft) CLAY (damp)** Dark Brown, abundant small chert gravel, strong old petroleum odor		5	278
32		**NO RECOVERY**		-	-
34		**CL- (Soft) CLAY (damp)** Brown, abundant small chert gravel, moderate old petroleum odor		15	231.8
36		**NO RECOVERY**		-	-
38					
40		**CL- (Soft) CLAY (damp)** Light Brown, abundant chert gravel, strong old petroleum odor	RW-4 39.0 - 41.0'	20	850.4
42		**NO RECOVERY**		-	-
44					
46		Refusal @ 46' - Rock			



Completion Notes: EOB @ 46' bgs.

Legend:

EOB	End of Boring
bgs	Below Ground Surface
PHD	Post Hole Digger
HSA	Hollow Stem Auger
SSS	Split Spoon Sampler

Appendix B

PM ENVIRONMENTAL a PINCHIN company
Environmental & Engineering Services

February 17, 2025

Ms. Suzanne Evans, PG
PM Environmental
4050 Helton Drive,
Suite 111
Florence, Alabama 35630

RE: quantified High-Resolution Site Characterization Report and BOS 200+ Injection Proposal
Former Gasoline Service Station
400 East 2nd Street
Sheffield, Colbert County, Alabama 35660

Ms. Evans,

AST Environmental, Inc. (AST) appreciates the opportunity to report on the recently completed *quantitative* High Resolution Site Characterization (*q*HRSC) program and provide this proposal to address the remaining petroleum hydrocarbon mass at the Former Gasoline Service Station facility in Sheffield, Alabama. AST supported PM Environmental (PM) with completing the Remedial Design Characterization (RDC) sampling, the first major component of the qHRSC program, at the site on November 11th thru November 15th, 2024, and has prepared the remedial design based on the updated Quantitative Conceptual Site Model. The following are the Site-Specific Clean-up Levels (SSCLs) and remediation goals for the site:

- LNAPL Mitigation
- Soil Site-Specific Clean-Up Levels (SSCL) from 3-Phase Partitioning Model
- Groundwater Resource Protection Target Levels

The RDC sampling consisted of the completion of nine (9) soil borings (RDC-01 thru RDC-09). On November 11th thru 15th, 2024, AST staff mobilized to the site to support PM with completing the RDC. An Emlid Reach RS+ was used to survey the RDC boring locations' geospatial coordinates and the site map has been updated to show the approximate location of each boring as shown on Figure 1. Soil borings were advanced to depths ranging from 53' below ground surface (bgs) in RDC-07 to 67' bgs in RDC-03. RDC-05 could not be completed due to early refusal encountered multiple times at approximately 2' to 3' bgs. There was no supporting evidence that refusal was due to encountering bedrock in any of the soil borings. Soil boring logs were generated with concentration versus depth striplog plots and are included as Attachment A. Soil samples were collected using a Geoprobe® 3230DT with dual-tube sampling method. Samples were collected from every 2-foot interval with sufficient recovery extending to the total boring depth, soil samples were submitted for laboratory analysis.

Each RDC laboratory soil sample collected was packed into a 2-ounce glass container with minimal headspace and sealed with a Teflon-lined lid. Soil samples were immediately packed inside an ice-filled cooler and refrigeration was maintained prior to shipment via overnight courier to the Remediation Products, Inc. (RPI)

Project Support Laboratory in Golden, CO. The soil samples were then analyzed for volatile organic compounds (VOCs) using EPA Method 8260b. The RPI analytical results are included as Attachment B and the soil results are summarized in Table 1.

The established Soil GRPs for this facility would leave considerable hydrocarbon mass in the subsurface, this residual mass can continue to serve as a long-term source for dissolved-phase concentrations in groundwater. To achieve the GRPs for groundwater (e.g. benzene 1.08 mg/L), a revised site-specific soil standard for individual constituents of concern (COCs) must be considered to be protective of groundwater over time. Using a 3-phase partitioning model provided by the State of Washington (https://app.leg.wa.gov/wac/default.aspx?cite=173-340-747), more stringent site-specific soil standards for the relevant COCs must be considered when evaluating petroleum impacts in saturated soil. AST is not suggesting that soil be remediated to this level, but rather mass balance calculations must consider soil concentrations that exceed this site-specific clean-up level (SSCL) when assessing/evaluating remedial design calculations. The calculated values for each COC using this 3-phase partitioning model are included in Attachment C.

Isoconcentration Maps showing the highest detection of a particular constituent at a specific sampling location were also generated to assist with the visualization of the horizontal extent of contaminants of concern in soil:

- Soil Benzene – Figure 2
- Soil Total Xylene – Figure 3
- Soil Naphthalene – Figure 4
- Soil TVPH – Figure 5

A cross section showing lithology and the distribution of contaminant mass was generated to assist with the visualization of the vertical extent of lithology and select contaminants of concern in soil:

- Cross section A-A’ Benzene – Figure 6
- Cross Section A-A’ Total Xylene – Figure 7
- Cross Section A-A’ Naphthalene – Figure 8
- Cross Section A-A’ TVPH – Figure 9

Existing monitoring wells MW-03, MW-04, and MW-05 were gauged, purged, and sampled on November 11th, 2024. Monitoring well MW-01 was gauged, but there was insufficient groundwater to purge and collect a sample for analysis. The gauging information is included as Table 2, a Groundwater Surface Elevation Contour Map using the November 2024 gauging data is included as Figure 10.

Each groundwater sample was poured into two (2) unpreserved 40-mL VOAs and two (2) hydrochloric acid preserved 40-mL VOAs with no headspace and sealed with a silicone septa-lined lid. Groundwater samples were immediately packed inside an ice-filled cooler and refrigeration was maintained prior to shipment via overnight courier to the Remediation Products, Inc. (RPI) Project Support Laboratory in Golden, CO. The groundwater samples were then analyzed for VOCs using EPA Method 8260b, Anions using EPA Method 300.1 Ion Chromatography, and Dissolved Gases using EPA Method RSK-175. The RPI analytical results are included as Attachment B and the groundwater results are summarized in Table 3.

Isoconcentration Maps showing selected analytes in groundwater are included as the following Figures:

- Groundwater Benzene – Figure 11
- Groundwater TVPH – Figure 12

Interactive models showing key constituents of concern (benzene and TVPH) above the SSCL or C_{sat} in soil can be accessed and viewed at the following clickable weblinks:

- Benzene in Soil with 0.444 mg/kg Limit Threshold
- Total Xylene in Soil with 159.02 mg/kg Limit Threshold
- Naphthalene in Soil with 11 mg/kg Limit Threshold
- TVPH in Soil with 250 mg/kg Limit Threshold

One or more COC in saturated soil was detected above the SSCL for the facility in soil borings RDC-01 and RDC-04, see Table 1 for details of each soil boring and respective COCs exceeding their respective SSCLs. A TVPH concentration in unsaturated soil exceeds the residual saturation concentration (C_{sat}[1]) threshold in soil borings RDC-01, RDC-02, and RDC-04. Benzene, naphthalene, and MTBE constituent concentrations were detected above the GRPs in groundwater from monitoring well MW-01. AST recommends shallow spot over-excavation and off-site disposal of petroleum impacts in unsaturated soil near RDC-01 and RDC-07, and in-situ injection of BOS 200+® to mitigate dissolved petroleum hydrocarbons impacts that remain above the GRPs in MW-01 at the facility.

BOS 200+® INJECTION DESIGN

AST has provided an optimized design by enhancing BOS 200® to include supplemental nutrients and substates to help facilitate the biological treatment of the significant total mass within the treatment area. To mitigate the limitations of carbon adsorption alone, AST is proposing to add supplemental nutrients and substrates (yeast extract and food grade corn starch) to create conditions conducive to further accelerate microbial activity beyond what is normally seen with traditional BOS 200®. Supplemental sulfate (terminal electron acceptor) is also being added in two forms: 1) magnesium sulfate (Epsom salt) to supply a high concentration soluble form of sulfate during injection and 2) food grade gypsum to supply a slow-release low soluble form for sustained dosing after the injections are completed; soluble sulfate will support the long-term degradation of petroleum hydrocarbons.

The product comes as a fine-grained dry material which consists of carbon, calcium sulfate, nitrate, phosphate, and ammonia in a proprietary blend. BOS 200® is 77% by weight carbon and up to 19% gypsum. Gypsum is 79% by weight sulfate which translates to approximately 15% by weight sulfate in BOS 200®. The BOS 200® is mixed with water and a facultative blend of microbes (inoculation with aerobic and anaerobic microbes) to create a solids suspension. This is now an ideal environment for biological degradation, where hydrocarbons are adsorbed on to BOS 200® particles made up of:

- Electron Acceptors: oxygen, nitrate, ammonia, and sulfate (primary)
- Nutrients: phosphorus and nitrogen
- Aerobic and anaerobic blend of facultative microbes (over 35 species)

There is a lower limit of the amount of BOS 200® that can be installed and still be effective at a site. This amount is driven by several site features such as soil type, groundwater flux, and contaminant concentrations. The success in achieving cleanup goals is not just in the product installed, but the distribution

[1] The *Interstate Technology Regulatory Council* (ITRC) defines "C_{sat}" is a *theoretical* value, above which LNAPL is likely to exist in the soil pores.

of the product in subsurface. Distribution is controlled by the injection techniques used: i.e., vertical and horizontal spacing are a function of soil type, high pressure injection vs. low pressure injection, and top down vs. bottom up. For this site, given the soil type and contaminant mass, AST proposes to optimize the injectate distribution by 1) using top-down techniques, 2) using relatively high-pressure injections (enough pressure to provide localized soil lifting and propagation of BOS 200® from the injection tip), and 3) adjusting the horizontal and vertical injection spacing.

Given the soil types at this site, it is expected that the injection pressures will vary from 200 to 600 psig (measured at the discharge of the injection pump, the injection system pressure losses are approximately 100 psig for hoses, valves, and injection tips). In fine-grained sediments (clays and silts) there is typically a break pressure (soil lifting pressure) that is sustained momentarily and then the pressure drops off to a lower reading (propagation pressure). Coarse-grained sediments (sands and fine gravels) typically display a steady progression of pressure as the lithology near the injection tip is fluidized and turbulent flow is created. The discussion of the vertical and horizontal injection spacing is provided below for the injection area.

The unique properties of BOS 200® and the method of implementation provide a safe and predictable alternative to competing technologies used in the industry today. Installation of BOS 200® provides immediate removal of contaminant mass in groundwater while providing long term protection through continued adsorption and biodegradation, rebound effects are typically eliminated through successful dosing and installation. This is achieved without hazardous byproducts, radical subsurface chemistry changes, or volatilization, nor is there a need to overcome natural background constituents or properties prior to treating contaminant mass. Existing compliance points can be preserved during and after injection; if BOS 200® enters a monitoring well, redevelopment using a downhole pump to remove the accumulated solids can return the monitoring well to pre-injection conditions.

Daylighting (surfacing of injected material) is common at most injection sites due to any number of factors including (but not limited to): previous investigative and/or corrective action activities, current weather conditions (dry spell causing surface desiccation, wet period with elevated GW table, etc.), anthropogenic disturbances (buried utilities, constructed structures like building footers, basements, UST systems and piping, etc.), poor surface condition (deteriorated asphalt, cracks in concrete), and natural features like plants/trees and associated root systems. While minor in most cases, daylighting requires recognition, immediate action, and proper housekeeping as its occurrence can indicate some potential hazards or concerns during injection. These could include impacting utility corridors, injectate entering basements, and negative perception of an uninformed bystander.

To mitigate daylighting and its perceived hazards and/or concerns, detailed pressure logs and continuous monitoring of the immediate surroundings by field personnel is maintained throughout the injection project. Pressure logs maintained during injection are especially important as they can shed light on the type of soil where injection is being completed and whether injectate is simply bypassing to a previous depth or other preferential path. During injections, the operator of the injection system will monitor for sudden pressure and/or flow changes as these may indicate either fracture propagation or short-circuiting.

The methodology and approach for in-situ injection implemented by AST is designed for both the success in optimizing subsurface distribution of remedial treatment but also in minimizing daylighting and preventing impacts to buried utilities and/or structures. Daylighting and short-circuiting wastes product, if the product is not being installed correctly it cannot effectively remediate contaminants of concern. Injection grids are tightly spaced horizontally to provide adequate subsurface coverage and contaminant contact, but also minimize daylighting and frequency of contact with adjacent features of concern. Injection point locations can be adjusted for requested/required setback buffers from utilities, UST systems, structures, and

monitoring wells. Vertical distances between injection intervals are spaced in such a manner as to maintain borehole seal and prevent daylighting back up around the rod itself.

Injection points within the grid are completed at alternating vertical intervals (compared to the closest adjacent points) to provide both overlap and separation off-sets, but they are also completed in a staggered sequence of every other point in a row and skipping a row as work progresses. This process is used to minimize hydraulic loading and allowing enough time to discharge accumulated subsurface pressure in an area from hydraulic injection of fluids. Finally, allowing injection point back-pressure to stabilize before tooling removal and proper abandonment of completed injection points following tooling removal prevents daylighting once the "cork is removed from the bottle" and short-circuiting to adjacent injection points during subsequent borehole completion.

The horizontal extent of the proposed injection area is depicted on the attached Figure 13, the BOS 200+® injection design (see Attachment C) has been prepared for each area using the following approach:

1. Current laboratory analytical data from the RDC soil sampling was used to determine the vertical and horizontal extent of petroleum hydrocarbons impacts in each area.

2. Using the data for each area, contaminant mass loading on a unit basis (lbs. TVPH or benzene per ft^3 of impacted media) was determined. The analytical data in the historical tables combined with horizontal and vertical dimensions between monitoring wells were used to develop contaminant mass loadings (lbs. TVPH or benzene per ft^3 of impacted media) for each of the designated areas.

3. The contaminant mass loadings were then used to determine the BOS 200+® loadings (lbs. BOS 200+® installed per ft^3 of impacted media) necessary to remediate a specific depth interval within a designated injection area.

The BOS 200+® slurries will be prepared using AST's trailer mounted mixing and injection system. AST utilizes a top-down injection technique to ensure effective distribution within the subsurface during in-situ injection. Injection is performed using one or two Wanner Engineering Hydracell D35 positive displacement diaphragm pumps capable of 35 to 70 gallons per minute (gpm) and up to 1,200 psig. The pumps are typically set at the upper threshold flow rate of 35 gpm (single pump) to 70 gpm (two pumps in parallel) to maximize fluid velocity at the injection tip during BOS 200® installation. This is critical to ensuring effective distribution of suspended slurries in fine-grained low permeability sediments. One and half inch (1.5") or two and a quarter inch (2.25") diameter Geoprobe® rods are advanced to the target intervals using direct-push from a Geoprobe® 7822DT, BOS 200® slurries are delivered through a 1.5" or 2.25" Geoprobe® injection tip with custom-oriented ports with number and port diameter on the horizontal plane specific to the site-specific geology of the facility.

AST will provide an injection summary table which details the metrics of the injection event, these details include:

1. The injection point location
2. The time each injection occurred
3. The pressure metrics used to support induced fracture emplacement has occurred
4. The pounds of BOS 200® and supplements injected at each interval, total amount per day, and total for the project
5. The vertical interval of each injection in feet below ground surface (bgs)
6. Any comments or observations by staff while performing the remedial injections

It is important to note that the "Injection Pressure" column recorded in this summary table represents the sum of the internal system pressure plus formational pressure. The internal system pressure includes all losses due to fittings, hoses, valves, and drill tooling. A close approximation of the actual pressure seen at the injection tip outlet can be found by subtracting the system losses from the recorded value observed at the discharge end of the pump. For the components used during an injection event, the system losses are approximately 100-600 psi. This calculation is included under a separate column titled "Formation Pressure".

POST INJECTION SAMPLING

After the injections are completed, AST recommends performing progress groundwater sampling events at intervals of one-month post-injection and quarterly thereafter. The groundwater-monitoring events should include VOCs using EPA Method 8260b, Anions using EPA Method 300.1 Ion Chromatography, and Dissolved Gases using RSK 175; these analyses will be performed at Remediation Products Incorporated's (RPI) Project Support Laboratory in Golden, CO. Analyses performed by RPI are at no cost to the project.

DATA ANALYSIS AND REPORTING

Once the injection work is complete, AST will prepare and submit a letter report summarizing the field activities to include: a chronology of events at the site, a figure depicting sampling and injection point locations, a data table summarizing the details of the injection event (point location ID, time, pressures, depths, mass injected in pounds, and any comments), photographs of the injection activities, soil and groundwater data generated, amount of BOS 200+® injected, field observations, and recommendations for future effort.

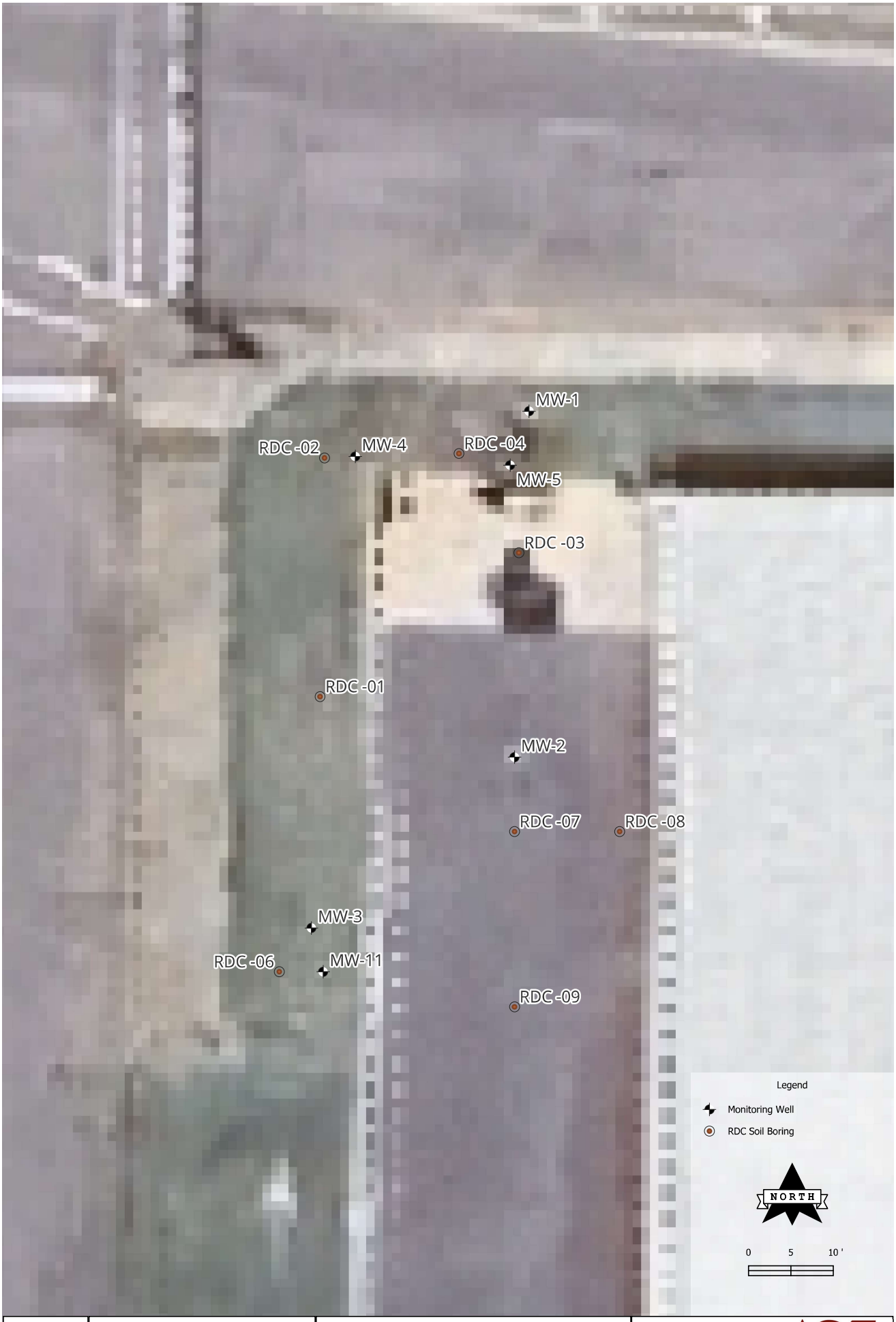
If you have any questions or wish to discuss the information provided herein, please feel free to call me at (859) 846-4900 or write via email at bbrab@astenv.com.

Sincerely,

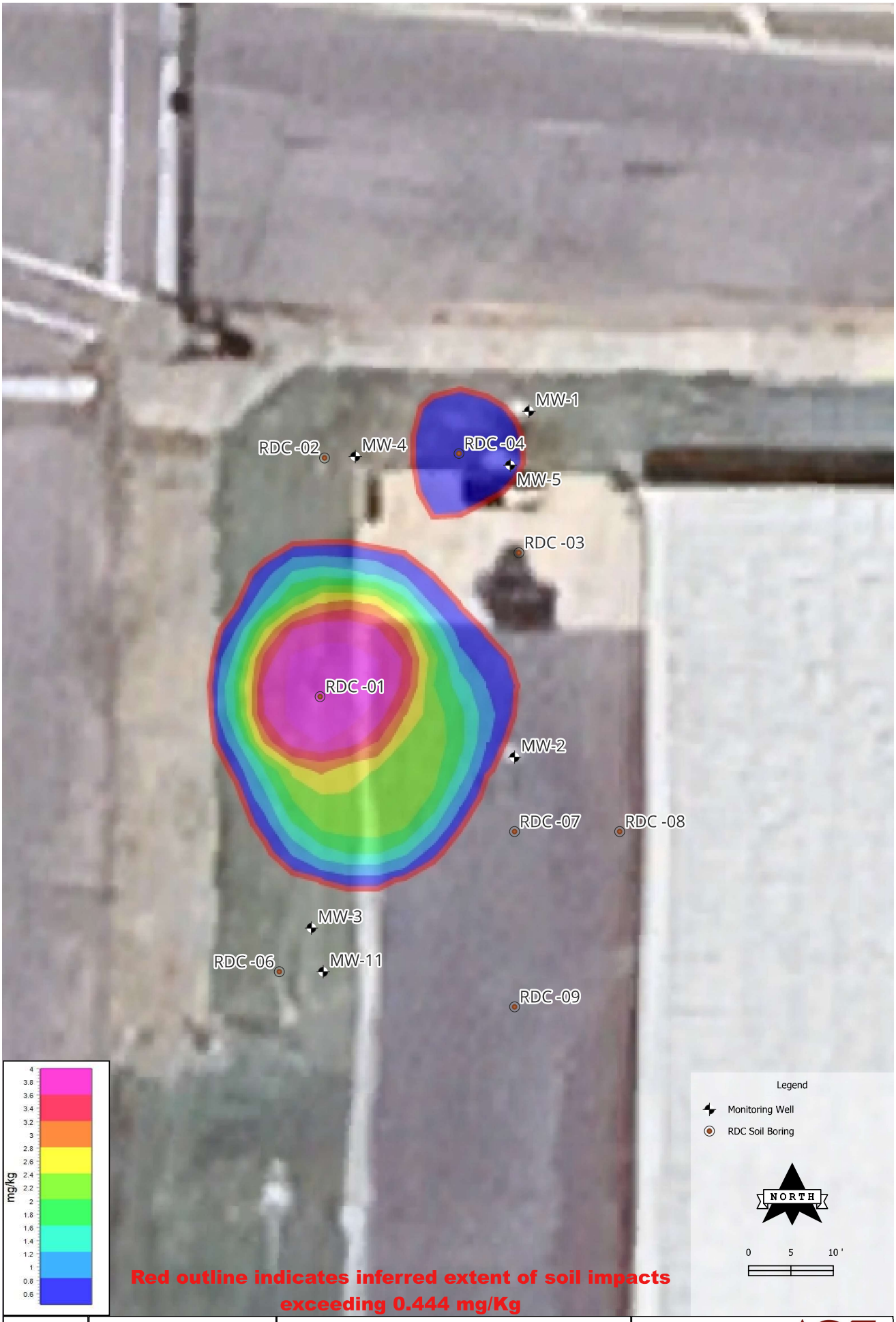
AST Environmental, Inc.

Bill Brab, C.P.G., P.G.
Senior Project Manager

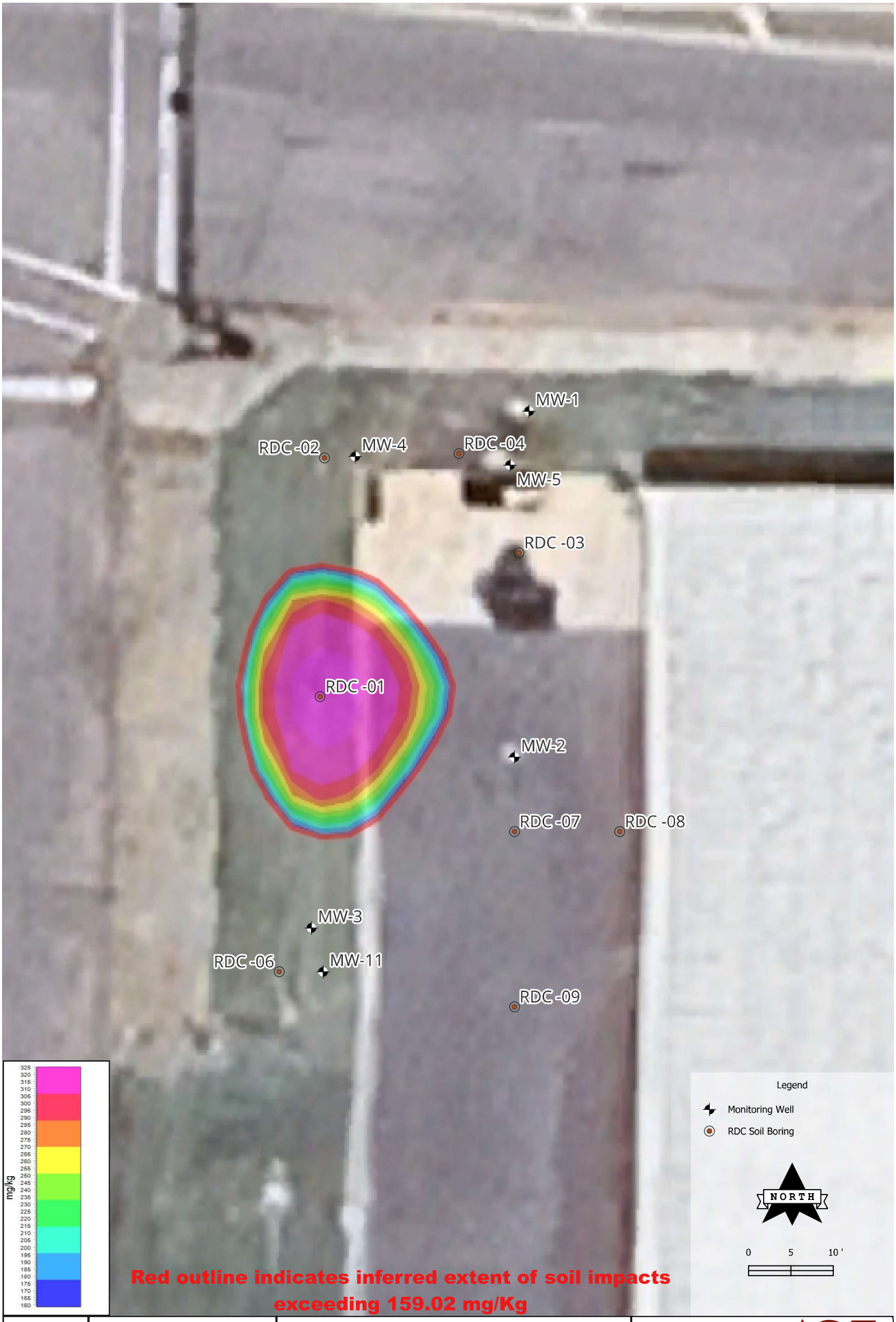
FIGURES



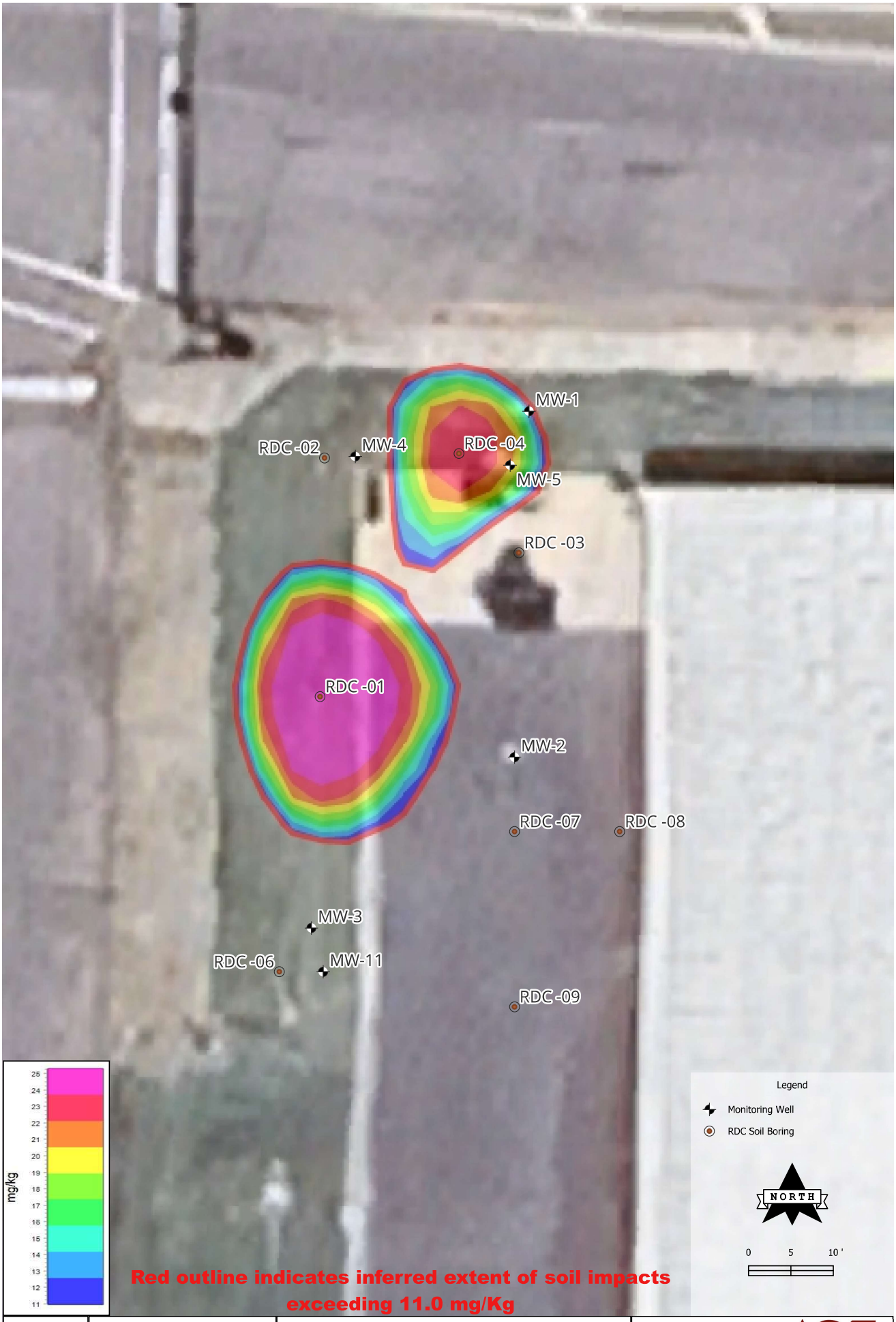
1 Figure	Former Gasoline Service Station 400 East 2nd Street Sheffield, Alabama	**Site Plan**	**AST Environmental** 665 McKinney Ave Midway, Kentucky www.astenv.com



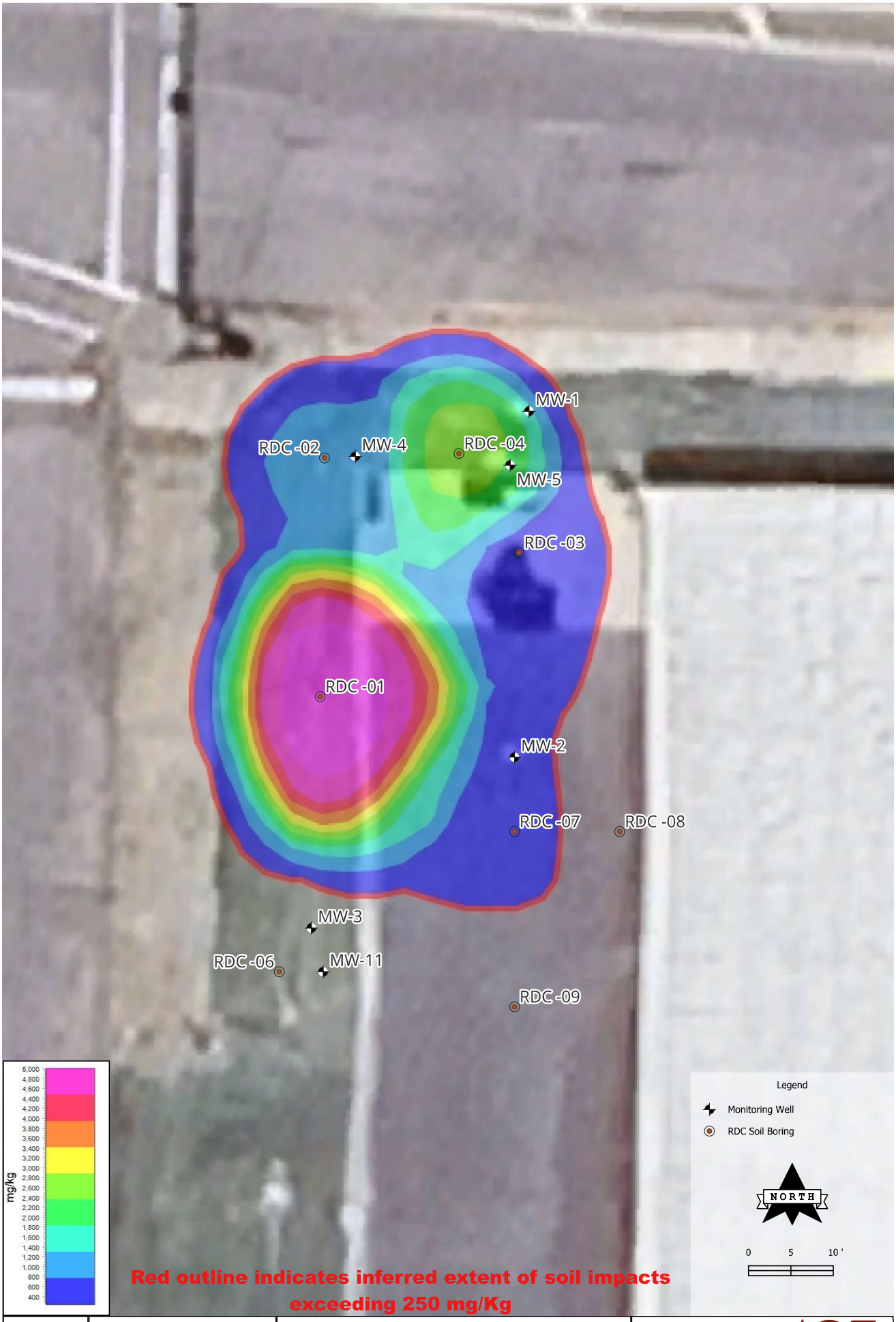
2 Figure	Former Gasoline Service Station 400 East 2nd Street Sheffield, Alabama	**Benzene Isoconcentrations in Soil** **Inferred from RDC samples collected November 2024**	**AST Environmental** 665 McKinney Ave Midway, Kentucky www.astenv.com AST ENVIRONMENTAL, INC.



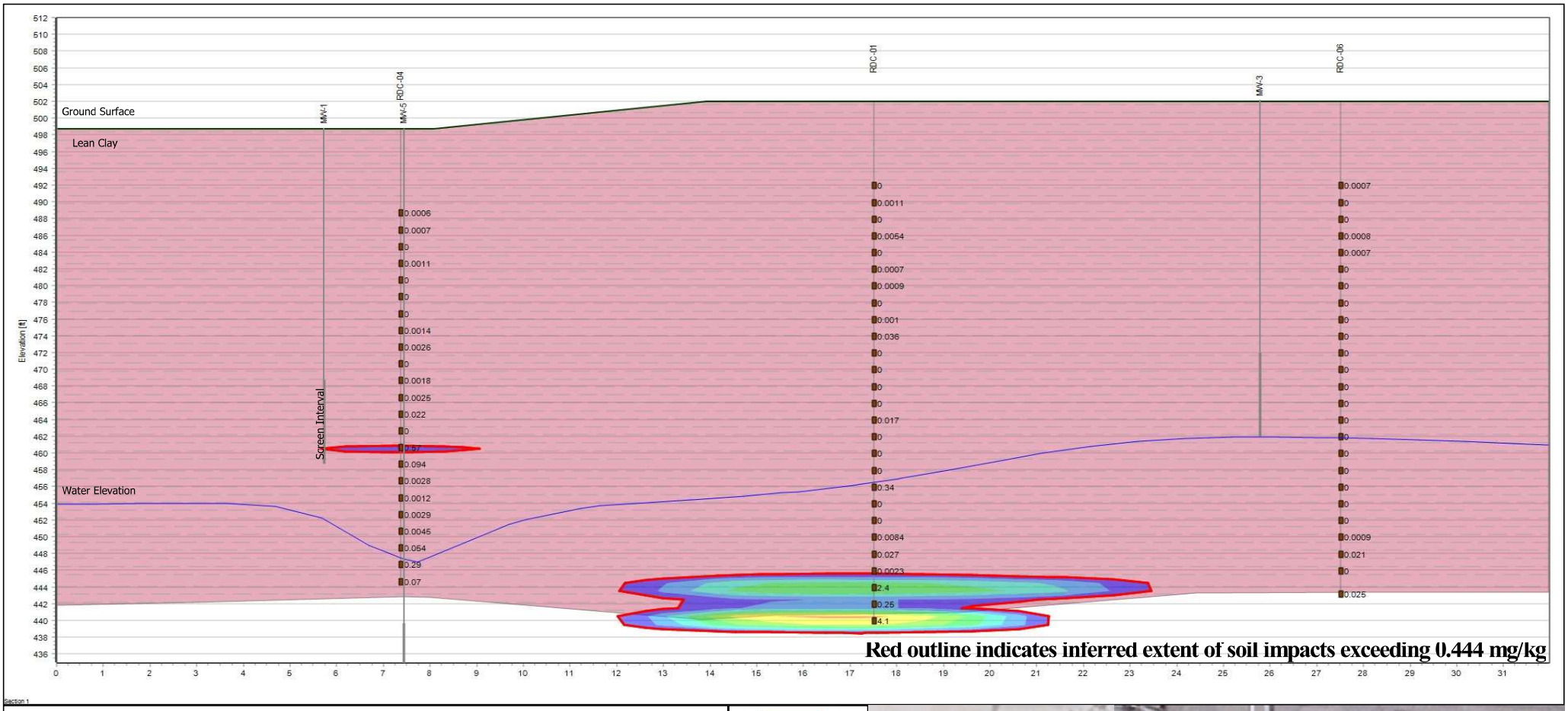
3 Figure	Former Gasoline Service Station 400 East 2nd Street Sheffield, Alabama	**Total Xylene Isoconcentrations in Soil** **Inferred from RDC samples collected November 2024**	**AST Environmental** 665 McKinney Ave Midway, Kentucky www.astenv.com



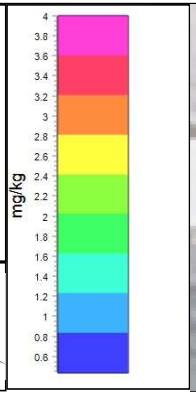
4 Figure	Former Gasoline Service Station 400 East 2nd Street Sheffield, Alabama	**Naphthalene Isoconcentrations in Soil** **Inferred from RDC samples collected November 2024**	**AST Environmental** 665 McKinney Ave Midway, Kentucky www.astenv.com



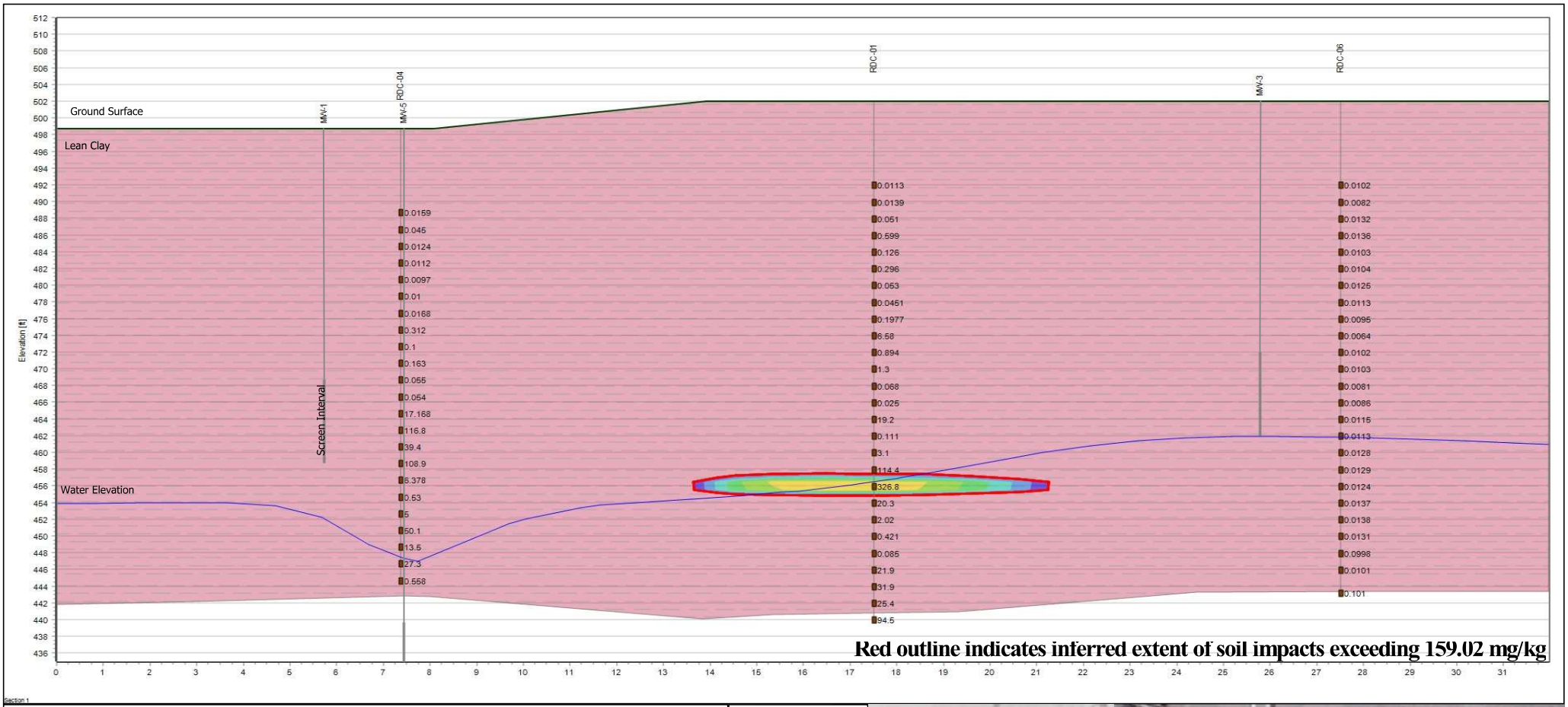
5 Figure	Former Gasoline Service Station 400 East 2nd Street Sheffield, Alabama	**TVPH Isoconcentrations in Soil** **Inferred from RDC samples collected November 2024**	**AST Environmental** 665 McKinney Ave Midway, Kentucky www.astenv.com



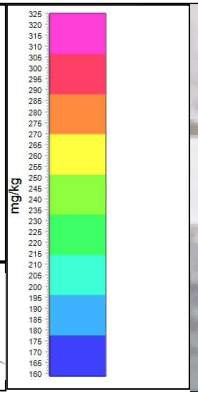
Fence Line A-A'
Soil Benzene Isoconcentrations
Based on samples collected during the November 2024 RDC event

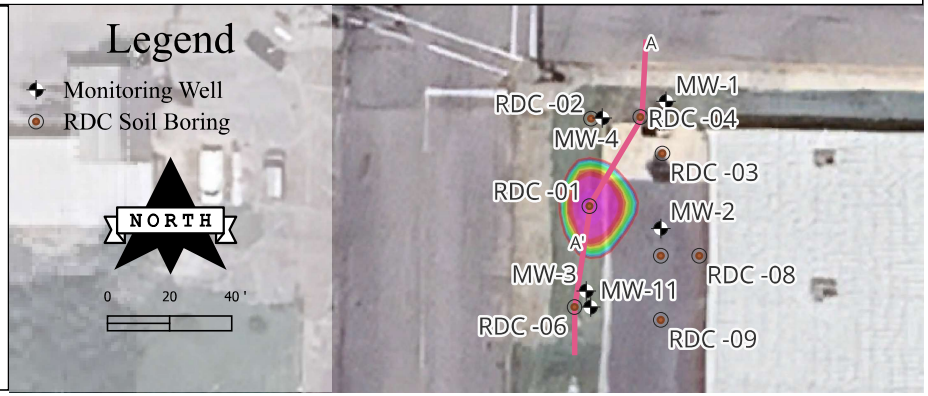


6 Figure	**Former Gasoline Service Station** **400 East 2nd Street** **Sheffield, Alabama**	AST Environmental 665 McKinney Ave Midway, Kentucky www.astenv.com

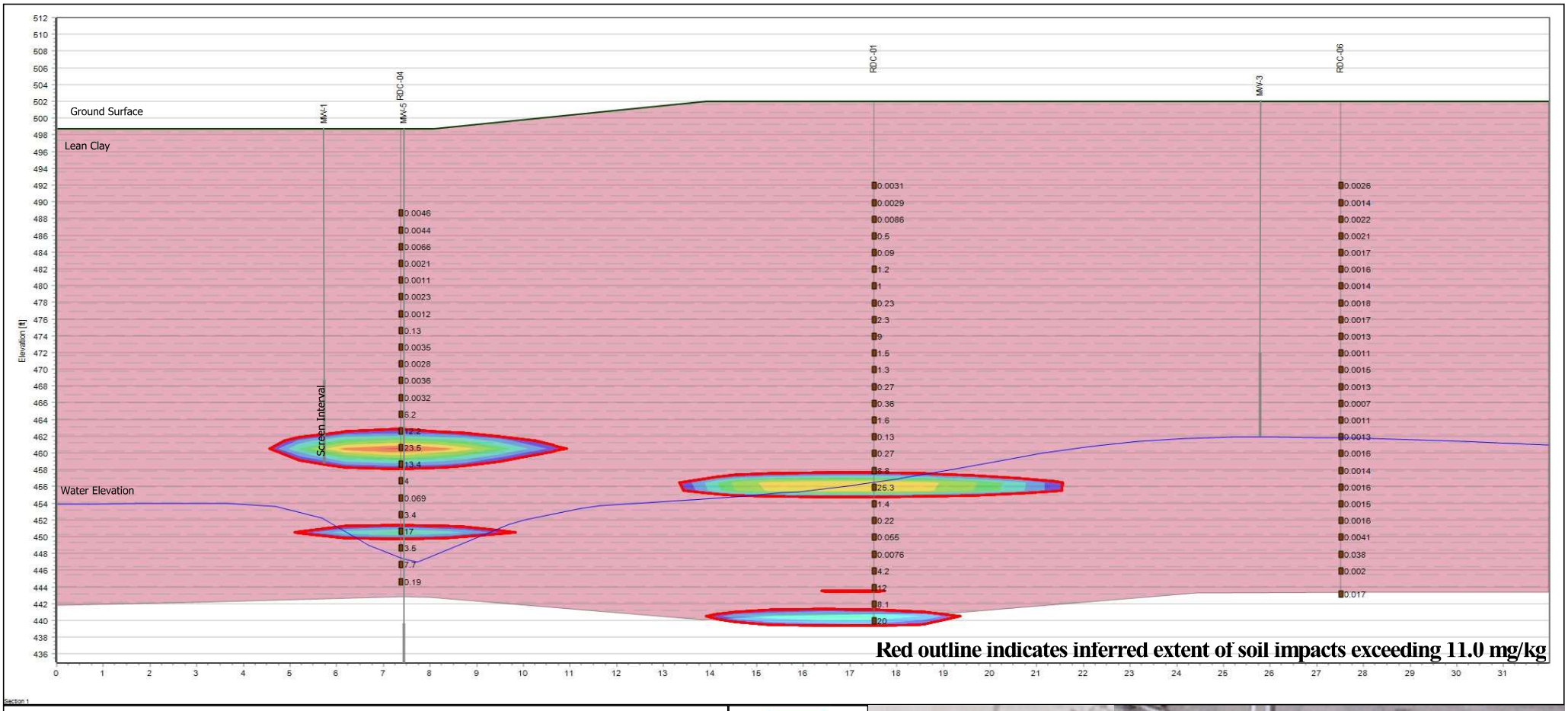


Fence Line A-A'
Soil Total Xylene Isoconcentrations
Based on samples collected during the November 2024 RDC event





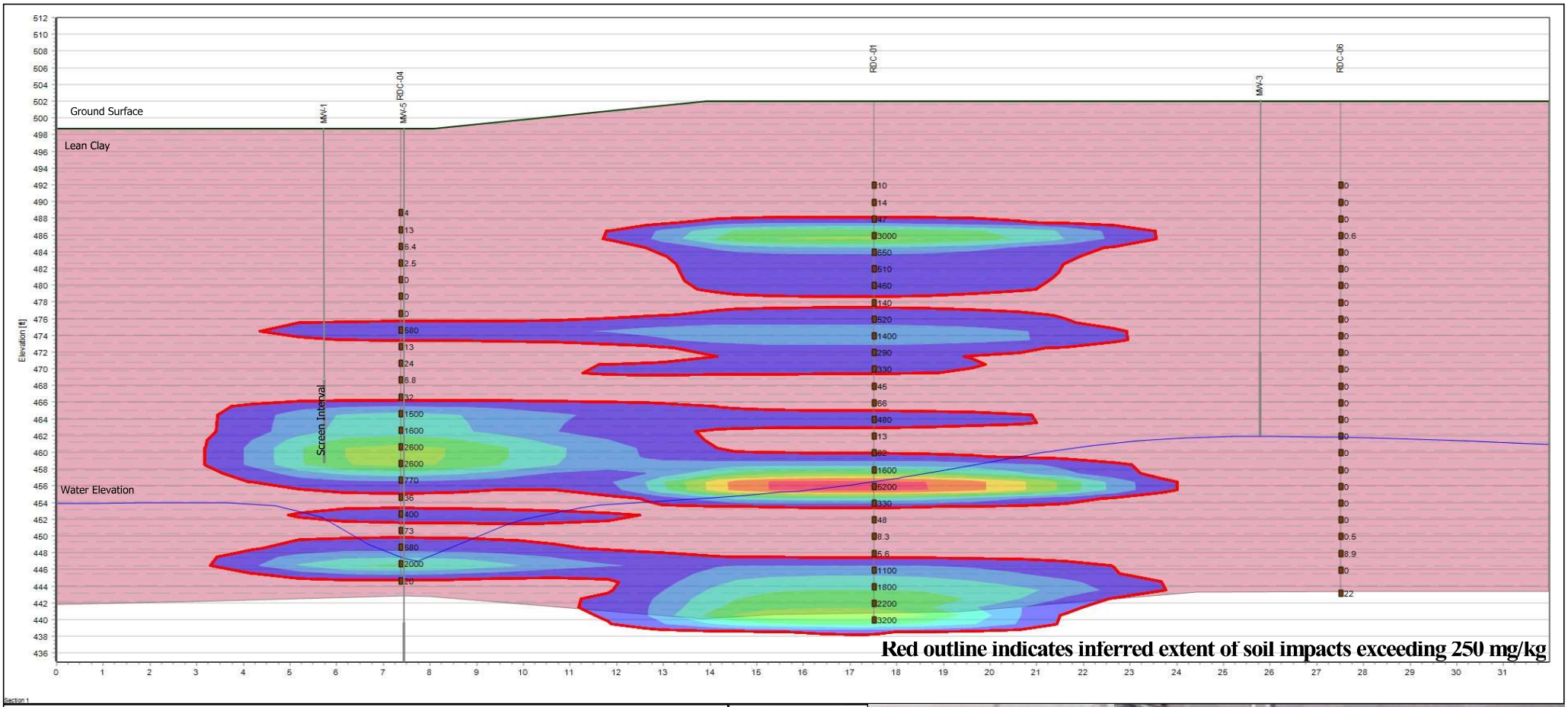
7 Figure	Former Gasoline Service Station 400 East 2nd Street Sheffield, Alabama	AST Environmental 665 McKinney Ave Midway, Kentucky www.astenv.com



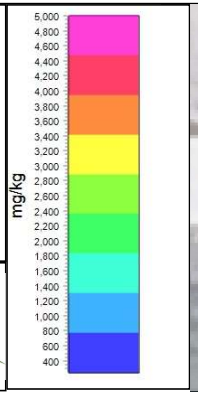
Fence Line A-A'
Soil Naphthalene Isoconcentrations
Based on samples collected during the November 2024 RDC event

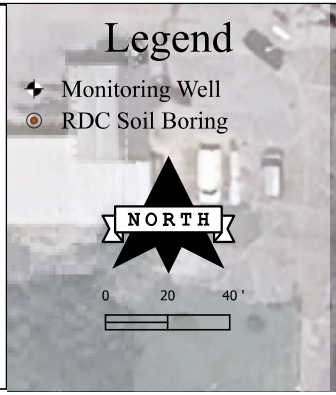
mg/kg

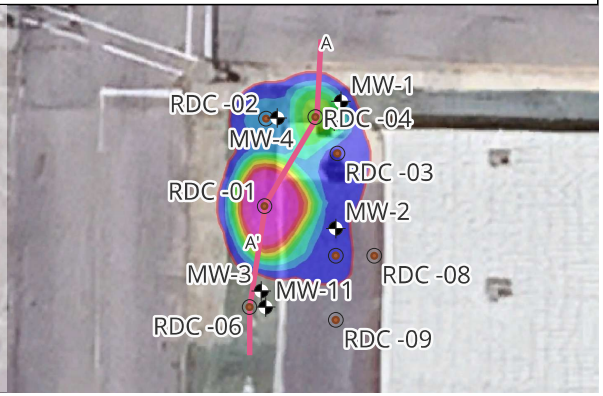
8 Figure	**Former Gasoline Service Station** **400 East 2nd Street** **Sheffield, Alabama**	AST Environmental 665 McKinney Ave Midway, Kentucky www.astenv.com



Fence Line A-A'
Soil TVPH Isoconcentrations
Based on samples collected during the November 2024 RDC event

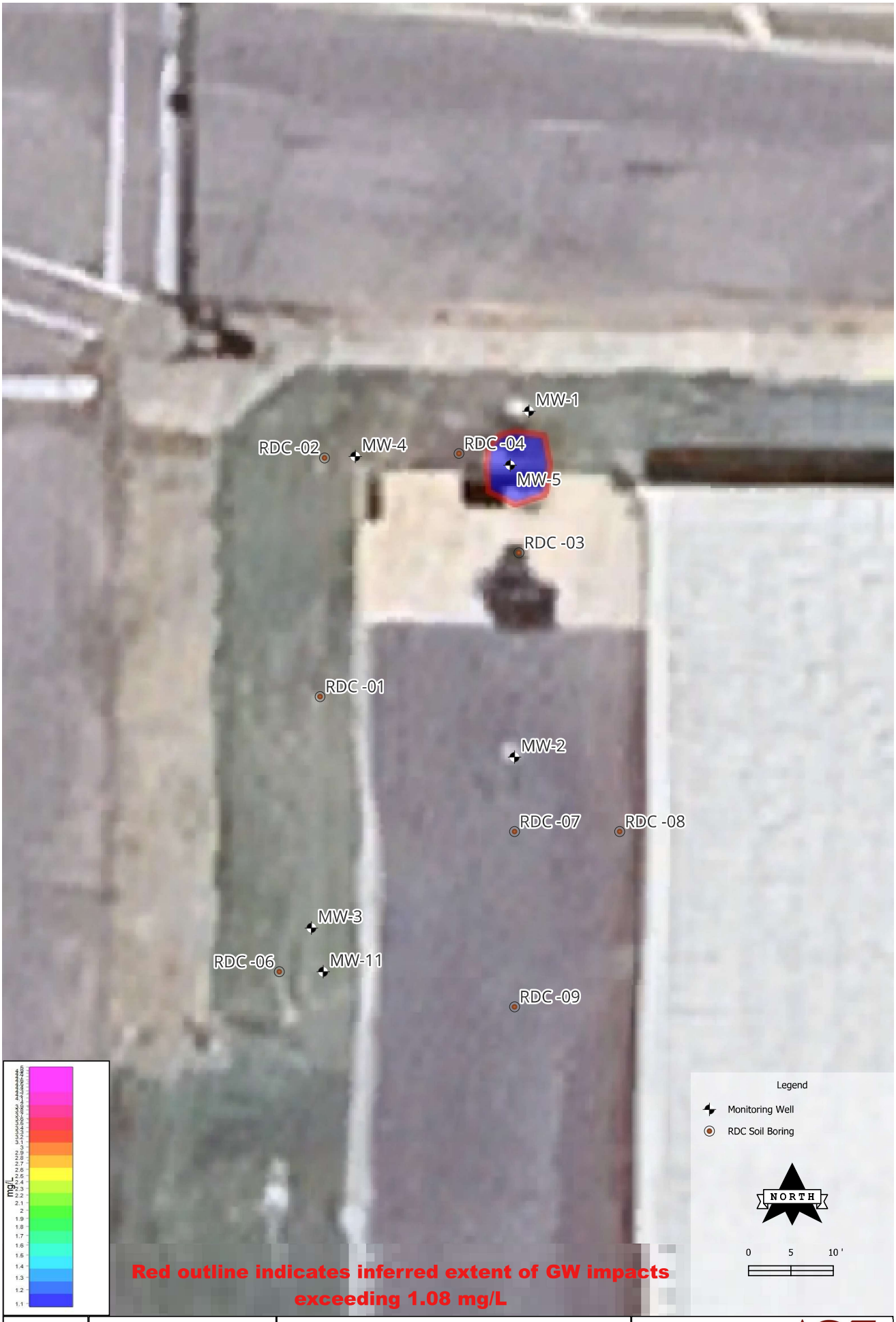




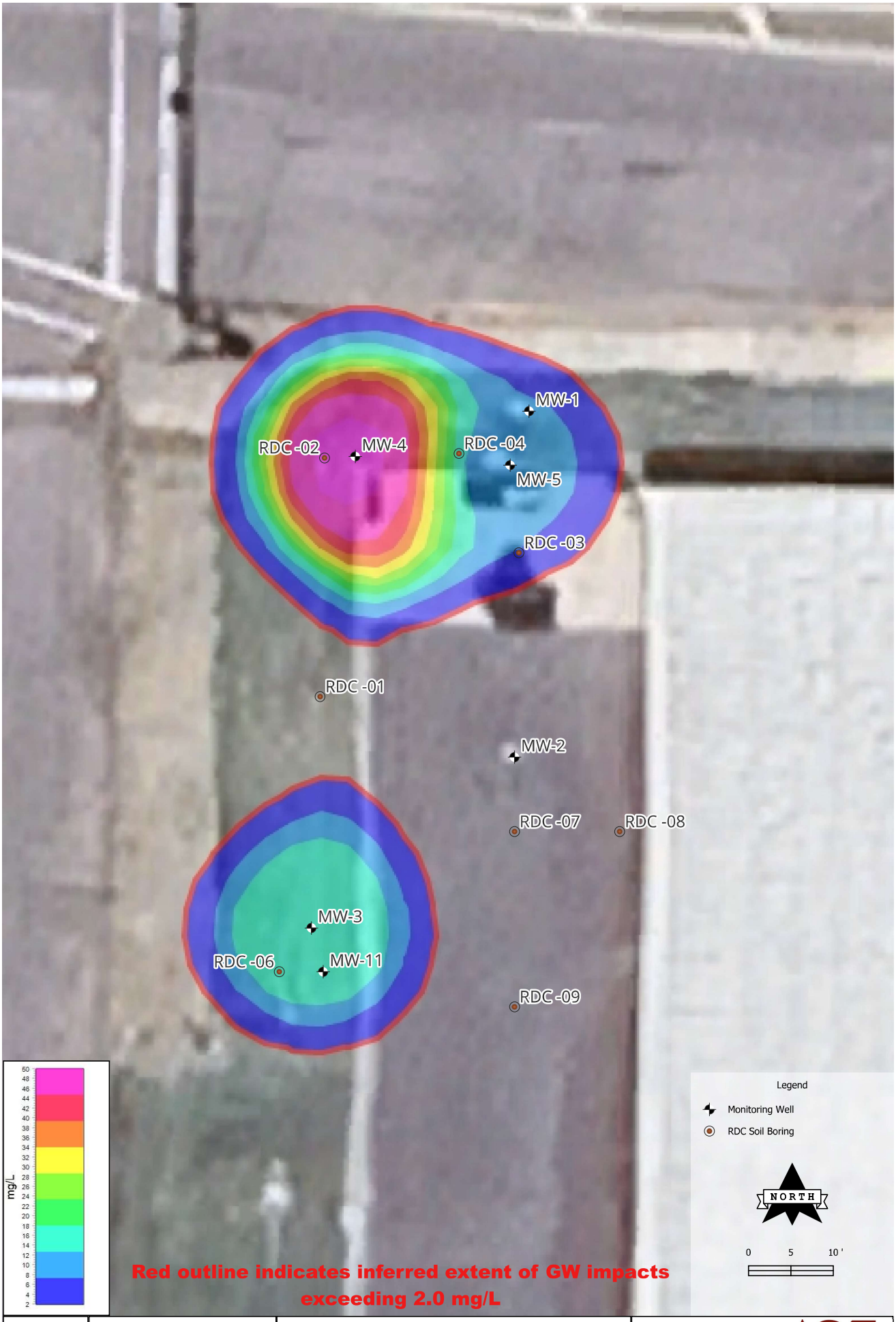


9 Figure	**Former Gasoline Service Station** **400 East 2nd Street** **Sheffield, Alabama**	AST Environmental 665 McKinney Ave Midway, Kentucky www.astenv.com

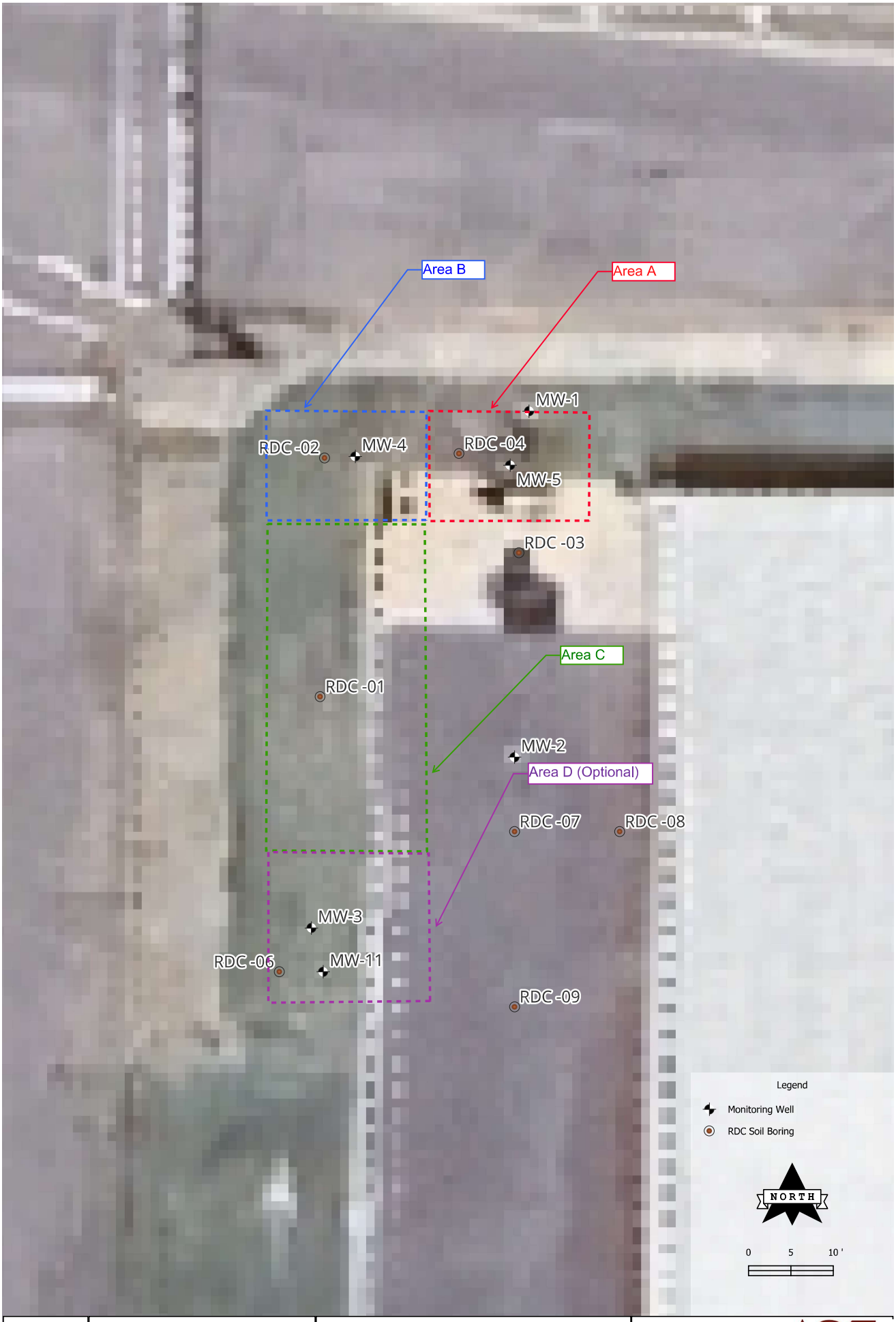
10 Figure	Former Gasoline Service Station 400 East 2nd Street Sheffield, Alabama	**Groundwater Surface Elevation Contour Map** **November 11, 2024 Gauging Data**	**AST Environmental** 665 McKinney Ave Midway, Kentucky www.astenv.com



11 Figure	Former Gasoline Service Station 400 East 2nd Street Sheffield, Alabama	**Benzene Isoconcentrations in Groundwater** **Inferred from RDC samples collected November 2024**	**AST Environmental** 665 McKinney Ave Midway, Kentucky www.astenv.com



12 Figure	Former Gasoline Service Station 400 East 2nd Street Sheffield, Alabama	**TVPH Isoconcentrations in Groundwater** **Inferred from RDC samples collected November 2024**	**AST Environmental** 665 McKinney Ave Midway, Kentucky www.astenv.com AST ENVIRONMENTAL, INC.



13 Figure	Former Gasoline Service Station 400 East 2nd Street Sheffield, Alabama	**Injection Area Map**	**AST Environmenta** 665 McKinney Ave Midway, Kentucky www.astenv.com

TABLES

Table 0

Applicable Clean-up Levels for Chemicals of Concern (COC)

Facility Name: Former Gas Sheffield, AL **Facility ID #: 11732-033-004341**

Chemical of concern[1]	Site-Specific Soil Clean-Up Level (SSCL) 3-Phase Partitioning (ppm)	Maximum soil concentration from last comprehensive monitoring event (ppm)[2]	Applicable Groundwater Resource Target Protection Level (ppm)	Maximum ground water concentration from last comprehensive monitoring event (ppm)[2]
Benzene	**0.444**	4.1	**1.08**	1.1
Toluene	**175.6**	3	**215**	0.019
Ethylbenzene	**104.9**	81.1	**151**	0.96
Total Xylenes	**159.02**	326.8	**175**	0.9
MtBE	**1.3**	0.016	**4.3**	0.23
Naphthalene	**11**	25.3	**4.3**	0.25

Table 1
Soil Analytical Results

Facility Name: Former Gas Sheffield, AL **Facility ID #: 11732-033-004341**

Sample location	Sample date	Sample depth (ft)	Chemical of concern (mg/Kg)									
			Dimethyl Sulfide	MTBE	1,2-Dichloroethane	Benzene	Toluene	Ethylbenzene	Total Xylene	1,2,4-Trimethylbenzene	Naphthalene	TVPH
SSCL			**n/a**	**1.3**	**n/a**	**0.4**	**175.6**	**105**	**159.0**	**n/a**	**11**	**n/a**
RDC-01	11/12/2024	10	<0.0005	0.0009	<0.0005	<0.0005	0.0023	0.0025	0.0113	0.013	0.0031	10
RDC-01	11/12/2024	12	<0.0005	0.0007	<0.0005	0.0011	0.002	0.0027	0.0139	0.017	0.0029	14
RDC-01	11/12/2024	14	<0.0005	0.0014	<0.0005	<0.0005	0.0059	0.0094	0.051	0.077	0.0086	47
RDC-01	11/12/2024	16	<0.0005	<0.0005	<0.0005	0.0054	0.04	0.23	0.599	0.44	0.5	3000
RDC-01	11/12/2024	18	<0.01	<0.01	<0.01	<0.01	0.023	0.14	0.126	0.081	0.09	650
RDC-01	11/12/2024	20	<0.0005	<0.0005	<0.0005	0.0007	0.0098	0.42	0.296	3.5	1.2	510
RDC-01	11/12/2024	22	<0.0005	<0.0005	<0.0005	0.0009	0.0081	0.43	0.053	0.18	1	460
RDC-01	11/12/2024	24	<0.01	<0.01	<0.01	<0.01	<0.01	0.044	0.0451	0.15	0.23	140
RDC-01	11/13/2024	26	<0.0005	<0.0005	<0.0005	0.001	0.0062	1.9	0.1977	2.4	2.3	520
RDC-01	11/13/2024	28	<0.01	<0.01	<0.01	0.036	0.19	14.3	6.58	22.7	9	1400
RDC-01	11/13/2024	30	<0.0005	<0.0005	<0.0005	<0.0005	0.0062	0.28	0.894	8.9	1.5	290
RDC-01	11/13/2024	32	<0.0005	<0.0005	0.004	<0.0005	0.007	0.66	1.3	8.1	1.3	330
RDC-01	11/13/2024	34	<0.0005	<0.0005	<0.0005	<0.0005	0.0042	0.033	0.068	1.1	0.27	45
RDC-01	11/13/2024	36	<0.0005	<0.0005	<0.0005	<0.0005	0.0065	<0.01	0.025	0.42	0.36	66
RDC-01	11/13/2024	38	<0.0005	<0.0005	<0.0005	0.017	0.016	4	19.2	16.8	1.6	480
RDC-01	11/13/2024	40	<0.0005	0.0016	<0.0005	<0.0005	0.0029	0.022	0.111	0.4	0.13	13
RDC-01	11/13/2024	42	<0.01	<0.01	<0.01	<0.01	0.018	0.72	3.1	2.4	0.27	82
RDC-01	11/13/2024	44	<0.05	<0.05	<0.05	<0.05	0.41	30.8	114.4	71.5	8.8	1600
RDC-01	11/13/2024	46	<0.05	<0.05	<0.05	0.34	2.5	81.1	**326.8**	235	**25.3**	5200
RDC-01	11/13/2024	48	<0.05	<0.05	<0.05	<0.05	0.11	4.5	20.3	14.7	**1.4**	330
RDC-01	11/13/2024	50	<0.05	<0.05	<0.05	<0.05	<0.05	0.51	2.02	2.2	0.22	48
RDC-01	11/13/2024	52	<0.0005	0.0015	<0.0005	0.0084	0.0045	0.14	0.421	0.4	0.055	8.3
RDC-01	11/13/2024	54	<0.0005	0.002	<0.0005	0.027	0.0024	0.031	0.085	0.047	0.0076	5.6
RDC-01	11/13/2024	56	<0.0005	<0.0005	<0.0005	0.0023	0.046	5.2	21.9	36.3	4.2	1100
RDC-01	11/13/2024	58	<0.05	<0.05	<0.05	**2.4**	0.66	28.8	31.9	55.3	**12**	1800
RDC-01	11/13/2024	60	<0.0005	<0.0005	<0.0005	0.25	0.11	13.7	25.4	40	8.1	2200
RDC-01	11/13/2024	62	<0.05	<0.05	<0.05	**4.1**	1.4	51.7	94.5	82.4	**20**	3200
RDC-02	11/11/2024	10	<0.0005	0.0008	<0.0005	0.0008	0.0009	0.0058	0.0213	0.031	0.02	0.6
RDC-02	11/11/2024	12	<0.0005	0.0011	<0.0005	0.0008	0.0013	0.0034	0.0118	0.011	0.0072	<0.5
RDC-02	11/11/2024	14	<0.0005	0.0013	<0.0005	0.0009	0.0017	0.0041	0.0131	0.013	0.0054	<0.5
RDC-02	11/11/2024	16	<0.0005	0.0008	<0.0005	0.0012	0.0017	0.0044	0.0161	0.019	0.0061	5.9
RDC-02	11/11/2024	18	<0.0005	0.0009	<0.0005	0.0011	0.0032	0.0081	0.0347	0.019	0.0088	38
RDC-02	11/11/2024	20	<0.0005	0.0006	<0.0005	0.0009	0.0021	0.0047	0.0232	0.014	0.0048	35
RDC-02	11/11/2024	22	<0.0005	0.0005	<0.0005	<0.0005	0.0015	0.0032	0.0159	0.017	0.0031	13
RDC-02	11/11/2024	24	<0.05	<0.05	<0.05	<0.05	<0.05	0.52	1.1	2.5	1.2	870
RDC-02	11/13/2024	26	<0.0005	0.0007	<0.0005	0.0006	0.0015	0.0021	0.0199	0.015	0.0028	26
RDC-02	11/13/2024	28	<0.0005	<0.0005	<0.0005	<0.0005	0.0039	0.0091	0.0473	0.035	0.0039	240
RDC-02	11/13/2024	30	<0.0005	<0.0005	<0.0005	<0.0005	0.0079	0.19	0.095	0.7	0.049	320
RDC-02	11/13/2024	32	<0.0005	<0.0005	<0.0005	0.001	0.0027	0.013	0.0468	0.085	0.0066	130
RDC-02	11/13/2024	34	<0.01	<0.01	<0.01	<0.01	0.1	0.82	0.459	6.1	0.56	510
RDC-02	11/13/2024	36	<0.0005	0.0014	<0.0005	<0.0005	0.0033	0.006	0.0291	0.038	0.012	15
RDC-02	11/13/2024	38	<0.0005	<0.0005	<0.0005	<0.0005	0.0079	0.17	0.15	1	0.19	120
RDC-02	11/13/2024	40	<0.0005	<0.0005	<0.0005	<0.0005	0.0082	0.06	0.089	0.97	0.097	31
RDC-02	11/13/2024	42	<0.0005	0.0015	<0.0005	<0.0005	0.0037	0.0054	0.0242	0.047	0.016	4.8
RDC-02	11/13/2024	44	<0.0005	0.0014	<0.0005	0.0006	0.0027	0.0048	0.0144	0.024	0.011	<0.5
RDC-02	11/13/2024	46	<0.0005	0.0014	<0.0005	<0.0005	0.0012	0.0017	0.0067	0.0087	0.0025	9.6
RDC-02	11/13/2024	48	<0.0005	0.0022	<0.0005	0.0037	0.0032	0.06	0.0708	0.21	0.041	13
RDC-02	11/13/2024	50	<0.0005	0.0043	<0.0005	0.016	0.0063	0.023	0.1299	0.28	0.0088	41
RDC-02	11/13/2024	52	<0.0005	0.0016	<0.0005	<0.0005	0.0027	0.0014	0.0255	0.07	0.035	36
RDC-02	11/13/2024	54	<0.0005	0.0021	<0.0005	0.0011	0.0049	0.029	0.117	0.19	0.02	15
RDC-02	11/13/2024	56	<0.0005	0.002	<0.0005	0.0024	0.0027	0.0063	0.1388	0.2	0.0043	40
RDC-02	11/13/2024	58	<0.0005	0.0025	<0.0005	0.019	0.0071	0.01	0.07	0.035	0.0087	27

Table 1
Soil Analytical Results

Facility Name: Former Gas Sheffield, AL **Facility ID #: 11732-033-004341**

Sample location	Sample date	Sample depth (ft)	Chemical of concern (mg/Kg)									
			Dimethyl Sulfide	MTBE	1,2-Dichloroethane	Benzene	Toluene	Ethylbenzene	Total Xylene	1,2,4-Trimethylbenzene	Naphthalene	TVPH
SSCL			**n/a**	**1.3**	**n/a**	**0.4**	**175.6**	**105**	**159.0**	**n/a**	**11**	**n/a**
RDC-03	11/12/2024	10	<0.0005	0.0009	<0.0005	<0.0005	0.0016	0.0019	0.0072	0.0056	0.0018	<0.5
RDC-03	11/12/2024	12	<0.0005	0.001	<0.0005	<0.0005	0.0016	0.0017	0.0097	0.0099	0.001	<0.5
RDC-03	11/12/2024	14	<0.0005	0.0014	<0.0005	<0.0005	0.0019	0.0021	0.0099	0.0099	0.0009	<0.5
RDC-03	11/12/2024	16	<0.0005	0.0013	<0.0005	<0.0005	0.001	0.0011	0.0044	0.0036	<0.0005	<0.5
RDC-03	11/12/2024	18	<0.0005	0.0043	<0.0005	0.0008	0.0025	0.002	0.0098	0.0063	0.0012	0.6
RDC-03	11/12/2024	20	<0.0005	0.0056	<0.0005	0.001	0.0027	0.003	0.0122	0.011	0.0036	0.5
RDC-03	11/12/2024	22	<0.0005	0.004	<0.0005	0.0007	0.0017	0.0028	0.0112	0.01	0.0032	<0.5
RDC-03	11/12/2024	24	<0.0005	0.0012	<0.0005	<0.0005	0.0021	0.0019	0.0111	0.0094	<0.0005	<0.5
RDC-03	11/14/2024	30	<0.0005	<0.0005	<0.0005	<0.0005	0.005	0.56	1	1	0.08	25
RDC-03	11/14/2024	32	<0.0005	<0.0005	<0.0005	<0.0005	0.014	0.039	0.106	0.13	0.058	560
RDC-03	11/14/2024	34	<0.0005	<0.0005	<0.0005	0.0014	0.018	0.78	0.0448	0.51	0.052	34
RDC-03	11/14/2024	36	<0.0005	<0.0005	<0.0005	0.0006	0.0025	0.061	0.0133	0.36	0.0078	7.1
RDC-03	11/14/2024	38	<0.0005	<0.0005	<0.0005	<0.0005	0.0039	0.076	0.0585	1.4	0.019	20
RDC-03	11/14/2024	40	<0.0005	<0.0005	<0.0005	<0.0005	0.0019	0.0059	0.0194	0.18	0.0048	12
RDC-03	11/14/2024	42	<0.0005	<0.0005	<0.0005	0.0026	0.013	1.6	3.36	9.6	1.1	360
RDC-03	11/14/2024	44	<0.0005	<0.0005	<0.0005	<0.0005	0.002	0.099	0.207	0.49	0.052	2.7
RDC-03	11/14/2024	46	<0.0005	<0.0005	<0.0005	<0.0005	0.0029	0.042	0.097	0.51	0.046	2.9
RDC-03	11/14/2024	48	<0.0005	<0.0005	<0.0005	0.0021	0.037	0.23	0.94	0.56	0.06	6.7
RDC-03	11/14/2024	50	<0.0005	<0.0005	<0.0005	0.017	0.18	5.7	15.5	26.2	2.6	560
RDC-03	11/14/2024	52	<0.0005	<0.0005	<0.0005	<0.0005	0.0039	0.2	0.8	0.96	0.079	7.5
RDC-03	11/14/2024	54	<0.0005	0.0048	<0.0005	0.0018	0.0053	0.0095	0.049	0.22	0.053	13
RDC-03	11/14/2024	56	<0.0005	<0.0005	<0.0005	0.019	0.039	0.72	3.2	4.2	0.56	220
RDC-03	11/14/2024	58	<0.0005	0.016	<0.0005	0.34	0.0078	0.16	0.426	0.2	0.03	1.2
RDC-03	11/14/2024	60	<0.0005	<0.0005	<0.0005	0.05	0.13	0.96	4.5	5.9	0.94	190
RDC-03	11/14/2024	62	<0.0005	0.0037	<0.0005	0.0008	0.0013	0.0057	0.0252	0.017	0.0043	<0.5
RDC-03	11/14/2024	64	<0.0005	0.0051	<0.0005	0.0006	0.0019	0.0023	0.011	0.0087	0.0019	<0.5
RDC-03	11/14/2024	66	<0.0005	<0.0005	0.006	0.036	0.21	1.2	2.65	4.2	0.53	160
RDC-03	11/14/2024	67	<0.0005	0.0047	0.0018	0.0006	0.0043	0.02	0.105	0.069	0.0097	0.8
RDC-04	11/12/2024	10	<0.0005	<0.0005	<0.0005	0.0006	0.0019	0.0034	0.0159	0.024	0.0046	4
RDC-04	11/12/2024	12	<0.0005	<0.0005	<0.0005	0.0007	0.0027	0.011	0.045	0.12	0.0044	13
RDC-04	11/12/2024	14	<0.0005	<0.0005	<0.0005	<0.0005	0.0011	0.0025	0.0124	0.024	0.0066	6.4
RDC-04	11/12/2024	16	<0.0005	<0.0005	<0.0005	0.0011	0.0015	0.0021	0.0112	0.014	0.0021	2.5
RDC-04	11/12/2024	18	<0.0005	0.0016	<0.0005	<0.0005	0.0016	0.0017	0.0097	0.007	0.0011	<0.5
RDC-04	11/12/2024	20	<0.0005	0.0015	<0.0005	<0.0005	0.0012	0.0018	0.01	0.013	0.0023	<0.5
RDC-04	11/12/2024	22	<0.0005	0.002	<0.0005	<0.0005	0.0024	0.0031	0.0168	0.014	0.0012	<0.5
RDC-04	11/12/2024	24	<0.0005	<0.0005	<0.0005	0.0014	0.022	0.1	0.312	0.18	0.13	580
RDC-04	11/13/2024	26	<0.0005	<0.0005	<0.0005	0.0026	0.0022	0.026	0.1	0.038	0.0035	13
RDC-04	11/13/2024	28	<0.0005	<0.0005	<0.0005	<0.0005	0.0033	0.0063	0.163	0.074	0.0028	24
RDC-04	11/13/2024	30	<0.0005	<0.0005	<0.0005	0.0018	0.0017	0.013	0.055	0.034	0.0036	6.8
RDC-04	11/13/2024	32	<0.0005	<0.0005	<0.0005	0.0025	0.011	0.028	0.054	0.013	0.0032	32
RDC-04	11/13/2024	34	<0.0005	<0.0005	<0.0005	0.022	0.029	17.6	17.168	47.8	6.2	1500
RDC-04	11/13/2024	36	<0.05	<0.05	<0.05	<0.05	0.22	21.7	116.8	68	**12.2**	1600
RDC-04	11/13/2024	38	<0.01	<0.01	<0.01	**0.57**	0.34	10.6	39.4	87.6	**23.5**	2600
RDC-04	11/13/2024	40	<0.0005	<0.0005	<0.0005	0.094	0.062	27.3	108.9	79.4	**13.4**	2600
RDC-04	11/13/2024	42	<0.0005	<0.0005	<0.0005	0.0028	0.017	5.7	6.378	27.9	4	770
RDC-04	11/13/2024	44	<0.0005	<0.0005	<0.0005	0.0012	0.015	0.2	0.53	0.32	0.069	36
RDC-04	11/13/2024	46	<0.0005	<0.0005	<0.0005	0.0029	0.031	0.87	5	13.1	3.4	400
RDC-04	11/13/2024	48	<0.0005	<0.0005	<0.0005	0.0045	0.03	8.6	50.1	88.7	**17**	73
RDC-04	11/13/2024	50	<0.0005	<0.0005	<0.0005	0.054	0.064	3.2	13.5	17	3.5	580
RDC-04	11/13/2024	52	<0.0005	<0.0005	<0.0005	0.29	0.15	12	27.3	53.2	7.7	2000
RDC-04	11/13/2024	54	<0.0005	<0.0005	<0.0005	0.07	0.018	0.49	0.558	0.52	0.19	20

Table 1
Soil Analytical Results

Facility Name: Former Gas Sheffield, AL **Facility ID #: 11732-033-004341**

Sample location	Sample date	Sample depth (ft)	Chemical of concern (mg/Kg)									
			Dimethyl Sulfide	MTBE	1,2-Dichloroethane	Benzene	Toluene	Ethylbenzene	Total Xylene	1,2,4-Trimethylbenzene	Naphthalene	TVPH
SSCL			**n/a**	**1.3**	**n/a**	**0.4**	**175.6**	**105**	**159.0**	**n/a**	**11**	**n/a**
RDC-06	11/12/2024	10	<0.0005	0.0019	<0.0005	0.0007	0.0017	0.002	0.0102	0.013	0.0026	<0.5
RDC-06	11/12/2024	12	<0.0005	0.0011	<0.0005	<0.0005	0.0008	0.0009	0.0082	0.009	0.0014	<0.5
RDC-06	11/12/2024	14	<0.0005	0.0012	<0.0005	<0.0005	0.0013	0.0013	0.0132	0.015	0.0022	<0.5
RDC-06	11/12/2024	16	<0.0005	0.0008	<0.0005	0.0008	0.0016	0.0019	0.0136	0.021	0.0021	0.6
RDC-06	11/12/2024	18	<0.0005	0.0016	<0.0005	0.0007	0.0019	0.0022	0.0103	0.0085	0.0017	<0.5
RDC-06	11/12/2024	20	<0.0005	0.0016	<0.0005	<0.0005	0.0015	0.0013	0.0104	0.0099	0.0016	<0.5
RDC-06	11/12/2024	22	<0.0005	0.0014	<0.0005	<0.0005	0.0013	0.0014	0.0125	0.0086	0.0014	<0.5
RDC-06	11/12/2024	24	<0.0005	0.0014	<0.0005	<0.0005	0.0008	0.0009	0.0113	0.01	0.0018	<0.5
RDC-06	11/13/2024	26	<0.0005	0.0014	<0.0005	<0.0005	0.0017	0.0017	0.0095	0.0086	0.0017	<0.5
RDC-06	11/13/2024	28	<0.0005	0.0012	<0.0005	<0.0005	0.0016	0.0013	0.0064	0.0075	0.0013	<0.5
RDC-06	11/13/2024	30	<0.0005	0.0016	<0.0005	<0.0005	0.0009	0.0008	0.0102	0.01	0.0011	<0.5
RDC-06	11/13/2024	32	<0.0005	0.0016	<0.0005	<0.0005	0.0016	0.0019	0.0103	0.0077	0.0015	<0.5
RDC-06	11/13/2024	34	<0.0005	0.0018	<0.0005	<0.0005	0.0017	0.0015	0.0081	0.0083	0.0013	<0.5
RDC-06	11/13/2024	36	<0.0005	0.0006	<0.0005	<0.0005	0.0031	0.0015	0.0086	0.0062	0.0007	<0.5
RDC-06	11/13/2024	38	<0.0005	<0.0005	<0.0005	<0.0005	0.0025	0.002	0.0115	0.012	0.0011	<0.5
RDC-06	11/13/2024	40	<0.0005	0.0009	<0.0005	<0.0005	0.0033	0.0019	0.0113	0.012	0.0013	<0.5
RDC-06	11/13/2024	42	<0.0005	0.0013	<0.0005	<0.0005	0.0031	0.0024	0.0128	0.014	0.0016	<0.5
RDC-06	11/13/2024	44	<0.0005	0.0014	<0.0005	<0.0005	0.0022	0.0017	0.0129	0.013	0.0014	<0.5
RDC-06	11/13/2024	46	<0.0005	0.0013	<0.0005	<0.0005	0.003	0.002	0.0124	0.013	0.0016	<0.5
RDC-06	11/13/2024	48	<0.0005	0.0014	<0.0005	<0.0005	0.0039	0.0026	0.0137	0.014	0.0015	<0.5
RDC-06	11/13/2024	50	<0.0005	0.0015	<0.0005	<0.0005	0.0022	0.0019	0.0138	0.017	0.0016	<0.5
RDC-06	11/13/2024	52	<0.0005	0.0012	<0.0005	0.0009	0.0021	0.0017	0.0131	0.019	0.0041	0.5
RDC-06	11/13/2024	54	<0.0005	<0.0005	<0.0005	0.021	0.0039	0.066	0.0998	0.15	0.038	8.9
RDC-06	11/13/2024	56	<0.0005	0.001	<0.0005	<0.0005	0.001	0.0011	0.0101	0.01	0.002	<0.5
RDC-06	11/13/2024	59	<0.0005	0.0011	<0.0005	0.025	0.0046	0.028	0.101	0.059	0.017	22
RDC-07	11/12/2024	10	<0.0005	0.0007	<0.0005	<0.0005	0.0024	0.0081	0.0296	0.022	0.012	<0.5
RDC-07	11/12/2024	12	<0.0005	<0.0005	<0.0005	<0.0005	0.0014	0.0037	0.0165	0.015	0.0029	<0.5
RDC-07	11/12/2024	14	<0.0005	<0.0005	<0.0005	<0.0005	0.0016	0.003	0.0136	0.01	0.0014	<0.5
RDC-07	11/12/2024	16	<0.0005	<0.0005	<0.0005	<0.0005	0.0011	0.0023	0.0104	0.0085	0.0009	<0.5
RDC-07	11/12/2024	18	<0.0005	0.001	<0.0005	<0.0005	0.0016	0.0021	0.0099	0.008	0.0007	<0.5
RDC-07	11/12/2024	20	<0.0005	0.001	<0.0005	<0.0005	0.0011	0.0018	0.009	0.008	0.0005	<0.5
RDC-07	11/12/2024	22	<0.0005	0.0047	<0.0005	0.001	0.0031	0.0014	0.0068	0.0076	0.0021	0.5
RDC-07	11/12/2024	24	<0.0005	0.0009	<0.0005	<0.0005	0.0016	0.0016	0.008	0.0055	0.0008	<0.5
RDC-07	11/12/2024	26	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.0012	0.0057	0.0056	<0.0005	<0.5
RDC-07	11/12/2024	28	<0.0005	0.0016	<0.0005	<0.0005	0.0013	0.0015	0.0076	0.0061	<0.0005	<0.5
RDC-07	11/12/2024	30	<0.0005	0.0009	<0.0005	<0.0005	0.0016	0.0016	0.0078	0.0068	<0.0005	<0.5
RDC-07	11/12/2024	32	<0.0005	0.0066	<0.0005	0.0011	0.0036	0.001	0.0051	0.0035	0.0013	<0.5
RDC-07	11/12/2024	34	<0.0005	0.0014	<0.0005	<0.0005	0.0021	0.0011	0.006	0.004	<0.0005	<0.5
RDC-07	11/12/2024	38	<0.0005	0.0013	<0.0005	<0.0005	0.0025	0.0012	0.0062	0.0045	<0.0005	<0.5
RDC-07	11/12/2024	40	<0.0005	0.0018	<0.0005	<0.0005	0.0027	0.0014	0.0074	0.0056	<0.0005	<0.5
RDC-07	11/12/2024	42	<0.0005	0.0017	<0.0005	<0.0005	0.0022	0.0011	0.0097	0.0073	<0.0005	<0.5
RDC-07	11/12/2024	44	<0.0005	0.0018	<0.0005	<0.0005	0.0029	0.0014	0.008	0.0059	<0.0005	<0.5
RDC-07	11/12/2024	46	<0.0005	0.0028	<0.0005	0.0006	0.0042	0.0018	0.0101	0.0074	<0.0005	<0.5
RDC-07	11/12/2024	48	<0.0005	0.0015	<0.0005	0.0012	0.0029	0.0013	0.0086	0.013	0.001	<0.5
RDC-07	11/12/2024	50	<0.0005	<0.0005	<0.0005	<0.0005	0.029	0.23	0.427	5.6	1.5	400
RDC-07	11/12/2024	52	<0.0005	0.0038	<0.0005	0.0007	0.0039	0.002	0.0108	0.062	0.088	24
RDC-07	11/12/2024	53	<0.0005	0.004	<0.0005	0.001	0.003	0.0012	0.006	0.0053	0.017	<0.5

Table 1
Soil Analytical Results

Facility Name: Former Gas Sheffield, AL **Facility ID #: 11732-033-004341**

Sample location	Sample date	Sample depth (ft)	Chemical of concern (mg/Kg)									
			Dimethyl Sulfide	MTBE	1,2-Dichloroethane	Benzene	Toluene	Ethylbenzene	Total Xylene	1,2,4-Trimethylbenzene	Naphthalene	TVPH
SSCL			**n/a**	**1.3**	**n/a**	**0.4**	**175.6**	**105**	**159.0**	**n/a**	**11**	**n/a**
RDC-06	11/12/2024	10	<0.0005	0.0019	<0.0005	0.0007	0.0017	0.002	0.0102	0.013	0.0026	<0.5
RDC-06	11/12/2024	12	<0.0005	0.0011	<0.0005	<0.0005	0.0008	0.0009	0.0082	0.009	0.0014	<0.5
RDC-06	11/12/2024	14	<0.0005	0.0012	<0.0005	<0.0005	0.0013	0.0013	0.0132	0.015	0.0022	<0.5
RDC-06	11/12/2024	16	<0.0005	0.0008	<0.0005	0.0008	0.0016	0.0019	0.0136	0.021	0.0021	0.6
RDC-06	11/12/2024	18	<0.0005	0.0016	<0.0005	0.0007	0.0019	0.0022	0.0103	0.0085	0.0017	<0.5
RDC-06	11/12/2024	20	<0.0005	0.0016	<0.0005	<0.0005	0.0015	0.0013	0.0104	0.0099	0.0016	<0.5
RDC-06	11/12/2024	22	<0.0005	0.0014	<0.0005	<0.0005	0.0013	0.0014	0.0125	0.0086	0.0014	<0.5
RDC-06	11/12/2024	24	<0.0005	0.0014	<0.0005	<0.0005	0.0008	0.0009	0.0113	0.01	0.0018	<0.5
RDC-06	11/13/2024	26	<0.0005	0.0014	<0.0005	<0.0005	0.0017	0.0017	0.0095	0.0086	0.0017	<0.5
RDC-06	11/13/2024	28	<0.0005	0.0012	<0.0005	<0.0005	0.0016	0.0013	0.0064	0.0075	0.0013	<0.5
RDC-06	11/13/2024	30	<0.0005	0.0016	<0.0005	<0.0005	0.0009	0.0008	0.0102	0.01	0.0011	<0.5
RDC-06	11/13/2024	32	<0.0005	0.0016	<0.0005	<0.0005	0.0016	0.0019	0.0103	0.0077	0.0015	<0.5
RDC-06	11/13/2024	34	<0.0005	0.0018	<0.0005	<0.0005	0.0017	0.0015	0.0081	0.0083	0.0013	<0.5
RDC-06	11/13/2024	36	<0.0005	0.0006	<0.0005	<0.0005	0.0031	0.0015	0.0086	0.0062	0.0007	<0.5
RDC-06	11/13/2024	38	<0.0005	<0.0005	<0.0005	<0.0005	0.0025	0.002	0.0115	0.012	0.0011	<0.5
RDC-06	11/13/2024	40	<0.0005	0.0009	<0.0005	<0.0005	0.0033	0.0019	0.0113	0.012	0.0013	<0.5
RDC-06	11/13/2024	42	<0.0005	0.0013	<0.0005	<0.0005	0.0031	0.0024	0.0128	0.014	0.0016	<0.5
RDC-06	11/13/2024	44	<0.0005	0.0014	<0.0005	<0.0005	0.0022	0.0017	0.0129	0.013	0.0014	<0.5
RDC-06	11/13/2024	46	<0.0005	0.0013	<0.0005	<0.0005	0.003	0.002	0.0124	0.013	0.0016	<0.5
RDC-06	11/13/2024	48	<0.0005	0.0014	<0.0005	<0.0005	0.0039	0.0026	0.0137	0.014	0.0015	<0.5
RDC-06	11/13/2024	50	<0.0005	0.0015	<0.0005	<0.0005	0.0022	0.0019	0.0138	0.017	0.0016	<0.5
RDC-06	11/13/2024	52	<0.0005	0.0012	<0.0005	0.0009	0.0021	0.0017	0.0131	0.019	0.0041	0.5
RDC-06	11/13/2024	54	<0.0005	<0.0005	<0.0005	0.021	0.0039	0.066	0.0998	0.15	0.038	8.9
RDC-06	11/13/2024	56	<0.0005	0.001	<0.0005	<0.0005	0.001	0.0011	0.0101	0.01	0.002	<0.5
RDC-06	11/13/2024	59	<0.0005	0.0011	<0.0005	0.025	0.0046	0.028	0.101	0.059	0.017	22
RDC-07	11/12/2024	10	<0.0005	0.0007	<0.0005	<0.0005	0.0024	0.0081	0.0296	0.022	0.012	<0.5
RDC-07	11/12/2024	12	<0.0005	<0.0005	<0.0005	<0.0005	0.0014	0.0037	0.0165	0.015	0.0029	<0.5
RDC-07	11/12/2024	14	<0.0005	<0.0005	<0.0005	<0.0005	0.0016	0.003	0.0136	0.01	0.0014	<0.5
RDC-07	11/12/2024	16	<0.0005	<0.0005	<0.0005	<0.0005	0.0011	0.0023	0.0104	0.0085	0.0009	<0.5
RDC-07	11/12/2024	18	<0.0005	0.001	<0.0005	<0.0005	0.0016	0.0021	0.0099	0.008	0.0007	<0.5
RDC-07	11/12/2024	20	<0.0005	0.001	<0.0005	<0.0005	0.0011	0.0018	0.009	0.008	0.0005	<0.5
RDC-07	11/12/2024	22	<0.0005	0.0047	<0.0005	0.001	0.0031	0.0014	0.0068	0.0076	0.0021	0.5
RDC-07	11/12/2024	24	<0.0005	0.0009	<0.0005	<0.0005	0.0016	0.0016	0.008	0.0055	0.0008	<0.5
RDC-07	11/12/2024	26	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.0012	0.0057	0.0056	<0.0005	<0.5
RDC-07	11/12/2024	28	<0.0005	0.0016	<0.0005	<0.0005	0.0013	0.0015	0.0076	0.0061	<0.0005	<0.5
RDC-07	11/12/2024	30	<0.0005	0.0009	<0.0005	<0.0005	0.0016	0.0016	0.0078	0.0068	<0.0005	<0.5
RDC-07	11/12/2024	32	<0.0005	0.0066	<0.0005	0.0011	0.0036	0.001	0.0051	0.0035	0.0013	<0.5
RDC-07	11/12/2024	34	<0.0005	0.0014	<0.0005	<0.0005	0.0021	0.0011	0.006	0.004	<0.0005	<0.5
RDC-07	11/12/2024	38	<0.0005	0.0013	<0.0005	<0.0005	0.0025	0.0012	0.0062	0.0045	<0.0005	<0.5
RDC-07	11/12/2024	40	<0.0005	0.0018	<0.0005	<0.0005	0.0027	0.0014	0.0074	0.0056	<0.0005	<0.5
RDC-07	11/12/2024	42	<0.0005	0.0017	<0.0005	<0.0005	0.0022	0.0011	0.0097	0.0073	<0.0005	<0.5
RDC-07	11/12/2024	44	<0.0005	0.0018	<0.0005	<0.0005	0.0029	0.0014	0.008	0.0059	<0.0005	<0.5
RDC-07	11/12/2024	46	<0.0005	0.0028	<0.0005	0.0006	0.0042	0.0018	0.0101	0.0074	<0.0005	<0.5
RDC-07	11/12/2024	48	<0.0005	0.0015	<0.0005	0.0012	0.0029	0.0013	0.0086	0.013	0.001	<0.5
RDC-07	11/12/2024	50	<0.0005	<0.0005	<0.0005	<0.0005	0.029	0.23	0.427	5.6	1.5	400
RDC-07	11/12/2024	52	<0.0005	0.0038	<0.0005	0.0007	0.0039	0.002	0.0108	0.062	0.088	24
RDC-07	11/12/2024	53	<0.0005	0.004	<0.0005	0.001	0.003	0.0012	0.006	0.0053	0.017	<0.5

Table 1
Soil Analytical Results

Facility Name: Former Gas Sheffield, AL **Facility ID #: 11732-033-004341**

Sample location	Sample date	Sample depth (ft)	Chemical of concern (mg/Kg)									
			Dimethyl Sulfide	MTBE	1,2-Dichloroethane	Benzene	Toluene	Ethylbenzene	Total Xylene	1,2,4-Trimethylbenzene	Naphthalene	TVPH
SSCL			n/a	1.3	n/a	0.4	175.6	105	159.0	n/a	11	n/a
RDC-08	11/14/2024	10	<0.0005	0.0021	<0.0005	<0.0005	0.0016	0.0011	0.0057	0.0065	0.0018	<0.5
RDC-08	11/14/2024	12	<0.0005	0.002	<0.0005	<0.0005	0.0027	0.0021	0.012	0.016	0.0018	<0.5
RDC-08	11/14/2024	14	<0.0005	0.0016	<0.0005	<0.0005	0.0016	0.0011	0.0062	0.0075	0.0012	<0.5
RDC-08	11/14/2024	16	<0.0005	0.0013	<0.0005	<0.0005	0.0018	0.0011	0.0061	0.0074	0.0011	<0.5
RDC-08	11/14/2024	18	<0.0005	0.0019	<0.0005	<0.0005	0.0017	0.001	0.0056	0.0068	0.001	<0.5
RDC-08	11/14/2024	20	<0.0005	0.0023	<0.0005	<0.0005	0.0019	0.0012	0.0069	0.0092	0.0014	<0.5
RDC-08	11/14/2024	22	<0.0005	0.0029	<0.0005	<0.0005	0.0023	0.0013	0.0065	0.0072	0.001	<0.5
RDC-08	11/14/2024	24	<0.0005	0.0026	<0.0005	<0.0005	0.0024	0.0017	0.009	0.012	0.0014	<0.5
RDC-08	11/14/2024	26	<0.0005	0.0016	<0.0005	<0.0005	0.0039	0.0043	0.0167	0.0085	0.001	0.7
RDC-08	11/14/2024	28	<0.0005	0.0022	<0.0005	<0.0005	0.0024	0.0013	0.0068	0.0072	0.001	<0.5
RDC-08	11/14/2024	30	<0.0005	0.0017	<0.0005	<0.0005	0.0072	0.0064	0.029	0.011	0.0008	0.5
RDC-08	11/14/2024	32	<0.0005	0.0025	<0.0005	<0.0005	0.0021	0.0011	0.0062	0.0074	0.0012	<0.5
RDC-08	11/14/2024	34	<0.0005	0.0009	<0.0005	<0.0005	0.0021	0.001	0.0056	0.0057	0.001	<0.5
RDC-08	11/15/2024	36	<0.0005	0.0008	<0.0005	<0.0005	0.0022	0.0012	0.0058	0.0058	0.0009	<0.5
RDC-08	11/15/2024	38	<0.0005	0.0006	<0.0005	<0.0005	0.0016	0.0008	0.0042	0.0059	0.0012	<0.5
RDC-08	11/15/2024	40	<0.0005	0.0009	<0.0005	<0.0005	0.002	0.0011	0.0054	0.0064	0.001	<0.5
RDC-08	11/15/2024	42	<0.0005	0.001	<0.0005	<0.0005	0.0022	0.0011	0.0062	0.0074	0.0014	<0.5
RDC-08	11/15/2024	44	<0.0005	0.0009	<0.0005	<0.0005	0.0021	0.001	0.0052	0.0056	0.0008	<0.5
RDC-08	11/15/2024	46	<0.0005	0.0011	<0.0005	<0.0005	0.0018	0.001	0.0055	0.006	0.0009	<0.5
RDC-08	11/15/2024	48	<0.0005	0.001	<0.0005	<0.0005	0.0024	0.0014	0.0085	0.0083	0.001	<0.5
RDC-08	11/15/2024	50	<0.0005	0.0013	<0.0005	<0.0005	0.0023	0.001	0.0059	0.0062	0.001	<0.5
RDC-08	11/15/2024	52	<0.0005	0.0009	<0.0005	<0.0005	0.002	0.0008	0.0039	0.0042	0.0007	<0.5
RDC-08	11/15/2024	54	<0.0005	0.0009	<0.0005	<0.0005	0.0022	0.0025	0.0104	0.0096	0.0044	14
RDC-08	11/15/2024	56	<0.0005	0.0007	<0.0005	<0.0005	0.002	0.0011	0.0057	0.0069	0.0014	0.5
RDC-08	11/15/2024	58	<0.0005	0.0008	<0.0005	<0.0005	0.0024	0.0017	0.0087	0.0083	0.0025	6.1
RDC-08	11/15/2024	59	<0.0005	0.0012	<0.0005	<0.0005	0.0026	0.0015	0.0093	0.007	0.0017	18
RDC-09	11/15/2024	10	<0.0005	0.0008	<0.0005	<0.0005	0.0013	0.0009	0.0052	0.0061	0.0009	<0.5
RDC-09	11/15/2024	12	<0.0005	0.0009	<0.0005	<0.0005	0.0015	0.0009	0.0061	0.018	0.0011	<0.5
RDC-09	11/15/2024	14	<0.0005	0.0008	<0.0005	<0.0005	0.0012	0.0007	0.0034	0.0045	0.0007	<0.5
RDC-09	11/15/2024	16	<0.0005	0.0009	<0.0005	<0.0005	0.0013	<0.0005	0.0025	0.0025	<0.0005	<0.5
RDC-09	11/15/2024	18	<0.0005	0.0007	<0.0005	<0.0005	0.0017	0.0006	0.0034	0.0037	0.0007	<0.5
RDC-09	11/15/2024	20	<0.0005	<0.0005	<0.0005	<0.0005	0.0012	<0.0005	0.0025	0.0031	<0.0005	<0.5
RDC-09	11/15/2024	22	<0.0005	0.0009	<0.0005	<0.0005	0.0012	0.0006	0.0038	0.0054	0.001	<0.5
RDC-09	11/15/2024	24	<0.0005	0.0008	<0.0005	<0.0005	0.0016	0.0006	0.0036	0.0044	0.001	<0.5
RDC-09	11/15/2024	26	<0.0005	0.001	<0.0005	<0.0005	0.0017	0.0007	0.0039	0.0054	0.0008	<0.5
RDC-09	11/15/2024	28	<0.0005	0.001	<0.0005	<0.0005	0.0015	<0.0005	0.0031	0.0041	0.0007	<0.5
RDC-09	11/15/2024	30	<0.0005	0.0009	<0.0005	<0.0005	0.0042	0.0013	0.0067	0.0047	0.0006	<0.5
RDC-09	11/15/2024	32	<0.0005	0.0011	<0.0005	<0.0005	0.0018	0.0009	0.0058	0.0062	0.001	<0.5
RDC-09	11/15/2024	34	<0.0005	0.0009	<0.0005	<0.0005	0.0018	0.0006	0.0041	0.0042	0.0008	<0.5
RDC-09	11/15/2024	36	<0.0005	0.001	<0.0005	<0.0005	0.0017	0.001	0.0053	0.0052	0.0008	<0.5
RDC-09	11/15/2024	38	<0.0005	0.0012	<0.0005	<0.0005	0.0024	0.0009	0.0055	0.0059	0.0011	<0.5
RDC-09	11/15/2024	40	<0.0005	0.001	<0.0005	<0.0005	0.0018	0.0007	0.0043	0.0043	0.0007	<0.5
RDC-09	11/15/2024	42	<0.0005	0.0009	<0.0005	<0.0005	0.0021	0.0008	0.0043	0.0043	0.0008	<0.5
RDC-09	11/15/2024	44	<0.0005	0.0008	<0.0005	0.0005	0.0019	0.0006	0.0034	0.0037	0.0005	<0.5
RDC-09	11/15/2024	46	<0.0005	0.0009	<0.0005	<0.0005	0.0019	0.0006	0.0033	0.0032	0.0008	<0.5
RDC-09	11/15/2024	48	<0.0005	0.0013	<0.0005	<0.0005	0.0024	0.0008	0.0041	0.0036	0.0006	<0.5
RDC-09	11/15/2024	50	<0.0005	0.0007	<0.0005	<0.0005	0.0024	0.0008	0.0044	0.0027	<0.0005	<0.5
RDC-09	11/15/2024	52	<0.0005	0.0011	<0.0005	<0.0005	0.0012	<0.0005	0.003	0.0036	0.001	<0.5
RDC-09	11/15/2024	54	<0.0005	0.0008	<0.0005	<0.0005	0.0024	0.0011	0.0057	0.0046	0.0006	<0.5
RDC-09	11/15/2024	56	<0.0005	0.0008	<0.0005	<0.0005	0.0007	0.0015	0.0078	0.0051	0.0007	<0.5
RDC-09	11/15/2024	58	<0.0005	0.001	<0.0005	<0.0005	0.0016	0.0027	0.0146	0.007	0.0017	38

Table 2

Groundwater Elevation Summary

Facility Name: Former Gas Sheffield, AL

Facility ID #: 11732-033-004341

Monitoring well number or sample location	Date	Top of casing elevation (ft MSL)	Top of screen elevation (ft MSL)	Total depth of well (ft)	Bottom screen elevation (ft MSL)	Depth to fluid (ft)	Depth to water (ft)	Product thickness (ft)	Water surface elevation (ft MSL)	Adjusted potentiometric surface elevation (ft MSL)	Potentiometric surface within screen interval? (Yes/No)
MW-1	11/11/24	498.69	468.69	40.00	458.69	39.94	39.94	0.00	458.75	458.75	Yes
MW-3	11/11/24	501.97	471.97	40.00	461.97	39.98	39.98	0.00	461.99	461.99	Yes
MW-4	11/11/24	498.69	468.69	40.00	458.69	38.78	38.78	0.00	459.91	459.91	Yes
MW-5	11/11/24	498.69	439.69	64.00	434.69	58.75	58.75	0.00	439.94	439.94	No

Table 3

Groundwater Analytical Results

Facility Name: Former Gas Sheffield, AL **Facility ID #: 11732-033-004341**

Sample location	Sample date	Chemical of Concern (mg/L)									
		Dimethyl Sulfide	MTBE	1,2-Dichloroethane	Benzene	Toluene	Ethylbenzene	Total Xylene	1,2,4-Trimethylbenzene	Naphthalene	TVPH
GRPs		**n/a**	**4.3**	**n/a**	**1.08**	**215.0**	**151.0**	**175.0**	**n/a**	**4.3**	**n/a**
MW-3	11/11/2024	<0.005	<0.005	<0.005	0.0051	0.0095	0.96	0.887	3.4	0.24	17
MW-4	11/11/2024	<0.005	<0.005	<0.005	0.017	0.019	0.58	0.756	2.4	0.25	51
MW-5	11/11/2024	<0.005	0.23	0.0077	**1.1**	0.011	0.16	0.298	0.34	0.046	8.4

Table 3

Groundwater Analytical Results

Facility Name: Former Gas Sheffield, AL **Facility ID #: 11732-033-004341**

Sample location	Sample date	Anions (mg/L)												
		Lactate	Acetate	Propionate	Formate / Isobutyrate	Butyrate	Pyruvate	Chloride	Nitrite	Succinate	Nitrate	Sulfate	Phosphate	Sulfide
MW-3	11/11/2024	<2	<2	<2	<4	<2	<2	7	<2	<10	<2	<2	NA	<2
MW-4	11/11/2024	<2	<2	<2	<4	<2	<2	7.9	<2	<10	<2	<2	NA	<2
MW-5	11/11/2024	<2	<2	<2	<4	<2	<2	16	<2	<10	<2	<2	NA	<2

Table 3

Groundwater Analytical Results

Facility Name: Former Gas Sheffield, AL **Facility ID #: 11732-033-004341**

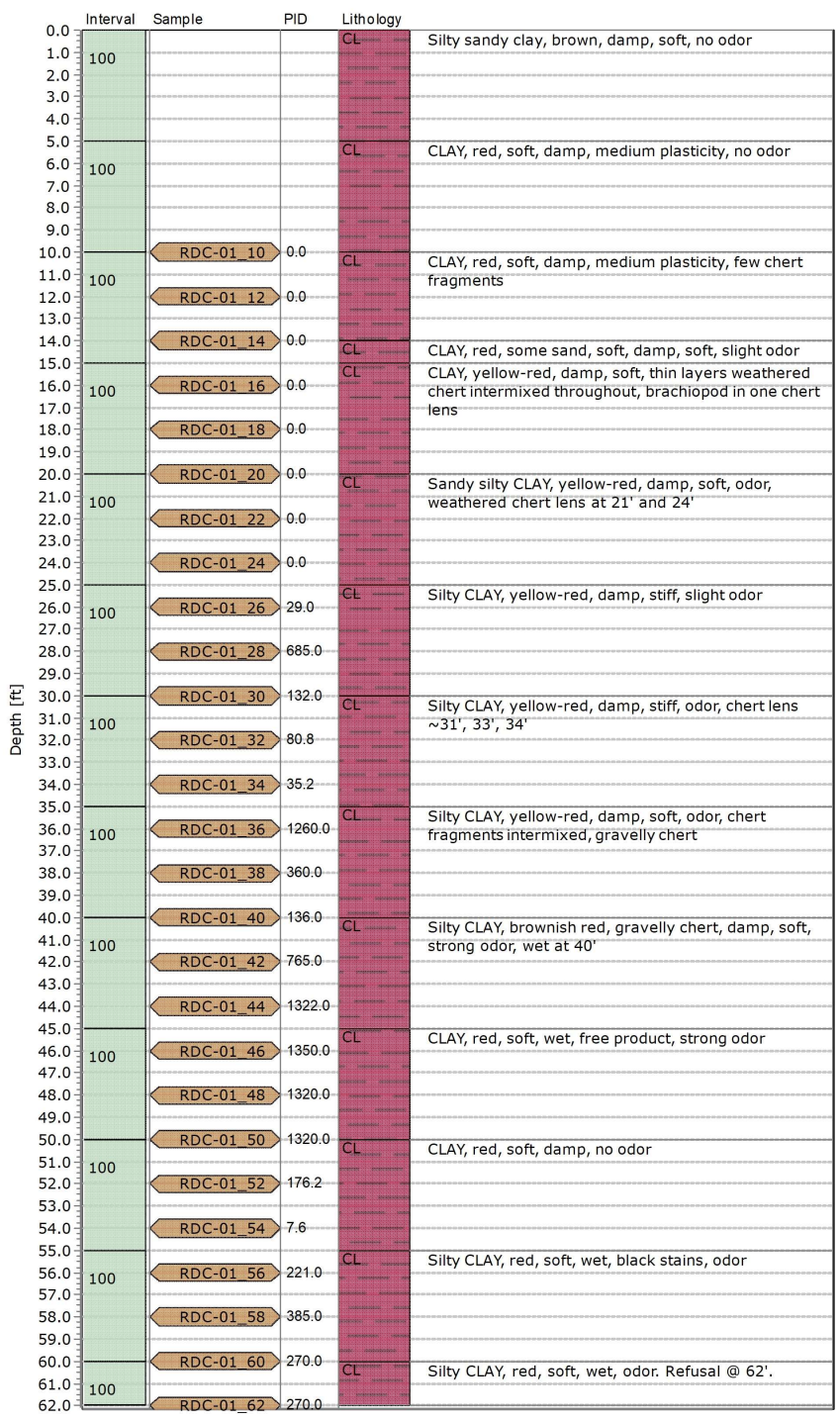
Sample location	Sample date	Dissolved Gases (mg/L)														
		Methane	Ethane	Ethylene	Propane	Propylene	Isobutane	n-Butane	Acetylene	t-2-Butene	1-Butene	Isobutylene	cis-2-Butene	1,3-Butadiene	Methyl Acetylene	Carbon Dioxide
MW-3	11/11/2024	3.7	<0.002	<0.002	<0.002	<0.002	<0.002	0.013	<0.002	<0.002	<0.002	<0.002	0.3	0.0021	<0.002	150
MW-4	11/11/2024	2.4	0.003	<0.002	<0.002	<0.002	<0.002	0.0095	<0.002	<0.002	<0.002	<0.002	0.055	0.005	<0.002	87
MW-5	11/11/2024	3.2	0.0099	<0.002	<0.002	<0.002	0.007	0.039	<0.002	<0.002	<0.002	<0.002	0.13	0.0078	<0.002	42

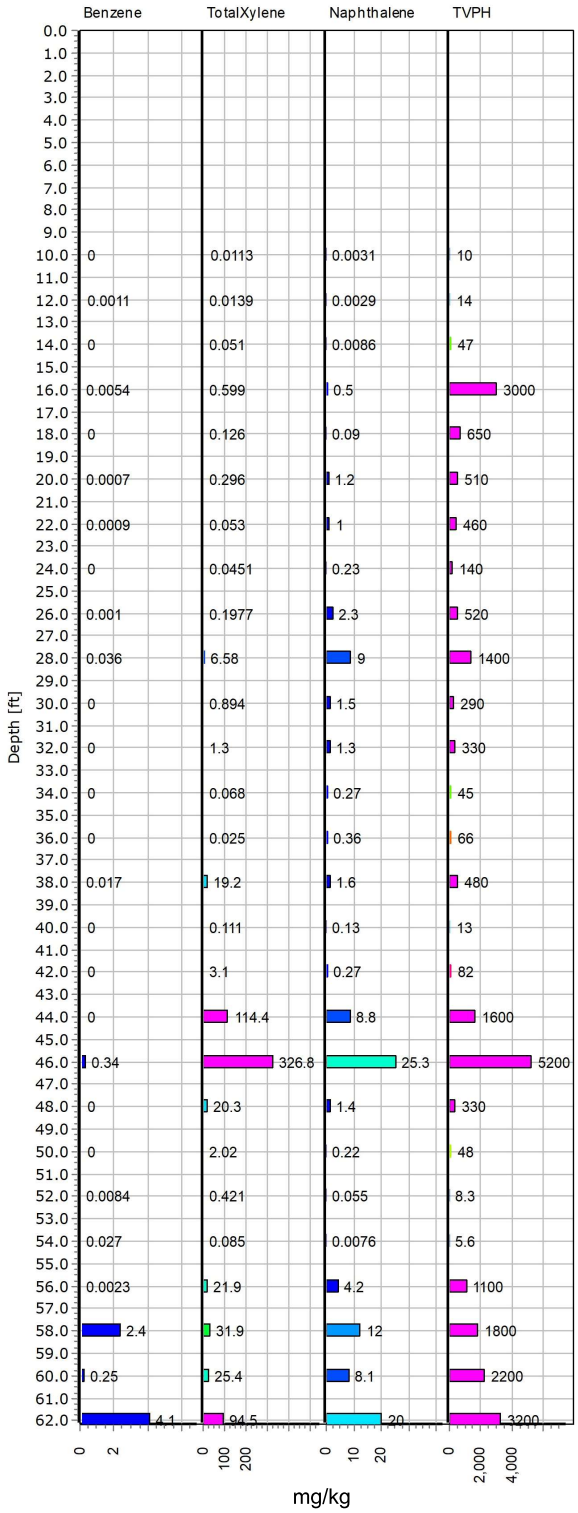
ATTACHMENT A
Soil Boring Logs

PM - Former Service Station

Borehole: **RDC-01**

Project Name: PM-Frmr Gas Sheffield	Drilling Company: Hawkston	Date Started: 2024-11-11	AST ENVIRONMENTAL, INC. 665 McKinney Ave Midway, KY 40347
Project Number: 5152489	Drilling Method: Direct Push	Date Finished: 2024-11-13	
Project Location: 400 East 2nd Street, Sheffield, AL	Drilling Equipment: Geoprobe 3230	Total Depth: 62.00	Screen Interval:
Project Client: PM Environmental	Sampling Method: Dual Tube	Depth To Water:	Casing:
Project Manager: Bill Brab	Field Operator: Ben Borth		

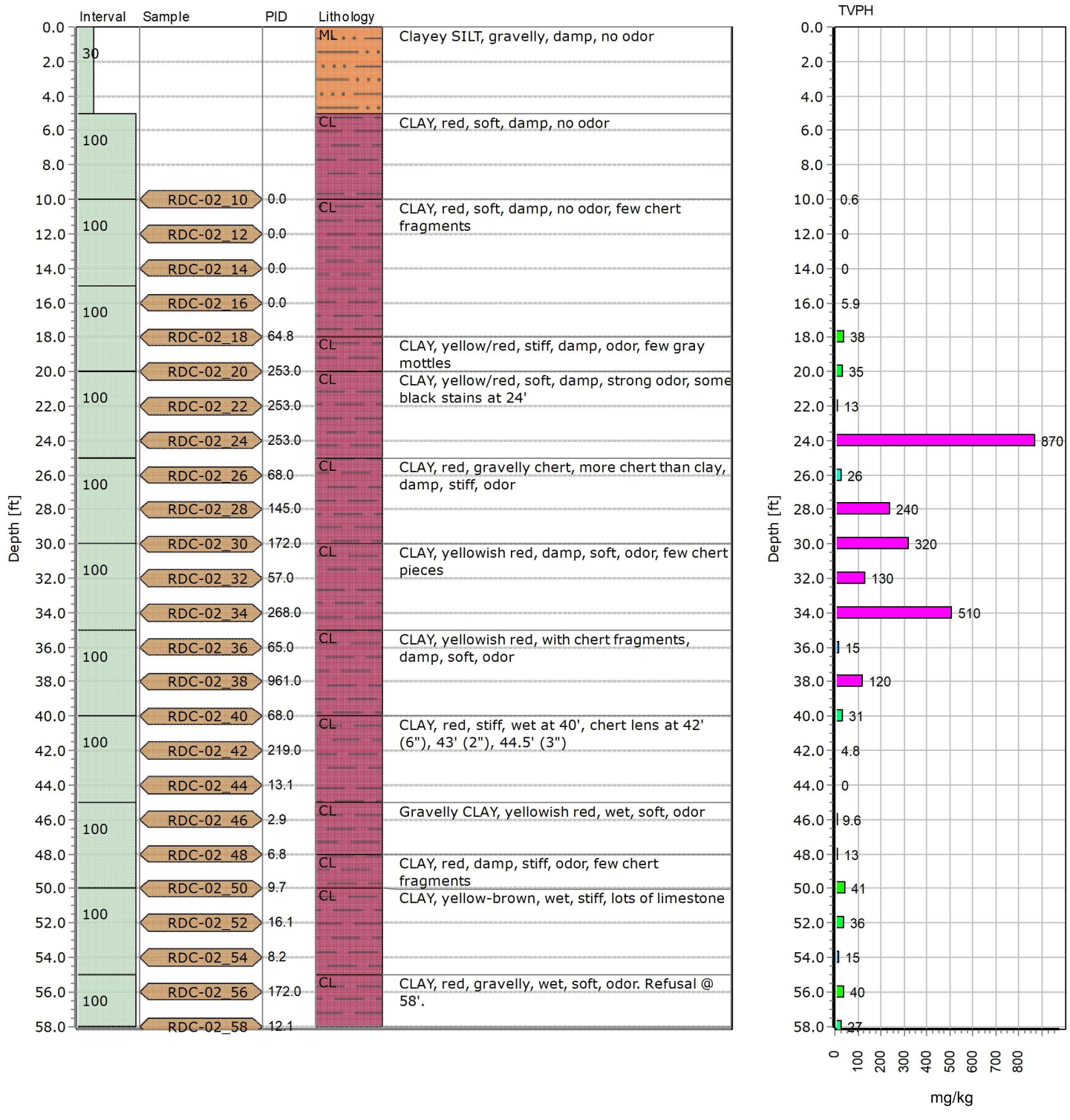




PM - Former Service Station

Borehole: **RDC-02**

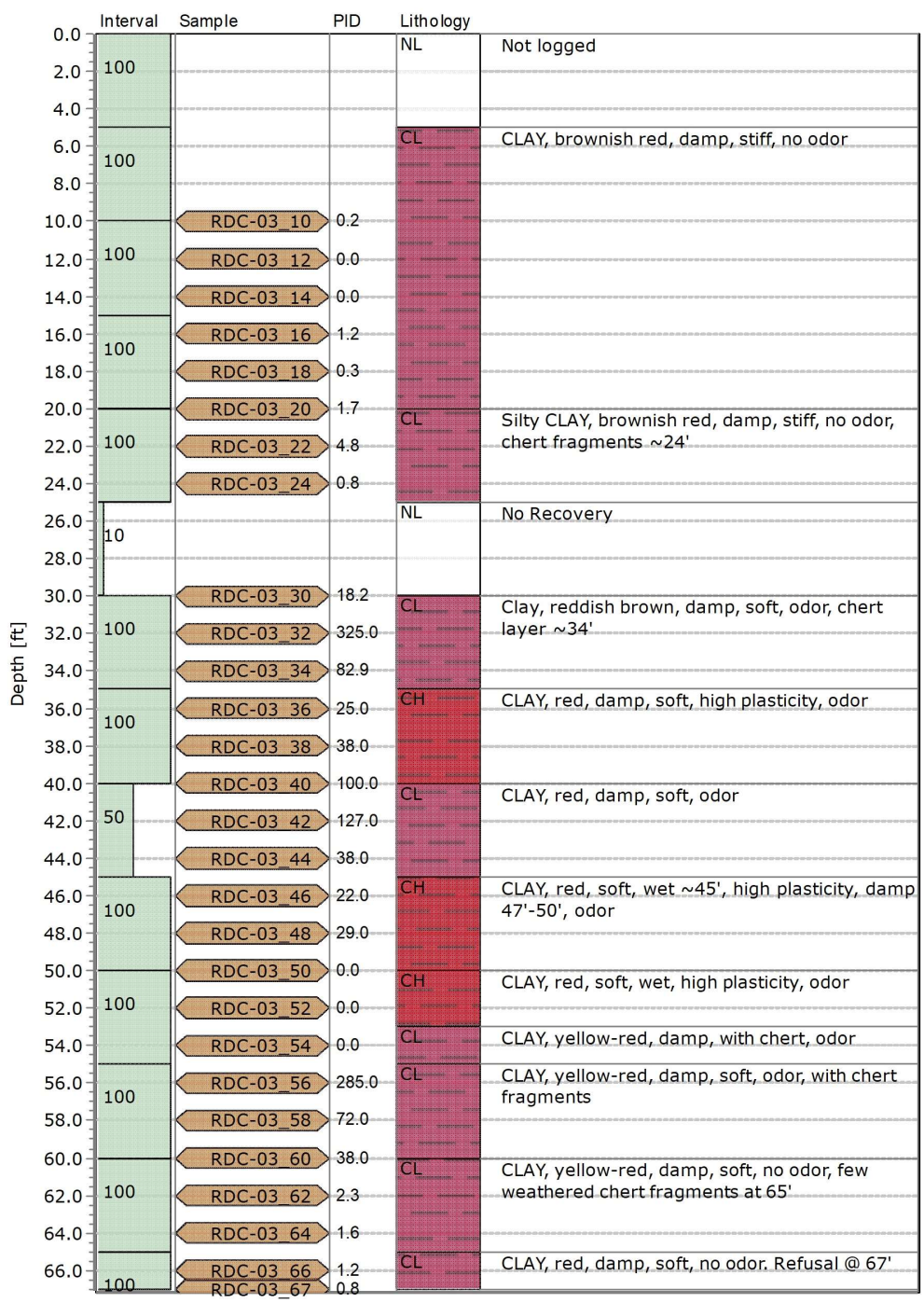
Project Name: PM-Frmr Gas Sheffield	Drilling Company: Hawkston	Date Started: 2024-11-11	AST ENVIRONMENTAL, INC. 665 McKinney Ave Midway, KY 40347
Project Number: 5152489	Drilling Method: Direct Push	Date Finished: 2024-11-13	
Project Location: 400 East 2nd Street, Sheffield, AL	Drilling Equipment: Geoprobe 3230	Total Depth: 60.00	Screen Interval:
Project Client: PM Environmental	Sampling Method: Dual Tube	Depth To Water:	Casing:
Project Manager: Bill Brab	Field Operator: Ben Borth		

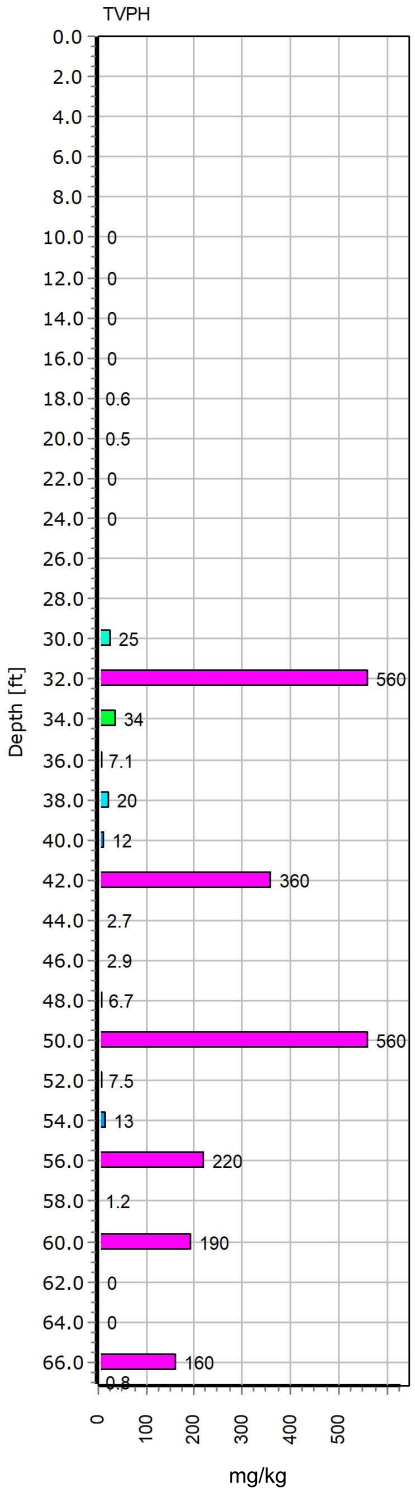


PM - Former Service Station

Borehole: **RDC-03**

Project Name: PM-Frmr Gas Sheffield	Drilling Company: Hawkston	Date Started: 2024-11-12	AST ENVIRONMENTAL, INC. 665 McKinney Ave Midway, KY 40347
Project Number: 5152489	Drilling Method: Direct Push	Date Finished: 2024-11-14	
Project Location: 400 East 2nd Street, Sheffield, AL	Drilling Equipment: Geoprobe 3230	Total Depth: 67.00	Screen Interval:
Project Client: PM Environmental	Sampling Method: Dual Tube	Depth To Water:	Casing:
Project Manager: Bill Brab	Field Operator: Ben Borth		

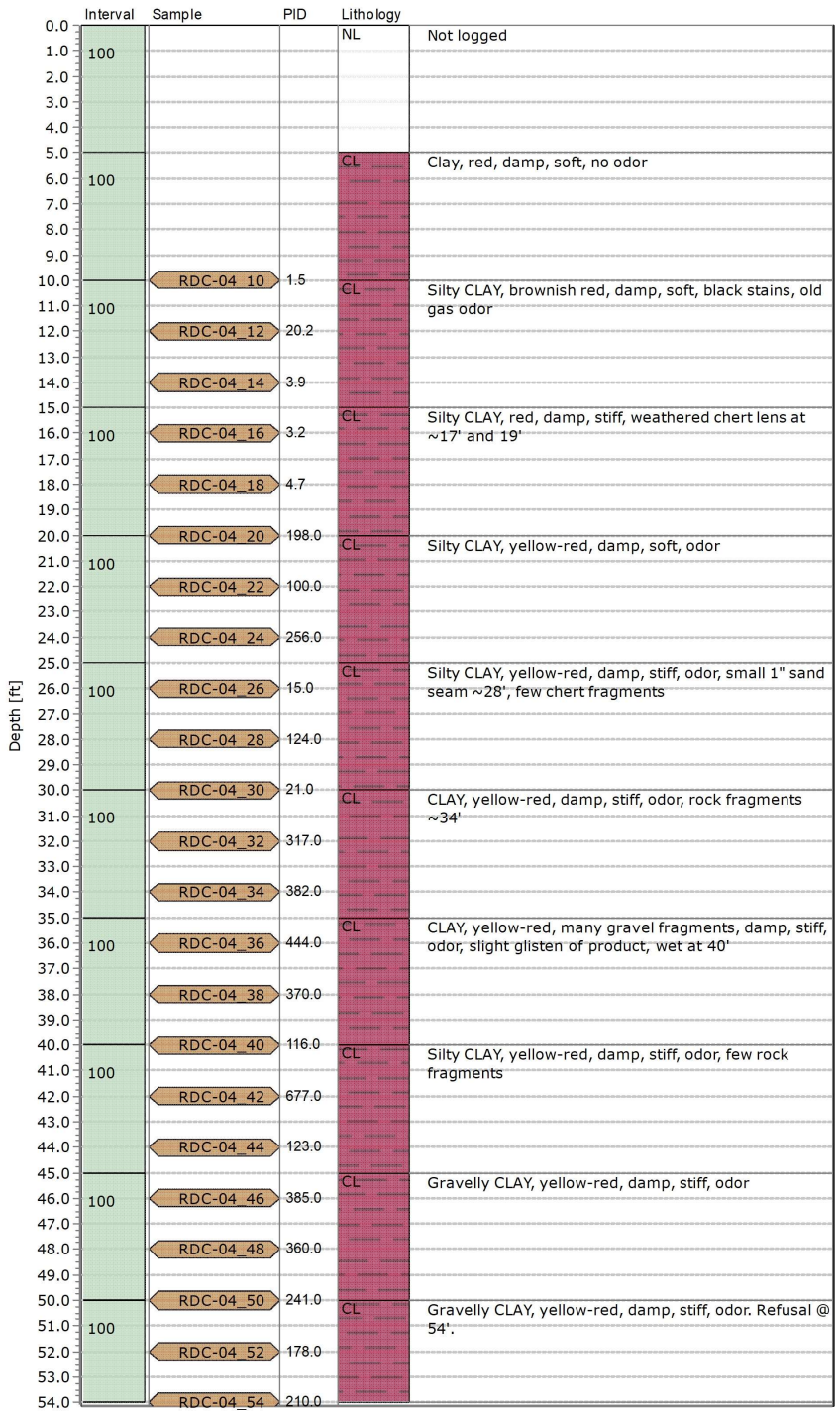


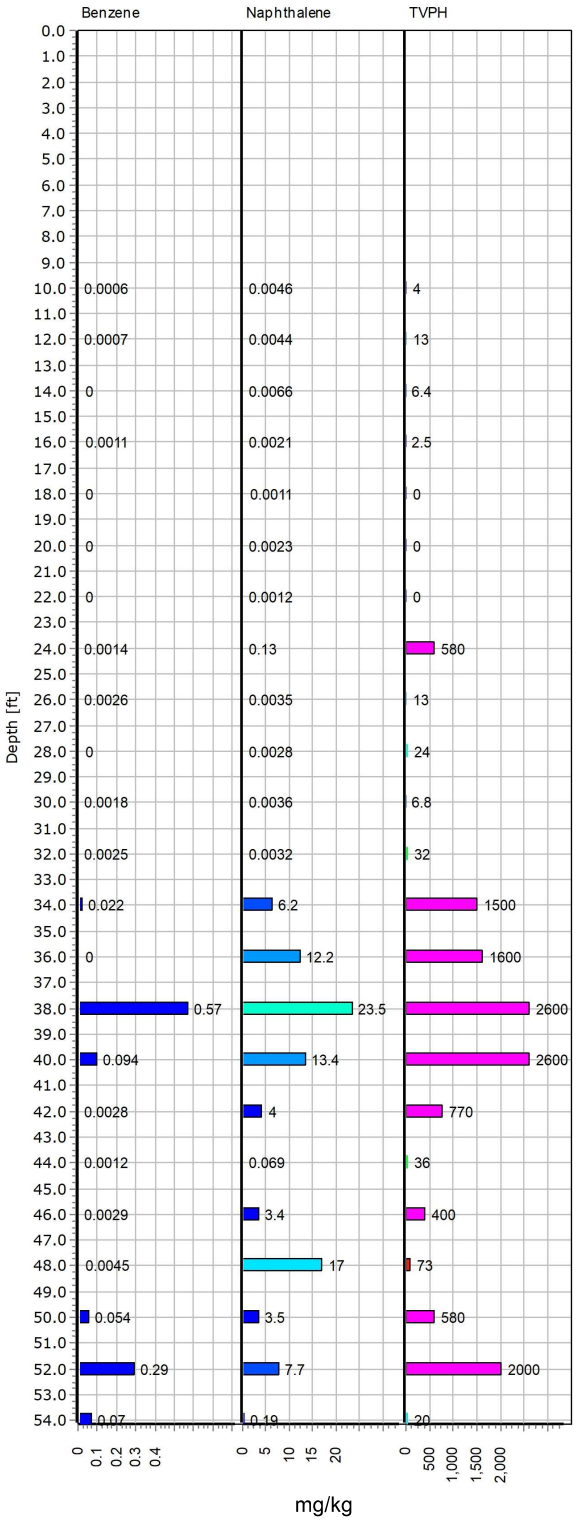


PM - Former Service Station

Borehole: **RDC-04**

Project Name: PM-Frmr Gas Sheffield	Drilling Company: Hawkston	Date Started: 2024-11-12	AST ENVIRONMENTAL, INC. 665 McKinney Ave Midway, KY 40347
Project Number: 5152489	Drilling Method: Direct Push	Date Finished: 2024-11-13	
Project Location: 400 East 2nd Street, Sheffield, AL	Drilling Equipment: Geoprobe 3230	Total Depth: 54.00	Screen Interval:
Project Client: PM Environmental	Sampling Method: Dual Tube	Depth To Water:	Casing:
Project Manager: Bill Brab	Field Operator: Ben Borth		



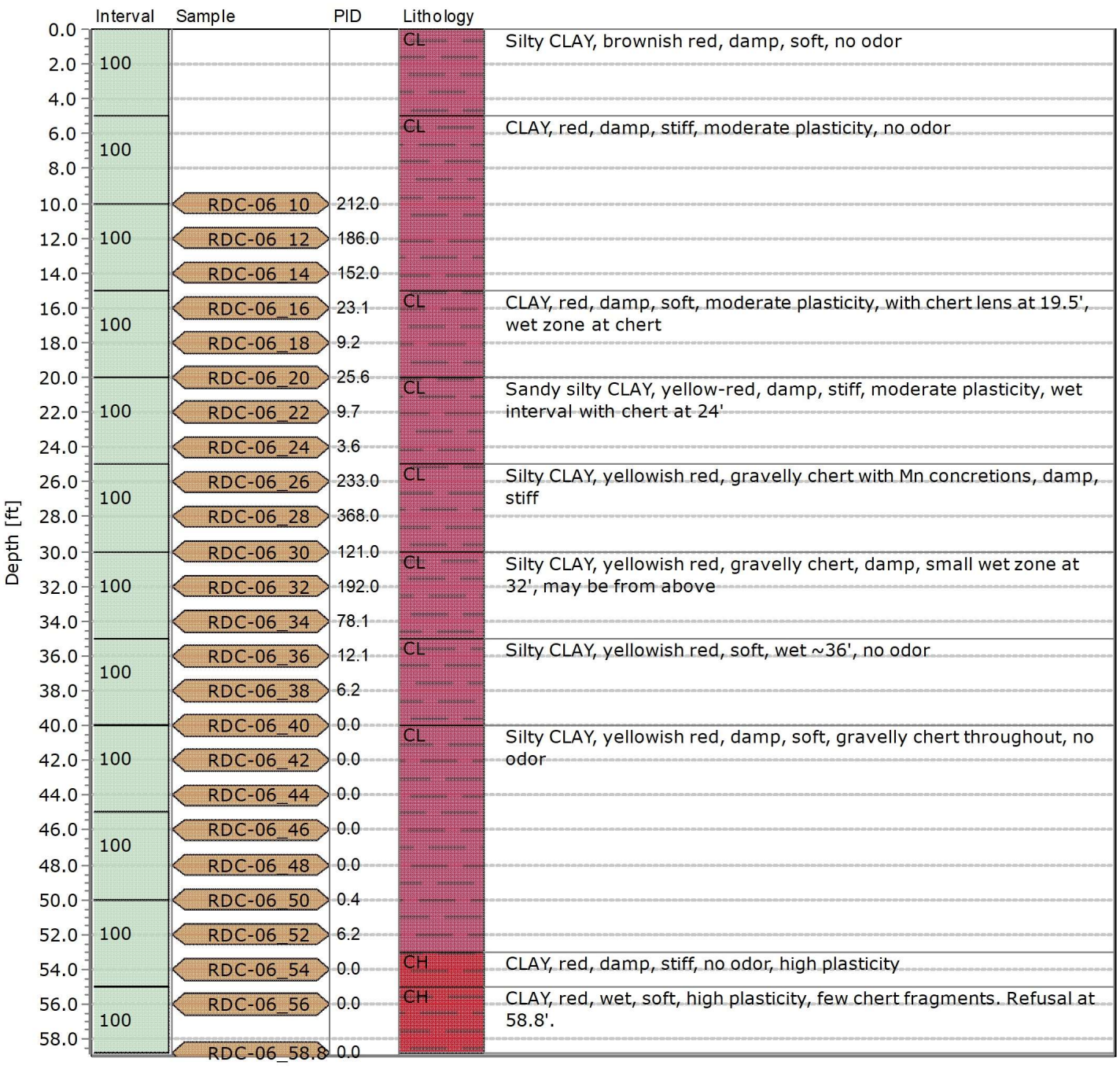


PM - Former Service Station

Borehole: RDC-06

AST ENVIRONMENTAL, INC.
665 McKinney Ave
Midway, KY 40347

Project Name: PM-Frmr Gas Sheffield	Drilling Company: Hawkston	Date Started: 2024-11-12	
Project Number: 5152489	Drilling Method: Direct Push	Date Finished: 2024-11-13	
Project Location: 400 East 2nd Street, Sheffield, AL	Drilling Equipment: Geoprobe 3230	Total Depth: 58.80	Screen Interval:
Project Client: PM Environmental	Sampling Method: Dual Tube	Depth To Water:	Casing:
Project Manager: Bill Brab	Field Operator: Ben Borth		



PM - Former Service Station

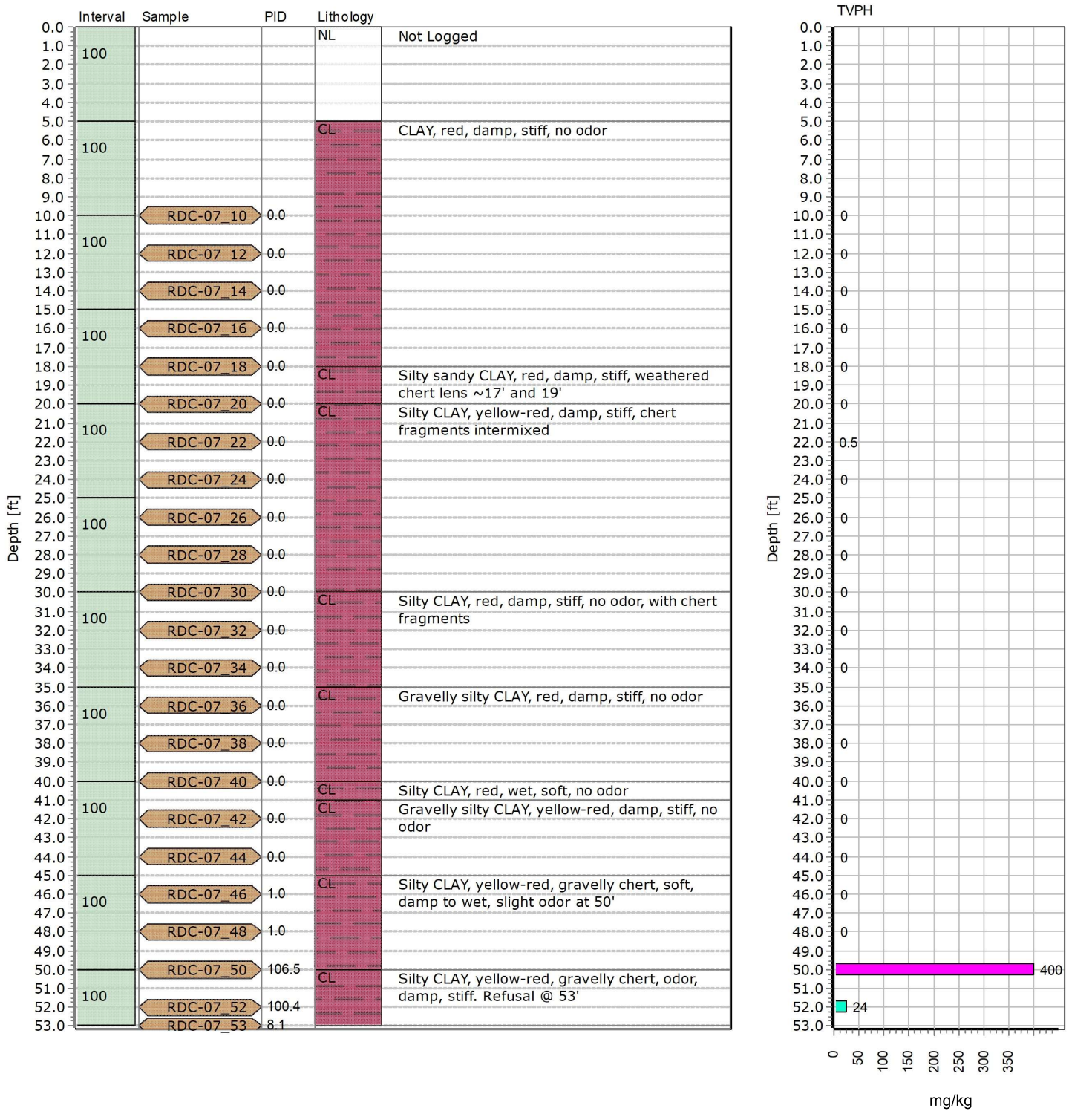
Borehole: **RDC-07**

Project Name	Drilling Company	Date Started
PM-Frmr Gas Sheffield	Hawkston	2024-11-12
Project Number	**Drilling Method**	**Date Finished**
5152489	Direct Push	2024-11-12
Project Location	**Drilling Equipment**	**Total Depth**
400 East 2nd Street, Sheffield, AL	Geoprobe 3230	53.00
Project Client	**Sampling Method**	**Depth To Water**
PM Environmental	Dual Tube	
Project Manager	**Field Operator**	
Bill Brab	Ben Borth	

AST ENVIRONMENTAL, INC.
665 McKinney Ave
Midway, KY 40347

Screen Interval:

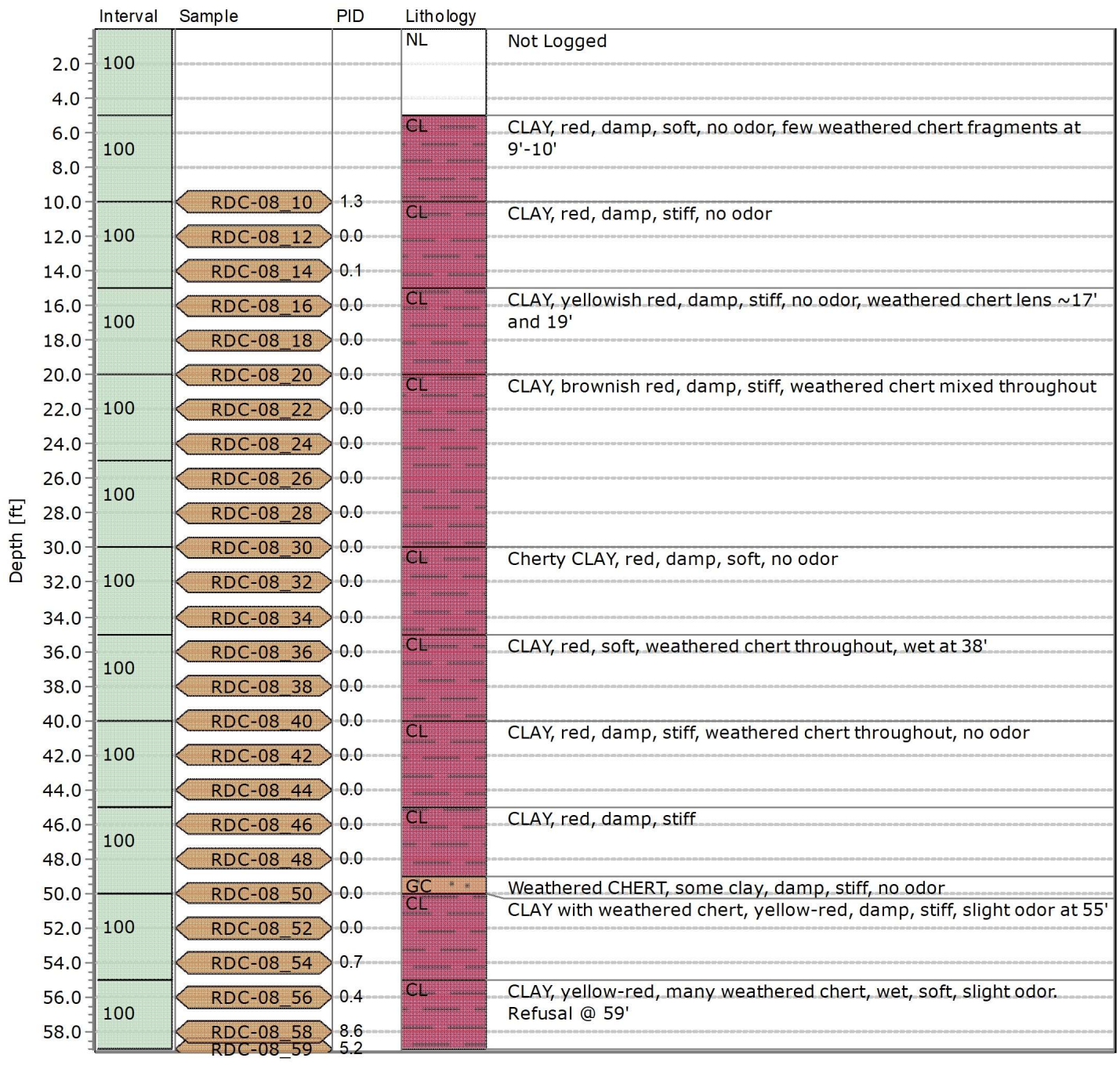
Casing:



PM - Former Service Station

Borehole: **RDC-08**

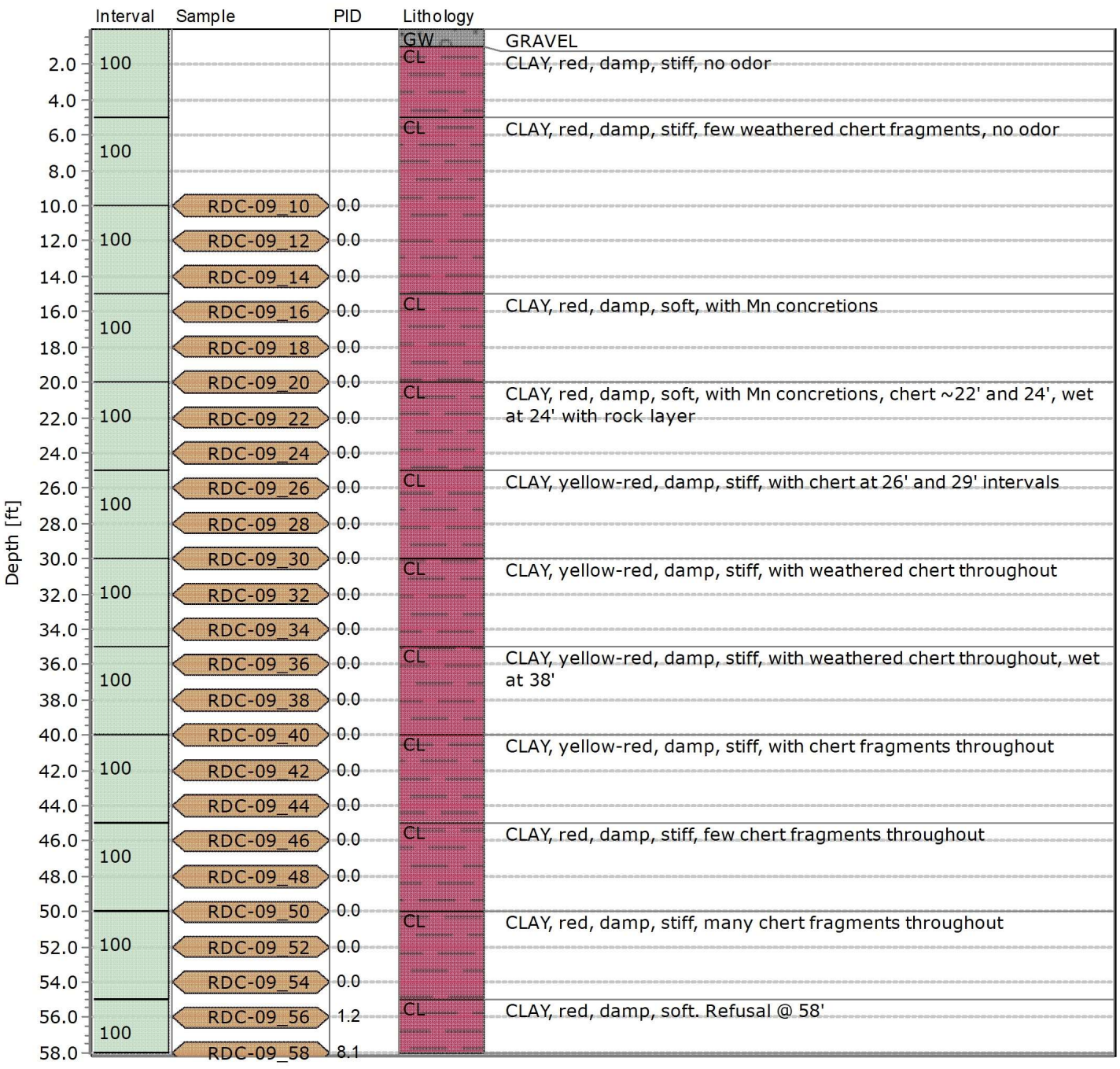
Project Name: PM-Frmr Gas Sheffield	Drilling Company: Hawkston	Date Started: 2024-11-14	AST ENVIRONMENTAL, INC. 665 McKinney Ave Midway, KY 40347
Project Number: 5152489	Drilling Method: Direct Push	Date Finished: 2024-11-15	
Project Location: 400 East 2nd Street, Sheffield, AL	Drilling Equipment: Geoprobe 3230	Total Depth: 59.00	Screen Interval:
Project Client: PM Environmental	Sampling Method: Dual Tube	Depth To Water:	Casing:
Project Manager: Bill Brab	Field Operator: Ben Borth		



PM - Former Service Station

Borehole
RDC-09

Project Name	Drilling Company	Date Started	
PM-Frmr Gas Sheffield	Hawkston	2024-11-15	
Project Number	**Drilling Method**	**Date Finished**	AST ENVIRONMENTAL, INC.
5152489	Direct Push	2024-11-15	665 McKinney Ave Midway, KY 40347
Project Location	**Drilling Equipment**	**Total Depth**	**Screen Interval**
400 East 2nd Street, Sheffield, AL	Geoprobe 3230	58.00	
Project Client	**Sampling Method**	**Depth To Water**	**Casing**
PM Environmental	Dual Tube		
Project Manager	**Field Operator**		
Bill Brab	Ben Borth		



ATTACHMENT B
RPI Laboratory Analytical Report

RPI Soil Laboratory Analytical Report
Former Gasoline Service Station
Sheffield, AL

Sample ID. No.	RDC-01				RDC-01				RDC-01				RDC-01				RDC-01				RDC-01				RDC-01			
Date Sampled	11/12/2024				11/12/2024				11/12/2024				11/12/2024				11/12/2024				11/12/2024				11/12/2024			
Sample Depth	10				12				14				16				18				20				22			
		Reporting Limit	Units	Flags		Reporting Limit	Units	Flags		Reporting Limit	Units	Flags		Reporting Limit	Units	Flags		Reporting Limit	Units	Flags		Reporting Limit	Units	Flags		Reporting Limit	Units	Flags
Dimethyl Sulfide	ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	10	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg	
MTBE	0.9	0.5	ug/Kg		0.7	0.5	ug/Kg		1.4	0.5	ug/Kg		ND	0.5	ug/Kg		ND	10	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg	
1,2-Dichloroethane	ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	10	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg	
Benzene	ND	0.5	ug/Kg		1.1	0.5	ug/Kg		ND	0.5	ug/Kg		5.4	0.5	ug/Kg		ND	10	ug/Kg		0.7	0.5	ug/Kg		0.9	0.5	ug/Kg	
Toluene	2.3	0.5	ug/Kg		2	0.5	ug/Kg		5.9	0.5	ug/Kg		40	0.5	ug/Kg		23	10	ug/Kg		9.8	0.5	ug/Kg		8.1	0.5	ug/Kg	
Ethylbenzene	2.5	0.5	ug/Kg		2.7	0.5	ug/Kg		9.4	0.5	ug/Kg		230	50	ug/Kg		140	10	ug/Kg		420	0.5	ug/Kg		430	0.5	ug/Kg	
m/p-Xylene	8.3	0.5	ug/Kg		11	0.5	ug/Kg		38	0.5	ug/Kg		530	50	ug/Kg		110	10	ug/Kg		230	0.5	ug/Kg		42	0.5	ug/Kg	
o-Xylene	3	0.5	ug/Kg		2.9	0.5	ug/Kg		13	0.5	ug/Kg		69	50	ug/Kg		16	10	ug/Kg		66	0.5	ug/Kg		11	0.5	ug/Kg	
1,2,4-Trimethylbenzene	13	0.5	ug/Kg		17	0.5	ug/Kg		77	0.5	ug/Kg		440	50	ug/Kg		81	10	ug/Kg		3500	50	ug/Kg		180	50	ug/Kg	
Naphthalene	3.1	0.5	ug/Kg		2.9	0.5	ug/Kg		8.6	0.5	ug/Kg		500	50	ug/Kg		90	10	ug/Kg		1200	50	ug/Kg		1000	50	ug/Kg	
TVPH	10	0.5	mg/Kg		14	0.5	mg/Kg		47	0.5	mg/Kg	E	3000	50	mg/Kg	E	650	100	mg/Kg		510	50	mg/Kg		460	50	mg/Kg	
% Surrogate Recovery																												
1,2-Dichloroethane-d4	91				89				89				96				93				91				92			
d8-Toluene	107				111				184				111				118				243				101			
p-Bromofluorobenzene	116				130				104				137				131				19				97			

Sample ID. No.	RDC-01				RDC-01				RDC-01				RDC-01				RDC-01				RDC-01				RDC-01			
Date Sampled	11/12/2024				11/13/2024				11/13/2024				11/13/2024				11/13/2024				11/13/2024				11/13/2024			
Sample Depth	24				26				28				30				32				34				36			
		Reporting Limit	Units	Flags		Reporting Limit	Units	Flags		Reporting Limit	Units	Flags		Reporting Limit	Units	Flags		Reporting Limit	Units	Flags		Reporting Limit	Units	Flags		Reporting Limit	Units	Flags
Dimethyl Sulfide	ND	10	ug/Kg		ND	0.5	ug/Kg		ND	10	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg	
MTBE	ND	10	ug/Kg		ND	0.5	ug/Kg		ND	10	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg	
1,2-Dichloroethane	ND	10	ug/Kg		ND	0.5	ug/Kg		ND	10	ug/Kg		ND	0.5	ug/Kg		4	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg	
Benzene	ND	10	ug/Kg		1	0.5	ug/Kg		36	10	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg	
Toluene	ND	10	ug/Kg		6.2	0.5	ug/Kg		190	10	ug/Kg		6.2	0.5	ug/Kg		7	0.5	ug/Kg		4.2	0.5	ug/Kg		6.5	0.5	ug/Kg	
Ethylbenzene	44	10	ug/Kg		1900	50	ug/Kg		14300	100	ug/Kg		280	50	ug/Kg		660	0.5	ug/Kg	E	33	0.5	ug/Kg		ND	10	ug/Kg	
m/p-Xylene	37	10	ug/Kg		190	0.5	ug/Kg		6400	10	ug/Kg		850	50	ug/Kg		1100	10	ug/Kg		56	0.5	ug/Kg		25	10	ug/Kg	
o-Xylene	8.1	10	ug/Kg		7.7	0.5	ug/Kg		180	10	ug/Kg		44	0.5	ug/Kg		200	10	ug/Kg		12	0.5	ug/Kg		ND	10	ug/Kg	
1,2,4-Trimethylbenzene	150	10	ug/Kg		2400	50	ug/Kg		22700	100	ug/Kg		8900	50	ug/Kg		8100	10	ug/Kg		1100	0.5	ug/Kg	E	420	10	ug/Kg	
Naphthalene	230	10	ug/Kg		2300	50	ug/Kg		9000	100	ug/Kg		1500	50	ug/Kg		1300	10	ug/Kg		270	0.5	ug/Kg		360	10	ug/Kg	
TVPH	140	10	mg/Kg		520	50	mg/Kg		1400	100	mg/Kg		290	50	mg/Kg		330	10	mg/Kg		45	10	mg/Kg		66	10	mg/Kg	
% Surrogate Recovery																												
1,2-Dichloroethane-d4	78				93				94				95				76				73				85			
d8-Toluene	99				93				97				91				167				182				178			
p-Bromofluorobenzene	115				96				97				122				118				139				151			

Sample ID. No.	RDC-01				RDC-01				RDC-01				RDC-01				RDC-01				RDC-01				RDC-01			
Date Sampled	11/13/2024				11/13/2024				11/13/2024				11/13/2024				11/13/2024				11/13/2024				11/13/2024			
Sample Depth	38				40				42				44				46				48				50			
		Reporting Limit	Units	Flags		Reporting Limit	Units	Flags		Reporting Limit	Units	Flags		Reporting Limit	Units	Flags		Reporting Limit	Units	Flags		Reporting Limit	Units	Flags		Reporting Limit	Units	Flags
Dimethyl Sulfide	ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	10	ug/Kg		ND	50	ug/Kg		ND	50	ug/Kg		ND	50	ug/Kg		ND	50	ug/Kg	
MTBE	ND	0.5	ug/Kg		1.6	0.5	ug/Kg		ND	10	ug/Kg		ND	50	ug/Kg		ND	50	ug/Kg		ND	50	ug/Kg		ND	50	ug/Kg	
1,2-Dichloroethane	ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	10	ug/Kg		ND	50	ug/Kg		ND	50	ug/Kg		ND	50	ug/Kg		ND	50	ug/Kg	
Benzene	17	0.5	ug/Kg		ND	0.5	ug/Kg		ND	10	ug/Kg		ND	50	ug/Kg		340	50	ug/Kg		ND	50	ug/Kg		ND	50	ug/Kg	
Toluene	16	0.5	ug/Kg		2.9	0.5	ug/Kg		18	10	ug/Kg		410	50	ug/Kg		2500	50	ug/Kg		110	50	ug/Kg		ND	50	ug/Kg	
Ethylbenzene	4000	50	ug/Kg		22	0.5	ug/Kg		720	10	ug/Kg		30800	50	ug/Kg		81100	50	ug/Kg	E	4500	50	ug/Kg		510	50	ug/Kg	
m/p-Xylene	15900	50	ug/Kg		89	0.5	ug/Kg		2500	10	ug/Kg		88300	50	ug/Kg	E	247000	500	ug/Kg		15500	50	ug/Kg		1600	50	ug/Kg	
o-Xylene	3300	50	ug/Kg		22	0.5	ug/Kg		600	10	ug/Kg		26100	50	ug/Kg		79800	50	ug/Kg	E	4800	50	ug/Kg		420	50	ug/Kg	
1,2,4-Trimethylbenzene	16800	50	ug/Kg		400	0.5	ug/Kg		2400	10	ug/Kg		71500	50	ug/Kg	E	235000	500	ug/Kg		14700	50	ug/Kg		2200	50	ug/Kg	
Naphthalene	1600	50	ug/Kg		130	0.5	ug/Kg		270	10	ug/Kg		8800	50	ug/Kg		25300	50	ug/Kg		1400	50	ug/Kg		220	50	ug/Kg	
TVPH	480	50	mg/Kg		13	0.5	mg/Kg		82	10	mg/Kg		1600	50	mg/Kg		5200	500	mg/Kg		330	50	mg/Kg		48	50	mg/Kg	J
% Surrogate Recovery																												
1,2-Dichloroethane-d4	99				80				87				89				95				86				87			
d8-Toluene	94				105				102				110				111				99				100			
p-Bromofluorobenzene	97				108				105				120				144				108				103			

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Sample ID. No.	RDC-01				RDC-01				RDC-01				RDC-01				RDC-01				RDC-01			
Date Sampled	11/13/2024				11/13/2024				11/13/2024				11/13/2024				11/13/2024				11/13/2024			
Sample Depth	52				54				56				58				60				62			
		Reporting Limit	Units	Flags		Reporting Limit	Units	Flags		Reporting Limit	Units	Flags		Reporting Limit	Units	Flags		Reporting Limit	Units	Flags		Reporting Limit	Units	Flags
Dimethyl Sulfide	ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	50	ug/Kg		ND	0.5	ug/Kg		ND	50	ug/Kg	
MTBE	1.5	0.5	ug/Kg		2	0.5	ug/Kg		ND	0.5	ug/Kg		ND	50	ug/Kg		ND	0.5	ug/Kg		ND	50	ug/Kg	
1,2-Dichloroethane	ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	50	ug/Kg		ND	0.5	ug/Kg		ND	50	ug/Kg	
Benzene	8.4	0.5	ug/Kg		27	0.5	ug/Kg		2.3	0.5	ug/Kg		2400	50	ug/Kg		250	0.5	ug/Kg		4100	50	ug/Kg	
Toluene	4.5	0.5	ug/Kg		2.4	0.5	ug/Kg		46	0.5	ug/Kg		660	50	ug/Kg		110	0.5	ug/Kg		1400	50	ug/Kg	
Ethylbenzene	140	0.5	ug/Kg		31	0.5	ug/Kg		5200	50	ug/Kg		28800	50	ug/Kg		13700	50	ug/Kg		51700	50	ug/Kg	
m/p-Xylene	340	0.5	ug/Kg		67	0.5	ug/Kg		18000	50	ug/Kg		30700	50	ug/Kg		21800	50	ug/Kg		80000	50	ug/Kg	E
o-Xylene	81	0.5	ug/Kg		18	0.5	ug/Kg		3900	50	ug/Kg		1200	50	ug/Kg		3600	50	ug/Kg		14500	50	ug/Kg	
1,2,4-Trimethylbenzene	400	0.5	ug/Kg		47	0.5	ug/Kg		36300	50	ug/Kg		55300	50	ug/Kg		40000	50	ug/Kg		82400	50	ug/Kg	E
Naphthalene	55	0.5	ug/Kg		7.6	0.5	ug/Kg		4200	50	ug/Kg		12000	50	ug/Kg		8100	50	ug/Kg		20000	50	ug/Kg	
TVPH	8.3	0.5	mg/Kg		5.6	0.5	mg/Kg		1100	50	mg/Kg		1800	50	mg/Kg		2200	50	mg/Kg		3200	50	mg/Kg	E
% Surrogate Recovery																								
1,2-Dichloroethane-d4	84				84				98				90				103				95			
d8-Toluene	100				105				104				115				111				115			
p-Bromofluorobenzene	103				102				101				131				114				158			

Sample ID. No.	RDC-02				RDC-02				RDC-02				RDC-02				RDC-02				RDC-02				RDC-02			
Date Sampled	11/11/2024				11/11/2024				11/11/2024				11/11/2024				11/11/2024				11/11/2024				11/11/2024			
Sample Depth	10				12				14				16				18				20				22			
		Reporting Limit	Units	Flags		Reporting Limit	Units	Flags		Reporting Limit	Units	Flags		Reporting Limit	Units	Flags		Reporting Limit	Units	Flags		Reporting Limit	Units	Flags		Reporting Limit	Units	Flags
Dimethyl Sulfide	ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg	
MTBE	0.8	0.5	ug/Kg		1.1	0.5	ug/Kg		1.3	0.5	ug/Kg		0.8	0.5	ug/Kg		0.9	0.5	ug/Kg		0.6	0.5	ug/Kg		0.5	0.5	ug/Kg	
1,2-Dichloroethane	ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg	
Benzene	0.8	0.5	ug/Kg		0.8	0.5	ug/Kg		0.9	0.5	ug/Kg		1.2	0.5	ug/Kg		1.1	0.5	ug/Kg		0.9	0.5	ug/Kg		ND	0.5	ug/Kg	
Toluene	0.9	0.5	ug/Kg		1.3	0.5	ug/Kg		1.7	0.5	ug/Kg		1.7	0.5	ug/Kg		3.2	0.5	ug/Kg		2.1	0.5	ug/Kg		1.5	0.5	ug/Kg	
Ethylbenzene	5.8	0.5	ug/Kg		3.4	0.5	ug/Kg		4.1	0.5	ug/Kg		4.4	0.5	ug/Kg		8.1	0.5	ug/Kg		4.7	0.5	ug/Kg		3.2	0.5	ug/Kg	
m/p-Xylene	17	0.5	ug/Kg		8.9	0.5	ug/Kg		9.8	0.5	ug/Kg		12	0.5	ug/Kg		27	0.5	ug/Kg		19	0.5	ug/Kg		13	0.5	ug/Kg	
o-Xylene	4.3	0.5	ug/Kg		2.9	0.5	ug/Kg		3.3	0.5	ug/Kg		4.1	0.5	ug/Kg		7.7	0.5	ug/Kg		4.2	0.5	ug/Kg		2.9	0.5	ug/Kg	
1,2,4-Trimethylbenzene	31	0.5	ug/Kg		11	0.5	ug/Kg		13	0.5	ug/Kg		19	0.5	ug/Kg		19	0.5	ug/Kg		14	0.5	ug/Kg		17	0.5	ug/Kg	
Naphthalene	20	0.5	ug/Kg		7.2	0.5	ug/Kg		5.4	0.5	ug/Kg		6.1	0.5	ug/Kg		8.8	0.5	ug/Kg		4.8	0.5	ug/Kg		3.1	0.5	ug/Kg	
TVPH	0.6	0.5	mg/Kg		ND	0.5	mg/Kg		ND	0.5	mg/Kg		5.9	0.5	mg/Kg		38	0.5	mg/Kg	E	35	0.5	mg/Kg	E	13	0.5	mg/Kg	
% Surrogate Recovery																												
1,2-Dichloroethane-d4	84				81				85				86				80				87				87			
d8-Toluene	96				93				96				106				138				137				137			
p-Bromofluorobenzene	95				92				94				109				285				268				146			

Sample ID. No.	RDC-02				RDC-02				RDC-02				RDC-02				RDC-02				RDC-02				RDC-02			
Date Sampled	11/11/2024				11/13/2024				11/13/2024				11/13/2024				11/13/2024				11/13/2024				11/13/2024			
Sample Depth	24				26				28				30				32				34				36			
		Reporting Limit	Units	Flags		Reporting Limit	Units	Flags		Reporting Limit	Units	Flags		Reporting Limit	Units	Flags		Reporting Limit	Units	Flags		Reporting Limit	Units	Flags		Reporting Limit	Units	Flags
Dimethyl Sulfide	ND	50	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	10	ug/Kg		ND	0.5	ug/Kg	
MTBE	ND	50	ug/Kg		0.7	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	10	ug/Kg		1.4	0.5	ug/Kg	
1,2-Dichloroethane	ND	50	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	10	ug/Kg		ND	0.5	ug/Kg	
Benzene	ND	50	ug/Kg		0.6	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		1	0.5	ug/Kg		ND	10	ug/Kg		ND	0.5	ug/Kg	
Toluene	ND	50	ug/Kg		1.5	0.5	ug/Kg		3.9	0.5	ug/Kg		7.9	0.5	ug/Kg		2.7	0.5	ug/Kg		100	10	ug/Kg		3.3	0.5	ug/Kg	
Ethylbenzene	520	50	ug/Kg		2.1	0.5	ug/Kg		9.1	0.5	ug/Kg		190	0.5	ug/Kg		13	0.5	ug/Kg		820	10	ug/Kg		6	0.5	ug/Kg	
m/p-Xylene	980	50	ug/Kg		16	0.5	ug/Kg		38	0.5	ug/Kg		80	0.5	ug/Kg		39	0.5	ug/Kg		400	10	ug/Kg		22	0.5	ug/Kg	
o-Xylene	120	50	ug/Kg		3.9	0.5	ug/Kg		9.3	0.5	ug/Kg		15	0.5	ug/Kg		7.8	0.5	ug/Kg		59	10	ug/Kg		7.1	0.5	ug/Kg	
1,2,4-Trimethylbenzene	2500	50	ug/Kg		15	0.5	ug/Kg		35	0.5	ug/Kg		700	0.5	ug/Kg	E	85	0.5	ug/Kg		6100	10	ug/Kg		38	0.5	ug/Kg	
Naphthalene	1200	50	ug/Kg		2.8	0.5	ug/Kg		3.9	0.5	ug/Kg		49	0.5	ug/Kg		6.6	0.5	ug/Kg		560	10	ug/Kg		12	0.5	ug/Kg	
TVPH	870	50	mg/Kg		26	0.5	mg/Kg	E	240	10	mg/Kg		320	25	mg/Kg		130	10	mg/Kg		510	10	mg/Kg	E	15	0.5	mg/Kg	
% Surrogate Recovery																												
1,2-Dichloroethane-d4	87				87				90				84				83				91				80			
d8-Toluene	56				162				201				276				190				136				124			
p-Bromofluorobenzene	73				209				154				150				134				163				123			

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Sample ID. No.	RDC-02				RDC-02				RDC-02				RDC-02				RDC-02				RDC-02				RDC-02			
Date Sampled	11/13/2024				11/13/2024				11/13/2024				11/13/2024				11/13/2024				11/13/2024				11/13/2024			
Sample Depth	38				40				42				44				46				48				50			
		Reporting Limit	Units	Flags		Reporting Limit	Units	Flags		Reporting Limit	Units	Flags		Reporting Limit	Units	Flags		Reporting Limit	Units	Flags		Reporting Limit	Units	Flags		Reporting Limit	Units	Flags
Dimethyl Sulfide	ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg	
MTBE	ND	0.5	ug/Kg		ND	0.5	ug/Kg		1.5	0.5	ug/Kg		1.4	0.5	ug/Kg		1.4	0.5	ug/Kg		2.2	0.5	ug/Kg		4.3	0.5	ug/Kg	
1,2-Dichloroethane	ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg	
Benzene	ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		0.6	0.5	ug/Kg		ND	0.5	ug/Kg		3.7	0.5	ug/Kg		16	0.5	ug/Kg	
Toluene	7.9	0.5	ug/Kg		8.2	0.5	ug/Kg		3.7	0.5	ug/Kg		2.7	0.5	ug/Kg		1.2	0.5	ug/Kg		3.2	0.5	ug/Kg		6.3	0.5	ug/Kg	
Ethylbenzene	170	0.5	ug/Kg		60	0.5	ug/Kg		5.4	0.5	ug/Kg		4.8	0.5	ug/Kg		1.7	0.5	ug/Kg		60	0.5	ug/Kg		23	0.5	ug/Kg	
m/p-Xylene	130	0.5	ug/Kg		73	0.5	ug/Kg		18	0.5	ug/Kg		11	0.5	ug/Kg		5	0.5	ug/Kg		64	0.5	ug/Kg		120	0.5	ug/Kg	
o-Xylene	20	0.5	ug/Kg		16	0.5	ug/Kg		6.2	0.5	ug/Kg		3.4	0.5	ug/Kg		1.7	0.5	ug/Kg		6.8	0.5	ug/Kg		9.9	0.5	ug/Kg	
1,2,4-Trimethylbenzene	1000	25	ug/Kg		970	0.5	ug/Kg	E	47	0.5	ug/Kg		24	0.5	ug/Kg		8.7	0.5	ug/Kg		210	0.5	ug/Kg		280	0.5	ug/Kg	
Naphthalene	190	0.5	ug/Kg		97	0.5	ug/Kg		16	0.5	ug/Kg		11	0.5	ug/Kg		2.5	0.5	ug/Kg		41	0.5	ug/Kg		8.8	0.5	ug/Kg	
TVPH	120	25	mg/Kg		31	0.5	mg/Kg	E	4.8	0.5	mg/Kg		ND	0.5	mg/Kg		9.6	0.5	mg/Kg		13	0.5	mg/Kg		41	0.5	mg/Kg	E
% Surrogate Recovery																												
1,2-Dichloroethane-d4	89				80				84				84				82				88				83			
d8-Toluene	299				142				105				94				121				116				172			
p-Bromofluorobenzene	341				159				105				93				118				116				171			

Sample ID. No.	RDC-02				RDC-02				RDC-02				RDC-02			
Date Sampled	11/13/2024				11/13/2024				11/13/2024				11/13/2024			
Sample Depth	52				54				56				58			
		Reporting Limit	Units	Flags		Reporting Limit	Units	Flags		Reporting Limit	Units	Flags		Reporting Limit	Units	Flags
Dimethyl Sulfide	ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg	
MTBE	1.6	0.5	ug/Kg		2.1	0.5	ug/Kg		2	0.5	ug/Kg		2.5	0.5	ug/Kg	
1,2-Dichloroethane	ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg	
Benzene	ND	0.5	ug/Kg		1.1	0.5	ug/Kg		2.4	0.5	ug/Kg		19	0.5	ug/Kg	
Toluene	2.7	0.5	ug/Kg		4.9	0.5	ug/Kg		2.7	0.5	ug/Kg		7.1	0.5	ug/Kg	
Ethylbenzene	1.4	0.5	ug/Kg		29	0.5	ug/Kg		6.3	0.5	ug/Kg		10	0.5	ug/Kg	
m/p-Xylene	16	0.5	ug/Kg		100	0.5	ug/Kg		130	0.5	ug/Kg		60	0.5	ug/Kg	
o-Xylene	9.5	0.5	ug/Kg		17	0.5	ug/Kg		8.8	0.5	ug/Kg		10	0.5	ug/Kg	
1,2,4-Trimethylbenzene	70	0.5	ug/Kg		190	0.5	ug/Kg		200	0.5	ug/Kg		35	0.5	ug/Kg	
Naphthalene	35	0.5	ug/Kg		20	0.5	ug/Kg		4.3	0.5	ug/Kg		8.7	0.5	ug/Kg	
TVPH	36	0.5	mg/Kg	E	15	0.5	mg/Kg		40	0.5	mg/Kg	E	27	0.5	mg/Kg	E
% Surrogate Recovery																
1,2-Dichloroethane-d4	82				82				91				84			
d8-Toluene	166				123				185				142			
p-Bromofluorobenzene	163				124				170				141			

Sample ID. No.	RDC-03				RDC-03				RDC-03				RDC-03				RDC-03				RDC-03				RDC-03			
Date Sampled	11/12/2024				11/12/2024				11/12/2024				11/12/2024				11/12/2024				11/12/2024				11/12/2024			
Sample Depth	10				12				14				16				18				20				22			
		Reporting Limit	Units	Flags		Reporting Limit	Units	Flags		Reporting Limit	Units	Flags		Reporting Limit	Units	Flags		Reporting Limit	Units	Flags		Reporting Limit	Units	Flags		Reporting Limit	Units	Flags
Dimethyl Sulfide	ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg	
MTBE	0.9	0.5	ug/Kg		1	0.5	ug/Kg		1.4	0.5	ug/Kg		1.3	0.5	ug/Kg		4.3	0.5	ug/Kg		5.6	0.5	ug/Kg		4	0.5	ug/Kg	
1,2-Dichloroethane	ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg	
Benzene	ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		0.8	0.5	ug/Kg		1	0.5	ug/Kg		0.7	0.5	ug/Kg	
Toluene	1.6	0.5	ug/Kg		1.6	0.5	ug/Kg		1.9	0.5	ug/Kg		1	0.5	ug/Kg		2.5	0.5	ug/Kg		2.7	0.5	ug/Kg		1.7	0.5	ug/Kg	
Ethylbenzene	1.9	0.5	ug/Kg		1.7	0.5	ug/Kg		2.1	0.5	ug/Kg		1.1	0.5	ug/Kg		2	0.5	ug/Kg		3	0.5	ug/Kg		2.8	0.5	ug/Kg	
m/p-Xylene	4.1	0.5	ug/Kg		6.9	0.5	ug/Kg		6.5	0.5	ug/Kg		1.8	0.5	ug/Kg		7.6	0.5	ug/Kg		10	0.5	ug/Kg		9.2	0.5	ug/Kg	
o-Xylene	3.1	0.5	ug/Kg		2.8	0.5	ug/Kg		3.4	0.5	ug/Kg		2.6	0.5	ug/Kg		2.2	0.5	ug/Kg		2.2	0.5	ug/Kg		2	0.5	ug/Kg	
1,2,4-Trimethylbenzene	5.6	0.5	ug/Kg		9.9	0.5	ug/Kg		9.9	0.5	ug/Kg		3.6	0.5	ug/Kg		6.3	0.5	ug/Kg		11	0.5	ug/Kg		10	0.5	ug/Kg	
Naphthalene	1.8	0.5	ug/Kg		1	0.5	ug/Kg		0.9	0.5	ug/Kg		ND	0.5	ug/Kg		1.2	0.5	ug/Kg		3.6	0.5	ug/Kg		3.2	0.5	ug/Kg	
TVPH	ND	0.5	mg/Kg		ND	0.5	mg/Kg		ND	0.5	mg/Kg		ND	0.5	mg/Kg		0.6	0.5	mg/Kg		0.5	0.5	mg/Kg		ND	0.5	mg/Kg	
% Surrogate Recovery																												
1,2-Dichloroethane-d4	90				93				88				91				88				93				97			
d8-Toluene	102				101				101				101				91				90				77			
p-Bromofluorobenzene	106				102				101				102				88				74				86			

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Sample ID. No.	RDC-03				RDC-03				RDC-03				RDC-03				RDC-03				RDC-03				RDC-03			
Date Sampled	11/12/2024				11/14/2024				11/14/2024				11/14/2024				11/14/2024				11/14/2024				11/14/2024			
Sample Depth	24				30				32				34				36				38				40			
		Reporting Limit	Units	Flags		Reporting Limit	Units	Flags		Reporting Limit	Units	Flags		Reporting Limit	Units	Flags		Reporting Limit	Units	Flags		Reporting Limit	Units	Flags		Reporting Limit	Units	Flags
Dimethyl Sulfide	ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg	
MTBE	1.2	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg	
1,2-Dichloroethane	ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg	
Benzene	ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		1.4	0.5	ug/Kg		0.6	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg	
Toluene	2.1	0.5	ug/Kg		5	0.5	ug/Kg		14	0.5	ug/Kg		18	0.5	ug/Kg		2.5	0.5	ug/Kg		3.9	0.5	ug/Kg		1.9	0.5	ug/Kg	
Ethylbenzene	1.9	0.5	ug/Kg		560	0.5	ug/Kg		39	0.5	ug/Kg		780	0.5	ug/Kg	E	61	0.5	ug/Kg		76	0.5	ug/Kg		5.9	0.5	ug/Kg	
m/p-Xylene	7.9	0.5	ug/Kg		890	0.5	ug/Kg	E	82	0.5	ug/Kg		37	0.5	ug/Kg		11	0.5	ug/Kg		52	0.5	ug/Kg		15	0.5	ug/Kg	
o-Xylene	3.2	0.5	ug/Kg		110	0.5	ug/Kg		24	0.5	ug/Kg		7.8	0.5	ug/Kg		2.3	0.5	ug/Kg		6.5	0.5	ug/Kg		4.4	0.5	ug/Kg	
1,2,4-Trimethylbenzene	9.4	0.5	ug/Kg		1000	0.5	ug/Kg	E	130	10	ug/Kg		510	0.5	ug/Kg		360	0.5	ug/Kg		1400	0.5	ug/Kg	E	180	0.5	ug/Kg	
Naphthalene	ND	0.5	ug/Kg		80	0.5	ug/Kg		58	10	ug/Kg		52	0.5	ug/Kg		7.8	0.5	ug/Kg		19	0.5	ug/Kg		4.8	0.5	ug/Kg	
TVPH	ND	0.5	mg/Kg		25	0.5	mg/Kg	E	560	10	mg/Kg	E	34	0.5	mg/Kg	E	7.1	0.5	mg/Kg		20	0.5	mg/Kg		12	0.5	mg/Kg	
% Surrogate Recovery																												
1,2-Dichloroethane-d4	92				96				45				131				109				91				108			
d8-Toluene	100				103				116				118				95				93				88			
p-Bromofluorobenzene	102				114				319				241				118				153				136			

Sample ID. No.	RDC-03				RDC-03				RDC-03				RDC-03				RDC-03				RDC-03				RDC-03			
Date Sampled	11/14/2024				11/14/2024				11/14/2024				11/14/2024				11/14/2024				11/14/2024				11/14/2024			
Sample Depth	42				44				46				48				50				52				54			
		Reporting Limit	Units	Flags		Reporting Limit	Units	Flags		Reporting Limit	Units	Flags		Reporting Limit	Units	Flags		Reporting Limit	Units	Flags		Reporting Limit	Units	Flags		Reporting Limit	Units	Flags
Dimethyl Sulfide	ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg	
MTBE	ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		4.8	0.5	ug/Kg	
1,2-Dichloroethane	ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg	
Benzene	2.6	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		2.1	0.5	ug/Kg		17	0.5	ug/Kg		ND	0.5	ug/Kg		1.8	0.5	ug/Kg	
Toluene	13	0.5	ug/Kg		2	0.5	ug/Kg		2.9	0.5	ug/Kg		37	0.5	ug/Kg		180	0.5	ug/Kg		3.9	0.5	ug/Kg		5.3	0.5	ug/Kg	
Ethylbenzene	1600	25	ug/Kg		99	0.5	ug/Kg		42	0.5	ug/Kg		230	0.5	ug/Kg		5700	50	ug/Kg		200	0.5	ug/Kg		9.5	0.5	ug/Kg	
m/p-Xylene	2900	25	ug/Kg		170	0.5	ug/Kg		74	0.5	ug/Kg		690	0.5	ug/Kg	E	12400	50	ug/Kg		620	0.5	ug/Kg	E	38	0.5	ug/Kg	
o-Xylene	460	25	ug/Kg		37	0.5	ug/Kg		23	0.5	ug/Kg		250	0.5	ug/Kg		3100	50	ug/Kg		180	0.5	ug/Kg		11	0.5	ug/Kg	
1,2,4-Trimethylbenzene	9600	25	ug/Kg		490	0.5	ug/Kg		510	0.5	ug/Kg		560	0.5	ug/Kg		26200	50	ug/Kg		960	0.5	ug/Kg	E	220	0.5	ug/Kg	
Naphthalene	1100	25	ug/Kg		52	0.5	ug/Kg		46	0.5	ug/Kg		60	0.5	ug/Kg		2600	50	ug/Kg		79	0.5	ug/Kg		53	0.5	ug/Kg	
TVPH	360	25	mg/Kg		2.7	0.5	mg/Kg		2.9	0.5	mg/Kg		6.7	0.5	mg/Kg		560	50	mg/Kg		7.5	0.5	mg/Kg		13	0.5	mg/Kg	
% Surrogate Recovery																												
1,2-Dichloroethane-d4	93				113				107				84				106				108				92			
d8-Toluene	102				77				91				91				104				91				116			
p-Bromofluorobenzene	101				120				111				84				93				138				93			

Sample ID. No.	RDC-03				RDC-03				RDC-03				RDC-03				RDC-03				RDC-03				RDC-03			
Date Sampled	11/14/2024				11/14/2024				11/14/2024				11/14/2024				11/14/2024				11/14/2024				11/14/2024			
Sample Depth	56				58				60				62				64				66				67			
		Reporting Limit	Units	Flags		Reporting Limit	Units	Flags		Reporting Limit	Units	Flags		Reporting Limit	Units	Flags		Reporting Limit	Units	Flags		Reporting Limit	Units	Flags		Reporting Limit	Units	Flags
Dimethyl Sulfide	ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg	
MTBE	ND	0.5	ug/Kg		16	0.5	ug/Kg		ND	0.5	ug/Kg		3.7	0.5	ug/Kg		5.1	0.5	ug/Kg		ND	0.5	ug/Kg		4.7	0.5	ug/Kg	
1,2-Dichloroethane	ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		6	0.5	ug/Kg		1.8	0.5	ug/Kg	
Benzene	19	0.5	ug/Kg		340	0.5	ug/Kg		50	0.5	ug/Kg		0.8	0.5	ug/Kg		0.6	0.5	ug/Kg		36	0.5	ug/Kg		0.6	0.5	ug/Kg	
Toluene	39	0.5	ug/Kg		7.8	0.5	ug/Kg		130	0.5	ug/Kg		1.3	0.5	ug/Kg		1.9	0.5	ug/Kg		210	0.5	ug/Kg		4.3	0.5	ug/Kg	
Ethylbenzene	720	10	ug/Kg		160	0.5	ug/Kg		960	25	ug/Kg		5.7	0.5	ug/Kg		2.3	0.5	ug/Kg		1200	0.5	ug/Kg	E	20	0.5	ug/Kg	
m/p-Xylene	2500	10	ug/Kg		370	0.5	ug/Kg		3400	25	ug/Kg		19	0.5	ug/Kg		8	0.5	ug/Kg		2000	10	ug/Kg		80	0.5	ug/Kg	
o-Xylene	700	10	ug/Kg		56	0.5	ug/Kg		1100	25	ug/Kg		6.2	0.5	ug/Kg		3	0.5	ug/Kg		650	10	ug/Kg		25	0.5	ug/Kg	
1,2,4-Trimethylbenzene	4200	10	ug/Kg		200	0.5	ug/Kg		5900	25	ug/Kg		17	0.5	ug/Kg		8.7	0.5	ug/Kg		4200	10	ug/Kg		69	0.5	ug/Kg	
Naphthalene	560	10	ug/Kg		30	0.5	ug/Kg		940	25	ug/Kg		4.3	0.5	ug/Kg		1.9	0.5	ug/Kg		530	10	ug/Kg		9.7	0.5	ug/Kg	
TVPH	220	10	mg/Kg		1.2	0.5	mg/Kg		190	25	mg/Kg		ND	0.5	mg/Kg		ND	0.5	mg/Kg		160	10	mg/Kg		0.8	0.5	mg/Kg	
% Surrogate Recovery																												
1,2-Dichloroethane-d4	108				116				95				113				108				106				109			
d8-Toluene	92				71				92				74				84				107				85			
p-Bromofluorobenzene	125				105				102				112				104				109				110			

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Sample ID. No.	RDC-04				RDC-04				RDC-04				RDC-04				RDC-04				RDC-04				RDC-04			
Date Sampled	11/12/2024				11/12/2024				11/12/2024				11/12/2024				11/12/2024				11/12/2024				11/12/2024			
Sample Depth	10				12				14				16				18				20				22			
		Reporting Limit	Units	Flags		Reporting Limit	Units	Flags		Reporting Limit	Units	Flags		Reporting Limit	Units	Flags		Reporting Limit	Units	Flags		Reporting Limit	Units	Flags		Reporting Limit	Units	Flags
Dimethyl Sulfide	ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg	
MTBE	ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		1.6	0.5	ug/Kg		1.5	0.5	ug/Kg		2	0.5	ug/Kg	
1,2-Dichloroethane	ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg	
Benzene	0.6	0.5	ug/Kg		0.7	0.5	ug/Kg		ND	0.5	ug/Kg		1.1	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg	
Toluene	1.9	0.5	ug/Kg		2.7	0.5	ug/Kg		1.1	0.5	ug/Kg		1.5	0.5	ug/Kg		1.6	0.5	ug/Kg		1.2	0.5	ug/Kg		2.4	0.5	ug/Kg	
Ethylbenzene	3.4	0.5	ug/Kg		11	0.5	ug/Kg		2.5	0.5	ug/Kg		2.1	0.5	ug/Kg		1.7	0.5	ug/Kg		1.8	0.5	ug/Kg		3.1	0.5	ug/Kg	
m/p-Xylene	12	0.5	ug/Kg		35	0.5	ug/Kg		9.8	0.5	ug/Kg		8.6	0.5	ug/Kg		6.8	0.5	ug/Kg		7.2	0.5	ug/Kg		12	0.5	ug/Kg	
o-Xylene	3.9	0.5	ug/Kg		10	0.5	ug/Kg		2.6	0.5	ug/Kg		2.6	0.5	ug/Kg		2.9	0.5	ug/Kg		2.8	0.5	ug/Kg		4.8	0.5	ug/Kg	
1,2,4-Trimethylbenzene	24	0.5	ug/Kg		120	0.5	ug/Kg		24	0.5	ug/Kg		14	0.5	ug/Kg		7	0.5	ug/Kg		13	0.5	ug/Kg		14	0.5	ug/Kg	
Naphthalene	4.6	0.5	ug/Kg		4.4	0.5	ug/Kg		6.6	0.5	ug/Kg		2.1	0.5	ug/Kg		1.1	0.5	ug/Kg		2.3	0.5	ug/Kg		1.2	0.5	ug/Kg	
TVPH	4	0.5	mg/Kg		13	0.5	mg/Kg		6.4	0.5	mg/Kg		2.5	0.5	mg/Kg		ND	0.5	mg/Kg		ND	0.5	mg/Kg		ND	0.5	mg/Kg	
% Surrogate Recovery																												
1,2-Dichloroethane-d4	86				84				87				88				90				89				88			
d8-Toluene	92				65				84				89				100				100				101			
p-Bromofluorobenzene	85				124				85				87				104				102				104			

Sample ID. No.	RDC-04				RDC-04				RDC-04				RDC-04				RDC-04				RDC-04				RDC-04			
Date Sampled	11/12/2024				11/13/2024				11/13/2024				11/13/2024				11/13/2024				11/13/2024				11/13/2024			
Sample Depth	24				26				28				30				32				34				36			
		Reporting Limit	Units	Flags		Reporting Limit	Units	Flags		Reporting Limit	Units	Flags		Reporting Limit	Units	Flags		Reporting Limit	Units	Flags		Reporting Limit	Units	Flags		Reporting Limit	Units	Flags
Dimethyl Sulfide	ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	50	ug/Kg	
MTBE	ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	50	ug/Kg	
1,2-Dichloroethane	ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	50	ug/Kg	
Benzene	1.4	0.5	ug/Kg		2.6	0.5	ug/Kg		ND	0.5	ug/Kg		1.8	0.5	ug/Kg		2.5	0.5	ug/Kg		22	0.5	ug/Kg		ND	50	ug/Kg	
Toluene	22	0.5	ug/Kg		2.2	0.5	ug/Kg		3.3	0.5	ug/Kg		1.7	0.5	ug/Kg		11	0.5	ug/Kg		29	0.5	ug/Kg		220	50	ug/Kg	
Ethylbenzene	100	0.5	ug/Kg		26	0.5	ug/Kg		6.3	0.5	ug/Kg		13	0.5	ug/Kg		28	0.5	ug/Kg		17600	25	ug/Kg		21700	50	ug/Kg	
m/p-Xylene	250	0.5	ug/Kg		77	0.5	ug/Kg		140	0.5	ug/Kg		44	0.5	ug/Kg		40	0.5	ug/Kg		17100	25	ug/Kg		85500	50	ug/Kg	E
o-Xylene	62	0.5	ug/Kg		23	0.5	ug/Kg		23	0.5	ug/Kg		11	0.5	ug/Kg		14	0.5	ug/Kg		68	25	ug/Kg		31300	50	ug/Kg	
1,2,4-Trimethylbenzene	180	10	ug/Kg		38	0.5	ug/Kg		74	0.5	ug/Kg		34	0.5	ug/Kg		13	0.5	ug/Kg		47800	25	ug/Kg	E	68000	50	ug/Kg	E
Naphthalene	130	10	ug/Kg		3.5	0.5	ug/Kg		2.8	0.5	ug/Kg		3.6	0.5	ug/Kg		3.2	0.5	ug/Kg		6200	25	ug/Kg		12200	50	ug/Kg	
TVPH	580	10	mg/Kg	E	13	0.5	mg/Kg		24	0.5	mg/Kg	E	6.8	0.5	mg/Kg		32	0.5	mg/Kg	E	1500	25	mg/Kg	E	1600	50	mg/Kg	
% Surrogate Recovery																												
1,2-Dichloroethane-d4	88				92				107				93				109				87				85			
d8-Toluene	95				76				79				77				75				95				102			
p-Bromofluorobenzene	129				137				177				107				173				124				114			

Sample ID. No.	RDC-04				RDC-04				RDC-04				RDC-04				RDC-04				RDC-04				RDC-04			
Date Sampled	11/13/2024				11/13/2024				11/13/2024				11/13/2024				11/13/2024				11/13/2024				11/13/2024			
Sample Depth	38				40				42				44				46				48				50			
		Reporting Limit	Units	Flags		Reporting Limit	Units	Flags		Reporting Limit	Units	Flags		Reporting Limit	Units	Flags		Reporting Limit	Units	Flags		Reporting Limit	Units	Flags		Reporting Limit	Units	Flags
Dimethyl Sulfide	ND	10	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg	
MTBE	ND	10	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg	
1,2-Dichloroethane	ND	10	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg	
Benzene	570	10	ug/Kg		94	0.5	ug/Kg		2.8	0.5	ug/Kg		1.2	0.5	ug/Kg		2.9	0.5	ug/Kg		4.5	0.5	ug/Kg		54	0.5	ug/Kg	
Toluene	340	10	ug/Kg		62	0.5	ug/Kg		17	0.5	ug/Kg		15	0.5	ug/Kg		31	0.5	ug/Kg		30	0.5	ug/Kg		64	0.5	ug/Kg	
Ethylbenzene	10600	100	ug/Kg		27300	50	ug/Kg		5700	25	ug/Kg		200	0.5	ug/Kg		870	25	ug/Kg		8600	50	ug/Kg		3200	25	ug/Kg	
m/p-Xylene	38900	100	ug/Kg		96400	50	ug/Kg	E	6300	25	ug/Kg		430	0.5	ug/Kg		4400	25	ug/Kg		43000	50	ug/Kg		11800	25	ug/Kg	
o-Xylene	500	100	ug/Kg		12500	50	ug/Kg		78	25	ug/Kg		100	0.5	ug/Kg		600	25	ug/Kg		7100	50	ug/Kg		1700	25	ug/Kg	
1,2,4-Trimethylbenzene	87600	100	ug/Kg		79400	50	ug/Kg	E	27900	25	ug/Kg		320	0.5	ug/Kg		13100	25	ug/Kg		88700	50	ug/Kg	E	17000	25	ug/Kg	
Naphthalene	23500	100	ug/Kg		13400	50	ug/Kg		4000	25	ug/Kg		69	0.5	ug/Kg		3400	25	ug/Kg		17000	50	ug/Kg		3500	25	ug/Kg	
TVPH	2600	100	mg/Kg		2600	50	mg/Kg		770	25	mg/Kg		36	0.5	mg/Kg	E	400	25	mg/Kg		73	50	mg/Kg		580	25	mg/Kg	
% Surrogate Recovery																												
1,2-Dichloroethane-d4	91				86				92				120				92				92				91			
d8-Toluene	95				106				94				116				90				98				99			
p-Bromofluorobenzene	100				110				112				287				111				106				104			

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Sample ID. No.	RDC-04				RDC-04			
Date Sampled	11/13/2024				11/13/2024			
Sample Depth	52				54			
		Reporting Limit	Units	Flags		Reporting Limit	Units	Flags
Dimethyl Sulfide	ND	0.5	ug/Kg		ND	0.5	ug/Kg	
MTBE	ND	0.5	ug/Kg		ND	0.5	ug/Kg	
1,2-Dichloroethane	ND	0.5	ug/Kg		ND	0.5	ug/Kg	
Benzene	290	0.5	ug/Kg		70	0.5	ug/Kg	
Toluene	150	0.5	ug/Kg		18	0.5	ug/Kg	
Ethylbenzene	12000	25	ug/Kg		490	0.5	ug/Kg	
m/p-Xylene	24800	25	ug/Kg		530	0.5	ug/Kg	
o-Xylene	2500	25	ug/Kg		28	0.5	ug/Kg	
1,2,4-Trimethylbenzene	53200	25	ug/Kg	E	520	0.5	ug/Kg	
Naphthalene	7700	25	ug/Kg		190	0.5	ug/Kg	
TVPH	2000	25	mg/Kg		20	0.5	mg/Kg	
% Surrogate Recovery					LIS			
1,2-Dichloroethane-d4	93				110			
d8-Toluene	123				124			
p-Bromofluorobenzene	122				246			

Sample ID. No.	RDC-06				RDC-06				RDC-06				RDC-06				RDC-06				RDC-06				RDC-06			
Date Sampled	11/12/2024				11/12/2024				11/12/2024				11/12/2024				11/12/2024				11/12/2024				11/12/2024			
Sample Depth	10				12				14				16				18				20				22			
		Reporting Limit	Units	Flags		Reporting Limit	Units	Flags		Reporting Limit	Units	Flags		Reporting Limit	Units	Flags		Reporting Limit	Units	Flags		Reporting Limit	Units	Flags		Reporting Limit	Units	Flags
Dimethyl Sulfide	ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg	
MTBE	1.9	0.5	ug/Kg		1.1	0.5	ug/Kg		1.2	0.5	ug/Kg		0.8	0.5	ug/Kg		1.6	0.5	ug/Kg		1.6	0.5	ug/Kg		1.4	0.5	ug/Kg	
1,2-Dichloroethane	ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg	
Benzene	0.7	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		0.8	0.5	ug/Kg		0.7	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg	
Toluene	1.7	0.5	ug/Kg		0.8	0.5	ug/Kg		1.3	0.5	ug/Kg		1.6	0.5	ug/Kg		1.9	0.5	ug/Kg		1.5	0.5	ug/Kg		1.3	0.5	ug/Kg	
Ethylbenzene	2	0.5	ug/Kg		0.9	0.5	ug/Kg		1.3	0.5	ug/Kg		1.9	0.5	ug/Kg		2.2	0.5	ug/Kg		1.3	0.5	ug/Kg		1.4	0.5	ug/Kg	
m/p-Xylene	7.5	0.5	ug/Kg		6.7	0.5	ug/Kg		9.6	0.5	ug/Kg		10	0.5	ug/Kg		7.5	0.5	ug/Kg		7.4	0.5	ug/Kg		9.2	0.5	ug/Kg	
o-Xylene	2.7	0.5	ug/Kg		1.5	0.5	ug/Kg		3.6	0.5	ug/Kg		3.6	0.5	ug/Kg		2.8	0.5	ug/Kg		3	0.5	ug/Kg		3.3	0.5	ug/Kg	
1,2,4-Trimethylbenzene	13	0.5	ug/Kg		9	0.5	ug/Kg		15	0.5	ug/Kg		21	0.5	ug/Kg		8.5	0.5	ug/Kg		9.9	0.5	ug/Kg		8.6	0.5	ug/Kg	
Naphthalene	2.6	0.5	ug/Kg		1.4	0.5	ug/Kg		2.2	0.5	ug/Kg		2.1	0.5	ug/Kg		1.7	0.5	ug/Kg		1.6	0.5	ug/Kg		1.4	0.5	ug/Kg	
TVPH	ND	0.5	mg/Kg		ND	0.5	mg/Kg		ND	0.5	mg/Kg		0.6	0.5	mg/Kg		ND	0.5	mg/Kg		ND	0.5	mg/Kg		ND	0.5	mg/Kg	
% Surrogate Recovery																												
1,2-Dichloroethane-d4	81				85				87				85				90				93				88			
d8-Toluene	95				95				95				96				96				97				96			
p-Bromofluorobenzene	96				91				89				95				87				86				88			

Sample ID. No.	RDC-06				RDC-06				RDC-06				RDC-06				RDC-06				RDC-06				RDC-06			
Date Sampled	11/12/2024				11/13/2024				11/13/2024				11/13/2024				11/13/2024				11/13/2024				11/13/2024			
Sample Depth	24				26				28				30				32				34				36			
		Reporting Limit	Units	Flags		Reporting Limit	Units	Flags		Reporting Limit	Units	Flags		Reporting Limit	Units	Flags		Reporting Limit	Units	Flags		Reporting Limit	Units	Flags		Reporting Limit	Units	Flags
Dimethyl Sulfide	ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg	
MTBE	1.4	0.5	ug/Kg		1.4	0.5	ug/Kg		1.2	0.5	ug/Kg		1.6	0.5	ug/Kg		1.6	0.5	ug/Kg		1.8	0.5	ug/Kg		0.6	0.5	ug/Kg	
1,2-Dichloroethane	ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg	
Benzene	ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg	
Toluene	0.8	0.5	ug/Kg		1.7	0.5	ug/Kg		1.6	0.5	ug/Kg		0.9	0.5	ug/Kg		1.6	0.5	ug/Kg		1.7	0.5	ug/Kg		3.1	0.5	ug/Kg	
Ethylbenzene	0.9	0.5	ug/Kg		1.7	0.5	ug/Kg		1.3	0.5	ug/Kg		0.8	0.5	ug/Kg		1.9	0.5	ug/Kg		1.5	0.5	ug/Kg		1.5	0.5	ug/Kg	
m/p-Xylene	8.5	0.5	ug/Kg		6.9	0.5	ug/Kg		4.5	0.5	ug/Kg		7.5	0.5	ug/Kg		7.5	0.5	ug/Kg		6	0.5	ug/Kg		6.5	0.5	ug/Kg	
o-Xylene	2.8	0.5	ug/Kg		2.6	0.5	ug/Kg		1.9	0.5	ug/Kg		2.7	0.5	ug/Kg		2.8	0.5	ug/Kg		2.1	0.5	ug/Kg		2.1	0.5	ug/Kg	
1,2,4-Trimethylbenzene	10	0.5	ug/Kg		8.6	0.5	ug/Kg		7.5	0.5	ug/Kg		10	0.5	ug/Kg		7.7	0.5	ug/Kg		8.3	0.5	ug/Kg		6.2	0.5	ug/Kg	
Naphthalene	1.8	0.5	ug/Kg		1.7	0.5	ug/Kg		1.3	0.5	ug/Kg		1.1	0.5	ug/Kg		1.5	0.5	ug/Kg		1.3	0.5	ug/Kg		0.7	0.5	ug/Kg	
TVPH	ND	0.5	mg/Kg		ND	0.5	mg/Kg		ND	0.5	mg/Kg		ND	0.5	mg/Kg		ND	0.5	mg/Kg		ND	0.5	mg/Kg		ND	0.5	mg/Kg	
% Surrogate Recovery																												
1,2-Dichloroethane-d4	90				90				90				91				88				95				90			
d8-Toluene	95				96				95				95				94				97				95			
p-Bromofluorobenzene	90				88				85				87				85				85				87			

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Sample ID. No.	RDC-06				RDC-06				RDC-06				RDC-06				RDC-06				RDC-06				RDC-06			
Date Sampled	11/13/2024				11/13/2024				11/13/2024				11/13/2024				11/13/2024				11/13/2024				11/13/2024			
Sample Depth	38				40				42				44				46				48				50			
		Reporting Limit	Units	Flags		Reporting Limit	Units	Flags		Reporting Limit	Units	Flags		Reporting Limit	Units	Flags		Reporting Limit	Units	Flags		Reporting Limit	Units	Flags		Reporting Limit	Units	Flags
Dimethyl Sulfide	ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg	
MTBE	ND	0.5	ug/Kg		0.9	0.5	ug/Kg		1.3	0.5	ug/Kg		1.4	0.5	ug/Kg		1.3	0.5	ug/Kg		1.4	0.5	ug/Kg		1.5	0.5	ug/Kg	
1,2-Dichloroethane	ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg	
Benzene	ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg	
Toluene	2.5	0.5	ug/Kg		3.3	0.5	ug/Kg		3.1	0.5	ug/Kg		2.2	0.5	ug/Kg		3	0.5	ug/Kg		3.9	0.5	ug/Kg		2.2	0.5	ug/Kg	
Ethylbenzene	2	0.5	ug/Kg		1.9	0.5	ug/Kg		2.4	0.5	ug/Kg		1.7	0.5	ug/Kg		2	0.5	ug/Kg		2.6	0.5	ug/Kg		1.9	0.5	ug/Kg	
m/p-Xylene	8.5	0.5	ug/Kg		8.3	0.5	ug/Kg		9.1	0.5	ug/Kg		9.2	0.5	ug/Kg		8.9	0.5	ug/Kg		10	0.5	ug/Kg		9.8	0.5	ug/Kg	
o-Xylene	3	0.5	ug/Kg		3	0.5	ug/Kg		3.7	0.5	ug/Kg		3.7	0.5	ug/Kg		3.5	0.5	ug/Kg		3.7	0.5	ug/Kg		4	0.5	ug/Kg	
1,2,4-Trimethylbenzene	12	0.5	ug/Kg		12	0.5	ug/Kg		14	0.5	ug/Kg		13	0.5	ug/Kg		13	0.5	ug/Kg		14	0.5	ug/Kg		17	0.5	ug/Kg	
Naphthalene	1.1	0.5	ug/Kg		1.3	0.5	ug/Kg		1.6	0.5	ug/Kg		1.4	0.5	ug/Kg		1.6	0.5	ug/Kg		1.5	0.5	ug/Kg		1.6	0.5	ug/Kg	
TVPH	ND	0.5	mg/Kg		ND	0.5	mg/Kg		ND	0.5	mg/Kg		ND	0.5	mg/Kg		ND	0.5	mg/Kg		ND	0.5	mg/Kg		ND	0.5	mg/Kg	
% Surrogate Recovery																												
1,2-Dichloroethane-d4	92				93				90				94				92				91				87			
d8-Toluene	96				97				96				98				97				94				93			
p-Bromofluorobenzene	89				88				89				88				90				87				87			

Sample ID. No.	RDC-06				RDC-06				RDC-06				RDC-06			
Date Sampled	11/13/2024				11/13/2024				11/13/2024				11/13/2024			
Sample Depth	52				54				56				58.8			
		Reporting Limit	Units	Flags		Reporting Limit	Units	Flags		Reporting Limit	Units	Flags		Reporting Limit	Units	Flags
Dimethyl Sulfide	ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg	
MTBE	1.2	0.5	ug/Kg		ND	0.5	ug/Kg		1	0.5	ug/Kg		1.1	0.5	ug/Kg	
1,2-Dichloroethane	ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg	
Benzene	0.9	0.5	ug/Kg		21	0.5	ug/Kg		ND	0.5	ug/Kg		25	0.5	ug/Kg	
Toluene	2.1	0.5	ug/Kg		3.9	0.5	ug/Kg		1	0.5	ug/Kg		4.6	0.5	ug/Kg	
Ethylbenzene	1.7	0.5	ug/Kg		66	0.5	ug/Kg		1.1	0.5	ug/Kg		28	0.5	ug/Kg	
m/p-Xylene	9.8	0.5	ug/Kg		95	0.5	ug/Kg		7.5	0.5	ug/Kg		84	0.5	ug/Kg	
o-Xylene	3.3	0.5	ug/Kg		4.8	0.5	ug/Kg		2.6	0.5	ug/Kg		17	0.5	ug/Kg	
1,2,4-Trimethylbenzene	19	0.5	ug/Kg		150	0.5	ug/Kg		10	0.5	ug/Kg		59	0.5	ug/Kg	
Naphthalene	4.1	0.5	ug/Kg		38	0.5	ug/Kg		2	0.5	ug/Kg		17	0.5	ug/Kg	
TVPH	0.5	0.5	mg/Kg		8.9	0.5	mg/Kg		ND	0.5	mg/Kg		22	0.5	mg/Kg	
% Surrogate Recovery																
1,2-Dichloroethane-d4	94				92				93				90			
d8-Toluene	98				111				95				128			
p-Bromofluorobenzene	86				93				88				113			

Sample ID. No.	RDC-07				RDC-07				RDC-07				RDC-07				RDC-07				RDC-07				RDC-07			
Date Sampled	11/12/2024				11/12/2024				11/12/2024				11/12/2024				11/12/2024				11/12/2024				11/12/2024			
Sample Depth	10				12				14				16				18				20				22			
		Reporting Limit	Units	Flags		Reporting Limit	Units	Flags		Reporting Limit	Units	Flags		Reporting Limit	Units	Flags		Reporting Limit	Units	Flags		Reporting Limit	Units	Flags		Reporting Limit	Units	Flags
Dimethyl Sulfide	ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg	
MTBE	0.7	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		1	0.5	ug/Kg		1	0.5	ug/Kg		4.7	0.5	ug/Kg	
1,2-Dichloroethane	ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg	
Benzene	ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		1	0.5	ug/Kg	
Toluene	2.4	0.5	ug/Kg		1.4	0.5	ug/Kg		1.6	0.5	ug/Kg		1.1	0.5	ug/Kg		1.6	0.5	ug/Kg		1.1	0.5	ug/Kg		3.1	0.5	ug/Kg	
Ethylbenzene	8.1	0.5	ug/Kg		3.7	0.5	ug/Kg		3	0.5	ug/Kg		2.3	0.5	ug/Kg		2.1	0.5	ug/Kg		1.8	0.5	ug/Kg		1.4	0.5	ug/Kg	
m/p-Xylene	25	0.5	ug/Kg		13	0.5	ug/Kg		11	0.5	ug/Kg		8.3	0.5	ug/Kg		7.8	0.5	ug/Kg		7.1	0.5	ug/Kg		4.8	0.5	ug/Kg	
o-Xylene	4.6	0.5	ug/Kg		3.5	0.5	ug/Kg		2.6	0.5	ug/Kg		2.1	0.5	ug/Kg		2.1	0.5	ug/Kg		1.9	0.5	ug/Kg		2	0.5	ug/Kg	
1,2,4-Trimethylbenzene	22	0.5	ug/Kg		15	0.5	ug/Kg		10	0.5	ug/Kg		8.5	0.5	ug/Kg		8	0.5	ug/Kg		8	0.5	ug/Kg		7.6	0.5	ug/Kg	
Naphthalene	12	0.5	ug/Kg		2.9	0.5	ug/Kg		1.4	0.5	ug/Kg		0.9	0.5	ug/Kg		0.7	0.5	ug/Kg		0.5	0.5	ug/Kg		2.1	0.5	ug/Kg	
TVPH	ND	0.5	mg/Kg		ND	0.5	mg/Kg		ND	0.5	mg/Kg		ND	0.5	mg/Kg		ND	0.5	mg/Kg		ND	0.5	mg/Kg		0.5	0.5	mg/Kg	
% Surrogate Recovery																												
1,2-Dichloroethane-d4	99				97				95				95				92				91				88			
d8-Toluene	84				82				82				83				82				81				90			
p-Bromofluorobenzene	112				103				83				105				101				103				88			

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Sample ID. No.	RDC-07				RDC-07				RDC-07				RDC-07				RDC-07				RDC-07				RDC-07			
Date Sampled	11/12/2024				11/12/2024				11/12/2024				11/12/2024				11/12/2024				11/12/2024				11/12/2024			
Sample Depth	24				26				28				30				32				34				38			
		Reporting Limit	Units	Flags		Reporting Limit	Units	Flags		Reporting Limit	Units	Flags		Reporting Limit	Units	Flags		Reporting Limit	Units	Flags		Reporting Limit	Units	Flags		Reporting Limit	Units	Flags
Dimethyl Sulfide	ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg	
MTBE	0.9	0.5	ug/Kg		ND	0.5	ug/Kg		1.6	0.5	ug/Kg		0.9	0.5	ug/Kg		6.6	0.5	ug/Kg		1.4	0.5	ug/Kg		1.3	0.5	ug/Kg	
1,2-Dichloroethane	ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg	
Benzene	ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		1.1	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg	
Toluene	1.6	0.5	ug/Kg		ND	0.5	ug/Kg		1.3	0.5	ug/Kg		1.6	0.5	ug/Kg		3.6	0.5	ug/Kg		2.1	0.5	ug/Kg		2.5	0.5	ug/Kg	
Ethylbenzene	1.6	0.5	ug/Kg		1.2	0.5	ug/Kg		1.5	0.5	ug/Kg		1.6	0.5	ug/Kg		1	0.5	ug/Kg		1.1	0.5	ug/Kg		1.2	0.5	ug/Kg	
m/p-Xylene	6.1	0.5	ug/Kg		4.6	0.5	ug/Kg		5.7	0.5	ug/Kg		5.8	0.5	ug/Kg		3.7	0.5	ug/Kg		4.4	0.5	ug/Kg		4.5	0.5	ug/Kg	
o-Xylene	1.9	0.5	ug/Kg		1.1	0.5	ug/Kg		1.9	0.5	ug/Kg		2	0.5	ug/Kg		1.4	0.5	ug/Kg		1.6	0.5	ug/Kg		1.7	0.5	ug/Kg	
1,2,4-Trimethylbenzene	5.5	0.5	ug/Kg		5.6	0.5	ug/Kg		6.1	0.5	ug/Kg		6.8	0.5	ug/Kg		3.5	0.5	ug/Kg		4	0.5	ug/Kg		4.5	0.5	ug/Kg	
Naphthalene	0.8	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		1.3	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg	
TVPH	ND	0.5	mg/Kg		ND	0.5	mg/Kg		ND	0.5	mg/Kg		ND	0.5	mg/Kg		ND	0.5	mg/Kg		ND	0.5	mg/Kg		ND	0.5	mg/Kg	
% Surrogate Recovery																												
1,2-Dichloroethane-d4	82				89				90				90				101				91				89			
d8-Toluene	87				82				82				85				87				96				95			
p-Bromofluorobenzene	109				99				100				103				75				102				102			

Sample ID. No.	RDC-07				RDC-07				RDC-07				RDC-07				RDC-07				RDC-07				RDC-07			
Date Sampled	11/12/2024				11/12/2024				11/12/2024				11/12/2024				11/12/2024				11/12/2024				11/12/2024			
Sample Depth	40				42				44				46				48				50				52			
		Reporting Limit	Units	Flags		Reporting Limit	Units	Flags		Reporting Limit	Units	Flags		Reporting Limit	Units	Flags		Reporting Limit	Units	Flags		Reporting Limit	Units	Flags		Reporting Limit	Units	Flags
Dimethyl Sulfide	ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg	
MTBE	1.8	0.5	ug/Kg		1.7	0.5	ug/Kg		1.8	0.5	ug/Kg		2.8	0.5	ug/Kg		1.5	0.5	ug/Kg		ND	0.5	ug/Kg		3.8	0.5	ug/Kg	
1,2-Dichloroethane	ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg	
Benzene	ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		0.6	0.5	ug/Kg		1.2	0.5	ug/Kg		ND	0.5	ug/Kg		0.7	0.5	ug/Kg	
Toluene	2.7	0.5	ug/Kg		2.2	0.5	ug/Kg		2.9	0.5	ug/Kg		4.2	0.5	ug/Kg		2.9	0.5	ug/Kg		29	0.5	ug/Kg		3.9	0.5	ug/Kg	
Ethylbenzene	1.4	0.5	ug/Kg		1.1	0.5	ug/Kg		1.4	0.5	ug/Kg		1.8	0.5	ug/Kg		1.3	0.5	ug/Kg		230	10	ug/Kg		2	0.5	ug/Kg	
m/p-Xylene	5.5	0.5	ug/Kg		7	0.5	ug/Kg		5.7	0.5	ug/Kg		7.2	0.5	ug/Kg		6.5	0.5	ug/Kg		410	10	ug/Kg		8	0.5	ug/Kg	
o-Xylene	1.9	0.5	ug/Kg		2.7	0.5	ug/Kg		2.3	0.5	ug/Kg		2.9	0.5	ug/Kg		2.1	0.5	ug/Kg		17	10	ug/Kg		2.8	0.5	ug/Kg	
1,2,4-Trimethylbenzene	5.6	0.5	ug/Kg		7.3	0.5	ug/Kg		5.9	0.5	ug/Kg		7.4	0.5	ug/Kg		13	0.5	ug/Kg		5600	10	ug/Kg		62	0.5	ug/Kg	
Naphthalene	ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		1	0.5	ug/Kg		1500	10	ug/Kg		88	0.5	ug/Kg	
TVPH	ND	0.5	mg/Kg		ND	0.5	mg/Kg		ND	0.5	mg/Kg		ND	0.5	mg/Kg		ND	0.5	mg/Kg		400	10	mg/Kg		24	0.5	mg/Kg	E
% Surrogate Recovery																												
1,2-Dichloroethane-d4	90				89				89				86				87				119				86			
d8-Toluene	96				97				98				99				99				147				119			
p-Bromofluorobenzene	100				101				101				103				104				350				107			

Sample ID. No.	RDC-07			
Date Sampled	11/12/2024			
Sample Depth	53			
		Reporting Limit	Units	Flags
Dimethyl Sulfide	ND	0.5	ug/Kg	
MTBE	4	0.5	ug/Kg	
1,2-Dichloroethane	ND	0.5	ug/Kg	
Benzene	1	0.5	ug/Kg	
Toluene	3	0.5	ug/Kg	
Ethylbenzene	1.2	0.5	ug/Kg	
m/p-Xylene	4.4	0.5	ug/Kg	
o-Xylene	1.6	0.5	ug/Kg	
1,2,4-Trimethylbenzene	5.3	0.5	ug/Kg	
Naphthalene	17	0.5	ug/Kg	
TVPH	ND	0.5	mg/Kg	
% Surrogate Recovery				
1,2-Dichloroethane-d4	98			
d8-Toluene	88			
p-Bromofluorobenzene	85			

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Sample ID. No.	RDC-08				RDC-08				RDC-08				RDC-08				RDC-08				RDC-08				RDC-08			
Date Sampled	11/14/2024				11/14/2024				11/14/2024				11/14/2024				11/14/2024				11/14/2024				11/14/2024			
Sample Depth	10				12				14				16				18				20				22			
		Reporting Limit	Units	Flags		Reporting Limit	Units	Flags		Reporting Limit	Units	Flags		Reporting Limit	Units	Flags		Reporting Limit	Units	Flags		Reporting Limit	Units	Flags		Reporting Limit	Units	Flags
Dimethyl Sulfide	ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg	
MTBE	2.1	0.5	ug/Kg		2	0.5	ug/Kg		1.6	0.5	ug/Kg		1.3	0.5	ug/Kg		1.9	0.5	ug/Kg		2.3	0.5	ug/Kg		2.9	0.5	ug/Kg	
1,2-Dichloroethane	ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg	
Benzene	ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg	
Toluene	1.6	0.5	ug/Kg		2.7	0.5	ug/Kg		1.6	0.5	ug/Kg		1.8	0.5	ug/Kg		1.7	0.5	ug/Kg		1.9	0.5	ug/Kg		2.3	0.5	ug/Kg	
Ethylbenzene	1.1	0.5	ug/Kg		2.1	0.5	ug/Kg		1.1	0.5	ug/Kg		1.1	0.5	ug/Kg		1	0.5	ug/Kg		1.2	0.5	ug/Kg		1.3	0.5	ug/Kg	
m/p-Xylene	4.1	0.5	ug/Kg		8.5	0.5	ug/Kg		4.4	0.5	ug/Kg		4.3	0.5	ug/Kg		3.8	0.5	ug/Kg		4.6	0.5	ug/Kg		4.5	0.5	ug/Kg	
o-Xylene	1.6	0.5	ug/Kg		3.5	0.5	ug/Kg		1.8	0.5	ug/Kg		1.8	0.5	ug/Kg		1.8	0.5	ug/Kg		2.3	0.5	ug/Kg		2	0.5	ug/Kg	
1,2,4-Trimethylbenzene	6.5	0.5	ug/Kg		16	0.5	ug/Kg		7.5	0.5	ug/Kg		7.4	0.5	ug/Kg		6.8	0.5	ug/Kg		9.2	0.5	ug/Kg		7.2	0.5	ug/Kg	
Naphthalene	1.8	0.5	ug/Kg		1.8	0.5	ug/Kg		1.2	0.5	ug/Kg		1.1	0.5	ug/Kg		1	0.5	ug/Kg		1.4	0.5	ug/Kg		1	0.5	ug/Kg	
TVPH	ND	0.5	mg/Kg		ND	0.5	mg/Kg		ND	0.5	mg/Kg		ND	0.5	mg/Kg		ND	0.5	mg/Kg		ND	0.5	mg/Kg		ND	0.5	mg/Kg	
% Surrogate Recovery																												
1,2-Dichloroethane-d4	91				95				89				90				95				94				92			
d8-Toluene	94				96				97				94				97				96				97			
p-Bromofluorobenzene	89				87				88				76				89				90				84			

Sample ID. No.	RDC-08				RDC-08				RDC-08				RDC-08				RDC-08				RDC-08				RDC-08			
Date Sampled	11/14/2024				11/14/2024				11/14/2024				11/14/2024				11/14/2024				11/14/2024				11/15/2024			
Sample Depth	24				26				28				30				32				34				36			
		Reporting Limit	Units	Flags		Reporting Limit	Units	Flags		Reporting Limit	Units	Flags		Reporting Limit	Units	Flags		Reporting Limit	Units	Flags		Reporting Limit	Units	Flags		Reporting Limit	Units	Flags
Dimethyl Sulfide	ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg	
MTBE	2.6	0.5	ug/Kg		1.6	0.5	ug/Kg		2.2	0.5	ug/Kg		1.7	0.5	ug/Kg		2.5	0.5	ug/Kg		0.9	0.5	ug/Kg		0.8	0.5	ug/Kg	
1,2-Dichloroethane	ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg	
Benzene	ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg	
Toluene	2.4	0.5	ug/Kg		3.9	0.5	ug/Kg		2.4	0.5	ug/Kg		7.2	0.5	ug/Kg		2.1	0.5	ug/Kg		2.1	0.5	ug/Kg		2.2	0.5	ug/Kg	
Ethylbenzene	1.7	0.5	ug/Kg		4.3	0.5	ug/Kg		1.3	0.5	ug/Kg		6.4	0.5	ug/Kg		1.1	0.5	ug/Kg		1	0.5	ug/Kg		1.2	0.5	ug/Kg	
m/p-Xylene	6.3	0.5	ug/Kg		13	0.5	ug/Kg		4.6	0.5	ug/Kg		22	0.5	ug/Kg		4.2	0.5	ug/Kg		3.9	0.5	ug/Kg		4	0.5	ug/Kg	
o-Xylene	2.7	0.5	ug/Kg		3.7	0.5	ug/Kg		2.2	0.5	ug/Kg		7	0.5	ug/Kg		2	0.5	ug/Kg		1.7	0.5	ug/Kg		1.8	0.5	ug/Kg	
1,2,4-Trimethylbenzene	12	0.5	ug/Kg		8.5	0.5	ug/Kg		7.2	0.5	ug/Kg		11	0.5	ug/Kg		7.4	0.5	ug/Kg		5.7	0.5	ug/Kg		5.8	0.5	ug/Kg	
Naphthalene	1.4	0.5	ug/Kg		1	0.5	ug/Kg		1	0.5	ug/Kg		0.8	0.5	ug/Kg		1.2	0.5	ug/Kg		1	0.5	ug/Kg		0.9	0.5	ug/Kg	
TVPH	ND	0.5	mg/Kg		0.7	0.5	mg/Kg		ND	0.5	mg/Kg		0.5	0.5	mg/Kg		ND	0.5	mg/Kg		ND	0.5	mg/Kg		ND	0.5	mg/Kg	
% Surrogate Recovery																												
1,2-Dichloroethane-d4	94				91				89				92				90				94				88			
d8-Toluene	95				100				97				100				95				95				96			
p-Bromofluorobenzene	87				85				86				83				87				85				86			

Sample ID. No.	RDC-08				RDC-08				RDC-08				RDC-08				RDC-08				RDC-08				RDC-08			
Date Sampled	11/15/2024				11/15/2024				11/15/2024				11/15/2024				11/15/2024				11/15/2024				11/15/2024			
Sample Depth	38				40				42				44				46				48				50			
		Reporting Limit	Units	Flags		Reporting Limit	Units	Flags		Reporting Limit	Units	Flags		Reporting Limit	Units	Flags		Reporting Limit	Units	Flags		Reporting Limit	Units	Flags		Reporting Limit	Units	Flags
Dimethyl Sulfide	ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg	
MTBE	0.6	0.5	ug/Kg		0.9	0.5	ug/Kg		1	0.5	ug/Kg		0.9	0.5	ug/Kg		1.1	0.5	ug/Kg		1	0.5	ug/Kg		1.3	0.5	ug/Kg	
1,2-Dichloroethane	ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg	
Benzene	ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg	
Toluene	1.6	0.5	ug/Kg		2	0.5	ug/Kg		2.2	0.5	ug/Kg		2.1	0.5	ug/Kg		1.8	0.5	ug/Kg		2.4	0.5	ug/Kg		2.3	0.5	ug/Kg	
Ethylbenzene	0.8	0.5	ug/Kg		1.1	0.5	ug/Kg		1.1	0.5	ug/Kg		1	0.5	ug/Kg		1	0.5	ug/Kg		1.4	0.5	ug/Kg		1	0.5	ug/Kg	
m/p-Xylene	3	0.5	ug/Kg		3.9	0.5	ug/Kg		4.3	0.5	ug/Kg		3.6	0.5	ug/Kg		3.8	0.5	ug/Kg		6	0.5	ug/Kg		3.9	0.5	ug/Kg	
o-Xylene	1.2	0.5	ug/Kg		1.5	0.5	ug/Kg		1.9	0.5	ug/Kg		1.6	0.5	ug/Kg		1.7	0.5	ug/Kg		2.5	0.5	ug/Kg		2	0.5	ug/Kg	
1,2,4-Trimethylbenzene	5.9	0.5	ug/Kg		6.4	0.5	ug/Kg		7.4	0.5	ug/Kg		5.6	0.5	ug/Kg		6	0.5	ug/Kg		8.3	0.5	ug/Kg		6.2	0.5	ug/Kg	
Naphthalene	1.2	0.5	ug/Kg		1	0.5	ug/Kg		1.4	0.5	ug/Kg		0.8	0.5	ug/Kg		0.9	0.5	ug/Kg		1	0.5	ug/Kg		1	0.5	ug/Kg	
TVPH	ND	0.5	mg/Kg		ND	0.5	mg/Kg		ND	0.5	mg/Kg		ND	0.5	mg/Kg		ND	0.5	mg/Kg		ND	0.5	mg/Kg		ND	0.5	mg/Kg	
% Surrogate Recovery																												
1,2-Dichloroethane-d4	91				90				94				87				89				86				84			
d8-Toluene	95				75				97				95				96				96				95			
p-Bromofluorobenzene	86				94				86				86				85				88				88			

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Sample ID. No.	RDC-08				RDC-08				RDC-08				RDC-08				RDC-08			
Date Sampled	11/15/2024				11/15/2024				11/15/2024				11/15/2024				11/15/2024			
Sample Depth	52				54				56				58				59			
		Reporting Limit	Units	Flags		Reporting Limit	Units	Flags		Reporting Limit	Units	Flags		Reporting Limit	Units	Flags		Reporting Limit	Units	Flags
Dimethyl Sulfide	ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg	
MTBE	0.9	0.5	ug/Kg		0.9	0.5	ug/Kg		0.7	0.5	ug/Kg		0.8	0.5	ug/Kg		1.2	0.5	ug/Kg	
1,2-Dichloroethane	ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg	
Benzene	ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg	
Toluene	2	0.5	ug/Kg		2.2	0.5	ug/Kg		2	0.5	ug/Kg		2.4	0.5	ug/Kg		2.6	0.5	ug/Kg	
Ethylbenzene	0.8	0.5	ug/Kg		2.5	0.5	ug/Kg		1.1	0.5	ug/Kg		1.7	0.5	ug/Kg		1.5	0.5	ug/Kg	
m/p-Xylene	2.8	0.5	ug/Kg		7.9	0.5	ug/Kg		3.8	0.5	ug/Kg		6.5	0.5	ug/Kg		7.2	0.5	ug/Kg	
o-Xylene	1.1	0.5	ug/Kg		2.5	0.5	ug/Kg		1.9	0.5	ug/Kg		2.2	0.5	ug/Kg		2.1	0.5	ug/Kg	
1,2,4-Trimethylbenzene	4.2	0.5	ug/Kg		9.6	0.5	ug/Kg		6.9	0.5	ug/Kg		8.3	0.5	ug/Kg		7	0.5	ug/Kg	
Naphthalene	0.7	0.5	ug/Kg		4.4	0.5	ug/Kg		1.4	0.5	ug/Kg		2.5	0.5	ug/Kg		1.7	0.5	ug/Kg	
TVPH	ND	0.5	mg/Kg		14	0.5	mg/Kg		0.5	0.5	mg/Kg		6.1	0.5	mg/Kg		18	0.5	mg/Kg	
% Surrogate Recovery																				
1,2-Dichloroethane-d4	91				90				85				92				93			
d8-Toluene	96				114				93				110				124			
p-Bromofluorobenzene	83				122				91				98				123			

Sample ID. No.	RDC-09				RDC-09				RDC-09				RDC-09				RDC-09				RDC-09				RDC-09			
Date Sampled	11/15/2024				11/15/2024				11/15/2024				11/15/2024				11/15/2024				11/15/2024				11/15/2024			
Sample Depth	10				12				14				16				18				20				22			
		Reporting Limit	Units	Flags		Reporting Limit	Units	Flags		Reporting Limit	Units	Flags		Reporting Limit	Units	Flags		Reporting Limit	Units	Flags		Reporting Limit	Units	Flags		Reporting Limit	Units	Flags
Dimethyl Sulfide	ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg	
MTBE	0.8	0.5	ug/Kg		0.9	0.5	ug/Kg		0.8	0.5	ug/Kg		0.9	0.5	ug/Kg		0.7	0.5	ug/Kg		ND	0.5	ug/Kg		0.9	0.5	ug/Kg	
1,2-Dichloroethane	ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg	
Benzene	ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg	
Toluene	1.3	0.5	ug/Kg		1.5	0.5	ug/Kg		1.2	0.5	ug/Kg		1.3	0.5	ug/Kg		1.7	0.5	ug/Kg		1.2	0.5	ug/Kg		1.2	0.5	ug/Kg	
Ethylbenzene	0.9	0.5	ug/Kg		0.9	0.5	ug/Kg		0.7	0.5	ug/Kg		ND	0.5	ug/Kg		0.6	0.5	ug/Kg		ND	0.5	ug/Kg		0.6	0.5	ug/Kg	
m/p-Xylene	3.6	0.5	ug/Kg		4.6	0.5	ug/Kg		2.3	0.5	ug/Kg		1.8	0.5	ug/Kg		2.4	0.5	ug/Kg		1.8	0.5	ug/Kg		2.7	0.5	ug/Kg	
o-Xylene	1.6	0.5	ug/Kg		1.5	0.5	ug/Kg		1.1	0.5	ug/Kg		0.7	0.5	ug/Kg		1	0.5	ug/Kg		0.7	0.5	ug/Kg		1.1	0.5	ug/Kg	
1,2,4-Trimethylbenzene	6.1	0.5	ug/Kg		18	0.5	ug/Kg		4.5	0.5	ug/Kg		2.5	0.5	ug/Kg		3.7	0.5	ug/Kg		3.1	0.5	ug/Kg		5.4	0.5	ug/Kg	
Naphthalene	0.9	0.5	ug/Kg		1.1	0.5	ug/Kg		0.7	0.5	ug/Kg		ND	0.5	ug/Kg		0.7	0.5	ug/Kg		ND	0.5	ug/Kg		1	0.5	ug/Kg	
TVPH	ND	0.5	mg/Kg		ND	0.5	mg/Kg		ND	0.5	mg/Kg		ND	0.5	mg/Kg		ND	0.5	mg/Kg		ND	0.5	mg/Kg		ND	0.5	mg/Kg	
% Surrogate Recovery																												
1,2-Dichloroethane-d4	90				93				91				97				93				97				92			
d8-Toluene	92				95				98				95				96				88				96			
p-Bromofluorobenzene	90				87				84				85				86				90				88			

Sample ID. No.	RDC-09				RDC-09				RDC-09				RDC-09				RDC-09				RDC-09				RDC-09			
Date Sampled	11/15/2024				11/15/2024				11/15/2024				11/15/2024				11/15/2024				11/15/2024				11/15/2024			
Sample Depth	24				26				28				30				32				34				36			
		Reporting Limit	Units	Flags		Reporting Limit	Units	Flags		Reporting Limit	Units	Flags		Reporting Limit	Units	Flags		Reporting Limit	Units	Flags		Reporting Limit	Units	Flags		Reporting Limit	Units	Flags
Dimethyl Sulfide	ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg	
MTBE	0.8	0.5	ug/Kg		1	0.5	ug/Kg		1	0.5	ug/Kg		0.9	0.5	ug/Kg		1.1	0.5	ug/Kg		0.9	0.5	ug/Kg		1	0.5	ug/Kg	
1,2-Dichloroethane	ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg	
Benzene	ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg	
Toluene	1.6	0.5	ug/Kg		1.7	0.5	ug/Kg		1.5	0.5	ug/Kg		4.2	0.5	ug/Kg		1.8	0.5	ug/Kg		1.8	0.5	ug/Kg		1.7	0.5	ug/Kg	
Ethylbenzene	0.6	0.5	ug/Kg		0.7	0.5	ug/Kg		ND	0.5	ug/Kg		1.3	0.5	ug/Kg		0.9	0.5	ug/Kg		0.6	0.5	ug/Kg		1	0.5	ug/Kg	
m/p-Xylene	2.6	0.5	ug/Kg		2.8	0.5	ug/Kg		2.2	0.5	ug/Kg		4.9	0.5	ug/Kg		4	0.5	ug/Kg		2.8	0.5	ug/Kg		3.8	0.5	ug/Kg	
o-Xylene	1	0.5	ug/Kg		1.1	0.5	ug/Kg		0.9	0.5	ug/Kg		1.8	0.5	ug/Kg		1.8	0.5	ug/Kg		1.3	0.5	ug/Kg		1.5	0.5	ug/Kg	
1,2,4-Trimethylbenzene	4.4	0.5	ug/Kg		5.4	0.5	ug/Kg		4.1	0.5	ug/Kg		4.7	0.5	ug/Kg		6.2	0.5	ug/Kg		4.2	0.5	ug/Kg		5.2	0.5	ug/Kg	
Naphthalene	1	0.5	ug/Kg		0.8	0.5	ug/Kg		0.7	0.5	ug/Kg		0.6	0.5	ug/Kg		1	0.5	ug/Kg		0.8	0.5	ug/Kg		0.8	0.5	ug/Kg	
TVPH	ND	0.5	mg/Kg		ND	0.5	mg/Kg		ND	0.5	mg/Kg		ND	0.5	mg/Kg		ND	0.5	mg/Kg		ND	0.5	mg/Kg		ND	0.5	mg/Kg	
% Surrogate Recovery																												
1,2-Dichloroethane-d4	91				95				93				92				92				91				89			
d8-Toluene	96				98				96				91				94				97				96			
p-Bromofluorobenzene	88				77				75				90				88				85				86			

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Sample ID. No.	RDC-09				RDC-09				RDC-09				RDC-09				RDC-09				RDC-09				RDC-09			
Date Sampled	11/15/2024				11/15/2024				11/15/2024				11/15/2024				11/15/2024				11/15/2024				11/15/2024			
Sample Depth	38				40				42				44				46				48				50			
		Reporting Limit	Units	Flags		Reporting Limit	Units	Flags		Reporting Limit	Units	Flags		Reporting Limit	Units	Flags		Reporting Limit	Units	Flags		Reporting Limit	Units	Flags		Reporting Limit	Units	Flags
Dimethyl Sulfide	ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg	
MTBE	1.2	0.5	ug/Kg		1	0.5	ug/Kg		0.9	0.5	ug/Kg		0.8	0.5	ug/Kg		0.9	0.5	ug/Kg		1.3	0.5	ug/Kg		0.7	0.5	ug/Kg	
1,2-Dichloroethane	ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg	
Benzene	ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		0.5	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg	
Toluene	2.4	0.5	ug/Kg		1.8	0.5	ug/Kg		2.1	0.5	ug/Kg		1.9	0.5	ug/Kg		1.9	0.5	ug/Kg		2.4	0.5	ug/Kg		2.4	0.5	ug/Kg	
Ethylbenzene	0.9	0.5	ug/Kg		0.7	0.5	ug/Kg		0.8	0.5	ug/Kg		0.6	0.5	ug/Kg		0.6	0.5	ug/Kg		0.8	0.5	ug/Kg		0.8	0.5	ug/Kg	
m/p-Xylene	4	0.5	ug/Kg		3.1	0.5	ug/Kg		3	0.5	ug/Kg		2.5	0.5	ug/Kg		2.3	0.5	ug/Kg		2.9	0.5	ug/Kg		3.2	0.5	ug/Kg	
o-Xylene	1.5	0.5	ug/Kg		1.2	0.5	ug/Kg		1.3	0.5	ug/Kg		0.9	0.5	ug/Kg		1	0.5	ug/Kg		1.2	0.5	ug/Kg		1.2	0.5	ug/Kg	
1,2,4-Trimethylbenzene	5.9	0.5	ug/Kg		4.3	0.5	ug/Kg		4.3	0.5	ug/Kg		3.7	0.5	ug/Kg		3.2	0.5	ug/Kg		3.6	0.5	ug/Kg		2.7	0.5	ug/Kg	
Naphthalene	1.1	0.5	ug/Kg		0.7	0.5	ug/Kg		0.8	0.5	ug/Kg		0.5	0.5	ug/Kg		0.8	0.5	ug/Kg		0.6	0.5	ug/Kg		ND	0.5	ug/Kg	
TVPH	ND	0.5	mg/Kg		ND	0.5	mg/Kg		ND	0.5	mg/Kg		ND	0.5	mg/Kg		ND	0.5	mg/Kg		ND	0.5	mg/Kg		ND	0.5	mg/Kg	
% Surrogate Recovery																												
1,2-Dichloroethane-d4	89				94				90				90				87				98				91			
d8-Toluene	97				96				96				93				95				96				95			
p-Bromofluorobenzene	82				83				87				90				81				77				83			

Sample ID. No.	RDC-09				RDC-09				RDC-09				RDC-09			
Date Sampled	11/15/2024				11/15/2024				11/15/2024				11/15/2024			
Sample Depth	52				54				56				58			
		Reporting Limit	Units	Flags		Reporting Limit	Units	Flags		Reporting Limit	Units	Flags		Reporting Limit	Units	Flags
Dimethyl Sulfide	ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg	
MTBE	1.1	0.5	ug/Kg		0.8	0.5	ug/Kg		0.8	0.5	ug/Kg		1	0.5	ug/Kg	
1,2-Dichloroethane	ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg	
Benzene	ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg	
Toluene	1.2	0.5	ug/Kg		2.4	0.5	ug/Kg		0.7	0.5	ug/Kg		1.6	0.5	ug/Kg	
Ethylbenzene	ND	0.5	ug/Kg		1.1	0.5	ug/Kg		1.5	0.5	ug/Kg		2.7	0.5	ug/Kg	
m/p-Xylene	2.1	0.5	ug/Kg		4.2	0.5	ug/Kg		5.8	0.5	ug/Kg		12	0.5	ug/Kg	
o-Xylene	0.9	0.5	ug/Kg		1.5	0.5	ug/Kg		2	0.5	ug/Kg		2.6	0.5	ug/Kg	
1,2,4-Trimethylbenzene	3.6	0.5	ug/Kg		4.6	0.5	ug/Kg		5.1	0.5	ug/Kg		7	0.5	ug/Kg	
Naphthalene	1	0.5	ug/Kg		0.6	0.5	ug/Kg		0.7	0.5	ug/Kg		1.7	0.5	ug/Kg	
TVPH	ND	0.5	mg/Kg		ND	0.5	mg/Kg		ND	0.5	mg/Kg		38	0.5	mg/Kg	E
% Surrogate Recovery																
1,2-Dichloroethane-d4	90				95				93				92			
d8-Toluene	96				97				99				167			
p-Bromofluorobenzene	87				85				85				162			

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Sample ID. No.	MW-3				MW-4				MW-5			
Date Sampled	11/11/2024				11/11/2024				11/11/2024			
Sample Depth												
		Reporting Limit	Units	Flags		Reporting Limit	Units	Flags		Reporting Limit	Units	Flags
Dimethyl Sulfide	ND	5	ug/L		ND	5	ug/L		ND	5	ug/L	
MTBE	ND	5	ug/L		ND	5	ug/L		230	5	ug/L	
1,2-Dichloroethane	ND	5	ug/L		ND	5	ug/L		7.7	5	ug/L	
Benzene	5.1	5	ug/L		17	5	ug/L		1100	5	ug/L	
Toluene	9.5	5	ug/L		19	5	ug/L		11	5	ug/L	
Ethylbenzene	960	5	ug/L		580	5	ug/L		160	5	ug/L	
m/p-Xylene	860	5	ug/L		740	5	ug/L		280	5	ug/L	
o-Xylene	27	5	ug/L		16	5	ug/L		18	5	ug/L	
1,2,4-Trimethylbenzene	3400	5	ug/L		2400	5	ug/L		340	5	ug/L	
Naphthalene	240	5	ug/L		250	5	ug/L		46	5	ug/L	
TVPH	17	5	mg/L		51	5	mg/L		8.4	5	mg/L	
% Surrogate Recovery												
1,2-Dichloroethane-d4	95				94				99			
d8-Toluene	103				105				102			
p-Bromofluorobenzene	90				107				113			
Lactate	ND	2	mg/L		ND	2	mg/L		ND	2	mg/L	
Acetate	ND	2	mg/L		ND	2	mg/L		ND	2	mg/L	
Propionate	ND	2	mg/L		ND	2	mg/L		ND	2	mg/L	
Formate/Isobutyrate	ND	4	mg/L		ND	4	mg/L		ND	4	mg/L	
Butyrate	ND	2	mg/L		ND	2	mg/L		ND	2	mg/L	
Pyruvate	ND	2	mg/L		ND	2	mg/L		ND	2	mg/L	
Chloride	7	2	mg/L		7.9	2	mg/L		16	2	mg/L	
Nitrite	ND	2	mg/L		ND	2	mg/L		ND	2	mg/L	
Succinate	ND	10	mg/L		ND	10	mg/L		ND	10	mg/L	
Nitrate	ND	2	mg/L		ND	2	mg/L		ND	2	mg/L	
Sulfate	ND	2	mg/L		ND	2	mg/L		ND	2	mg/L	
Phosphate	NA	2	mg/L		NA	2	mg/L		NA	2	mg/L	
Sulfide	ND	2	mg/L		ND	2	mg/L		ND	2	mg/L	
Methane	3700	20	ug/L		2400	20	ug/L		3200	20	ug/L	
Ethane	ND	2	ug/L		3	2	ug/L		9.9	2	ug/L	
Ethylene	ND	2	ug/L		ND	2	ug/L		ND	2	ug/L	
Propane	ND	2	ug/L		ND	2	ug/L		ND	2	ug/L	
Propylene	ND	2	ug/L		ND	2	ug/L		ND	2	ug/L	
Isobutane	ND	2	ug/L		ND	2	ug/L		7	2	ug/L	
n-Butane	13	2	ug/L		9.5	2	ug/L		39	2	ug/L	
Acetylene	ND	2	ug/L		ND	2	ug/L		ND	2	ug/L	
t-2-Butene	ND	2	ug/L		ND	2	ug/L		ND	2	ug/L	
1-Butene	ND	2	ug/L		ND	2	ug/L		ND	2	ug/L	
Isobutylene	ND	2	ug/L		ND	2	ug/L		ND	2	ug/L	
cis-2-Butene	300	2	ug/L		55	2	ug/L		130	2	ug/L	
1,3-Butadiene	2.1	2	ug/L		5	2	ug/L		7.8	2	ug/L	
Methyl Acetylene	ND	2	ug/L		ND	2	ug/L		ND	2	ug/L	
Carbon Dioxide	150	2	mg/L		87	2	mg/L		42	2	mg/L	

ATTACHMENT C
BOS 200+® Injection Design and Pricing, 3-Phase Partitioning Calculations

Three Phase Partitioning Model to Determine Soil Concentration that is protective of the Groundwater

Cs = Cw x (UCF) x DF x [Kd + (Tw + Ta x Hc)/Rb)]

$$C_s = C_w(UCF)\mathrm{DF}\left[K_d + \frac{(\theta_w + \theta_a H_{cc})}{\rho_b}\right]$$

Where

Cs = Soil Concentration (mg/Kg)
Cw = Groundwater concentration (ug/l)
UCF = Unit Conversion Factor (1mg/1000 ug)
DF = Dilution Factor: 20 for unsaturated soils and 1 for saturated soils
Kd = Distribution Coefficient (L/kg) (See Table 747-1 and equation 747-2)
Tw = Water-filled porosity (ml water/ml soil) - 0.3 for unsaturated soil and 0.43 for saturated conditions
Ta = Airfilled Porosity (ml air/ml soil) - 0.13 for unsaturated soil and 0 for saturated
Hc = Henry's Law Constants (See Table 747-4)
Rb = Dry soil bulk density (1.5 Kg/L)

Kd = Koc x Foc

Where

Koc = Soil organic carbon-water partitioning coefficient (ml/g) See Table 747-1
Foc = Soil faction of organic carbon (0.1% or 0.001 g/g) EPA uses 0.2% or 0.002

Saturated Soil

Contaminant	Cw (ug/L)	UCF	DF	Koc (ml/g)	Foc (g/g)	Kd (L/Kg)	Tw (ml H2O/ml soil)	Ta (ml air/ml soil)	Hc	Rb (Kg/L)	Cs (mg/Kg)	Cs (ug/Kg)
Benzene	1080	0.001	1	62	0.002	0.124	0.43	0	0.228	1.5	0.444	443.5
Toluene	215000	0.001	1	265	0.002	0.53	0.43	0	0.754	1.5	175.6	175583.3
Ethylbenzene	151000	0.001	1	204	0.002	0.408	0.43	0	0.323	1.5	104.9	104894.7
Xylene	175000	0.001	1	311	0.002	0.622	0.43	0	0.314	1.5	159.02	159016.7
MTBE	4300	0.001	1	11	0.002	0.022	0.43	0	0.018	1.5	1.3	1327.3
Naphthalene	4300	0.001	1	1191	0.002	2.382	0.43	0	0.0198	1.5	11.475	11475.3

Client Name	PM Environmental
Project Location	Former Gasoline Service Station - Sheffield, AL
Date: February 17, 2025	**Revision:** 0

		Area A RDC-04, MW-05	Area B RDC-02, MW-02	Area C RDC-01	Area D (Optional) MW-03 and 11	Totals
Site Information	Predominate Geology of Treatment Zone	Clay	Clay	Clay	Clay	
	Treatment Zone Area (ft^2)	250	250	725	335	**975**
	Contamination Depth Start (ft bgs)	32	35	35	30	
	Contamination Depth End (ft bgs)	55	40	65	40	
	Treatment Volume (yd^3)	213.0	46.3	805.6	124.1	**1,189**
	Triangular Grid Spacing (ft)	6	6	6	6	
	Number of Injection Points - Design	7	7	20	9	**27**
	Injection Interval Distance (ft)	2	2	2	2	
	Number of Injection Intervals per Point - Design	12.0	3.0	15.5	5.5	
	Total Number of Injection Intervals	84	21	310	50	**465**
	Effective Porosity	20%	20%	20%	20%	
	Pore Volume (L)	32,568	7,080	123,192	18,974	
	Soil Density (lb/ft^3)	110	110	110	110	
TPH Design Calculations	TPH Groundwater Concentration (mg/L)	8.4	0	0	0	
	TPH Soil Concentration (mg/kg)	2,600	870	5,200	400	
	TPH Mass (lb)	1,649	120	12,467	148	
	BOS 200 Total Demand (lb)	2,967	216	22,440	266	
	BOS 200 per Injection Interval - Design (lb)	30	15	30	7.5	
	BOS 200 Slurry Volume per Interval (gal)	15	15	15	15	
	Average BOS 200 per Injection Point (lb)	360	45	465	41	
	BOS 200 Total (lb)	2,520	315	9,300	371	**12,550**
Design Basis	Select Speciated or TPH	TPH	TPH	TPH	TPH	
	Design BOS 200 Total per Area (lb)	2,520	315	9,300	371	**12,550**
	BOS 200 Loading - Mass Per Unit Volume (lb/ft^3)	0.438	0.252	0.428	0.111	
Trap & Treat Bacteria Calculations	Bacteria Concentrate (gal)	5	1	19	1	**28**
Kinetic Design Additives	Supplemental Gypsum per Interval - Design (lb)	15	7.5	15	7.5	
	Total Supplemental Gypsum (lb)	1,260	158	4,650	371	**6,450**
	Supplemental Magnesium Sulfate per Interval - Design (lb)	7.5	7.5	7.5	7.5	
	Total Supplemental Magnesium Sulfate (lb)	630	158	2,325	371	**3,500**
	Food Grade Starch per Interval (lb)	7.5	7.5	7.5	7.5	
	Total Food Grade Starch (lb)	630	158	2,325	371	**3,500**
	Yeast Extract per Interval (lb)	0.20	0.20	0.20	0.20	
	Total Yeast Extract (lb)	16	4	60	10	**110**
Slurry and Water Volumes	Slurry Volume per Interval (gal)	15	15	15	15	
	Estimated Water Volume (gal)	1,260	315	4,650	743	**6,968**

Summary	BOS 200 Total (lb)	12,550
	BOS 200 Unit Price ($/lb)	$6.50
	Bacteria Concentrate (gal)	27.5
	Bacteria Concentrate Price ($/gal)	$115
	BOS 200+ Components (LS)	$10,300
	Ship Rate ($/lb) - BOS 200 ONLY	$0.40
	Estimated Shipping and Tax ($)	$5,020
	Total Material Price ($)	**$100,058**
	Linear Footage per Day Achievable	250
	Number of Field Days to Complete	10
	Installation Day Rate ($/day, includes per diem and lodging)	$5,710
	Per Diem ($/day)	$740
	Mobilization ($)	$4,900
	Weekend Downtime ($, crew off Sunday for DOT Reset)	$1,000
	Total Installation Price ($)	**$70,400**
	Injection Summary Report ($)	**$1,472**
	Total Estimated Price ($)	**$171,930**

ENVIRONMENTAL, INC.

AST Standard Terms Conditions

1. Pricing for products and services is valid through May 31, 2025.
2. Pricing is based on the quantities outlined above. Should the quantities change from this design, pricing must be adjusted to conform to the pricing structure shown at: https://www.trapandtreat.com/product-pricing/
3. Unless a MSA is in place, payment terms are full payment of product and shipping costs upon arrival. Payment of injection services is not to exceed 30 calendar days from date of invoice. Interest will accrue at a monthly rate of 1.5% for all outstanding balances including interest. The interest rate will be prorated for partial months
4. There will be adequate water onsite (e.g. 25-gpm service) to prepare the BOS materials for injection. The water service should be within 200 ft of all injection locations; fire hoses can be placed and remain in-place for the duration of the injection (i.e. shuttling of water is not required). The water will be provided at no cost to AST. Hydrant permits and fees will be provided by others. Note that AST can bring hose ramps if discussed before mobilization.
5. All utilities and underground appurtenances will be located prior to AST performing injection services on-site. AST has not provided pricing for a private utility locating service, this can be provided by AST for an additional cost. AST will not be responsible for repairs to mis-marked or unmarked buried utilities and other appurtenances. AST has not included any provisions to perform invasive subsurface utility clearance (such as air-knife excavation). Invasive utility clearances such as air knife will be performed at a minimum of 72-hours prior to mobilization of AST Injection Staff. AST does not perform hand-augering.
6. The site stratigraphy allows for pushing up to 250 linear feet of 1.5" or 2.25” direct push rods per day and the geology/logistics allow for the injection of up to 2700 lb of prepared slurry per day.
7. The total depth throughout the area identified in the injection design will be accessible via direct push utilizing a Geoprobe® 7000 series rig (or equivalent).
8. Asphalt/concrete penetrations will be patched with like materials. Concrete coring, if necessary, is assumed to be performed by others.
9. Investigated derived waste will be drummed and staged on site for disposal by others.
10. Traffic control and site security to be provided by others, if required.
11. The project is non-union and will not require prevailing wages.
12. Work is performed during standard workweek and hours (Monday-Saturday 7am-6pm)
13. Cold Weather Protocol:
    All injection work is to be performed with overnight temperatures above 32 degrees F. If injections are to be performed with overnight lows below 32 degrees F, the installation price will be subject to an additional 25% charge to account for loss time for additional shutdown/startup time for the injection system.
    Injection work in temperatures below 20 degrees F is a health and safety concern for the injection crew. If temperatures are not above 20 degrees F by 10 a.m., no injection work will be performed that day. A daily stand by rate will be charged for days lost due to cold weather.
14. Extra time may be needed onsite to redevelop monitoring wells. AST will notify the client as soon as possible if this extra time is necessary.

Appendix C

PM ENVIRONMENTAL a PINCHIN company | Environmental & Engineering Services

This site-specific Health and Safety Plan (HASP) documentation is designed to assist PM personnel with providing for a safe work environment and is intended to be a site-specific reference and supplement to PM's internal Health and Safety Program and accompanying Health and Safety Plan Manual. A map of the work site is included as Attachment A, and hospital route map included as Attachment B.

SITE EMERGENCY FORM

Scope Of Work: *Sampling, BOS 200+ Injection*

Contaminants of Concern (COCs): Gasoline Fuel.

See Attachment C for data sheets of contaminants of concern.

Air Monitoring Required: Yes – PID equipped with 10.6 eV lamp. Air monitoring levels will be recorded on a 15-minute, hourly, or other basis. Air monitoring thresholds based on naphthalene.

Minimum Level of Protection: (0.0 to 10.0 ppm) Level-D PPE (Steel-toed Boots, Nitrile Gloves, Hard Hat, and Safety Glasses, High Visibility/Reflective Vests**)**

Alternate Levels of Protection: None Allowed – work activities permitted under Level-D PPE conditions only.

At sustained ambient air PID readings exceeding 10.0 ppm (10 minutes or more), stop work, clear work area of personnel, and allow area to ventilate, workspace must remain below 10.0 ppm for 15 minutes following work stoppage prior to resuming work. If levels continue to exceed 10.0 ppm, all work will stop.

Hazard Determination (Refer to Page 5 for Additional Hazard Analysis Information):

Serious_____ Moderate_____ Low __X__

Do not endanger your own life. Survey the situation before taking any action.

PM Office Telephone:	800-313-2966
Site Location Address:	400 East 2nd Street and Atlanta Street, Sheffield, Alabama
Telephone Located at:	Use PM Employee Cell Phones

EMERGENCY PHONE NUMBERS
CONTACT PROJECT MANAGER (PM) OR HEALTH AND SAFETY MANAGER

Ambulance	911
Fire	911
Police	911
Hospital Name	Helen Keller Hospital
Hospital Phone Number	256-386-4196 (Hospital Route Map Included in Attachment B)
Field Project Manager/ Site Safety Officer	
Project and Health and Safety Manager	Suzanne Evans Refer to PM office telephone number above
Client Contact	Trey Lewis
State Agency	ADEM PM James Robinson: 1-334-271-7704

UTILITY MARKER EMERGENCY TELEPHONE NUMBERS

Utility	Color Code	Telephone Number
Water (*Sheffield Utilities*)	Blue	256-389-2000
Gas (*Sheffield Utilities*)	Yellow	256-389-2000
Electric (*Sheffield Utilities*)	Red	256-389-2000
Telephone/Cable(ATT/Charter)	Orange	800-292-8525
Sewer (*Sheffield Utilities*)	Green	256-389-2000
Dig Safe (AL One Call) Telephone Number: 800-292-8525		

EMERGENCY FIRST AID

Ingestion:	DO NOT INDUCE VOMITING. Call Poison Control (1-800-222-1222) - follow instructions. Administer cardiopulmonary resuscitation (CPR), if necessary. Seek medical attention.
Inhalation:	Remove person from contaminated environment. Administer CPR if necessary. Seek medical attention. DO NOT ENTER A CONFINED SPACE TO RESCUE SOMEONE WHO HAS BEEN OVERCOME UNLESS PROPERLY EQUIPPED AND A STANDBY PERSON IS PRESENT.
Skin Contact:	Brush off dry material, remove wet or contaminated clothing. Flush skin thoroughly with water. Seek medical attention if irritation persists.
Eye Contact:	Flush eyes with water for 15~minutes. Seek medical attention.
Exposure	Headache, dizziness, nausea, drowsiness, irritation of eyes, nose, throat, Symptoms: breathing difficulties.
Contingency Plan:	Report incident to PM and Health and Safety Manager (HSM) after emergency procedures have been implemented.

RESPONDER MUST HAVE A CURRENT CERTIFICATE TO ADMINISTER FIRST AID OR CPR

1. Survey the situation. Do not endanger your own life. DO NOT ENTER A CONFINED SPACE TO RESCUE SOMEONE WHO HAS BEEN OVERCOME UNLESS PROPERLY EQUIPPED AND TRAINED. ENSURE ALL PROTOCOLS ARE FOLLOWED INCLUDING THAT A STANDBY PERSON IS PRESENT.

2. Call 911 (if available) or the fire department **IMMEDIATELY**. Explain the physical injury, chemical exposure, fire, or release.

3. Decontaminate the victim without delaying life-saving procedures.

4. If the victim's condition appears to be noncritical, but seems to be more severe than minor cuts, he/she should be transported to the nearest hospital by trained Emergency Medical Services (EMS) personnel: let the doctor assume the responsibility for determining the severity of the injury. If the condition is obviously serious, EMS must transport the victim.

5. Notify the PM and the HSM.

EMERGENCY FIRST AID PROCEDURES	
To Stop Bleeding	**CPR**
1. Give medical statement. 2. Assure airway, breathing, circulation. 3. Use **DIRECT PRESSURE** over the wound with clean dressing or your hand (use non-permeable gloves). Direct pressure will control most bleeding. 4. Bleeding from an artery or several injury sites may require **DIRECT PRESSURE** on a **PRESSURE POINT**. Use pressure points for 30 to 60 seconds to help control severe bleeding. 5. Continue primary care and seek medical aid as needed.	1. Give medical statement. 2. Arousal: Check for consciousness. 3. Open airway with chin-lift. 4. Look. listen, and feel for breathing. 5. If breathing is absent, give 2 slow, full rescue breaths. 6. Check the pulse for 5 to 10 seconds. 7. If pulse is present, continue rescue breathing: **1 breath every 5 seconds**. 8. If pulse is absent, initiate CPR; 15~compressions for each two breaths.

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Hazard Analysis Matrix

Hazards	Tasks					
	Drilling Boring Auguring	**Soil Sampling**	**Water Sampling**	**Geophysical Investigation**	**Excavation Oversight**	**Building Materials**
Contaminants of Concern Exposure		X				
OSHA Chemicals Exposure						
Mechanical Equipment/ Construction		X				
Electrical						
Fire and Explosion						
Heat/Cold Stress		X				
Vehicular Traffic		X				
Pedestrian Traffic						
Overhead Utilities		X				
Underground Utilities		X				
Noise		X				
Confined Space Entry (CSE)						
Trip/Fall Hazard		X				
Snakes/ Spiders/ Insects		X				

TAILGATE MEETING AND HASP ACKNOWLEDGEMENT SHEET

PM personnel have the authority to stop work at this site if any activity is not performed in accordance with the requirements of the HASP. All PM project personnel, subcontractor personnel, and visitors are required to sign the Agreement and Acknowledgement Sheet **prior** to conducting field activities at this site.

Topics Discussed during Tailgate Safety Meeting:

☐HASP ☐Traffic Safety ☐Stop Work Authority

☐Scope of Work ☐PPE Requirements

Other Site-Specific Safety Concerns (list out):

_____

_____

_____

_____

TAILGATE MEETING AND HASP ACKNOWLEDGEMENT STATEMENT	
1. I have read and fully understand the HASP and my responsibilities. **2. I agree to abide by the provisions of the HASP.** **3. I attended the Tailgate Safety Meeting.**	
Name	Signature
Company	Date
Name:	Signature:
Company:	Date:
Name:	Signature:
Company:	Date:
Name:	Signature:
Company:	Date:

TAILGATE MEETING AND HASP ACKNOWLEDGEMENT STATEMENT (Continued)

1. I have read and fully understand the HASP and my responsibilities.
2. I agree to abide by the provisions of the HASP.
3. I attended the Tailgate Safety Meeting.

Name:	Signature:
Company:	Date:
Name:	Signature:
Company:	Date:
Name:	Signature:
Company:	Date:
Name:	Signature:
Company:	Date:
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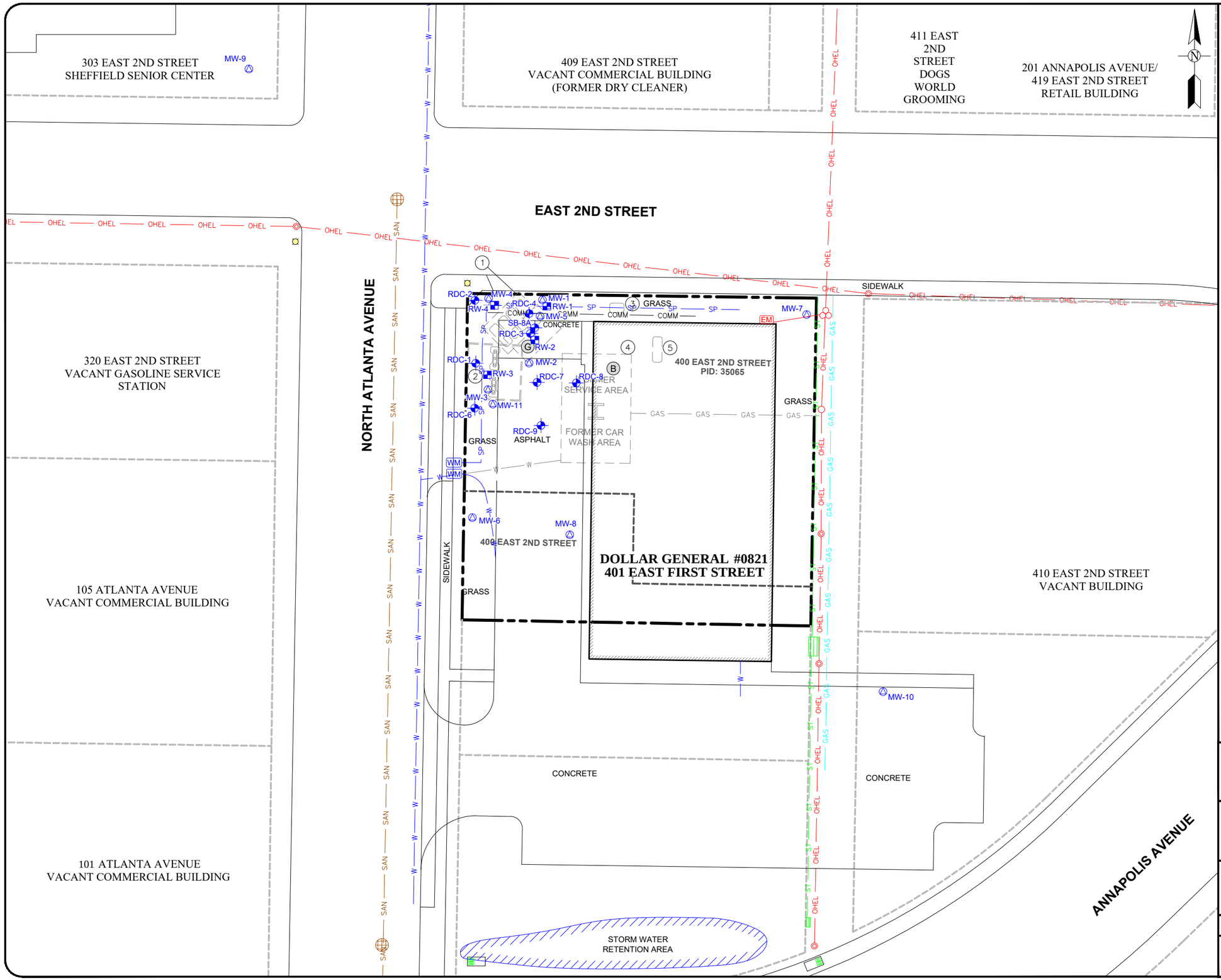
Name:	Signature:
Company:	Date:

HASP
Attachment A
Map of Work Area
(If Known)



LEGEND:

- SUBJECT SITE
- PARCEL / LOT BOUNDARIES
- APPROXIMATE FORMER/HISTORICAL SITE FEATURES
- W — WATER
- W — ABANDONED WATER LINE
- GAS — GAS
- GAS — ABANDONED GAS LINE
- OHUL — OVERHEAD UTILITY LINE
- OHUL — ABANDONED OVERHEAD UTILITY LINE
- OHEL — OVERHEAD ELECTRIC LINE
- COMM — PRIVATE COMMUNICATION
- SP — IRRIGATION LINE TO SPRINKLER SYSTEM
- SAN — SANITARY SEWER
- ST — STORM SEWER
- STORM WATER INLETS WITH CONCRETE COVERS
- CATCH BASIN
- WM — WATER METER - (2) IRRIGATION & SITE
- EM — ELECTRIC METER
- SANITARY MANHOLE
- POLE MOUNTED TRANSFORMER
- 3 POLE MOUNTED TRANSFORMERS
- POWER POLE
- ABANDONED/ REMOVED POWER POLE
- STREET LIGHT / TRAFFIC SIGNAL
- IN-GROUND HOIST
- FORMER FUEL DISPENSER
- UST — UNDERGROUND STORAGE TANK
- AST — ABOVEGROUND STORAGE TANK
- (B) — FORMER BUILDING
- (G) — FORMER GASOLINE DISPENSING STATION
- MONITORING WELL
- SOIL BORING
- RECOVERY WELL

#	SITE FEATURES
1	FORMER UST BASIN 3: (3) 1,000-GALLON GASOLINE USTs (1) 575-GALLON GASOLINE UST
2	FORMER CANOPY
3	FORMER UST BASIN 1: (1) 575-GALLON GASOLINE UST
4	(1) FORMER AST (3) FORMER 55-GALLON DRUMS OF WATER
5	FORMER UST BASIN 2: (1) 960-GALLON GASOLINE UST

NOTE:
1. REFER TO FIGURE 2A FOR UTILITY DEPTHS AND DIAMETERS.
2. LOCATION OF HISTORICAL SITE FEATURES AND SAMPLE LOCATIONS ARE APPROXIMATE ONLY.

PM ENVIRONMENTAL, INC. — Environmental & Engineering Services

FIGURE 2B
SAMPLE LOCATION MAP

PROJECT:
FORMER GASOLINE SERVICE STATION
400 EAST 2ND STREET
SHEFFIELD, ALABAMA

THIS IS NOT A LEGAL SURVEY

VERIFY SCALE
0 40'
IF NOT 1" ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

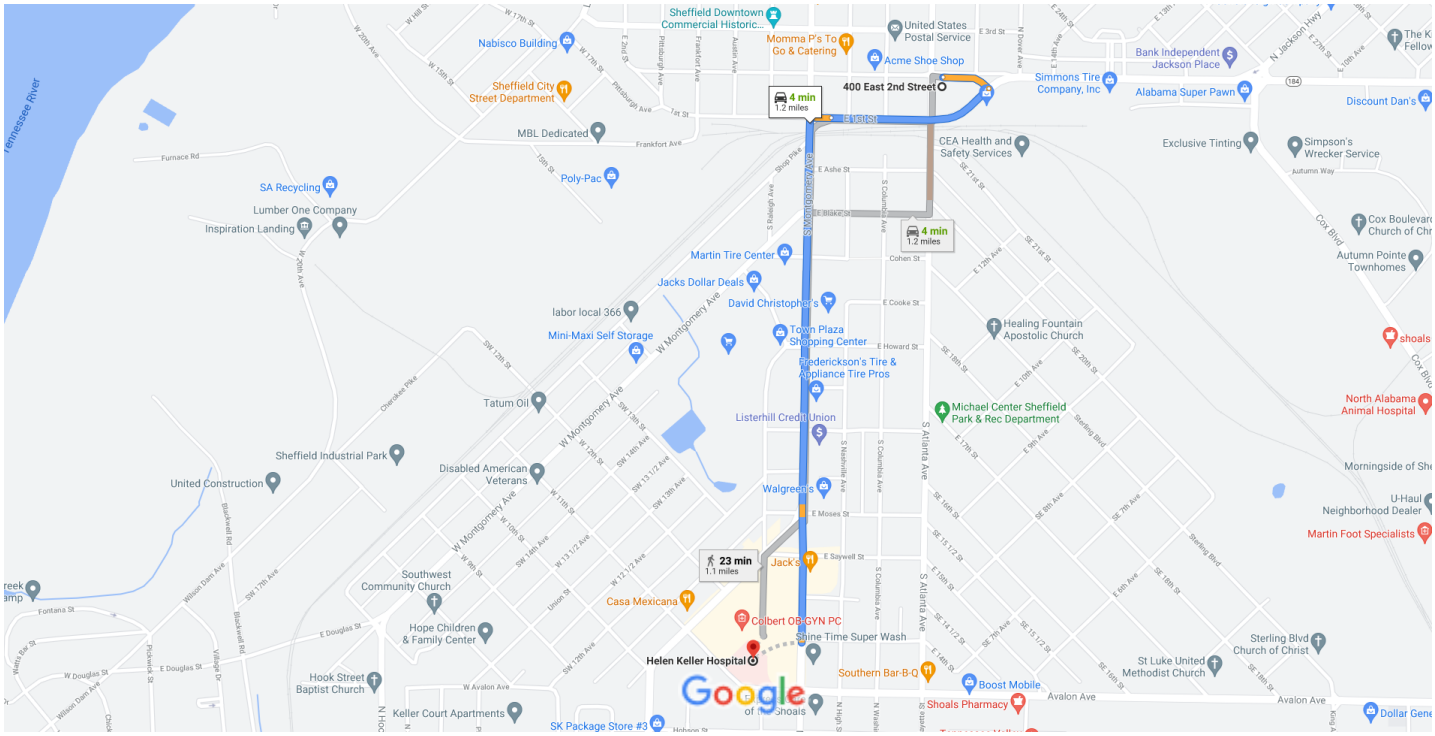
DRAWN BY: KS/BB	DATE: 4/19/2022
CHECKED BY: SE	DATE REVISED: 2/27/2025
FILE NAME: R070.00818-A-012F00R00	

HASP
Attachment B

Hospital Route Map

400 East 2nd Street, Sheffield, AL to Helen Keller Hospital

Drive 1.2 miles, 4 min



Map data ©2021 500 ft

400 E 2nd St

Sheffield, AL 35660

1. Head east on E 2nd St toward E 1st St

423 ft

2. Turn right onto E 1st St

0.3 mi

3. Turn left onto S Montgomery Ave

Pass by Dollar General (on the left in 0.6 mi)

0.9 mi

Helen Keller Hospital

1300 S Montgomery Ave, Sheffield, AL 35660

These directions are for planning purposes only. You may find that construction projects, traffic, weather, or other events may cause conditions to differ from the map results, and you should plan your route accordingly. You must obey all signs or notices regarding your route.

HASP
Attachment C

Data Sheets for Contaminants of Concern
(Note: SDS Sheets for field-use chemicals are located in the SDS folders on each field vehicle)

Safety Data Sheet

SECTION 1 CHEMICAL IDENTIFIER AND COMPANY IDENTIFICATION

Chevron and Texaco Unleaded Gasolines (All Grades)

Recommended Use of the Chemical and Restrictions on Use: Fuel
Synonyms: Automotive; Calco Mid-Grade Unleaded Gasoline; Calco Premium Gasoline; Calco Regular Unleaded Gasoline; CHEVRON and TEXACO MID-GRADE UNLEADED GASOLINES; CHEVRON and TEXACO PREMIUM UNLEADED GASOLINES; CHEVRON and TEXACO REGULAR UNLEADED GASOLINES; Chevron Mid-Grade Unleaded Gasoline; Chevron Plus Unleaded Gasoline; Chevron Premium Unleaded Gasoline; Chevron Regular Unleaded Gasoline; Chevron Supreme Plus Unleaded Gasoline; Chevron Supreme Unleaded Gasoline; Chevron UL/CQ Gasoline; GASOLINE (GENERIC); Gasolines; Texaco Power Plus Gasoline; Texaco Power Premium Unleaded Gasoline; Texaco Unleaded Gasoline; UNLEADED GASOLINE FOR EXPORT
Company Identification
Chevron Products Company
5001 Executive Parkway, Suite 200
San Ramon, CA 94583
United States of America

Transportation Emergency Response
CHEMTREC: (800) 424-9300 or (703) 527-3887
Health Emergency
Chevron Emergency & Information Center: Located in the USA. International collect calls accepted. (800) 231-0623 or (510) 231-0623
Product Information
Product Information: (800) 582-3835
SDS Requests: lubemsds@chevron.com

SPECIAL NOTES: This SDS applies to: all motor gasoline.

SECTION 2 HAZARDS IDENTIFICATION

CLASSIFICATION:
- Flammable liquid: Category 1.
- Aspiration toxicant: Category 1.
- Carcinogen: Category 1B.
- Eye irritation: Category 2A.
- Germ Cell Mutagen: Category 1B.
- Reproductive toxicant (developmental): Category 2.
- Skin irritation: Category 2.
- Target organ toxicant (central nervous system): Category 3.
- Target organ toxicant (repeated exposure): Category 2.
- Acute aquatic toxicant: Category 2.
- Chronic aquatic toxicant: Category 2.

Signal Word: Danger
Physical Hazards:
- Extremely flammable liquid and vapour (H224).

Health Hazards:
- May be fatal if swallowed and enters airways (H304).
- Causes skin irritation (H315).
- Causes serious eye irritation (H319).
- May cause drowsiness or dizziness (H336).
- May cause genetic defects (H340).
- May cause cancer (H350).
- Suspected of damaging the unborn child (H361D).
- May cause damage to organs (Blood/Blood Forming Organs) through prolonged or repeated exposure (H373).

Environmental Hazards:
- Toxic to aquatic life with long lasting effects (H411).

PRECAUTIONARY STATEMENTS:
General:
- Keep out of reach of children (P102).
- Read label before use (P103).

Prevention:
- Obtain special instructions before use (P201).
- Do not handle until all safety precautions have been read and understood (P202).
- Keep away from heat, hot surfaces, sparks, open flames, and other ignition sources. No smoking (P210).
- Keep container tightly closed (P233).
- Keep cool (P235).
- Ground and bond container and receiving equipment (P240).
- Use explosion-proof electrical/ventilating/lighting/equipment (P241).
- Use non-sparking tools (P242).
- Take action to prevent static discharge (P243).
- Do not breathe dust/fume/gas/mist/vapours/spray (P260).
- Wash thoroughly after handling (P264).
- Use only outdoors or in a well-ventilated area (P271).
- Avoid release to the environment (P273).
- Wear protective gloves/protective clothing/eye protection/face protection (P280).

Response:
- IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician (P301+P310).
- IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower (P303+P361+P353).
- IF INHALED: Remove person to fresh air and keep comfortable for breathing (P304+P340).
- IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing (P305+P351+P338).
- IF exposed or concerned: Get medical advice/attention (P308+P313).
- Specific treatment (see Notes to Physician on this label) (P321).
- Do NOT induce vomiting (P331).
- If skin irritation occurs: Get medical advice/attention (P332+P313).

- If eye irritation persists: Get medical advice/attention (P337+P313).
- Wash contaminated clothing before reuse (P363).
- In case of fire: Use media specified in the SDS to extinguish (P370+P378).
- Collect spillage (P391).

Storage:
- Store in a well-ventilated place. Keep container tightly closed (P403+P233).
- Store locked up (P405).

Disposal:
- Dispose of contents/container in accordance with applicable local/regional/national/international regulations (P501).

SECTION 3 COMPOSITION/ INFORMATION ON INGREDIENTS

This material is a mixture.

COMPONENTS	CAS NUMBER	AMOUNT
Gasoline	86290-81-5	100 %volume
Toluene	108-88-3	1 - 35 %volume
Pentane, 2,2,4-trimethyl-	540-84-1	10 - 15 %volume
Xylene	1330-20-7	1 - 15 %volume
Trimethylbenzene (3 isomers: 1,2,3-; 1,2,4-; 1,3,5-isomer)	25551-13-7	5 - 10 %volume
Pentane isomers (pentanes)	Mixture	1 - 13 %volume
Butane	106-97-8	1 - 12 %volume
Ethanol	64-17-5	0 - 10 %volume
Hexane	110-54-3	1 - 5 %volume
Benzene	71-43-2	0.1 - 5 %volume
Heptane	142-82-5	1 - 4 %volume
Cyclohexane	110-82-7	1 - 3 %volume
Ethylbenzene	100-41-4	0.1 - 3 %volume
Methylcyclohexane	108-87-2	1 - 2 %volume
Naphthalene	91-20-3	0.1 - 2 %volume

Motor gasoline is considered a mixture by EPA under the Toxic Substances Control Act (TSCA). The refinery streams used to blend motor gasoline are all on the TSCA Chemical Substances Inventory. The appropriate CAS number for refinery blended motor gasoline is 86290-81-5. The product specifications of motor gasoline sold in your area will depend on applicable Federal and State regulations.

SECTION 4 FIRST AID MEASURES

Eye: Flush eyes with water immediately while holding the eyelids open. Remove contact lenses, if worn, after initial flushing, and continue flushing for at least 15 minutes. Get immediate medical attention.
Skin: Wash skin with water immediately and remove contaminated clothing and shoes. Get medical attention if any symptoms develop. To remove the material from skin, use soap and water. Discard contaminated clothing and shoes or thoroughly clean before reuse.
Ingestion: If swallowed, get immediate medical attention. Do not induce vomiting. Never give anything by mouth to an unconscious person.
Inhalation: Move the exposed person to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention if breathing difficulties continue or if any other symptoms develop.
Note to Physicians: Ingestion of this product or subsequent vomiting may result in aspiration of light hydrocarbon liquid, which may cause pneumonitis.

SECTION 5 FIRE FIGHTING MEASURES

EXTINGUISHING MEDIA: Dry Chemical, CO2, Aqueous Film Forming Foam (AFFF) or alcohol resistant foam.
Unusual Fire Hazards: See Section 7 for proper handling and storage.
UNSUITABLE EXTINGUISHING MEDIA: No data available

PROTECTION OF FIRE FIGHTERS:
Fire Fighting Instructions: For fires involving this material, do not enter any enclosed or confined fire space without proper protective equipment, including self-contained breathing apparatus.
Combustion Products: Highly dependent on combustion conditions. A complex mixture of airborne solids, liquids, and gases including carbon monoxide, carbon dioxide, and unidentified organic compounds will be evolved when this material undergoes combustion.

SECTION 6 ACCIDENTAL RELEASE MEASURES

Personal Precautions, Protective Equipment, and Emergency Procedures:
Eliminate all sources of ignition in the vicinity of the spill or released vapor. If this material is released into the work area, evacuate the area immediately. Monitor area with combustible gas indicator.
Environmental Precautions:
Stop the source of the release if you can do it without risk. Contain release to prevent further contamination of soil, surface water or groundwater.
Methods and Material For Containment and Cleaning Up:
Clean up spill as soon as possible, observing precautions in Exposure Controls/Personal Protection. Use appropriate techniques such as applying non-combustible absorbent materials or pumping. Where feasible and appropriate, remove contaminated soil. Place contaminated materials in disposable containers and dispose of in a manner consistent with applicable regulations.
Reporting:
Report spills to local authorities as appropriate or required.

SECTION 7 HANDLING AND STORAGE PRECAUTIONS

General Handling Information: Avoid contaminating soil or releasing this material into sewage and drainage systems and bodies of water.
Precautionary Measures: This product presents an extreme fire hazard. Liquid very quickly evaporates, even at low temperatures, and forms vapor (fumes) which can catch fire and burn with explosive violence. Invisible vapor spreads easily and can be set on fire by many sources such as pilot lights, welding equipment, and electrical motors and switches. Never siphon gasoline by mouth.
Do not store in open or unlabeled containers. READ AND OBSERVE ALL PRECAUTIONS ON PRODUCT LABEL. Use only as a motor fuel. Do not use for cleaning, pressure appliance fuel, or any other such use. Do not get in eyes, on skin, or on clothing. Do not taste or swallow. Do not breathe vapor or fumes. Wash thoroughly after handling. Keep out of the reach of children.
Static Hazard: Improper filling of portable gasoline containers creates danger of fire. Only dispense gasoline into approved and properly labeled gasoline containers. Always place portable containers on the ground. Be sure pump nozzle is in contact with the container while filling. Do not use a nozzle's lock-open device. Do not fill portable containers that are inside a vehicle or truck/trailer bed.

Electrostatic charge may accumulate and create a hazardous condition when handling this material. To minimize this hazard, bonding and grounding may be necessary but may not, by themselves, be sufficient. Review all operations which have the potential of generating and accumulating an electrostatic charge and/or a flammable atmosphere (including tank and container filling, splash filling, tank cleaning, sampling, gauging, switch loading, filtering, mixing, agitation, and vacuum truck operations) and use appropriate mitigating procedures.
Container Warnings: Container is not designed to contain pressure. Do not use pressure to empty

container or it may rupture with explosive force. Empty containers retain product residue (solid, liquid, and/or vapor) and can be dangerous. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose such containers to heat, flame, sparks, static electricity, or other sources of ignition. They may explode and cause injury or death. Empty containers should be completely drained, properly closed, and promptly returned to a drum reconditioner or disposed of properly.

General Storage Information: DO NOT USE OR STORE near heat, sparks, flames, or hot surfaces . USE AND STORE ONLY IN WELL VENTILATED AREA. Keep container closed when not in use.

SECTION 8 EXPOSURE CONTROLS AND PERSONAL PROTECTION

GENERAL CONSIDERATIONS:
Consider the potential hazards of this material (see Section 2), applicable exposure limits, job activities, and other substances in the workplace when designing engineering controls and selecting personal protective equipment (PPE). If engineering controls or work practices are not adequate to prevent exposure to harmful levels of this material, refer to PPE information below.

Factors that affect PPE include, but are not limited to: properties of the chemical, other chemicals which may contact the same PPE, physical requirements (fit & sizing, cut/puncture protection, dexterity, thermal protection, etc.), and potential allergic reactions to the PPE material. It is the responsibility of the user to read and understand all instructions and limitations supplied with the equipment since protection is usually provided for a limited time or under certain circumstances. Refer to appropriate CEN standards.

ENGINEERING CONTROLS:
Use general ventilation, local exhaust ventilation, or a combination of both.

PERSONAL PROTECTIVE EQUIPMENT
Eye/Face Protection: Wear protective equipment to prevent eye contact. Selection of protective equipment may include safety glasses, chemical goggles, face shields, or a combination depending on the work operations conducted.
Skin Protection: Wear chemical personal protective equipment (PPE) to prevent skin contact. Selection of chemical protective clothing should be performed by an Occupational Hygienist or Safety Professional and be based upon applicable standards (ASTM F739 or EN 374). Using chemical PPE depends upon operations conducted and may include chemical gloves, boots, chemical apron, chemical suit, and complete facial protection. Refer to PPE manufacturers to obtain breakthrough time information to determine how long PPE can be used before it needs to be replaced. Unless specific glove manufacturer data indicates otherwise, the below table is based upon available industry data to assist in the glove selection process and is intended to be used as reference only.

Chemical Glove Material	Thickness (mm)	Typical Breakthrough Time (minutes)
Butyl	0.7	7
Neoprene	0.61	7
Nitrile	0.8	60
Nitrile	0.23	2
Polyvinyl Chloride (PVC)	1.1	2
Viton Butyl	0.3	120

Respiratory Protection: Determine if airborne concentrations are below the recommended occupational exposure limits for jurisdiction of use. If airborne concentrations are above the acceptable limits, wear an approved respirator that provides adequate protection from this material, such as: Air-Purifying Respirator for Organic Vapors. When used as a fuel, this material can produce carbon monoxide in the exhaust. Determine if airborne concentrations are below the occupational exposure limit for carbon

monoxide. If not, wear an approved positive-pressure air-supplying respirator.
Use a positive pressure air-supplying respirator in circumstances where air-purifying respirators may not provide adequate protection.

Occupational Exposure Limits:

Component	Country/ Agency	Form	TWA	STEL	Ceiling	Notation
Gasoline	ACGIH	Vapor	300 ppm	500 ppm	--	A3
Gasoline	ACGIH	--	300 ppm	500 ppm	--	--
Toluene	ACGIH	--	20 ppm	--	--	--
Toluene	JSOH	--	188 mg/m3	--	--	Skin
Pentane, 2,2,4-trimethyl-	ACGIH	--	300 ppm	--	--	--
Pentane, 2,2,4-trimethyl-	JSOH	--	1400 mg/m3	--	--	--
Xylene	ACGIH	--	20 ppm	--	--	--
Xylene	JSOH	--	217 mg/m3	--	--	--
Trimethylbenzene (3 isomers: 1,2,3-; 1,2,4-; 1,3,5- isomer)	ACGIH	--	10 ppm	--	--	--
Butane	ACGIH	--	--	1000 ppm	--	--
Butane	JSOH	--	1200 mg/m3	--	--	--
Ethanol	ACGIH	--	1000 ppm	1000 ppm	--	A4
Hexane	ACGIH	--	50 ppm	--	--	Skin
Hexane	JSOH	--	140 mg/m3	--	--	Skin
Benzene	ACGIH	Vapor	0.50 ppm	2.50 ppm	--	--
Benzene	ACGIH	--	0.05 ppm	2.50 ppm	--	Skin
Benzene	CVX	Vapor	0.50 ppm	2.50 ppm	--	--
Heptane	ACGIH	--	400 ppm	500 ppm	--	--
Heptane	JSOH	--	820 mg/m3	--	--	--
Cyclohexane	ACGIH	--	100 ppm	--	--	--
Cyclohexane	JSOH	--	520 mg/m3	--	--	--
Ethylbenzene	ACGIH	Vapor	100 ppm	--	--	--
Ethylbenzene	ACGIH	--	20 ppm	--	--	--
Ethylbenzene	JSOH	--	87 mg/m3	--	--	Skin
Methylcyclohexane	ACGIH	--	400 ppm	--	--	--
Methylcyclohexane	JSOH	--	1600 mg/m3	--	--	--
Naphthalene	ACGIH	Vapor	10 ppm	15 ppm	--	A4 Skin
Naphthalene	ACGIH	--	10 ppm	--	--	Skin

Consult local authorities for appropriate values.

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

Attention: the data below are typical values and do not constitute a specification.

Color: Colorless to yellow
Physical State: Liquid
Odor: Petroleum odor
Odor Threshold: No data available
pH: Not Applicable
Vapor Pressure: 5 psi - 15.50 psi (Typical) @ 37.8 °C (100 °F)
Relative Vapor Density: 3 - 4 (Typical)
Particle Characteristics: No data available
Boiling Point: 27.2°C (81°F) - 52.8°C (127°F) (Typical)

Solubility: Negligible
Freezing Point: Not Applicable
Melting Point: Not Applicable
Specific Gravity: 0.70 g/ml - 0.80 g/ml @ 15.6°C (60.1°F) (Typical)
Density: No data available
Viscosity: <1 SUS @ 37.8°C (100°F)
Evaporation Rate: No data available
n-Octanol/Water Partition Coefficient: 2 - 7
Combustion Characteristics (Solids/Gases): No data available
Decomposition Temperature: No data available
Boiling Range: No data available

FLAMMABLE PROPERTIES:
Flashpoint: (Tagliabue Closed Cup ASTM D56) < -45 °C (< -49 °F)

Autoignition: > 280 °C (> 536 °F)
Flammability (solid, gas): Not Applicable
Flammability (Explosive) Limits (% by volume in air): Lower: 1.4 Upper: 7.6

SECTION 10 STABILITY AND REACTIVITY

Reactivity: May react with strong acids or strong oxidizing agents, such as chlorates, nitrates, peroxides, etc.
Chemical Stability: This material is considered stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.
Incompatibility With Other Materials: Not applicable
Hazardous Decomposition Products: None known (None expected)
Hazardous Polymerization: Hazardous polymerization will not occur.

SECTION 11 HAZARD INFORMATION

IMMEDIATE HEALTH EFFECTS
Eye: Contact with the eyes causes severe irritation. Symptoms may include pain, tearing, reddening, swelling and impaired vision.
Eye Irritation: This material causes serious eye irritation. The product has not been tested. The statement is based on evaluation of data for product components.

Skin: Contact with the skin causes irritation. Skin contact may cause drying or defatting of the skin. Symptoms may include pain, itching, discoloration, swelling, and blistering. Contact with the skin is not expected to cause an allergic skin response.
Acute Dermal Toxicity: LD50: >3.75 g/kg (rabbit).
Skin Irritation: For a 4-hour exposure, the Primary Irritation Index (PII) in rabbits is: 4.8/8.0.
Skin Sensitization: This material did not cause skin sensitization reactions in a Buehler guinea pig test.

Ingestion: Highly toxic; may be fatal if swallowed. Because of its low viscosity, this material can directly enter the lungs, if swallowed, or if subsequently vomited. Once in the lungs it is very difficult to remove and can cause severe injury or death. May be irritating to mouth, throat, and stomach. Symptoms may include pain, nausea, vomiting, and diarrhea.
Acute Oral Toxicity: LD50: >5 ml/kg (rat).

Inhalation: Excessive or prolonged breathing of this material may cause central nervous system effects. Central nervous system effects may include headache, dizziness, nausea, vomiting, weakness, loss of coordination, blurred vision, drowsiness, confusion, or disorientation. At extreme exposures, central nervous system effects may include respiratory depression, tremors or convulsions, loss of

consciousness, coma or death.
Acute Inhalation Toxicity: 4 hour(s) LD50: >20000 mg/m3 (rat).
Acute Toxicity Estimate: Not Determined

DELAYED OR OTHER HEALTH EFFECTS:
Reproductive Toxicity: Contains material that may cause harm to the unborn child if inhaled above the recommended exposure limit. This material is suspected of damaging the unborn child. The product has not been tested. The statement is based on evaluation of data for similar materials or product components.
Carcinogenicity: Prolonged or repeated exposure to this material may cause cancer. Gasoline has been classified as a Group 2B carcinogen (possibly carcinogenic to humans) by the International Agency for Research on Cancer (IARC).

Whole gasoline exhaust has been classified as a Group 2B carcinogen (possibly carcinogenic to humans) by the International Agency for Research on Cancer (IARC).

Contains benzene, which has been classified as a carcinogen by the National Toxicology Program (NTP) and a Group 1 carcinogen (carcinogenic to humans) by the International Agency for Research on Cancer (IARC).
Contains naphthalene, which has been classified as a Group 2B carcinogen (possibly carcinogenic to humans) by the International Agency for Research on Cancer (IARC). Contains ethylbenzene which has been classified as a Group 2B carcinogen (possibly carcinogenic to humans) by the International Agency for Research on Cancer (IARC).
This material may cause cancer. The product has not been tested. The statement is based on evaluation of data for similar materials or product components.
Germ Cell Mutagenicity: This material may cause genetic defects. The product has not been tested. The statement is based on evaluation of data for similar materials or product components.

Target Organs: Contains material that may cause damage to the following organ(s) following repeated inhalation at concentrations above the recommended exposure limit: Blood/Blood Forming Organs
Specific Target Organ Toxicity - Single Exposure: This material may cause drowsiness or dizziness. The product has not been tested. The statement is based on evaluation of data for similar materials or product components.
Specific Target Organ Toxicity - Repeated Exposure: This material may cause damage to organs through prolonged or repeated exposure. The product has not been tested. The statement is based on evaluation of data for similar materials or product components.
Aspiration Hazard: This material is considered an aspiration hazard based on the kinematic viscosity of the material.

ADDITIONAL TOXICOLOGY INFORMATION:
This product contains naphthalene.
GENERAL TOXICITY: Exposure to naphthalene has been reported to cause methemoglobinemia and/or hemolytic anemia, especially in humans deficient in the enzyme glucose-6-phosphate dehydrogenase. Laboratory animals given repeated oral doses of naphthalene have developed cataracts.
REPRODUCTIVE TOXICITY AND BIRTH DEFECTS: Naphthalene did not cause birth defects when administered orally to rabbits, rats, and mice during pregnancy, but slightly reduced litter size in mice at dose levels that were lethal to the pregnant females. Naphthalene has been reported to cross the human placenta. GENETIC TOXICITY: Naphthalene caused chromosome aberrations and sister chromatid exchanges in Chinese hamster ovary cells, but was not a mutagen in several other in-vitro tests.CARCINOGENICITY: In a study conducted by the National Toxicology Program (NTP), mice exposed to 10 or 30 ppm of naphthalene by inhalation daily for two years had chronic inflammation of the nose and lungs and increased incidences of metaplasia in those tissues. The incidence of benign lung tumors (alveolar/bronchiolar adenomas) was significantly increased in the high-dose female group but not in the male groups. In another two-year inhalation study conducted by NTP, exposure of rats to 10, 30,

and 60 ppm naphthalene caused increases in the incidences of a variety of nonneoplastic lesions in the nose. Increases in nasal tumors were seen in both sexes, including olfactory neuroblastomas in females at 60 ppm and adenomas of the respiratory epithelium in males at all exposure levels. The relevance of these effects to humans has not been established. No carcinogenic effect was reported in a 2-year feeding study in rats receiving naphthalene at 41 mg/kg/day.

This product contains cyclohexane.
Cyclohexane primarily affects the central nervous systems of laboratory animals and humans. Acute or prolonged inhalation of cyclohexane at levels below the recommended exposure limits does not result in toxic effects while acute exposures to levels above these recommended limits can cause reversible central nervous system depression. Prolonged exposures of laboratory animals to high levels (up to low thousands of parts per million) have also caused reversible effects which included hyperactivity, diminished response to stimuli, and adaptive liver changes while very high levels (high thousands of parts per million) were fatal. No developmental effects were seen in rats or rabbits following exposures of up to 7000 ppm cyclohexane. No reproductive effects occurred in rats, although postnatal pup growth was reduced at 7000 ppm in a similar manner as observed in the parental animals. Cyclohexane has not been shown to be mutagenic in several in vitro and in vivo assays and has not produced tumors in several dermal application long-term bioassays. Based on these results and the lack of any mutagenic or genotoxic metabolites, cyclohexane is not expected to be mutagenic or genotoxic. Following dermal exposure, cyclohexane is rapidly absorbed, metabolized,and excreted.

This product contains butane.
An atmospheric concentration of 100,000 ppm (10%) butane is not noticeably irritating to the eyes, nose or respiratory tract, but will produce slight dizziness in a few minutes of exposure. No chronic systemic effect has been reported from occupational exposure.

This product contains benzene.
GENETIC TOXICITY/CANCER: Repeated or prolonged breathing of benzene vapor has been associated with the development of chromosomal damage in experimental animals and various blood diseases in humans ranging from aplastic anemia to leukemia (a form of cancer). All of these diseases can be fatal. In some individuals, benzene exposure can sensitize cardiac tissue to epinephrine which may precipitate fatal ventricular fibrillation.
REPRODUCTIVE/DEVELOPMENTAL TOXICITY: No birth defects have been shown to occur in pregnant laboratory animals exposed to doses not toxic to the mother. However, some evidence of fetal toxicity such as delayed physical development has been seen at such levels. The available information on the effects of benzene on human pregnancies is inadequate but it has been established that benzene can cross the human placenta.
OCCUPATIONAL: The OSHA Benzene Standard (29 CFR 1910.1028) contains detailed requirements for training, exposure monitoring, respiratory protection and medical surveillance triggered by the exposure level. Refer to the OSHA Standard before using this product.

This product contains n-hexane.
TARGET ORGAN TOXICITY: Prolonged or repeated ingestion, skin contact or breathing of vapors of n-hexane has been shown to cause peripheral neuropathy. Recovery ranges from no recovery to complete recovery depending upon the severity of the nerve damage. Exposure to 1000 ppm n-hexane for 18 hr/day for 61 days has been shown to cause testicular damage in rats. However, when rats were exposed to higher concentrations for shorter daily periods (10,000 ppm for 6 h/day, 5 days/wk for 13 weeks), no testicular lesions were seen.
CARCINOGENICITY: Chronic exposure to commercial hexane (52% n-hexane) at a concentration of 9000ppm was not carcinogenic to rats or to male mice, but did result in an increased incidence of liver tumors in female mice. No carcinogenic effects were observed in female mice exposed to 900 or 3000 ppm hexane or in male mice. The relevance for humans of these hexane-induced mouse liver tumors is questionable.
GENETIC TOXICITY: n-Hexane caused chromosome aberrations in bone marrow of rats, but was

negative in the AMES and mouse lymphoma tests.

This product contains ethanol (ethyl alcohol).
Chronic ingestion of ethanol can damage the liver, nervous system and heart. Chronic heavy consumption of alcoholic beverages has been associated with an increased risk of cancer. Ingestion of ethanol during pregnancy can cause human birth defects such as fetal alcohol syndrome.

Gasolines are highly volatile and can produce significant concentrations of vapor at ambient temperatures. Gasoline vapor is heavier than air and at high concentrations may accumulate in confined spaces to present both safety and health hazards. When vapor exposures are low, or short duration and infrequent, such as during refueling and tanker loading/unloading, neither total hydrocarbon nor components such as benzene are likely to result in any adverse health effects. In situations such as accidents or spills where exposure to gasoline vapor is potentially high, attention should be paid to potential toxic effects of specific components. Information about specific components in gasoline can be found in Sections 2/3, 8 and 15 of this SDS. More detailed information on the health hazards of specific gasoline components can be obtained calling the Chevron Emergency Information Center (see Section 1 for phone numbers).

Pathological misuse of solvents and gasoline, involving repeated and prolonged exposure to high concentrations of vapor is a significant exposure on which there are many reports in the medical literature. As with other solvents, persistent abuse involving repeated and prolonged exposures to high concentrations of vapor has been reported to result in central nervous system damage and eventually, death. In a study in which ten human volunteers were exposed for 30 minutes to approximately 200, 500 or 1000 ppm concentrations of gasoline vapor, irritation of the eyes was the only significant effect observed, based on both subjective and objective assessments.

Lifetime inhalation of wholly vaporized unleaded gasoline at 2056 ppm has caused increased liver tumors in female mice and kidney cancer in male rats. In their 1988 review of carcinogenic risk from gasoline, The International Agency for Research on Cancer (IARC) noted that, because published epidemiology studies did not include any exposure data, only occupations where gasoline exposure may have occurred were reviewed. These included gasoline service station attendants and automobile mechanics. IARC also noted that there was no opportunity to separate effects of combustion products from those of gasoline itself. Although IARC allocated gasoline a final overall classification of Group 2B, i.e. possibly carcinogenic to humans, this was based on limited evidence in experimental animals plus supporting evidence including the presence in gasoline of benzene. The actual evidence for carcinogenicity in humans was considered inadequate.

MUTAGENICITY: Gasoline was not mutagenic, with or without activation, in the Ames assay (Salmonella typhimurium), Saccharamyces cerevisesae, or mouse lymphoma assays. In addition, point mutations were not induced in human lymphocytes. Gasoline was not mutagenic when tested in the mouse dominant lethal assay. Administration of gasoline to rats did not cause chomosomal aberrations in their bone marrow cells. EPIDEMIOLOGY: To explore the health effects of workers potentially exposed to gasoline vapors in the marketing and distribution sectors of the petroleum industry, the American Petroleum Institute sponsored a cohort mortality study (Publication 4555), a nested case-control study (Publication 4551), and an exposure assessment study (Publication 4552). Histories of exposure to gasoline were reconstructed for cohort of more than 18,000 employees from four companies for the time period between 1946 and 1985. The results of the cohort mortality study indicated that there was no increased mortality from either kidney cancer or leukemia among marketing and marine distribution employees who were exposed to gasoline in the petroleum industry, when compared to the general population. More importantly, based on internal comparisons, there was no association between mortality from kidney cancer or leukemia and various indices of gasoline exposure. In particular, neither duration of employment, duration of exposure, age at first exposure, year of first exposure, job category, cumulative exposure, frequency of peak exposure, nor average intensity of exposure had any effect on kidney cancer or leukemia mortality. The results of the nested case-control study confirmed the findings of the original cohort study. That is, exposure to gasoline at the levels experienced by this cohort of distribution workers is not a significant risk factor for leukemia (all cell types), acute myeloid leukemia, kidney cancer or multiple myeloma.

This product contains ethylbenzene.
BIRTH DEFECTS AND REPRODUCTION: Ethylbenzene is not expected to cause birth defects or other developmental effects based on well-conducted studies in rabbits and rats sponsored by NIOSH. Other studies in rats and mice which reported urinary tract malformations have many deficiencies and have limited usefulness in evaluating human risk. Reproductive effects are not expected based on a NIOSH study of fertility, and lack of effects observed for sperm counts and motility, estrous cycle and pathology of reproductive organs following repeated exposures. HEARING: Statistically significant losses in outer hair cells (OHCs) were observed in rats exposed to >=200 ppm ethylbenzene, 6 hours/day, 6 days/week for 13 weeks, after an 8-week recovery period. Following longer exposure, inner hair cells losses were also observed in rats exposed to >= 600 ppm ethylbenzene, but only occasionally in rats exposed to 400 ppm. The Lowest Observed Adverse Effect Level in rats (LOAEL) was 200 ppm for losses of OHCs. Guinea pigs exposed to ethylbenzene at 2,500 ppm, 6 hours/day for 5 days did not show auditory deficits or losses in OHCs. The concentration of ethylbenzene used in the JP-8 study was approximately 10 ppm. GENETIC TOXICITY: Ethylbenzene tested negative in the bacterial mutation test, Chinese Hamster Ovary (CHO) cell in vitro assay, sister chromatid exchange assay and an unscheduled DNA synthesis assay. Conflicting results have been reported for the mouse lymphoma cell assay. Increased micronuclei were reported in an in vitro Syrian hamster embryo cell assay; however, two in vivo micronuclei studies in mice were negative. In Syrian hamster embryo cells in vitro, cell transformation was observed at 7 days of incubation but not at 24 hours. Based on these results, ethylbenzene is not expected to be mutagenic or clastogenic. CARCINOGENICITY: In studies conducted by the National Toxicology Program, rats and mice were exposed to ethylbenzene at 25, 250 and 750 ppm for six hours per day, five days per week for 103 weeks. In rats exposed to 750 ppm, the incidence of kidney tubule hyperplasia and tumors was increased. Testicular tumors develop spontaneously in nearly all rats if allowed to complete their natural life span; in this study, the development of these tumors appeared to be enhanced in male rats exposed to 750 ppm. In mice, the incidences of lung tumors in males and liver tumors in females exposed to 750 ppm were increased as compared to control mice but were within the range of incidences observed historically in control mice. Other liver effects were observed in male mice exposed to 250 and 750 ppm. The incidences of hyperplasia were increased in the pituitary gland in female mice at 250 and 750 ppm and in the thyroid in male and female mice at 750 ppm.

This product contains toluene.
GENERAL TOXICITY: The primary effects of exposure to toluene in animals and humans are on the central nervous system. Solvent abusers, who typically inhale high concentrations (thousands of ppm) for brief periods of time, in addition to experiencing respiratory tract irritation, often suffer permanent central nervous system effects that include tremors, staggered gait, impaired speech, hearing and vision loss, and changes in brain tissue. Death in some solvent abusers has been attributed to cardiac arrhythmias, which appear to be have been triggered by epinephrine acting on solvent sensitized cardiac tissue. Although liver and kidney effects have been seen in some solvent abusers, results of animal testing with toluene do not support these as primary target organs.
HEARING: Humans who were occupationally exposed to concentrations of toluene as low as 100 ppm for long periods of time have experienced hearing deficits. Hearing loss, as demonstrated using behavioral and electrophysiological testing as well as by observation of structural damage to cochlear hair cells, occurred in experimental animals exposed to toluene. It also appears that toluene exposure and noise may interact to produce hearing deficits.
COLOR VISION: In a single study of workers exposed to toluene at levels under 50 ppm, small decreases in the ability to discriminate colors in the blue-yellow range have been reported for female workers. This effect, which should be investigated further, is very subtle and would not likely have been noticed by the people tested.
REPRODUCTIVE/DEVELOPMENTAL TOXICITY: Toluene may also cause mental and/or growth retardation in the children of female solvent abusers who directly inhale toluene (usually at thousands of ppm) when they are pregnant. Toluene caused growth retardation in rats and rabbits when administered at doses that were toxic to the mothers. In rats, concentrations of up to 5000 ppm did not cause birth defects. No effects were observed in the offspring at doses that did not intoxicate the pregnant animals. The exposure level at which no effects were seen (No Observed Effect Level, NOEL) is 750 ppm in the

rat and 500 ppm in the rabbit.

This product contains xylene.
ACUTE TOXICITY: The primary effects of exposure to xylene in animals and humans are on the central nervous system. In addition,in some individuals, xylene exposure can sensitize cardiac tissue to epinephrine which may precipitate fatal ventricular fibrillation. DEVELOPMENTAL TOXICITY: Xylene has been reported to cause developmental toxicity in rats and mice exposed by inhalation during pregnancy. The effects noted consisted of delayed development and minor skeletal variations. In addition, when pregnant mice were exposed by ingestion to a level that killed nearly one-third of the test group, lethality (resorptions) and malformations (primarily cleft palate) occurred. Since xylene can cross the placenta, it may be appropriate to prevent exposure during pregnancy. GENETIC TOXICITY/CARCINOGENICITY: Xylene was not genotoxic in several mutagenicity testing assays including the Ames test. In a cancer study sponsored by the National Toxicology Program (NTP),technical grade xylene gave no evidence of carcinogenicity in rats or mice dosed daily for two years. HEARING: Mixed xylenes have been shown to cause measurable hearing loss in rats exposed to 800 ppm in the air for 14 hours per day for six weeks. Exposure to 1450 ppm xylene for 8 hours caused hearing loss while exposure to 1700 ppm for 4 hours did not. Although no information is available for lower concentrations, other chemicals that cause hearing loss in rats at relatively high concentrations do not cause hearing loss in rats at low concentrations. Worker exposure to xylenes at the permissible exposure limit (100 ppm, time-weighted average) is not expected to cause hearing loss.

SECTION 12 ECOLOGICAL INFORMATION

ECOTOXICITY
Gasoline studies have been conducted in the laboratory under a variety of test conditions with a range of fish and invertebrate species. An even more extensive database is available on the aquatic toxicity of individual aromatic constituents. The majority of published studies do not identify the type of gasoline evaluated, or even provide distinguishing characteristics such as aromatic content or presence of lead alkyls. As a result, comparison of results among studies using open and closed vessels, different ages and species of test animals and different gasoline types, is difficult.

The bulk of the available literature on gasoline relates to the environmental impact of monoaromatic (BTEX) and diaromatic (naphthalene, methylnaphthalenes) constituents. In general, non-oxygenated gasoline exhibits some short-term toxicity to freshwater and marine organisms, especially under closed vessel or flow-through exposure conditions in the laboratory. The components which are the most prominent in the water soluble fraction and cause aquatic toxicity, are also highly volatile and can be readily biodegraded by microorganisms.

This material is expected to be toxic to aquatic organisms and may cause long-term adverse effects in the aquatic environment.

48 hour(s) LC50: 3.0 mg/l (Daphnia magna)
96 hour(s) LC50: 1.8 mg/l (Mysidopsis bahia)
96 hour(s) LC50: 8.3 mg/l (Cyprinodon variegatus)
96 hour(s) LC50: 2.7 mg/l (Oncorhynchus mykiss)

MOBILITY IN SOIL
No data available.

PERSISTENCE AND DEGRADABILITY
This material is expected to be readily biodegradable. Following spillage, the more volatile components of gasoline will be rapidly lost, with concurrent dissolution of these and other constituents into the water. Factors such as local environmental conditions (temperature, wind, mixing or wave action, soil type, etc), photo-oxidation, biodegradation and adsorption onto suspended sediments, can contribute to the

weathering of spilled gasoline.

The aqueous solubility of non-oxygenated unleaded gasoline, based on analysis of benzene, toluene, ethylbenzene+xylenes and naphthalene, is reported to be 112 mg/l. Solubility data on individual gasoline constituents also available.

The product has not been tested. The statement has been derived from the properties of the individual components.

POTENTIAL TO BIOACCUMULATE
Bioconcentration Factor: No data available.
Octanol/Water Partition Coefficient: 2 - 7

ADVERSE EFFECTS FOR OZONE LAYER:
No data available.

SECTION 13 NOTES ON DISPOSAL

Use material for its intended purpose or recycle if possible. This material, if it must be discarded, may meet the criteria of a hazardous waste as defined by international, country, or local laws and regulations.

SECTION 14 TRANSPORT INFORMATION

The description shown may not apply to all shipping situations. Consult 49CFR, or appropriate Dangerous Goods Regulations, for additional description requirements (e.g., technical name) and mode-specific or quantity-specific shipping requirements.

UN Shipping Description: UN1203, GASOLINE, 3, II

IMO/IMDG Shipping Description: UN1203, GASOLINE, 3, II, FLASH POINT SEE SECTION 9, MARINE POLLUTANT (GASOLINE)

ICAO/IATA Shipping Description: UN1203, GASOLINE, 3, II

Domestic Regulatory Information
Land Regulatory Information: subject to the provisions of the Fire Service Act
Maritime Regulatory Information: subject to the provisions of the Ship Safety Act
Aviation Regulatory Information: subject to the provisions of the Civil Aeronautics Act

SECTION 15 REGULATORY INFORMATION

REGULATORY LISTS SEARCHED:
01-1=IARC Group 1
01-2A=IARC Group 2A
01-2B=IARC Group 2B
02-1=PRTR (Pollutant Release and Transfer Register) Class 1
02-2=PRTR (Pollutant Release and Transfer Register) Class 2
03-1=Industrial Safety and Health Law (Harmful Substances, etc., Prohibited for Manufacture)
03-2=Industrial Safety and Health Law (Harmful Substances Subject to Obtaining Permission for Manufacturing)
03-3=Industrial Safety and Health Law (Harmful Substances Whose Names, etc., are to Be Indicated)
03-4=Industrial Safety and Health Law (Notifiable Substances)
04-1=Poisonous and Deleterious Substances Control Law (Poisonous substance)
04-2=Poisonous and Deleterious Substances Control Law (Deleterious substance)

The following components of this material are found on the regulatory lists indicated.

Gasoline	01-2B
Toluene	02-1, 03-3, 03-4, 04-2
Pentane, 2,2,4-trimethyl-	02-2, 03-3
Xylene	02-1, 03-3, 03-4, 04-2
Trimethylbenzene (3 isomers: 1,2,3-; 1,2,4-; 1,3,5-isomer)	02-1, 03-3, 03-4
Butane	03-3, 03-4
Ethanol	01-1, 03-3, 03-4
Hexane	02-1, 03-3, 03-4
Benzene	01-1, 02-1, 03-1, 03-3, 03-4
Heptane	02-1, 03-3, 03-4
Cyclohexane	02-1, 03-3, 03-4
Ethylbenzene	01-2B, 02-1, 03-3, 03-4
Methylcyclohexane	03-3, 03-4
Naphthalene	01-1, 01-2B, 02-1, 03-3, 03-4

JAPANESE FIRE LAW: Group 4, Class 1 Petroleum

CHEMICAL INVENTORIES:
All components comply with the following chemical inventory requirements: AIIC (Australia), DSL (Canada), EINECS (European Union), KECI (Korea), NZIoC (New Zealand), PICCS (Philippines), TCSI (Taiwan).

SECTION 16 OTHER INFORMATION

REVISION STATEMENT: SECTION 08 - Engineering Control Measures information was modified.
SECTION 08 - General Considerations information was modified.
SECTION 08 - Occupational Exposure Limit Table information was modified.
SECTION 08 - Personal Protective Equipment List information was deleted.
SECTION 08 - Personal Protective Equipment information was added.
SECTION 08 - Skin Protection information was modified.
SECTION 15 - Regulatory Information information was modified.

Revision Date: 2023/03/01

ABBREVIATIONS THAT MAY HAVE BEEN USED IN THIS DOCUMENT:

TLV - Threshold Limit Value	TWA - Time Weighted Average
STEL - Short-term Exposure Limit	PEL - Permissible Exposure Limit
	CAS - Chemical Abstract Service Number
ACGIH - American Conference of Governmental Industrial Hygienists	IMO/IMDG - International Maritime Dangerous Goods Code
API - American Petroleum Institute	SDS - Safety Data Sheet
CVX - Chevron	NFPA - National Fire Protection Association (USA)
	NTP - National Toxicology Program (USA)
IARC - International Agency for Research on Cancer	

Prepared according to JIS Z 7253:2019 / JIS Z 7252:2019 by Chevron Technical Center, 6001 Bollinger Canyon Road, San Ramon, CA 94583.

The above information is based on the data of which we are aware and is believed to be correct as of the date hereof. Since this information may be applied under conditions beyond our control and with which we may be unfamiliar and since data made available subsequent to the date hereof may suggest modifications of the information, we do not assume any responsibility for the results of its use. This information is

furnished upon condition that the person receiving it shall make his own determination of the suitability of the material for his particular purpose.

SAFETY DATA SHEET

CITGO Gasolines, All Grades Leaded

Section 1. Identification

GHS product identifier : CITGO Gasolines, All Grades Leaded

Synonyms : Leaded gasoline; Motor gasoline; Petrol; Automobile motor fuels; Finished gasolines; Racing gasoline

Material uses : Fuel.

Code : Various

MSDS # : LEADED

Supplier's details : CITGO Petroleum Corporation
P.O. Box 4689
Houston, TX 77210
sdsvend@citgo.com

Emergency telephone number : Technical Contact: (832) 486-4000
Medical Emergency: (832) 486-4700
CHEMTREC Emergency: (800) 424-9300
(United States Only)

Section 2. Hazards identification

OSHA/HCS status : This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

Classification of the substance or mixture : FLAMMABLE LIQUIDS - Category 2
SKIN CORROSION/IRRITATION - Category 2
SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 2B
GERM CELL MUTAGENICITY - Category 1B
CARCINOGENICITY - Category 1B
TOXIC TO REPRODUCTION [Fertility] - Category 2
TOXIC TO REPRODUCTION [Unborn child] - Category 2
SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) [central nervous system (CNS)] - Category 2
SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) [Respiratory tract irritation and Narcotic effects] - Category 3
SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE): INHALATION [blood system] - Category 1
SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) [central nervous system (CNS) and nervous system] - Category 2
SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE): INHALATION [kidneys] - Category 2
ASPIRATION HAZARD - Category 1

GHS label elements

Hazard pictograms :

Signal word : Danger

Hazard statements : Highly flammable liquid and vapor.
Causes skin and eye irritation.
May cause genetic defects.
May cause cancer.
Suspected of damaging fertility or the unborn child.
May be fatal if swallowed and enters airways.
May cause damage to organs. (central nervous system (CNS))
May cause respiratory irritation.
May cause drowsiness and dizziness.

Section 2. Hazards identification

Causes damage to organs through prolonged or repeated exposure if inhaled. (blood system)
May cause damage to organs through prolonged or repeated exposure. (central nervous system (CNS), nervous system)
May cause damage to organs through prolonged or repeated exposure if inhaled. (kidneys)

Precautionary statements

Prevention : Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Use personal protective equipment as required. Wear protective gloves. Wear eye or face protection. Keep away from heat, sparks, open flames and hot surfaces. - No smoking. Use explosion-proof electrical, ventilating, lighting and all material-handling equipment. Use only non-sparking tools. Take precautionary measures against static discharge. Keep container tightly closed. Use only outdoors or in a well-ventilated area. Do not breathe vapor. Do not eat, drink or smoke when using this product. Wash hands thoroughly after handling.

Response : Get medical attention if you feel unwell. IF exposed or if you feel unwell: Call a POISON CENTER or physician. IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or physician if you feel unwell. IF SWALLOWED: Immediately call a POISON CENTER or physician. Do NOT induce vomiting. IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower. IF ON SKIN: Wash with plenty of soap and water. Take off contaminated clothing. If skin irritation occurs: Get medical attention. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical attention.

Storage : Store locked up. Store in a well-ventilated place. Keep cool.

Disposal : Dispose of contents and container in accordance with all local, regional, national and international regulations.

Supplemental label elements : Avoid contact with skin and clothing. Wash thoroughly after handling.

Hazards not otherwise classified : Prolonged or repeated contact may dry skin and cause irritation.

Section 3. Composition/information on ingredients

Substance/mixture : Substance

Other means of identification : Leaded gasoline; Motor gasoline; Petrol; Automobile motor fuels; Finished gasolines; Racing gasoline

Ingredient name	%	CAS number
Toluene	<20	108-88-3
Pentane, all isomers	<20	109-66-0
Xylenes, mixed isomers	<20	1330-20-7
Hexane, other isomers	<15	*
Heptane, all isomers	<15	142-82-5
Ethanol	0 - 10	64-17-5
Butane	0 - 10	106-97-8
Benzene	<4.9	71-43-2
Cumene	<4	98-82-8
Ethylbenzene	<4	100-41-4
n-Hexane	<3	110-54-3
Cyclohexane	<3	110-82-7
1,2,4-Trimethylbenzene	<2	95-63-6
Naphthalene	<2	91-20-3
tetraethyllead	<1	78-00-2

* = Various ** = Mixture *** = Proprietary

Any concentration shown as a range is to protect confidentiality or is due to process variation.

Occupational exposure limits, if available, are listed in Section 8.

Section 4. First aid measures

Description of necessary first aid measures

Eye contact : Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention. If necessary, call a poison center or physician.

Inhalation : Remove victim to fresh air and keep at rest in a position comfortable for breathing. If it is suspected that gas or vapor is still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention. If necessary, call a poison center or physician. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

Skin contact : Wash skin thoroughly with soap and water or use recognized skin cleanser. Remove contaminated clothing and shoes. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. Continue to rinse for at least 10 minutes. Get medical attention. If necessary, call a poison center or physician. Wash clothing before reuse. Clean shoes thoroughly before reuse.

Ingestion : Get medical attention immediately. Call a poison center or physician. Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. Aspiration hazard if swallowed. Can enter lungs and cause damage. Do not induce vomiting. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

Most important symptoms/effects, acute

Potential acute health effects

Eye contact : Causes eye irritation.

Inhalation : Can cause central nervous system (CNS) depression. May cause drowsiness and dizziness. May cause respiratory irritation. Breathing high concentrations can cause irregular heartbeats which can be fatal.

Skin contact : Causes skin irritation. Defatting to the skin.

Ingestion : Can cause central nervous system (CNS) depression. May be fatal if swallowed and enters airways. Irritating to mouth, throat and stomach.

Over-exposure signs/symptoms

Eye contact : Adverse symptoms may include the following:
pain or irritation
watering
redness

Inhalation : Adverse symptoms may include the following:
respiratory tract irritation
coughing
nausea or vomiting
headache
drowsiness/fatigue
dizziness/vertigo
unconsciousness
Breathing high concentrations can cause irregular heartbeats which can be fatal.

Skin contact : Adverse symptoms may include the following:
irritation
redness
dryness
cracking

Ingestion : Adverse symptoms may include the following:
nausea or vomiting

Indication of immediate medical attention and special treatment needed, if necessary

Section 4. First aid measures

Notes to physician : This material (or a component) may sensitize the heart to the effects of sympathomimetic amines. Epinephrine and other sympathomimetic drugs may initiate cardiac arrthymias in individuals exposed to this material. If ingested, this material presents a significant aspiration and chemical pneumonitis hazard. Induction of emesis is not recommended. Consider activated charcoal and/or gastric lavage. If patient is obtunded, protect the airway by cuffed endotracheal intubation or by placement of the body in a Trendelenburg and left lateral decubitus position.

Specific treatments : Treat symptomatically and supportively.

Protection of first-aiders : No action shall be taken involving any personal risk or without suitable training. If it is suspected that gas or vapor is still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

See toxicological information (Section 11)

Section 5. Fire-fighting measures

Specific hazards arising from the chemical : Highly flammable liquid and vapor. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion. The vapor/gas is heavier than air and will spread along the ground. Vapors may accumulate in low or confined areas or travel a considerable distance to a source of ignition and flash back. Runoff to sewer may create fire or explosion hazard. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.

Extinguishing media

Suitable extinguishing media : Use caution when applying carbon dioxide in confined spaces.
SMALL FIRE: Steam, CO_2, dry chemical or inert gas (e.g., nitrogen). LARGE FIRE: Use foam, water fog or water spray. Water fog and spray are effective in cooling containers and adjacent structures. However, water can cause frothing and/or may not extinguish the fire. Water can be used to cool the external walls of vessels to prevent excessive pressure, ignition or explosion.

Unsuitable extinguishing media : Do not use water jet.

Hazardous thermal decomposition products : Decomposition products may include the following materials:
carbon dioxide
carbon monoxide
metal oxide/oxides

Special protective actions for fire-fighters : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.

Special protective equipment for fire-fighters : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

For non-emergency personnel : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

For emergency responders : If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

Section 6. Accidental release measures

Environmental precautions : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air). Water polluting material. May be harmful to the environment if released in large quantities.

Methods and materials for containment and cleaning up

Small spill : Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Absorb with an inert material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

Large spill : Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

Section 7. Handling and storage

Precautions for safe handling

Protective measures : Put on appropriate personal protective equipment (see Section 8). Avoid exposure - obtain special instructions before use. Avoid exposure during pregnancy. Do not handle until all safety precautions have been read and understood. Do not get in eyes or on skin or clothing. Do not breathe vapor or mist. Do not swallow. Avoid release to the environment. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Do not enter storage areas and confined spaces unless adequately ventilated. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Store and use away from heat, sparks, open flame or any other ignition source. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Use only non-sparking tools. Take precautionary measures against electrostatic discharges. Empty containers retain product residue and can be hazardous. Do not reuse container. Non equilibrium conditions may increase the fire hazard associated with this product. Always bond receiving containers to the fill pipe before and during loading. Always confirm that receiving container is properly grounded. Bonding and grounding alone may be inadequate to eliminate fire and explosion hazards. Carefully review operations that may increase the risks such as tank and container filling, tank cleaning, sampling, gauging, loading, filtering, mixing, agitation, etc. In addition to bonding and grounding, efforts to mitigate the hazards may include, but are not limited to, ventilation, inerting and/or reduction of transfer velocities.
Always keep nozzle in contact with the container throughout the loading process. Do NOT fill any portable container in or on a vehicle.

Special precautions, such as reduced loading rates and increased monitoring, must be observed during "switch loading" operations (i.e., loading this material in tanks or shipping compartments that previously contained a dissimilar product).

Advice on general occupational hygiene : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

Conditions for safe storage, including any incompatibilities : Store in accordance with local regulations. Store in a segregated and approved area. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Store locked up. Eliminate all ignition sources. Separate from oxidizing materials. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental

Section 7. Handling and storage

contamination.

Bulk Storage Conditions: Maintain all storage tanks in accordance with applicable regulations. Use necessary controls to monitor tank inventories. Inspect all storage tanks on a periodic basis. Test tanks and associated piping for tightness. Maintain the automatic leak detection devices to assure proper working condition.

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits

Ingredient name	Exposure limits
Pentane, all isomers	**ACGIH TLV (United States, 4/2014).** TWA: 1000 ppm 8 hours. **OSHA PEL (United States, 2/2013).** TWA: 1000 ppm 8 hours. TWA: 2950 mg/m³ 8 hours.
Toluene	**OSHA PEL Z2 (United States, 2/2013).** TWA: 200 ppm 8 hours. CEIL: 300 ppm AMP: 500 ppm 10 minutes. **ACGIH TLV (United States, 4/2014).** TWA: 20 ppm 8 hours.
Xylenes, mixed isomers	**ACGIH TLV (United States, 4/2014).** TWA: 100 ppm 8 hours. TWA: 434 mg/m³ 8 hours. STEL: 150 ppm 15 minutes. STEL: 651 mg/m³ 15 minutes. **OSHA PEL (United States, 2/2013).** TWA: 100 ppm 8 hours. TWA: 435 mg/m³ 8 hours.
Hexane, other isomers	**ACGIH (United States).** TWA: 500 ppm 8 hours. STEL: 1000 ppm 15 minutes.
Heptane, all isomers	**ACGIH TLV (United States, 4/2014).** TWA: 400 ppm 8 hours. TWA: 1640 mg/m³ 8 hours. STEL: 500 ppm 15 minutes. STEL: 2050 mg/m³ 15 minutes. **OSHA PEL (United States, 2/2013).** TWA: 500 ppm 8 hours. TWA: 2000 mg/m³ 8 hours.
Ethanol	**ACGIH (United States).** TWA: 1000 ppm 8 hours. **OSHA (United States).** TWA: 1000 ppm 8 hours. **ACGIH TLV (United States, 4/2014).** STEL: 1000 ppm 15 minutes. **OSHA PEL (United States, 2/2013).** TWA: 1000 ppm 8 hours. TWA: 1900 mg/m³ 8 hours.
Butane	**ACGIH (United States).** TWA: 800 ppm 8 hours. **ACGIH TLV (United States, 4/2014).** STEL: 1000 ppm 15 minutes.
Benzene	**ACGIH TLV (United States, 4/2014). Absorbed through skin.** TWA: 0.5 ppm 8 hours. TWA: 1.6 mg/m³ 8 hours. STEL: 2.5 ppm 15 minutes. STEL: 8 mg/m³ 15 minutes.

Section 8. Exposure controls/personal protection

	OSHA PEL (United States, 2/2013). TWA: 1 ppm 8 hours. STEL: 5 ppm 15 minutes. **OSHA PEL Z2 (United States, 2/2013).** TWA: 10 ppm 8 hours. CEIL: 25 ppm AMP: 50 ppm 10 minutes.
Cumene	**ACGIH TLV (United States, 4/2014).** TWA: 50 ppm 8 hours. **OSHA PEL (United States, 2/2013). Absorbed through skin.** TWA: 50 ppm 8 hours. TWA: 245 mg/m³ 8 hours.
Ethylbenzene	**ACGIH TLV (United States, 4/2014).** TWA: 20 ppm 8 hours. **OSHA PEL (United States, 2/2013).** TWA: 100 ppm 8 hours. TWA: 435 mg/m³ 8 hours.
n-Hexane	**ACGIH TLV (United States, 4/2014). Absorbed through skin.** TWA: 50 ppm 8 hours. **OSHA PEL (United States, 2/2013).** TWA: 500 ppm 8 hours. TWA: 1800 mg/m³ 8 hours.
Cyclohexane	**ACGIH TLV (United States, 4/2014).** TWA: 100 ppm 8 hours. **OSHA PEL (United States, 2/2013).** TWA: 300 ppm 8 hours. TWA: 1050 mg/m³ 8 hours.
1,2,4-Trimethylbenzene	**ACGIH TLV (United States, 4/2014).** TWA: 25 ppm 8 hours. TWA: 123 mg/m³ 8 hours.
Naphthalene	**ACGIH (United States). Absorbed through skin.** TWA: 10 ppm 8 hours. STEL: 15 ppm 15 minutes. **OSHA (United States).** TWA: 10 ppm 8 hours. **ACGIH TLV (United States, 4/2014). Absorbed through skin.** TWA: 10 ppm 8 hours. TWA: 52 mg/m³ 8 hours. **OSHA PEL (United States, 2/2013).** TWA: 10 ppm 8 hours. TWA: 50 mg/m³ 8 hours.
tetraethyllead	**OSHA PEL Z2 (United States). Absorbed through skin.** TWA: 0.075 mg/m³ 8 hours. **ACGIH TLV (United States, 4/2014). Absorbed through skin.** TWA: 0.1 mg/m³, (as Pb) 8 hours. **OSHA PEL (United States, 2/2013). Absorbed through skin.** TWA: 0.075 mg/m³, (as Pb) 8 hours.

Appropriate engineering controls : Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. The engineering controls also need to keep gas, vapor or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.

Section 8. Exposure controls/personal protection

Environmental exposure controls : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, vapor controls, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

Individual protection measures

Hygiene measures : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Eye/face protection : Safety glasses equipped with side shields are recommended as minimum protection in industrial settings. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: chemical splash goggles. Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If inhalation hazards exist, a full-face respirator may be required instead.

Skin protection

Hand protection : Avoid skin contact with liquid. Chemical-resistant gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Recommended: Heavy duty, industrial grade chemically resistant gloves constructed of nitrile, neoprene, polyethylene, fluoroelastomer rubber or polyvinyl chloride as approved by glove manufacturer. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. Leather gloves are not protective for liquid contact.

Body protection : Avoid skin contact with liquid. Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Other skin protection : Avoid skin contact with liquid. Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. Leather boots are not protective for liquid contact.

Respiratory protection : Avoid inhalation of gases, vapors, mists or dusts. Use a properly fitted, air-purifying or supplied-air respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator. If an air purifying respirator is appropriate, use one equipped with cartridges rated for organic vapors.

Section 9. Physical and chemical properties

Physical state : Liquid.

Color : Transparent, clear to amber or red.

Odor : Pungent, characteristic gasoline.

pH : Not applicable

Boiling point/boiling range : 38 to 204°C (100.4 to 399.2°F)

Flash point : Closed cup: -43°C (-45.4°F) [Tagliabue [ASTM D-56]]

Evaporation rate : 7.5 (n-butyl acetate. = 1)

Lower and upper explosive (flammable) limits : Lower: 1.4%
Upper: 7.6%

Vapor pressure : 29.3 to 60 kPa (220 to 450 mm Hg) [room temperature]

Vapor density : 3 to 4 [Air = 1]

Relative density : 0.72 to 0.77

Solubility : Very slightly soluble in the following materials: cold water.

Section 9. Physical and chemical properties

Auto-ignition temperature : 280°C (536°F)

Viscosity : Kinematic (room temperature): <0.01 cm^2/s (<1 cSt)

Section 10. Stability and reactivity

Reactivity : Not expected to be Explosive, Self-Reactive, Self-Heating, or an Organic Peroxide under US GHS Definition(s).

Chemical stability : The product is stable.

Possibility of hazardous reactions : Under normal conditions of storage and use, hazardous reactions will not occur.

Conditions to avoid : Avoid all possible sources of ignition (spark or flame). Do not pressurize, cut, weld, braze, solder, drill, grind or expose containers to heat or sources of ignition. Do not allow vapor to accumulate in low or confined areas.

Incompatible materials : Reactive or incompatible with the following materials:
oxidizing materials

Hazardous decomposition products : Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Section 11. Toxicological information

Information on toxicological effects

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
Toluene	LC50 Inhalation Vapor	Rat	>20 mg/l	4 hours
	LD50 Dermal	Rabbit	12267 mg/kg	-
	LD50 Oral	Rat - Male	5580 mg/kg	-
	TDLo Oral	Rat	1000 mg/kg	-
Xylenes, mixed isomers	LC50 Inhalation Vapor	Rat	5000 ppm	4 hours
	LC50 Inhalation Vapor	Rat	6700 ppm	4 hours
	LD50 Oral	Mouse	2119 mg/kg	-
	LD50 Oral	Rat	4300 mg/kg	-
	LD50 Oral	Rat	4300 mg/kg	-
Hexane, other isomers	LC50 Inhalation Vapor	Rat	48000 ppm	4 hours
Heptane, all isomers	LD50 Dermal	Rabbit	>2000 mg/kg	-
	LD50 Oral	Rat	>5000 mg/kg	-
Ethanol	LC50 Inhalation Vapor	Mouse	>40000 ppm	10 minutes
	LC50 Inhalation Vapor	Rat	124700 mg/m^3	4 hours
	LD50 Oral	Guinea pig	5560 mg/kg	-
	LD50 Oral	Rabbit	6300 mg/kg	-
	LD50 Oral	Rat	7060 mg/kg	-
Butane	LC50 Inhalation Vapor	Mouse	680000 mg/m^3	2 hours
	LC50 Inhalation Vapor	Rat	658000 mg/m^3	4 hours
Benzene	LC50 Inhalation Vapor	Rat	10000 ppm	7 hours
	LD50 Oral	Mammal - species unspecified	5700 mg/kg	-
	LD50 Oral	Mouse	4700 mg/kg	-
	LD50 Oral	Rat	6400 mg/kg	-
Cumene	LC50 Inhalation Vapor	Mouse	10 g/m^3	7 hours
	LD50 Dermal	Rabbit	12300 uL/kg	-
	LD50 Oral	Rat	2.9 g/kg	-
	LD50 Oral	Rat	4000 mg/kg	-
Ethylbenzene	LD50 Dermal	Rabbit	>5000 mg/kg	-
	LD50 Oral	Rat	3500 mg/kg	-
n-Hexane	LC50 Inhalation Vapor	Rat	48000 ppm	4 hours

Section 11. Toxicological information

	LD50 Oral	Rat	15840 mg/kg	-
Cyclohexane	LC50 Inhalation Vapor	Mouse	70000 mg/m³	2 hours
	LD50 Oral	Rat	6240 mg/kg	-
	LD50 Oral	Rat	12705 mg/kg	-
	LD50 Oral	Rat	>5000 mg/kg	-
	LDLo Oral	Rabbit	5500 mg/kg	-
1,2,4-Trimethylbenzene	LC50 Inhalation Vapor	Rat	18000 mg/m³	4 hours
	LD50 Oral	Mouse	6900 mg/kg	-
	LD50 Oral	Rat	5 g/kg	-
Naphthalene	LD50 Oral	Rat	490 mg/kg	-
tetraethyllead	LC50 Inhalation Vapor	Rat	850 mg/m³	1 hours
	LD50 Oral	Rat	12.5 mg/kg	-
	LD50 Oral	Rat	12300 µg/kg	-

Conclusion/Summary : **Pentane, all isomers**: Studies of pentane isomers in laboratory animals indicate exposure to extremely high levels (roughly 10 vol.%) may induce cardiac arrhythmias (irregular heartbeats) which may be serious or fatal.
Toluene: Deliberate inhalation of toluene at high concentrations (e.g., glue sniffing and solvent abuse) can cause CNS depression, cardiac arrhythmias and death.
Xylenes, mixed isomers: Overexposure to xylene may cause upper respiratory tract irritation, headache, cyanosis, blood serum changes, CNS damage and narcosis. Effects may be increased by the use of alcoholic beverages. Evidence of liver and kidney impairment were reported in workers recovering from a gross over-exposure.
Heptane, all isomers: Heptane is a CNS depressant and narcosis at elevated concentrations.
Ethanol: Inhalation exposure to ethanol vapor at concentrations above applicable workplace exposure levels is expected to produce eye and mucus membrane irritation. Human exposure at concentrations from 1000 to 5000 ppm produced symptoms of narcosis, stupor and unconsciousness. Subjects exposed to ethanol vapor in concentrations between 500 and 10,000 ppm experienced coughing and smarting of the eyes and nose. At 15,000 ppm there was continuous lacrimation and coughing. While extensive acute and chronic effects can be expected with ethanol consumption, ingestion is not expected to be a significant route of exposure to this product.
Butane: Studies in laboratory animals indicate exposure to extremely high levels of butanes (1-10 or higher vol.% in air) may cause cardiac arrhythmias (irregular heartbeats) which may be serious or fatal.
Cumene: Overexposure to cumene may cause upper respiratory tract irritation and CNS depression.
n-Hexane: n-Hexane is a CNS depressant and narcosis at elevated concentrations.
Cyclohexane: Cyclohexane is a CNS depressant and narcosis at elevated concentrations.

Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
Toluene	Eyes - Mild irritant	Rabbit	-	0.5 minutes 100 milligrams	-
	Eyes - Mild irritant	Rabbit	-	870 Micrograms	-
	Skin - Mild irritant	Pig	-	24 hours 250 microliters	-
	Skin - Mild irritant	Rabbit	-	435 milligrams	-
	Skin - Moderate irritant	Rabbit	-	500 milligrams	-
Xylenes, mixed isomers	Skin - Mild irritant	Rat	-	8 hours 60 microliters	-
	Skin - Moderate irritant	Rabbit	-	24 hours 500 milligrams	-
	Skin - Moderate irritant	Rabbit	-	100 Percent	-
Ethanol	Eyes - Mild irritant	Rabbit	-	24 hours 500 milligrams	-
	Eyes - Moderate irritant	Rabbit	-	0.066666667	-

Section 11. Toxicological information

				minutes 100 milligrams	
	Eyes - Moderate irritant	Rabbit	-	100 microliters	-
	Skin - Mild irritant	Rabbit	-	400 milligrams	-
	Skin - Moderate irritant	Rabbit	-	24 hours 20 milligrams	-
Benzene	Eyes - Moderate irritant	Rabbit	-	88 milligrams	-
	Skin - Mild irritant	Rat	-	8 hours 60 microliters	-
	Skin - Mild irritant	Rabbit	-	24 hours 15 milligrams	-
Cumene	Eyes - Mild irritant	Rabbit	-	86 milligrams	-
	Skin - Mild irritant	Rabbit	-	24 hours 10 milligrams	-
Ethylbenzene	Skin - Mild irritant	Rabbit	-	24 hours 15 milligrams	-
n-Hexane	Eyes - Mild irritant	Rabbit	-	10 milligrams	-
1,2,4-Trimethylbenzene	Skin - Edema	Rabbit	3	-	-
Naphthalene	Skin - Mild irritant	Rabbit	-	495 milligrams	-

Skin : **Xylenes, mixed isomers**: May cause skin irritation.
Cyclohexane: Cyclohexane can cause eye, skin and mucous membrane irritation.

Eyes : **Xylenes, mixed isomers**: May cause eye irritation.

Respiratory : No additional information.

Sensitization

Skin : **Toluene**: Non-sensitizer to skin.

Respiratory : **Toluene**: Non-sensitizer to lungs.

Mutagenicity

Conclusion/Summary : **Heptane, all isomers**: n-heptane was not mutagenic in the Salmonella/microsome (Ames) assay.
Benzene: Some studies of workers exposed to benzene have shown an association with increased rates of chromosome aberrations in circulating lymphocytes.

Carcinogenicity

Product/ingredient name	Result	Species	Dose	Exposure
Benzene	Positive - Inhalation - TD	Rat - Female	-	-

Conclusion/Summary : **Ethanol**: IARC Monograph 96 (2010) identified Ethanol in alcoholic beverages as a Group 1 carcinogen.
Benzene: Studies of workers exposed to benzene show clear evidence that over-exposure can cause cancer of the blood forming organs (acute myelogenous leukemia) and aplastic anemia. Also, studies suggest over-exposure to benzene may be associated with other types of leukemia and other blood disorders. Studies in laboratory animals indicate that prolonged, repeated exposure to high levels of benzene vapor can cause bone marrow suppression and cancer in multiple organ systems.
Ethylbenzene: Findings from a 2-year inhalation study in rodents conducted by NTP were as follows: Effects were observed only at the highest exposure level (750 ppm). At this level the incidence of renal tumors was elevated in male rats (tubular carcinomas) and female rats (tubular adenomas). Also, the incidence of tumors was elevated in male mice (alveolar and bronchiolar carcinomas) and female mice (hepatocellular carcinomas). IARC has classified ethyl benzene as “possibly carcinogenic to humans” (Group 2B).
Cumene: Studies in laboratory animals indicate evidence of adverse effects on the kidney and adrenal glands following high level exposure. The relevance of these findings to humans is not clear at this time. IARC has classified cumene as “possibly carcinogenic to humans” (Group 2B). In addition, NTP has determined cumene is reasonably anticipated to be a human carcinogen based on sufficient evidence of carcinogenicity from studies in experimental animals.
Naphthalene: Laboratory rodents exposed to naphthalene vapor for 2 years (lifetime

Section 11. Toxicological information

studies) developed non-neoplastic and neoplastic tumors and inflammatory lesions of the nasal and respiratory tract.

Classification

Product/ingredient name	OSHA	IARC	NTP
Toluene	-	3	-
Xylenes, mixed isomers	-	3	-
Ethanol	-	1	-
Benzene	+	1	Known to be a human carcinogen.
Ethylbenzene	-	2B	-
Cumene	-	2B	Reasonably anticipated to be a human carcinogen.
Naphthalene	-	2B	Reasonably anticipated to be a human carcinogen.
tetraethyllead	-	3	Reasonably anticipated to be a human carcinogen.

Reproductive toxicity

Conclusion/Summary : **Toluene**: Case studies of persons abusing toluene suggest isolated incidences of adverse effects on the fetus including birth defects. Several studies of workers suggest long-term exposure may be related to small increases in spontaneous abortions and changes in some gonadotropic hormones. However, the weight of evidence does not indicate toluene is a reproductive hazard to humans. Studies in laboratory animals indicate some changes in reproductive organs following high levels of exposure, but no significant effects on mating performance or reproduction were observed. Case studies of persons abusing toluene suggest isolated incidences of adverse effects on the fetus including birth defects. Findings in laboratory animals were largely negative. Positive findings include small increases in minor skeletal and visceral malformations and developmental delays following very high levels of maternal exposure.
Benzene: One study of women workers exposed to benzene suggested a weak association with irregular menstruation. However, other studies of workers exposed to benzene have not demonstrated clear evidence of an effect on fertility or reproductive outcome in humans. Benzene can cross the placenta and affect the developing fetus. Cases of aplastic anemia have been reported in the offspring of persons severely over-exposed to benzene. Studies in laboratory animals show evidence of adverse effects on male reproductive organs following high levels of exposure but no significant effects on reproduction have been observed. Embryotoxicity has been reported in studies of laboratory animals but effects were limited to reduced fetal weight and skeletal variations.
Ethylbenzene: Studies in laboratory animals indicate limited evidence of renal malformations, resorptions, and developmental delays following high levels of maternal exposure. The relevance of these findings to humans is not clear at this time.
n-Hexane: In laboratory studies, prolonged exposure to elevated concentrations of n-hexane was associated with decreased sperm count and degenerative changes in the testicles of rats.

Teratogenicity

Product/ingredient name	Result	Species	Dose	Exposure
Benzene	Negative - Inhalation	Rat	-	-

Conclusion/Summary : No additional information.

Specific target organ toxicity (single exposure)

Name	Category	Route of exposure	Target organs
Toluene	Category 3	Not applicable.	Narcotic effects
Pentane, all isomers	Category 3	Not applicable.	Narcotic effects
Hexane, other isomers	Category 3	Not applicable.	Narcotic effects
Heptane, all isomers	Category 3	Not applicable.	Narcotic effects
Ethanol	Category 3	Not applicable.	Respiratory tract irritation
Butane	Category 2	Not determined	central nervous system (CNS)
Cumene	Category 3	Not applicable.	Respiratory tract

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			irritation
Ethylbenzene	Category 3	Not applicable.	Respiratory tract irritation
n-Hexane	Category 3	Not applicable.	Narcotic effects
Cyclohexane	Category 3	Not applicable.	Narcotic effects
1,2,4-Trimethylbenzene	Category 3	Not applicable.	Respiratory tract irritation

Specific target organ toxicity (repeated exposure)

Name	Category	Route of exposure	Target organs
Toluene	Category 2	Inhalation	kidneys
Benzene	Category 1	Inhalation	blood system
n-Hexane	Category 2	Inhalation	peripheral nervous system

Aspiration hazard

Name	Result
Toluene	ASPIRATION HAZARD - Category 1
Pentane, all isomers	ASPIRATION HAZARD - Category 1
Hexane, other isomers	ASPIRATION HAZARD - Category 1
Heptane, all isomers	ASPIRATION HAZARD - Category 1
Benzene	ASPIRATION HAZARD - Category 1
Cumene	ASPIRATION HAZARD - Category 1
Ethylbenzene	ASPIRATION HAZARD - Category 1
n-Hexane	ASPIRATION HAZARD - Category 1
Cyclohexane	ASPIRATION HAZARD - Category 1

Information on the likely routes of exposure : Routes of entry anticipated: Oral, Dermal, Inhalation.

Potential acute health effects

Eye contact : Causes eye irritation.

Inhalation : Can cause central nervous system (CNS) depression. May cause drowsiness and dizziness. May cause respiratory irritation. Breathing high concentrations can cause irregular heartbeats which can be fatal.

Skin contact : Causes skin irritation. Defatting to the skin.

Ingestion : Can cause central nervous system (CNS) depression. May be fatal if swallowed and enters airways. Irritating to mouth, throat and stomach.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact : Adverse symptoms may include the following:
pain or irritation
watering
redness

Inhalation : Adverse symptoms may include the following:
respiratory tract irritation
coughing
nausea or vomiting
headache
drowsiness/fatigue
dizziness/vertigo
unconsciousness
Breathing high concentrations can cause irregular heartbeats which can be fatal.

Skin contact : Adverse symptoms may include the following:
irritation
redness
dryness
cracking

Section 11. Toxicological information

Ingestion : Adverse symptoms may include the following:
nausea or vomiting

Potential chronic health effects

General : Causes damage to organs through prolonged or repeated exposure if inhaled. Prolonged or repeated contact can defat the skin and lead to irritation, cracking and/or dermatitis.

Carcinogenicity : May cause cancer. Risk of cancer depends on duration and level of exposure.

Mutagenicity : May cause genetic defects.

Teratogenicity : Suspected of damaging the unborn child.

Developmental effects : No known significant effects or critical hazards.

Fertility effects : Suspected of damaging fertility.

Section 12. Ecological information

Toxicity

Product/ingredient name	Result	Species	Exposure
Toluene	Acute EC50 433 ppm Marine water	Algae - Skeletonema costatum	96 hours
	Acute EC50 12500 µg/l Fresh water	Algae - Pseudokirchneriella subcapitata	72 hours
	Acute EC50 11600 µg/l Fresh water	Crustaceans - Gammarus pseudolimnaeus - Adult	48 hours
	Acute EC50 6000 µg/l Fresh water	Daphnia - Daphnia magna - Juvenile (Fledgling, Hatchling, Weanling)	48 hours
	Acute LC50 5500 µg/l Fresh water	Fish - Oncorhynchus kisutch - Fry	96 hours
	Chronic NOEC 500000 µg/l Fresh water	Algae - Pseudokirchneriella subcapitata	96 hours
	Chronic NOEC 1000 µg/l Fresh water	Daphnia - Daphnia magna	21 days
Xylenes, mixed isomers	Acute EC50 90 mg/l Fresh water	Crustaceans - Cypris subglobosa	48 hours
	Acute LC50 8.5 ppm Marine water	Crustaceans - Palaemonetes pugio - Adult	48 hours
	Acute LC50 8500 µg/l Marine water	Crustaceans - Palaemonetes pugio	48 hours
	Acute LC50 15700 µg/l Fresh water	Fish - Lepomis macrochirus - Juvenile (Fledgling, Hatchling, Weanling)	96 hours
	Acute LC50 19000 µg/l Fresh water	Fish - Lepomis macrochirus	96 hours
	Acute LC50 13400 µg/l Fresh water	Fish - Pimephales promelas	96 hours
	Acute LC50 16940 µg/l Fresh water	Fish - Carassius auratus	96 hours
Heptane, all isomers	Acute EC50 1.5 mg/l	Daphnia - Daphnia magna	48 hours
	Acute LC50 4 mg/l	Fish - Carassius auratus	24 hours
	Acute LC50 375000 µg/l Fresh water	Fish - Oreochromis mossambicus	96 hours
	Acute LC50 4924 ppm Fresh water	Fish - Gambusia affinis - Adult	96 hours
Ethanol	Acute EC50 17.921 mg/l Marine water	Algae - Ulva pertusa	96 hours
	Acute EC50 2000 µg/l Fresh water	Daphnia - Daphnia magna	48 hours
	Acute LC50 25500 µg/l Marine water	Crustaceans - Artemia franciscana - Larvae	48 hours
	Acute LC50 42000 µg/l Fresh water	Fish - Oncorhynchus mykiss	4 days
	Chronic NOEC 4.995 mg/l Marine water	Algae - Ulva pertusa	96 hours
	Chronic NOEC 0.375 ul/L Fresh water	Fish - Gambusia holbrooki - Larvae	12 weeks
Benzene	Acute EC50 29000 µg/l Fresh water	Algae - Pseudokirchneriella subcapitata	72 hours
	Acute EC50 1360000 µg/l Fresh water	Algae - Scenedesmus abundans	96 hours
	Acute EC50 9230 µg/l Fresh water	Daphnia - Daphnia magna - Neonate	48 hours

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	Acute LC50 21000 µg/l Marine water	Crustaceans - Artemia salina - Nauplii	48 hours
	Acute LC50 5.28 ul/L Fresh water	Fish - Oncorhynchus gorbuscha - Fry	96 hours
	Chronic NOEC 1.5 to 5.4 ul/L Marine water	Fish - Morone saxatilis - Juvenile (Fledgling, Hatchling, Weanling)	4 weeks
Cumene	Acute EC50 2600 µg/l Fresh water	Algae - Pseudokirchneriella subcapitata	72 hours
	Acute EC50 7400 µg/l Fresh water	Crustaceans - Artemia sp. - Nauplii	48 hours
	Acute EC50 10600 µg/l Fresh water	Daphnia - Daphnia magna - Neonate	48 hours
	Acute LC50 2700 µg/l Fresh water	Fish - Oncorhynchus mykiss	96 hours
Ethylbenzene	Acute EC50 4600 µg/l Fresh water	Algae - Pseudokirchneriella subcapitata	72 hours
	Acute EC50 3600 µg/l Fresh water	Algae - Pseudokirchneriella subcapitata	96 hours
	Acute EC50 2930 µg/l Fresh water	Daphnia - Daphnia magna - Neonate	48 hours
	Acute LC50 5200 µg/l Marine water	Crustaceans - Americamysis bahia	48 hours
	Acute LC50 4200 µg/l Fresh water	Fish - Oncorhynchus mykiss	96 hours
	Chronic NOEC 1000 µg/l Fresh water	Algae - Pseudokirchneriella subcapitata	96 hours
n-Hexane	Acute LC50 2500 µg/l Fresh water	Fish - Pimephales promelas	96 hours
Cyclohexane	Acute LC50 4530 µg/l Fresh water	Fish - Pimephales promelas	96 hours
1,2,4-Trimethylbenzene	Acute LC50 17000 µg/l Marine water	Crustaceans - Cancer magister - Zoea	48 hours
	Acute LC50 4910 µg/l Marine water	Crustaceans - Elasmopus pectenicrus - Adult	48 hours
	Acute LC50 7720 µg/l Fresh water	Fish - Pimephales promelas	96 hours
	Acute LC50 22.4 mg/l Fresh water	Fish - Tilapia zillii	96 hours
Naphthalene	Acute EC50 1.6 ppm Fresh water	Daphnia - Daphnia magna	48 hours
	Acute LC50 2350 µg/l Marine water	Crustaceans - Palaemonetes pugio	48 hours
	Acute LC50 213 µg/l Fresh water	Fish - Melanotaenia fluviatilis - Larvae	96 hours
	Chronic NOEC 0.67 ppm Fresh water	Fish - Oncorhynchus kisutch	40 days
tetraethyllead	Acute LC50 85 µg/l Marine water	Crustaceans - Artemia salina	48 hours
	Acute LC50 0.23 mg/l Marine water	Fish - Pleuronectes platessa	96 hours

Conclusion/Summary : Not available.

Persistence and degradability

Conclusion/Summary : **Toluene**: Rapidly biodegradable in aerobic conditions.

Bioaccumulative potential

Product/ingredient name	$LogP_{ow}$	BCF	Potential
Pentane, all isomers	3.45	171	low
Toluene	2.73	8.3	low
Xylenes, mixed isomers	3.12	8.1 to 25.9	low
Heptane, all isomers	4.66	552	high
Ethanol	-0.35	-	low
Butane	2.89	-	low
Benzene	2.13	4.27	low
Cumene	3.55	94.69	low
Ethylbenzene	3.6	-	low
n-Hexane	4	501.187	high
Cyclohexane	3.44	167	low
1,2,4-Trimethylbenzene	3.63	243	low
Naphthalene	3.4	36.5 to 168	low

Section 12. Ecological information

Mobility in soil

Soil/water partition coefficient (K_{OC}) : Not available.

Other adverse effects : No known significant effects or critical hazards.

Section 13. Disposal considerations

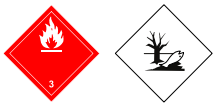
Disposal methods : The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Vapor from product residues may create a highly flammable or explosive atmosphere inside the container. Do not cut, weld or grind used containers unless they have been cleaned thoroughly internally. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

RCRA classification : D001, D008, D018

United States - RCRA Toxic hazardous waste "U" List

Ingredient	CAS #	Status	Reference number
Xylenes, mixed isomers	1330-20-7	Listed	U239
Toluene	108-88-3	Listed	U220
Benzene	71-43-2	Listed	U019
Cumene	98-82-8	Listed	U055
Cyclohexane	110-82-7	Listed	U056
Naphthalene	91-20-3	Listed	U165

Section 14. Transport information

	DOT Classification	IMDG	IATA
UN number	UN1203	UN 1203	UN1203
UN proper shipping name	UN 1203, Gasoline, 3 PG II.	UN 1203, Gasoline, 3 PG II.	UN 1203, Gasoline, 3 PG II.
Transport hazard class(es)	3 	3 	3 
Packing group	II	II	II
Environmental hazards	Yes.	Yes.	Yes.
Additional information	**Packaging instruction** **Passenger aircraft** Quantity limitation: 5 L **Cargo aircraft** Quantity limitation: 60 L	-	**Cargo Aircraft Only**Quantity limitation: 60 L **Limited Quantities - Passenger Aircraft**Quantity limitation: 5 L

Section 14. Transport information

Special precautions for user : **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

Section 15. Regulatory information

U.S. Federal regulations : **United States inventory (TSCA 8b)**: All components are listed or exempted.

Clean Water Act (CWA) 307: Toluene; Benzene; Ethylbenzene; Naphthalene

Clean Water Act (CWA) 311: Xylenes, mixed isomers; Toluene; Benzene; Ethylbenzene; Cyclohexane; Naphthalene

This material is classified as an oil under Section 311 of the Clean Water Act (CWA) and the Oil Pollution Act of 1990 (OPA). Discharges or spills which produce a visible sheen on waters of the United States, their adjoining shorelines, or into conduits leading to surface waters must be reported to the EPA's National Response Center at (800) 424-8802.

Clean Air Act (CAA) 112 regulated flammable substances: Pentane; Butane

SARA 302/304

Composition/information on ingredients

SARA 304 RQ : 1111.1 lbs / 504.4 kg [178.9 gal / 677.1 L]

SARA 311/312

Classification : Fire hazard
Immediate (acute) health hazard
Delayed (chronic) health hazard

Composition/information on ingredients

Name	Fire hazard	Sudden release of pressure	Reactive	Immediate (acute) health hazard	Delayed (chronic) health hazard
Toluene	Yes.	No.	No.	Yes.	Yes.
Pentane, all isomers	Yes.	No.	No.	Yes.	No.
Xylenes, mixed isomers	Yes.	No.	No.	Yes.	Yes.
Hexane, other isomers	Yes.	No.	No.	Yes.	Yes.
Heptane, all isomers	Yes.	No.	No.	Yes.	No.
Ethanol	Yes.	No.	No.	Yes.	Yes.
Butane	Yes.	Yes.	No.	Yes.	No.
Benzene	Yes.	No.	No.	Yes.	Yes.
Cumene	Yes.	No.	No.	Yes.	Yes.
Ethylbenzene	Yes.	No.	No.	Yes.	Yes.
n-Hexane	Yes.	No.	No.	Yes.	Yes.
Cyclohexane	Yes.	No.	No.	Yes.	No.
1,2,4-Trimethylbenzene	Yes.	No.	No.	Yes.	No.
Naphthalene	Yes.	No.	No.	Yes.	Yes.
tetraethyllead	Yes.	No.	No.	Yes.	Yes.

SARA 313

	Product name	CAS number	%
Form R - Reporting requirements	Toluene	108-88-3	<20
	Xylenes, mixed isomers	1330-20-7	<20
	Benzene	71-43-2	<5
	Ethylbenzene	100-41-4	<4
	Cumene	98-82-8	<4
	n-Hexane	110-54-3	<3
	Cyclohexane	110-82-7	<3
	1,2,4-Trimethylbenzene	95-63-6	<2
	Naphthalene	91-20-3	<2

Section 15. Regulatory information

Supplier notification	Toluene	108-88-3	<20
	Xylenes, mixed isomers	1330-20-7	<20
	Benzene	71-43-2	<5
	Ethylbenzene	100-41-4	<4
	Cumene	98-82-8	<4
	n-Hexane	110-54-3	<3
	Cyclohexane	110-82-7	<3
	1,2,4-Trimethylbenzene	95-63-6	<2
	Naphthalene	91-20-3	<2

SARA 313 notifications must not be detached from the SDS and any copying and redistribution of the SDS shall include copying and redistribution of the notice attached to copies of the SDS subsequently redistributed.

State regulations

Massachusetts : The following components are listed: HEPTANE (N-HEPTANE); Xylenes, mixed isomers; Toluene; Octanes, all isomers; PENTANE; ETHYL ALCOHOL; BENZENE; Butane; Cumene; Ethylbenzene; Trimethylbenzene, all isomers; Methylcyclohexane; n-Hexane; Ethyltoluene; Cyclohexane; 2,2,4-Trimethylpentane; PSEUDOCUMENE; Cyclopentane

New York : The following components are listed: Toluene; Benzene; Cumene; Benzene, 1-methylethyl-; Ethylbenzene; Hexane; Cyclohexane; Benzene, hexahydro-; 2,2,4-Trimethylpentane; Naphthalene

New Jersey : The following components are listed: Gasoline

Pennsylvania : The following components are listed: Gasoline

California Prop. 65

WARNING: This product contains a chemical known to the State of California to cause cancer and birth defects or other reproductive harm.

Ingredient name	%	Cancer	Reproductive	No significant risk level	Maximum acceptable dosage level
Gasoline engine exhaust (condensates / extracts)	100	Yes.	No.	No.	No.
Toluene	<20	No.	Yes.	No.	7000 µg/day (ingestion)
Ethanol	<10	Yes.	Yes.	No.	No.
Benzene	<5	Yes.	Yes.	6.4 µg/day (ingestion) 13 µg/day (inhalation)	24 µg/day (ingestion) 49 µg/day (inhalation)
Ethylbenzene	<5	Yes.	No.	41 µg/day (ingestion) 54 µg/day (inhalation)	No.
Cumene	<5	Yes.	No.	No.	No.
Naphthalene	<2	Yes.	No.	Yes.	No.
tetraethyllead	<1	Yes.	Yes.	No.	No.

International regulations

International lists : **Australia inventory (AICS)**: All components are listed or exempted.
China inventory (IECSC): All components are listed or exempted.
Japan inventory: All components are listed or exempted.
Korea inventory: All components are listed or exempted.
Malaysia Inventory (EHS Register): All components are listed or exempted.
New Zealand Inventory of Chemicals (NZIoC): All components are listed or exempted.
Philippines inventory (PICCS): All components are listed or exempted.
Taiwan inventory (CSNN): All components are listed or exempted.

Canada inventory : All components are listed or exempted.

EU Inventory : All components are listed or exempted.

WHMIS (Canada) : Class B-2: Flammable liquid
Class D-2A: Material causing other toxic effects (Very toxic).
Class D-2B: Material causing other toxic effects (Toxic).

Section 16. Other information

National Fire Protection Association (U.S.A.)

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Copyright ©2001, National Fire Protection Association, Quincy, MA 02269. This warning system is intended to be interpreted and applied only by properly trained individuals to identify fire, health and reactivity hazards of chemicals. The user is referred to certain limited number of chemicals with recommended classifications in NFPA 49 and NFPA 325, which would be used as a guideline only. Whether the chemicals are classified by NFPA or not, anyone using the 704 systems to classify chemicals does so at their own risk.

History

Date of issue/Date of revision : 5/29/2015.

Key to abbreviations :
ATE = Acute Toxicity Estimate
BCF = Bioconcentration Factor
GHS = Globally Harmonized System of Classification and Labelling of Chemicals
IATA = International Air Transport Association
IBC = Intermediate Bulk Container
IMDG = International Maritime Dangerous Goods
LogPow = logarithm of the octanol/water partition coefficient
MARPOL 73/78 = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)
UN = United Nations

Notice to reader

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HASP
Attachment D

HASP Forms

Near Miss Form

Date of Occurrence: _____ Time of Occurrence: _____

Prepared By (full name): _____

Project Number or Location of Near Miss: _____

Subcontractor (if applicable): _____

Safety Share Details

Task Being Performed: _____

Describe Potential Loss: _____

_____

Background:_____

_____

Details of Event:_____

_____

_____

Response Action Taken: _____

_____

Root Cause (more than one can be used)	Description
Shortcuts Taken	
Lack of Skill/Training/Knowledge	
More Time or Effort Needed	
Procedures not followed previously, and no incident occurred	
Inadequate Procedures	
Poor or Lack of Communication	
Incorrect/Unavailable Tools or Equipment	
External Factors	

Near Miss Form

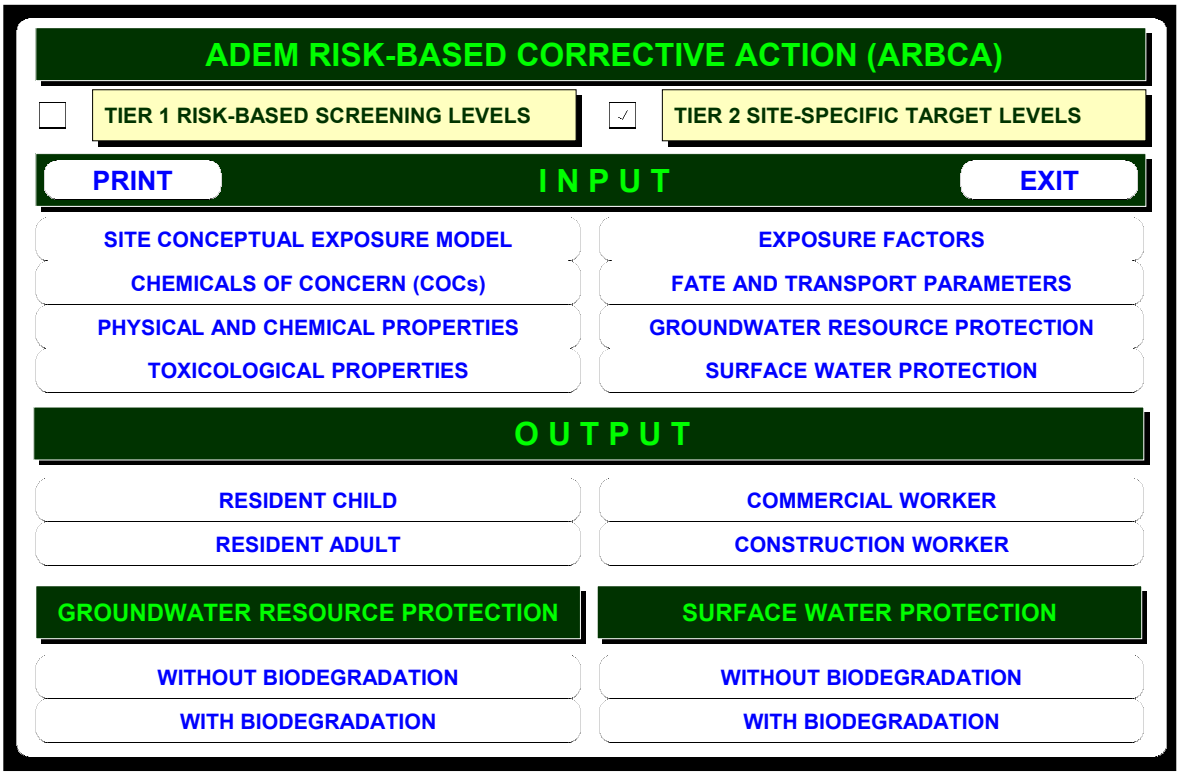
Form Reviewed By :_____ Date: _____

Near Miss Discussed with Employee? _____

Further Discussion Needed? _____

Appendix D

PM ENVIRONMENTAL PINCHIN company
Environmental & Engineering Services



ADEM Tier II Risk Assessment Program

Location:

Former J.C. Box Texaco
400 East Second Street,
Sheffield, Colbert County, Alabama
Facility ID. #11732-033-04341
UST Incident #UST21-09-05

Point of Exposure (POE):
POE = Southwest 510 feet
(distance to property boundary =10 feet and >500 feet to POE = default of 510 feet)

Source Area:
MW-3, MW-5, & SB-8A

Point of Compliance (POC):
MW-1 & MW-2 at 3 feet

SITE CONCEPTUAL EXPOSURE MODEL

COMPLETE PATHWAY(S) AND ROUTE(S) OF EXPOSURE

Source and Route of Exposure	Resident Child	Resident Adult	Commercial Worker	Construction Worker
Surficial Soil				
Outdoor Inhalation (vapors and particulates), Ingestion, and Dermal Contact	☑	☑	☑	☑
Subsurface Soil				
Indoor Inhalation of Vapor Emission	☑	☑	☑	☑
Outdoor Inhalation of Vapor Emission	☑	☑	☑	☑
Groundwater				
Indoor Inhalation of Vapor Emission	☑	☑	☑	☑
Outdoor Inhalation of Vapor Emission	☑	☑	☑	☑
Ingestion	☑	☑	☑	NA
Air Inhalation	☑	☑	☑	☑

Other Routes of Exposure	
Groundwater Resource Protection	☑
Stream Protection	☑

CHEMICALS OF CONCERN,

HALF-LIFE AND UNSATURATED ZONE DAF

CHEMICALS OF CONCERN	COC Concentrations Protective of Surface Water [1] (C_{sw}) [mg/L]	COC Concentrations Upstream of the Point of Discharge (C_{sb}) [mg/L]	Half-Life [days]	Unsaturated Zone DAF [--]
ORGANICS				
☑ Benzene	0.011		1825	1
☑ Toluene	0.175		1825	1
☑ Ethylbenzene	0.453		1825	1
☑ Xylenes (mixed)	NA		1825	1
☑ Methyl-tert-butyl-ether (MTBE)*	NA		18250	1
☐ Anthracene	7.241		1825	1
☐ Benzo(a)anthracene	0.00002		1825	1
☐ Benzo(a)pyrene	0.00002		1825	1
☐ Benzo(b)fluoranthene	0.00002		1825	1
☐ Benzo(g,h,i)perylene	NA		1825	1
☐ Benzo(k)fluoranthene	0.00002		1825	1
☐ Chrysene	0.00002		1825	1
☐ Fluoranthene	0.0398		1825	1
☐ Fluorene	0.966		1825	1
☑ Naphthalene	0.62		1825	1
☐ Phenanthrene	NA		1825	1
☐ Pyrene	0.724		1825	1
METALS				
☐ Arsenic	0.33		1	1
☐ Barium	NA		1	1
☐ Cadmium	0.0027		1	1
☐ Chromium VI	0.011		1	1
☑ Lead	0.0028		1	1
☐ Zinc	0.18		1	1

Note:

[1]: Allowable stream concentration at the downstream edge of the stream's mixing zone

NA: Not available

*: To date, the biodegradation of MTBE in groundwater is inconclusive.

PHYSICAL AND CHEMICAL PROPERTIES OF CHEMICALS OF CONCERN

CHEMICALS OF CONCERN	Water Solubility (mg/L)	Henry's Law Constant (L-water/L-air)	Org. Carbon Ads. Coef. Koc (mL/g)	Soil-Water Dist. Coeff. Kd (mL / g)	Diffusion Coefficient in air (cm^2/s)	Diffusion Coefficient in water (cm^2/s)
ORGANICS						
Benzene	1.75E+03	2.28E-01	6.17E+01	NA	8.80E-02	9.80E-06
Toluene	5.26E+02	2.72E-01	1.40E+02	NA	8.70E-02	8.60E-06
Ethylbenzene	1.69E+02	3.23E-01	2.04E+02	NA	7.50E-02	7.80E-06
Xylenes (mixed)	1.75E+02	2.76E-01	2.49E+02	NA	7.80E-02	8.75E-06
Methyl-tert-butyl-ether (MTBE)*	4.80E+04	2.27E-02	1.20E+01	NA	1.02E-01	1.05E-05
Anthracene	4.34E-02	2.67E-03	2.35E+04	NA	3.24E-02	7.74E-06
Benzo(a)anthracene	9.40E-03	1.37E-04	3.58E+05	NA	5.10E-02	9.00E-06
Benzo(a)pyrene	1.62E-03	4.63E-05	9.69E+05	NA	4.30E-02	9.00E-06
Benzo(b)fluoranthene	1.50E-03	4.55E-03	1.23E+06	NA	2.26E-02	5.56E-06
Benzo(g,h,i)perylene	7.00E-04	2.22E-06	1.58E+06	NA	2.16E-02	5.31E-06
Benzo(k)fluoranthene	8.00E-04	3.40E-05	1.23E+06	NA	2.26E-02	5.56E-06
Chrysene	1.60E-03	3.88E-03	3.98E+05	NA	2.48E-02	6.21E-06
Fluoranthene	2.06E-01	6.60E-04	4.91E+04	NA	3.02E-02	6.35E-06
Fluorene	1.98E+00	2.61E-03	7.71E+03	NA	3.63E-02	7.88E-06
Naphthalene	3.10E+01	1.98E-02	1.19E+03	NA	5.90E-02	7.50E-06
Phenanthrene	1.00E+00	6.61E-03	1.41E+04	NA	3.24E-02	7.74E-06
Pyrene	1.35E-01	4.51E-04	6.80E+04	NA	2.72E-02	7.24E-06
METALS						
Arsenic	0.00E+00	0.00E+00	0.00E+00	6.41E+01	0.00E+00	0.00E+00
Barium	0.00E+00	0.00E+00	0.00E+00	4.10E+01	0.00E+00	0.00E+00
Cadmium	0.00E+00	0.00E+00	0.00E+00	7.50E+01	0.00E+00	0.00E+00
Chromium VI	0.00E+00	0.00E+00	0.00E+00	1.90E+01	0.00E+00	0.00E+00
Lead	0.00E+00	0.00E+00	0.00E+00	1.22E+02	0.00E+00	0.00E+00
Zinc	0.00E+00	0.00E+00	0.00E+00	6.20E+01	0.00E+00	0.00E+00

Note:

NA: Not available

TOXICOLOGICAL PROPERTIES OF CHEMICALS OF CONCERN

CHEMICALS OF CONCERN	Slope Factor		Reference Dose		Oral RA Factor (RAFo)	Dermal RA Factor (RAFd)
	Oral (SFo) [kg-day/mg]	Inh. (SFi) [kg-day/mg]	Oral (RfDo) (mg/kg-day)	Inh. (RfDi) (mg/kg-day)		
ORGANICS						
Benzene	0.055	0.027	NA	0.0017	1	0.5
Toluene	NA	NA	0.2	0.11	1	0.5
Ethylbenzene	NA	NA	0.1	0.29	1	0.5
Xylenes (mixed)	NA	NA	2	0.086	1	0.5
Methyl-tert-butyl-ether (MTBE)*	NA	NA	0.005	0.86	1	0.5
Anthracene	NA	NA	0.3	0.3	1	0.05
Benzo(a)anthracene	0.73	0.61	NA	NA	1	0.05
Benzo(a)pyrene	7.3	6.1	NA	NA	1	0.05
Benzo(b)fluoranthene	0.73	0.61	NA	NA	1	0.05
Benzo(g,h,i)perylene	NA	NA	0.03	0.03	1	0.05
Benzo(k)fluoranthene	0.73	0.61	NA	NA	1	0.05
Chrysene	0.0073	0.0061	NA	NA	1	0.05
Fluoranthene	NA	NA	0.04	0.04	1	0.05
Fluorene	NA	NA	0.04	0.04	1	0.05
Naphthalene	NA	NA	0.02	9.00E-04	1	0.05
Phenanthrene	NA	NA	0.03	0.03	1	0.05
Pyrene	NA	NA	0.03	0.03	1	0.05
METALS						
Arsenic	1.5	15.05	0.0003	NA	1	0.001
Barium	NA	NA	0.07	0.000143	1	0.001
Cadmium	NA	6.3	0.0005	NA	1	0.001
Chromium VI	NA	42	0.003	2.00E-06	1	0.001
Lead	NA	NA	NA	NA	1	0.001
Zinc	NA	NA	0.3	0.01	1	0.001

Note:

NA: Not available

EXPOSURE FACTORS

Parameter	Symbol	Unit	Tier 1 Values	Values Used	Source
Averaging Time for Carcinogen	ATc	year	70	70	Tier 1
Averaging Time for Non-Carcinogen	ATn	year	=ED	=ED	Tier 1
Body Weight					
Resident Child	BW	kg	15	15	Tier 1
Resident Adult	BW	kg	70	70	Tier 1
Commercial Worker	BW	kg	70	70	Tier 1
Construction Worker	BW	kg	70	70	Tier 1
Exposure Duration:					
Resident Child	ED	year	6	6	Tier 1
Resident Adult	ED	year	30	30	Tier 1
Commercial Worker	ED	year	25	25	Tier 1
Construction Worker	ED	year	1	1	Tier 1
Exposure Frequency:					
Resident Child	EF	day/year	350	350	Tier 1
Resident Adult	EF	day/year	350	350	Tier 1
Commercial Worker	EF	day/year	250	250	Tier 1
Construction Worker	EF	day/year	250	250	Tier 1
Soil Ingestion Rate:					
Resident Child	IRsoil	mg/day	200	200	Tier 1
Resident Adult	IRsoil	mg/day	100	100	Tier 1
Commercial Worker	IRsoil	mg/day	50	50	Tier 1
Construction Worker	IRsoil	mg/day	100	100	Tier 1
Groundwater Ingestion Rate:					
Resident Adult	IRw	L/day	2	2	Tier 1
Hourly Indoor Inhalation Rate:					
Resident Child	IRair-Indoor	m^3/hr	0.417	0.417	Tier 1
Resident Adult	IRair-Indoor	m^3/hr	0.633	0.633	Tier 1
Commercial Worker	IRair-Indoor	m^3/hr	1.5	1.5	Tier 1
Construction Worker	IRair-Indoor	m^3/hr	1.5	1.5	Tier 1
Exposure Time for Hourly Indoor Inhalation Rate:					
Resident Child	ETin	hr/day	24	24	Tier 1
Resident Adult	ETin	hr/day	24	24	Tier 1
Commercial Worker	ETin	hr/day	10	10	Tier 1
Construction Worker	ETin	hr/day	10	10	Tier 1

EXPOSURE FACTORS

Hourly Outdoor Inhalation Rate:					
Resident Child	IRair-outdoor	m^3/hr	1	1	Tier 1
Resident Adult	IRair-outdoor	m^3/hr	1.5	1.5	Tier 1
Commercial Worker	IRair-outdoor	m^3/hr	1.5	1.5	Tier 1
Construction Worker	IRair-outdoor	m^3/hr	1.5	1.5	Tier 1
Exposure Time for Hourly Outdoor Inhalation Rate:					
Resident Child	ETout	hr/day	10	10	Tier 1
Resident Adult	ETout	hr/day	10	10	Tier 1
Commercial Worker	ETout	hr/day	10	10	Tier 1
Construction Worker	ETout	hr/day	10	10	Tier 1
Skin Surface Area:					
Resident Child	SA	cm^2/day	2500	2500	Tier 1
Resident Adult	SA	cm^2/day	5000	5000	Tier 1
Commercial Worker	SA	cm^2/day	5000	5000	Tier 1
Construction Worker	SA	cm^2/day	5000	5000	Tier 1
Soil to Skin Adherence Factor					
Resident Child	M	mg/cm^2	0.5	0.5	Tier 1
Resident Adult	M	mg/cm^2	0.5	0.5	Tier 1
Commercial Worker	M	mg/cm^3	0.5	0.5	Tier 1
Construction Worker	M	mg/cm^2	0.5	0.5	Tier 1
Target Risk Level	TR	--	1.00E-05	1.00E-05	Tier 1
Target Hazard Quotient	THQ	--	1	1	Tier 1

FATE AND TRANSPORT PARAMETERS

Parameter	Symbol	Unit	Tier 1 Values	Values Used	Source
SOIL PARAMETERS:					
Width of Soil Source Area Parallel to Wind	Wa	cm	1500	884	Site-Specific Value
Depth to Subsurface Soil Sources	Ls	cm	30.48	731.52	Site-Specific Value
Lower Depth of Surficial Soil Zone	d	cm	30.48	30.48	Tier 1
Thickness of Capillary Fringe	hcap	cm	5	82	Site-Specific Value
Thickness of Vadose Zone	hv	cm	295	963.11	Site-Specific Value
Unsaturated Zone Dry Soil Bulk Density	ρ_s	g/cm^3	1.8	1.55	Site-Specific Value
Fractional Organic Carbon Content in the Vadose Zone	foc	g-C/g-soil	0.01	0.063	Site-Specific Value
Total Soil Porosity in the Vadose Zone	θ_T	cm^3/cm^3-soil	0.3	0.42	Site-Specific Value
Volumetric Water Content in Capillary Fringe	θ_{wcap}	cm^3/cm^3	0.27	0.38	Site-Specific Value
Volumetric Water Content in Vadose Zone	θ_{ws}	cm^3/cm^3	0.1	0.1	Tier 1
Volumetric Water Content in Foundation or Wall Cracks	θ_{wcrack}	cm^3/cm^3	0.1	0.1	Tier 1
Volumetric Air Content in Capillary Fringe	θ_{acap}	cm^3/cm^3	0.03	0.043	Site-Specific Value
Volumetric Air Content in Vadose Zone	θ_{as}	cm^3/cm^3	0.2	0.32	Site-Specific Value
Volumetric Air Content in Foundation/Wall Cracks	θ_{acrack}	cm^3/cm^3	0.2	0.32	Site-Specific Value
GROUNDWATER PARAMETERS:					
Depth to Groundwater	Lgw	cm	300	1045.11	Site-Specific Value
Width of GW Source Area Perpendicular to GW Flow Direction	Y	cm	1500	457	Site-Specific Value
Length of GW Source Area Parallel to GW Flow Direction	W	cm	1500	884	Site-Specific Value
Total Porosity in the Saturated Zone	θ_{TS}	cm^3/cm^3	0.3	0.449	Site-Specific Value
Saturated Zone Dry Soil Bulk Density	ρ_{ss}	g/cm^3	1.8	1.51	Site-Specific Value
Fractional Organic Carbon Content in the Saturated Zone	foc_s	g-C/g-soil	0.01	0.052	Site-Specific Value
Groundwater Mixing Zone Thickness	δ_{gw}	cm	200	200	Tier 1
Hydraulic Conductivity in the Saturated Zone	K	cm/year	31536	31536	Tier 1
Hydraulic Gradient in the Saturated Zone	i	--	0.005	0.0118	Site-Specific Value
Groundwater Darcy Velocity	Ugw	cm/year	157.68	372.1248	Site-Specific Value
Infiltration Rate	I	cm/year	15.2	13.54	Site-Specific Value
AMBIENT AIR PARAMETERS:					
Breathing Zone Height	δ_a	cm	200	200	Tier 1
Wind Speed within the Breathing Zone	Ua	cm/s	225	225	Tier 1
ENCLOSED SPACE PARAMETERS:					
Enclosed Space Air Exchange Rate:					Tier 1
Residential	ER	1/sec	0.00014	0.00014	Tier 1
Commercial/Construction Worker	ER	1/sec	0.00023	0.00023	Tier 1
Enclosed Space Volume/Infiltration Area Ratio:					
Residential	Lb	cm	200	200	Tier 1
Commercial/Construction Worker	Lb	cm	300	300	Tier 1
Enclosed Space Foundation or Wall Thickness:					
Residential	Lcrack	cm	15	15	Tier 1
Commercial/Construction Worker	Lcrack	cm	15	15	Tier 1
Areal Fraction of Cracks in Foundation/Walls:					
Residential	η	cm^2/cm^2	0.01	0.01	Tier 1
Commercial/Construction Worker	η	cm^2/cm^2	0.01	0.01	Tier 1
PARTICULATE EMISSION RATE					
Residential and Commercial	Pe	g/cm^2sec	6.90E-14	6.90E-14	Tier 1
Construction Worker	Pe	g/cm^2sec	6.90E-09	6.90E-09	Tier 1
AVERAGING TIME FOR VAPOR FLUX					
Resident Child	τ	sec	1.89E+08	1.89E+08	Tier 1
Resident Adult	τ	sec	9.46E+08	9.46E+08	Tier 1
Commercial Worker	τ	sec	7.88E+08	7.88E+08	Tier 1
Construction Worker	τ	sec	3.15E+07	3.15E+07	Tier 1

Note: The input values in red are calculated and cannot be changed.

GROUNDWATER RESOURCE PROTECTION

Parameter	Symbol	Unit	Tier 1 Values	Values Used	Source
SITE PARAMETERS:					
Distance from the Downgradient Edge of the Groundwater Source to the Point of Exposure (Xpoe)	Xpoe	ft	variable	510	Site-specific
Longitudinal Dispersivity	α_x	ft	variable	51.000	***Calculated***
Transverse Dispersivity	α_y	ft	variable	17.000	***Calculated***
Vertical Dispersivity	α_z	ft	variable	2.550	***Calculated***
Distance from the Downgradient Edge of the Groundwater Source to the Point of Compliance (Xpoc)	Xpoc	ft	variable	3	Site-specific
Longitudinal Dispersivity	α_x	ft	variable	0.300	***Calculated***
Transverse Dispersivity	α_y	ft	variable	0.100	***Calculated***
Vertical Dispersivity	α_z	ft	variable	0.015	***Calculated***

Note: The input values in red are calculated and cannot be changed.

EFFECTIVE DIFFUSION COEFFICIENTS

CHEMICALS OF CONCERN	Effective Diffusion Coefficient in				Soil Saturation Concentration
	Soil D_s^{eff}	Fdn. Cracks D_{crack}^{eff}	Cap. Fringe D_{cap}^{eff}	Groundwater D_{ws}^{eff}	Csat
ORGANICS					
Benzene	1.12E-02	1.12E-02	2.35E-05	2.92E-04	7.00E+03
Toluene	1.11E-02	1.11E-02	2.08E-05	2.60E-04	4.70E+03
Ethylbenzene	9.57E-03	9.57E-03	1.73E-05	2.16E-04	2.19E+03
Xylenes (mixed)	9.95E-03	9.95E-03	1.94E-05	2.42E-04	2.77E+03
Methyl-tert-butyl-ether (MTBE)*	1.30E-02	1.30E-02	1.18E-04	1.36E-03	3.96E+04
Anthracene	4.14E-03	4.14E-03	6.43E-04	2.90E-03	6.43E+01
Benzo(a)anthracene	6.68E-03	6.68E-03	1.45E-02	6.97E-03	2.12E+02
Benzo(a)pyrene	6.00E-03	6.00E-03	4.28E-02	6.43E-03	9.89E+01
Benzo(b)fluoranthene	2.89E-03	2.89E-03	2.73E-04	1.65E-03	1.16E+02
Benzo(g,h,i)perylene	9.10E-03	9.10E-03	5.27E-01	9.86E-03	6.97E+01
Benzo(k)fluoranthene	3.32E-03	3.32E-03	3.60E-02	3.57E-03	6.20E+01
Chrysene	3.17E-03	3.17E-03	3.56E-04	1.96E-03	4.01E+01
Fluoranthene	3.88E-03	3.88E-03	2.12E-03	3.64E-03	6.37E+02
Fluorene	4.64E-03	4.64E-03	6.70E-04	3.17E-03	9.62E+02
Naphthalene	7.53E-03	7.53E-03	9.28E-05	1.03E-03	2.33E+03
Phenanthrene	4.14E-03	4.14E-03	2.63E-04	1.92E-03	8.88E+02
Pyrene	3.51E-03	3.51E-03	3.54E-03	3.51E-03	5.78E+02
METALS					
Arsenic	--	--	--	--	--
Barium	--	--	--	--	--
Cadmium	--	--	--	--	--
Chromium VI	--	--	--	--	--
Lead	--	--	--	--	--
Zinc	--	--	--	--	--

VOLATILIZATION FACTORS

CHEMICALS OF CONCERN	Volatilization Factors from GW			Volatilization Factors from Surficial Soil														Volatilization Factors from Subsurface Soil					Leaching Factor
	INDOOR (VFwesp)		OUTDOOR	OUTDOOR (VFss)												Ambient Air - Particulates - VFp		INDOOR (VFsesp)				OUTDOOR	subsurface to gw
	Residential	Commercial	(VFwamb)	Child	VFss1	VFss2	Adult	VFss1	VFss2	Commercial	VFss1	VFss2	Construction	VFss1	VFss2	Resi. and Comm.	Construction	Child	Adult	Commercial	Construction	(VFsamb)	(LFsw)
ORGANICS																							
Benzene	2.20E-03	8.91E-04	1.25E-06	4.90E-06	5.08E-05	4.90E-06	9.81E-07	2.27E-05	9.81E-07	1.18E-06	2.49E-05	1.18E-06	2.95E-05	1.24E-04	2.95E-05	1.36E-12	1.36E-07	1.02E-02	1.02E-02	4.16E-03	4.16E-03	1.72E-05	3.46E-02
Toluene	2.34E-03	9.48E-04	1.33E-06	4.90E-06	3.69E-05	4.90E-06	9.81E-07	1.65E-05	9.81E-07	1.18E-06	1.81E-05	1.18E-06	2.95E-05	9.03E-05	2.95E-05	1.36E-12	1.36E-07	5.40E-03	5.40E-03	2.19E-03	2.19E-03	9.07E-06	1.55E-02
Ethylbenzene	2.31E-03	9.36E-04	1.31E-06	4.90E-06	3.09E-05	4.90E-06	9.81E-07	1.38E-05	9.81E-07	1.18E-06	1.52E-05	1.18E-06	2.95E-05	7.59E-05	2.95E-05	1.36E-12	1.36E-07	3.81E-03	3.81E-03	1.55E-03	1.55E-03	6.39E-06	1.07E-02
Xylenes (mixed)	2.21E-03	8.95E-04	1.26E-06	4.90E-06	2.64E-05	4.90E-06	9.81E-07	1.18E-05	9.81E-07	1.18E-06	1.30E-05	1.18E-06	2.95E-05	6.48E-05	2.95E-05	1.36E-12	1.36E-07	2.78E-03	2.78E-03	1.13E-03	1.13E-03	4.66E-06	8.76E-03
Methyl-tert-butyl-ether (MTBE)*	9.17E-04	3.72E-04	5.80E-07	4.90E-06	3.80E-05	4.90E-06	9.81E-07	1.70E-05	9.81E-07	1.18E-06	1.86E-05	1.18E-06	2.95E-05	9.30E-05	2.95E-05	1.36E-12	1.36E-07	5.73E-03	5.73E-03	2.32E-03	2.32E-03	9.61E-06	1.68E-01
Anthracene	1.32E-04	5.36E-05	1.46E-07	1.73E-07	1.73E-07	4.90E-06	7.75E-08	7.75E-08	9.81E-07	8.49E-08	8.49E-08	1.18E-06	4.25E-07	4.25E-07	2.95E-05	1.36E-12	1.36E-07	1.19E-07	1.19E-07	4.85E-08	4.85E-08	2.00E-10	9.36E-05
Benzo(a)anthracene	1.31E-05	5.30E-06	1.80E-08	1.28E-08	1.28E-08	4.90E-06	5.71E-09	5.71E-09	9.81E-07	6.26E-09	6.26E-09	1.18E-06	3.13E-08	3.13E-08	2.95E-05	1.36E-12	1.36E-07	6.49E-10	6.49E-10	2.63E-10	2.63E-10	1.09E-12	6.14E-06
Benzo(a)pyrene	4.01E-06	1.63E-06	5.60E-09	4.28E-09	4.28E-09	4.90E-06	1.91E-09	1.91E-09	9.81E-07	2.10E-09	2.10E-09	1.18E-06	1.05E-08	1.05E-08	2.95E-05	1.36E-12	1.36E-07	7.28E-11	7.28E-11	2.96E-11	2.96E-11	1.22E-13	2.27E-06
Benzo(b)fluoranthene	1.41E-04	5.71E-05	1.41E-07	2.61E-08	2.61E-08	4.90E-06	1.17E-08	1.17E-08	9.81E-07	1.28E-08	1.28E-08	1.18E-06	6.40E-08	6.40E-08	2.95E-05	1.36E-12	1.36E-07	2.71E-09	2.71E-09	1.10E-09	1.10E-09	4.55E-12	1.79E-06
Benzo(g,h,i)perylene	2.93E-07	1.19E-07	4.11E-10	9.04E-10	9.04E-10	4.90E-06	4.04E-10	4.04E-10	9.81E-07	4.43E-10	4.43E-10	1.18E-06	2.21E-09	2.21E-09	2.95E-05	1.36E-12	1.36E-07	3.25E-12	3.25E-12	1.32E-12	1.32E-12	5.45E-15	1.39E-06
Benzo(k)fluoranthene	1.63E-06	6.61E-07	2.28E-09	2.42E-09	2.42E-09	4.90E-06	1.08E-09	1.08E-09	9.81E-07	1.19E-09	1.19E-09	1.18E-06	5.93E-09	5.93E-09	2.95E-05	1.36E-12	1.36E-07	2.33E-11	2.33E-11	9.45E-12	9.45E-12	3.91E-14	1.79E-06
Chrysene	1.37E-04	5.58E-05	1.43E-07	4.44E-08	4.44E-08	4.90E-06	1.99E-08	1.99E-08	9.81E-07	2.18E-08	2.18E-08	1.18E-06	1.09E-07	1.09E-07	2.95E-05	1.36E-12	1.36E-07	7.84E-09	7.84E-09	3.18E-09	3.18E-09	1.32E-11	5.53E-06
Fluoranthene	3.50E-05	1.42E-05	4.52E-08	5.77E-08	5.77E-08	4.90E-06	2.58E-08	2.58E-08	9.81E-07	2.83E-08	2.83E-08	1.18E-06	1.41E-07	1.41E-07	2.95E-05	1.36E-12	1.36E-07	1.32E-08	1.32E-08	5.37E-09	5.37E-09	2.22E-11	4.48E-05
Fluorene	1.43E-04	5.79E-05	1.55E-07	3.17E-07	3.17E-07	4.90E-06	1.42E-07	1.42E-07	9.81E-07	1.55E-07	1.55E-07	1.18E-06	7.76E-07	7.76E-07	2.95E-05	1.36E-12	1.36E-07	3.99E-07	3.99E-07	1.62E-07	1.62E-07	6.69E-10	2.85E-04
Naphthalene	5.84E-04	2.37E-04	3.85E-07	2.83E-06	2.83E-06	4.90E-06	9.81E-07	1.26E-06	9.81E-07	1.18E-06	1.39E-06	1.18E-06	6.93E-06	6.93E-06	2.95E-05	1.36E-12	1.36E-07	3.18E-05	3.18E-05	1.29E-05	1.29E-05	5.33E-08	1.85E-03
Phenanthrene	2.60E-04	1.06E-04	2.38E-07	3.52E-07	3.52E-07	4.90E-06	1.57E-07	1.57E-07	9.81E-07	1.72E-07	1.72E-07	1.18E-06	8.63E-07	8.63E-07	2.95E-05	1.36E-12	1.36E-07	4.92E-07	4.92E-07	2.00E-07	2.00E-07	8.26E-10	1.56E-04
Pyrene	2.22E-05	9.02E-06	2.98E-08	3.86E-08	3.86E-08	4.90E-06	1.73E-08	1.73E-08	9.81E-07	1.89E-08	1.89E-08	1.18E-06	9.45E-08	9.45E-08	2.95E-05	1.36E-12	1.36E-07	5.92E-09	5.92E-09	2.40E-09	2.40E-09	9.93E-12	3.23E-05
METALS																							
Arsenic	--	--	--	0.00E+00	--	0.00E+00	0.00E+00	--	0.00E+00	0.00E+00	--	0.00E+00	0.00E+00	--	0.00E+00	1.36E-12	1.36E-07	--	--	--	--	--	2.16E-03
Barium	--	--	--	0.00E+00	--	0.00E+00	0.00E+00	--	0.00E+00	0.00E+00	--	0.00E+00	0.00E+00	--	0.00E+00	1.36E-12	1.36E-07	--	--	--	--	--	3.37E-03
Cadmium	--	--	--	0.00E+00	--	0.00E+00	0.00E+00	--	0.00E+00	0.00E+00	--	0.00E+00	0.00E+00	--	0.00E+00	1.36E-12	1.36E-07	--	--	--	--	--	1.85E-03
Chromium VI	--	--	--	0.00E+00	--	0.00E+00	0.00E+00	--	0.00E+00	0.00E+00	--	0.00E+00	0.00E+00	--	0.00E+00	1.36E-12	1.36E-07	--	--	--	--	--	7.27E-03
Lead	--	--	--	0.00E+00	--	0.00E+00	0.00E+00	--	0.00E+00	0.00E+00	--	0.00E+00	0.00E+00	--	0.00E+00	1.36E-12	1.36E-07	--	--	--	--	--	1.14E-03
Zinc	--	--	--	0.00E+00	--	0.00E+00	0.00E+00	--	0.00E+00	0.00E+00	--	0.00E+00	0.00E+00	--	0.00E+00	1.36E-12	1.36E-07	--	--	--	--	--	2.23E-03

SITE-SPECIFIC TARGET LEVELS FOR A RESIDENT CHILD

CHEMICALS OF CONCERN	AIR INHALATION		SURFICIAL SOIL	SUBSURFACE SOIL		GROUNDWATER		
	Indoor	Outdoor	Ingestion, Inhalation (Vapor Emissions and Particulates), and Dermal Contact	Indoor Inhalation of Vapor Emissions	Outdoor Inhalation of Vapor Emissions	Indoor Inhalation of Vapor Emissions	Outdoor Inhalation of Vapor Emissions	Ingestion of Water
	[mg/m^3-air]	[mg/m^3-air]	[mg/kg]	[mg/kg]	[mg/kg]	[mg/L]	[mg/L]	[mg/L]
ORGANICS								
Benzene	2.66E-03	2.66E-03	3.91E+01	2.59E-01	1.55E+02	1.21E+00	1.75E+03 #	5.00E-03
Toluene	1.72E-01	1.72E-01	3.42E+03	3.18E+01	4.70E+03 *	7.36E+01	5.26E+02 #	1.00E+00
Ethylbenzene	4.53E-01	4.54E-01	1.86E+03	1.19E+02	2.19E+03 *	1.69E+02 #	1.69E+02 #	7.00E-01
Xylenes (mixed)	1.34E-01	1.35E-01	2.77E+03 *	4.84E+01	2.77E+03 *	6.09E+01	1.75E+02 #	1.00E+01
Methyl-tert-butyl-ether (MTBE)*	1.34E+00	1.35E+00	9.48E+01	2.35E+02	3.96E+04 *	1.47E+03	4.80E+04 #	2.00E-02
Anthracene	NA	NA	--	--	--	--	--	--
Benzo(a)anthracene	NA	NA	--	--	--	--	--	--
Benzo(a)pyrene	NA	NA	--	--	--	--	--	--
Benzo(b)fluoranthene	NA	NA	--	--	--	--	--	--
Benzo(g,h,i)perylene	NA	NA	--	--	--	--	--	--
Benzo(k)fluoranthene	NA	NA	--	--	--	--	--	--
Chrysene	NA	NA	--	--	--	--	--	--
Fluoranthene	NA	NA	--	--	--	--	--	--
Fluorene	NA	NA	--	--	--	--	--	--
Naphthalene	1.41E-03	1.41E-03	3.51E+02	4.43E+01	2.33E+03 *	2.41E+00	3.10E+01 #	2.00E-02
Phenanthrene	NA	NA	--	--	--	--	--	--
Pyrene	NA	NA	--	--	--	--	--	--
METALS								
Arsenic	NA	NA	--	NA	NA	NA	NA	--
Barium	NA	NA	--	NA	NA	NA	NA	--
Cadmium	NA	NA	--	NA	NA	NA	NA	--
Chromium VI	NA	NA	--	NA	NA	NA	NA	--
Lead	NA	NA	4.00E+02	NA	NA	NA	NA	1.50E-02
Zinc	NA	NA	--	NA	NA	NA	NA	--

NC: Pathway is not complete **--:** Not a chemical of concern **NA:** Not Applicable

*: Calculated RBSLs exceeded saturated soil concentration and hence saturated soil concentrations are listed RBSLs.

#: Calculated RBSLs exceeded pure component water solubility and hence water solubilities are listed as RBSLs.

Soil concentrations are presented on a dry weight basis.

SITE-SPECIFIC TARGET LEVELS FOR A RESIDENT ADULT

CHEMICALS OF CONCERN	AIR INHALATION		SURFICIAL SOIL	SUBSURFACE SOIL		GROUNDWATER		
	Indoor	Outdoor	Ingestion, Inhalation (Vapor Emissions and Particulates), and Dermal Contact	Indoor Inhalation of Vapor Emissions	Outdoor Inhalation of Vapor Emissions	Indoor Inhalation of Vapor Emissions	Outdoor Inhalation of Vapor Emissions	Ingestion of Water
	[mg/m^3-air]	[mg/m^3-air]	[mg/kg]	[mg/kg]	[mg/kg]	[mg/L]	[mg/L]	[mg/L]
ORGANICS								
Benzene	4.15E-03	4.21E-03	2.28E+01	4.06E-01	2.45E+02	1.89E+00	1.75E+03 #	5.00E-03
Toluene	5.29E-01	5.35E-01	4.70E+03 *	9.79E+01	4.70E+03 *	2.26E+02	5.26E+02 #	1.00E+00
Ethylbenzene	1.39E+00	1.41E+00	2.19E+03 *	3.66E+02	2.19E+03 *	1.69E+02 #	1.69E+02 #	7.00E-01
Xylenes (mixed)	4.13E-01	4.19E-01	2.77E+03 *	1.49E+02	2.77E+03 *	1.75E+02 #	1.75E+02 #	1.00E+01
Methyl-tert-butyl-ether (MTBE)*	4.13E+00	4.19E+00	2.70E+02	7.22E+02	3.96E+04 *	4.50E+03	4.80E+04 #	2.00E-02
Anthracene	NA	NA	--	--	--	--	--	--
Benzo(a)anthracene	NA	NA	--	--	--	--	--	--
Benzo(a)pyrene	NA	NA	--	--	--	--	--	--
Benzo(b)fluoranthene	NA	NA	--	--	--	--	--	--
Benzo(g,h,i)perylene	NA	NA	--	--	--	--	--	--
Benzo(k)fluoranthene	NA	NA	--	--	--	--	--	--
Chrysene	NA	NA	--	--	--	--	--	--
Fluoranthene	NA	NA	--	--	--	--	--	--
Fluorene	NA	NA	--	--	--	--	--	--
Naphthalene	4.32E-03	4.38E-03	2.33E+03 *	1.36E+02	2.33E+03 *	7.41E+00	3.10E+01 #	2.00E-02
Phenanthrene	NA	NA	--	--	--	--	--	--
Pyrene	NA	NA	--	--	--	--	--	--
METALS								
Arsenic	NA	NA	--	NA	NA	NA	NA	--
Barium	NA	NA	--	NA	NA	NA	NA	--
Cadmium	NA	NA	--	NA	NA	NA	NA	--
Chromium VI	NA	NA	--	NA	NA	NA	NA	--
Lead	NA	NA	4.0E+02	NA	NA	NA	NA	1.50E-02
Zinc	NA	NA	--	NA	NA	NA	NA	--

NC: Pathway is not complete **--:** Not a chemical of concern **NA:** Not Applicable

*: Calculated RBSLs exceeded saturated soil concentration and hence saturated soil concentrations are listed RBSLs.

#: Calculated RBSLs exceeded pure component water solubility and hence water solubilities are listed as RBSLs.

Soil concentrations are presented on a dry weight basis.

SITE-SPECIFIC TARGET LEVELS FOR A COMMERCIAL WORKER

CHEMICALS OF CONCERN	AIR INHALATION		SURFICIAL SOIL	SUBSURFACE SOIL		GROUNDWATER		
	Indoor	Outdoor	Ingestion, Inhalation (Vapor Emissions and Particulates), and Dermal Contact	Indoor Inhalation of Vapor Emissions	Outdoor Inhalation of Vapor Emissions	Indoor Inhalation of Vapor Emissions	Outdoor Inhalation of Vapor Emissions	Ingestion of Water
	[mg/m^3-air]	[mg/m^3-air]	[mg/kg]	[mg/kg]	[mg/kg]	[mg/L]	[mg/L]	[mg/L]
ORGANICS								
Benzene	7.07E-03	7.07E-03	3.98E+01	1.70E+00	4.11E+02	7.93E+00	1.75E+03 #	5.00E-03
Toluene	7.49E-01	7.49E-01	4.70E+03 *	3.42E+02	4.70E+03 *	5.26E+02 #	5.26E+02 #	1.00E+00
Ethylbenzene	1.98E+00	1.98E+00	2.19E+03 *	1.28E+03	2.19E+03 *	1.69E+02 #	1.69E+02 #	7.00E-01
Xylenes (mixed)	5.86E-01	5.86E-01	2.77E+03 *	5.19E+02	2.77E+03 *	1.75E+02 #	1.75E+02 #	1.00E+01
Methyl-tert-butyl-ether (MTBE)*	5.86E+00	5.86E+00	3.93E+02	2.52E+03	3.96E+04 *	1.57E+04	4.80E+04 #	2.00E-02
Anthracene	NA	NA	--	--	--	--	--	--
Benzo(a)anthracene	NA	NA	--	--	--	--	--	--
Benzo(a)pyrene	NA	NA	--	--	--	--	--	--
Benzo(b)fluoranthene	NA	NA	--	--	--	--	--	--
Benzo(g,h,i)perylene	NA	NA	--	--	--	--	--	--
Benzo(k)fluoranthene	NA	NA	--	--	--	--	--	--
Chrysene	NA	NA	--	--	--	--	--	--
Fluoranthene	NA	NA	--	--	--	--	--	--
Fluorene	NA	NA	--	--	--	--	--	--
Naphthalene	6.13E-03	6.13E-03	2.33E+03 *	4.75E+02	2.33E+03 *	2.59E+01	3.10E+01 #	2.00E-02
Phenanthrene	NA	NA	--	--	--	--	--	--
Pyrene	NA	NA	--	--	--	--	--	--
METALS								
Arsenic	NA	NA	--	NA	NA	NA	NA	--
Barium	NA	NA	--	NA	NA	NA	NA	--
Cadmium	NA	NA	--	NA	NA	NA	NA	--
Chromium VI	NA	NA	--	NA	NA	NA	NA	--
Lead	NA	NA	4.0E+02	NA	NA	NA	NA	1.50E-02
Zinc	NA	NA	--	NA	NA	NA	NA	--

NC: Pathway is not complete **--:** Not a chemical of concern **NA:** Not Applicable

*: Calculated RBSLs exceeded saturated soil concentration and hence saturated soil concentrations are listed RBSLs.

#: Calculated RBSLs exceeded pure component water solubility and hence water solubilities are listed as RBSLs.

Soil concentrations are presented on a dry weight basis.

SITE-SPECIFIC TARGET LEVELS FOR A CONSTRUCTION WORKER

CHEMICALS OF CONCERN	AIR INHALATION		SURFICIAL SOIL	SUBSURFACE SOIL		GROUNDWATER	
	Indoor [mg/m^3-air]	Outdoor [mg/m^3-air]	Ingestion, Inhalation (Vapor Emissions and Particulates), and Dermal Contact [mg/kg]	Indoor Inhalation of Vapor Emissions [mg/kg]	Outdoor Inhalation of Vapor Emissions [mg/kg]	Indoor Inhalation of Vapor Emissions [mg/L]	Outdoor Inhalation of Vapor Emissions [mg/L]
ORGANICS							
Benzene	1.16E-02	1.16E-02	3.91E+02	2.79E+00	6.74E+02	1.30E+01	1.75E+03 #
Toluene	7.49E-01	7.49E-01	4.70E+03 *	3.42E+02	4.70E+03 *	5.26E+02 #	5.26E+02 #
Ethylbenzene	1.98E+00	1.98E+00	2.19E+03 *	1.28E+03	2.19E+03 *	1.69E+02 #	1.69E+02 #
Xylenes (mixed)	5.86E-01	5.86E-01	2.77E+03 *	5.19E+02	2.77E+03 *	1.75E+02 #	1.75E+02 #
Methyl-tert-butyl-ether (MTBE)*	5.86E+00	5.86E+00	3.78E+02	2.52E+03	3.96E+04 *	1.57E+04	4.80E+04 #
Anthracene	NA	NA	--	--	--	--	--
Benzo(a)anthracene	NA	NA	--	--	--	--	--
Benzo(a)pyrene	NA	NA	--	--	--	--	--
Benzo(b)fluoranthene	NA	NA	--	--	--	--	--
Benzo(g,h,i)perylene	NA	NA	--	--	--	--	--
Benzo(k)fluoranthene	NA	NA	--	--	--	--	--
Chrysene	NA	NA	--	--	--	--	--
Fluoranthene	NA	NA	--	--	--	--	--
Fluorene	NA	NA	--	--	--	--	--
Naphthalene	6.13E-03	6.13E-03	7.92E+02	4.75E+02	2.33E+03 *	2.59E+01	3.10E+01 #
Phenanthrene	NA	NA	--	--	--	--	--
Pyrene	NA	NA	--	--	--	--	--
METALS							
Arsenic	NA	NA	--	NA	NA	NA	NA
Barium	NA	NA	--	NA	NA	NA	NA
Cadmium	NA	NA	--	NA	NA	NA	NA
Chromium VI	NA	NA	--	NA	NA	NA	NA
Lead	NA	NA	4.00E+02	NA	NA	NA	NA
Zinc	NA	NA	--	NA	NA	NA	NA

NC: Pathway is not complete **--:** Not a chemical of concern **NA:** Not Applicable

*: Calculated RBSLs exceeded saturated soil concentration and hence saturated soil concentrations are listed RBSLs.

#: Calculated RBSLs exceeded pure component water solubility and hence water solubilities are listed as RBSLs.

Soil concentrations are presented on a dry weight basis.

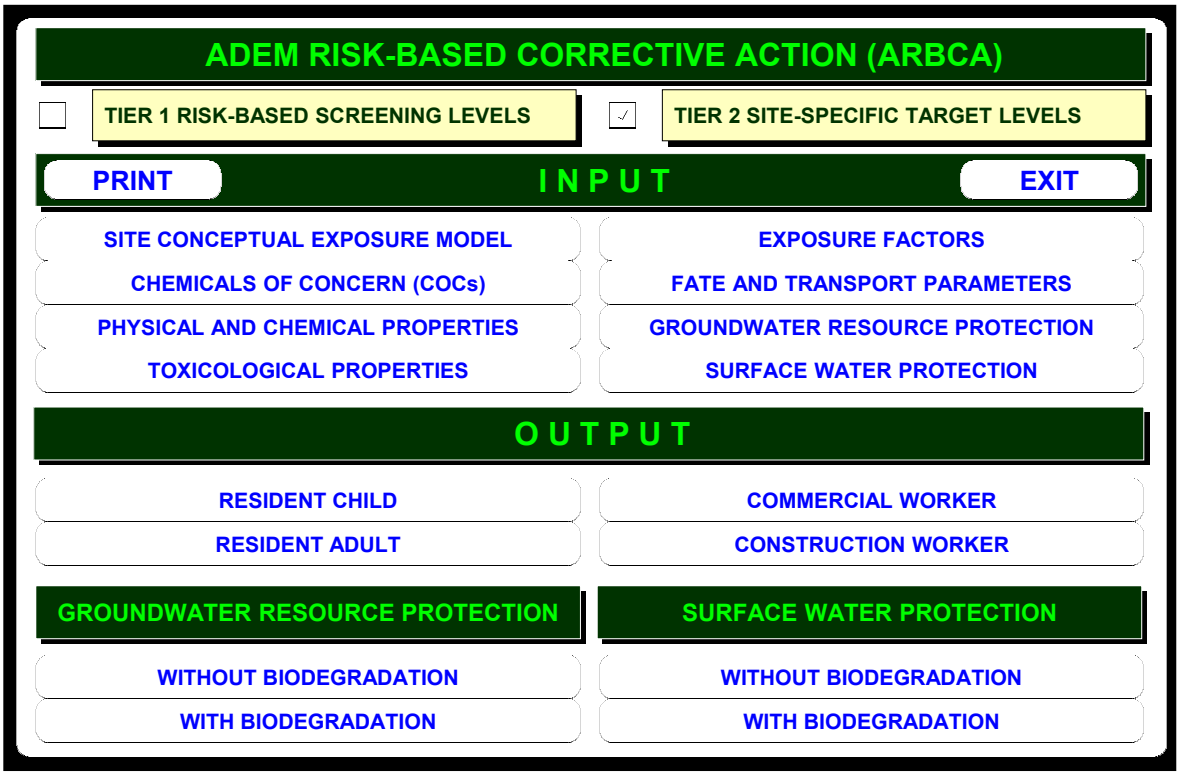
GROUNDWATER RESOURCE PROTECTION - WITHOUT BIODEGRADATION

CHEMICALS OF CONCERN	Target Groundwater Conc.at POE	Dry Leaching Factor to Groundwater (LFsw)	User Specified Unsaturated Zone DAF	Saturated Zone DAF		Allowable Soil Conc. Protective of GW at the POE		Allowable GW Conc.			
				for POC	for POE			at a POC Protective of a POE		at the Source Protective of a POE	
	[mg/L]	[mg/L]/[mg/kg]	[--]	[--]	[--]	[mg/kg]		[mg/L]		[mg/L]	
ORGANICS											
Benzene	5.00E-03	3.46E-02	1	1.00E+00	2.15E+02	3.10E+01		1.08E+00		1.08E+00	
Toluene	1.00E+00	1.55E-02	1	1.00E+00	2.15E+02	4.70E+03	*	2.15E+02		2.15E+02	
Ethylbenzene	7.00E-01	1.07E-02	1	1.00E+00	2.15E+02	2.19E+03	*	1.51E+02		1.51E+02	
Xylenes (mixed)	1.00E+01	8.76E-03	1	1.00E+00	2.15E+02	2.77E+03	*	1.75E+02	#	1.75E+02	#
Methyl-tert-butyl-ether (MTBE)*	2.00E-02	1.68E-01	1	1.00E+00	2.15E+02	2.56E+01		4.30E+00		4.30E+00	
Anthracene	--	9.36E-05	1	1.00E+00	2.15E+02	6.43E+01	*	4.34E-02	#	4.34E-02	#
Benzo(a)anthracene	--	6.14E-06	1	1.00E+00	2.15E+02	2.12E+02	*	9.40E-03	#	9.40E-03	#
Benzo(a)pyrene	--	2.27E-06	1	1.00E+00	2.15E+02	9.89E+01	*	1.62E-03	#	1.62E-03	#
Benzo(b)fluoranthene	--	1.79E-06	1	1.00E+00	2.15E+02	1.16E+02	*	1.50E-03	#	1.50E-03	#
Benzo(g,h,i)perylene	--	1.39E-06	1	1.00E+00	2.15E+02	6.97E+01	*	7.00E-04	#	7.00E-04	#
Benzo(k)fluoranthene	--	1.79E-06	1	1.00E+00	2.15E+02	6.20E+01	*	8.00E-04	#	8.00E-04	#
Chrysene	--	5.53E-06	1	1.00E+00	2.15E+02	4.01E+01	*	1.60E-03	#	1.60E-03	#
Fluoranthene	--	4.48E-05	1	1.00E+00	2.15E+02	6.37E+02	*	2.06E-01	#	2.06E-01	#
Fluorene	--	2.85E-04	1	1.00E+00	2.15E+02	9.62E+02	*	1.98E+00	#	1.98E+00	#
Naphthalene	2.00E-02	1.85E-03	1	1.00E+00	2.15E+02	2.33E+03	*	4.30E+00		4.30E+00	
Phenanthrene	--	1.56E-04	1	1.00E+00	2.15E+02	8.88E+02	*	1.00E+00	#	1.00E+00	#
Pyrene	--	3.23E-05	1	1.00E+00	2.15E+02	5.78E+02	*	1.35E-01	#	1.35E-01	#
METALS											
Arsenic	--	2.16E-03	1	1.00E+00	2.15E+02	--		NA		NA	
Barium	--	3.37E-03	1	1.00E+00	2.15E+02	--		NA		NA	
Cadmium	--	1.85E-03	1	1.00E+00	2.15E+02	--		NA		NA	
Chromium VI	--	7.27E-03	1	1.00E+00	2.15E+02	--		NA		NA	
Lead	1.50E-02	1.14E-03	1	1.00E+00	2.15E+02	2.84E+03		3.23E+00		3.23E+00	
Zinc	--	2.23E-03	1	1.00E+00	2.15E+02	--		NA		NA	

*: Calculated concentrations exceeded saturated soil concentration and hence saturated soil concentrations are listed soil concentrations protective of groundwater.

#: Calculated concentrations exceeded pure component water solubility and hence water solubilities are listed as allowable groundwater concentrations at the POE and/or POC.
Soil concentrations are presented on a dry weight basis.

NA: Not available



ADEM Tier II Risk Assessment Program

Location:

Former J.C. Box Texaco
400 East Second Street,
Sheffield, Colbert County, Alabama
Facility ID. #11732-033-04341
UST Incident #UST21-09-05

Point of Exposure (POE):
POE = Southwest 510 feet
(distance to property boundary =10 feet and >500 feet to POE = default of 510 feet)

Source Area:
MW-3, MW-5, & SB-8A

Point of Compliance (POC):
MW-4 at 5 feet

GROUNDWATER RESOURCE PROTECTION

Parameter	Symbol	Unit	Tier 1 Values	Values Used	Source
SITE PARAMETERS:					
Distance from the Downgradient Edge of the Groundwater Source to the Point of Exposure (Xpoe)	Xpoe	ft	variable	510	Site-specific
Longitudinal Dispersivity	α_x	ft	variable	51.000	***Calculated***
Transverse Dispersivity	α_y	ft	variable	17.000	***Calculated***
Vertical Dispersivity	α_z	ft	variable	2.550	***Calculated***
Distance from the Downgradient Edge of the Groundwater Source to the Point of Compliance (Xpoc)	Xpoc	ft	variable	5	Site-specific
Longitudinal Dispersivity	α_x	ft	variable	0.500	***Calculated***
Transverse Dispersivity	α_y	ft	variable	0.167	***Calculated***
Vertical Dispersivity	α_z	ft	variable	0.025	***Calculated***

Note: The input values in red are calculated and cannot be changed.

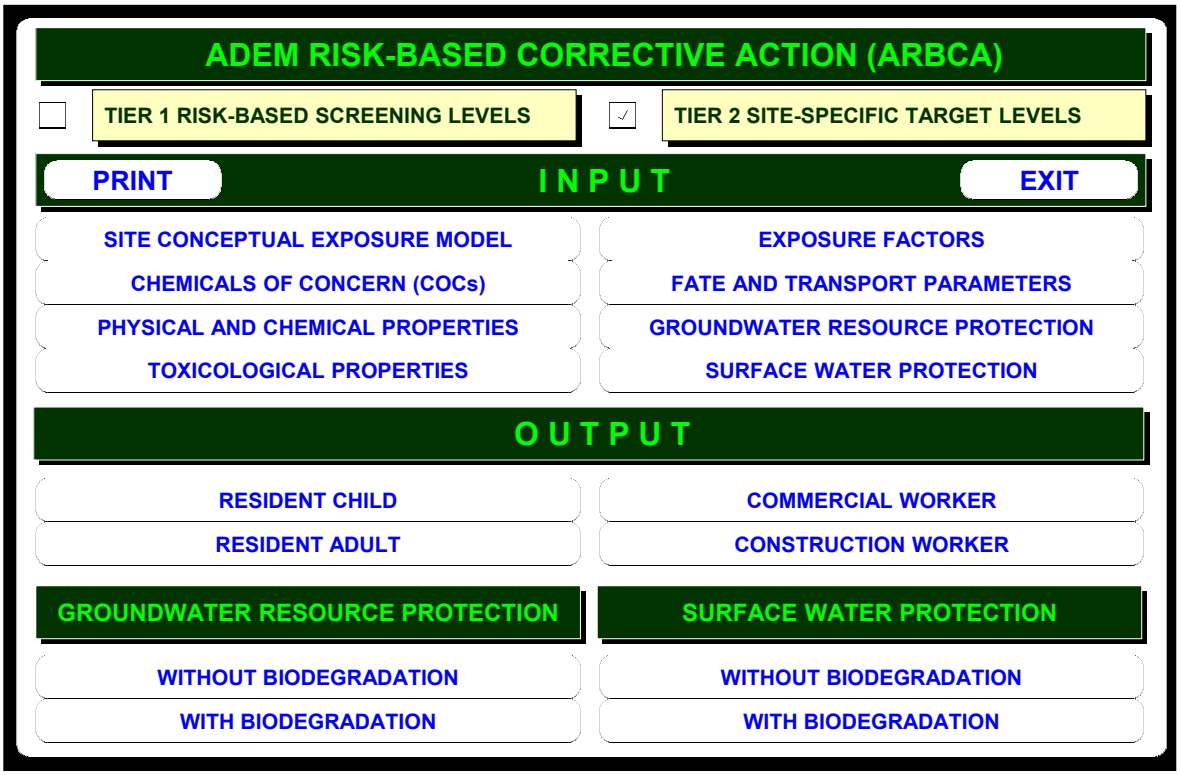
GROUNDWATER RESOURCE PROTECTION - WITHOUT BIODEGRADATION

CHEMICALS OF CONCERN	Target Groundwater Conc.at POE	Dry Leaching Factor to Groundwater (LFsw)	User Specified Unsaturated Zone DAF	Saturated Zone DAF		Allowable Soil Conc. Protective of GW at the POE		Allowable GW Conc.			
				for POC	for POE			at a POC Protective of a POE		at the Source Protective of a POE	
	[mg/L]	[mg/L]/[mg/kg]	[--]	[--]	[--]	[mg/kg]		[mg/L]		[mg/L]	
ORGANICS											
Benzene	5.00E-03	3.46E-02	1	1.00E+00	2.15E+02	3.10E+01		1.08E+00		1.08E+00	
Toluene	1.00E+00	1.55E-02	1	1.00E+00	2.15E+02	4.70E+03	*	2.15E+02		2.15E+02	
Ethylbenzene	7.00E-01	1.07E-02	1	1.00E+00	2.15E+02	2.19E+03	*	1.51E+02		1.51E+02	
Xylenes (mixed)	1.00E+01	8.76E-03	1	1.00E+00	2.15E+02	2.77E+03	*	1.75E+02	#	1.75E+02	#
Methyl-tert-butyl-ether (MTBE)*	2.00E-02	1.68E-01	1	1.00E+00	2.15E+02	2.56E+01		4.30E+00		4.30E+00	
Anthracene	--	9.36E-05	1	1.00E+00	2.15E+02	6.43E+01	*	4.34E-02	#	4.34E-02	#
Benzo(a)anthracene	--	6.14E-06	1	1.00E+00	2.15E+02	2.12E+02	*	9.40E-03	#	9.40E-03	#
Benzo(a)pyrene	--	2.27E-06	1	1.00E+00	2.15E+02	9.89E+01	*	1.62E-03	#	1.62E-03	#
Benzo(b)fluoranthene	--	1.79E-06	1	1.00E+00	2.15E+02	1.16E+02	*	1.50E-03	#	1.50E-03	#
Benzo(g,h,i)perylene	--	1.39E-06	1	1.00E+00	2.15E+02	6.97E+01	*	7.00E-04	#	7.00E-04	#
Benzo(k)fluoranthene	--	1.79E-06	1	1.00E+00	2.15E+02	6.20E+01	*	8.00E-04	#	8.00E-04	#
Chrysene	--	5.53E-06	1	1.00E+00	2.15E+02	4.01E+01	*	1.60E-03	#	1.60E-03	#
Fluoranthene	--	4.48E-05	1	1.00E+00	2.15E+02	6.37E+02	*	2.06E-01	#	2.06E-01	#
Fluorene	--	2.85E-04	1	1.00E+00	2.15E+02	9.62E+02	*	1.98E+00	#	1.98E+00	#
Naphthalene	2.00E-02	1.85E-03	1	1.00E+00	2.15E+02	2.33E+03	*	4.30E+00		4.30E+00	
Phenanthrene	--	1.56E-04	1	1.00E+00	2.15E+02	8.88E+02	*	1.00E+00	#	1.00E+00	#
Pyrene	--	3.23E-05	1	1.00E+00	2.15E+02	5.78E+02	*	1.35E-01	#	1.35E-01	#
METALS											
Arsenic	--	2.16E-03	1	1.00E+00	2.15E+02	--		NA		NA	
Barium	--	3.37E-03	1	1.00E+00	2.15E+02	--		NA		NA	
Cadmium	--	1.85E-03	1	1.00E+00	2.15E+02	--		NA		NA	
Chromium VI	--	7.27E-03	1	1.00E+00	2.15E+02	--		NA		NA	
Lead	1.50E-02	1.14E-03	1	1.00E+00	2.15E+02	2.84E+03		3.23E+00		3.23E+00	
Zinc	--	2.23E-03	1	1.00E+00	2.15E+02	--		NA		NA	

*: Calculated concentrations exceeded saturated soil concentration and hence saturated soil concentrations are listed soil concentrations protective of groundwater.

#: Calculated concentrations exceeded pure component water solubility and hence water solubilities are listed as allowable groundwater concentrations at the POE and/or POC.
Soil concentrations are presented on a dry weight basis.

NA: Not available



ADEM Tier II Risk Assessment Program

Location:

Former J.C. Box Texaco
400 East Second Street,
Sheffield, Colbert County, Alabama
Facility ID. #11732-033-04341
UST Incident #UST21-09-05

Point of Exposure (POE):
POE = Southwest 510 feet
(distance to property boundary =10 feet and >500 feet to POE = default of 510 feet)

Source Area:
MW-3, MW-5, & SB-8A

Point of Compliance (POC):
MW-6 at 38 feet

GROUNDWATER RESOURCE PROTECTION

Parameter	Symbol	Unit	Tier 1 Values	Values Used	Source
SITE PARAMETERS:					
Distance from the Downgradient Edge of the Groundwater Source to the Point of Exposure (Xpoe)	Xpoe	ft	variable	510	Site-specific
Longitudinal Dispersivity	α_x	ft	variable	51.000	***Calculated***
Transverse Dispersivity	α_y	ft	variable	17.000	***Calculated***
Vertical Dispersivity	α_z	ft	variable	2.550	***Calculated***
Distance from the Downgradient Edge of the Groundwater Source to the Point of Compliance (Xpoc)	Xpoc	ft	variable	38	Site-specific
Longitudinal Dispersivity	α_x	ft	variable	3.800	***Calculated***
Transverse Dispersivity	α_y	ft	variable	1.267	***Calculated***
Vertical Dispersivity	α_z	ft	variable	0.190	***Calculated***

Note: The input values in red are calculated and cannot be changed.

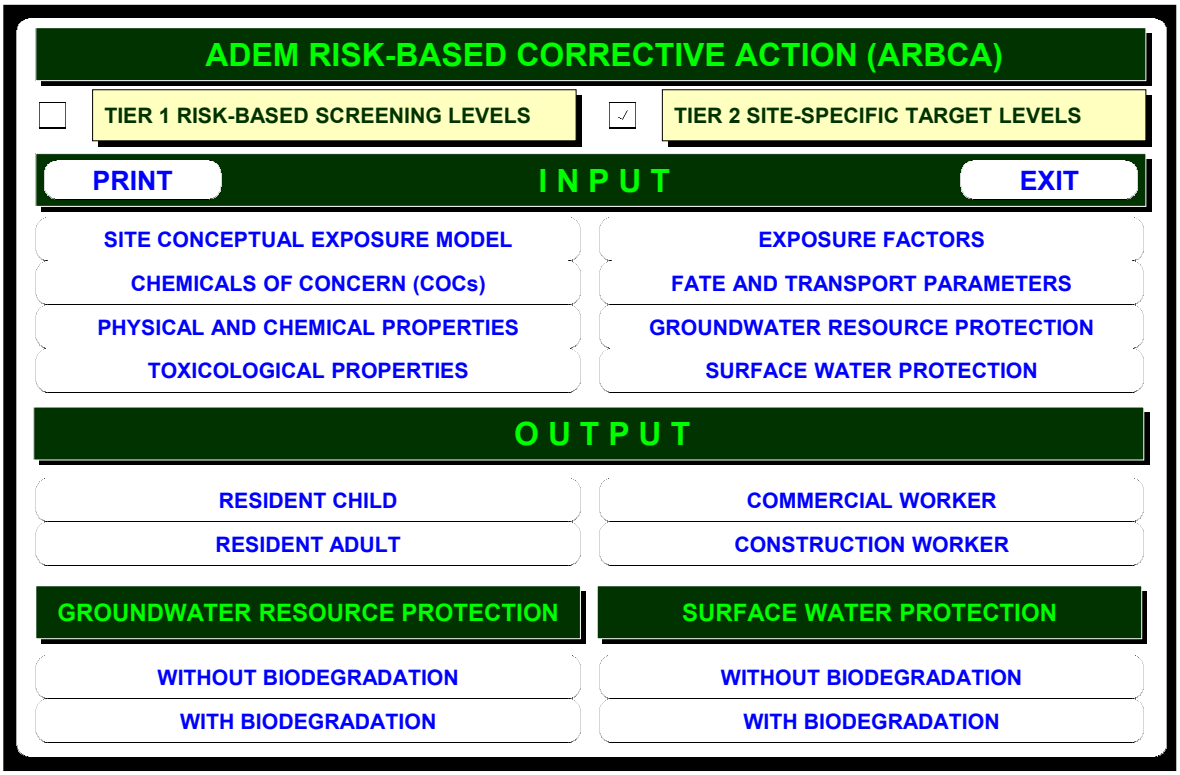
GROUNDWATER RESOURCE PROTECTION - WITHOUT BIODEGRADATION

CHEMICALS OF CONCERN	Target Groundwater Conc.at POE	Dry Leaching Factor to Groundwater (LFsw)	User Specified Unsaturated Zone DAF	Saturated Zone DAF		Allowable Soil Conc. Protective of GW at the POE		Allowable GW Conc.			
				for POC	for POE			at a POC Protective of a POE		at the Source Protective of a POE	
	[mg/L]	[mg/L]/[mg/kg]	[--]	[--]	[--]	[mg/kg]		[mg/L]		[mg/L]	
ORGANICS											
Benzene	5.00E-03	3.46E-02	1	1.97E+00	2.15E+02	3.10E+01		5.47E-01		1.08E+00	
Toluene	1.00E+00	1.55E-02	1	1.97E+00	2.15E+02	4.70E+03	*	1.09E+02		2.15E+02	
Ethylbenzene	7.00E-01	1.07E-02	1	1.97E+00	2.15E+02	2.19E+03	*	7.66E+01		1.51E+02	
Xylenes (mixed)	1.00E+01	8.76E-03	1	1.97E+00	2.15E+02	2.77E+03	*	1.75E+02	#	1.75E+02	#
Methyl-tert-butyl-ether (MTBE)*	2.00E-02	1.68E-01	1	1.97E+00	2.15E+02	2.56E+01		2.19E+00		4.30E+00	
Anthracene	--	9.36E-05	1	1.97E+00	2.15E+02	6.43E+01	*	4.34E-02	#	4.34E-02	#
Benzo(a)anthracene	--	6.14E-06	1	1.97E+00	2.15E+02	2.12E+02	*	9.40E-03	#	9.40E-03	#
Benzo(a)pyrene	--	2.27E-06	1	1.97E+00	2.15E+02	9.89E+01	*	1.62E-03	#	1.62E-03	#
Benzo(b)fluoranthene	--	1.79E-06	1	1.97E+00	2.15E+02	1.16E+02	*	1.50E-03	#	1.50E-03	#
Benzo(g,h,i)perylene	--	1.39E-06	1	1.97E+00	2.15E+02	6.97E+01	*	7.00E-04	#	7.00E-04	#
Benzo(k)fluoranthene	--	1.79E-06	1	1.97E+00	2.15E+02	6.20E+01	*	8.00E-04	#	8.00E-04	#
Chrysene	--	5.53E-06	1	1.97E+00	2.15E+02	4.01E+01	*	1.60E-03	#	1.60E-03	#
Fluoranthene	--	4.48E-05	1	1.97E+00	2.15E+02	6.37E+02	*	2.06E-01	#	2.06E-01	#
Fluorene	--	2.85E-04	1	1.97E+00	2.15E+02	9.62E+02	*	1.98E+00	#	1.98E+00	#
Naphthalene	2.00E-02	1.85E-03	1	1.97E+00	2.15E+02	2.33E+03	*	2.19E+00		4.30E+00	
Phenanthrene	--	1.56E-04	1	1.97E+00	2.15E+02	8.88E+02	*	1.00E+00	#	1.00E+00	#
Pyrene	--	3.23E-05	1	1.97E+00	2.15E+02	5.78E+02	*	1.35E-01	#	1.35E-01	#
METALS											
Arsenic	--	2.16E-03	1	1.97E+00	2.15E+02	--		NA		NA	
Barium	--	3.37E-03	1	1.97E+00	2.15E+02	--		NA		NA	
Cadmium	--	1.85E-03	1	1.97E+00	2.15E+02	--		NA		NA	
Chromium VI	--	7.27E-03	1	1.97E+00	2.15E+02	--		NA		NA	
Lead	1.50E-02	1.14E-03	1	1.97E+00	2.15E+02	2.84E+03		1.64E+00		3.23E+00	
Zinc	--	2.23E-03	1	1.97E+00	2.15E+02	--		NA		NA	

*: Calculated concentrations exceeded saturated soil concentration and hence saturated soil concentrations are listed soil concentrations protective of groundwater.

#: Calculated concentrations exceeded pure component water solubility and hence water solubilities are listed as allowable groundwater concentrations at the POE and/or POC.
Soil concentrations are presented on a dry weight basis.

NA: Not available



ADEM Tier II Risk Assessment Program

Location:

Former J.C. Box Texaco
400 East Second Street,
Sheffield, Colbert County, Alabama
Facility ID. #11732-033-04341
UST Incident #UST21-09-05

Point of Exposure (POE):
POE = Southwest 510 feet
(distance to property boundary =10 feet and >500 feet to POE = default of 510 feet)

Source Area:
MW-3, MW-5, & SB-8A

Point of Compliance (POC):
MW-7 at 82 feet

GROUNDWATER RESOURCE PROTECTION

Parameter	Symbol	Unit	Tier 1 Values	Values Used	Source
SITE PARAMETERS:					
Distance from the Downgradient Edge of the Groundwater Source to the Point of Exposure (Xpoe)	Xpoe	ft	variable	510	Site-specific
Longitudinal Dispersivity	α_x	ft	variable	51.000	***Calculated***
Transverse Dispersivity	α_y	ft	variable	17.000	***Calculated***
Vertical Dispersivity	α_z	ft	variable	2.550	***Calculated***
Distance from the Downgradient Edge of the Groundwater Source to the Point of Compliance (Xpoc)	Xpoc	ft	variable	82	Site-specific
Longitudinal Dispersivity	α_x	ft	variable	8.200	***Calculated***
Transverse Dispersivity	α_y	ft	variable	2.733	***Calculated***
Vertical Dispersivity	α_z	ft	variable	0.410	***Calculated***

Note: The input values in red are calculated and cannot be changed.

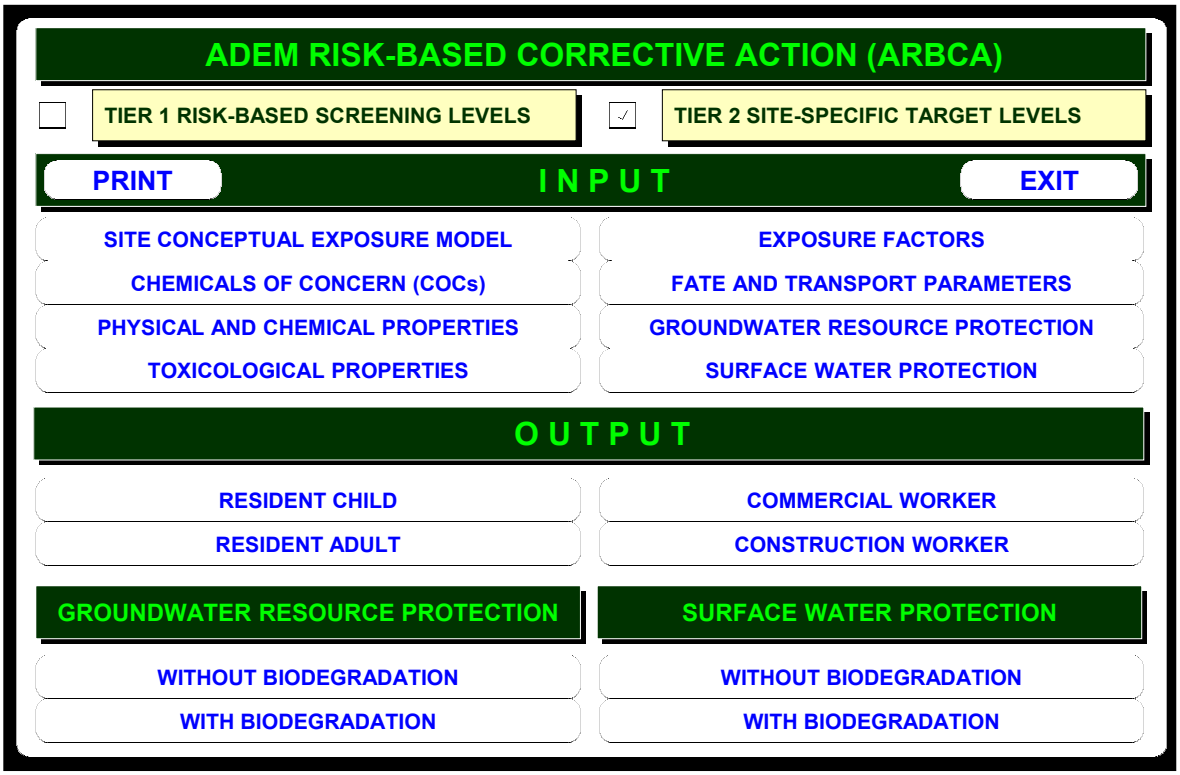
GROUNDWATER RESOURCE PROTECTION - WITHOUT BIODEGRADATION

CHEMICALS OF CONCERN	Target Groundwater Conc.at POE	Dry Leaching Factor to Groundwater (LFsw)	User Specified Unsaturated Zone DAF	Saturated Zone DAF		Allowable Soil Conc. Protective of GW at the POE		Allowable GW Conc.			
				for POC	for POE			at a POC Protective of a POE		at the Source Protective of a POE	
	[mg/L]	[mg/L]/[mg/kg]	[--]	[--]	[--]	[mg/kg]		[mg/L]		[mg/L]	
ORGANICS											
Benzene	5.00E-03	3.46E-02	1	6.27E+00	2.15E+02	3.10E+01		1.72E-01		1.08E+00	
Toluene	1.00E+00	1.55E-02	1	6.27E+00	2.15E+02	4.70E+03	*	3.43E+01		2.15E+02	
Ethylbenzene	7.00E-01	1.07E-02	1	6.27E+00	2.15E+02	2.19E+03	*	2.40E+01		1.51E+02	
Xylenes (mixed)	1.00E+01	8.76E-03	1	6.27E+00	2.15E+02	2.77E+03	*	1.75E+02	#	1.75E+02	#
Methyl-tert-butyl-ether (MTBE)*	2.00E-02	1.68E-01	1	6.27E+00	2.15E+02	2.56E+01		6.86E-01		4.30E+00	
Anthracene	--	9.36E-05	1	6.27E+00	2.15E+02	6.43E+01	*	4.34E-02	#	4.34E-02	#
Benzo(a)anthracene	--	6.14E-06	1	6.27E+00	2.15E+02	2.12E+02	*	9.40E-03	#	9.40E-03	#
Benzo(a)pyrene	--	2.27E-06	1	6.27E+00	2.15E+02	9.89E+01	*	1.62E-03	#	1.62E-03	#
Benzo(b)fluoranthene	--	1.79E-06	1	6.27E+00	2.15E+02	1.16E+02	*	1.50E-03	#	1.50E-03	#
Benzo(g,h,i)perylene	--	1.39E-06	1	6.27E+00	2.15E+02	6.97E+01	*	7.00E-04	#	7.00E-04	#
Benzo(k)fluoranthene	--	1.79E-06	1	6.27E+00	2.15E+02	6.20E+01	*	8.00E-04	#	8.00E-04	#
Chrysene	--	5.53E-06	1	6.27E+00	2.15E+02	4.01E+01	*	1.60E-03	#	1.60E-03	#
Fluoranthene	--	4.48E-05	1	6.27E+00	2.15E+02	6.37E+02	*	2.06E-01	#	2.06E-01	#
Fluorene	--	2.85E-04	1	6.27E+00	2.15E+02	9.62E+02	*	1.98E+00	#	1.98E+00	#
Naphthalene	2.00E-02	1.85E-03	1	6.27E+00	2.15E+02	2.33E+03	*	6.86E-01		4.30E+00	
Phenanthrene	--	1.56E-04	1	6.27E+00	2.15E+02	8.88E+02	*	1.00E+00	#	1.00E+00	#
Pyrene	--	3.23E-05	1	6.27E+00	2.15E+02	5.78E+02	*	1.35E-01	#	1.35E-01	#
METALS											
Arsenic	--	2.16E-03	1	6.27E+00	2.15E+02	--		NA		NA	
Barium	--	3.37E-03	1	6.27E+00	2.15E+02	--		NA		NA	
Cadmium	--	1.85E-03	1	6.27E+00	2.15E+02	--		NA		NA	
Chromium VI	--	7.27E-03	1	6.27E+00	2.15E+02	--		NA		NA	
Lead	1.50E-02	1.14E-03	1	6.27E+00	2.15E+02	2.84E+03		5.15E-01		3.23E+00	
Zinc	--	2.23E-03	1	6.27E+00	2.15E+02	--		NA		NA	

*: Calculated concentrations exceeded saturated soil concentration and hence saturated soil concentrations are listed soil concentrations protective of groundwater.

#: Calculated concentrations exceeded pure component water solubility and hence water solubilities are listed as allowable groundwater concentrations at the POE and/or POC.
Soil concentrations are presented on a dry weight basis.

NA: Not available



ADEM Tier II Risk Assessment Program

Location:

Former J.C. Box Texaco
400 East Second Street,
Sheffield, Colbert County, Alabama
Facility ID. #11732-033-04341
UST Incident #UST21-09-05

Point of Exposure (POE):
POE = Southwest 510 feet
(distance to property boundary =10 feet and >500 feet to POE = default of 510 feet)

Source Area:
MW-3, MW-5, & SB-8A

Point of Compliance (POC):
MW-8 at 52 feet

GROUNDWATER RESOURCE PROTECTION

Parameter	Symbol	Unit	Tier 1 Values	Values Used	Source
SITE PARAMETERS:					
Distance from the Downgradient Edge of the Groundwater Source to the Point of Exposure (Xpoe)	Xpoe	ft	variable	510	Site-specific
Longitudinal Dispersivity	α_x	ft	variable	51.000	***Calculated***
Transverse Dispersivity	α_y	ft	variable	17.000	***Calculated***
Vertical Dispersivity	α_z	ft	variable	2.550	***Calculated***
Distance from the Downgradient Edge of the Groundwater Source to the Point of Compliance (Xpoc)	Xpoc	ft	variable	52	Site-specific
Longitudinal Dispersivity	α_x	ft	variable	5.200	***Calculated***
Transverse Dispersivity	α_y	ft	variable	1.733	***Calculated***
Vertical Dispersivity	α_z	ft	variable	0.260	***Calculated***

Note: The input values in red are calculated and cannot be changed.

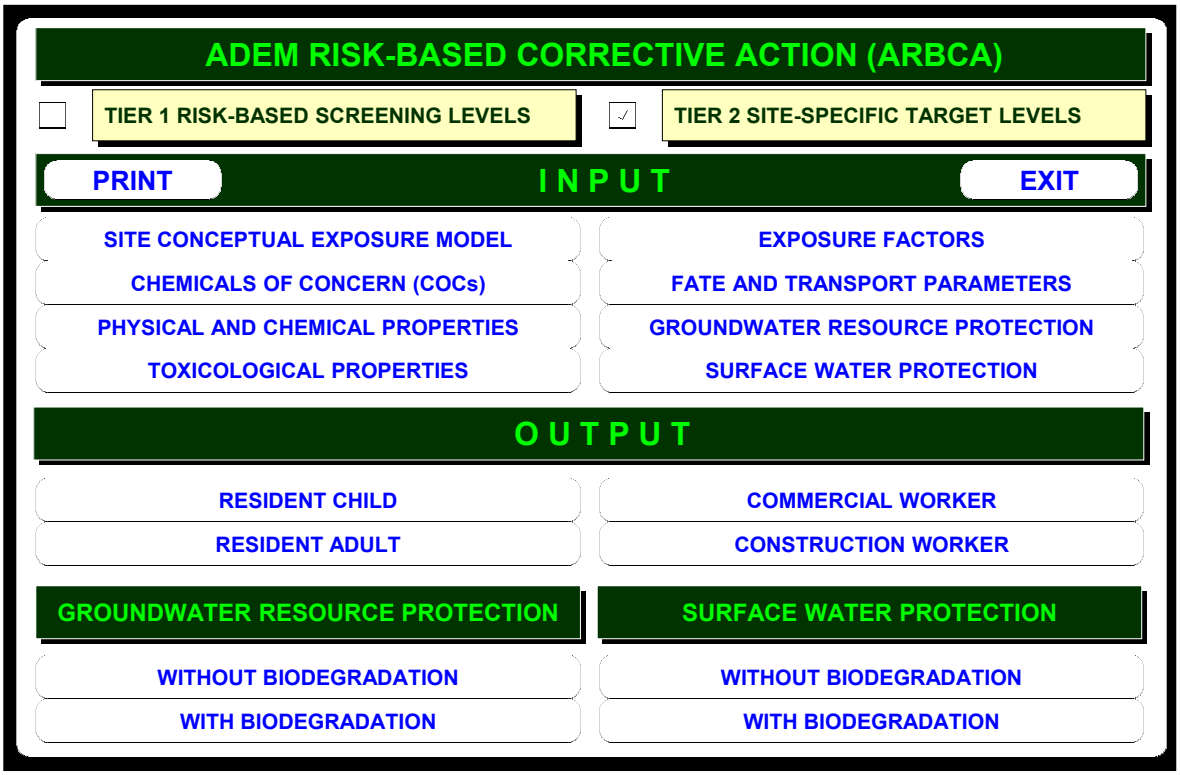
GROUNDWATER RESOURCE PROTECTION - WITHOUT BIODEGRADATION

CHEMICALS OF CONCERN	Target Groundwater Conc.at POE [mg/L]	Dry Leaching Factor to Groundwater (LFsw) [mg/L]/[mg/kg]	User Specified Unsaturated Zone DAF [--]	Saturated Zone DAF for POC [--]	Saturated Zone DAF for POE [--]	Allowable Soil Conc. Protective of GW at the POE [mg/kg]	Allowable GW Conc. at a POC Protective of a POE [mg/L]	Allowable GW Conc. at the Source Protective of a POE [mg/L]
ORGANICS								
Benzene	5.00E-03	3.46E-02	1	2.98E+00	2.15E+02	3.10E+01	3.61E-01	1.08E+00
Toluene	1.00E+00	1.55E-02	1	2.98E+00	2.15E+02	4.70E+03 *	7.22E+01	2.15E+02
Ethylbenzene	7.00E-01	1.07E-02	1	2.98E+00	2.15E+02	2.19E+03 *	5.06E+01	1.51E+02
Xylenes (mixed)	1.00E+01	8.76E-03	1	2.98E+00	2.15E+02	2.77E+03 *	1.75E+02 #	1.75E+02 #
Methyl-tert-butyl-ether (MTBE)*	2.00E-02	1.68E-01	1	2.98E+00	2.15E+02	2.56E+01	1.44E+00	4.30E+00
Anthracene	--	9.36E-05	1	2.98E+00	2.15E+02	6.43E+01 *	4.34E-02 #	4.34E-02 #
Benzo(a)anthracene	--	6.14E-06	1	2.98E+00	2.15E+02	2.12E+02 *	9.40E-03 #	9.40E-03 #
Benzo(a)pyrene	--	2.27E-06	1	2.98E+00	2.15E+02	9.89E+01 *	1.62E-03 #	1.62E-03 #
Benzo(b)fluoranthene	--	1.79E-06	1	2.98E+00	2.15E+02	1.16E+02 *	1.50E-03 #	1.50E-03 #
Benzo(g,h,i)perylene	--	1.39E-06	1	2.98E+00	2.15E+02	6.97E+01 *	7.00E-04 #	7.00E-04 #
Benzo(k)fluoranthene	--	1.79E-06	1	2.98E+00	2.15E+02	6.20E+01 *	8.00E-04 #	8.00E-04 #
Chrysene	--	5.53E-06	1	2.98E+00	2.15E+02	4.01E+01 *	1.60E-03 #	1.60E-03 #
Fluoranthene	--	4.48E-05	1	2.98E+00	2.15E+02	6.37E+02 *	2.06E-01 #	2.06E-01 #
Fluorene	--	2.85E-04	1	2.98E+00	2.15E+02	9.62E+02 *	1.98E+00 #	1.98E+00 #
Naphthalene	2.00E-02	1.85E-03	1	2.98E+00	2.15E+02	2.33E+03 *	1.44E+00	4.30E+00
Phenanthrene	--	1.56E-04	1	2.98E+00	2.15E+02	8.88E+02 *	1.00E+00 #	1.00E+00 #
Pyrene	--	3.23E-05	1	2.98E+00	2.15E+02	5.78E+02 *	1.35E-01 #	1.35E-01 #
METALS								
Arsenic	--	2.16E-03	1	2.98E+00	2.15E+02	--	NA	NA
Barium	--	3.37E-03	1	2.98E+00	2.15E+02	--	NA	NA
Cadmium	--	1.85E-03	1	2.98E+00	2.15E+02	--	NA	NA
Chromium VI	--	7.27E-03	1	2.98E+00	2.15E+02	--	NA	NA
Lead	1.50E-02	1.14E-03	1	2.98E+00	2.15E+02	2.84E+03	1.08E+00	3.23E+00
Zinc	--	2.23E-03	1	2.98E+00	2.15E+02	--	NA	NA

*: Calculated concentrations exceeded saturated soil concentration and hence saturated soil concentrations are listed soil concentrations protective of groundwater.

#: Calculated concentrations exceeded pure component water solubility and hence water solubilities are listed as allowable groundwater concentrations at the POE and/or POC. Soil concentrations are presented on a dry weight basis.

NA: Not available



ADEM Tier II Risk Assessment Program

Location:

Former J.C. Box Texaco
400 East Second Street,
Sheffield, Colbert County, Alabama
Facility ID. #11732-033-04341
UST Incident #UST21-09-05

Point of Exposure (POE):
POE = Southwest 510 feet
(distance to property boundary =10 feet and >500 feet to POE = default of 510 feet)

Source Area:
MW-3, MW-5, & SB-8A

Point of Compliance (POC):
MW-9 at 110 feet

GROUNDWATER RESOURCE PROTECTION

Parameter	Symbol	Unit	Tier 1 Values	Values Used	Source
SITE PARAMETERS:					
Distance from the Downgradient Edge of the Groundwater Source to the Point of Exposure (Xpoe)	Xpoe	ft	variable	510	Site-specific
Longitudinal Dispersivity	α_x	ft	variable	51.000	***Calculated***
Transverse Dispersivity	α_y	ft	variable	17.000	***Calculated***
Vertical Dispersivity	α_z	ft	variable	2.550	***Calculated***
Distance from the Downgradient Edge of the Groundwater Source to the Point of Compliance (Xpoc)	Xpoc	ft	variable	110	Site-specific
Longitudinal Dispersivity	α_x	ft	variable	11.000	***Calculated***
Transverse Dispersivity	α_y	ft	variable	3.667	***Calculated***
Vertical Dispersivity	α_z	ft	variable	0.550	***Calculated***

Note: The input values in red are calculated and cannot be changed.

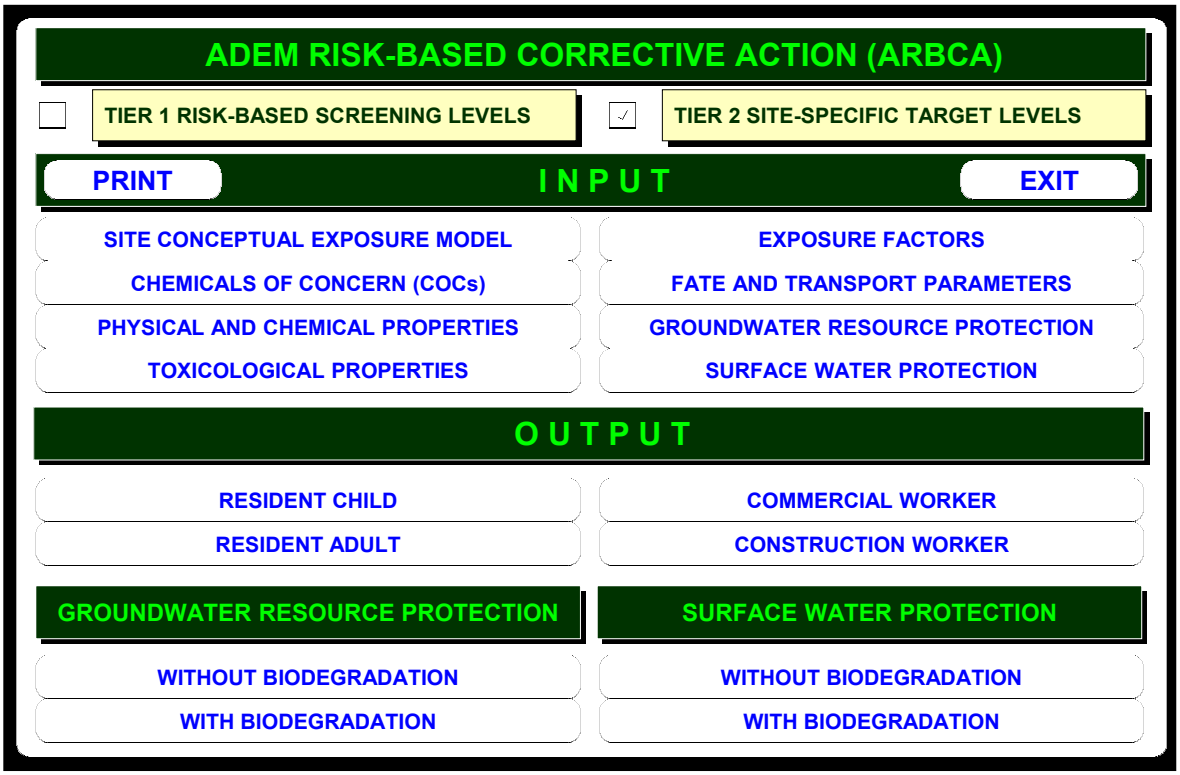
GROUNDWATER RESOURCE PROTECTION - WITHOUT BIODEGRADATION

CHEMICALS OF CONCERN	Target Groundwater Conc.at POE	Dry Leaching Factor to Groundwater (LFsw)	User Specified Unsaturated Zone DAF	Saturated Zone DAF		Allowable Soil Conc. Protective of GW at the POE		Allowable GW Conc.			
				for POC	for POE			at a POC Protective of a POE		at the Source Protective of a POE	
	[mg/L]	[mg/L]/[mg/kg]	[--]	[--]	[--]	[mg/kg]		[mg/L]		[mg/L]	
ORGANICS											
Benzene	5.00E-03	3.46E-02	1	1.07E+01	2.15E+02	3.10E+01		1.01E-01		1.08E+00	
Toluene	1.00E+00	1.55E-02	1	1.07E+01	2.15E+02	4.70E+03	*	2.01E+01		2.15E+02	
Ethylbenzene	7.00E-01	1.07E-02	1	1.07E+01	2.15E+02	2.19E+03	*	1.41E+01		1.51E+02	
Xylenes (mixed)	1.00E+01	8.76E-03	1	1.07E+01	2.15E+02	2.77E+03	*	1.75E+02	#	1.75E+02	#
Methyl-tert-butyl-ether (MTBE)*	2.00E-02	1.68E-01	1	1.07E+01	2.15E+02	2.56E+01		4.02E-01		4.30E+00	
Anthracene	--	9.36E-05	1	1.07E+01	2.15E+02	6.43E+01	*	4.34E-02	#	4.34E-02	#
Benzo(a)anthracene	--	6.14E-06	1	1.07E+01	2.15E+02	2.12E+02	*	9.40E-03	#	9.40E-03	#
Benzo(a)pyrene	--	2.27E-06	1	1.07E+01	2.15E+02	9.89E+01	*	1.62E-03	#	1.62E-03	#
Benzo(b)fluoranthene	--	1.79E-06	1	1.07E+01	2.15E+02	1.16E+02	*	1.50E-03	#	1.50E-03	#
Benzo(g,h,i)perylene	--	1.39E-06	1	1.07E+01	2.15E+02	6.97E+01	*	7.00E-04	#	7.00E-04	#
Benzo(k)fluoranthene	--	1.79E-06	1	1.07E+01	2.15E+02	6.20E+01	*	8.00E-04	#	8.00E-04	#
Chrysene	--	5.53E-06	1	1.07E+01	2.15E+02	4.01E+01	*	1.60E-03	#	1.60E-03	#
Fluoranthene	--	4.48E-05	1	1.07E+01	2.15E+02	6.37E+02	*	2.06E-01	#	2.06E-01	#
Fluorene	--	2.85E-04	1	1.07E+01	2.15E+02	9.62E+02	*	1.98E+00	#	1.98E+00	#
Naphthalene	2.00E-02	1.85E-03	1	1.07E+01	2.15E+02	2.33E+03	*	4.02E-01		4.30E+00	
Phenanthrene	--	1.56E-04	1	1.07E+01	2.15E+02	8.88E+02	*	1.00E+00	#	1.00E+00	#
Pyrene	--	3.23E-05	1	1.07E+01	2.15E+02	5.78E+02	*	1.35E-01	#	1.35E-01	#
METALS											
Arsenic	--	2.16E-03	1	1.07E+01	2.15E+02	--		NA		NA	
Barium	--	3.37E-03	1	1.07E+01	2.15E+02	--		NA		NA	
Cadmium	--	1.85E-03	1	1.07E+01	2.15E+02	--		NA		NA	
Chromium VI	--	7.27E-03	1	1.07E+01	2.15E+02	--		NA		NA	
Lead	1.50E-02	1.14E-03	1	1.07E+01	2.15E+02	2.84E+03		3.02E-01		3.23E+00	
Zinc	--	2.23E-03	1	1.07E+01	2.15E+02	--		NA		NA	

*: Calculated concentrations exceeded saturated soil concentration and hence saturated soil concentrations are listed soil concentrations protective of groundwater.

#: Calculated concentrations exceeded pure component water solubility and hence water solubilities are listed as allowable groundwater concentrations at the POE and/or POC.
Soil concentrations are presented on a dry weight basis.

NA: Not available



ADEM Tier II Risk Assessment Program

Location:

Former J.C. Box Texaco
400 East Second Street,
Sheffield, Colbert County, Alabama
Facility ID. #11732-033-04341
UST Incident #UST21-09-05

Point of Exposure (POE):
POE = Southwest 510 feet
(distance to property boundary =10 feet and >500 feet to POE = default of 510 feet)

Source Area:
MW-3, MW-5, & SB-8A

Point of Compliance (POC):
MW-10 at 152 feet

GROUNDWATER RESOURCE PROTECTION

Parameter	Symbol	Unit	Tier 1 Values	Values Used	Source
SITE PARAMETERS:					
Distance from the Downgradient Edge of the Groundwater Source to the Point of Exposure (Xpoe)	Xpoe	ft	variable	510	Site-specific
Longitudinal Dispersivity	α_x	ft	variable	51.000	***Calculated***
Transverse Dispersivity	α_y	ft	variable	17.000	***Calculated***
Vertical Dispersivity	α_z	ft	variable	2.550	***Calculated***
Distance from the Downgradient Edge of the Groundwater Source to the Point of Compliance (Xpoc)	Xpoc	ft	variable	152	Site-specific
Longitudinal Dispersivity	α_x	ft	variable	15.200	***Calculated***
Transverse Dispersivity	α_y	ft	variable	5.067	***Calculated***
Vertical Dispersivity	α_z	ft	variable	0.760	***Calculated***

Note: The input values in red are calculated and cannot be changed.

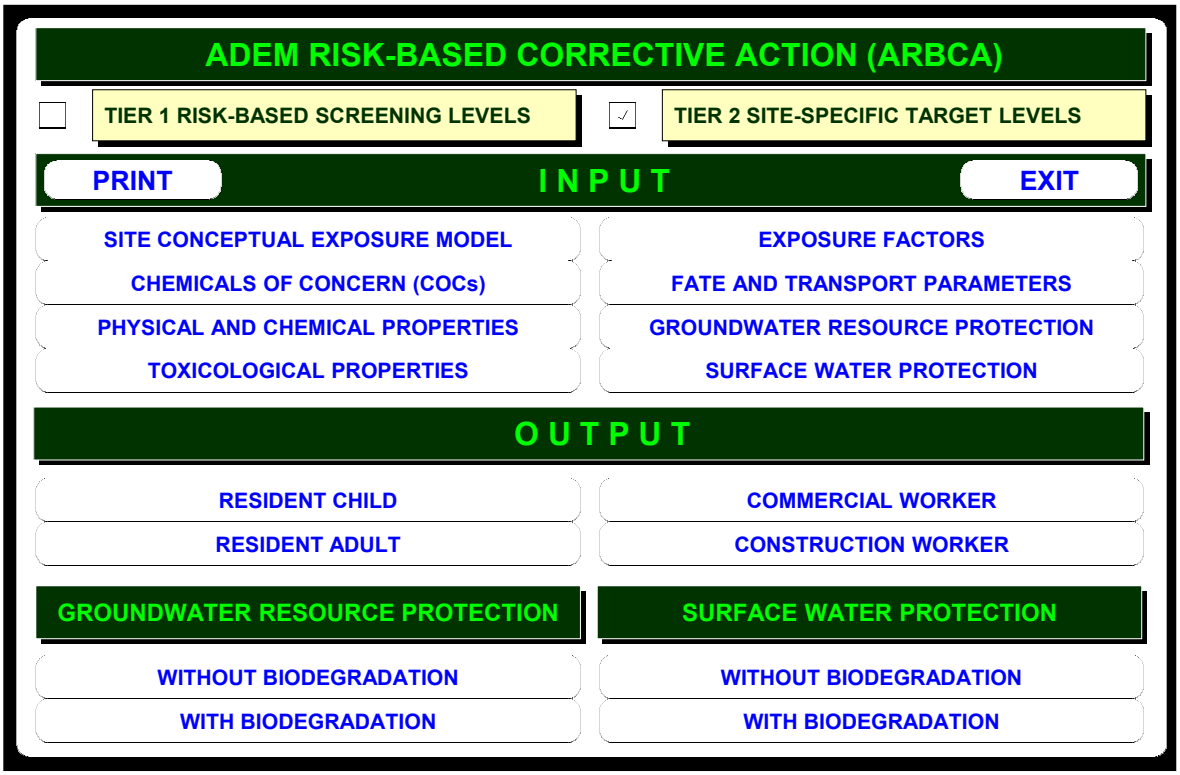
GROUNDWATER RESOURCE PROTECTION - WITHOUT BIODEGRADATION

CHEMICALS OF CONCERN	Target Groundwater Conc.at POE	Dry Leaching Factor to Groundwater (LFsw)	User Specified Unsaturated Zone DAF	Saturated Zone DAF		Allowable Soil Conc. Protective of GW at the POE	Allowable GW Conc.	
				for POC	for POE		at a POC Protective of a POE	at the Source Protective of a POE
	[mg/L]	[mg/L]/[mg/kg]	[--]	[--]	[--]	[mg/kg]	[mg/L]	[mg/L]
ORGANICS								
Benzene	5.00E-03	3.46E-02	1	1.98E+01	2.15E+02	3.10E+01	5.44E-02	1.08E+00
Toluene	1.00E+00	1.55E-02	1	1.98E+01	2.15E+02	4.70E+03 *	1.09E+01	2.15E+02
Ethylbenzene	7.00E-01	1.07E-02	1	1.98E+01	2.15E+02	2.19E+03 *	7.62E+00	1.51E+02
Xylenes (mixed)	1.00E+01	8.76E-03	1	1.98E+01	2.15E+02	2.77E+03 *	1.09E+02	1.75E+02 #
Methyl-tert-butyl-ether (MTBE)*	2.00E-02	1.68E-01	1	1.98E+01	2.15E+02	2.56E+01	2.18E-01	4.30E+00
Anthracene	--	9.36E-05	1	1.98E+01	2.15E+02	6.43E+01 *	4.34E-02 #	4.34E-02 #
Benzo(a)anthracene	--	6.14E-06	1	1.98E+01	2.15E+02	2.12E+02 *	9.40E-03 #	9.40E-03 #
Benzo(a)pyrene	--	2.27E-06	1	1.98E+01	2.15E+02	9.89E+01 *	1.62E-03 #	1.62E-03 #
Benzo(b)fluoranthene	--	1.79E-06	1	1.98E+01	2.15E+02	1.16E+02 *	1.50E-03 #	1.50E-03 #
Benzo(g,h,i)perylene	--	1.39E-06	1	1.98E+01	2.15E+02	6.97E+01 *	7.00E-04 #	7.00E-04 #
Benzo(k)fluoranthene	--	1.79E-06	1	1.98E+01	2.15E+02	6.20E+01 *	8.00E-04 #	8.00E-04 #
Chrysene	--	5.53E-06	1	1.98E+01	2.15E+02	4.01E+01 *	1.60E-03 #	1.60E-03 #
Fluoranthene	--	4.48E-05	1	1.98E+01	2.15E+02	6.37E+02 *	2.06E-01 #	2.06E-01 #
Fluorene	--	2.85E-04	1	1.98E+01	2.15E+02	9.62E+02 *	1.98E+00 #	1.98E+00 #
Naphthalene	2.00E-02	1.85E-03	1	1.98E+01	2.15E+02	2.33E+03 *	2.18E-01	4.30E+00
Phenanthrene	--	1.56E-04	1	1.98E+01	2.15E+02	8.88E+02 *	1.00E+00 #	1.00E+00 #
Pyrene	--	3.23E-05	1	1.98E+01	2.15E+02	5.78E+02 *	1.35E-01 #	1.35E-01 #
METALS								
Arsenic	--	2.16E-03	1	1.98E+01	2.15E+02	--	NA	NA
Barium	--	3.37E-03	1	1.98E+01	2.15E+02	--	NA	NA
Cadmium	--	1.85E-03	1	1.98E+01	2.15E+02	--	NA	NA
Chromium VI	--	7.27E-03	1	1.98E+01	2.15E+02	--	NA	NA
Lead	1.50E-02	1.14E-03	1	1.98E+01	2.15E+02	2.84E+03	1.63E-01	3.23E+00
Zinc	--	2.23E-03	1	1.98E+01	2.15E+02	--	NA	NA

*: Calculated concentrations exceeded saturated soil concentration and hence saturated soil concentrations are listed soil concentrations protective of groundwater.

#: Calculated concentrations exceeded pure component water solubility and hence water solubilities are listed as allowable groundwater concentrations at the POE and/or POC.
Soil concentrations are presented on a dry weight basis.

NA: Not available



ADEM Tier II Risk Assessment Program

Location:

Former J.C. Box Texaco
400 East Second Street,
Sheffield, Colbert County, Alabama
Facility ID. #11732-033-04341
UST Incident #UST21-09-05

Point of Exposure (POE):
POE = Southwest 510 feet
(distance to property boundary =10 feet and >500 feet to POE = default of 510 feet)

Source Area:
MW-3, MW-5, & SB-8A

Point of Compliance (POC):
MW-11 at 10 feet

GROUNDWATER RESOURCE PROTECTION

Parameter	Symbol	Unit	Tier 1 Values	Values Used	Source
SITE PARAMETERS:					
Distance from the Downgradient Edge of the Groundwater Source to the Point of Exposure (Xpoe)	Xpoe	ft	variable	510	Site-specific
Longitudinal Dispersivity	α_x	ft	variable	51.000	***Calculated***
Transverse Dispersivity	α_y	ft	variable	17.000	***Calculated***
Vertical Dispersivity	α_z	ft	variable	2.550	***Calculated***
Distance from the Downgradient Edge of the Groundwater Source to the Point of Compliance (Xpoc)	Xpoc	ft	variable	10	Site-specific
Longitudinal Dispersivity	α_x	ft	variable	1.000	***Calculated***
Transverse Dispersivity	α_y	ft	variable	0.333	***Calculated***
Vertical Dispersivity	α_z	ft	variable	0.050	***Calculated***

Note: The input values in red are calculated and cannot be changed.

GROUNDWATER RESOURCE PROTECTION - WITHOUT BIODEGRADATION

CHEMICALS OF CONCERN	Target Groundwater Conc.at POE	Dry Leaching Factor to Groundwater (LFsw)	User Specified Unsaturated Zone DAF	Saturated Zone DAF		Allowable Soil Conc. Protective of GW at the POE		Allowable GW Conc.			
				for POC	for POE			at a POC Protective of a POE		at the Source Protective of a POE	
	[mg/L]	[mg/L]/[mg/kg]	[--]	[--]	[--]	[mg/kg]		[mg/L]		[mg/L]	
ORGANICS											
Benzene	5.00E-03	3.46E-02	1	1.00E+00	2.15E+02	3.10E+01		1.07E+00		1.08E+00	
Toluene	1.00E+00	1.55E-02	1	1.00E+00	2.15E+02	4.70E+03	*	2.14E+02		2.15E+02	
Ethylbenzene	7.00E-01	1.07E-02	1	1.00E+00	2.15E+02	2.19E+03	*	1.50E+02		1.51E+02	
Xylenes (mixed)	1.00E+01	8.76E-03	1	1.00E+00	2.15E+02	2.77E+03	*	1.75E+02	#	1.75E+02	#
Methyl-tert-butyl-ether (MTBE)*	2.00E-02	1.68E-01	1	1.00E+00	2.15E+02	2.56E+01		4.29E+00		4.30E+00	
Anthracene	--	9.36E-05	1	1.00E+00	2.15E+02	6.43E+01	*	4.34E-02	#	4.34E-02	#
Benzo(a)anthracene	--	6.14E-06	1	1.00E+00	2.15E+02	2.12E+02	*	9.40E-03	#	9.40E-03	#
Benzo(a)pyrene	--	2.27E-06	1	1.00E+00	2.15E+02	9.89E+01	*	1.62E-03	#	1.62E-03	#
Benzo(b)fluoranthene	--	1.79E-06	1	1.00E+00	2.15E+02	1.16E+02	*	1.50E-03	#	1.50E-03	#
Benzo(g,h,i)perylene	--	1.39E-06	1	1.00E+00	2.15E+02	6.97E+01	*	7.00E-04	#	7.00E-04	#
Benzo(k)fluoranthene	--	1.79E-06	1	1.00E+00	2.15E+02	6.20E+01	*	8.00E-04	#	8.00E-04	#
Chrysene	--	5.53E-06	1	1.00E+00	2.15E+02	4.01E+01	*	1.60E-03	#	1.60E-03	#
Fluoranthene	--	4.48E-05	1	1.00E+00	2.15E+02	6.37E+02	*	2.06E-01	#	2.06E-01	#
Fluorene	--	2.85E-04	1	1.00E+00	2.15E+02	9.62E+02	*	1.98E+00	#	1.98E+00	#
Naphthalene	2.00E-02	1.85E-03	1	1.00E+00	2.15E+02	2.33E+03	*	4.29E+00		4.30E+00	
Phenanthrene	--	1.56E-04	1	1.00E+00	2.15E+02	8.88E+02	*	1.00E+00	#	1.00E+00	#
Pyrene	--	3.23E-05	1	1.00E+00	2.15E+02	5.78E+02	*	1.35E-01	#	1.35E-01	#
METALS											
Arsenic	--	2.16E-03	1	1.00E+00	2.15E+02	--		NA		NA	
Barium	--	3.37E-03	1	1.00E+00	2.15E+02	--		NA		NA	
Cadmium	--	1.85E-03	1	1.00E+00	2.15E+02	--		NA		NA	
Chromium VI	--	7.27E-03	1	1.00E+00	2.15E+02	--		NA		NA	
Lead	1.50E-02	1.14E-03	1	1.00E+00	2.15E+02	2.84E+03		3.22E+00		3.23E+00	
Zinc	--	2.23E-03	1	1.00E+00	2.15E+02	--		NA		NA	

*: Calculated concentrations exceeded saturated soil concentration and hence saturated soil concentrations are listed soil concentrations protective of groundwater.

#: Calculated concentrations exceeded pure component water solubility and hence water solubilities are listed as allowable groundwater concentrations at the POE and/or POC.
Soil concentrations are presented on a dry weight basis.

NA: Not available