PRATTMONT LIBERTY

CORRECTIVE ACTION PLAN
ATTF CP-10

Received by RHM 12/17/2020

Prattmont Liberty
1407 South Memorial Drive
Prattville, Autauga Co., AL
Fac ID 14932-001-013870
UST 18-08-04

PREPARED FOR
Tom Jones, Inc.
P.O. Box 1806
Montgomery, AL 36103

DATE
December 18, 2020

PREPARED BY
CDG Engineers & Associates, Inc.
3 Riverchase Ridge
Hoover, AL 35244

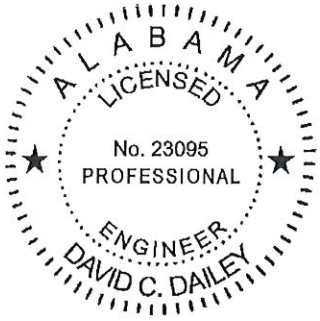
CERTIFICATION PAGE

"I hereby certify that, in my professional judgment, the components of this document and associated work satisfy the applicable requirements set forth in Chapter 335-6 of the ADEM Administrative Code and are consistent with generally accepted professional consulting principles and practices. The information submitted herein, to the best of my knowledge and belief, is true accurate, and complete. I am aware that there are significant penalties for submitting false information."

This document has been prepared based on historical site assessment data and has been prepared to address soil and groundwater contamination at the Prattmont Liberty site (Facility Identification Number 14932-001-013870) in Prattville, Autauga County, Alabama. The recommended action should not be construed to apply to any other site.

Signature
David C. Dailey
Registered Engineer in the State of Alabama
Registration No. 23095

12/16/2020
Date



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UST RELEASE FACT SHEET

GENERAL INFORMATION:

SITE NAME: Prattmont Liberty

ADDRESS: 1407 S. Memorial Dr. Prattville, Alabama

FACILITY I.D. NO.: 14932-001-013870

UST INCIDENT NO.: UST18-08-04

RESULTS OF EXPOSURE ASSESSMENT:

How many private drinking water wells are located within 1,000 ft. of site?	None
How many public water supply wells are located within 1 mile of the site?	None
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

CONTAMINATION DESCRIPTION:

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

Free product present in wells? {X} Yes { } No Maximum thickness measured: 4.5 ft MW-12 3/18/20

Maximum BTEX concentrations measured in soil: 105.964 mg/kg MW-12 45-50' 10/1/19

Maximum BTEX concentrations measured in groundwater: 77.940 mg/L in MW-5 4/26/19

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:	Prattmont Liberty
SITE ADDRESS:	1407 South Memorial Drive
	Prattville, Autauga County, Alabama
FACILITY I.D. NO.:	14932-001-013870
UST INCIDENT NO.:	UST18-08-04
OWNER NAME:	Tom Jones, Inc.
OWNER ADDRESS:	P. O. Box 1806
	Montgomery, AL 36103
NAME & ADDRESS OF PERSON COMPLETING THIS FORM:	Alecia Hamilton
	CDG Engineers & Associates, Inc.
	3 Riverchase Ridge
	Birmingham, AL 35244

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, storm water 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:

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:	C.2

1.0 SITE LOCATION AND HISTORY

The following Corrective Action Plan (CAP) details the activities which will be undertaken to address the effective remediation of soil and groundwater impacts resulting from a historical release of petroleum product at the Prattmont Liberty facility (Facility ID # 14932-001-013870). Based upon the analytical results of a Phase II Environmental Site Assessment (ESA) conducted at the site, the Alabama Department of Environmental Management (ADEM) issued a Notice of Requirement (NOR) to conduct investigative and corrective actions in a letter dated August 29, 2018. The site is eligible for Alabama Tank Trust Fund (ATTF) reimbursement.

The Prattmont Liberty facility is located at 1407 South Memorial Drive, Prattville, Autauga County, Alabama (Figure 1). Specifically, the site is located at 32° 26' 12.22" North latitude and 86° 25' 23.08" West longitude.

The subject site currently serves as an active service station. The UST system consists of three 8,000-gallon unleaded gasoline tanks and one 10,000 -gallon diesel tank. Gasoline fueling dispensers are located beneath the canopy and one diesel fueling dispenser is located to the south of the gasoline UST tank hold.

The site is bordered to the north and east by open fields, to the west and south by South Memorial Drive and residential housing (Appendix B). A Site Vicinity Map is included Figure 2.

Storm water in the area is conveyed by drainage ditches. Utility service in the general vicinity of the site includes overhead electric and telephone lines, buried fiber optic, telephone cable, water, and gas lines. Fiber optic, water, and sanitary sewer lines are located on the southern property boundary. Buried lines are located approximately 3 - 8 ft-bls. The depth to

groundwater at the site indicates buried utilities will not be directly affected by the contamination in this area.

Public drinking water in the study site area is provided by Prattville Water Works and electric service is provided by Alabama Power Company. The City of Prattville obtains water from wells within the Eutaw Aquifer, however water is also purchased from another source to account for the low yield of the aquifer. No public water supply wells are present within one mile of the site and no private water wells are present within 1,000 feet of the site.

2.0 SUMMARY OF PREVIOUS SITE INVESTIGATIONS

In July 2018, a Limited Phase II ESA was conducted by CDG at the site. Laboratory analysis indicated concentrations of Chemicals of Concern (COC) that were above the ADEM Initial Screening Levels (ISLs), thus resulting in a reportable release.

Based upon the results of the Phase II Site Assessment, ADEM issued a Notification of Requirement to Conduct Investigative and Corrective Actions (NOR) at the site in correspondence dated August 29, 2018. The NOR was issued in conjunction with pre-approved cost proposal CP-1 for Preliminary Investigative Activities and Secondary Plan Development and a Notice of Tank Trust Fund Eligibility.

CDG was contracted by Tom Jones, Inc. to perform UST contractor services for this release. CDG mobilized to the site on September 10, 2018 to initiate field activities for the Preliminary Investigation.

A total of eight soil samples were selected from borings SB-1 through SB-4 for analysis of benzene, toluene, ethyl-benzene, and xylenes (BTEX), methyl tertiary butyl ether (MTBE), and

naphthalene in accordance with EPA Method 8260B. One of the eight soil samples contained a concentration of MTBE above the ADEM Initial Screening Levels (ISLs). No other concentrations present in any of the soil samples were above the respective ISLs.

Groundwater samples were collected from each of the newly installed monitoring wells on October 16, 2018 and were analyzed for BTEX, MTBE, and naphthalene constituents in accordance with EPA Method 8260B. Dissolved hydrocarbon concentrations were detected in each of the four samples. The ISL for benzene exceeded in the samples collected from MW-1, MW-3, and MW-4. The ISLs for toluene and naphthalene were also exceeded in the sample collected from MW-1. Free product was not detected in any of the monitoring wells during the Preliminary Investigation.

Six soil borings (MW-5 though MW-9, and VW-1), which were converted into monitoring wells, were installed at the site on April 10-12, 2019. The total depth of the borings ranged from approximately forty-five feet below land surface (ft-bls) to approximately seventy-five ft-bls. Soil samples were selected from each of the borings (MW-5 though MW-9, and VW-1) and were sent for analysis of the BTEX, MTBE, and naphthalene in accordance with EPA Method 8260B. One of the samples contained a concentration of naphthalene in exceedance of ADEM's ISLs.

Each boring was converted into a monitoring well (MW-5 through MW-9, and VW-1). The direction of groundwater flow during this investigation was generally to the east with a lateral hydraulic gradient of approximately 0.037 feet per foot according to measurements collected from MW-1 and MW-8.

Groundwater samples were collected from each of the newly installed monitoring wells on April 26, 2019 and were analyzed for COC constituents BTEX, MTBE, and naphthalene in accordance

with EPA Method 8260B. Seven of the groundwater samples collected for analysis contained concentrations in excess of their respective ISLs.

In September and October 2019, five additional Type II monitoring wells, MW-10 through MW-14, were installed at the site as part of additional well installation activities.

Figure 5 shows the distribution of the hydrocarbons in soil samples collected during the Preliminary and Secondary Investigations. As the figure illustrates, the lateral extent of hydrocarbons in the soil appears to be limited to the Prattmont Liberty property.

3.0 SUMMARY OF PREVIOUSLY CONDUCTED CORRECTIVE ACTION

A total of nine 24-hour Mobile Enhanced Multi-phase Extraction (MEME) events have been conducted at the site. During the nine MEME events, a total of approximately 1,617 pounds of hydrocarbons (263 equivalent gallons of gasoline) have been recovered. Additionally, approximately 28,150 gallons of petroleum contacted water (PCW) has been recovered.

4.0 REMEDIAL OBJECTIVES AND EXPOSURE ASSESSMENT

4.1 General Remedial Objectives

- The general objectives of this corrective action plan and the remedial efforts for the facility are as follows:
- Ensure that the health and safety of all project personnel is maintained during remediation activities.
- Prevent hydrocarbon migration to sensitive receptors.
- Remove free product from the site subsurface, if present.

- Reduce adsorbed phase petroleum hydrocarbons from soils within the vadose and saturated zone, primarily in the source area, to below approved Site-Specific Target Levels (SSTLs).
- Reduce dissolved petroleum hydrocarbons from groundwater to below approved SSTLs.
- Accomplish these objectives within the proposed period of operation.

4.2 Exposure Assessment

An exposure assessment was conducted by CDG during the Alabama Risk Based Corrective Action (ARBCA) evaluation. The current and future land use site conceptual exposure model indicates that complete exposure pathways exist onsite for indoor and outdoor vapor inhalation from soil and groundwater for commercial workers and construction workers and for dermal contact with affected soil by commercial workers and construction workers. Complete exposure pathways also exist for dermal contact and indoor and outdoor vapor inhalation from impacted soil and groundwater for offsite residents, commercial workers, and construction workers. Future land use of the site is expected to remain commercial. No domestic water wells have been identified within 1,000 feet of the site. There are no public water supply wells located within one-mile feet of the site.

4.3 Specific Remedial Objectives

As part of the ARBCA Tier II evaluation process, SSTLs were calculated for the various media (soil and groundwater) at the site based upon the site exposure assessment. The ARBCA was completed in June 2020. The SSTLs generated in the ARBCA evaluation were accepted by ADEM as petroleum hydrocarbon levels that would not pose a significant risk to any recognized actual or potential receptors. A summary of the approved Tier II SSTLs is presented in Appendix A and in the Monitoring Point Data Summary Table.

5.0 RECENT MONITORING ACTIVITIES, RESULTS, AND COMPARISONS TO SSTLS

CDG has prepared the following CAP that will address both soil and groundwater contamination at the site. As part of CAP development, current representative concentrations for the chemicals of concern (COC) are needed in the evaluation and design of a plan to effectively treat and reduce contaminants. The site has had multiple approved groundwater monitoring events conducted. The most recent groundwater monitoring event was completed on September 8, 2020. The following details the activities and results of the September 8, 2020 groundwater monitoring event.

5.1 Groundwater Monitoring Activities

Personnel from CDG mobilized to the site on September 8, 2020 to collect groundwater samples for Chemicals of Concern (COC), which include BTEX, methyl-tertiary-butyl-ether (MTBE), and naphthalene analysis. Upon arriving at the site, the technician removed the well caps from the fifteen monitoring wells and the water levels in the wells were allowed to stabilize. Potentiometric levels were then measured with an electronic water level indicator and recorded on the groundwater sampling log. Based on the results from the September 8, 2020 groundwater monitoring event, the groundwater flow direction beneath the site is to the southeast. After all measurements were completed, fourteen monitoring wells sampled were properly purged in preparation for groundwater sampling activities. Monitoring well MW-12 was not sampled due to the presence of free product. Approximately 47 gallons of purge water was removed from the wells and treated using a portable carbon unit prior to being released on-site. A sample of the treated water was collected for BTEX/MTBE/Naphthalene analysis to verify that the carbon did not have breakthrough.

Groundwater samples were collected from fourteen monitoring wells for BTEX/MTBE/Naphthalene using new, disposable bailers and transferred to 40 mL glass VOA vials preserved with HCl. The samples were placed on ice and transported under chain of custody to Waypoint Analytical in Memphis, Tennessee where they were analyzed by EPA Method 8260B for the presence of BTEX/MTBE/Naphthalene constituents.

5.2 Laboratory Analytical Results

The BTEX/MTBE/Naphthalene analyses for this event indicate that COC concentrations were present at the site at levels exceeding the approved Groundwater Resource Protection (GRP) Site Specific Target Levels (SSTLs). The concentrations present above the approved SSTLs are as follows:

	Chemical of Concern	GRP SSTLs	Indoor Inhalation SSTLs	Concentration
MW-5	Benzene	**0.472 mg/L**	79.4 mg/L	**2.26 mg/L**

All other BTEX constituent, MTBE, and naphthalene concentrations were below the ARBCA Tier II SSTLs generated for each of the source wells and POCs. Historical groundwater analytical results are presented in the Monitoring Point Data Summary Tables.

5.3 Conclusions

Soil/ Groundwater Contamination and Site Conditions

Based on the exposure assessment that onsite commercial and construction workers, current soil and groundwater concentrations were compared to the approved SSTLs determined in the ARBCA evaluation.

Groundwater samples collected in September 2020 and previous events indicate that a petroleum hydrocarbon plume most likely originated in the area around the USTs. Based upon the September 2020 sampling event, the benzene concentration in monitoring well MW-5 exceeded the approved GRP SSTLs. A free product thickness of 0.33 feet was measured in monitoring well MW-12.

6.0 REMEDIATION RATIONALE AND APPROACH

A comparison of the groundwater data indicates that the current and historical dissolved hydrocarbon concentrations in multiple monitoring wells are above the GRP SSTLs. The dissolved hydrocarbon concentrations have remained relatively stable over time. Considering all of the factors, it is evident that aggressive remediation of the groundwater or soil at the site is not warranted.

In order to accelerate the reduction of dissolved hydrocarbon concentrations, the application of MEME in conjunction with air sparging (AS) technology has been selected as the recommended remediation method based on data collected during previous site characterization studies. Because the COC concentrations observed do not warrant aggressive remediation of the groundwater or soil, RNA in conjunction with monthly MEME/AS events would be an effective means of achieving the site-specific cleanup goals.

Natural attenuation is the process by which dilution, volatilization, biodegradation, adsorption, and chemical reactivity are allowed to reduce contaminant concentrations to acceptable levels. As a general rule, decreasing trends indicate these natural attenuation processes are occurring and will likely continue to reduce the contaminant concentrations to below acceptable levels, when used in conjunction with MEME/AS events. If COC concentrations increase based on future monitoring results, the CAP approach should be re-evaluated.

7.0 REMEDIATION RECOMMENDATION PLAN

To address the existing levels of groundwater contamination at the site, the following approach is recommended:

Recovery Well Installation

To provide an effective capture zone within the source area on the site CDG recommends that three 4-inch diameter recovery wells be installed at the site. The total depth of the proposed recovery wells is 58 feet, and the recovery wells would contain approximately 15 feet of 0.020-inch slotted well screen.

Air Sparge Point Installation

A network consisting of six 1-inch diameter air sparge points is proposed for the site. The air sparge points will be installed to an approximate depth of 68 feet, and will contain approximately 5 feet of 0.020-inch slotted screen.

MEME/AS Events

Following the installation of the onsite recovery and air sparge wells, CDG recommends that monthly 24-hour duration MEME/AS events be conducted at the site in order to reduce dissolved hydrocarbon concentrations in the source area. Each 24-hour MEME/AS event will be conducted using a mobile system operated by Brown Remediation, pending availability. The primary objective will be to maximize vapor recovery and PCW removal, utilizing total fluids extraction from the proposed recovery wells.

Natural Attenuation

Once per quarter, groundwater samples will be collected quarterly from all monitoring and recovery wells. The groundwater samples will be collected from the monitoring and recovery

wells using new clean plastic bailers and transferred to 40 milliliter (mL) glass volatile organic analysis (VOA) vials preserved with hydrochloric acid (HCl) for BTEX, MTBE, and naphthalene analysis using EPA Method 8260B. During each groundwater sampling event, all monitoring wells will also be sampled for natural attenuation parameters (DO, pH, and ORP). The natural attenuation parameters will provide information concerning the recovery of the shallow aquifer down gradient of the release area.

8.0 PROPOSED REPORTING REQUIREMENTS

CDG will submit reports in accordance with ADEM requirements. These reports will include the following:

Reporting of Natural Attenuation Effectiveness - CDG proposes to submit quarterly NAMR reports, which will summarize field activities and the progress of site groundwater constituent concentrations towards achieving approved corrective action levels. The following data will be included in each report: field activities performed, groundwater elevations, groundwater analytical results as compared to target levels, MEME/AS event results, potentiometric surface maps, and BTEX and MTBE constituent concentration maps. The reports will also include remediation effectiveness and recommendations concerning additional measures deemed necessary.

Request for Closure Evaluation of Corrective Action - This report will include data that shows that remediation goals have been achieved and request a status of NFA. Methods for abandonment of monitoring and recovery wells will be described.

Site Closure Report - This report will describe in detail the closure of the site and removal of all monitoring wells.

9.0 SCHEDULE OF IMPLEMENTATION

It is anticipated that the proposed CAP will begin with the first groundwater monitoring and MEME/AS event following the approval of the CAP. The following schedule indicates the timetable for major project events to be completed as part of this corrective action plan:

Time Following Cap Approval (months)	Project Event	Project Event Length
0 – 24	Monthly groundwater monitoring and MEME/AS events, evaluation of performance, recommendations for further corrective action if required	2 Years
25	Well abandonment; completion and submittal of final report if allowable by ADEM	2 Months

10.0 PROPOSED MEME/AS AND GROUNDWATER MONITORING ACTIVITIES

Following the approval of the CAP and UIC permit, monthly 24-hour duration MEME/AS events will be conducted at the site in order to reduce dissolved hydrocarbon concentrations on the northeast portion of the property. During the events, atmospheric air will be injected into each of the proposed sparge points, while groundwater and soil vapor is extracted from designated recovery wells. The MEME events will be conducted using a mobile liquid ring Multi-Phase Extraction (MPE) system operated by Brown Remediation, Inc or equivalent. The MEME system has been approved by ADEM for use at numerous locations in Alabama for free product recovery, emergency response, and pilot testing activities. The unit operates with continuously monitored off-gas treatment (thermal destruction). The AS events will be conducted by CDG Engineers and Associates, Inc. simultaneously with the MEME events.

Prior to the event, static water levels in all site wells will be recorded. Applied vacuum in the extraction well and casing vacuums in the observation wells will be recorded periodically during testing (except when the unit is not attended). Water level and vacuum measurements, to determine the radius of influence, will be obtained periodically from observation wells. Measurements of flow and hydrocarbon concentrations will also be obtained periodically during the test. Field measurements will be obtained using a calibrated Flame Ionization Detector (FID) instrument. Hydrocarbon removal rates will be calculated and plotted.

Air will be injected into the AS points simultaneously. The AS points will be equipped with wellhead pressure gauges, flowmeters, and control valves. The air supply system will consist of an air filter, air compressor, and pressure vessel. The air compressor should be capable of providing at least 20 cfm at pressures up to 10 to 15 pounds per square inch (gauge) (psig) above the calculated hydrostatic pressure.

Once per quarter, groundwater samples will be collected from all monitoring and recovery wells. The groundwater samples will be collected from the monitoring and recovery wells using new clean plastic bailers and transferred to 40 milliliter (mL) glass volatile organic analysis (VOA) vials preserved with hydrochloric acid (HCl) for BTEX, MTBE, and naphthalene analysis in accordance with EPA Method 8260B. During each groundwater sampling event, all monitoring wells will also be sampled for natural attenuation parameters (DO, pH, and ORP). The natural attenuation parameters will provide information concerning the recovery of the shallow aquifer down gradient of the release area.

The results of the proposed activities will be submitted to ADEM in the form of an RNA/MEME/AS Report. The report will include conclusions regarding the effectiveness of the recovery activities performed and recommendations for future site activities.

As part of the CAP development activities, CDG has submitted an Underground Injection Control (UIC) permit that will authorize the proposed air sparging activities. Following approval of the CAP, CDG will submit cost proposals for the well installation and RNA/MEME/AS events.

Engineering. Environmental. Answers.

Tables

Monitoring Point Data Summary Table

SITE NAME:	Prattmont Liberty			UST NUMBER:	18-08-04	WELL ID:	**MW-1**		
INSTALLATION DATE:	10/02/18	WELL DEPTH (FT BTOC):	50.0	SCREEN LENGTH (FT):	10	CASING ELEV (FT ABOVE MSL):	272.94	WELL TYPE: DIAMETER (IN):	II 2

Notes: BTOC (Below Top of Casing); MSL (Mean Sea Level); BDL (Below Detection Limit); CA (Corrective Action)

POTENTIOMETRIC ELEVATION SUMMARY

MEASUREMENT DATE	DEPTH TO WATER (FT BTOC)	ELEVATION (FT ABOVE MSL)	FREE PRODUCT THICKNESS (FT)	PCW GALLONS REMOVED
10/16/18	44.49	228.45	-	2.4
04/26/19	42.67	230.27	-	3.3
10/17/19	44.95	227.99	-	2.2
12/13/19	45.75	227.19	-	2.0
03/18/20	42.25	230.69	-	3.0
06/24/20	42.85	230.09	-	3.0
09/08/20	44.04	228.90	-	2.0

INTRINSIC GROUNDWATER DATA SUMMARY

SAMPLE DATE	DISSOLVED OXYGEN (mg/L)	pH	REDOX POTENTIAL (mV)
10/16/18	-	-	-
04/26/19	-	-	-
10/17/19	-	-	-
12/13/19	0.95	6.86	-71.6
03/18/20	1.35	5.56	61.6
06/24/20	0.66	4.69	153.3
09/08/20	2.85	5.27	151.1

Monitoring Point Data Summary Table

SITE NAME:	Prattmont Liberty			UST NUMBER:	18-08-04	WELL ID:	**MW-1**	
INSTALLATION DATE:	10/02/18	WELL DEPTH (FT BTOC):	50.0	SCREEN LENGTH (FT):	10	CASING ELEV (FT ABOVE MSL):	272.94	WELL TYPE: II DIAMETER (IN): 2

Notes: BTOC (Below Top of Casing); MSL (Mean Sea Level); BDL (Below Detection Limit); CA (Corrective Action)

GROUNDWATER ANALYTICAL SUMMARY (mg/L)

SAMPLE DATE	MTBE	BENZENE	TOLUENE	ETHYLBENZENE	TOTAL XYLENES	TOTAL BTEX	NAPHTHALENE
10/16/18	0.0158	0.5159	1.4700	0.3739	2.0536	4.4134	0.1146
04/26/19	0.055	**1.630**	1.330	0.755	3.090	6.805	0.090
10/17/19	0.019	0.003	<0.005	<0.001	0.430	0.433	0.023
12/13/19	<0.001	<0.001	<0.005	<0.001	<0.001	BDL	<0.005
03/18/20	<0.010	0.385	0.910	0.114	1.03	2.439	<0.050
06/24/20	0.073	**2.06**	9.43	1.79	11.9	25.2	0.568
09/08/20	0.007	0.045	0.032	<0.001	0.959	1.036	0.051
GRP SSTLs:	**2.37**	**0.593**	**119**	**83**	**175**	**-**	**2.37**
Inhalation SSTLs:	**3910**	**79.4**	**526**	**169**	**175**	**-**	**31**

Monitoring Point Data Summary Table

SITE NAME:	Prattmont Liberty			UST NUMBER:	18-08-04	WELL ID:	**MW-2**		
INSTALLATION DATE:	10/03/18	WELL DEPTH (FT BTOC):	50.0	SCREEN LENGTH (FT):	15	CASING ELEV (FT ABOVE MSL):	272.62	WELL TYPE: DIAMETER (IN):	II 2

Notes: BTOC (Below Top of Casing); MSL (Mean Sea Level); BDL (Below Detection Limit); CA (Corrective Action)

POTENTIOMETRIC ELEVATION SUMMARY

MEASUREMENT DATE	DEPTH TO WATER (FT BTOC)	ELEVATION (FT ABOVE MSL)	FREE PRODUCT THICKNESS (FT)	PCW GALLONS REMOVED
10/16/18	42.68	229.94	-	3.4
04/26/19	40.70	231.92	-	4.4
10/17/19	43.03	229.59	-	3.3
12/13/19	45.64	226.98	-	2.0
03/18/20	39.73	232.89	-	4.5
06/24/20	39.80	232.82	-	4.5
09/08/20	41.74	230.88	-	3.0

INTRINSIC GROUNDWATER DATA SUMMARY

SAMPLE DATE	DISSOLVED OXYGEN (mg/L)	pH	REDOX POTENTIAL (mV)
10/16/18	-	-	-
04/26/19	-	-	-
10/17/19	-	-	-
12/13/19	0.63	7.12	-98.4
03/18/20	1.53	6.00	60.1
06/24/20	0.77	5.03	159.8
09/08/20	2.05	5.89	127.3

Monitoring Point Data Summary Table

SITE NAME:	Prattmont Liberty			UST NUMBER:	18-08-04	WELL ID:	**MW-2**	
INSTALLATION DATE:	10/03/18	WELL DEPTH (FT BTOC):	50.0	SCREEN LENGTH (FT):	15	CASING ELEV (FT ABOVE MSL):	272.62	WELL TYPE: II DIAMETER (IN): 2

Notes: BTOC (Below Top of Casing); MSL (Mean Sea Level); BDL (Below Detection Limit); CA (Corrective Action)

GROUNDWATER ANALYTICAL SUMMARY (mg/L)

SAMPLE DATE	MTBE	BENZENE	TOLUENE	ETHYLBENZENE	TOTAL XYLENES	TOTAL BTEX	NAPHTHALENE
10/16/18	<0.0010	<0.0010	0.0014	0.0118	0.1002	0.1134	0.0078
04/26/19	0.008	0.294	0.018	0.100	0.518	0.930	0.306
10/17/19	0.002	0.001	<0.005	<0.001	0.003	0.004	<0.005
12/13/19	0.001	0.025	<0.005	0.003	0.018	0.046	<0.005
03/18/20	0.004	0.103	0.005	0.071	0.134	0.313	0.044
06/24/20	0.002	0.042	<0.002	0.007	0.143	0.192	0.081
09/08/20	0.001	<0.001	<0.002	<0.001	0.013	0.013	<0.005
GRP SSTLs:	**2.37**	**0.593**	**119**	**83**	**175**	**-**	**2.37**
Inhalation SSTLs:	**3910**	**79.4**	**526**	**169**	**175**	**-**	**31**

Monitoring Point Data Summary Table

SITE NAME:	Prattmont Liberty			UST NUMBER:	18-08-04	WELL ID:	**MW-3**		
INSTALLATION DATE:	10/03/18	WELL DEPTH (FT BTOC):	50.0	SCREEN LENGTH (FT):	10	CASING ELEV (FT ABOVE MSL):	273.32	WELL TYPE: DIAMETER (IN):	II 2

Notes: BTOC (Below Top of Casing); MSL (Mean Sea Level); BDL (Below Detection Limit); CA (Corrective Action)

POTENTIOMETRIC ELEVATION SUMMARY

MEASUREMENT DATE	DEPTH TO WATER (FT BTOC)	ELEVATION (FT ABOVE MSL)	FREE PRODUCT THICKNESS (FT)	PCW GALLONS REMOVED
10/16/18	41.25	232.07	-	4.1
04/26/19	39.88	233.44	-	4.7
10/17/19	41.61	231.71	-	3.9
12/13/19	42.22	231.10	-	4.0
03/18/20	37.97	235.35	-	5.5
06/24/20	39.25	234.07	-	5.0
09/08/20	40.56	232.76	-	4.0

INTRINSIC GROUNDWATER DATA SUMMARY

SAMPLE DATE	DISSOLVED OXYGEN (mg/L)	pH	REDOX POTENTIAL (mV)
10/16/18	-	-	-
04/26/19	-	-	-
10/17/19	-	-	-
12/13/19	1.03	7.06	-13.3
03/18/20	5.24	5.53	166.0
06/24/20	2.46	5.81	152.7
09/08/20	1.92	6.15	155.0

Monitoring Point Data Summary Table

SITE NAME:	Prattmont Liberty			UST NUMBER:	18-08-04	WELL ID:	**MW-3**	
INSTALLATION DATE:	10/03/18	WELL DEPTH (FT BTOC):	50.0	SCREEN LENGTH (FT):	10	CASING ELEV (FT ABOVE MSL):	273.32	WELL TYPE: II DIAMETER (IN): 2

Notes: BTOC (Below Top of Casing); MSL (Mean Sea Level); BDL (Below Detection Limit); CA (Corrective Action)

GROUNDWATER ANALYTICAL SUMMARY (mg/L)							
SAMPLE DATE	MTBE	BENZENE	TOLUENE	ETHYLBENZENE	TOTAL XYLENES	TOTAL BTEX	NAPHTHALENE
10/16/18	0.0112	0.2950	0.4822	0.1451	0.6654	1.5877	0.0121
04/26/19	<0.001	0.005	0.016	0.003	0.118	0.142	0.020
10/17/19	0.170	**2.27**	1.86	0.344	1.44	5.91	<0.050
12/13/19	0.079	**1.07**	1.01	0.300	1.46	3.84	<0.050
03/18/20	<0.001	<0.001	<0.005	<0.001	0.002	0.002	<0.005
06/24/20	<0.001	<0.001	<0.002	<0.001	<0.001	BDL	<0.005
09/08/20	0.012	0.294	0.182	0.091	0.395	0.962	<0.005
GRP SSTLs:	**2.37**	**0.593**	**119**	**83**	**175**	**-**	**2.37**
Inhalation SSTLs:	**3910**	**79.4**	**526**	**169**	**175**	**-**	**31**

Monitoring Point Data Summary Table

SITE NAME:	Prattmont Liberty			UST NUMBER:	18-08-04	WELL ID:	**MW-4**		
INSTALLATION DATE:	10/03/18	WELL DEPTH (FT BTOC):	45.0	SCREEN LENGTH (FT):	10	CASING ELEV (FT ABOVE MSL):	273.40	WELL TYPE: DIAMETER (IN):	II 2

Notes: BTOC (Below Top of Casing); MSL (Mean Sea Level); BDL (Below Detection Limit); CA (Corrective Action)

POTENTIOMETRIC ELEVATION SUMMARY

MEASUREMENT DATE	DEPTH TO WATER (FT BTOC)	ELEVATION (FT ABOVE MSL)	FREE PRODUCT THICKNESS (FT)	PCW GALLONS REMOVED
10/16/18	39.58	233.82	-	2.5
10/17/19	40.98	232.42	-	1.8
03/18/20	37.05	236.35	-	3.5
06/24/20	38.70	234.70	-	2.5
09/08/20	39.98	233.42	-	2.0

INTRINSIC GROUNDWATER DATA SUMMARY

SAMPLE DATE	DISSOLVED OXYGEN (mg/L)	pH	REDOX POTENTIAL (mV)
10/16/18	-	-	-
10/17/19	-	-	-
03/18/20	1.97	5.95	104.4
06/24/20	1.05	5.36	150.6
09/08/20	2.01	5.61	175.9

Monitoring Point Data Summary Table

SITE NAME:	Prattmont Liberty			UST NUMBER:	18-08-04	WELL ID:	**MW-4**	
INSTALLATION DATE:	10/03/18	WELL DEPTH (FT BTOC):	45.0	SCREEN LENGTH (FT):	10	CASING ELEV (FT ABOVE MSL):	273.40	WELL TYPE: II DIAMETER (IN): 2

Notes: BTOC (Below Top of Casing); MSL (Mean Sea Level); BDL (Below Detection Limit); CA (Corrective Action)

GROUNDWATER ANALYTICAL SUMMARY (mg/L)

SAMPLE DATE	MTBE	BENZENE	TOLUENE	ETHYLBENZENE	TOTAL XYLENES	TOTAL BTEX	NAPHTHALENE
10/16/18	<0.0010	0.0083	<0.0010	0.0023	0.0042	0.0148	<0.0010
04/26/19	NOT SAMPLED						
10/17/19	<0.001	0.005	<0.005	<0.001	0.001	0.006	<0.005
12/13/19	NOT SAMPLED						
03/18/20	0.001	0.033	<0.005	0.001	0.004	0.038	<0.005
06/24/20	0.002	0.012	<0.002	<0.001	0.005	0.017	<0.005
09/08/20	<0.001	<0.001	<0.002	<0.001	<0.001	BDL	<0.005
GRP SSTLs:	**2.14**	**0.535**	**107**	**74.9**	**175**	**-**	**2.14**
Inhalation SSTLs:	**3910**	**79.4**	**526**	**169**	**175**	**-**	**31**

Monitoring Point Data Summary Table

SITE NAME:	Prattmont Liberty			UST NUMBER:	18-08-04	WELL ID:	**MW-5**		
INSTALLATION DATE:	04/10/19	WELL DEPTH (FT BTOC):	56.5	SCREEN LENGTH (FT):	15	CASING ELEV (FT ABOVE MSL):	273.40	WELL TYPE: DIAMETER (IN):	II 2

Notes: BTOC (Below Top of Casing); MSL (Mean Sea Level); BDL (Below Detection Limit); CA (Corrective Action)

POTENTIOMETRIC ELEVATION SUMMARY

MEASUREMENT DATE	DEPTH TO WATER (FT BTOC)	ELEVATION (FT ABOVE MSL)	FREE PRODUCT THICKNESS (FT)	PCW GALLONS REMOVED
04/26/19	47.49	225.91	-	4.1
10/17/19	47.78	225.62	-	4.0
12/13/19	49.70	223.70	-	3.0
03/18/20	45.85	227.55	-	4.5
06/24/20	53.24	220.16	-	1.0
09/08/20	55.25	218.15	-	0.5

INTRINSIC GROUNDWATER DATA SUMMARY

SAMPLE DATE	DISSOLVED OXYGEN (mg/L)	pH	REDOX POTENTIAL (mV)
04/26/19	-	-	-
10/17/19	-	-	-
12/13/19	1.23	6.68	38.4
03/18/20	1.69	6.80	28.0
06/24/20	0.50	5.60	118.4
09/08/20	1.54	5.69	97.5

Monitoring Point Data Summary Table

SITE NAME:	Prattmont Liberty			UST NUMBER:	18-08-04	WELL ID:	**MW-5**	
INSTALLATION DATE:	04/10/19	WELL DEPTH (FT BTOC):	56.5	SCREEN LENGTH (FT):	15	CASING ELEV (FT ABOVE MSL):	273.40	WELL TYPE: II DIAMETER (IN): 2

Notes: BTOC (Below Top of Casing); MSL (Mean Sea Level); BDL (Below Detection Limit); CA (Corrective Action)

GROUNDWATER ANALYTICAL SUMMARY (mg/L)

SAMPLE DATE	MTBE	BENZENE	TOLUENE	ETHYLBENZENE	TOTAL XYLENES	TOTAL BTEX	NAPHTHALENE
04/26/19	0.100	**8.280**	38.000	5.360	26.300	77.940	0.782
10/17/19	0.070	**4.68**	28.5	3.59	14.5	51.270	0.581
12/13/19	0.060	**3.64**	20.5	2.79	13.6	40.5	0.679
03/18/20	<1.00	**6.71**	28.2	3.90	17.4	56.21	<5.00
06/24/20	0.082	**2.50**	19.8	2.93	13.3	38.5	0.539
09/08/20	0.066	**2.26**	11.6	1.29	10.2	25.35	0.421
GRP SSTLs:	**1.89**	**0.472**	**94.4**	**66.1**	**175**	**-**	**1.89**
Inhalation SSTLs:	**3910**	**79.4**	**526**	**169**	**175**	**-**	**31**

Monitoring Point Data Summary Table

SITE NAME:	Prattmont Liberty			UST NUMBER:	18-08-04	WELL ID:	**MW-6**		
INSTALLATION DATE:	04/12/19	WELL DEPTH (FT BTOC):	50.5	SCREEN LENGTH (FT):	10	CASING ELEV (FT ABOVE MSL):	273.05	WELL TYPE: DIAMETER (IN):	II 2

Notes: BTOC (Below Top of Casing); MSL (Mean Sea Level); BDL (Below Detection Limit); CA (Corrective Action)

POTENTIOMETRIC ELEVATION SUMMARY

MEASUREMENT DATE	DEPTH TO WATER (FT BTOC)	ELEVATION (FT ABOVE MSL)	FREE PRODUCT THICKNESS (FT)	PCW GALLONS REMOVED
04/26/19	49.23	223.82	-	3.5
10/17/19	45.18	227.87	-	2.4
12/13/19	45.79	227.26	-	2.0
03/18/20	42.81	230.24	-	3.0
06/24/20	43.18	229.87	-	3.0
09/08/20	48.37	224.68	-	0.5

INTRINSIC GROUNDWATER DATA SUMMARY

SAMPLE DATE	DISSOLVED OXYGEN (mg/L)	pH	REDOX POTENTIAL (mV)
04/26/19	-	-	-
10/17/19	-	-	-
12/13/19	0.47	6.21	59.6
03/18/20	3.54	6.48	107.5
06/24/20	0.99	5.32	119.9
09/08/20	1.43	5.37	149.0

Monitoring Point Data Summary Table

SITE NAME:	Prattmont Liberty			UST NUMBER:	18-08-04	WELL ID:	**MW-6**	
INSTALLATION DATE:	04/12/19	WELL DEPTH (FT BTOC):	50.5	SCREEN LENGTH (FT):	10	CASING ELEV (FT ABOVE MSL):	273.05	WELL TYPE: II DIAMETER (IN): 2

Notes: BTOC (Below Top of Casing); MSL (Mean Sea Level); BDL (Below Detection Limit); CA (Corrective Action)

GROUNDWATER ANALYTICAL SUMMARY (mg/L)

SAMPLE DATE	MTBE	BENZENE	TOLUENE	ETHYLBENZENE	TOTAL XYLENES	TOTAL BTEX	NAPHTHALENE
04/26/19	<0.001	0.003	<0.001	<0.001	<0.003	0.003	<0.005
10/17/19	0.004	0.105	<0.005	0.015	0.019	0.139	0.013
12/13/19	<0.010	0.117	<0.050	0.015	<0.010	0.132	<0.050
03/18/20	<0.001	<0.001	<0.005	<0.001	<0.001	BDL	<0.005
06/24/20	<0.001	0.007	<0.002	<0.001	<0.001	0.007	<0.005
09/08/20	0.001	0.017	<0.002	0.002	<0.001	0.019	0.005
GRP SSTLs:	**2.22**	**0.554**	**111**	**77.6**	**175**	**-**	**2.22**
Inhalation SSTLs:	**3910**	**79.4**	**526**	**169**	**175**	**-**	**31**

Monitoring Point Data Summary Table

SITE NAME:	Prattmont Liberty			UST NUMBER:	18-08-04	WELL ID:	**MW-7**		
INSTALLATION DATE:	04/15/19	WELL DEPTH (FT BTOC):	50.0	SCREEN LENGTH (FT):	10	CASING ELEV (FT ABOVE MSL):	272.24	WELL TYPE: DIAMETER (IN):	II 2

Notes: BTOC (Below Top of Casing); MSL (Mean Sea Level); BDL (Below Detection Limit); CA (Corrective Action)

POTENTIOMETRIC ELEVATION SUMMARY

MEASUREMENT DATE	DEPTH TO WATER (FT BTOC)	ELEVATION (FT ABOVE MSL)	FREE PRODUCT THICKNESS (FT)	PCW GALLONS REMOVED
04/26/19	37.50	234.74	-	5.8
10/17/19	41.97	230.27	-	3.6
12/13/19	42.75	229.49	-	3.5
03/18/20	38.72	233.52	-	5.0
06/24/20	39.55	232.69	-	4.5
09/08/20	41.01	231.23	-	4.0

INTRINSIC GROUNDWATER DATA SUMMARY

SAMPLE DATE	DISSOLVED OXYGEN (mg/L)	pH	REDOX POTENTIAL (mV)
04/26/19	-	-	-
10/17/19	-	-	-
12/13/19	0.69	6.54	115.3
03/18/20	3.35	5.85	152.1
06/24/20	0.70	5.30	152.2
09/08/20	1.37	5.73	132.9

Monitoring Point Data Summary Table

SITE NAME:	Prattmont Liberty			UST NUMBER:	18-08-04	WELL ID:	**MW-7**	
INSTALLATION DATE:	04/15/19	WELL DEPTH (FT BTOC):	50.0	SCREEN LENGTH (FT):	10	CASING ELEV (FT ABOVE MSL):	272.24	WELL TYPE: II DIAMETER (IN): 2

Notes: BTOC (Below Top of Casing); MSL (Mean Sea Level); BDL (Below Detection Limit); CA (Corrective Action)

GROUNDWATER ANALYTICAL SUMMARY (mg/L)

SAMPLE DATE	MTBE	BENZENE	TOLUENE	ETHYLBENZENE	TOTAL XYLENES	TOTAL BTEX	NAPHTHALENE
04/26/19	<0.001	0.039	0.003	<0.001	0.008	0.050	<0.005
10/17/19	<0.001	0.014	<0.005	<0.001	0.001	0.015	<0.005
12/13/19	<0.001	0.001	<0.005	<0.001	0.001	0.002	<0.005
03/18/20	<0.001	<0.001	<0.005	<0.001	<0.001	BDL	<0.005
06/24/20	<0.001	0.016	<0.002	<0.001	0.001	0.017	<0.005
09/08/20	<0.001	0.004	<0.002	<0.001	0.001	0.005	<0.005
GRP SSTLs:	**1.53**	**0.382**	**76.5**	**53.5**	**175**	**-**	**1.53**
Inhalation SSTLs:	**3910**	**79.4**	**526**	**169**	**175**	**-**	**31**

Monitoring Point Data Summary Table

SITE NAME:	Prattmont Liberty			UST NUMBER:	18-08-04	WELL ID:	**MW-8**		
INSTALLATION DATE:	04/15/19	WELL DEPTH (FT BTOC):	45.5	SCREEN LENGTH (FT):	10	CASING ELEV (FT ABOVE MSL):	271.88	WELL TYPE: DIAMETER (IN):	II 2

Notes: BTOC (Below Top of Casing); MSL (Mean Sea Level); BDL (Below Detection Limit); CA (Corrective Action)

POTENTIOMETRIC ELEVATION SUMMARY

MEASUREMENT DATE	DEPTH TO WATER (FT BTOC)	ELEVATION (FT ABOVE MSL)	FREE PRODUCT THICKNESS (FT)	PCW GALLONS REMOVED
04/26/19	36.78	235.10	-	4.0
10/17/19	39.72	232.16	-	2.6
12/13/19	40.55	231.33	-	2.0
03/18/20	34.40	237.48	-	5.0
06/24/20	39.25	232.63	-	2.5
09/08/20	39.13	232.75	-	2.0

INTRINSIC GROUNDWATER DATA SUMMARY

SAMPLE DATE	DISSOLVED OXYGEN (mg/L)	pH	REDOX POTENTIAL (mV)
04/26/19	-	-	-
10/17/19	-	-	-
12/13/19	1.17	6.92	-76.3
03/18/20	3.12	6.05	91.6
06/24/20	1.67	5.82	162.5
09/08/20	3.98	6.24	171.5

Monitoring Point Data Summary Table

SITE NAME:	Prattmont Liberty			UST NUMBER:	18-08-04	WELL ID:	**MW-8**	
INSTALLATION DATE:	04/15/19	WELL DEPTH (FT BTOC):	45.5	SCREEN LENGTH (FT):	10	CASING ELEV (FT ABOVE MSL):	271.88	WELL TYPE: II DIAMETER (IN): 2

Notes: BTOC (Below Top of Casing); MSL (Mean Sea Level); BDL (Below Detection Limit); CA (Corrective Action)

GROUNDWATER ANALYTICAL SUMMARY (mg/L)

SAMPLE DATE	MTBE	BENZENE	TOLUENE	ETHYLBENZENE	TOTAL XYLENES	TOTAL BTEX	NAPHTHALENE
04/26/19	<0.001	0.008	0.002	0.001	0.003	0.014	<0.005
10/17/19	<0.001	<0.001	<0.005	<0.001	<0.001	BDL	<0.005
12/13/19	<0.001	<0.001	<0.005	<0.001	<0.001	BDL	<0.005
03/18/20	<0.001	0.002	<0.005	<0.001	<0.001	0.002	<0.005
06/24/20	<0.001	<0.001	<0.002	<0.001	<0.001	BDL	<0.005
09/08/20	<0.001	<0.001	<0.002	<0.001	<0.001	BDL	<0.005
GRP SSTLs:	**1.5**	**0.375**	**75**	**52.5**	**175**	**-**	**1.5**
Inhalation SSTLs:	**3910**	**79.4**	**526**	**169**	**175**	**-**	**31**

Monitoring Point Data Summary Table

SITE NAME:	Prattmont Liberty			UST NUMBER:	18-08-04	WELL ID:	**MW-9**		
INSTALLATION DATE:	04/12/19	WELL DEPTH (FT BTOC):	50.5	SCREEN LENGTH (FT):	10	CASING ELEV (FT ABOVE MSL):	273.07	WELL TYPE: DIAMETER (IN):	II 2

Notes: BTOC (Below Top of Casing); MSL (Mean Sea Level); BDL (Below Detection Limit); CA (Corrective Action)

POTENTIOMETRIC ELEVATION SUMMARY

MEASUREMENT DATE	DEPTH TO WATER (FT BTOC)	ELEVATION (FT ABOVE MSL)	FREE PRODUCT THICKNESS (FT)	PCW GALLONS REMOVED
04/26/19	40.22	232.85	-	4.8
10/17/19	42.68	230.39	-	3.6
12/13/19	42.56	230.51	-	4.0
03/18/20	38.95	234.12	-	5.0
06/24/20	40.42	232.65	-	4.0
09/08/20	41.52	231.55	-	4.0

INTRINSIC GROUNDWATER DATA SUMMARY

SAMPLE DATE	DISSOLVED OXYGEN (mg/L)	pH	REDOX POTENTIAL (mV)
04/26/19	-	-	-
10/17/19	-	-	-
12/13/19	1.10	7.22	202.8
03/18/20	2.28	6.79	54.6
06/24/20	0.72	6.38	62.0
09/08/20	1.48	6.55	158.0

Monitoring Point Data Summary Table

SITE NAME:	Prattmont Liberty			UST NUMBER:	18-08-04	WELL ID:	**MW-9**	
INSTALLATION DATE:	04/12/19	WELL DEPTH (FT BTOC):	50.5	SCREEN LENGTH (FT):	10	CASING ELEV (FT ABOVE MSL):	273.07	WELL TYPE: II DIAMETER (IN): 2

Notes: BTOC (Below Top of Casing); MSL (Mean Sea Level); BDL (Below Detection Limit); CA (Corrective Action)

GROUNDWATER ANALYTICAL SUMMARY (mg/L)							
SAMPLE DATE	MTBE	BENZENE	TOLUENE	ETHYLBENZENE	TOTAL XYLENES	TOTAL BTEX	NAPHTHALENE
04/26/19	0.017	**0.746**	0.011	0.323	0.030	1.110	0.010
10/17/19	0.002	0.094	<0.005	0.034	0.008	0.136	<0.005
12/13/19	<0.001	0.004	<0.005	0.001	<0.001	0.005	<0.005
03/18/20	0.006	0.173	<0.005	<0.001	<0.001	0.173	<0.005
06/24/20	0.005	0.276	<0.002	0.019	0.001	0.296	<0.005
09/08/20	0.001	0.002	<0.002	0.001	<0.001	0.003	<0.005
GRP SSTLs:	**1.66**	**0.414**	**82.8**	**58**	**175**	**-**	**1.66**
Inhalation SSTLs:	**3910**	**79.4**	**526**	**169**	**175**	**-**	**31**

Monitoring Point Data Summary Table

SITE NAME:	Prattmont Liberty			UST NUMBER:	18-08-04	WELL ID:	**MW-10**		
INSTALLATION DATE:	10/10/19	WELL DEPTH (FT BTOC):	56.0	SCREEN LENGTH (FT):	20	CASING ELEV (FT ABOVE MSL):	272.54	WELL TYPE: DIAMETER (IN):	II 2

Notes: BTOC (Below Top of Casing); MSL (Mean Sea Level); BDL (Below Detection Limit); CA (Corrective Action)

POTENTIOMETRIC ELEVATION SUMMARY

MEASUREMENT DATE	DEPTH TO WATER (FT BTOC)	ELEVATION (FT ABOVE MSL)	FREE PRODUCT THICKNESS (FT)	PCW GALLONS REMOVED
10/17/19	42.55	229.99	-	6.2
12/13/19	42.83	229.71	-	6.0
03/18/20	36.90	235.64	-	7.5
06/24/20	37.55	234.99	-	8.0
09/08/20	40.03	232.51	-	7.0

INTRINSIC GROUNDWATER DATA SUMMARY

SAMPLE DATE	DISSOLVED OXYGEN (mg/L)	pH	REDOX POTENTIAL (mV)
10/17/19	-	-	-
12/13/19	0.55	6.16	43.2
03/18/20	4.73	6.16	116.3
06/24/20	2.98	5.68	150.7
09/08/20	3.30	5.52	192.6

Monitoring Point Data Summary Table

SITE NAME:	Prattmont Liberty			UST NUMBER:	18-08-04	WELL ID:	**MW-10**	
INSTALLATION DATE:	10/10/19	WELL DEPTH (FT BTOC):	56.0	SCREEN LENGTH (FT):	20	CASING ELEV (FT ABOVE MSL):	272.54	WELL TYPE: II DIAMETER (IN): 2

Notes: BTOC (Below Top of Casing); MSL (Mean Sea Level); BDL (Below Detection Limit); CA (Corrective Action)

GROUNDWATER ANALYTICAL SUMMARY (mg/L)

SAMPLE DATE	MTBE	BENZENE	TOLUENE	ETHYLBENZENE	TOTAL XYLENES	TOTAL BTEX	NAPHTHALENE
10/17/19	<0.001	<0.001	<0.005	<0.001	<0.001	BDL	<0.005
12/13/19	<0.001	<0.001	<0.005	<0.001	<0.001	BDL	<0.005
03/18/20	<0.001	<0.001	<0.005	<0.001	<0.001	BDL	<0.005
06/24/20	<0.001	<0.001	<0.002	<0.001	<0.001	BDL	<0.005
09/08/20	<0.001	<0.001	<0.002	<0.001	<0.001	BDL	<0.005
GRP SSTLs:	**0.93**	**0.232**	**45.6**	**32.5**	**175**	**-**	**0.93**
Inhalation SSTLs:	**3910**	**79.4**	**526**	**169**	**175**	**-**	**31**

Monitoring Point Data Summary Table

SITE NAME:	Prattmont Liberty			UST NUMBER:	18-08-04	WELL ID:	**MW-11**		
INSTALLATION DATE:	10/10/19	WELL DEPTH (FT BTOC):	56.5	SCREEN LENGTH (FT):	20	CASING ELEV (FT ABOVE MSL):	273.38	WELL TYPE: DIAMETER (IN):	II 2

Notes: BTOC (Below Top of Casing); MSL (Mean Sea Level); BDL (Below Detection Limit); CA (Corrective Action)

POTENTIOMETRIC ELEVATION SUMMARY

MEASUREMENT DATE	DEPTH TO WATER (FT BTOC)	ELEVATION (FT ABOVE MSL)	FREE PRODUCT THICKNESS (FT)	PCW GALLONS REMOVED
10/17/19	49.70	223.68	-	3.1
12/13/19	50.29	223.09	-	3.0
03/18/20	45.50	227.88	-	5.0
06/24/20	46.70	226.68	-	4.5
09/08/20	47.95	225.43	-	3.0

INTRINSIC GROUNDWATER DATA SUMMARY

SAMPLE DATE	DISSOLVED OXYGEN (mg/L)	pH	REDOX POTENTIAL (mV)
10/17/19	-	-	-
12/13/19	0.84	6.78	164.2
03/18/20	4.61	6.00	133.2
06/24/20	2.56	5.54	135.6
09/08/20	3.79	5.06	183.1

Monitoring Point Data Summary Table

SITE NAME:	Prattmont Liberty			UST NUMBER:	18-08-04	WELL ID:	**MW-11**	
INSTALLATION DATE:	10/10/19	WELL DEPTH (FT BTOC):	56.5	SCREEN LENGTH (FT):	20	CASING ELEV (FT ABOVE MSL):	273.38	WELL TYPE: II DIAMETER (IN): 2

Notes: BTOC (Below Top of Casing); MSL (Mean Sea Level); BDL (Below Detection Limit); CA (Corrective Action)

GROUNDWATER ANALYTICAL SUMMARY (mg/L)

SAMPLE DATE	MTBE	BENZENE	TOLUENE	ETHYLBENZENE	TOTAL XYLENES	TOTAL BTEX	NAPHTHALENE
10/17/19	<0.001	<0.001	<0.005	<0.001	<0.001	BDL	<0.005
12/13/19	<0.001	<0.001	<0.005	<0.001	<0.001	BDL	<0.005
03/18/20	<0.001	<0.001	<0.005	<0.001	<0.001	BDL	<0.005
06/24/20	<0.001	<0.001	<0.002	<0.001	<0.001	BDL	<0.005
09/08/20	<0.001	<0.001	<0.002	<0.001	<0.001	BDL	<0.005
GRP SSTLs:	**0.65**	**0.163**	**32.5**	**22.8**	**175**	**-**	**0.65**
Inhalation SSTLs:	**3910**	**79.4**	**526**	**169**	**175**	**-**	**31**

Monitoring Point Data Summary Table

SITE NAME:	Prattmont Liberty			UST NUMBER:	18-08-04	WELL ID:	**MW-12**		
INSTALLATION DATE:	10/01/19	WELL DEPTH (FT BTOC):	55.5	SCREEN LENGTH (FT):	20	CASING ELEV (FT ABOVE MSL):	272.78	WELL TYPE: DIAMETER (IN):	II 2

Notes: BTOC (Below Top of Casing); MSL (Mean Sea Level); BDL (Below Detection Limit); CA (Corrective Action)

POTENTIOMETRIC ELEVATION SUMMARY

MEASUREMENT DATE	DEPTH TO WATER (FT BTOC)	ELEVATION (FT ABOVE MSL)	FREE PRODUCT THICKNESS (FT)	PCW GALLONS REMOVED
10/17/19	47.80	224.98	-	3.6
12/13/19	48.28	224.50	-	3.5
03/18/20	48.30	227.84	4.50	-
06/24/20	45.60	228.04	1.15	-
09/08/20	45.92	227.11	0.33	-

INTRINSIC GROUNDWATER DATA SUMMARY

SAMPLE DATE	DISSOLVED OXYGEN (mg/L)	pH	REDOX POTENTIAL (mV)
10/17/19	-	-	-
12/13/19	1.26	6.87	-63.4
03/18/20	FREE PRODUCT (4.5 FT)		
06/24/20	FREE PRODUCT (1.15 FT)		
09/08/20	FREE PRODUCT (0.33 FT)		

Monitoring Point Data Summary Table

SITE NAME:	Prattmont Liberty			UST NUMBER:	18-08-04	WELL ID:	**MW-12**	
INSTALLATION DATE:	10/01/19	WELL DEPTH (FT BTOC):	55.5	SCREEN LENGTH (FT):	20	CASING ELEV (FT ABOVE MSL):	272.78	WELL TYPE: II DIAMETER (IN): 2

Notes: BTOC (Below Top of Casing); MSL (Mean Sea Level); BDL (Below Detection Limit); CA (Corrective Action)

GROUNDWATER ANALYTICAL SUMMARY (mg/L)

SAMPLE DATE	MTBE	BENZENE	TOLUENE	ETHYLBENZENE	TOTAL XYLENES	TOTAL BTEX	NAPHTHALENE
10/17/19	0.060	**4.06**	28.4	3.65	16.8	52.9	0.731
12/13/19	<0.050	**2.77**	24.5	3.96	21.2	52.4	**1.07**
03/18/20	NOT SAMPLED - FREE PRODUCT (4.5 FT)						
06/24/20	NOT SAMPLED - FREE PRODUCT (1.15 FT)						
09/08/20	NOT SAMPLED - FREE PRODUCT (0.33 FT)						
GRP SSTLs:	**0.773**	**0.193**	**38.7**	**27.1**	**175**	**-**	**0.773**
Inhalation SSTLs:	**3910**	**79.4**	**526**	**169**	**175**	**-**	**31**

Monitoring Point Data Summary Table

SITE NAME:	Prattmont Liberty			UST NUMBER:	18-08-04	WELL ID:	**MW-13**		
INSTALLATION DATE:	10/01/19	WELL DEPTH (FT BTOC):	56.0	SCREEN LENGTH (FT):	20	CASING ELEV (FT ABOVE MSL):	272.92	WELL TYPE: DIAMETER (IN):	II 2

Notes: BTOC (Below Top of Casing); MSL (Mean Sea Level); BDL (Below Detection Limit); CA (Corrective Action)

POTENTIOMETRIC ELEVATION SUMMARY

MEASUREMENT DATE	DEPTH TO WATER (FT BTOC)	ELEVATION (FT ABOVE MSL)	FREE PRODUCT THICKNESS (FT)	PCW GALLONS REMOVED
10/17/19	45.72	227.20	-	4.7
12/13/19	46.31	226.61	-	4.5
03/18/20	45.43	227.49	-	4.5
06/24/20	43.82	229.10	-	5.0
09/08/20	44.91	228.01	-	5.0

INTRINSIC GROUNDWATER DATA SUMMARY

SAMPLE DATE	DISSOLVED OXYGEN (mg/L)	pH	REDOX POTENTIAL (mV)
10/17/19	-	-	-
12/13/19	1.67	6.11	-89.6
03/18/20	4.85	5.54	166.1
06/24/20	6.04	4.54	213.8
09/08/20	5.69	5.48	185.0

Monitoring Point Data Summary Table

SITE NAME:	Prattmont Liberty			UST NUMBER:	18-08-04	WELL ID:	**MW-13**	
INSTALLATION DATE:	10/01/19	WELL DEPTH (FT BTOC):	56.0	SCREEN LENGTH (FT):	20	CASING ELEV (FT ABOVE MSL):	272.92	WELL TYPE: II DIAMETER (IN): 2

Notes: BTOC (Below Top of Casing); MSL (Mean Sea Level); BDL (Below Detection Limit); CA (Corrective Action)

GROUNDWATER ANALYTICAL SUMMARY (mg/L)

SAMPLE DATE	MTBE	BENZENE	TOLUENE	ETHYLBENZENE	TOTAL XYLENES	TOTAL BTEX	NAPHTHALENE
10/17/19	<0.001	<0.001	<0.005	<0.001	0.002	0.002	<0.005
12/13/19	<0.001	<0.001	<0.005	<0.001	<0.001	BDL	<0.005
03/18/20	<0.001	<0.001	<0.005	<0.001	<0.001	BDL	<0.005
06/24/20	<0.001	<0.001	<0.002	<0.001	<0.001	BDL	<0.005
09/08/20	<0.001	<0.001	<0.002	<0.001	<0.001	BDL	<0.005
GRP SSTLs:	**0.787**	**0.197**	**39.4**	**27.6**	**175**	**-**	**0.787**
Inhalation SSTLs:	**3910**	**79.4**	**526**	**169**	**175**	**-**	**31**

Monitoring Point Data Summary Table

SITE NAME:	Prattmont Liberty			UST NUMBER:	18-08-04	WELL ID:	**MW-14**		
INSTALLATION DATE:	09/30/19	WELL DEPTH (FT BTOC):	55.0	SCREEN LENGTH (FT):	20	CASING ELEV (FT ABOVE MSL):	272.38	WELL TYPE: DIAMETER (IN):	II 2

Notes: BTOC (Below Top of Casing); MSL (Mean Sea Level); BDL (Below Detection Limit); CA (Corrective Action)

POTENTIOMETRIC ELEVATION SUMMARY

MEASUREMENT DATE	DEPTH TO WATER (FT BTOC)	ELEVATION (FT ABOVE MSL)	FREE PRODUCT THICKNESS (FT)	PCW GALLONS REMOVED
10/17/19	43.85	228.53	-	5.3
12/13/19	44.48	227.90	-	5.0
03/18/20	40.55	231.83	-	6.0
06/24/20	41.58	230.80	-	6.0
09/08/20	42.93	229.45	-	5.0

INTRINSIC GROUNDWATER DATA SUMMARY

SAMPLE DATE	DISSOLVED OXYGEN (mg/L)	pH	REDOX POTENTIAL (mV)
10/17/19	-	-	-
12/13/19	0.96	5.98	142.3
03/18/20	5.38	5.80	132.3
06/24/20	4.87	4.23	240.3
09/08/20	2.49	5.06	192.2

Monitoring Point Data Summary Table

SITE NAME:	Prattmont Liberty			UST NUMBER:	18-08-04	WELL ID:	**MW-14**	
INSTALLATION DATE:	09/30/19	WELL DEPTH (FT BTOC):	55.0	SCREEN LENGTH (FT):	20	CASING ELEV (FT ABOVE MSL):	272.38	WELL TYPE: II DIAMETER (IN): 2

Notes: BTOC (Below Top of Casing); MSL (Mean Sea Level); BDL (Below Detection Limit); CA (Corrective Action)

GROUNDWATER ANALYTICAL SUMMARY (mg/L)

SAMPLE DATE	MTBE	BENZENE	TOLUENE	ETHYLBENZENE	TOTAL XYLENES	TOTAL BTEX	NAPHTHALENE
10/17/19	<0.001	0.003	<0.005	<0.001	<0.001	0.003	<0.005
12/13/19	<0.001	<0.001	<0.005	<0.001	<0.001	BDL	<0.005
03/18/20	<0.001	<0.001	<0.005	<0.001	<0.001	BDL	<0.005
06/24/20	<0.001	<0.001	<0.002	<0.001	<0.001	BDL	<0.005
09/08/20	<0.001	<0.001	<0.002	<0.001	<0.001	BDL	<0.005
GRP SSTLs:	**0.773**	**0.193**	**38.7**	**27.1**	**175**	**-**	**0.773**
Inhalation SSTLs:	**3910**	**79.4**	**526**	**169**	**175**	**-**	**31**

Monitoring Point Data Summary Table

SITE NAME:	Prattmont Liberty			UST NUMBER:	18-08-04	WELL ID:	**VW-1**		
INSTALLATION DATE:	04/11/19	WELL DEPTH (FT BTOC):	75.0	SCREEN LENGTH (FT):	5	CASING ELEV (FT ABOVE MSL):	273.09	WELL TYPE: DIAMETER (IN):	II 2

Notes: BTOC (Below Top of Casing); MSL (Mean Sea Level); BDL (Below Detection Limit); CA (Corrective Action)

POTENTIOMETRIC ELEVATION SUMMARY

MEASUREMENT DATE	DEPTH TO WATER (FT BTOC)	ELEVATION (FT ABOVE MSL)	FREE PRODUCT THICKNESS (FT)	PCW GALLONS REMOVED
04/26/19	64.68	208.41	-	5.0
10/17/19	64.70	208.39	-	4.9
12/13/19	64.67	208.42	-	5.0
03/18/20	65.40	207.69	-	4.5
06/24/20	64.22	208.87	-	5.0
09/08/20	64.35	208.74	-	5.0

INTRINSIC GROUNDWATER DATA SUMMARY

SAMPLE DATE	DISSOLVED OXYGEN (mg/L)	pH	REDOX POTENTIAL (mV)
04/26/19	-	-	-
10/17/19	-	-	-
12/13/19	1.12	6.75	-96.1
03/18/20	3.09	6.52	121.6
06/24/20	2.17	4.93	182.4
09/08/20	4.73	5.35	146.4

Monitoring Point Data Summary Table

SITE NAME:	Prattmont Liberty			UST NUMBER:	18-08-04	WELL ID:	**VW-1**	
INSTALLATION DATE:	04/11/19	WELL DEPTH (FT BTOC):	75.0	SCREEN LENGTH (FT):	5	CASING ELEV (FT ABOVE MSL):	273.09	WELL TYPE: II DIAMETER (IN): 2

Notes: BTOC (Below Top of Casing); MSL (Mean Sea Level); BDL (Below Detection Limit); CA (Corrective Action)

GROUNDWATER ANALYTICAL SUMMARY (mg/L)

SAMPLE DATE	MTBE	BENZENE	TOLUENE	ETHYLBENZENE	TOTAL XYLENES	TOTAL BTEX	NAPHTHALENE
04/26/19	<0.001	<0.001	<0.001	<0.003	<0.001	BDL	<0.005
10/17/19	<0.001	<0.001	<0.005	<0.001	<0.001	BDL	<0.005
12/13/19	<0.001	<0.001	<0.005	<0.001	<0.001	BDL	<0.005
03/18/20	<0.001	<0.001	<0.005	<0.001	<0.001	BDL	<0.005
06/24/20	<0.001	<0.001	<0.002	<0.001	<0.001	BDL	<0.005
09/08/20	<0.001	<0.001	<0.002	<0.001	<0.001	BDL	<0.005
GRP SSTLs:	**2.37**	**0.593**	**119**	**8.3**	**175**	**-**	**2.37**
Inhalation SSTLs:	**3910**	**79.4**	**526**	**169**	**175**	**-**	**31**

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Figures

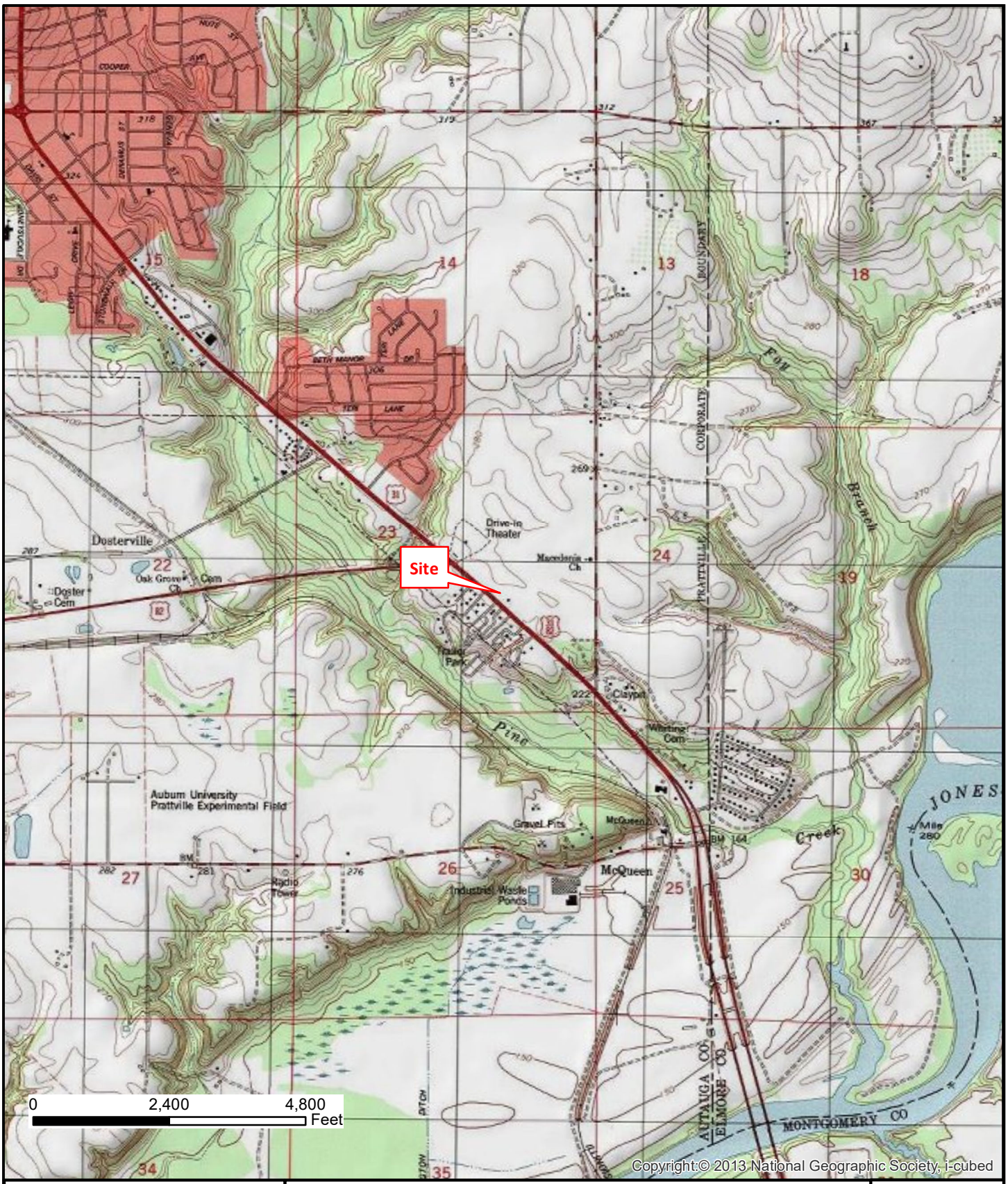

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Figure 1
Site Location USGS Topographic Map

Prattmont Liberty
1407 South Memorial Drive
Prattville, Autauga County, Alabama

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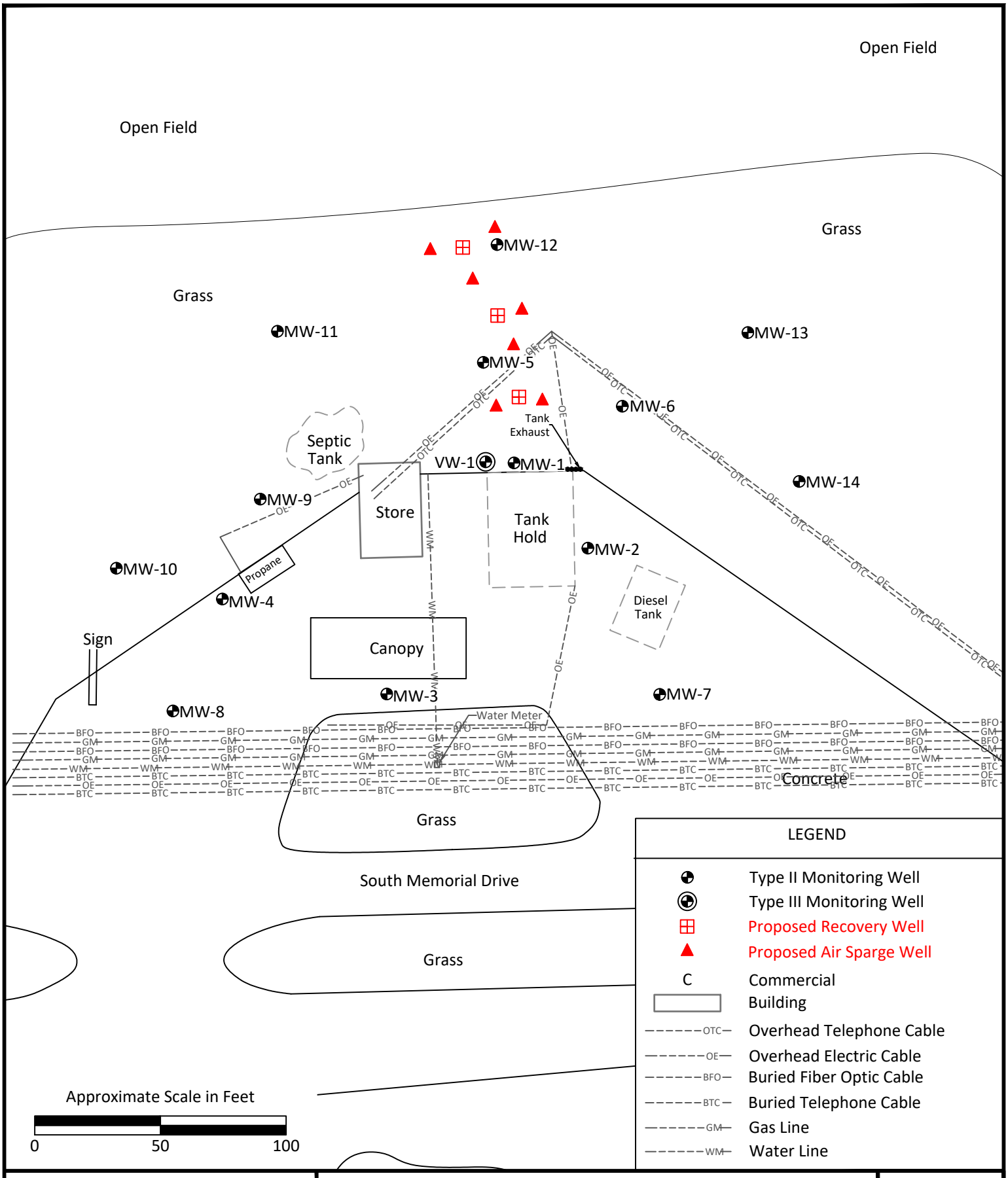
Figure 2
Area Map

Prattmont Liberty
1407 South Memorial Drive
Prattville, Autauga County, Alabama



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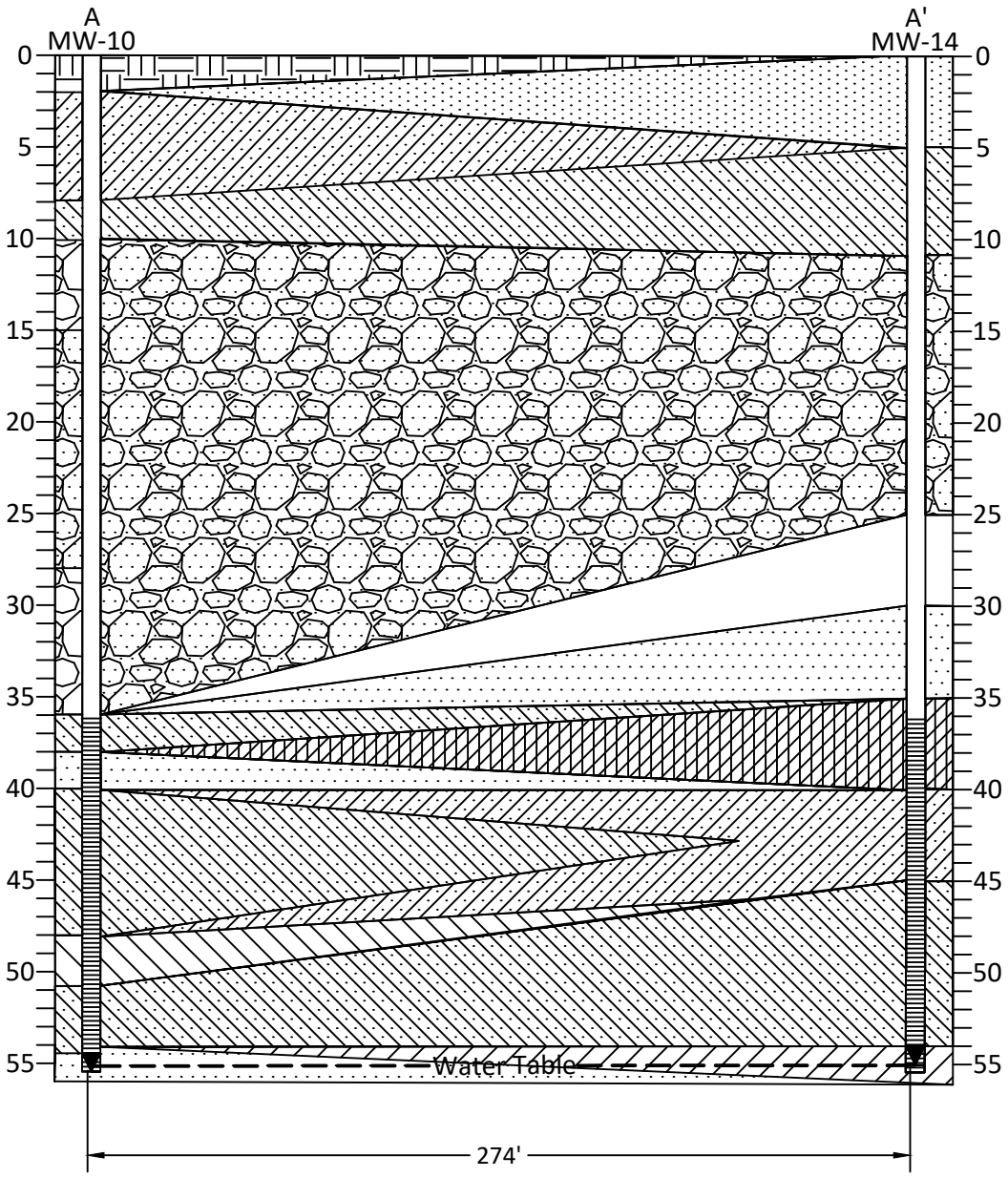
Site Map with Proposed Well Locations

Prattmont Liberty
1407 South Memorial Drive
Prattville, Autauga County, Alabama



10
Approximate
Scale in Feet
0
68.5

Legend

- Topsoil
- Sandy Clay (CLS)
- Clay (CH)
- Silty Clay (CL-ML)
- Sand (SP)
- Gravelly Sand (SPG)
- Clayey Sand (SP-SC)
- Screened Interval
- Groundwater Level

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Figure 4
Lithologic Cross-Section

Prattmont Liberty
1407 South Memorial Drive
Prattville, Autauga County, AL

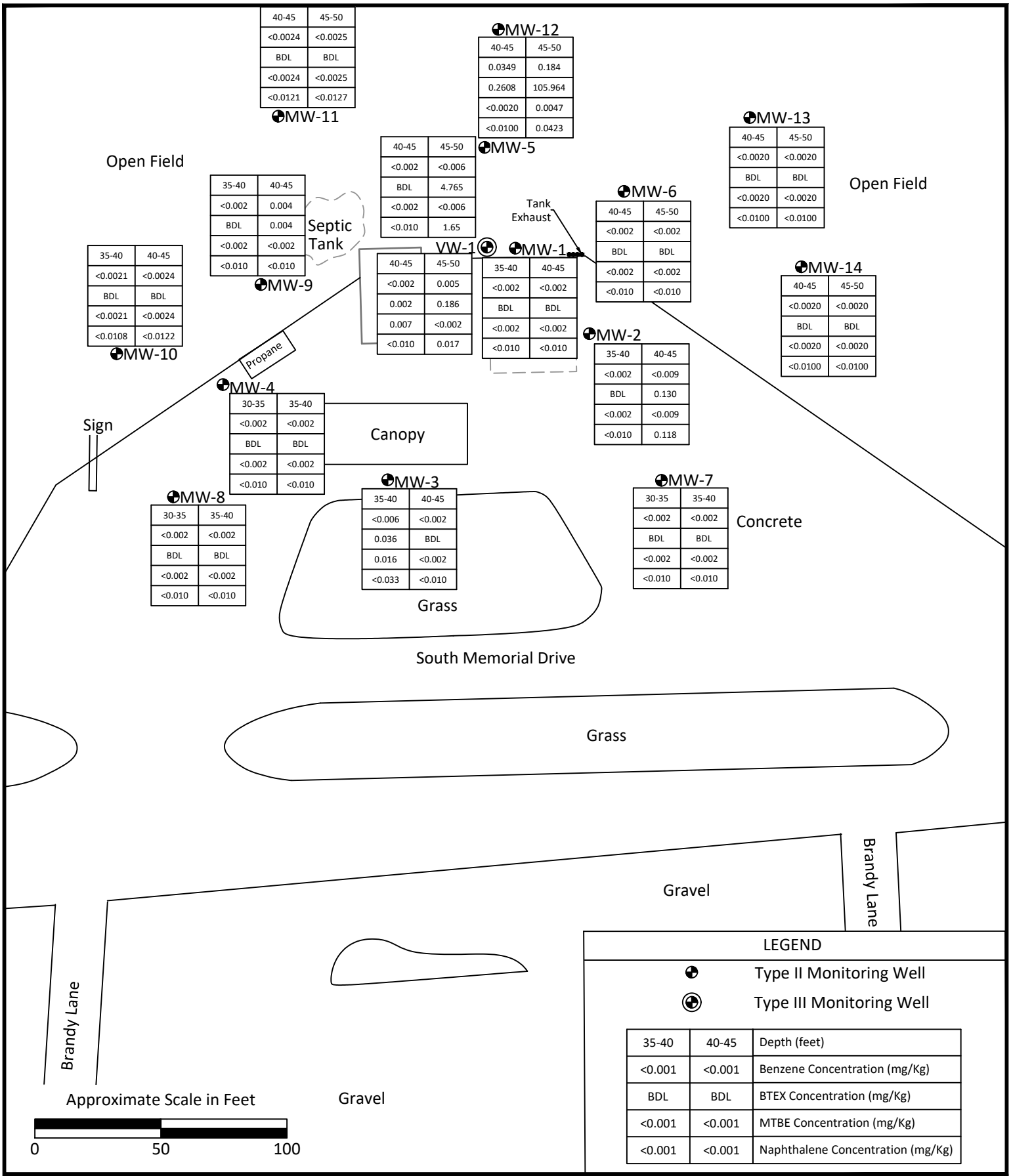

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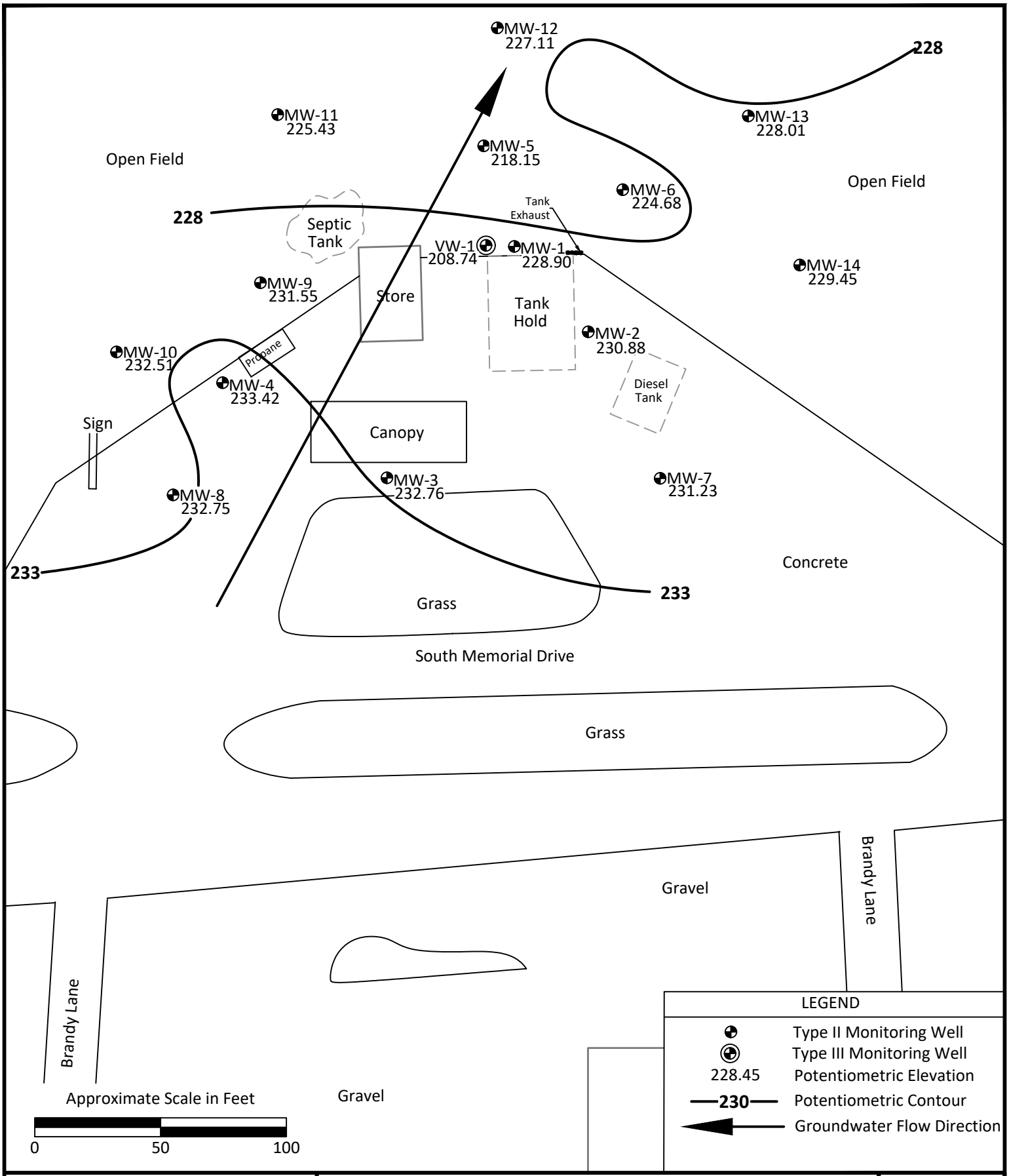
Figure 5
Soil Analytical Map - October 2019

Prattmont Liberty
1407 South Memorial Drive
Prattville, Autauga County, Alabama



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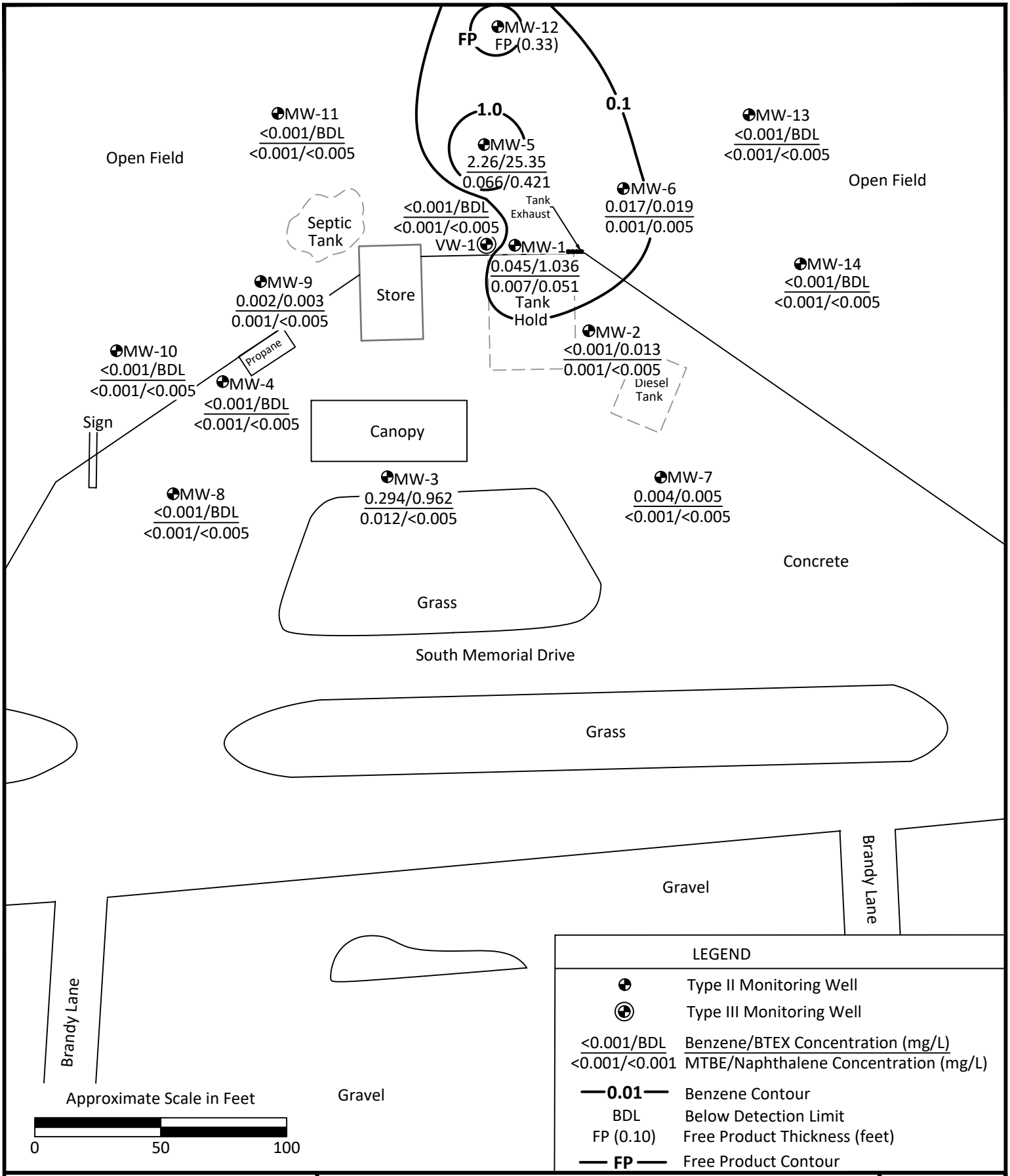
Potentiometric Surface Map
September 8, 2020

Prattmont Liberty
1407 South Memorial Drive
Prattville, Autauga County, Alabama



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Groundwater Analytical and Benzene Contour Map
September 8, 2020

Prattmont Liberty
1407 South Memorial Drive
Prattville, Autauga County, Alabama

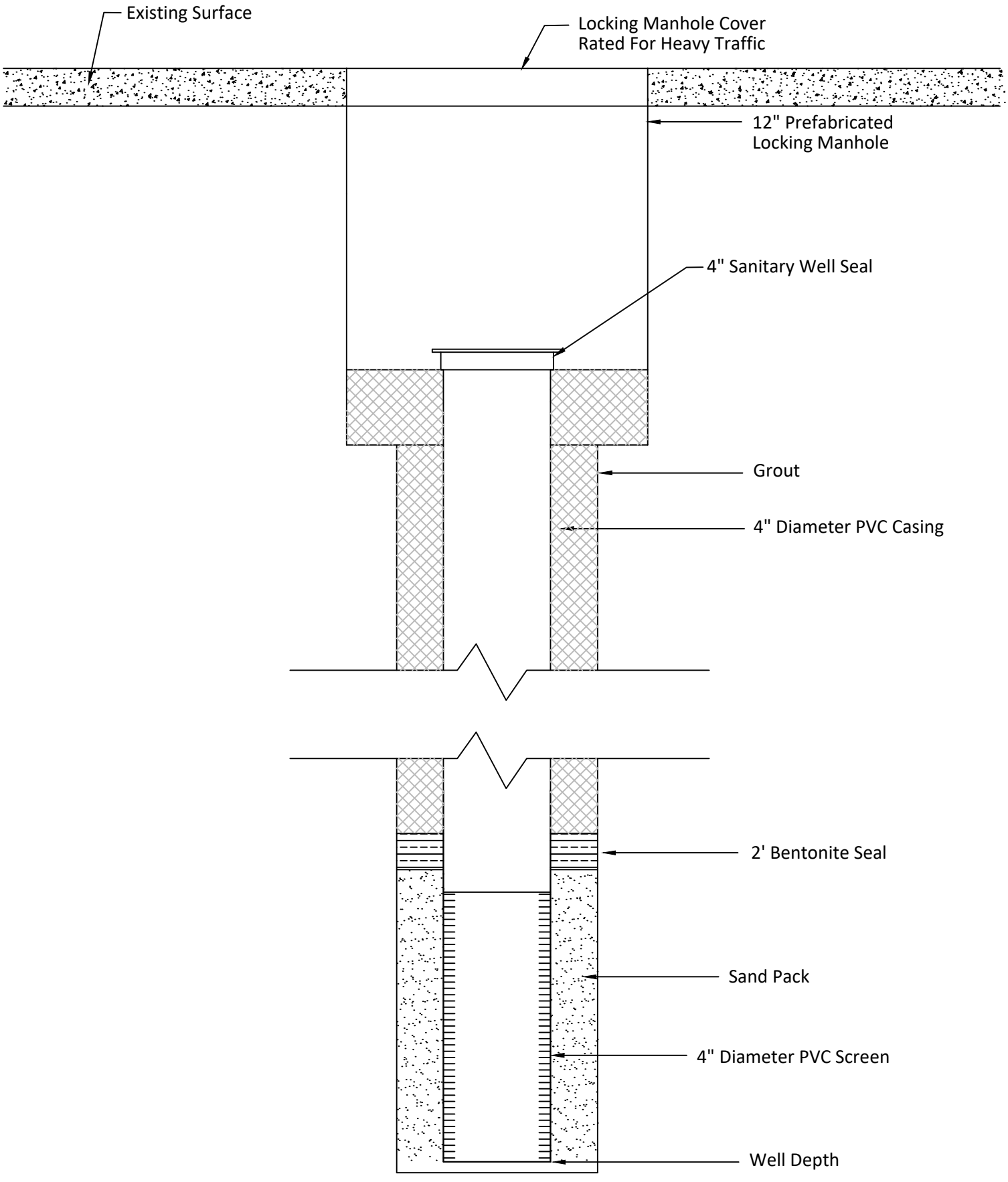

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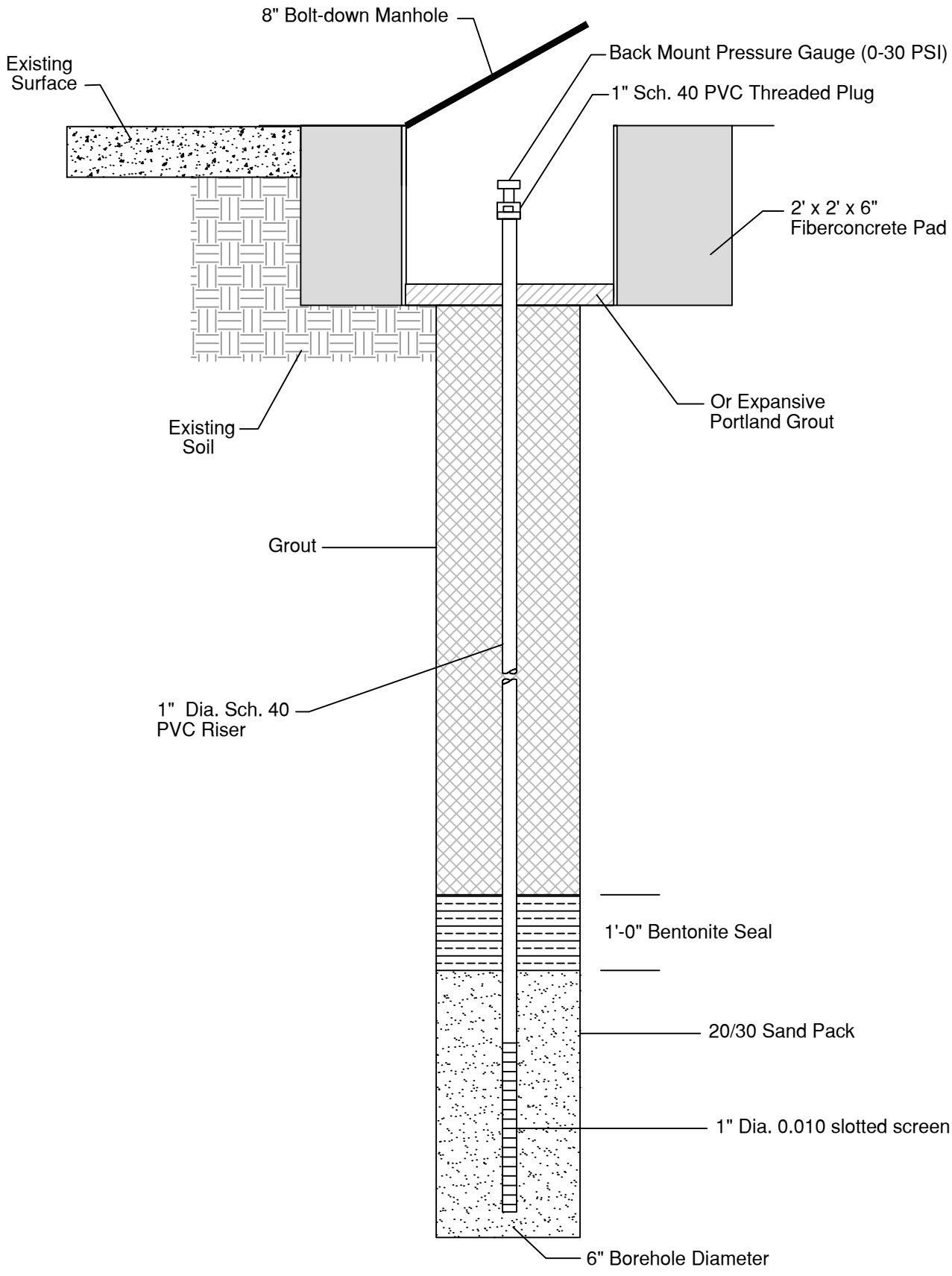
Diagram of a Recovery Well

Prattmont Liberty
1407 South Memorial Drive
Prattville, Autauga County, AL

Not to Scale



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Air Sparge Well Construction Detail

Prattmont Liberty
1407 South Memorial Drive
Prattville, Autauga County, AL

Not to Scale

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Approved ARBCA SSTLs

Appendix A

ARBCA SUMMARY REPORT **FORM NO. 27**

UST Incident No(s): UST 18-08-04 **Facility ID:** 14932-001-013870

Date Form Completed: 20-Apr-20 **Form Completed By:** Julia Gable

TIER 2 GROUNDWATER RESOURCE PROTECTION TARGET CONCENTRATIONS

Distance from source to the point of exposure (POE): *618*

	COMPARISON FOR SOURCE SOIL			COMPARISON FOR SOURCE GROUNDWATER			COMPARISON FOR COMPLIANCE WELLS								
CHEMICALS OF CONCERN	Soil Source Rep. Conc. 1 [mg/kg]	Allowable Soil Conc. 2 [mg/kg]	**E/ NE**	GW Source Rep. Conc. 3 [mg/L]	Allowable GW Conc. at a POC 4 [mg/L]	**E/ N**	CW Rep. Conc. 5 [mg/L]	Allowable GW Conc. at a POC 6 [mg/L]	**E/ N**	CW Rep. Conc. 5 [mg/L]	Allowable GW Conc. at a POC 6 [mg/L]	**E/ N**	CW Rep. Conc. 5 [mg/L]	Allowable GW Conc. at a POC 6 [mg/L]	**E/ N**
COMPLIANCE WELL NO.	*MW-12 (40-45)*			*MW-5*			*MW-1*			*MW-2*			*MW-3*		
DISTANCE FROM SOURCE	*90*			*44*			*4*			*5*			*6*		
RECENT TREND	*n/a*			*Fluctuating*			*Fluctuating*			*Fluctuating*			*Fluctuating*		
ORGANICS															
Benzene	0.184	0.333	**NE**	5.83	0.472	**E**	0.507	0.593	**NE**	0.087	0.593	**NE**	0.728	0.593	**E**
Toluene	8.38	97.6	**NE**	28.8	94.4	**NE**	0.743	119	**NE**	0.006	119	**NE**	0.674	119	**NE**
Ethylbenzene	17.4	86.1	**NE**	3.91	66.1	**NE**	0.249	83	**NE**	0.037	83	**NE**	0.159	83	**NE**
Xylenes (Total)	80	137	**NE**	17.95	175	**NE**	1.321	175	**NE**	0.1546	175	**NE**	0.737	175	**NE**
MTBE	0.0047	0.931	**NE**	0.183	1.89	**NE**	0.018	2.37	**NE**	0.003	2.37	**NE**	0.052	2.37	**NE**
Anthracene															
Benzo(a)anthracene															
Benzo(a)pyrene															
Benzo(b)fluoranthene															
Benzo(g,h,i)perylene															
Benzo(k)fluoranthene															
Chrysene															
Fluoranthene															
Fluorene															
Naphthalene	0.0423	10.2	**NE**	1.14	1.89	**NE**	0.0015	2.37	**NE**	0.0726	2.37	**NE**	0.0079	2.37	**NE**
Phenanthrene															
Pyrene															
METALS															
Arsenic															
Barium															
Cadmium															
Chromium VI															
Lead															
Zinc															

NOTE: Use the ***ARBCA Computational Software*** to calculate the allowable (i) soil source conc., (ii) GW source conc., and (iii) compliance well conc.

1: The soil source representative concentrations have to be calculated and entered here.

2: Allowable soil concentrations at the source protective of groundwater at the POE.

3: The groundwater source representative concentrations have to be calculated and entered here.

4: Allowable groundwater concentrations at the source protective of groundwater at the POE.

5: Representative concentrations in the compliance well.

6: Allowable groundwater concentrations at a point of compliance (POC) protective of a POE.

E: Representative concentration exceeds allowable concentration.

NE: Representative concentration does not exceed allowable concentration.

Recommended Attachment: A map showing the location(s) of the soil source(s), location of POE, and location(s) of POC.

ARBCA SUMMARY REPORT **FORM NO. 27**

UST Incident No(s): UST 18-08-04 **Facility ID:** 14932-001-013870

Date Form Completed: 20-Apr-20 **Form Completed By:** Julia Gable

TIER 2 GROUNDWATER RESOURCE PROTECTION TARGET CONCENTRATIONS

Distance from source to the point of exposure (POE): *618*

	COMPARISON FOR COMPLIANCE WELLS														
CHEMICALS OF CONCERN	CW Rep. Conc. 5 [mg/L]	Allowable GW Conc. at a POC 6 [mg/L]	**E/ NE**	CW Rep. Conc. 5 [mg/L]	Allowable GW Conc. at a POC 6 [mg/L]	**E/ N**	CW Rep. Conc. 5 [mg/L]	Allowable GW Conc. at a POC 6 [mg/L]	**E/ N**	CW Rep. Conc. 5 [mg/L]	Allowable GW Conc. at a POC 6 [mg/L]	**E/ N**	CW Rep. Conc. 5 [mg/L]	Allowable GW Conc. at a POC 6 [mg/L]	**E/ N**
COMPLIANCE WELL NO.	*MW-4*			*MW-6*			*MW-7*			*MW-8*			*MW-9*		
DISTANCE FROM SOURCE	*36*			*33*			*55*			*56*			*51*		
RECENT TREND	*Stable*			*Stable*			*Stable*			*Stable*			*Fluctuating*		
ORGANICS															
Benzene	0.0154	0.535	**NE**	0.0564	0.554	**NE**	0.0136	0.382	**NE**	0.0028	0.375	**NE**	0.2543	0.414	**NE**
Toluene	0.0017	107	**NE**	0.002	111	**NE**	0.0026	76.5	**NE**	0.0024	75	**NE**	0.0046	82.8	**NE**
Ethylbenzene	0.0013	74.9	**NE**	0.0078	77.6	**NE**	0.0005	53.5	**NE**	0.006	52.5	**NE**	0.0896	58	**NE**
Xylenes (Total)	0.0031	175	**NE**	0.0054	175	**NE**	0.0026	175	**NE**	0.0011	175	**NE**	0.0098	175	**NE**
MTBE	0.0005	2.14	**NE**	0.0014	2.22	**NE**	0.0005	1.53	**NE**	0.0005	1.5	**NE**	0.0064	1.66	**NE**
Anthracene															
Benzo(a)anthracene															
Benzo(a)pyrene															
Benzo(b)fluoranthene															
Benzo(g,h,i)perylene															
Benzo(k)fluoranthene															
Chrysene															
Fluoranthene															
Fluorene															
Naphthalene	0.0017	2.14	**NE**	0.0051	2.22	**NE**	0.0025	1.53	**NE**	0.0025	1.5	**NE**	0.0044	1.66	**NE**
Phenanthrene															
Pyrene															
METALS															
Arsenic															
Barium															
Cadmium															
Chromium VI															
Lead															
Zinc															

NOTE: Use the ***ARBCA Computational Software*** to calculate the allowable (i) soil source conc., (ii) GW source conc., and (iii) compliance well conc.

5: Representative concentrations in the compliance well.

6: Allowable groundwater concentrations at a point of compliance (POC) protective of a POE.

E: Representative concentration exceeds allowable concentration.

NE: Representative concentration does not exceed allowable concentration.

Recommended Attachment: A map showing the location(s) of the soil source(s), location of POE, and location(s) of POC.

ARBCA SUMMARY REPORT **FORM NO. 27**

UST Incident No(s): UST 18-08-04 **Facility ID:** 14932-001-013870

Date Form Completed: 20-Apr-20 **Form Completed By:** Julia Gable

TIER 2 GROUNDWATER RESOURCE PROTECTION TARGET CONCENTRATIONS

Distance from source to the point of exposure (POE): *618*

	COMPARISON FOR SOURCE SOIL			COMPARISON FOR SOURCE GROUNDWATER			COMPARISON FOR COMPLIANCE WELLS								
CHEMICALS OF CONCERN	Soil Source Rep. Conc. [1] [mg/kg]	Allowable Soil Conc. [2] [mg/kg]	**E/ NE**	GW Source Rep. Conc. [3] [mg/L]	Allowable GW Conc. at a POC [4] [mg/L]	**E/ N**	CW Rep. Conc. [5] [mg/L]	Allowable GW Conc. at a POC [6] [mg/L]	**E/ N**	CW Rep. Conc. [5] [mg/L]	Allowable GW Conc. at a POC [6] [mg/L]	**E/ N**	CW Rep. Conc. [5] [mg/L]	Allowable GW Conc. at a POC [6] [mg/L]	**E/ N**
COMPLIANCE WELL NO.	*MW-12*			*MW-5*			*MW-10*			*MW-11*			*MW-12*		
DISTANCE FROM SOURCE	*90*			*44*			*80*			*100*			*90*		
RECENT TREND	*n/a*			*Fluctuating*			*Stable*			*Stable*			*Fluctuating*		
ORGANICS															
Benzene	0.184	0.333	**NE**	5.83	0.472	**E**	0.0005	0.232	**NE**	0.0005	0.163	**NE**	12.84	0.193	**E**
Toluene	8.38	97.6	**NE**	28.8	94.4	**NE**	0.0025	45.6	**NE**	0.0025	32.5	**NE**	39.13	38.7	**E**
Ethylbenzene	17.4	86.1	**NE**	3.91	66.1	**NE**	0.0005	32.5	**NE**	0.0005	22.8	**NE**	3.44	27.1	**NE**
Xylenes (Total)	80	137	**NE**	17.95	175	**NE**	0.0005	175	**NE**	0.0005	175	**NE**	16.08	175	**NE**
MTBE	0.0047	0.931	**NE**	0.183	1.89	**NE**	0.0005	0.93	**NE**	0.0005	0.65	**NE**	182.36	0.773	**E**
Anthracene															
Benzo(a)anthracene															
Benzo(a)pyrene															
Benzo(b)fluoranthene															
Benzo(g,h,i)perylene															
Benzo(k)fluoranthene															
Chrysene															
Fluoranthene															
Fluorene															
Naphthalene	0.0423	10.2	**NE**	1.14	1.89	**NE**	0.0025	0.93	**NE**	0.0025	0.65	**NE**	0.64	0.773	**NE**
Phenanthrene															
Pyrene															
METALS															
Arsenic															
Barium															
Cadmium															
Chromium VI															
Lead															
Zinc															

NOTE: Use the ***ARBCA Computational Software*** to calculate the allowable (i) soil source conc., (ii) GW source conc., and (iii) compliance well conc.

1: The soil source representative concentrations have to be calculated and entered here.

2: Allowable soil concentrations at the source protective of groundwater at the POE.

3: The groundwater source representative concentrations have to be calculated and entered here.

4: Allowable groundwater concentrations at the source protective of groundwater at the POE.

5: Representative concentrations in the compliance well.

6: Allowable groundwater concentrations at a point of compliance (POC) protective of a POE.

E: Representative concentration exceeds allowable concentration.

NE: Representative concentration does not exceed allowable concentration.

Recommended Attachment: A map showing the location(s) of the soil source(s), location of POE, and location(s) of POC.

ARBCA SUMMARY REPORT **FORM NO. 27**

UST Incident No(s): UST 18-08-04 **Facility ID:** 14932-001-013870

Date Form Completed: 20-Apr-20 **Form Completed By:** Julia Gable

TIER 2 GROUNDWATER RESOURCE PROTECTION TARGET CONCENTRATIONS

Distance from source to the point of exposure (POE): *618*

CHEMICALS OF CONCERN	COMPARISON FOR COMPLIANCE WELLS														
	CW Rep. Conc. [5] [mg/L]	Allowable GW Conc. at a POC [6] [mg/L]	E/NE	CW Rep. Conc. [5] [mg/L]	Allowable GW Conc. at a POC [6] [mg/L]	E/N	CW Rep. Conc. [5] [mg/L]	Allowable GW Conc. at a POC [6] [mg/L]	E/N	CW Rep. Conc. [5] [mg/L]	Allowable GW Conc. at a POC [6] [mg/L]	E/N	CW Rep. Conc. [5] [mg/L]	Allowable GW Conc. at a POC [6] [mg/L]	E/N
COMPLIANCE WELL NO.	*MW-13*			*MW-14*			*VW-1*								
DISTANCE FROM SOURCE	*89*			*90*			*4*								
RECENT TREND	*Stable*			*Stable*			*Stable*								
ORGANICS															
Benzene	0.0005	0.197	**NE**	0.0005	0.193	**NE**	0.0005	0.593	**NE**						
Toluene	0.0025	39.4	**NE**	0.002	38.7	**NE**	0.002	119	**NE**						
Ethylbenzene	0.0005	27.6	**NE**	0.0008	27.1	**NE**	0.0008	8.3	**NE**						
Xylenes (Total)	0.0005	175	**NE**	0.0005	175	**NE**	0.0005	175	**NE**						
MTBE	0.0005	0.787	**NE**	0.0005	0.773	**NE**	0.0005	2.37	**NE**						
Anthracene															
Benzo(a)anthracene															
Benzo(a)pyrene															
Benzo(b)fluoranthene															
Benzo(g,h,i)perylene															
Benzo(k)fluoranthene															
Chrysene															
Fluoranthene															
Fluorene															
Naphthalene	0.0025	0.787	**NE**	0.0025	0.773	**NE**	0.0025	2.37	**NE**						
Phenanthrene															
Pyrene															
METALS															
Arsenic															
Barium															
Cadmium															
Chromium VI															
Lead															
Zinc															

NOTE: Use the ***ARBCA Computational Software*** to calculate the allowable (i) soil source conc., (ii) GW source conc., and (iii) compliance well conc.

5: Representative concentrations in the compliance well.

6: Allowable groundwater concentrations at a point of compliance (POC) protective of a POE.

E: Representative concentration exceeds allowable concentration.

NE: Representative concentration does not exceed allowable concentration.

Recommended Attachment: A map showing the location(s) of the soil source(s), location of POE, and location(s) of POC.

ARBCA SUMMARY REPORT	FORM NO. 29a
UST Incident No(s): UST 18-08-04	**Facility ID: 14932-001-013870**
Date Form Completed: 20-Apr-20	**Form Completed By: Julia Gable**

TIER 2 ON-SITE TARGET LEVELS FOR INHALATION AND INGESTION

NOTE: The SSTLs listed for each route of exposure are the minimum SSTLs for all the receptors for that particular route of exposure. The Tier 2 on-site target levels are the minimum SSTLs of all routes of exposures within each medium.

CHEMICALS OF CONCERN	SURFICIAL SOIL		SUBSURFACE SOIL			GROUNDWATER			
	Outdoor Inhalation, Ingestion, & Dermal Contact [mg/kg]	**On-Site Tier 2 Target Levels** [mg/kg]	Indoor Inhalation [mg/kg]	Outdoor Inhalation [mg/kg]	**On-Site Tier 2 Target Levels** [mg/kg]	Indoor Inhalation [mg/L]	Outdoor Inhalation [mg/L]	Ingestion of Water [mg/L]	**On-Site Tier 2 Target Levels** [mg/L]
ORGANICS									
Benzene	256	**256**	174	648	**174**	520	1750	NA	**520**
Toluene	256	**256**	286	286	**286**	526	526	NA	**526**
Ethylbenzene	116	**116**	116	116	**116**	169	169	NA	**169**
Xylenes (Total)	137	**137**	137	137	**137**	175	175	NA	**175**
MtBE	5.86	**5.86**	12400	12400	**12400**	48000	48000	NA	**48000**
Anthracene	NA	**NA**	NA	NA	**NA**	NA	NA	NA	**NA**
Benzo(a)anthracene	NA	**NA**	NA	NA	**NA**	NA	NA	NA	**NA**
Benzo(a)pyrene	NA	**NA**	NA	NA	**NA**	NA	NA	NA	**NA**
Benzo(b)fluoranthene	NA	**NA**	NA	NA	**NA**	NA	NA	NA	**NA**
Benzo(g,h,i)perylene	NA	**NA**	NA	NA	**NA**	NA	NA	NA	**NA**
Benzo(k)fluoranthene	NA	**NA**	NA	NA	**NA**	NA	NA	NA	**NA**
Chrysene	NA	**NA**	NA	NA	**NA**	NA	NA	NA	**NA**
Fluoranthene	NA	**NA**	NA	NA	**NA**	NA	NA	NA	**NA**
Fluorene	NA	**NA**	NA	NA	**NA**	NA	NA	NA	**NA**
Naphthalene	88.4	**88.4**	88.4	88.4	**88.4**	31	31	NA	**31**
Phenanthrene	NA	**NA**	NA	NA	**NA**	NA	NA	NA	**NA**
Pyrene	NA	**NA**	NA	NA	**NA**	NA	NA	NA	**NA**
METALS									
Arsenic	NA	**NA**	NA	NA	**NA**	NA	NA	NA	**NA**
Barium	NA	**NA**	NA	NA	**NA**	NA	NA	NA	**NA**
Cadmium	NA	**NA**	NA	NA	**NA**	NA	NA	NA	**NA**
Chromium VI	NA	**NA**	NA	NA	**NA**	NA	NA	NA	**NA**
Lead	NA	**NA**	NA	NA	**NA**	NA	NA	NA	**NA**
Zinc	NA	**NA**	NA	NA	**NA**	NA	NA	NA	**NA**

NOTE:
NA: Not Available

ARBCA SUMMARY REPORT	FORM NO. 29b
UST Incident No(s): UST 18-08-04	**Facility ID: 14932-001-013870**
Date Form Completed: 20-Apr-20	**Form Completed By: Julia Gable**

TIER 2 OFF-SITE TARGET LEVELS FOR INHALATION AND INGESTION

NOTE: The SSTLs listed for each route of exposure are the minimum SSTLs for all the receptors for that particular route of exposure. The Tier 2 off-site target levels are the minimum SSTLs of all routes of exposures within each medium.

CHEMICALS OF CONCERN	SURFICIAL SOIL		SUBSURFACE SOIL			GROUNDWATER			
	Outdoor Inhalation, Ingestion, & Dermal Contact [mg/kg]	**Off-Site Tier 2 Target Levels** [mg/kg]	Indoor Inhalation [mg/kg]	Outdoor Inhalation [mg/kg]	**Off-Site Tier 2 Target Levels** [mg/kg]	Indoor Inhalation [mg/L]	Outdoor Inhalation [mg/L]	Ingestion of Water [mg/L]	**Off-Site Tier 2 Target Levels** [mg/L]
ORGANICS									
Benzene	256	**256**	26.5	648	**26.5**	79.4	1750	NA	**79.4**
Toluene	286	**286**	286	286	**286**	526	526	NA	**526**
Ethylbenzene	116	**116**	116	116	**116**	169	169	NA	**169**
Xylenes (Total)	137	**137**	137	137	**137**	175	175	NA	**175**
MtBE	377	**377**	9080	1240	**1240**	3910	4800	NA	**3910**
Anthracene	NA	**NA**	NA	NA	**NA**	NA	NA	NA	**NA**
Benzo(a)anthracene	NA	**NA**	NA	NA	**NA**	NA	NA	NA	**NA**
Benzo(a)pyrene	NA	**NA**	NA	NA	**NA**	NA	NA	NA	**NA**
Benzo(b)fluoranthene	NA	**NA**	NA	NA	**NA**	NA	NA	NA	**NA**
Benzo(g,h,i)perylene	NA	**NA**	NA	NA	**NA**	NA	NA	NA	**NA**
Benzo(k)fluoranthene	NA	**NA**	NA	NA	**NA**	NA	NA	NA	**NA**
Chrysene	NA	**NA**	NA	NA	**NA**	NA	NA	NA	**NA**
Fluoranthene	NA	**NA**	NA	NA	**NA**	NA	NA	NA	**NA**
Fluorene	NA	**NA**	NA	NA	**NA**	NA	NA	NA	**NA**
Naphthalene	88.4	**88.4**	88.4	88.4	**88.4**	31	31	NA	**31**
Phenanthrene	NA	**NA**	NA	NA	**NA**	NA	NA	NA	**NA**
Pyrene	NA	**NA**	NA	NA	**NA**	NA	NA	NA	**NA**
METALS									
Arsenic	NA	**NA**	NA	NA	**NA**	NA	NA	NA	**NA**
Barium	NA	**NA**	NA	NA	**NA**	NA	NA	NA	**NA**
Cadmium	NA	**NA**	NA	NA	**NA**	NA	NA	NA	**NA**
Chromium VI	NA	**NA**	NA	NA	**NA**	NA	NA	NA	**NA**
Lead	NA	**NA**	NA	NA	**NA**	NA	NA	NA	**NA**
Zinc	NA	**NA**	NA	NA	**NA**	NA	NA	NA	**NA**

NOTE:
NA: Not Available

Engineering. Environmental. Answers.

Quality Assurance/Quality Control Plan

Appendix B

QA/QC MONITORING/SAMPLING PLAN

FIELD ACTIVITIES

Air Sampling

Air samples are collected utilizing an air sampling pump system or Summa canister. The pump is primed, prior to collection of each sample, to displace any trapped air or gases with the targeted air make-up. The air is drawn in and exits through polyethylene tubing. The sample is collected directly into and stored in a Tedlar air/gas sampling bag or Summa canister. The sample bag or canister is provided to CDG by the analytical laboratory. The air sampling pump system is also used to extract air/gases from a vacuum and drive them into a field-screening instrument. The air sample collection and screening protocols are described below.

Air Screening

Air screening is conducted to provide a field indication of the levels of hydrocarbon gases in vapor phase. The air/gases are screened with an organic vapor analyzer, equipped with a methane filter (as applicable). The field instrument is field calibrated to a gas standard of known concentration. Field air/gas samples are screened at ambient conditions and the data recorded. The field screening test form contains the following information:

- Project name (client and location);
- Data table number;
- Personnel collecting samples;
- Field screening instrument used and I.D. number;
- Calibration information;
- Description of field screening method;
- Sample identification information; and
- Screening data, including time collected/screened, ambient temperature/results.

Air Sampling Protocols

Air samples designated for laboratory analysis are collected in Tedlar bags or a Summa canister. The sample bags or canister are provided to CDG directly by the analytical laboratory. If Tedlar bags are used, two Tedlar bags are filled for each sample, in the event the bags are damaged during shipment. Upon collection, each sample bag is immediately placed in a cooler or other secure shipping container, following laboratory instructions and appropriate chain of custody documentation. The samples are sent direct to the laboratory via overnight carrier, or are picked up from the CDG office by a representative of the laboratory.

Groundwater Monitoring/Sampling Activity Protocols

Groundwater monitoring/sampling includes the following associated activities:

1) Measurement for the presence of free product;
2) Measurement of static water level;
3) Calculation of standing water volume (in well);
4) Sample collection; and
5) Equipment decontamination.

Groundwater sampling parameters are recorded in the field on a monitor well sampling record form. The details for each of the above referenced monitoring/sampling activities are described in the following sections.

Free Product Detection and Measurement

The presence of free product is measured prior to free product recovery, and purging/sampling the selected monitor well. Free product is detected/measured using a hydrocarbon/water interface probe. The probe is lowered slowly into the well until an instrument tone is heard (a constant tone indicates that free product is present, and an intermittent tone indicates that water is present). The point at which a constant tone is first heard is considered the top of free product. The measurement from the top of the PVC well casing to the top of free product is recorded. The measurement is checked at least twice. The probe is then slowly lowered further into the well until an intermittent tone is heard (indicating that the probe has passed through the free product layer into the underlying groundwater interval). Once the intermittent tone is encountered, the probe is slowly raised until the constant tone is again indicated. This point is considered the interface between the floating free product layer and the groundwater table. The measurement from the top of the PVC casing to the interface is recorded. This measurement is also checked at least twice.

The free product thickness is determined by calculating the difference between the measurement to the top of free product and the measurement to the free product/water interface (the interface probe measures free product and water levels to an accuracy of 0.01 feet). If free product is identified by the interface probe, a clear bailer is lowered into the well to collect a sample for visual confirmation of the free product. Remarks regarding visual characteristics of the free product are recorded (black, clear, colored, etc.).

Calculation of Standing Water Volume

The standing water volume in a monitor well is calculated using the equation:

$\mathbf{v = 3.14 \times r^2 \times l}$ (where **v** = well volume, **r** = well radius, and **l** = length of the column of water in the well).

The column of water in the well can be calculated using the equation:

l = w – d (where **w** = distance from the top of casing to the bottom of the well and **d** = distance from the top of casing to the top of the water).

Well Evacuation

Well evacuation is initiated after the static water level is measured and the standing water volume has been calculated. Well evacuation is conducted by either using a new disposable (single-use) bailer, a well-dedicated PVC bailer, or a surface mounted pneumatic operated diaphragm pump (a diaphragm pump is only used in deep wells (greater than 25 feet) or in wells that yield such large volumes that hand-bailing is not practical).

Well evacuation with a bailer is performed by attaching a new nylon line to the bailer, and then lowering the bailer in to the well until the bailer is submerged. The bailer is then retrieved from the well in such a manner that the bailer and nylon line do not contact the ground or surrounding vegetation (to prevent contaminating the bailer or line). The water removed from the well is poured into a graduated bucket so that the amount of water removed can be determined. This procedure is repeated until three well volumes of water are removed, or until the well is purged dry. For wells that recharge very slowly, the purge water is limited to one well volume. The volume of groundwater purged from each well will be recorded.

Well evacuation with a diaphragm pump is conducted by lowering disposable tubing (hose) into the well, to sufficient depth. For deeper wells, a PVC pipe, equipped with a foot valve (to stage-lift the water out of the well) will be employed. The piping will be well-dedicated to prevent cross-contamination. Pumping will be performed until at least three well volumes are recovered (purge volume will be recorded).

Petroleum contaminated water (PCW) purged from wells in conjunction with groundwater monitoring/sampling activities will be containerized on-site in labeled 55-gallon drums. PCW will be removed periodically from the site to an appropriate disposal/treatment/recycling facility approved by the ADEM. Records will be maintained as to the volume of PCW accumulated at the site, and identification labels will be affixed to PCW containers. Prior to disposal, samples will be collected and analyzed as required by the ADEM and the disposal/treatment/recycling facility. No waste will be removed from the site without ADEM knowledge/approval.

Groundwater Sample Collection

Groundwater samples are collected from monitor wells not containing free product, unless otherwise directed by the ADEM. Groundwater sampling is performed using a new disposable bailer for each sampled well. The disposable bailers are purchased in individually wrapped packages, and are not opened until ready to use. Once opened, the bailers are attached to a length of new nylon string. The bailer and string are not allowed to touch the ground or vegetation, and are disposed of after each well.

Sampling is accomplished by slowly lowering the bailer into the well to a depth where the bailer is almost completely submerged. The bailer is then slowly retrieved from the well to minimize agitation of the sample. Once collected, the water sample is immediately transferred (poured slowly to minimize agitation and formation of air bubbles) into the designated sample containers.

Groundwater samples collected for BTEX/MTBE analysis (volatile organics) are poured very slowly down the inside of the sample vial to avoid aeration. The sample vials, consisting of 40 ml glass with a Teflon septum cap, are shipped to CDG directly from the analytical laboratory. The groundwater sample is added to the vial until a convex meniscus is formed across the top of the vial. The Teflon septum cap is placed on the vial and the vial is upended to check for trapped air bubbles. If bubbles are present, the sample container is opened, and topped off again until an air-free sample is obtained. If the vial cannot be closed "air-free" after three tries, it is discarded. Two samples are collected for each BTEX/MTBE (volatile) analysis. The preservation employed for BTEX/MTBE (volatile) analysis will include either of the following (depending on holding time constraints):

- Cool collected sample to 4^{o}C and maintain (7 day holding time), or
- Add 4 drops concentrated HCl to sample vial (typically the acid is pre-added by the laboratory to the sample vial) and then cool sample to 4^{o}C and maintain (14 day holding time).

Immediately following collection of each groundwater sample, the sample is labeled, placed in bubble pack (to prevent the glass vial from breaking during shipping), and stored in a well-iced ice chest. Each sample label includes the site location, sample identification number, name of collector, date/time of collection, and parameter(s) requested.

Following collection of all samples, the iced chest will be sealed and transported to the laboratory following appropriate chain of custody protocols (refer to description of Chain of Custody protocols provided below).

Decontamination of Groundwater Sampling Equipment
All equipment used for groundwater sampling is either well-dedicated or is used only once and disposed of. As a result, cleaning/decontamination of sampling equipment is minimal.

QA/QC PROCEDURES DISCUSSION

Chain of Custody
Sample custody begins with the subcontracted laboratory when sample kits are prepared and shipped for CDG use at a specified project location. Responsibility for

sample container materials and preparation lies with the subcontracted laboratory. Sample containers and kits are normally shipped to CDG by common carrier or are dropped off by a laboratory representative. Upon receipt of the kits, CDG personnel complete an inventory of the contents to confirm that the containers, etc. are adequate for the number of wells and specified analytes. Sample bottles may be pre-labeled and contain the proper preservative. The individual sample vials and/or other sample containers are not opened until used in the field. CDG will secure the sample kits inside the office until the specific sampling project is to be performed.

The samples remain in the custody of the CDG representative until delivered to the subcontract laboratory or dispatched via common carrier for shipment to the laboratory. In cases where samples leave the direct control of CDG personnel, such as shipment to a laboratory by a common carrier (FedEx, UPS, etc.), a seal will be provided on the shipping container or individual sample bottles to ensure that the samples have not been opened or otherwise disturbed during transportation.

To establish and maintain the documentation necessary to trace sample possession from the time of collection, a chain of custody record will be completed and will accompany every sample. The record contains the following types of information:

- Sample number
- Signature of collector
- Date and time of collection
- Sample type (soil, groundwater, air, etc.)
- Identification of well
- Number of containers
- Parameters requested for analysis
- Required detection limit
- Signature of person(s) involved in the chain of possession.

Field QA/QC Program

Various types of field blanks are collected to verify that the sample collection and handling process has not affected the quality or integrity of the samples.

1) Trip Blanks – A trip blank is a field blank that is transported from the laboratory to the sampling site, handled in the same manner as other samples, and then returned to the laboratory for analysis in determining QA/QC of sample handling procedures. The trip blank is prepared in the laboratory with distilled/organic free water and is utilized at a frequency of 1 trip blank for each cooler (or other shipping container) used to transport samples from the laboratory to the field and back to the laboratory.

2) Duplicate Sample – Duplicate samples are collected simultaneously from the same source, under identical conditions, into separate sample containers. These samples provide a check on the sampling techniques as well as laboratory equipment. Duplicate samples are only collected on groundwater samples at a frequency of one sample per sampling event.

The results of the analysis of the blanks will not be used to correct the groundwater data. If contaminants are found in the blanks, an attempt to identify the source of contamination will be initiated and corrective action, including re-sampling if necessary, will be evaluated.

After completing a sampling program, the field data package (field logs, calibration records, chain of custody forms, etc.) will be reviewed for completeness and accuracy. Some of the items considered in the Field Data Package Validation Procedure include but are not limited to the following:

- A completeness review of field data contained on water and soil sampling logs;
- A verification that sampler blanks were properly prepared, identified, and analyzed;
- A check on field analyses for equipment calibration and condition; and
- A review of chain of custody forms for proper completion, signatures of field personnel and the laboratory sample custodian, and dates.

Laboratory QA/QC Program

The selection of a contract laboratory can be directed either by the client or by CDG. In either case, the selection is typically based upon several facts, including cost; laboratory certification; quality data and reporting; and turn around time. The most critical factor in the selection of an analytical laboratory by CDG is the quality of data and reporting provided by the laboratory. Typically, the results of analytical laboratory testing dictate the activities conducted at a site. The activities conducted when selecting a laboratory include discussions with current and past customers, discussions with regulators, and review of laboratory QA/QC practices.

The normal turn around for samples will be two weeks for most samples. Prior to contracting a laboratory to conduct analysis, an estimate of the turn around time is obtained. If the expected turn around is in excess of three weeks then a backup laboratory is contacted to determine their availability. A decision of which laboratory to use in a particular instance is made on a case-by-case basis.

Once an analytical report is received by CDG, validation of the analytical data package will be performed. The Analytical Data Package Validation procedure will include but is not limited to the following:

- A comparison of the Data Package to the reporting level requirements designed for the project, to ensure completeness;
- A comparison of sampling dates, sample extraction dates, and analysis dates to determine if samples were extracted and/or analyzed within the proper holding times' as failure in this area may render the data unusable;
- A review of analytical methods and required detection limits to verify that they agree with set standards; as failure in this area may render the data unusable;
- A review of sample blanks to evaluate possible sources of contamination. The preparation techniques and frequencies, and the analytical results (if appropriate) will be considered; and
- A review of blanks (trip blanks, reagent blanks, method blanks, and extraction blanks) to assure that they are contamination free at the lowest possible detection limit. All blank contaminants must be explained or the data applicable to those blanks will be labeled suspect and may only be sufficient for qualitative purposes.
- A review of detection limits, to ensure sample results are accurate to below the levels specified as ADEM Initial Screening Levels.
- A review of data "qualifiers" reported by the laboratory for significance to the results.

Engineering. Environmental. Answers.

Site Health and Safety Plan

Appendix C

Site Health and Safety Plan

Prattmont Liberty
Prattville, Autauga County, Alabama
ADEM Facility ID# 14932-001-013870
ADEM Incident No. UST18-08-04

Prepared For:

Tom Jones, Inc.
P.O. Box 1806
Montgomery, Alabama 36103

Prepared By:

CDG Engineers & Associates, Inc.
3 Riverchase Ridge
Hoover, Alabama 35244

Table of Contents

1.0 Introduction

This Health and Safety Plan (HASP) has been prepared specifically for corrective action activities to be conducted by CDG Engineers & Associates, Inc. (CDG) for the Prattmont Liberty facility in Prattville, Autauga County, Alabama. These activities include all fieldwork necessary to conduct soil and groundwater remediation of petroleum hydrocarbons at the site.

2.0 Purpose

This HASP describes the preventative measures, person protection, and safety procedures to be followed by CDG personnel and subcontractors during all field activities. The HASP has been prepared in accordance with and meets the requirements of the Occupation Safety and Health Administration (OSHA) General Safety Standards for industry under 29 CFR 1910 and construction under 29 CFR 1926, the joint NIOSH/OSHA/USCG/EPA, *Occupational Safety and Health Guidance Manual for Hazardous Waste Site Activities*, dated October 1985, and NFPA Safety Guidelines. Should any unexpected conditions arise, the HASP will be amended to accommodate site specific conditions.

3.0 Key Personnel and Responsibilities

All CDG personnel have received an initial 40-hour HAZWOPER certification, which is updated annually through an 8-hour refresher course. This training course meets the requirements of the OSHA 29 CFR 1910.120 standards. CDG personnel assigned to the project include:

NAME	TITLE	RESPONSIBILITIES
David C. Dailey	Professional Engineer/ Corporate HSO	Overall management of entire project from beginning to completion. Responsible for preparation and implementation of the HASP and reporting of all hazard incidents to appropriate enforcement agencies. Coordinates and oversees all field activities.
Alecia Hamilton	Scientist/ Site HSO/Project Manager	Performs all field activities and is responsible for recognizing site hazards and reporting hazard incidents to Corporate HSO.

4.0 Scope of Work

Work to be performed will include installation and sampling activities.

4.1 Installation Activities

Installation activities generally involve preparing the site for installation activities and also the construction of the MPVE unit onsite. More specifically this will include:

- Preparing the site for work to be performed
- Saw-cutting concrete surface, excavating, and installing well vaults
- Installing polyvinyl chloride (PVC) extraction piping and subsurface utility lines
- Installing piping connections from extraction piping to wellhead
- Overseeing placing and leveling of remediation system
- Completing all piping connections from extraction and utility lines to remediation unit
- Completing all electrical connections
- Installing concrete block security fence
- Inspecting rotation on all electric motors
- Inspecting PVC piping, extraction lines, treatment system, and associated connections for leaks at start up

4.2 Operation and Maintenance Activities

Subsequent to the construction and installation of the MPVE unit, the unit must periodically undergo inspections or maintenance. CDG field personnel will inspect the unit on a weekly basis, taking certain instrument readings necessary to determine the progress of the remediation being performed at that particular site. Maintenance of the unit is performed on an as needed basis. The following applies to operation and maintenance activities associated with the MPVE unit:

- Inspecting proper working condition of telemetry system
- Lubricating motors
- Inspecting piping for leaks
- Inspecting belts on Liquid Ring Vacuum Pump (LRVP) system
- Periodic cleaning of equipment and components
- Periodic inspections of electrical connections

- Measuring induced vacuum in on site monitoring wells
- Removing silt and sludge buildup from knockout pot air stripper, filtration system and other system components
- Measuring air flow from MPVE unit
- Measuring liquid levels in wells
- Sampling effluent for discharge parameters
- Measuring volume of liquids removed and discharged

5.0 Chemical Hazards

When conducting the aforementioned corrective action activities, the primary chemicals of concern are gasoline.

5.1 Gasoline and Diesel

Gasoline and diesel are substances to be potentially encountered in the soil and groundwater at the site. Gasoline components include benzene, toluene, ethylbenzene, and xylenes (BTEX). Diesel components may include anthracene, benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(g,h,i)perylene, benzo(k)fluoranthene, chrysene, fluoranthene, fluorene, naphthalene, phenanthrene, and pyrene.

5.2 Hazard Identification

During the corrective action activities, many hazards or potential hazards may be encountered when dealing with gasoline or diesel. This section serves as a guideline in recognizing hazards associated with these chemicals that exist or may potentially arise during field activities. Recognition is the first step in eliminating exposure to these hazards.

Occasionally methyl-tertiary butyl ether (MTBE) is encountered. MTBE has been used since 1979 as an oxygenate to gasoline in order to decrease carbon monoxide production in cars, particularly older model cars; however, MTBE has been determined to be a potential carcinogen. MTBE has low taste and odor thresholds, which can make a water supply non-potable even at low concentrations.

Exposure to MTBE will only be seen through exposure to gasoline containing MTBE and the effects of gasoline containing MTBE are relatively similar to gasoline not containing MTBE. The following are hazards associated with exposure to gasoline:

- Contact may irritate or burn the skin and eyes and absorption through the skin may be

poisonous

- Vapors may be poisonous if inhaled and are irritating to the respiratory tract
- Vapors are an explosion hazard and my travel to a source of ignition and produce flashback
- A gasoline fire may produce irritating and poisonous gases
- Gasoline and diesel are flammable/combustible materials that may be ignited by heat, sparks, or flames, and a gasoline container may explode when exposed to heat or fire

The primary hazard associated with exposure to gasoline is the inhalation of vapors. The Material Safety Data Sheets (MSDS's) are presented in Attachment A.

5.3 Hazard Prevention

Preventing exposure to chemical hazards generally requires the use of personal protective equipment (PPE). Level D equipment will provide the protection necessary to prevent exposure to these hazards. Level D equipment is discussed further in Section 10.1, Personal Protective Equipment.

5.4 Symptoms and First Aid Procedures

Many of the constituents found in gasoline and diesel act as central nervous system (CNS) depressants. The following table includes first aid measures for CNS depressants, which affect a person through inhalation (breathing), dermal (skin), or ingestion (mouth) exposure. In addition, the eye can be very sensitive to exposure to chemicals and is therefore included in the following table:

ROUTES OF EXPOSURE	SYMPTOMS	TREATMENT
Inhalation	Dizziness, nausea, lack of coordination, headache, irregular and rapid breathing, weakness, loss of consciousness, coma	Bring victim to fresh air. Rinse eyes or throat with plenty of water, if irritated. If symptoms are severe (victim vomits, is very dizzy or groggy, etc.), evacuate to hospital. Be prepared to administer CPR if certified. Monitor victim for at least 48 hours.
Dermal	Irritation, rash, or burning	Flush affected area with water for at least 15 minutes. Apply clean dressing and get medical attention.
Ingestion	Dizziness, nausea with stomach, cramps, loss of consciousness, coma	Evacuate victim to hospital. Do not induce vomiting.
Eye	Redness, irritation, pain, impaired vision	Flush with an abundant amount of water for at least 15 minutes. If severe, seek medical attention immediately.

6.0 Equipment/Operational Hazards

The following sections will address the hazards, preventative measures, and first aid procedures associated with the drill rig, backhoes, and other heavy equipment. The drill rig used during these field activities generally requires the use of augers for probing. These augers are designed to rotate in a circular motion while being forced downward through the soil. Field personnel are required to assemble and disassemble these parts. Contact with these rotating parts is one recognized hazard. In addition, the machinery also contains parts that become increasingly heated during operation.

6.1 Hazard Identification

There are several hazardous associated with use of any type of drill rig and heavy machinery while performing corrective action activities. Generally during these field operations, the general public may become fascinated with the operation and approach the work area. All unauthorized personnel are required to remain 100 feet away from the work area. The site HSO officer will be responsible for keeping all unauthorized personnel away from the work area. The hazardous associated with the use of a drill rig or other heavy machinery is as follows:

- Gasoline vapors from nearby dispensers can potentially enter the diesel-operated engine thereby causing fire/explosion hazards
- Rotating augers may catch onto gloves or clothing thereby pulling hands arms into the rotating machinery
- Drilling equipment may rupture hydraulic hoses thereby releasing hydraulic fluids
- Engine and exhaust system of an engine are extremely hot during and following operation
- Potential contact with overhead and underground utilities
- Open excavations/boreholes can be the source of trips and falls
- Digging machinery such as backhoes may puncture subsurface utilities
- Operators of heavy machinery may be unable to locate pedestrians near the operating equipment; therefore, all field personnel are to remain with eye contact of the operator at all times during operation

6.2 Hazard Prevention

Hazards associated with heavy machinery can easily be avoided with additional planning. The key to avoiding these hazards includes being familiar with the equipment and the process. In addition, being familiar with and implementing the precautionary measures listed below may reduce or eliminate the risks of a hazardous situation.

- Wear hard hat when working near or around the machinery
- Wear safety glasses when performing maintenance to machinery or power tools
- Shut down the machine engine when repairing or adjusting equipment
- Prevent accidental starting of engine during maintenance procedures by removing or tagging ignition key
- Block wheels or lower leveling jacks and set hand brakes to prevent equipment form moving during drilling procedures
- When possible, release all pressure on hydraulic systems, drilling fluid systems, , and air pressure systems of heavy machinery prior to performing maintenance
- Know the location of the emergency shut-off switch for all equipment
- Avoid contact with engine or exhaust system of engine following its operation
- Avoid using gasoline or other volatile/flammable liquids as a cleaning agent on or around heavy machinery
- Replace all caps, filler plugs, protective guards or panels, and high-pressure hose clamps, chains or cables moved during maintenance prior to excavation
- Avoid wearing rings or jewelry during drilling or installation procedures
- Be aware of all overhead and underground utilities
- Avoid alcohol or other CNS depressants or stimulants prior to excavation
- Avoid contact with equipment parts during freezing weather. Freezing of moist skin to metal can occur almost instantaneously
- Shut all field operations during an electrical storm
- Do not operate heavy equipment within 20 feet of overhead power lines

6.3 Symptoms and First Aid Procedure

Hazards associated with heavy equipment were identified in Section 6.1. Unlike hazards associated with temperature or chemicals, symptoms will not be apparent with these types of hazards. In addition, these hazards will occur rapidly as opposed to over a period of time. Due to the size and composition of hydraulic vehicles, exposure to these hazards will range from extremely serious to life-threatening; therefore CDG requires that exposed field personnel seek medical attention at the nearest medical

facility and the Project Manager be notified immediately. A site location map to the nearest hospital is presented in Attachment B.

7.0 Temperature Hazards

Another hazard associated with corrective action activities involves working in extreme weather conditions. Temperatures in the Southeast USA during the spring, summer, and occasionally the fall seasons can vary from mild to extremely hot. During this season, extra precautions are necessary to prevent hazards associated with elevated temperatures, which result in various forms of heat stress. In addition, the Southeast is known for its rather mild winter condition; however, on occasion, the Southeast may experience freezing conditions; therefore, precautions are also necessary to prevent hazards associated with these extreme temperatures.

7.1 Heat

As stated in OSHA's regulatory guidelines for heat exposure operations involving high air temperatures, radiant heat sources, high humidity, direct physical contact with hot objects, or strenuous physical activities have a high potential for inducing heat stress. Additional factors to consider in the determination of heat stress on an individual include age, weight, degree of physical fitness, degree of acclimatization, metabolism, use of alcohol or drugs, and a variety of medical conditions such as hypertension (high blood pressure). The following sections will identify the hazards associated with heat stress, the measures needed in order to prevent exposure to these hazards, and first aid procedures in the event exposure to these hazards should occur.

7.1.1 Hazard Identification

Heat stress is a major hazard, especially for workers wearing protective clothing. Depending on the ambient conditions and the work being performed, heat stress can occur very rapidly- within as little as 15 minutes. The key to preventing excessive heat stress is educating personnel on the hazards associated with working in heat and the benefits of implementing proper controls and work practices. The hazards associated with heat stress range from heat fatigue (mild discomfort) to heat stroke (extreme danger, which may result in death, and are discussed in the following sections.

7.1.1.1 Heat Fatigue

Heat fatigue occurs due to a lack of acclimatization (adjusting one's tolerance to work in elevated temperatures). Acclimatization is a gradual process. This process should include all field personnel being permitted to work in elevated temperatures in specified increments. On a daily basis, the maximum allowable work period should gradually be increased until the worker is able to perform his/her duties more proficiently under these conditions. The use of an acclimatization program is recommended in the regulatory guidelines established by OHSA.

7.1.1.2 Heat Rash

Heat rash (prickly heat) is the most common heat stress factor, and may result form continuous exposure to heat or humid air where the skin remains wet due to lack of evaporation. Under these conditions, sweat ducts become plugged, and a skin rash appears, generally in areas where clothing is restrictive. This uncomfortable rash can be prevented by resting in a cool place during breaks and by implementing good daily personal hygiene.

7.1.1.3 Heat Collapse

Heat collapse is commonly referred to as "fainting." Fainting generally occurs when the brain does not receive enough oxygen. As a result of this condition, the exposed individual may lose consciousness. Heat collapse is rapid and unpredictable; therefore, acclimatization is an important factor in preventing this condition.

7.1.1.4 Heat Cramps

Heat cramps are muscular spasms, which usually occur in the abdomen or limbs due to loss of electrolytes following profuse sweating. Cramps are caused by either too much or too little salt intake. During the sweating process, salt exits the body; therefore, without the proper replenishment, the body experiences an electrolyte imbalance thereby inducing heat cramps. Thirst cannot be relied upon as a guide to the need for water. When working in hot environments, water must be replenished every 15 to 20 minutes.

7.1.1.5 Heat Exhaustion

Heat exhaustion is a result of overexertion in hot or warm weather. It is highly possible for an onsite worker to experience heat exhaustion due to the use of worker-protective coveralls, boots, gloves, and respirator protection, even when ambient temperatures are mild. Fainting may also occur with heat exhaustion. This can become an extreme hazard if operating heavy machinery.

Caution: Individuals with heart problems or on a "low sodium" diet who work in these environments should consult a physician and Corporate HSO prior to working in these conditions.

7.1.1.6 Heat Stroke

Heat stroke is the most severe form of heat stress. The body's temperature control system is maintained through sweat production. Perspiration is a cooling process for the body and keeps the body core temperature within a stable range. During heat stroke, sweat production is inhibited and the body temperature begins to rapidly rise. Brain damage and death may occur if body core temperature is extremely elevated and is not reduced.

7.1.2 Hazard Prevention

Hazards associated with temperature extremes can also be prevented with additional planning and preparation. The hazards associated with temperature can range from heat fatigue to heat stroke as described previously in Section 7.1.1 Measures to ensure the prevention of temperature hazards are as follows:

- Adhere to acclimatization process by exposing field personnel to progressively longer periods of time in hot environments.
- Schedule work for early morning or evening during warm weather
- Work in shifts; limit exposure time of personnel and allow frequent breaks
- Have cool liquids at an Exclusion Zone border for exposed personnel to continuously replace body fluids. As stated in the previous section, OSHA recommends that fluids, preferably water and/or a water-electrolyte solution be replenished every 15 to 20 minutes.
- Avoid caffeine and alcoholic beverages both during work hours and 24 hours prior to performing field activities

The site HSO or designee should continually monitor personnel for signs of heat stress. If any signs of heat disorders are apparent, all field personnel must immediately rest and replenish fluids until body core temperature is lowered and remains stable.

7.1.3 Symptoms and First Aid Procedures

As discussed previously in Section 7.1.1, hazards associated with heat stress range from heat fatigue to heat stroke. Taking precautionary measures to ensure that personnel are not exposed to extreme

temperatures for long periods of time can prevent these hazards. First aid measures for heat fatigue, heat rash, and heat collapse include taking frequent breaks so that the body core temperature can cool down. The following table includes first aid measures for signs of overexposure to heat.

TEMPERATURE HAZARDS	SYMPTOMS	TREATMENT
Heat Fatigue	Impaired performance of skilled sensorimotor, mental or vigilance jobs	No known treatment. Victim should be placed under cooler conditions until body core temperature lowers.
Heat Rash	Rash due to plugged sweat ducts, generally where clothing is restrictive	Keep dry towels or paper towels at the site to dry skin when excessive sweating occurs. Rash usually disappears when affected individual returns to cooler environment.
Heat Collapse	Loss of consciousness	Attempt to awaken individual. Relocate victim to a cooler area until body core temperature lowers and replenish fluids. Victim should rest for a few days.
Heat Cramps	Uncontrollable muscle spasms	Apply warm, moist heat and pressure to reduce pain. Give electrolyte drinks by mouth. Victim should intake additional potassium (Bananas are good potassium source).
Heat Exhaustion	Pale, clammy skin, profuse perspiration, weakness, headache, and nausea	Get victim into shade or cooler place. Immediately remove any protective clothing. Victim should drink plenty of fluids. Victim should lie down with feet raised. Fan and cool victim with wet compresses. If vomiting occurs, transport to hospital. Victim should rest for a few days.
Heat Stroke	Pale, dry skin due to lack of perspiration, weakness, unconsciousness	Immediately take precautions to cool body core temperature by removing clothing and sponging body with cool water, or placing in tub of cool water until temperature is lowered sufficiently (102°F). Stop cooling and observe victim for 10 minutes. Once temperature remains lowered, dry person off. Use fans or air conditioning, if available. Do not give the victim stimulants. Transfer to medical facility. Under no condition is the victim to be left unattended unless authorized by a physician.

8.0 Explosion/Electrocution Hazards

As stated previously in Section 4.1, extensive efforts are made in order to determine the location of subsurface utilities prior to corrective action activities. Efforts are made to obtain the location of underground utilities through the Line Locator Services, and utility companies are notified in advance to

perform a site inspection and utility marking; however, the potential for a subsurface utility to go unnoticed exists. Therefore, the hazards associated with exposure to these utilities are identified and preventative measures and first aid procedures are discussed further in the following sections.

8.1 Explosion

Primarily when dealing with subsurface utilities, two potentially life-threatening hazards exist. The first hazard identified in association with subsurface utilities during excavation activities are discussed further in the following section.

8.1.1 Hazard Identification

The main hazard associated with puncturing a subsurface utility gas line is explosion. By releasing gas (usually natural gas, which is generally methane gas or propane gas) into the atmosphere, explosive conditions are favorable; therefore, ignition sources must be immediately eliminated in the event a gas release occurs. Due to the flammability of gasoline, ignition sources will be minimized; however, the engines are needed during field activities. Therefore, the only alternative to reducing the explosion hazard is to stop the release as soon as possible. However, when dealing with gases under pressure, the volatilization process may occur at such a rapid speed that an explosive situation is inevitable.

8.1.2 Hazard Prevention

Preventative measures are ensured prior to field activities. These measures generally encompass locating subsurface utilities. In addition, CDG will request local utility companies to perform site inspections and mark all subsurface utilities. In addition to this notification, if a particular subsurface utility is not identified and CDG suspects the utility to exist, CDG will take additional precautionary measures to ensure the suspected utility does not exist. These measures generally include locating utility meter boxes, etc. In addition, a field technician or subcontractor will generally probe the ground with a small rod in order to possibly identify the existence of subsurface utilities. This is conducted usually when machinery reaches 2-3 feet below the ground surface (ft-bgs).

8.2 Electrocution

8.2.1 Hazard Identification

The main hazard associated with puncturing a subsurface electrical line or coming into contact with an overhead power line is electrocution. When dealing with electricity, all things are classified as either conductors or insulators. Conductors allow electricity to pass through them while insulators prevent electricity to pass through. Examples of conductors are metals, wood, and water, and examples of

insulators are rubber and PVC. Humans are also classified as conductors; therefore, contact with electrical sources can be fatal.

Because the heavy machinery is metal, which has been classified as one of the best sources of electrical conduction, contact with exposed electrical lines will allow current to flow. The National Electrical Code (NEC) has determined that 20 milliamps (mA) of current can be fatal. For comparison, a common household circuit breaker may conduct 15, 20, or 30 amps of electrical current.

8.2.2 Hazard Prevention

As stated previously in Section 8.1.2, preventative measures to locate subsurface and overhead electrical lines prior to corrective action activities are required by CDG. CDG will notify local utility companies to provide a site inspection and mark any existing subsurface electrical lines. In addition, CDG will contact the local power provider to insulate overhead lines if necessary. When dealing with the electrical components of the dewatering system, the following precautionary measures may prevent exposure to electrocution:

- Avoid contact with exposed connections/wiring and other related components
- If unfamiliar with the system, do not attempt contact with any component
- Call the Project Manager if unsure of any connections associated with the operations of the system.

8.2.3 Symptoms and First Aid Procedures

As discussed previously in Section 8.2.1, the hazard associated with puncturing subsurface electrical utilities and contacting electrical components of dewatering system is electrocution. The primary route of exposure is contact. The transmission of electricity is allowed because the metal equipment serves as a conductor for electrical current. Symptoms and treatment for exposure to electrical current is presented in the following table:

Caution: NEVER attempt to dislodge or remove someone that is contacting a high voltage line. Use an insulating material (PVC) to release the victim from the electrocution source.

9.0 Miscellaneous Hazards

The last hazard identified when performing corrective action activities has been classified as miscellaneous hazards due to the variety of these hazards. These hazards generally are nothing more than nuisances and with additional planning should be entirely avoidable; however, there are instances

in which exposure to these hazards will occur. Therefore, these hazards are identified and preventative measures and first aid procedures are discussed in further detail in the following sections.

9.1 Hazard Identification

Occasionally, exposure to common nuisances may potentially result in a life-threatening situation. For example, a wasp or bee sting for some individuals only causes irritation or localized soreness; however, to others with little tolerance for wasp or bee venom, an allergic reaction can result which could potentially lead to death if not treated immediately. Therefore, allergic reactions to these insects have been identified as a potential hazard. In addition to the insects, contact with black widow spiders (red hourglass), brown recluse spiders (violin shape on back), and snakes are also potential hazard.

9.2 Hazard Prevention

Prevention, with regards to miscellaneous hazards, is more difficult to plan ahead. Generally, prior to conducting corrective action activities, the primary location for the activities has been established; therefore, barricades such as cones and company vehicles can be placed around the work area to prevent exposure to incoming and ongoing vehicles. However, the limitation to using cones is that they are often small and unnoticeable to drivers once inside the vehicles; therefore, the best prevention with regards to this miscellaneous hazard is to constantly be aware of your surroundings. This preventative measure can also be applied to exposure to insects, snakes, and spiders. Be aware of your surrounding when working around dark, secluded areas such as cracks and crevices, where snakes, spiders, and mice like to hide.

9.3 Symptoms and First Aid Procedures

If an employee or subcontractor shows any signs of an allergic reaction (anaphylactic shock, hives, or difficulty breathing) to a sting or bite, immediately seek medical attention at the nearest hospital. In the event that an operating vehicle strikes a person, seek medical attention immediately. In the meantime, a first aid kit and eye wash bottle will be provided by CDG and should be kept in all company vehicles. If field personnel are aware of their allergic reactions to insect bites, CDG requires that medication be kept on hand during field activities and at least one other field technician be made aware of the medication in the event of an allergic reaction should occur.

10.0 Additional Precautions

Additional precautions have been implemented in order to ensure overall safety for all field personnel. The safety protocols listed in this segment are to be considered the minimum requirements to be met by all field personnel engaging in corrective action activities.

10.1 Personal Protective Equipment

PPE is the most effective measure to prevent exposure to chemical hazards. There are four levels of PPE protection ranging from Level A to Level D equipment. Level A protection serves as the most conservative protective equipment, and Level D protection serves as the least conservative protective equipment. These levels are described further in the following table:

LEVELS OF PPE PROTECTION	PPE REQUIREMENTS
Level A	Worn when the highest level of respiratory, skin, and eye protection is necessary.
Level B	Worn when the highest level of respiratory protection is needed, but a lesser level of skin protection is necessary.
Level C	Worn when the criteria for using air-purifying respirators are met, and a lesser level of skin protection is necessary.
Level D	Refers to work conducted without respiratory protection. This level should be used only when the atmosphere contains no know or suspected airborne chemical or radiological contaminants and oxygen concentrations are between 19.5 % and 23.0%

Level D protective clothing, as indicated below, shall be considered the minimum requirements for installation and excavation operations:

- Hard hat
- Coveralls*
- Non permeable gloves
- Steel-toe, non-permeable boots
- Hearing protection*
- Safety goggles (chemical)*

*These items area mandatory on an “as needed” basis. Generally, normal site conditions do not warrant the use of this equipment; however, under certain conditions where large amounts of free product are encountered, the issue of coveralls and safety goggles may be warranted. Safety goggles and hearing protection are mandatory when near the drill rig to reduce stress on the ear and also prevent objects from the soil or drill rig from lodging in the eye.

Equipment may be upgraded to Level C depending on the site conditions and/or monitoring results. Level C protection, in addition to Level D protection, includes the following:

- Rubber/chemical resistant outer gloves
- Face-shield if splash hazards exists
- Outer disposable booties
- Half-mask respirator

10.2 Signs, Signals, and Barricades

As stated previously in Section 9.1, corrective action activities are generally conducted at retail gasoline facilities and convenience stores, and are therefore, high traffic areas. All CDG field personnel must be aware of his/her surroundings at all times. In addition, the items listed below will be provided to secure the area in order to protect all field personnel as well as the general public.

- Utilize barricades to protect workers, pedestrians and vehicles from work activities
- Post area for "NO SMOKING"
- Utilize cones to protect workers from incoming and ongoing vehicles

10.3 Fire Protection and Prevention

As stated previously in Section 5.1, gasoline is a highly flammable substance. CDG requires that the work area be posted with "NO SMOKING" signs in an attempt to prevent fires from occurring; however, as a secondary precaution CDG plans to implement the following:

- Maintain a 20 lb. ABC Dry Chemical fire extinguisher on site at all times
- Eliminate ALL ignition sources in the vicinity of any releases
- The contractor will clean up all small spills using absorbent materials or by pumping

10.4 Storage and Decontamination

During the corrective action activities, impacted soils will be encountered. Groundwater will be treated and pumped to an NPDES outfall. Contaminated soil will be temporarily stored until transported for disposal. Decontamination procedures will be implemented should chemical exposure occur. The procedures are detailed below:

- Avoid contact with liquid gasoline or diesel
- Place contaminated soil on visqueen and cover once removed from the excavation
- Change any product contaminated soil immediately
- Wash any contaminated skin surfaces immediately with soap and water

Caution: All personnel are required to wash hands at the completion of work, before and after restroom use and before eating in order to prevent dermal contact with or ingestion of contaminants encountered during field activities.

11.0 Emergency Contingency Plan

If an incident occurs that requires declaring an emergency, all personnel will assemble at a designated emergency meeting location for further instruction. Arrangement for decontamination, evacuation and/or transport will be made at that time. The client and appropriate CDG personnel will be notified of the incident as soon as possible.

11.1 Notification/Reporting Procedures

In the event of an emergency, CDG Project Manager will be notified as soon as possible regarding the nature of the incident and emergency service contact will be notified as needed (see Section 11.7, Contingency Contacts). It is the responsibility of the Site HSO to report all incidents to the CDG Corporate HSO so that the required reporting procedures may be implemented.

11.2 Hazardous Substance Release

In the event that potentially hazardous substances migrate from the work zone and potentially endanger unprotected personnel or the community all on site activities will cease until the release is brought under control. CDG will immediately notify the proper authorities so that they may be able to ensure that public health and safety is maintained throughout this process event to the extent of evacuation if necessary.

11.3 Personnel Injury

In the event of an injury, all personnel will assemble at the designated emergency meeting location. The Site HSO, prior to the beginning of filed activities should designate this location. If the injured person is immobile one or more persons should remain nearby to provide any necessary first aid techniques. If medical help is necessary, the Site HSO will summon the appropriate assistance for transportation to the nearest medical facility. Due to the potential for these situations, CDG recommends that at least one qualified person be CPR/First Aid certified.

11.4 Evacuation Plan

Gasoline and diesel are flammable substances; therefore, a fire/explosion potential exists during the excavation activities. In the event of an onsite evacuation, the following plan will be implemented:

- A signal consisting of one continuous blast of a vehicle or air horn will be used
- All personnel will immediately evacuate the area and report to the designated emergency meeting location for further instruction

11.5 Spill Prevention and Response

In the event of a leak or spill, the area will be blocked using barricades, and the spill contained until absorbed and removed by authorized personnel. Unauthorized persons will be denied access to the area until all spills have been removed and field operations completed. CDG will follow prescribed procedures for reporting and responding to large releases by notifying the National Response Center (see Section 11.7). All materials will be disposed of according to regulatory guidelines.

11.6 Emergency Communication

In the event of an emergency situation, the following standard hand signals will be used onsite as a means of communication:

- Hand gripping throat-(cannot breathe)
- Grip partner's wrist or both hands around waist- (leave area immediately)
- Hands on top of head- (need assistance)
- Thumbs up- (OK, I am all right, I understand)
- Thumbs down- (No, negative)

11.7 Contingency Contacts

In the event of an emergency, CDG has provided several emergency contacts. These contacts, along with phone numbers, are listed in the following table. The Site HSO will be responsible for the notification of these contacts in the event of an emergency.

AGENCY	CONTACT	TELEPHONE NO.
Fire Department		911
Police Department		911
Ambulance		911
Hospital		334-365-0651
Corporate HSO	David Dailey	205-403-2600
Project Manager	Alecia Hamilton	205-403-2600
EPA RCRA-Superfund Hotline		800-424-9346
Chemtrec (24 hours)		800-424-9300
Bureau of Explosives (24 hours)		202-293-4048
Centers for Disease Control (Biological Agents)		404-633-5353
National Response Center		800-424-8802

Medical Facility

Name of Hospital: Prattville Baptist Hospital

Address: 124 South Memorial Dr., Prattville, AL 36067

Phone: 334-365-0651

Route to Hospital: see attached map with driving directions

Travel Time from Site: 6 minutes

Distance to Hospital: 2.7 miles

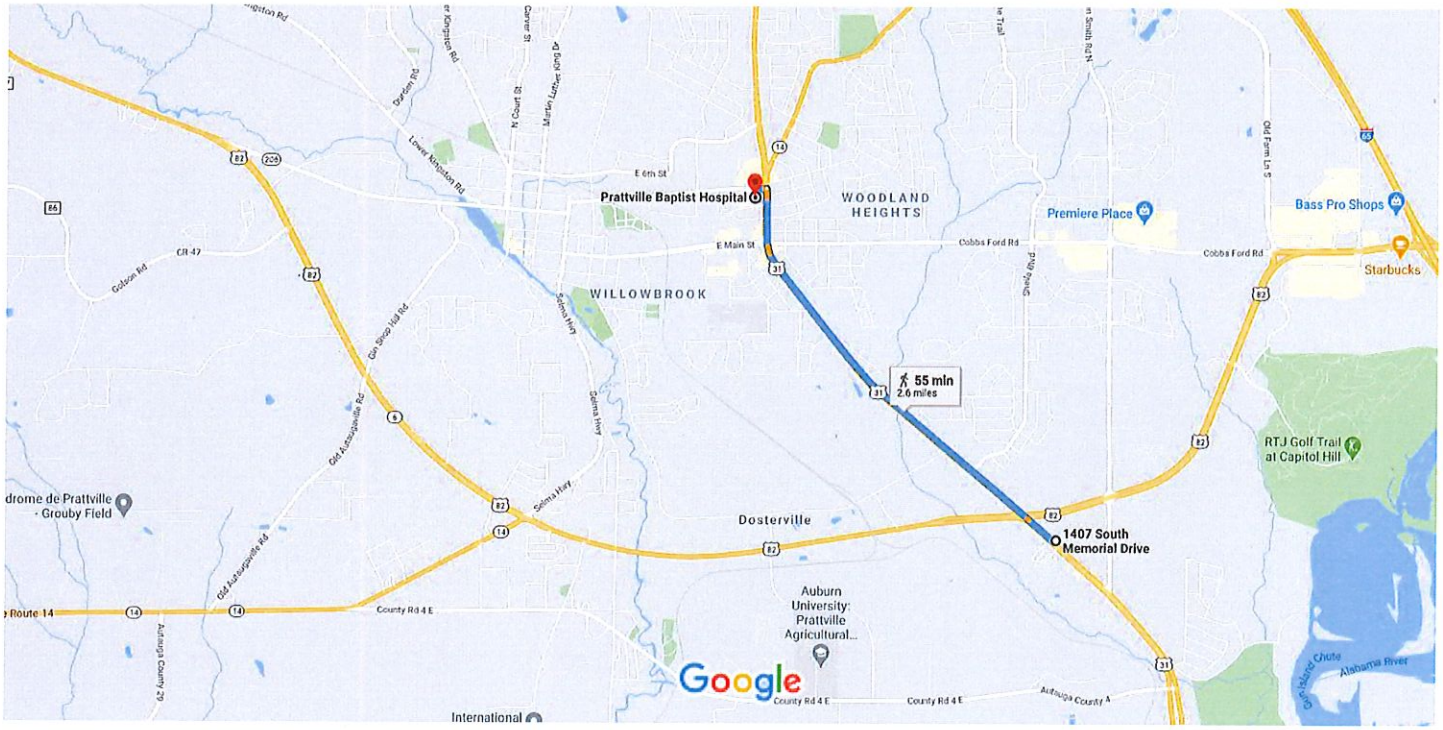
Name/Number of 24-hour Ambulance Service: 911

In cases of construction accidents, rapid notification to OSHA is required.

Google Maps

1407 South Memorial Drive, Prattville, AL to prattville hospital

Drive 2.7 miles, 6 min



Map data ©2020 2000 ft

1407 S Memorial Dr

Prattville, AL 36067

1. Head northwest on S Memorial Dr toward Brandy Ln
   - Pass by Taco Bell (on the right in 2.4 mi)

   2.6 mi
2. Turn left onto Wetumpka St

   295 ft
3. Turn left
   - Destination will be on the right

   253 ft

Prattville Baptist Hospital

124 S Memorial Dr, Prattville, AL 36067

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.