THREE NOTCH GROUP

DISCOUNT FOOD MART #188

CAP MODIFICATION

ATTF CP-69

April 11, 2025

101 West Sloan Avenue
Talladega, Talladega Co., AL

FAC ID 10088-121-013521
UST 98-06-28

PREPARED FOR

MAPCO Express, Inc.
1255 Lakes Pkwy, Ste. 180
Lawrenceville, GA 30043

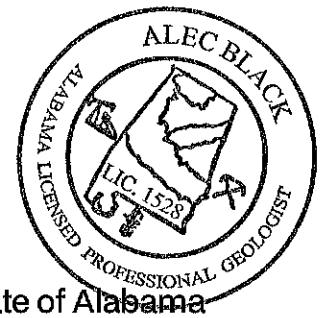
PREPARED BY

Three Notch Group
6767 Old Madison Pike, Ste. 400
Huntsville, AL 35806

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 Discount Food Mart #188 site (Facility Identification Number 10088-121-013521) in Talladega, Talladega County, AL. The recommended action should not be construed to apply to any other site.



Signature

4/10/25
Date

Alec Black
Registered Geologist in the State of Alabama
No. 1528

PROJECT SUMMARY

The Discount Food Mart #188 site operates as a convenience store and gasoline fueling station with fueling pumps located to the southeast of the store. The site currently has two USTs which are reported to be a 12,000-gallon and 10,000-gallon UST containing various grades of gasoline. The USTs are located in the tank pit south of the store and to the west of the dispenser islands. The Alabama Tank Trust Fund (ATTF) responsible party for the Discount Food Mart #188 site is MAPCO Express, Inc.

In 1997, three tanks were closed by removal at the Discount Food Mart #188 site. During closure activities, soil samples collected from the tank excavation contained total petroleum hydrocarbons (TPH) levels above the Alabama Department of Environmental Management (ADEM) Corrective Action Limit (CAL) of 100 parts per million (ppm). As a result, ADEM issued a Notice of Requirement and Pre-Approved Cost Proposal CP-01 for Preliminary Investigation activities.

Prior to Three Notch Group, Inc. (Three Notch) being chosen as the site's ATTF contractor, various investigative and remediation activities were conducted at the site including a Preliminary Investigation, Secondary Investigation, Alabama Risk Based Corrective Action (ARBCA) Tier I/II Evaluation, Additional Well Installation, Pilot Test, Operations and Maintenance (O&M) of a PHOSter system and subsequent decommissioning and removal of the system, Mobile Enhanced Multi-phase Extraction (MEME), Air Sparge (AS), and groundwater monitoring. PM Environmental submitted a Modified Corrective Action Plan (CAP) under Cost Proposal CP-58 that included the application of BOS 200+® injections in addition to Remedial Design Characterization (RDC) required to fine-tune implementation, Underground Injection Control (UIC) permitting

requirements, and proposed timeline for implementation. A Quantitative High Resolution Site Characterization (qHRSC) and Remedial Design Characterization (RDC) sampling was conducted by PM Environmental as approved in Cost Proposal CP-59. Cost Proposal CP-60 was approved for UIC permitting required prior to BOS 200+® injections. The UIC Permit application was submitted May 29, 2024 and approved July 8, 2024.

In a letter dated September 17, 2024, ADEM requested that a Modified CAP be prepared based on previous work conducted. The CAP Modification details the modified corrective action approach that Three Notch is proposing based on the use of enhanced carbon-based injections. The data summary tables are included in Appendix A and site figures, representing current groundwater conditions, are included in Appendix B.

PROPOSED MODIFIED CORRECTIVE ACTION ACTIVITIES

In order to remove the remaining residual concentrations of dissolved-phase hydrocarbons from the Discount Food Mart #188 site, Three Notch has contracted with an in-situ treatment service provider, AST Environmental, Inc. (AST). AST has recommended a remediation approach that consists of applying an enhanced activated carbon solution, BOS 200+®, at approximately 53 injection points to remediate the dissolved phase hydrocarbons. A copy of the AST injection proposal is included in Appendix F.

The optimized design enhances BOS 200® to include supplemental nutrients and substrates to facilitate the treatment of the significant total mass within the treatment areas. According to the proposal, this enhancement involves adding “supplemental nutrients and substrates (yeast extract and food grade corn starch) to create conditions conducive to

further accelerate microbial activity beyond what is normally seen with traditional BOS 200®. Supplemental sulfate (terminal electron acceptor) is also being added in two forms: 1) magnesium sulfate (Epsom salt) to supply a high concentration soluble form of sulfate during injection and 2) food grade gypsum to supply a slow-release low soluble form for sustained dosing after the injections are completed; soluble sulfate will support the long-term degradation of petroleum hydrocarbons."

Four weeks after BOS 200+® injections, groundwater samples will be collected in the treatment areas to be analyzed for VOCs using EPA Method 8260b, Anions using EPA Method 300.1 Ion Chromatography, and Dissolved Gases using RSK 175. These analyses will be performed at Remediation Products Incorporated's (RPI) Project Support Laboratory in Golden, CO. Analyses performed by RPI are at no cost to the project.

UIC PERMIT

An Underground Injection Control (UIC) Permit for the chemical formations proposed by AST was issued to PM Environmental on July 8, 2024. Three Notch will submit the necessary documentation and associated fee to modify the permittee. A copy of the permit is included in Appendix C.

Additionally, the site Health and Safety Plan is included in Appendix D. The Quality Assurance/Quality Control Plan is included in Appendix E. The UST Release Fact Sheet and UST Site Classification System Checklist is included in Appendix G. A list of personnel performing tasks is included in Appendix H.

CONCLUSIONS AND RECOMMENDATIONS

AST has stated that the injection regiment outlined in their proposal will mitigate petroleum hydrocarbons in saturated soil and groundwater at the site. Their proposal states that "Installation of BOS 200® provides immediate removal of contaminant mass in groundwater while providing long term protection through continued adsorption and biodegradation, rebound effects are typically eliminated through successful dosing and installation. This is achieved without hazardous byproducts, radical subsurface chemistry changes, or volatilization, nor is there a need to overcome natural background constituents or properties prior to treating contaminant mass." Three Notch will provide recommendations for additional site activities, if necessary, based on the results of the resumed quarterly groundwater monitoring activities.

Three Notch will submit cost proposal CP-70 for the CAP Implementation upon approval of this CAP Modification. Additionally, CA-RNA activities will continue as approved in cost proposal CP-68.

APPENDICES

THREE NOTCH GROUP

TABLES

APPENDIX A

Monitoring Point Data Summary Table

SITE NAME:	Discount Food Mart #188			UST NUMBER:	98-06-28	WELL ID:	**MW-1**		
INSTALLATION DATE:	02/15/00	WELL DEPTH (FT BTOC):	64.0	SCREEN LENGTH (FT):	20	CASING ELEV (FT ABOVE MSL):	600.71	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
04/06/23	40.82	559.89	-	-
08/31/23	49.36	551.35	-	-
12/04/23	47.75	552.96	-	-
04/17/24	44.11	556.60	-	-
07/22/24	52.65	548.06	-	-
10/02/24	55.70	545.01	-	4.0
01/15/25	60.08	540.63	-	-

INTRINSIC GROUNDWATER DATA SUMMARY

SAMPLE DATE	DISSOLVED OXYGEN (mg/L)	pH	REDOX POTENTIAL (mV)
04/06/23	0.25	6.78	751
08/31/23	6.17	7.61	5.8
12/04/23	5.08	6.09	157
04/17/24	1.17	7.08	742
07/22/24	0.36	-	752.2
10/02/24	3.08	6.06	-81.6
01/15/25	-	-	-

Monitoring Point Data Summary Table

SITE NAME:	Discount Food Mart #188			UST NUMBER:	98-06-28	WELL ID:	**MW-1**	
INSTALLATION DATE:	02/15/00	WELL DEPTH (FT BTOC):	64.0	SCREEN LENGTH (FT):	20	CASING ELEV (FT ABOVE MSL):	600.71	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
04/06/23	0.429	0.248	0.0296	0.0758	0.0587	0.4121	0.0613
08/31/23	0.133	<0.001	<0.001	<0.001	<0.003	BDL	<0.005
12/04/23	0.307	0.00403	<0.001	<0.001	<0.003	0.00403	<0.005
04/17/24	0.391	0.0916	<0.02	0.037	<0.06	0.1286	<0.1
07/22/24	0.390	0.189	<0.02	0.0541	<0.06	0.243	<0.1
10/02/24	0.179	0.003	<0.002	<0.001	<0.001	0.003	<0.005
01/15/25	NOT SAMPLED						
GRP SSTLs:	**4.45**	**1.1**	**222**	**156**	**175**	**-**	**4.45**
Inhalation SSTLs:	**48000**	**238.11**	**526**	**169**	**175**	**-**	**-**
Stream SSTLs:	-	-	-	-	-	-	-

Monitoring Point Data Summary Table

SITE NAME:	Discount Food Mart #188			UST NUMBER:	98-06-28	WELL ID:	**MW-2**		
INSTALLATION DATE:	02/15/00	WELL DEPTH (FT BTOC):	50.5	SCREEN LENGTH (FT):	10	CASING ELEV (FT ABOVE MSL):	599.00	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
10/02/24	DRY			
01/15/25	62.19	536.81	-	0.5

INTRINSIC GROUNDWATER DATA SUMMARY

SAMPLE DATE	DISSOLVED OXYGEN (mg/L)	pH	REDOX POTENTIAL (mV)
10/02/24	DRY		
01/15/25	0.6	6.42	-58.8

Monitoring Point Data Summary Table

SITE NAME:	Discount Food Mart #188			UST NUMBER:	98-06-28	WELL ID:	**MW-2**	
INSTALLATION DATE:	02/15/00	WELL DEPTH (FT BTOC):	50.5	SCREEN LENGTH (FT):	10	CASING ELEV (FT ABOVE MSL):	599.00	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
04/06/23	NOT SAMPLED						
08/31/23	NOT SAMPLED						
12/04/23	NOT SAMPLED						
4/17-18/24	NOT SAMPLED						
07/22/24	NOT SAMPLED						
10/02/24	NOT SAMPLED - DRY						
01/15/25	0.461	0.973	<0.020	0.358	0.949	2.28	0.116
GRP SSTLs:	**4.08**	**1.02**	**204**	**142**	**175**	**-**	**4.08**
Inhalation SSTLs:	**48000**	**238.11**	**526**	**169**	**175**	**-**	**-**
Stream SSTLs:	-	-	-	-	-	-	-

Monitoring Point Data Summary Table

SITE NAME:	Discount Food Mart #188			UST NUMBER:	98-06-28	WELL ID:	**MW-3**		
INSTALLATION DATE:	11/01/05	WELL DEPTH (FT BTOC):	48.5	SCREEN LENGTH (FT):	15	CASING ELEV (FT ABOVE MSL):	600.58	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
04/06/23	37.61	562.97	-	-
08/31/23	42.81	557.77	-	-
04/18/24	42.56	558.02	-	-
07/22/24	48.25	552.33	-	-
10/02/24	48.00	552.58	-	0.5
01/15/25	48.81	551.77	-	-

INTRINSIC GROUNDWATER DATA SUMMARY

SAMPLE DATE	DISSOLVED OXYGEN (mg/L)	pH	REDOX POTENTIAL (mV)
04/06/23	0.36	6.81	167.9
08/31/23	-	-	-
04/18/24	6.10	7.92	523.3
07/22/24	-	-	-
10/02/24	4.50	5.56	63.4
01/15/25	-	-	-

Monitoring Point Data Summary Table

SITE NAME:	Discount Food Mart #188			UST NUMBER:	98-06-28	WELL ID:	**MW-3**	
INSTALLATION DATE:	11/01/05	WELL DEPTH (FT BTOC):	48.5	SCREEN LENGTH (FT):	15	CASING ELEV (FT ABOVE MSL):	600.58	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
04/06/23	<0.001	<0.001	<0.001	<0.001	<0.003	BDL	<0.005
08/31/23	NOT SAMPLED						
12/04/23	NOT SAMPLED						
04/18/24	<0.001	<0.001	<0.001	<0.001	<0.003	BDL	<0.005
07/22/24	NOT SAMPLED						
10/02/24	<0.001	<0.001	<0.002	<0.001	<0.001	BDL	<0.005
01/15/25	NOT SAMPLED						
GRP SSTLs:	**3.53**	**0.88**	**176**	**123**	**175**	**-**	**3.53**
Inhalation SSTLs:	**48000**	**238.11**	**526**	**169**	**175**	**-**	**-**
Stream SSTLs:	-	-	-	-	-	-	-

Monitoring Point Data Summary Table

SITE NAME:	Discount Food Mart #188			UST NUMBER:	98-06-28	WELL ID:	**MW-4**		
INSTALLATION DATE:	11/02/05	WELL DEPTH (FT BTOC):	48.5	SCREEN LENGTH (FT):	15	CASING ELEV (FT ABOVE MSL):	599.22	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

INTRINSIC GROUNDWATER DATA SUMMARY

SAMPLE DATE	DISSOLVED OXYGEN (mg/L)	pH	REDOX POTENTIAL (mV)

Monitoring Point Data Summary Table

SITE NAME:	Discount Food Mart #188			UST NUMBER:	98-06-28	WELL ID:	**MW-4**	
INSTALLATION DATE:	11/02/05	WELL DEPTH (FT BTOC):	48.5	SCREEN LENGTH (FT):	15	CASING ELEV (FT ABOVE MSL):	599.22	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
04/06/23	NOT SAMPLED						
08/31/23	NOT SAMPLED						
12/04/23	NOT SAMPLED						
4/17-18/24	NOT SAMPLED						
07/22/24	NOT SAMPLED						
10/02/24	NOT SAMPLED						
01/15/25	NOT SAMPLED						
GRP SSTLs:	**3.53**	**0.88**	**176**	**123**	**175**	**-**	**3.53**
Inhalation SSTLs:	**48000**	**238.11**	**526**	**169**	**175**	**-**	**-**
Stream SSTLs:	-	-	-	-	-	-	-

Monitoring Point Data Summary Table

SITE NAME:	Discount Food Mart #188			UST NUMBER:	98-06-28	WELL ID:	**MW-5**		
INSTALLATION DATE:	10/31/05	WELL DEPTH (FT BTOC):	48.5	SCREEN LENGTH (FT):	15	CASING ELEV (FT ABOVE MSL):	600.00	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

INTRINSIC GROUNDWATER DATA SUMMARY

SAMPLE DATE	DISSOLVED OXYGEN (mg/L)	pH	REDOX POTENTIAL (mV)

Monitoring Point Data Summary Table

SITE NAME:	Discount Food Mart #188			UST NUMBER:	98-06-28	WELL ID:	**MW-5**	
INSTALLATION DATE:	10/31/05	WELL DEPTH (FT BTOC):	48.5	SCREEN LENGTH (FT):	15	CASING ELEV (FT ABOVE MSL):	600.00	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
Well not located since 11/21/2005							
10/02/24	NOT SAMPLED						
01/15/25	NOT SAMPLED						
GRP SSTLs:	-	-	-	-	-	-	-
Inhalation SSTLs:	48000	238.11	526	169	175	-	-
Stream SSTLs:	-	-	-	-	-	-	-

Monitoring Point Data Summary Table

SITE NAME:	Discount Food Mart #188			UST NUMBER:	98-06-28	WELL ID:	**MW-6**		
INSTALLATION DATE:	11/01/05	WELL DEPTH (FT BTOC):	53.5	SCREEN LENGTH (FT):	15	CASING ELEV (FT ABOVE MSL):	600.10	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
04/06/23	39.74	560.36	-	-
08/31/23	42.28	557.82	-	-
12/04/23	44.33	555.77	-	-
04/17/24	42.00	558.10	-	-
07/22/24	48.17	551.93	-	-
10/02/24	52.50	547.60	-	0.5
01/15/25	52.66	547.44	-	-

INTRINSIC GROUNDWATER DATA SUMMARY

SAMPLE DATE	DISSOLVED OXYGEN (mg/L)	pH	REDOX POTENTIAL (mV)
04/06/23	0.29	7.00	169.7
08/31/23	-	-	-
12/04/23	2.37	6.08	14.7
04/17/24	1.14	7.77	713.4
07/22/24	-	-	-
10/02/24	1.92	6.46	-62.3
01/15/25	-	-	-

Monitoring Point Data Summary Table

SITE NAME:	Discount Food Mart #188			UST NUMBER:	98-06-28	WELL ID:	**MW-6**	
INSTALLATION DATE:	11/01/05	WELL DEPTH (FT BTOC):	53.5	SCREEN LENGTH (FT):	15	CASING ELEV (FT ABOVE MSL):	600.10	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
04/06/23	0.0796	0.218	<0.001	<0.001	0.014	0.232	<0.005
08/31/23	NOT SAMPLED						
12/04/23	0.115	0.205	<0.01	<0.01	<0.03	0.205	<0.05
04/17/24	0.289	0.7	<0.01	<0.01	<0.03	0.7	<0.05
07/22/24	NOT SAMPLED						
10/02/24	0.359	0.493	<0.002	<0.001	<0.001	0.493	0.007
01/15/25	NOT SAMPLED						
GRP SSTLs:	**3.53**	**0.88**	**176**	**123**	**175**	**-**	**3.53**
Inhalation SSTLs:	**48000**	**238.11**	**526**	**169**	**175**	**-**	**-**
Stream SSTLs:	-	-	-	-	-	-	-

Monitoring Point Data Summary Table

SITE NAME:	Discount Food Mart #188			UST NUMBER:	98-06-28	WELL ID:	**MW-7**		
INSTALLATION DATE:	10/31/05	WELL DEPTH (FT BTOC):	54.5	SCREEN LENGTH (FT):	15	CASING ELEV (FT ABOVE MSL):	600.00	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
04/06/23	40.01	559.99	-	-
08/31/23	43.66	556.34	-	-
12/04/23	41.66	558.34	-	-
04/18/24	40.29	559.71	-	-
07/22/24	43.79	556.21	-	-
10/02/24	46.17	553.83	-	3.5
01/15/25	49.59	550.41	-	-

INTRINSIC GROUNDWATER DATA SUMMARY

SAMPLE DATE	DISSOLVED OXYGEN (mg/L)	pH	REDOX POTENTIAL (mV)
04/06/23	0.38	6.94	751.2
08/31/23	3.47	5.69	122.7
12/04/23	2.42	5.68	134.7
04/18/24	1.80	7.81	700.1
07/22/24	1.52	-	718.2
10/02/24	1.93	5.78	97.7
01/15/25	-	-	-

Monitoring Point Data Summary Table

SITE NAME:	Discount Food Mart #188			UST NUMBER:	98-06-28	WELL ID:	**MW-7**	
INSTALLATION DATE:	10/31/05	WELL DEPTH (FT BTOC):	54.5	SCREEN LENGTH (FT):	15	CASING ELEV (FT ABOVE MSL):	600.00	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
04/06/23	<0.001	<0.001	<0.001	<0.001	<0.003	BDL	<0.005
08/31/23	0.00131	<0.001	<0.001	<0.001	<0.003	BDL	<0.005
12/04/23	0.00616	0.0018	<0.001	<0.001	<0.003	0.0018	<0.005
04/18/24	0.0122	0.0238	0.001	0.0023	0.0339	0.061	<0.005
07/22/24	0.0467	0.1144	0.007	0.0141	0.1540	0.2895	0.0225
10/02/24	0.045	0.001	<0.002	<0.001	<0.001	0.001	<0.005
01/15/25	NOT SAMPLED						
GRP SSTLs:	**5.01**	**1.25**	**250**	**169**	**175**	**-**	**5.01**
Inhalation SSTLs:	**48000**	**238.11**	**526**	**169**	**175**	**-**	**-**
Stream SSTLs:	-	-	-	-	-	-	-

Monitoring Point Data Summary Table

SITE NAME:	Discount Food Mart #188			UST NUMBER:	98-06-28	WELL ID:	**MW-8**		
INSTALLATION DATE:	10/31/05	WELL DEPTH (FT BTOC):	44.5	SCREEN LENGTH (FT):	15	CASING ELEV (FT ABOVE MSL):	601.46	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
04/06/23	35.42	566.04	-	-
08/31/23	34.38	567.08	-	-
12/04/23	44.00	557.46	-	-
04/17/24	42.79	558.67	-	-
07/22/24	43.97	557.49	-	-
10/02/24	44.00	557.46	-	0.5
01/15/25	44.22	557.24	-	-

INTRINSIC GROUNDWATER DATA SUMMARY

SAMPLE DATE	DISSOLVED OXYGEN (mg/L)	pH	REDOX POTENTIAL (mV)
04/06/23	0.27	6.88	130.1
08/31/23	-	-	-
12/04/23	-	-	-
04/17/24	4.85	6.88	724.8
07/22/24	-	-	-
10/02/24	10.20	6.21	-3.5
01/15/25	-	-	-

Monitoring Point Data Summary Table

SITE NAME:	Discount Food Mart #188			UST NUMBER:	98-06-28	WELL ID:	**MW-8**	
INSTALLATION DATE:	10/31/05	WELL DEPTH (FT BTOC):	44.5	SCREEN LENGTH (FT):	15	CASING ELEV (FT ABOVE MSL):	601.46	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
04/06/23	0.039	<0.001	<0.001	<0.001	<0.003	BDL	<0.005
08/31/23	NOT SAMPLED						
12/04/23	NOT SAMPLED						
04/17/24	0.023	<0.001	<0.001	<0.001	<0.003	BDL	<0.005
07/22/24	NOT SAMPLED						
10/02/24	0.006	<0.001	0.002	<0.001	<0.001	0.002	<0.005
01/15/25	NOT SAMPLED						
GRP SSTLs:	**3.53**	**0.88**	**176**	**123**	**175**	**-**	**3.53**
Inhalation SSTLs:	**48000**	**238.11**	**526**	**169**	**175**	**-**	**-**
Stream SSTLs:	-	-	-	-	-	-	-

Monitoring Point Data Summary Table

SITE NAME:	Discount Food Mart #188			UST NUMBER:	98-06-28	WELL ID:	**MW-9**		
INSTALLATION DATE:	10/31/05	WELL DEPTH (FT BTOC):	49.0	SCREEN LENGTH (FT):	15	CASING ELEV (FT ABOVE MSL):	601.23	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
04/06/23	34.93	566.30	-	-
08/31/23	39.70	561.53	-	-
12/04/23	35.94	565.29	-	-
04/17/24	37.22	564.01	-	-
07/22/24	39.70	561.53	-	-
10/02/24	44.69	556.54	-	2.0
01/15/25	48.02	553.21	-	0.5

INTRINSIC GROUNDWATER DATA SUMMARY

SAMPLE DATE	DISSOLVED OXYGEN (mg/L)	pH	REDOX POTENTIAL (mV)
04/06/23	0.29	6.90	751.6
08/31/23	2.12	6.68	4.6
12/04/23	0.80	6.16	-32.5
04/17/24	0.76	7.04	600.5
07/22/24	0.66	-	700.9
10/02/24	0.23	6.29	-16.6
01/15/25	0.83	6.21	-10.1

Monitoring Point Data Summary Table

SITE NAME:	Discount Food Mart #188			UST NUMBER:	98-06-28	WELL ID:	**MW-9**	
INSTALLATION DATE:	10/31/05	WELL DEPTH (FT BTOC):	49.0	SCREEN LENGTH (FT):	15	CASING ELEV (FT ABOVE MSL):	601.23	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
04/06/23	0.426	**3.02**	8.09	1.13	6.67	18.91	0.225
08/31/23	0.408	**3.44**	8.4	1.11	5.45	18.4	0.276
12/04/23	0.443	**2.39**	3.59	0.89	4.52	11.39	<1.00
04/17/24	0.735	**4.00**	2.39	1.09	4.44	11.92	<0.5
07/22/24	0.550	**3.37**	2.07	0.946	3.84	10.226	<1.00
10/02/24	0.643	**5.00**	1.61	1.18	4.20	11.99	0.302
01/15/25	0.636	**2.86**	0.050	1.21	3.32	7.44	0.285
GRP SSTLs:	**5.01**	**1.25**	**250**	**169**	**175**	**-**	**5.01**
Inhalation SSTLs:	**48000**	**238.11**	**526**	**169**	**175**	**-**	**-**
Stream SSTLs:	-	-	-	-	-	-	-

Monitoring Point Data Summary Table

SITE NAME:	Discount Food Mart #188			UST NUMBER:	98-06-28	WELL ID:	**MW-10**		
INSTALLATION DATE:	06/30/11	WELL DEPTH (FT BTOC):	59.0	SCREEN LENGTH (FT):	15	CASING ELEV (FT ABOVE MSL):	600.78	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

INTRINSIC GROUNDWATER DATA SUMMARY

SAMPLE DATE	DISSOLVED OXYGEN (mg/L)	pH	REDOX POTENTIAL (mV)

Monitoring Point Data Summary Table

SITE NAME:	Discount Food Mart #188			UST NUMBER:	98-06-28	WELL ID:	**MW-10**	
INSTALLATION DATE:	06/30/11	WELL DEPTH (FT BTOC):	59.0	SCREEN LENGTH (FT):	15	CASING ELEV (FT ABOVE MSL):	600.78	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
04/06/23	NOT SAMPLED						
08/31/23	NOT SAMPLED						
12/04/23	NOT SAMPLED						
4/17-18/24	NOT SAMPLED						
07/22/24	NOT SAMPLED						
10/02/24	NOT SAMPLED						
01/15/25	NOT SAMPLED						
GRP SSTLs:	**4.08**	**1.02**	**204**	**142**	**175**	**-**	**4.08**
Inhalation SSTLs:	**48000**	**238.11**	**526**	**169**	**175**	**-**	**-**
Stream SSTLs:	-	-	-	-	-	-	-

Monitoring Point Data Summary Table

SITE NAME:	Discount Food Mart #188			UST NUMBER:	98-06-28	WELL ID:	**MW-11**		
INSTALLATION DATE:	06/30/11	WELL DEPTH (FT BTOC):	59.0	SCREEN LENGTH (FT):	15	CASING ELEV (FT ABOVE MSL):	600.10	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
04/06/23	36.10	564.00	-	-
08/31/23	51.82	548.28	-	-
12/04/23	42.75	557.35	-	-
04/18/24	40.65	559.45	-	-
07/22/24	46.10	554.00	-	-
10/02/24	49.40	550.70	-	5.0
01/15/25	53.24	546.86	-	2.0

INTRINSIC GROUNDWATER DATA SUMMARY

SAMPLE DATE	DISSOLVED OXYGEN (mg/L)	pH	REDOX POTENTIAL (mV)
04/06/23	0.47	7.02	172.2
08/31/23	-	-	-
12/04/23	-	-	-
04/18/24	6.78	7.82	583.6
07/22/24	-	-	-
10/02/24	5.94	5.32	64.7
01/15/25	7.42	6.48	-3.7

Monitoring Point Data Summary Table

SITE NAME:	Discount Food Mart #188			UST NUMBER:	98-06-28	WELL ID:	**MW-11**	
INSTALLATION DATE:	06/30/11	WELL DEPTH (FT BTOC):	59.0	SCREEN LENGTH (FT):	15	CASING ELEV (FT ABOVE MSL):	600.10	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
04/06/23	<0.001	<0.001	<0.001	<0.001	<0.003	BDL	<0.005
08/31/23	NOT SAMPLED						
12/04/23	NOT SAMPLED						
04/18/24	<0.001	<0.001	<0.001	<0.001	<0.003	BDL	<0.005
07/22/24	NOT SAMPLED						
10/02/24	<0.001	<0.001	<0.002	<0.001	<0.001	BDL	<0.005
01/15/25	<0.001	<0.001	<0.002	<0.001	<0.001	BDL	<0.005
GRP SSTLs:	**5.01**	**1.25**	**250**	**169**	**175**	**-**	**5.01**
Inhalation SSTLs:	**48000**	**238.11**	**526**	**169**	**175**	**-**	**-**
Stream SSTLs:	-	-	-	-	-	-	-

Monitoring Point Data Summary Table

SITE NAME:	Discount Food Mart #188			UST NUMBER:	98-06-28	WELL ID:	**MW-12**		
INSTALLATION DATE:	07/01/11	WELL DEPTH (FT BTOC):	59.0	SCREEN LENGTH (FT):	15	CASING ELEV (FT ABOVE MSL):	598.14	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
04/06/23	37.02	561.12	-	-
08/31/23	50.39	547.75	-	-
12/04/23	46.00	552.14	-	-
04/18/24	40.86	557.28	-	-
07/22/24	48.17	549.97	-	-
10/02/24	50.21	547.93	-	4.5

INTRINSIC GROUNDWATER DATA SUMMARY

SAMPLE DATE	DISSOLVED OXYGEN (mg/L)	pH	REDOX POTENTIAL (mV)
04/06/23	0.32	6.95	197.7
08/31/23	-	-	-
12/04/23	-	-	-
04/18/24	5.11	7.62	423.5
07/22/24	-	-	-
10/02/24	6.01	6.38	-18.3

Monitoring Point Data Summary Table

SITE NAME:	Discount Food Mart #188			UST NUMBER:	98-06-28	WELL ID:	**MW-12**	
INSTALLATION DATE:	07/01/11	WELL DEPTH (FT BTOC):	59.0	SCREEN LENGTH (FT):	15	CASING ELEV (FT ABOVE MSL):	598.14	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
04/06/23	<0.001	<0.001	<0.001	<0.001	<0.003	BDL	<0.005
08/31/23	NOT SAMPLED						
12/04/23	NOT SAMPLED						
04/18/24	<0.001	<0.001	<0.001	<0.001	<0.003	BDL	<0.005
07/22/24	NOT SAMPLED						
10/02/24	<0.001	<0.001	<0.002	<0.001	<0.001	BDL	<0.005
01/15/25	NOT SAMPLED						
GRP SSTLs:	**5.01**	**1.25**	**250**	**169**	**175**	**-**	**5.01**
Inhalation SSTLs:	**48000**	**238.11**	**526**	**169**	**175**	**-**	**-**
Stream SSTLs:	-	-	-	-	-	-	-

Monitoring Point Data Summary Table

SITE NAME:	Discount Food Mart #188			UST NUMBER:	98-06-28	WELL ID:	**MW-13**		
INSTALLATION DATE:	08/07/13	WELL DEPTH (FT BTOC):	60.0	SCREEN LENGTH (FT):	15	CASING ELEV (FT ABOVE MSL):	600.79	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
04/06/23	41.95	558.84	-	-
08/31/23	48.87	551.92	-	-
12/04/23	49.32	551.47	-	-
04/18/24	44.05	556.74	-	-
07/22/24	51.47	549.32	-	-

INTRINSIC GROUNDWATER DATA SUMMARY

SAMPLE DATE	DISSOLVED OXYGEN (mg/L)	pH	REDOX POTENTIAL (mV)
04/06/23	0.46	6.94	751.3
08/31/23	2.49	6.24	5.9
12/04/23	1.16	6.58	-137.7
04/18/24	1.15	7.80	726.1
07/22/24	0.29	-	733.4

Monitoring Point Data Summary Table

SITE NAME:	Discount Food Mart #188			UST NUMBER:	98-06-28	WELL ID:	**MW-13**	
INSTALLATION DATE:	08/07/13	WELL DEPTH (FT BTOC):	60.0	SCREEN LENGTH (FT):	15	CASING ELEV (FT ABOVE MSL):	600.79	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
04/06/23	0.307	0.00283	<0.001	<0.001	<0.003	0.00283	<0.005
08/31/23	0.025	0.0146	0.00161	0.0423	0.12	0.17851	0.0144
12/04/23	0.386	0.0964	0.00233	0.0525	0.0187	0.16993	0.0417
04/18/24	0.319	<0.005	<0.005	<0.005	<0.015	BDL	<0.025
07/22/24	0.278	0.00557	0.00842	<0.005	<0.015	0.01399	<0.025
10/02/24	NOT SAMPLED						
01/15/25	NOT SAMPLED						
GRP SSTLs:	**5.01**	**1.25**	**250**	**169**	**175**	**-**	**5.01**
Inhalation SSTLs:	**48000**	**238.11**	**526**	**169**	**175**	**-**	**-**
Stream SSTLs:	-	-	-	-	-	-	-

Monitoring Point Data Summary Table

SITE NAME:	Discount Food Mart #188			UST NUMBER:	98-06-28	WELL ID:	**MW-14**		
INSTALLATION DATE:	08/05/13	WELL DEPTH (FT BTOC):	60.0	SCREEN LENGTH (FT):	15	CASING ELEV (FT ABOVE MSL):	600.12	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
04/06/23	42.16	557.96	-	-
08/31/23	44.93	555.19	-	-
12/04/23	42.96	557.16	-	-
04/18/24	41.79	558.33	-	-
07/22/24	45.96	554.16	-	-
10/02/24	45.90	554.22	-	7.0
01/15/25	50.68	549.44	-	4.0

INTRINSIC GROUNDWATER DATA SUMMARY

SAMPLE DATE	DISSOLVED OXYGEN (mg/L)	pH	REDOX POTENTIAL (mV)
04/06/23	0.32	6.89	750.8
08/31/23	1.93	6.41	-41.1
12/04/23	1.06	6.59	-88.9
04/18/24	0.90	6.96	712.1
07/22/24	1.25	-	747.1
10/02/24	0.98	6.27	-46.5
01/15/25	1.13	6.57	-59.9

Monitoring Point Data Summary Table

SITE NAME:	Discount Food Mart #188			UST NUMBER:	98-06-28	WELL ID:	**MW-14**	
INSTALLATION DATE:	08/05/13	WELL DEPTH (FT BTOC):	60.0	SCREEN LENGTH (FT):	15	CASING ELEV (FT ABOVE MSL):	600.12	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
04/06/23	0.503	0.858	0.334	0.116	0.47	1.778	0.0238
08/31/23	0.954	**4.14**	4.91	0.482	3.69	13.222	0.129
12/04/23	0.949	**2.00**	1.60	0.294	1.61	5.504	<0.500
04/18/24	0.768	**1.71**	0.966	0.26	1.38	4.316	<0.100
07/22/24	1.060	**2.42**	1.26	0.344	2.08	6.104	<0.100
10/02/24	1.940	**8.53**	8.32	0.902	6.87	24.622	<0.500
01/15/25	0.724	**1.42**	0.031	0.136	1.05	2.637	<0.500
GRP SSTLs:	**5.01**	**1.25**	**250**	**169**	**175**	**-**	**5.01**
Inhalation SSTLs:	**48000**	**238.11**	**526**	**169**	**175**	**-**	**-**
Stream SSTLs:	-	-	-	-	-	-	-

Monitoring Point Data Summary Table

SITE NAME:	Discount Food Mart #188			UST NUMBER:	98-06-28	WELL ID:	**MW-15**		
INSTALLATION DATE:	05/27/14	WELL DEPTH (FT BTOC):	50.0	SCREEN LENGTH (FT):	10	CASING ELEV (FT ABOVE MSL):	600.48	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
04/06/23	38.90	561.58	-	-
08/31/23	42.11	558.37	-	-
12/04/23	40.35	560.13	-	-
04/17/24	40.06	560.42	-	-
07/22/24	43.58	556.90	-	-
10/02/24	46.90	553.58	-	1.5
01/15/25	47.44	553.04	-	1.0

INTRINSIC GROUNDWATER DATA SUMMARY

SAMPLE DATE	DISSOLVED OXYGEN (mg/L)	pH	REDOX POTENTIAL (mV)
04/06/23	0.27	7.08	750
08/31/23	-	-	-
12/04/23	8.89	5.52	7
04/17/24	2.27	7.56	741.6
07/22/24	-	-	-
10/02/24	1.05	5.95	-52.1
01/15/25	1.21	6.28	-20.4

Monitoring Point Data Summary Table

SITE NAME:	Discount Food Mart #188			UST NUMBER:	98-06-28	WELL ID:	**MW-15**	
INSTALLATION DATE:	05/27/14	WELL DEPTH (FT BTOC):	50.0	SCREEN LENGTH (FT):	10	CASING ELEV (FT ABOVE MSL):	600.48	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
04/06/23	0.00567	<0.001	<0.001	<0.001	<0.003	BDL	<0.005
08/31/23	NOT SAMPLED						
12/04/23	<0.001	<0.001	<0.001	<0.001	<0.003	BDL	<0.005
04/17/24	0.00573	<0.001	<0.001	<0.001	<0.003	BDL	<0.005
07/22/24	NOT SAMPLED						
10/02/24	0.035	<0.001	<0.002	<0.001	<0.001	BDL	<0.005
01/15/25	0.009	0.007	<0.002	0.002	0.016	0.025	<0.005
GRP SSTLs:	**5.01**	**1.25**	**250**	**169**	**175**	**-**	**5.01**
Inhalation SSTLs:	**48000**	**238.11**	**526**	**169**	**175**	**-**	**-**
Stream SSTLs:	-	-	-	-	-	-	-

Monitoring Point Data Summary Table

SITE NAME:	Discount Food Mart #188			UST NUMBER:	98-06-28	WELL ID:	**MW-16**		
INSTALLATION DATE:	05/27/14	WELL DEPTH (FT BTOC):	50.0	SCREEN LENGTH (FT):	10	CASING ELEV (FT ABOVE MSL):	600.02	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
04/07/23	40.73	559.29	-	-
08/31/23	43.05	556.97	-	-
12/04/23	49.13	550.89	-	-
04/18/24	43.28	556.74	-	-
07/22/24	50.04	549.98	-	-
10/02/24	DRY			
01/15/25	50.26	549.76	-	-

INTRINSIC GROUNDWATER DATA SUMMARY

SAMPLE DATE	DISSOLVED OXYGEN (mg/L)	pH	REDOX POTENTIAL (mV)
04/07/23	0.29	7.01	751.0
08/31/23	-	-	-
12/04/23	-	-	-
04/18/24	3.26	6.97	749.3
07/22/24	-	-	-
10/02/24	DRY		
01/15/25	-	-	-

Monitoring Point Data Summary Table

SITE NAME:	Discount Food Mart #188			UST NUMBER:	98-06-28	WELL ID:	**MW-16**	
INSTALLATION DATE:	05/27/14	WELL DEPTH (FT BTOC):	50.0	SCREEN LENGTH (FT):	10	CASING ELEV (FT ABOVE MSL):	600.02	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
04/07/23	0.0034	<0.001	<0.001	<0.001	<0.003	BDL	<0.005
08/31/23	NOT SAMPLED						
12/04/23	NOT SAMPLED						
04/18/24	0.00261	<0.001	<0.001	<0.001	<0.003	BDL	<0.005
07/22/24	NOT SAMPLED						
10/02/24	NOT SAMPLED - DRY						
01/15/25	NOT SAMPLED						
GRP SSTLs:	**5.01**	**1.25**	**250**	**169**	**175**	**-**	**5.01**
Inhalation SSTLs:	**48000**	**238.11**	**526**	**169**	**175**	**-**	**-**
Stream SSTLs:	-	-	-	-	-	-	-

Monitoring Point Data Summary Table

SITE NAME:	Discount Food Mart #188			UST NUMBER:	98-06-28	WELL ID:	**MW-17**		
INSTALLATION DATE:	03/30/17	WELL DEPTH (FT BTOC):	48.0	SCREEN LENGTH (FT):	10	CASING ELEV (FT ABOVE MSL):	601.53	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
04/06/23	24.12	577.41	-	-
08/31/23	31.76	569.77	-	-
12/04/23	39.78	561.75	-	-
04/17/24	27.98	573.55	-	-
07/22/24	32.18	569.35	-	-
10/02/24	34.76	566.77	-	21.0
01/15/25	40.71	560.82	-	3.5

INTRINSIC GROUNDWATER DATA SUMMARY

SAMPLE DATE	DISSOLVED OXYGEN (mg/L)	pH	REDOX POTENTIAL (mV)
04/06/23	0.33	6.96	185.8
08/31/23	-	-	-
12/04/23	-	-	-
04/17/24	3.43	7.43	528.3
07/22/24	-	-	-
10/02/24	3.74	5.62	141.6
01/15/25	4.25	5.57	113.6

Monitoring Point Data Summary Table

SITE NAME:	Discount Food Mart #188			UST NUMBER:	98-06-28	WELL ID:	**MW-17**	
INSTALLATION DATE:	03/30/17	WELL DEPTH (FT BTOC):	48.0	SCREEN LENGTH (FT):	10	CASING ELEV (FT ABOVE MSL):	601.53	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
04/06/23	<0.001	<0.001	<0.001	<0.001	<0.003	BDL	<0.005
08/31/23	NOT SAMPLED						
12/04/23	NOT SAMPLED						
04/17/24	<0.001	<0.001	<0.001	<0.001	<0.003	BDL	<0.005
07/22/24	NOT SAMPLED						
10/02/24	<0.001	<0.001	<0.002	<0.001	<0.001	BDL	<0.005
01/15/25	<0.001	<0.001	<0.002	<0.001	<0.001	BDL	<0.005
GRP SSTLs:	**5.01**	**1.25**	**250**	**169**	**175**	**-**	**5.01**
Inhalation SSTLs:	**48000**	**238.11**	**526**	**169**	**175**	**-**	**-**
Stream SSTLs:	-	-	-	-	-	-	-

Monitoring Point Data Summary Table

SITE NAME:	Discount Food Mart #188			UST NUMBER:	98-06-28	WELL ID:	**SW-1**		
INSTALLATION DATE:	04/03/15	WELL DEPTH (FT BTOC):	48.5	SCREEN LENGTH (FT):	10	CASING ELEV (FT ABOVE MSL):	599.47	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
04/06/23	37.64	561.83	-	-
08/31/23	42.13	557.34	-	-
12/04/23	44.94	554.53	-	-
04/17/24	42.77	556.70	-	-
07/22/24	46.75	552.72	-	-
10/02/24	47.10	552.37	-	0.5
01/15/25	47.97	551.50	-	-

INTRINSIC GROUNDWATER DATA SUMMARY

SAMPLE DATE	DISSOLVED OXYGEN (mg/L)	pH	REDOX POTENTIAL (mV)
04/06/23	0.37	6.94	750.2
08/31/23	7.09	5.74	147.2
12/04/23	1.99	6.09	44.8
04/17/24	1.68	6.95	716.5
07/22/24	-	-	-
10/02/24	1.99	6.26	-15.1
01/15/25	-	-	-

Monitoring Point Data Summary Table

SITE NAME:	Discount Food Mart #188			UST NUMBER:	98-06-28	WELL ID:	**SW-1**	
INSTALLATION DATE:	04/03/15	WELL DEPTH (FT BTOC):	48.5	SCREEN LENGTH (FT):	10	CASING ELEV (FT ABOVE MSL):	599.47	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
04/06/23	0.0263	<0.001	<0.001	<0.001	<0.003	BDL	<0.005
08/31/23	0.021	<0.001	<0.001	<0.001	<0.003	BDL	<0.005
12/04/23	0.0246	<0.001	<0.001	<0.001	<0.003	BDL	<0.005
04/17/24	0.0366	<0.001	<0.001	<0.001	<0.003	BDL	<0.005
07/22/24	0.0212	0.001	<0.001	<0.001	<0.003	0.001	<0.005
10/02/24	0.016	0.002	<0.002	<0.001	<0.001	0.002	<0.005
01/15/25	NOT SAMPLED						
GRP SSTLs:	**5.01**	**1.25**	**250**	**169**	**175**	**-**	**5.01**
Inhalation SSTLs:	**48000**	**238.11**	**526**	**169**	**175**	**-**	**-**
Stream SSTLs:	-	-	-	-	-	-	-

Monitoring Point Data Summary Table

SITE NAME:	Discount Food Mart #188			UST NUMBER:	98-06-28	WELL ID:	**SW-2**		
INSTALLATION DATE:	04/06/15	WELL DEPTH (FT BTOC):	44.5	SCREEN LENGTH (FT):	10	CASING ELEV (FT ABOVE MSL):	599.04	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
04/06/23	36.82	562.22	-	-
08/31/23	41.33	557.71	-	-
12/04/23	-	-	-	-
04/17/24	43.10	555.94	-	-
07/22/24	DRY			
10/02/24	DRY			
01/15/25	44.06	554.98	-	-

INTRINSIC GROUNDWATER DATA SUMMARY

SAMPLE DATE	DISSOLVED OXYGEN (mg/L)	pH	REDOX POTENTIAL (mV)
04/06/23	0.28	6.99	751
08/31/23	6.16	7.01	156.8
12/04/23	-	-	-
04/17/24	-	-	-
07/22/24	DRY		
10/02/24	DRY		
01/15/25	-	-	-

Monitoring Point Data Summary Table

SITE NAME:	Discount Food Mart #188			UST NUMBER:	98-06-28	WELL ID:	**SW-2**	
INSTALLATION DATE:	04/06/15	WELL DEPTH (FT BTOC):	44.5	SCREEN LENGTH (FT):	10	CASING ELEV (FT ABOVE MSL):	599.04	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
04/06/23	0.00576	<0.001	<0.001	<0.001	<0.003	BDL	<0.005
08/31/23	0.00107	<0.001	<0.001	<0.001	<0.003	BDL	<0.005
12/04/23	NOT SAMPLED						
04/17/24	0.00114	<0.001	<0.001	<0.001	<0.003	BDL	<0.005
07/22/24	NOT SAMPLED - DRY						
10/02/24	NOT SAMPLED - DRY						
01/15/25	NOT SAMPLED						
GRP SSTLs:	**5.01**	**1.25**	**250**	**169**	**175**	**-**	**5.01**
Inhalation SSTLs:	**48000**	**238.11**	**526**	**169**	**175**	**-**	**-**
Stream SSTLs:	-	-	-	-	-	-	-

Monitoring Point Data Summary Table

SITE NAME:	Discount Food Mart #188			UST NUMBER:	98-06-28	WELL ID:	**SW-3**		
INSTALLATION DATE:	04/06/15	WELL DEPTH (FT BTOC):	46.0	SCREEN LENGTH (FT):	10	CASING ELEV (FT ABOVE MSL):	598.62	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
04/06/23	36.00	562.62	-	-
08/31/23	36.94	561.68	-	-
12/04/23	-	-	-	-
04/17/24	42.85	555.77	-	-
07/22/24	DRY			
10/02/24	DRY			
01/15/25	44.39	554.23	-	-

INTRINSIC GROUNDWATER DATA SUMMARY

SAMPLE DATE	DISSOLVED OXYGEN (mg/L)	pH	REDOX POTENTIAL (mV)
04/06/23	0.26	7.01	160.6
08/31/23	6.82	5.98	155.2
12/04/23	-	-	-
04/17/24	-	-	-
07/22/24	DRY		
10/02/24	DRY		
01/15/25	-	-	-

Monitoring Point Data Summary Table

SITE NAME:	Discount Food Mart #188			UST NUMBER:	98-06-28	WELL ID:	**SW-3**	
INSTALLATION DATE:	04/06/15	WELL DEPTH (FT BTOC):	46.0	SCREEN LENGTH (FT):	10	CASING ELEV (FT ABOVE MSL):	598.62	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
04/06/23	0.00922	<0.001	<0.001	<0.001	<0.003	BDL	<0.005
08/31/23	0.00819	<0.001	<0.001	<0.001	<0.003	BDL	<0.005
12/04/23	NOT SAMPLED						
04/17/24	0.01090	<0.001	<0.001	<0.001	<0.003	BDL	<0.005
07/22/24	NOT SAMPLED - DRY						
10/02/24	NOT SAMPLED - DRY						
01/15/25	NOT SAMPLED						
GRP SSTLs:	**5.01**	**1.25**	**250**	**169**	**175**	**-**	**5.01**
Inhalation SSTLs:	**48000**	**238.11**	**526**	**169**	**175**	**-**	**-**
Stream SSTLs:	-	-	-	-	-	-	-

Monitoring Point Data Summary Table

SITE NAME:	Discount Food Mart #188			UST NUMBER:	98-06-28	WELL ID:	**Carbon Effluent**	
INSTALLATION DATE:	-	WELL DEPTH (FT BTOC):	-	SCREEN LENGTH (FT):	-	CASING ELEV (FT ABOVE MSL):	-	WELL TYPE: - DIAMETER (IN): -

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

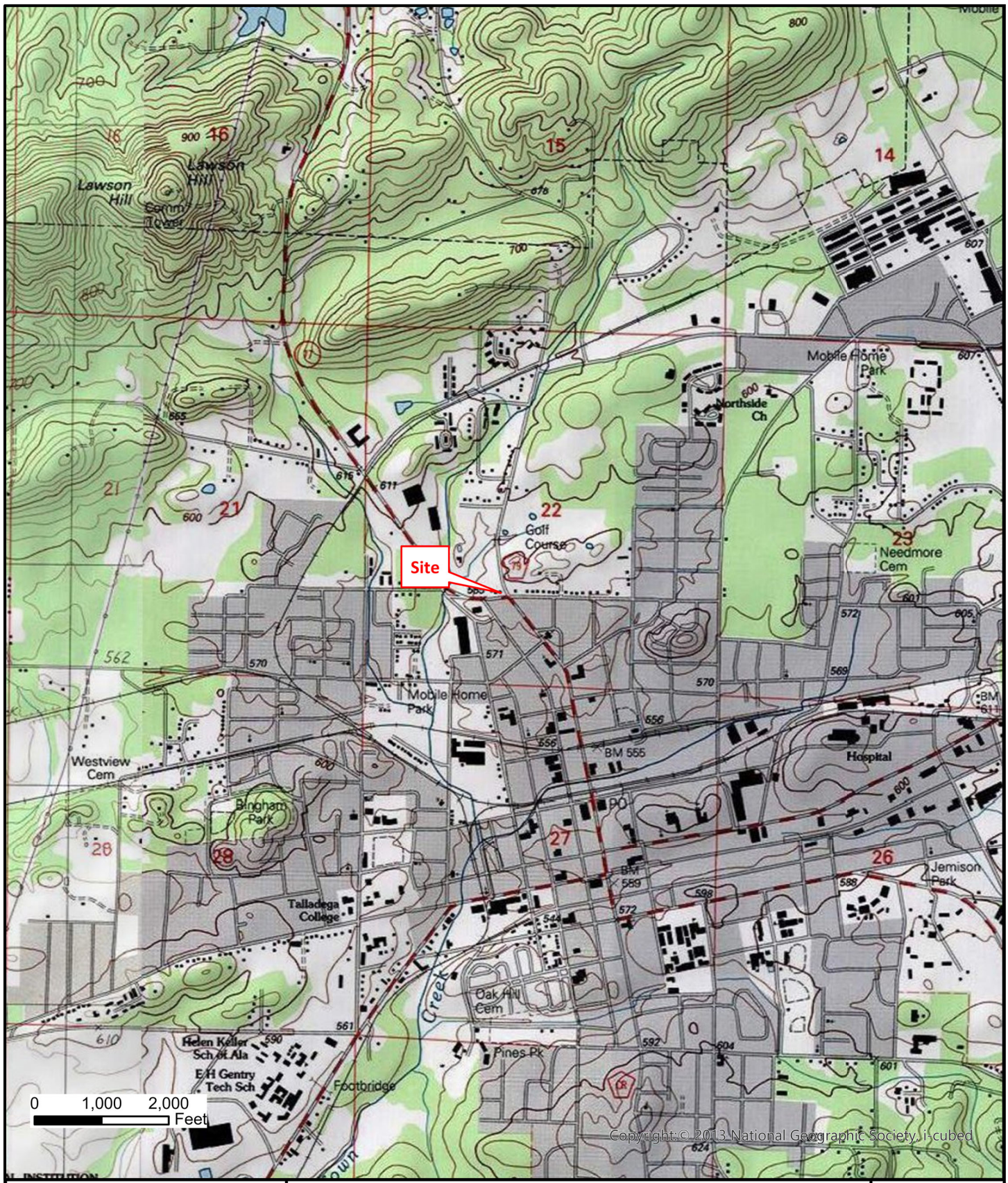
GROUNDWATER ANALYTICAL SUMMARY (mg/L)

SAMPLE DATE	MTBE	BENZENE	TOLUENE	ETHYLBENZENE	TOTAL XYLENES	TOTAL BTEX	NAPHTHALENE
10/02/24	<0.001	<0.001	<0.002	<0.001	<0.001	BDL	<0.005
01/15/25	<0.001	<0.001	<0.002	<0.001	<0.001	BDL	<0.005
GRP SSTLs:	**5.01**	**1.25**	**250**	**169**	**175**	**-**	**5.01**
Inhalation SSTLs:	-	-	-	-	-	-	-
Stream SSTLs:	-	-	-	-	-	-	-

THREE NOTCH GROUP

FIGURES

APPENDIX B



THREE NOTCH GROUP

Site Location USGS Topographic Map

MM - Discount Food Mart #188
101 West Sloan Avenue
Talladega, Talladega County, Alabama

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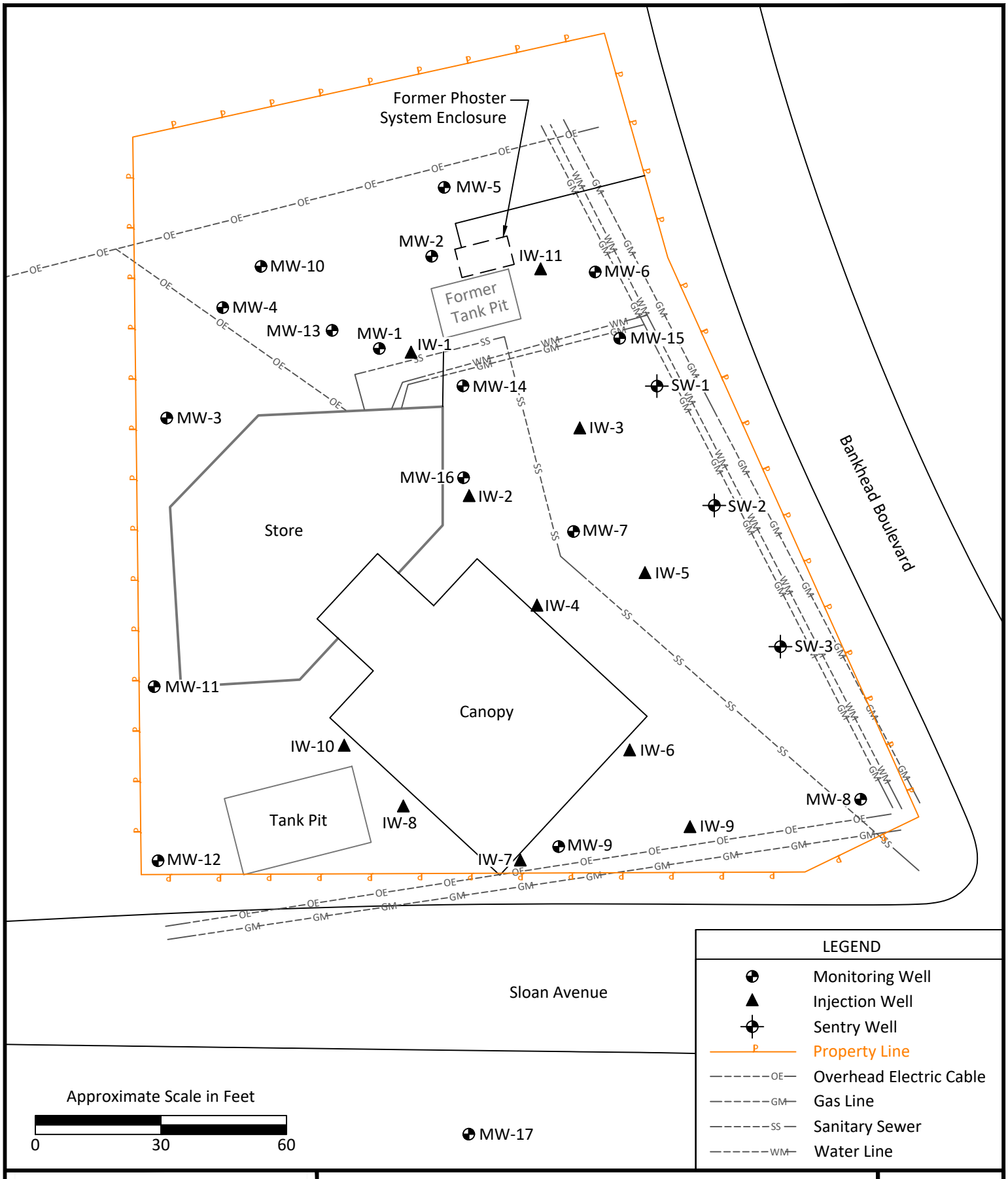
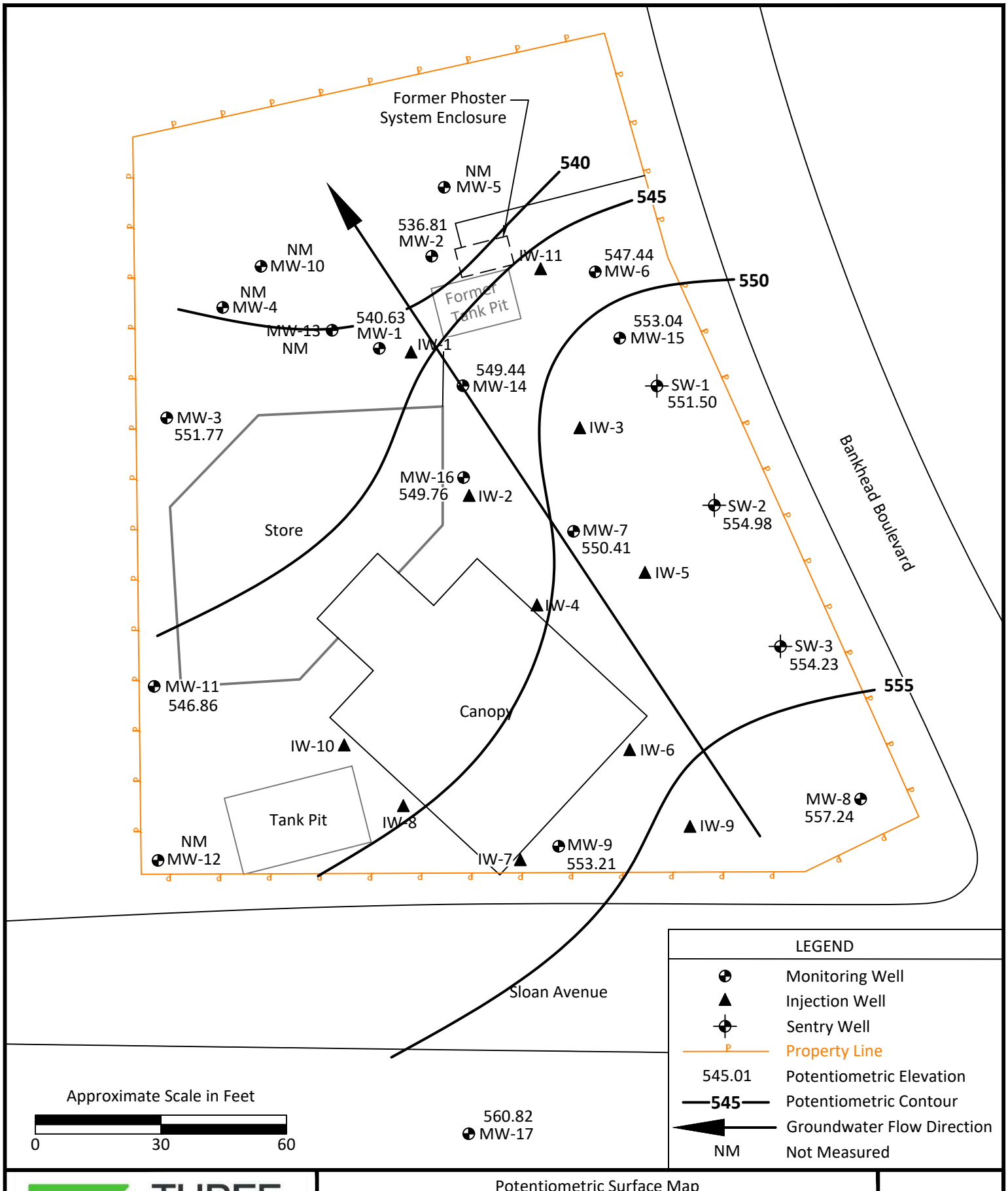


THREE NOTCH GROUP

Site Map with Utility and Well Locations

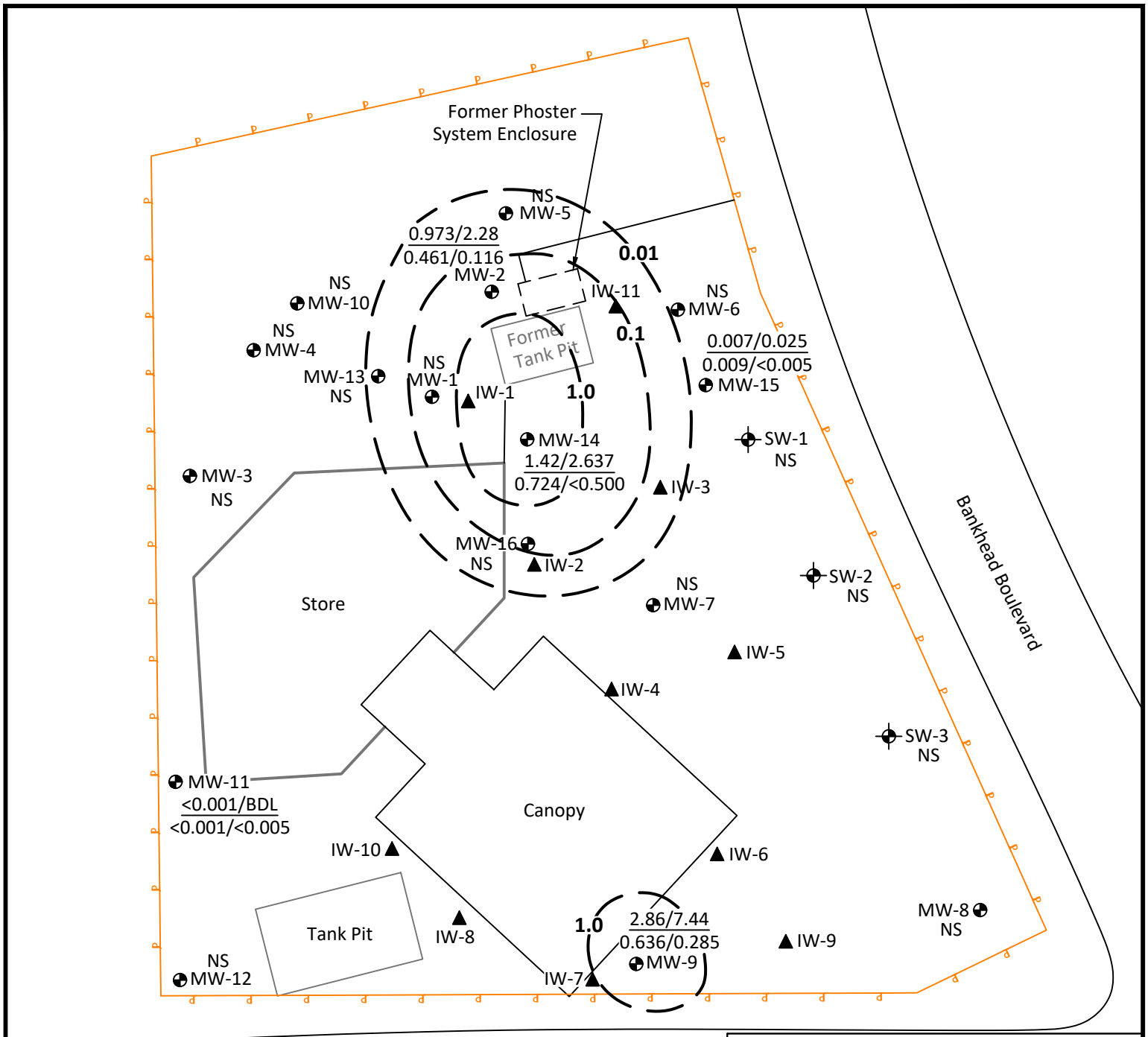
MM - Discount Food Mart #188
101 West Sloan Avenue
Talladega, Talladega County, Alabama



THREE NOTCH GROUP

Potentiometric Surface Map
January 15, 2025

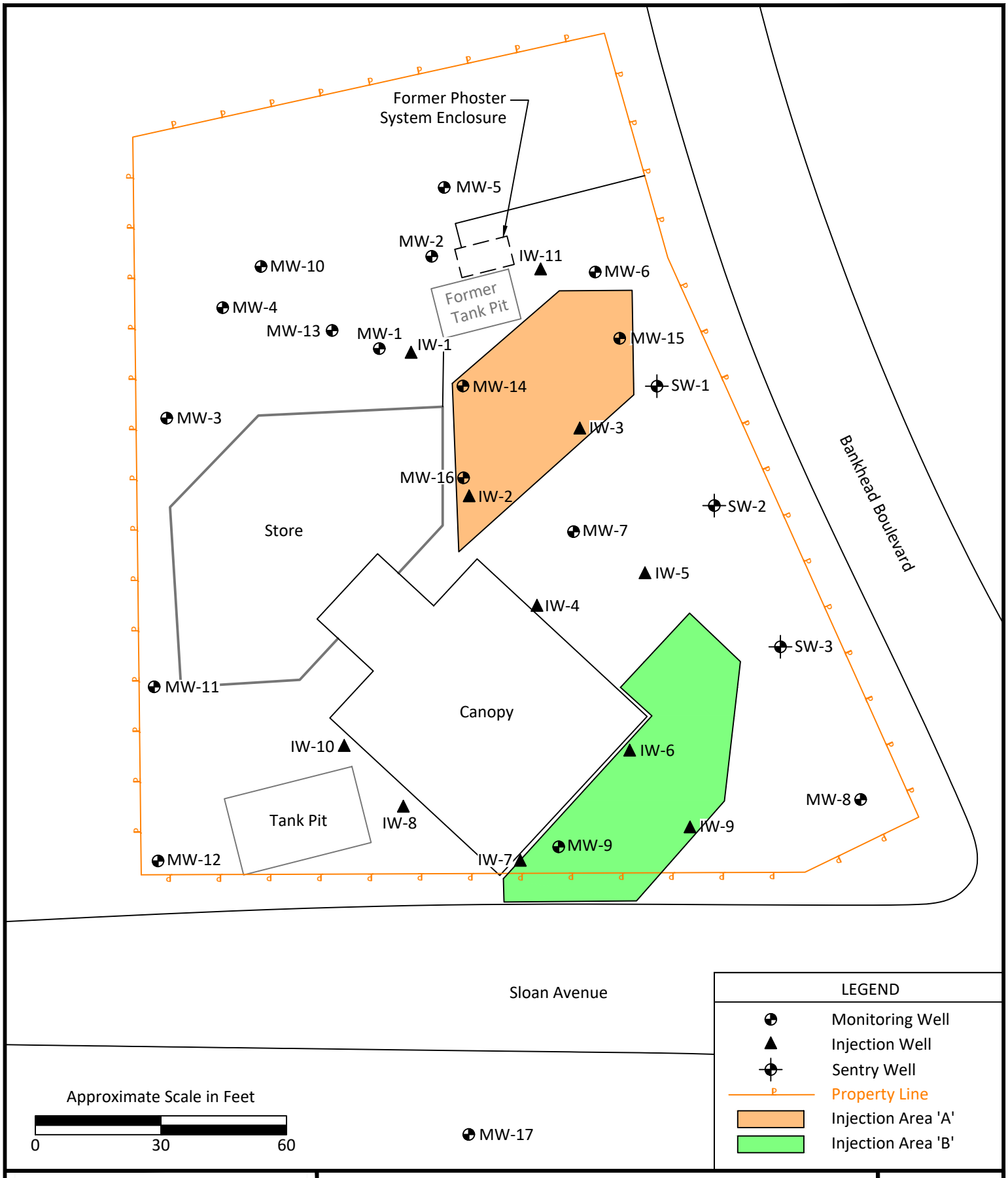
MM - Discount Food Mart #188
101 West Sloan Avenue
Talladega, Talladega County, Alabama



THREE NOTCH GROUP

Groundwater Analytical and Benzene Contour Map
January 15, 2025

MM - Discount Food Mart #188
101 West Sloan Avenue
Talladega, Talladega County, Alabama



THREE NOTCH GROUP

Proposed Injection Area Locations Map

MM - Discount Food Mart #188
101 West Sloan Avenue
Talladega, Talladega County, Alabama

THREE NOTCH GROUP

UIC PERMIT

APPENDIX C

LANCE R. LEFLEUR
DIRECTOR

KAY IVEY
GOVERNOR

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

July 8, 2024

Mr. Greg Stephenson
PM Environmental, LLC
717 Highway 67 South, Suite 26
Decatur, AL 35603

RE: **UIC PERMIT NUMBER ALSI5610001**
MAPCO #5188
101 Sloan Avenue West
Talladega, Talladega County, Alabama

Dear Mr. Stephenson:

A UIC Class V Injection Well Permit is enclosed. Please notice the monitoring and reporting requirements, expiration date, duty to apply for renewal, and the requirement to notify the Department when the facility is no longer in use. If the permit does not adequately address your operation, or if you no longer operate an injection well, please notify this office.

Comments were not received during the public comment period.

FAILURE TO COMPLY WITH THE TERMS AND CONDITIONS OF THIS PERMIT COULD RESULT IN ENFORCEMENT ACTIONS AND/OR FINES BY THE DEPARTMENT. THEREFORE, YOU SHOULD CAREFULLY READ THE ENCLOSED PERMIT AND COMPLY WITH ALL TERMS AND CONDITIONS.

Future monitoring data should be submitted in accordance with the conditions of your permit.

Should there be any questions concerning the permit, please contact Jeff Aul at (334) 271-7844 or jaul@adem.alabama.gov.

Sincerely,

Devin M. Jenkins, Chief
UIC/MS4 Section
Stormwater Management Branch
Water Division

DMJ/JLA/jdl

Enclosure: UIC Permit ALSI5610001

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

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

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

ADEM
Alabama Department of Environmental Management

UNDERGROUND INJECTION CONTROL PERMIT

PERMITTEE:	**PM Environmental, LLC**
FACILITY/LOCATION:	**MAPCO #5188** **101 Sloan Avenue West** **Talladega, Talladega County, Alabama** **Latitude: N 33.445992/ Longitude W -86.107328**
PERMIT NUMBER:	**ALSI5610001**
INJECTION WELL CLASS:	**Class V**
SOURCE OF POLLUTANTS:	**Injection of carbon, calcium sulfate, nitrate, phosphate, ammonia, gypsum, magnesium sulfate, starch, yeast, and bacteria solution to aid in the remediation of existing groundwater contamination**

In accordance with and subject to the provisions of the Safe Drinking Water Act, as amended, 42 U.S.C. §§ 300f-300j (the "SDWA"), the Alabama Water Pollution Control Act, as amended, ***Code of Alabama 1975,*** *§§ 22-22-1 to 22-22-14, (the "AWPCA"), the Alabama Environmental Management Act, as amended,* ***Code of Alabama 1975****, §§ 22-22A-1 to 22-22A-15, and rules and regulations adopted thereunder, and subject further to the terms and conditions set forth in this permit, the Permittee is hereby authorized to construct and operate injection well(s) of the above-described class.*

ISSUANCE DATE:	**July 8, 2024**
EFFECTIVE DATE:	**July 8, 2024**
EXPIRATION DATE:	**July 7, 2029**

Daphne Y. Lutz
Alabama Department of Environmental Management

PART I Authorization to Operate

A. The permittee is authorized to operate a Class V Injection Well(s), at the facility described in the permit application and in the cover page of this permit, in accordance with the provisions set forth in this permit.

B. This permit and the authorization to inject shall remain in effect until the expiration date stated on the cover page of this permit. If the permittee desires to continue injection past the expiration date of this permit, the permittee shall request a permit reissuance at least 180 days prior to expiration of this permit.

PART II Construction Requirements

A. Injection Well Requirements

The permittee shall inject only carbon, calcium sulfate, nitrate, phosphate, ammonia, gypsum, magnesium sulfate, starch, yeast, and bacteria solution to aid in the remediation of existing groundwater contamination as described in the permit application.

B. Modifications

Approval of the Alabama Department of Environmental Management (ADEM) shall be obtained prior to modification of any injection well activity. Modification shall mean any action that will change the nature of the injection activity, the methods of monitoring injection, or will result in injection of a fluid not specifically authorized by this permit.

C. Operation

The injection wells shall function properly. Should the wells not function properly the permittee shall take corrective action, to include cessation, as required by the ADEM.

PART III Monitoring and Operating Requirements

A. Injection Fluid

The permittee shall not inject any substance that is defined as hazardous or toxic by Federal or State laws or regulations or any substance not identified in the application for this permit. The injection of substances other than those identified in the permit application is prohibited. The permittee shall provide a means for confirmatory sampling of the injection material, should the need arise.

B. Monitoring Wells

1. The permittee shall monitor and limit groundwater in accordance with Appendix A. The injection activity shall not result in the exceedance of any established MCL in groundwater outside the areas of contamination.

2. The groundwater monitoring regime must be sufficient to detect any adverse effects to groundwater quality due to the injection activity. The Department may change the sampling requirements if the sampling data indicate a need to do so.

3. Monitoring wells shall be sampled for background water quality prior to injection.

PART IV Records, Reports, & Submittals

A. Records

1. The permittee shall retain all records concerning the data used to complete the permit application, the operation of the wells, and the nature and composition of pollutants injected; to include records of the calibration of instruments, meters and gauges, quality control records, and recordings from continuous monitoring instrumentation; until at least three years after the injection activity ends.

2. When requested by the ADEM, the permittee shall deliver copies of any of the records maintained in accordance with this permit.

B. Reports

1. The permittee shall submit to the ADEM written confirmation of all injections that occur, including the initial injection. The written confirmation shall be submitted no later than thirty (30) days after the injection and shall include the information listed below:

   a) The date of the injection.

   b) The amount of carbon, calcium sulfate, nitrate, phosphate, ammonia, gypsum, magnesium sulfate, starch, yeast, and bacteria solution injected.

   c) The location(s) of the injection.

2. The permittee shall submit quarterly groundwater monitoring reports to the ADEM no later than (30) days after the end of each quarterly period. The first report submitted shall include the results of the baseline sampling event.

3. Injection reports and groundwater monitoring reports must be submitted electronically via the Department's AEPACS system (https://adem.alabama.gov/aepacs). To participate in this program, the appropriate representatives of the permittee must establish an AEPACS account and request access to this site.

4. The permittee shall report to the ADEM any of the following:

   a) Any planned action which will change the use of the injection wells, will result in injection of a fluid different from that authorized by this permit, will change the method of operations of any injection well, or will change the method of the monitoring of well operations or injected fluids.

   b) Any planned transfer of ownership of all or part of the permitted facility.

   c) Any relevant facts of which the permittee becomes aware which should have been submitted in a permit application and any corrections to data previously submitted in a permit application.

5. Other Submittals

Studies, engineering reports, plans and specifications, plugging and abandonment plans, logging reports, and other technical documents submitted to comply with this permit shall be prepared by or under the supervision of qualified persons defined by the UIC Regulations of the ADEM.

PART V Plugging and Abandonment

A. The permittee shall perform any abandonment and closure actions that may be required by the ADEM to remove a threat to groundwater quality or to the health of persons which is caused by the injection activity.

B. Upon the end of use for each injection well, the permittee shall plug and abandon each well in a manner which protects each USDW from pollution by surface water and which prevents the movement of any pollutant or formation fluid from one USDW to another or from one formation to another and which isolates the injection zone.

PART VI Permit Modification, Revocation, Suspension, and Termination

A. The ADEM may impose emergency additional conditions to this permit when necessary to protect waters of the state from pollution. These conditions may include suspension of the permit to inject and shall remain in effect until the permit is modified, revoked, suspended orterminated in accordance with the UIC Regulations of the ADEM.

B. Non-emergency permit modification, revocation, suspension, and termination actions shall beaccomplished in accordance with ADEM Administrative Code Rule 335-6-8.

PART VII General Provisions

A. The permittee shall comply with all provisions of the UIC Regulations of the ADEM and shall comply with all provisions of this permit and shall reduce or halt injection if needed to maintain compliance with the permit and regulations.

B. The permittee shall comply with all applicable Federal and State hazardous waste management regulations.

C. The permittee shall allow members of the ADEM staff to:

1. Access property and records of the permittee for purposes of inspection.

2. Collect samples of the injected fluids, process and wastewater streams associated with the permitted injection wells.

3. Collect samples from any monitoring wells.

4. Obtain copies of records upon request.

D. The permittee shall immediately take all reasonable steps to minimize or correct any adverse environmental impact resulting from the operation of the permitted injection wells.

E. This permit does not convey any property rights of any sort, or any exclusive privilege.

F. The filing of a request by the permittee for a permit modification, revocation, and reissuance, or termination, or a notification of planned changes or anticipated noncompliance does not stay any permit condition.

G. Any noncompliance with this permit constitutes a violation of the Alabama Water Pollution Control Act and/or the Underground Injection Control Regulations and is grounds for enforcement action such as permit termination, revocation, modification; or denial of a permit renewal application.

H. Injection into waters of the state, which in this case is groundwater, in accordance with this permit shall not result in the exceedance of any primary or secondary Maximum Contaminant Level (MCL) in groundwater as established by the Environmental Protection Agency. Injection into groundwater, in accordance with this permit shall not result in a violation of a surface water quality standard.

I. All provisions of ADEM Admin. Code Rule 335-6-8-.12 are incorporated as terms and conditions of this permit by reference.

J. The permittee authorized to discharge under this permit, who wishes to continue to discharge upon the expiration of this permit, shall apply for reissuance, using the Department's Alabama Environmental Permitting and Compliance System (AEPACS), unless the Permittee submits in writing valid justification as to why the electronic submittal process cannot be utilized and the Department approves in writing the utilization of hard copy submittals. The AEPACS can be accessed at http://adem.alabama.gov/AEPACS. Such application shall be submitted at least 180 days prior to the expiration date of this permit. Permit requests for initial issuance and modifications of the existing permit should all be submitted through the AEPACS system.

APPENDIX A

Groundwater monitoring wells MW-4, MW-5, MW-8 and MW-11 shall be sampled prior to startup and then as specified below:

GROUNDWATER CHARACTERISTICS	UNITS	DISCHARGE LIMITS	MONITORING REQUIREMENTS	
			FREQUENCY	SAMPLE TYPE
Nitrate	mg/l	10	Quarterly	Grab
pH	S.U.	Report	Quarterly	Grab
Sulfate	mg/l	Report	Quarterly	Grab
TDS	mg/l	Report	Quarterly	Grab

ADEM Permit Rationale

Date: July 8, 2024

Prepared by: Jeff Aul

Responsible Official:	Mr. Greg Stephenson
Permittee Name:	PM Environmental, LLC 305A Equipment Court Decatur, AL 35603
Facility Name:	MAPCO #5188
Location:	101 Sloan Avenue West Talladega, Talladega County, Alabama Lat: N 33.445992/Long: W -86.107328
UIC Permit Number:	ALSI5610001
Draft Permit is:	Initial Issuance
Injection Description:	Injection of carbon, calcium sulfate, nitrate, phosphate, ammonia, gypsum, magnesium sulfate, starch, yeast, and bacteria solution to aid in the remediation of existing groundwater contamination
Discussion:	Standard permit drafted

1. No hazardous injection
2. Sampling point required
3. AEPACS required to be utilized for reporting
4. AEPACS required to be utilized for permit reissuances/modifications/transfers

THREE NOTCH GROUP

SITE HEALTH AND SAFETY PLAN

APPENDIX D

Site Health and Safety Plan

Discount Food Mart #188
Facility ID# 10088-121-013521
UST No. 98-06-28

Prepared For:
MAPCO Express, Inc.
1255 Lakes Parkway, Suite 180
Lawrenceville, GA 30043

Prepared By:
Three Notch Group, Inc.
6767 Old Madison Pike, Suite 400
Huntsville, AL 35806

THREE
NOTCH
GROUP

Table of Contents

1.0 Introduction

This Health and Safety Plan (HASP) has been prepared specifically for corrective action activities to be conducted by Three Notch Group, Inc. (Three Notch) for the Discount Food Mart #188 site located in Talladega, Talladega 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 Three Notch 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 Three Notch 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. Three Notch personnel assigned to the project include:

NAME	TITLE	RESPONSIBILITIES
David 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.

Jessica Reed	Project Manager / Site HSO	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 may include installation activities.

4.1 Installation Activities

Installation activities generally involve preparing the site for installation activities. More specifically this may include:

- Preparing the site for work to be performed
- Saw-cutting concrete surface, excavating, and installing well vaults
- Installing polyvinyl chloride (PVC) extraction piping
- Installing piping connections from extraction piping to wellhead

5.0 Chemical Hazards

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

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 Safety Data Sheet (SDS) is attached to this Health & Safety Plan.

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 hazards 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 Three Notch 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 attached to this Health & Safety Plan.

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 conditions; 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 from 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, Three Notch 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 Three Notch suspects the utility to exist, Three Notch 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 land surface (ft-bls).

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 Three Notch. Three Notch will notify local utility companies to provide a site inspection and mark any existing subsurface electrical lines. In addition, Three Notch 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 Three Notch and should be kept in all company vehicles. If field personnel are aware of their allergic reactions to insect bites, Three Notch 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.

LEVELS OF PPE PROTECTION	PPE REQUIREMENTS
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 known 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 are 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 exist
- 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 Three Notch 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. Three Notch requires that the work area be posted with "NO SMOKING" signs in an attempt to prevent fires from occurring; however, as a secondary precaution Three Notch 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 Three Notch personnel will be notified of the incident as soon as possible.

11.1 Notification/Reporting Procedures

In the event of an emergency, the Three Notch 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 Three Notch 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. Three Notch 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, Three Notch 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. Three Notch 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, Three Notch 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		1-205-939-7000
Corporate HSO	David Dailey	1-205-403-2600
Project Manager	Jessica Reed	1-256-783-5627
EPA RCRA-Superfund Hotline		1-800-424-9346
Chemtrec (24 hours)		1-800-424-9300
Bureau of Explosives (24 hours)		1-202-293-4048
Centers for Disease Control (Biological Agents)		1-404-633-5353
National Response Center		1-800-424-8802

11.8 Medical Facility

Name of Hospital: Brookwood Baptist Medical Center

Address: 604 Stone Avenue, Talladega, AL 35160

Phone: (256)362-8111

Route to Hospital: see attached map with driving directions
Travel Time from Site: 4 minutes

Distance to Hospital: 1.4 miles

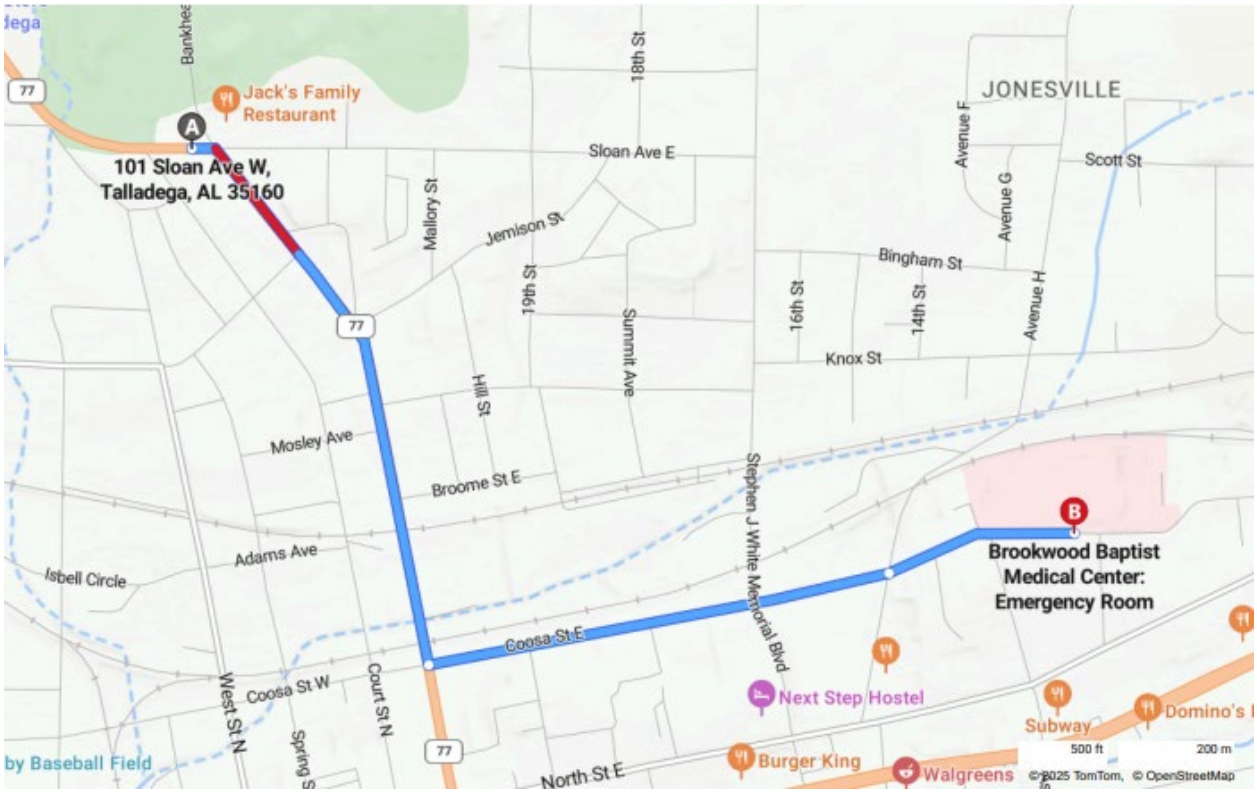
Name/Number of 24-hour Ambulance Service: 911

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

A 101 Sloan Ave W, Talladega, AL 35160

↑	1.	Head **east** on **AL-77 / Sloan Ave W** toward Bankhead Blvd / County Hwy-326	0.7 mi
↰	2.	Turn **left** onto **Coosa St E**	0.5 mi
↑	3.	Road name changes to **Stone Ave**	0.2 mi
	4.	Arrive at **Stone Ave** The last intersection before your destination is Morgan St If you reach Chilton St, you've gone too far	

B Brookwood Baptist Medical Center: Emergency Room



THREE NOTCH GROUP

QUALITY ASSURANCE/QUALITY CONTROL

MONITORING AND SAMPLING PLAN

APPENDIX E

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 Three Notch Group, Inc. (Three Notch) 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 Three Notch 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 Three Notch 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:

$v = 3.14 \times r^2 \times l$ (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 and naphthalene analysis

(volatile organics) are transferred 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 Three Notch 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°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°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 Three Notch 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 Three Notch by common carrier or are dropped off by a laboratory representative. Upon receipt of the kits, Three Notch 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. Three Notch 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 Three Notch 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 Three Notch 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 Three Notch. 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 Three Notch 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 Three Notch, 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.

THREE NOTCH GROUP

AST ENVIRONMENTAL, INC.

INJECTION PROPOSAL

APPENDIX F

August 22, 2024

Mr. Wesley Henson, PG
PM Environmental
717 Highway 67 South
Suite 26
Decatur, AL 35603

RE: Trap & Treat® Remedial Approach
MAPCO 5188
101 West Sloan Avenue
Talladega, Talladega County, Alabama 35160
UST98-06-28, Facility ID No. 10188-121-013521, ATTF CP #56

Dear Mr. Henson,
AST Environmental, Inc. (AST) appreciates the opportunity to report on the recently completed *quantitative* High Resolution Site Characterization (*q*HRSC) program and provide this proposal to address the remaining petroleum hydrocarbon mass at the MAPCO #5188 facility. AST supported PM Environmental (PM) with completing the Remedial Design Characterization (RDC) sampling, the first major component of the qHRSC program, at the site on June 24th thru 28th, 2024, and has prepared the remedial design based on the updated Quantitative Conceptual Site Model. The following are the Alabama Risk Based Corrective Action Site Specific Target Levels (ARBCA SSTLs) and remediation goals for the site:

- ARBCA SSTL Soil: 655 mg/kg total xylene
- ARBCA SSTL Groundwater: 0.88 mg/L benzene

The RDC sampling consisted of the completion of thirteen (13) soil borings (RDC-01 thru RDC-13), RDC-11 and RDC-12 were advanced at a 30° angle from vertical in order to access soil beneath West Sloan Avenue. On June 24th thru 28th, 2024, AST staff mobilized to the site to support PM with completing the RDC. A Trimble Geo7x was used to survey the RDC boring locations' geospatial coordinates and the site map has been updated to show the approximate location of each boring as shown on Figure 1. Soil borings were advanced to total depths ranging from 28' below ground surface (bgs) in RDC-08 to 60' bgs in RDC-09, refusal was encountered in RDC-03 (43' bgs), RDC-08 (28' bgs), RDC-10 (29' bgs), RDC-11 (33' bgs), and RDC-12 (33' bgs). RDC-07 was terminated at 53' bgs, the difficult drilling caused the acetate liner in the DT-22 tooling to melt. Soil boring logs with concentration versus depth plots were generated and are included as Attachment A. Soil samples were collected using a Geoprobe® 7822DT with dual-tube sampling method. Samples were collected from every 2-foot interval with sufficient recovery extending to the total boring depth, soil samples were submitted for laboratory analysis.

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

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

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

- Soil Total Xylene – Figure 2
- Soil TVPH – Figure 3

Cross sections showing the distribution of contaminant mass were generated to assist with the visualization of the vertical extent of lithology and select contaminants of concern in soil:

- Cross section A-A' Total Xylene – Figure 4
- Cross section A-A' TVPH – Figure 5
- Cross Section B-B' Total Xylene – Figure 6
- Cross Section B-B' TVPH – Figure 7

Temporary casing was installed at RDC soil boring locations RDC-02, RDC-04, RDC-06, and RDC-09 prior to abandonment. Temporary well screened intervals are detailed in the soil boring logs (Attachment A) and summarized in Table 2. The temporary PVC casing from each location was removed and the boreholes were properly abandoned after groundwater sampling was completed. Monitoring wells MW-09 and MW-14 were gauged, developed/purged, and sampled on June 26th and 28th, 2024. Temporary well locations RDC-02, RDC-04, RDC-06, and RDC-09 were also developed/purged and sampled on June 26th and 28th, 2024, but water level gauging was not completed for the temporary well locations. The gauging information is included as Table 2.

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

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

- Benzene in groundwater – Figure 8
- Naphthalene in groundwater – Figure 9
- TVPH in groundwater – Figure 10

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

- Total Xylene in Soil with 655 mg/kg Limit Threshold
- TVPH in Soil with 250 mg/kg Limit Threshold

One or more constituent concentrations in unsaturated and saturated soil were detected above the SSTL for the facility in soil borings RDC-02 and RDC-03, see Table 1 for exceedances of individual compounds for each listed soil sample. TVPH concentrations in unsaturated and saturated soil indicate the presence of LNAPL in soil borings RDC-01, RDC-02, RDC-03, and RDC-09. One or more constituent concentrations were detected above the SSTL in groundwater from monitoring wells MW-09 and MW-14 and temporary assessment wells RDC-02 and RDC-09. AST recommends In-situ injection of BOS 200+® to mitigate petroleum hydrocarbons in saturated soil and groundwater at the site. The remediation design and pricing (*Trap & Treat® Remedial Approach*) for each task is provided below.

BOS 200+® INJECTION DESIGN

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

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

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

There is a lower limit of the amount of BOS 200® that can be installed and still be effective at a site. This amount is driven by several site features such as soil type, groundwater flux, and contaminant concentrations. The success in achieving cleanup goals is not just in the product installed, but the distribution of the product in subsurface. Distribution is controlled by the injection techniques used: i.e., vertical and horizontal spacing are a function of soil type, high pressure injection vs. low pressure injection, and top down vs. bottom up. For this site, given the soil type and contaminant mass, AST proposes to optimize the injectate distribution by 1) using top-down techniques, 2) using relatively high-pressure injections (enough pressure to provide localized soil lifting and propagation of BOS 200® from the injection tip), and 3) adjusting the horizontal and vertical injection spacing.

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

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

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

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

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

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

The horizontal extent of the proposed injection area is depicted on the attached Figure 11, the BOS 200+® injection design (see Attachment C) has been prepared for each area using the following approach:

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

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

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

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

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

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

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

POST INJECTION SAMPLING

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

DATA ANALYSIS AND REPORTING

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

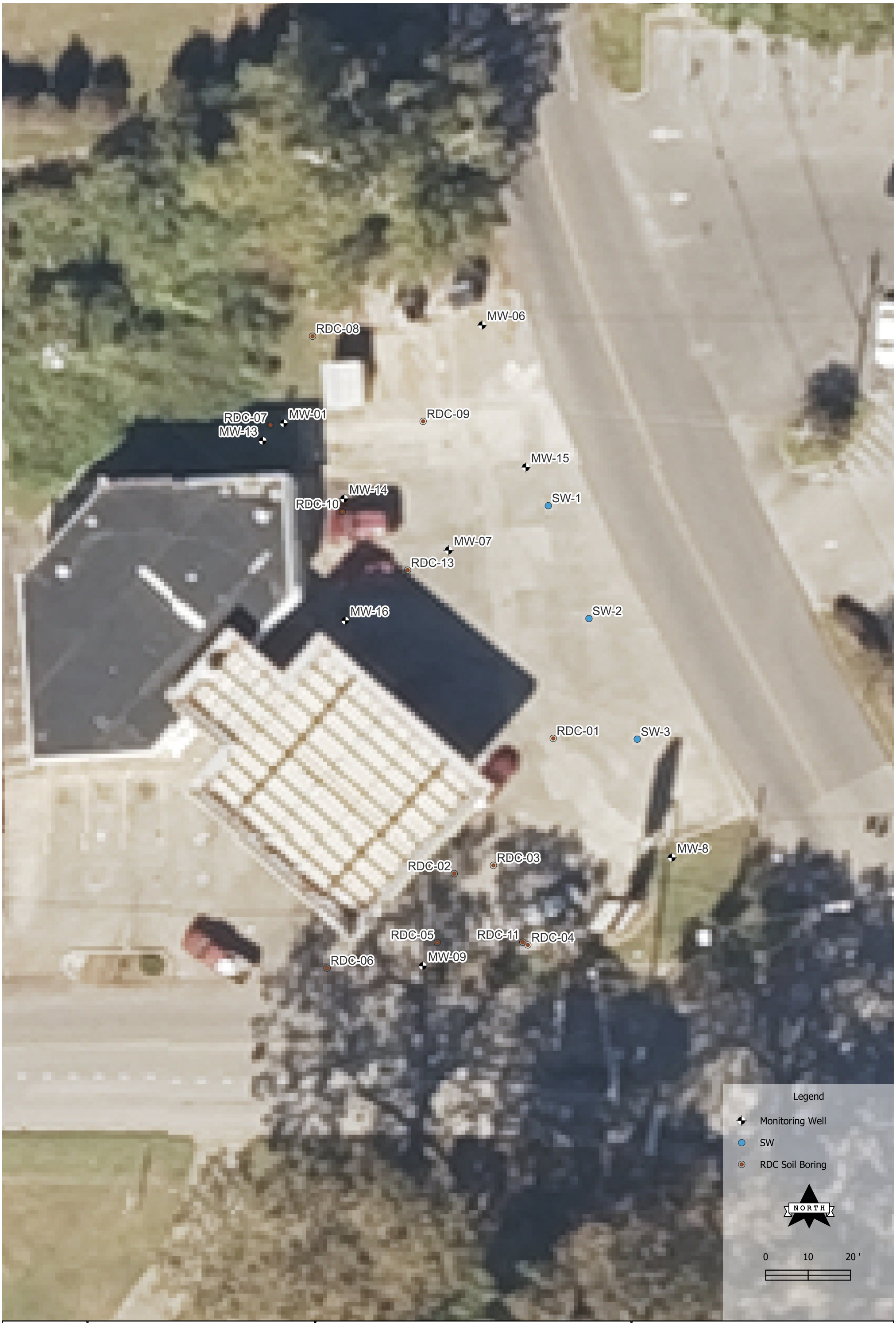
If you have any questions or wish to discuss the information provided herein, please feel free to call me at (859) 846-4900 or write via email at bbrab@astenv.com.

Sincerely,

AST Environmental, Inc.

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

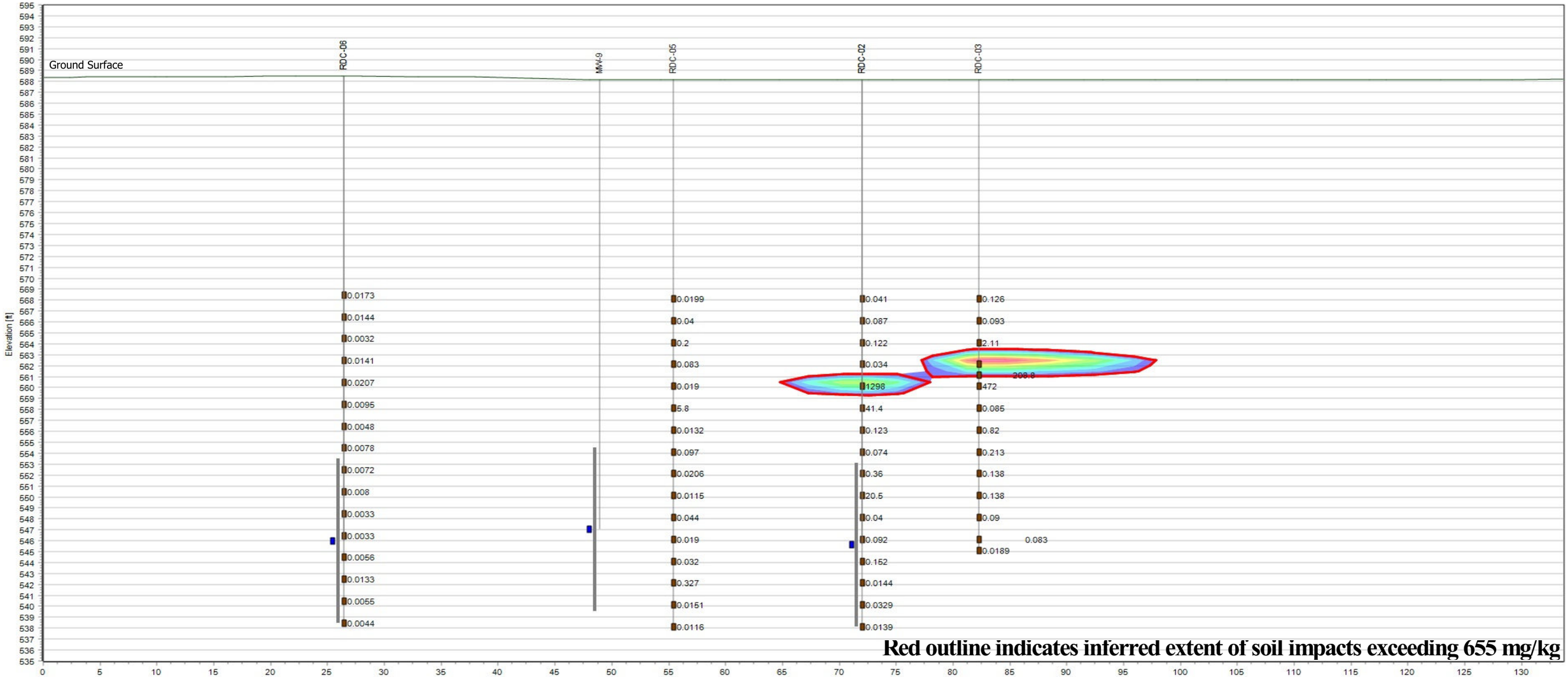
FIGURES



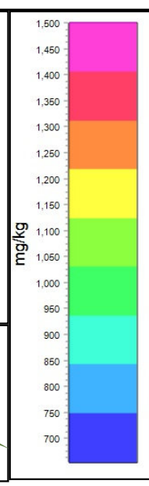
1 Figure	MAPCO 5188 101 West Sloan Avenue Talladega, Alabama Facility ID No. 10188-121-013521	**Site Plan**	**AST Environmental** 665 McKinney Ave Midway, Kentucky www.astenv.com AST ENVIRONMENTAL, INC.

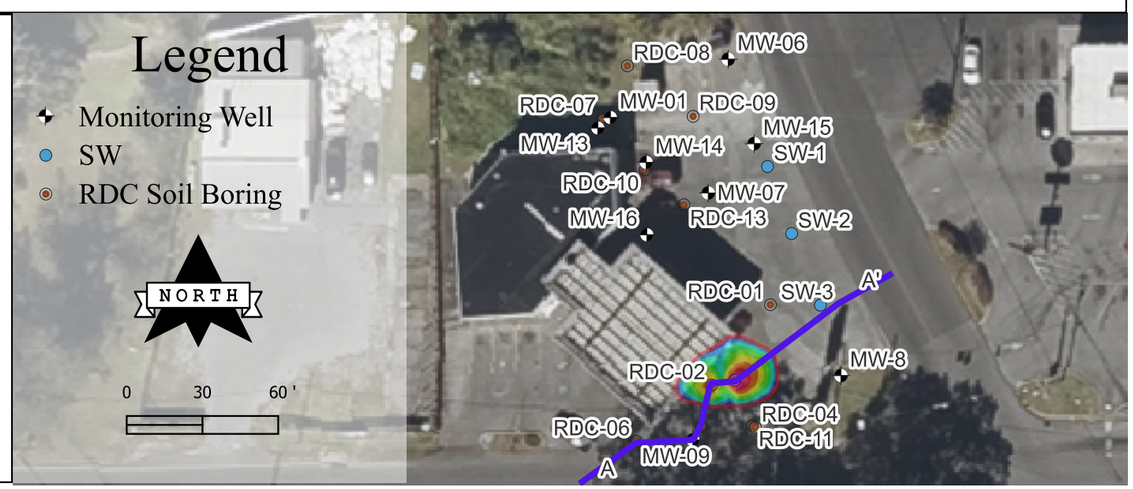
2 Figure	MAPCO 5188 101 West Sloan Avenue Talladega, Alabama Facility ID No. 10188-121-013521	**Total Xylene Isoconcentrations in Soil** **Inferred from RDC samples collected June 2024**	**AST Environmental** 665 McKinney Ave Midway, Kentucky www.astenv.com AST ENVIRONMENTAL, INC.

3 Figure	MAPCO 5188 101 West Sloan Avenue Talladega, Alabama Facility ID No. 10188-121-013521	**TVPH Isoconcentrations in Soil** **Inferred from RDC samples collected June 2024**	**AST Environmental** 665 McKinney Ave Midway, Kentucky www.astenv.com AST ENVIRONMENTAL, INC.

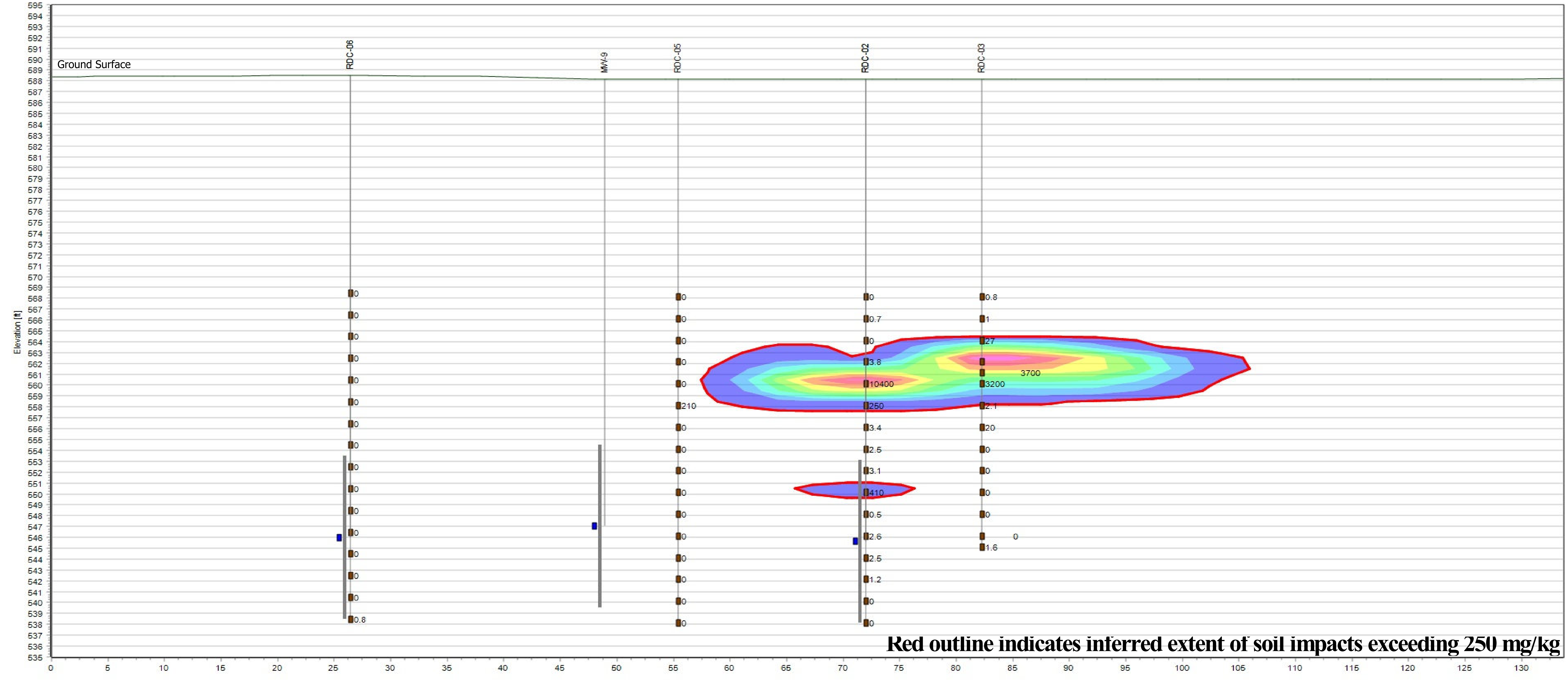


Fence Line A-A'
Soil Total Xylene Isoconcentrations
Based on samples collected during the June 2024 RDC event

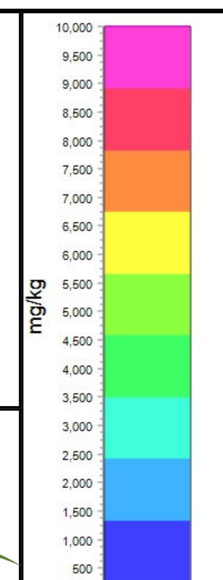


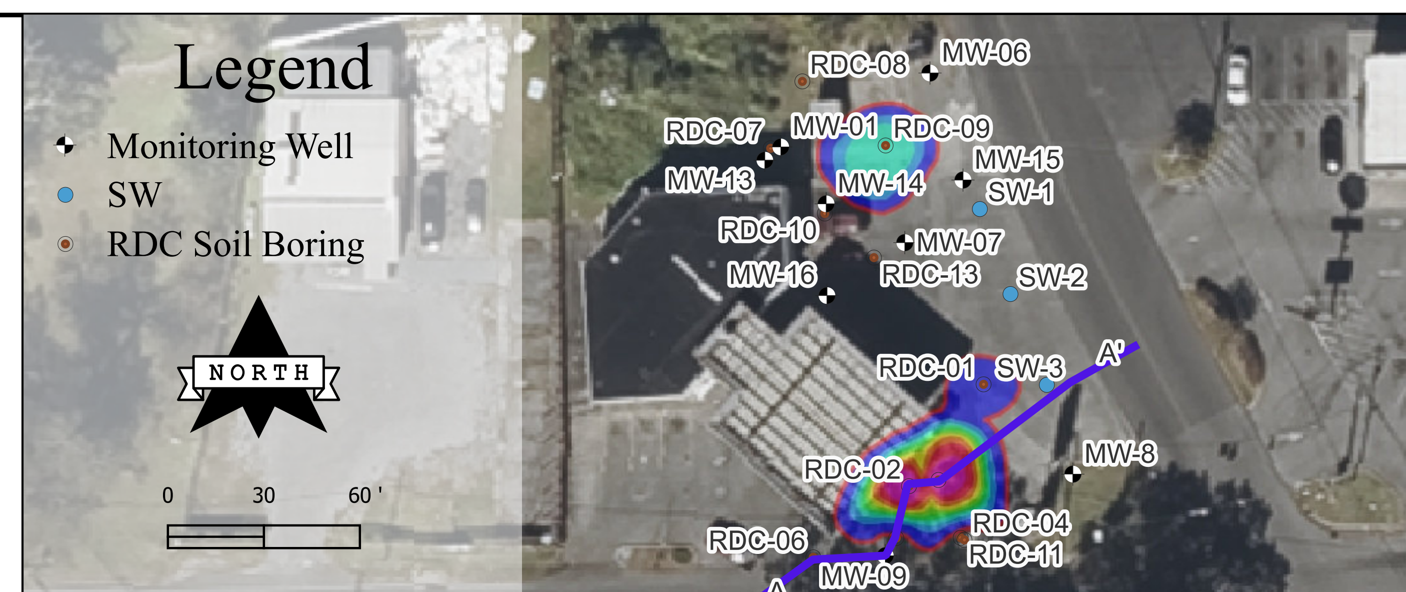


4 Figure	**Mapco 5188** **101 West Sloan Avenue** **Talladega, Alabama** **Facility ID No. 10188-121-013521**	AST Environmental 665 McKinney Ave Midway, Kentucky www.astenv.com AST ENVIRONMENTAL, INC.

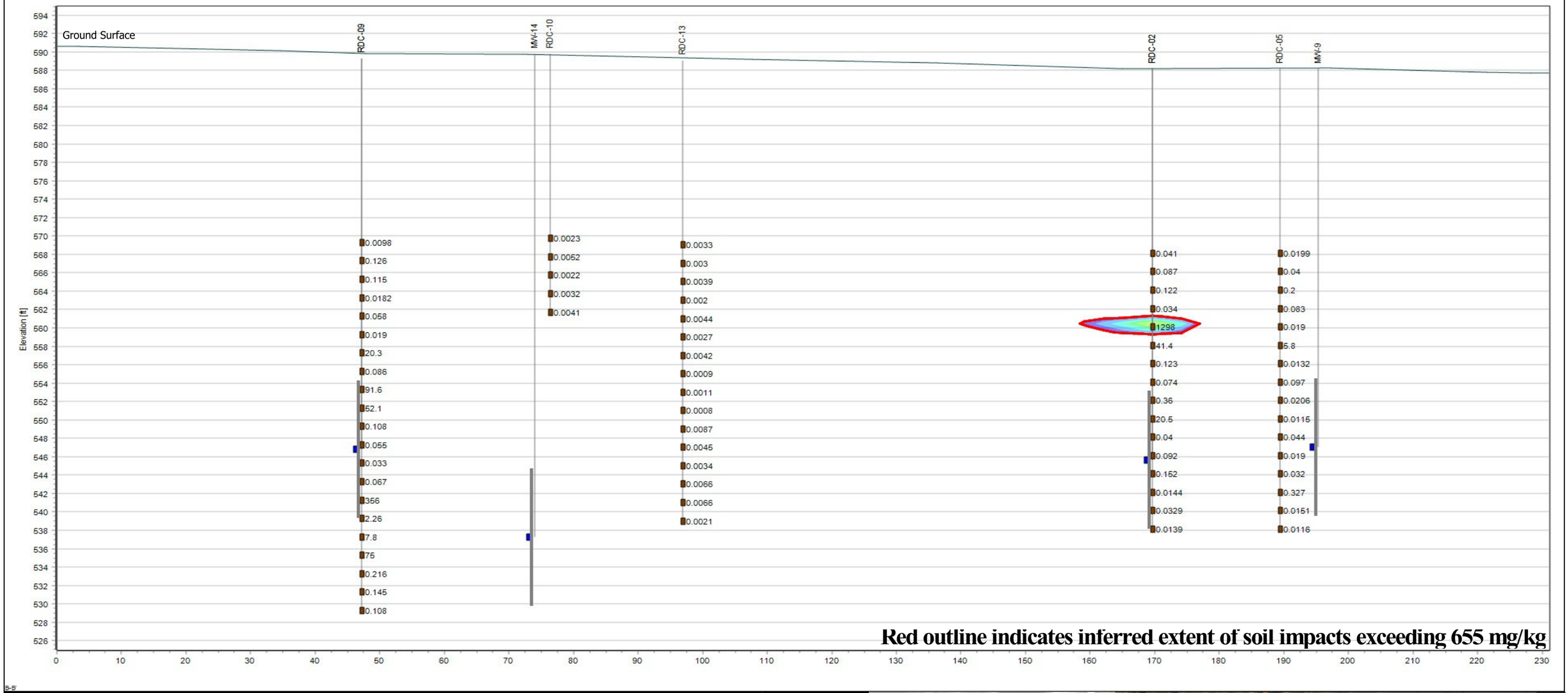


Fence Line A-A'
Soil TVPH Isoconcentrations
Based on samples collected during the June 2024 RDC event

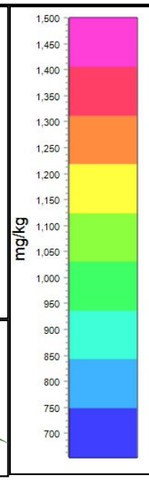




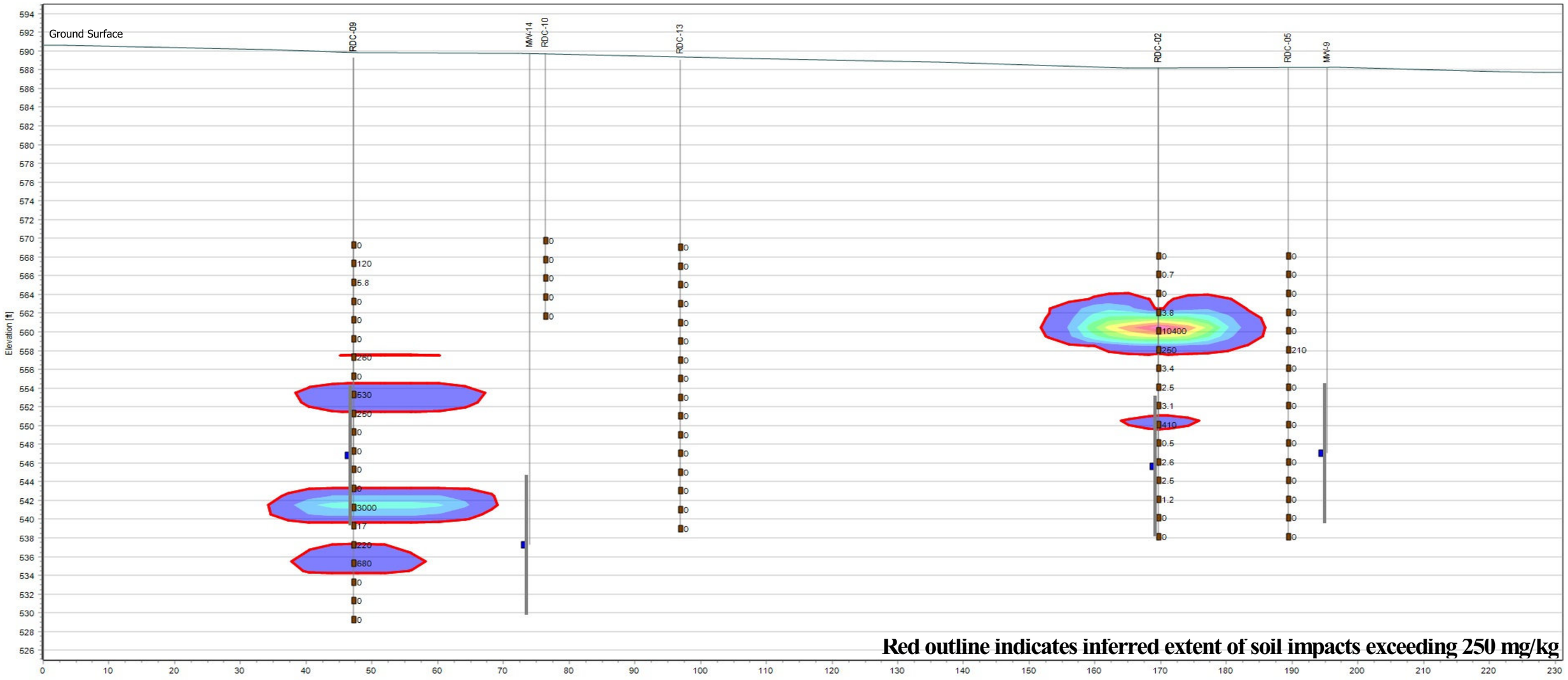
5 Figure	Mapco 5188 101 West Sloan Avenue Talladega, Alabama Facility ID No. 10188-121-013521	AST Environmental 665 McKinney Ave Midway, Kentucky www.astenv.com



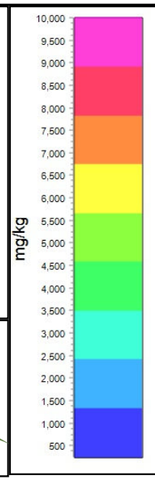
Fence Line B-B'
Soil Total Xylene Isoconcentrations
Based on samples collected during the June 2024 RDC event



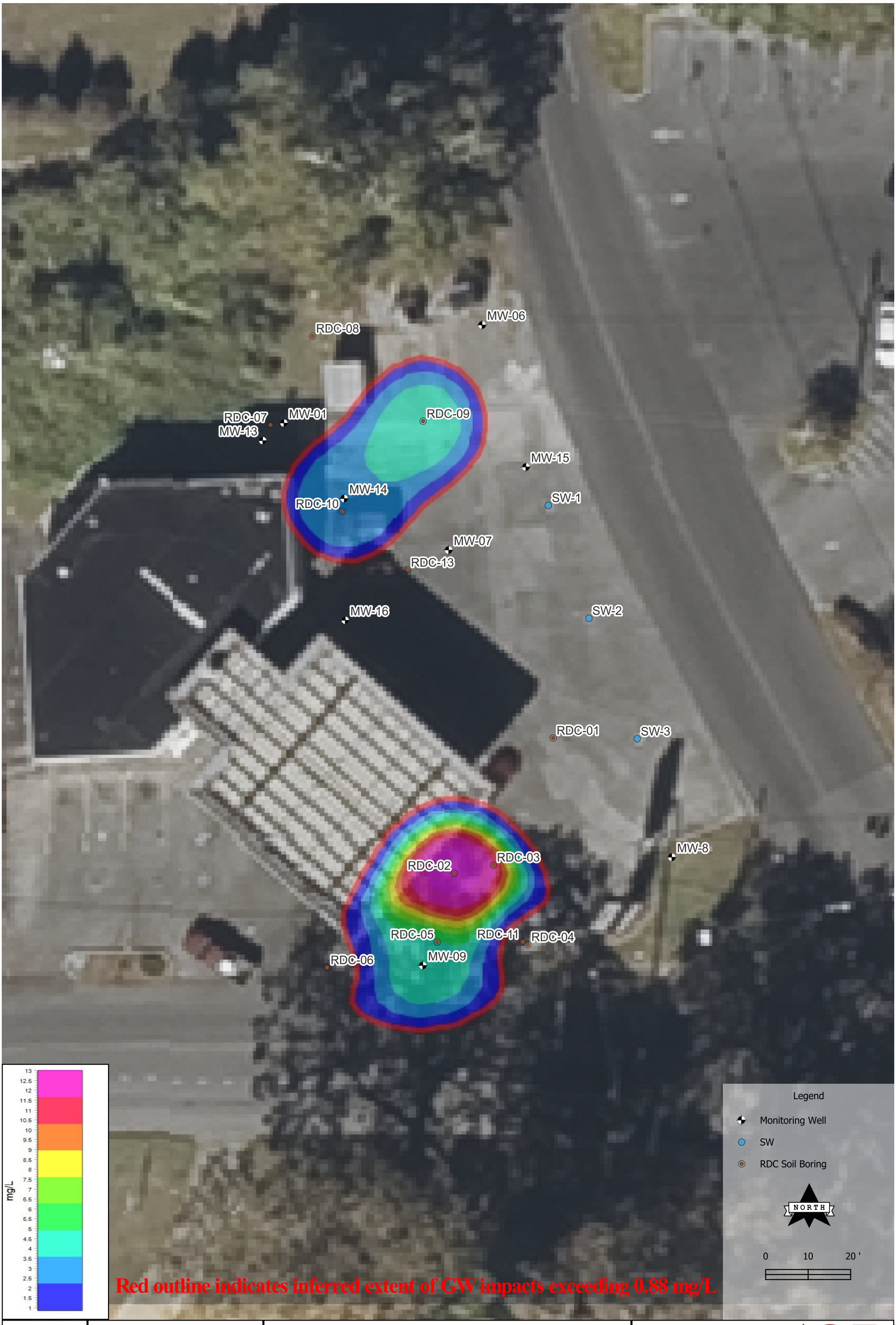
6 Figure	Mapco 5188 101 West Sloan Avenue Talladega, Alabama Facility ID No. 10188-121-013521	AST Environmental 665 McKinney Ave Midway, Kentucky www.astenv.com



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



7 Figure	**Mapco 5188** **101 West Sloan Avenue** **Talladega, Alabama** **Facility ID No. 10188-121-013521**	AST Environmental 665 McKinney Ave Midway, Kentucky www.astenv.com AST ENVIRONMENTAL, INC.



8 Figure	MAPCO 5188 101 West Sloan Avenue Talladega, Alabama Facility ID No. 10188-121-013521	**Benzene Isoconcentrations in Groundwater** **Inferred from RDC samples collected June 2024**	**AST Environmental** 665 McKinney Ave Midway, Kentucky www.astenv.com AST ENVIRONMENTAL, INC.

9 Figure	MAPCO 5188 101 West Sloan Avenue Talladega, Alabama Facility ID No. 10188-121-013521	**Naphthalene Isoconcentrations in Groundwater** **Inferred from RDC samples collected June 2024**	**AST Environmental** 665 McKinney Ave Midway, Kentucky www.astenv.com AST ENVIRONMENTAL, INC.

10 Figure	MAPCO 5188 101 West Sloan Avenue Talladega, Alabama Facility ID No. 10188-121-013521	**TVPH Isoconcentrations in Groundwater** **Inferred from RDC samples collected June 2024**	**AST Environmental** 665 McKinney Ave Midway, Kentucky www.astenv.com AST ENVIRONMENTAL, INC.

11 Figure	MAPCO 5188 101 West Sloan Avenue Talladega, Alabama Facility ID No. 10188-121-013521	**Proposed Injection Area Map**	**AST Environmental** 665 McKinney Ave Midway, Kentucky www.astenv.com AST ENVIRONMENTAL, INC.

TABLES

Table 0

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

Facility Name: Mapco #5188 **Facility ID #: 10188-121-013521**

Chemical of concern[1]	Applicable soil SSTL (ppm)	Maximum soil concentration from last comprehensive monitoring event (ppm)[2]	Applicable ground water SSTL (ppm)	Maximum ground water concentration from last comprehensive monitoring event (ppm)[2]
Benzene	**161**	150	**0.88**	13.4
Toluene	**1174**	1460	**176**	20.8
Ethylbenzene	**527**	340	**123**	2.7
Total Xylenes	**655**	1755	**175**	14.3
MtBE	**21382**	0.67	**3.53**	2
Naphthalene	**---**	142.0	**0.02**	0.44

Table 1
Soil Analytical Results

Facility Name: Mapco #5188 **Facility ID #: 10188-121-013521**

Sample location	Sample date	Sample depth (ft)	Chemical of concern (mg/Kg)									
			Dimethyl Sulfide	MTBE	1,2-Dichloroethane	Benzene	Toluene	Ethylbenzene	Total Xylene	1,2,4-Trimethylbenzene	Naphthalene	TVPH
SSTL			**n/a**	**21382**	**n/a**	**161.0**	**1174.0**	**527**	**655.0**	**n/a**	**---**	**n/a**
RDC-01	6/24/2024	20	<0.01	0.011	<0.01	<0.01	0.029	0.03	0.32	0.93	0.19	16
RDC-01	6/24/2024	22	<0.0005	0.059	0.026	0.075	0.21	0.023	0.183	0.038	<0.0005	<0.5
RDC-01	6/24/2024	24	<0.0005	0.064	0.015	0.011	0.031	0.0031	0.031	0.0059	0.0017	<0.5
RDC-01	6/24/2024	26	<0.0005	0.076	0.029	0.045	0.055	0.0041	0.07	0.0063	0.0021	<0.5
RDC-01	6/24/2024	28	<0.0005	0.042	0.025	0.065	0.07	0.0069	0.066	0.0096	<0.0005	<0.5
RDC-01	6/24/2024	30	<0.0005	0.0032	<0.0005	0.0042	0.018	0.002	0.0129	0.0034	<0.0005	<0.5
RDC-01	6/24/2024	32	<0.0005	0.0011	<0.0005	0.0039	0.015	0.0016	0.0088	0.0021	<0.0005	<0.5
RDC-01	6/24/2024	34	<0.0005	0.0012	<0.0005	0.0021	0.0084	0.0008	0.0052	0.0014	<0.0005	<0.5
RDC-01	6/24/2024	36	<0.0005	0.0023	0.0063	<0.0005	0.027	0.0029	0.0169	0.0044	<0.0005	<0.5
RDC-01	6/24/2024	38	<0.0005	0.001	<0.0005	0.0036	0.015	0.0017	0.0269	0.0075	<0.0005	<0.5
RDC-01	6/24/2024	40	<0.0005	0.0012	<0.0005	0.0074	0.021	0.0019	0.0091	0.0026	<0.0005	<0.5
RDC-01	6/24/2024	42	<0.0005	0.0016	<0.0005	0.0049	0.015	0.0012	0.006	0.002	<0.0005	<0.5
RDC-01	6/24/2024	44	<0.0005	0.0041	<0.0005	0.0095	0.039	0.0039	0.0219	0.0062	<0.0005	<0.5
RDC-01	6/24/2024	46	<0.01	<0.01	<0.01	1.8	37.6	13.4	73.9	35.9	5	450
RDC-01	6/24/2024	48	<0.0005	0.0022	<0.0005	0.0054	0.038	0.0092	0.065	0.073	0.0078	<0.5
RDC-01	6/24/2024	50	<0.0005	0.0015	<0.0005	<0.0005	<0.0005	0.0006	0.0041	0.0019	<0.0005	<0.5
RDC-02	6/24/2024	20	<0.0005	0.044	0.0078	0.091	0.18	0.008	0.041	0.0083	0.0012	<0.5
RDC-02	6/24/2024	22	<0.0005	0.042	0.012	0.15	0.34	0.017	0.087	0.017	0.015	0.7
RDC-02	6/24/2024	24	<0.01	0.019	<0.01	0.016	0.07	0.02	0.122	0.12	0.077	<10
RDC-02	6/24/2024	26	<0.0005	0.08	0.006	0.04	0.087	0.0064	0.034	0.068	0.13	3.8
RDC-02	6/24/2024	28	<0.25	<0.25	<0.25	110	**1300**	251	**1298**	544	142	10400
RDC-02	6/24/2024	30	<0.0005	0.67	0.3	1.9	2.2	5.7	41.4	40	7.4	250
RDC-02	6/24/2024	32	<0.0005	0.24	0.051	0.098	0.13	0.022	0.123	0.044	0.08	3.4
RDC-02	6/24/2024	34	<0.0005	0.22	0.046	0.071	0.15	0.014	0.074	0.035	0.074	2.5
RDC-02	6/24/2024	36	<0.0005	0.32	0.23	0.46	0.61	0.055	0.36	0.083	0.084	3.1
RDC-02	6/24/2024	38	<0.01	0.1	<0.01	4.1	15.4	6.9	20.5	15.7	5.2	410
RDC-02	6/24/2024	40	<0.0005	0.07	0.0063	0.024	0.071	0.008	0.04	0.014	0.024	0.5
RDC-02	6/24/2024	42	<0.0005	0.32	0.036	0.15	0.12	0.02	0.092	0.036	0.039	2.6
RDC-02	6/24/2024	44	<0.0005	0.24	0.095	0.79	0.013	0.011	0.152	0.032	0.014	2.5
RDC-02	6/24/2024	46	<0.0005	0.037	0.0043	0.036	0.088	0.0056	0.0144	0.0053	0.0037	1.2
RDC-02	6/24/2024	48	<0.0005	0.028	0.0021	0.018	0.048	0.0045	0.0329	0.011	0.0037	<0.5
RDC-02	6/24/2024	50	<0.0005	0.03	0.0024	0.017	0.036	0.0029	0.0139	0.0055	0.0022	<0.5
RDC-03	6/25/2024	20	<0.0005	0.12	0.014	0.3	0.47	0.024	0.126	0.037	0.034	0.8
RDC-03	6/25/2024	22	<0.0005	0.16	0.01	0.19	0.37	0.02	0.093	0.021	0.032	1
RDC-03	6/25/2024	24	<0.01	0.098	<0.01	0.2	1.4	0.32	2.11	1.4	0.31	27
RDC-03	6/25/2024	26	<0.25	<0.25	<0.25	150	**1460**	340	**1755**	688	125	11700
RDC-03	6/25/2024	27	<0.1	<0.1	0.31	28.3	143	72.3	208.8	183	60.1	3700
RDC-03	6/25/2024	28	<0.05	0.5	0.26	14.3	351	87.8	472	232	29.1	3200
RDC-03	6/25/2024	30	<0.0005	0.31	0.01	0.13	0.29	0.018	0.085	0.024	0.031	2.1
RDC-03	6/25/2024	32	<0.01	0.22	0.018	0.069	0.47	0.15	0.82	0.57	0.15	20
RDC-03	6/25/2024	34	<0.01	0.2	<0.01	0.072	0.22	0.041	0.213	0.12	0.024	<10
RDC-03	6/25/2024	36	<0.01	0.12	<0.01	0.062	0.2	0.024	0.138	0.066	0.015	<10
RDC-03	6/25/2024	38	<0.01	0.14	<0.01	0.063	0.19	0.026	0.138	0.059	<0.01	<10
RDC-03	6/25/2024	40	<0.01	0.2	0.014	0.048	0.11	0.017	0.09	0.04	<0.01	<10
RDC-03	6/25/2024	42	<0.01	0.11	<0.01	0.028	0.084	0.016	0.083	0.042	<0.01	<10
RDC-03	6/25/2024	43	<0.0005	0.17	0.011	0.073	0.11	0.0048	0.0189	0.0046	0.0044	1.6
RDC-04	6/25/2024	20	<0.0005	0.057	0.0043	0.08	0.13	0.0046	0.021	0.0041	0.028	<0.5
RDC-04	6/25/2024	22	<0.0005	0.033	0.003	0.064	0.089	0.0034	0.0148	0.0034	0.0051	<0.5
RDC-04	6/25/2024	24	<0.0005	0.0011	<0.0005	0.0029	0.01	0.0013	0.0067	0.0025	0.0017	<0.5
RDC-04	6/25/2024	26	<0.0005	0.0013	<0.0005	<0.0005	0.0011	<0.0005	0.0025	0.0012	0.0006	<0.5
RDC-04	6/25/2024	28	<0.0005	0.0015	<0.0005	<0.0005	0.0025	0.0017	0.0109	0.013	0.0016	<0.5
RDC-04	6/25/2024	30	<0.0005	0.0038	<0.0005	0.01	<0.0005	0.0073	0.073	0.04	0.083	<0.5
RDC-04	6/25/2024	31	<0.0005	0.0011	<0.0005	<0.0005	0.0012	0.0006	0.0035	0.0019	0.0067	<0.5
RDC-04	6/25/2024	32	<0.0005	0.0014	<0.0005	0.013	0.26	0.038	0.32	0.078	0.081	0.9
RDC-04	6/25/2024	34	<0.01	<0.01	<0.01	<0.01	0.051	0.014	0.076	0.044	0.013	<10
RDC-04	6/25/2024	36	<0.01	<0.01	<0.01	0.017	0.31	0.055	0.42	0.14	0.025	<10
RDC-04	6/25/2024	38	<0.01	0.018	<0.01	<0.01	0.041	0.011	0.06	0.043	0.012	<10
RDC-04	6/25/2024	40	<0.01	0.057	<0.01	<0.01	0.027	<0.01	0.029	0.023	0.0098	<10
RDC-04	6/25/2024	42	<0.0005	0.0054	<0.0005	0.0018	0.0097	0.004	0.0233	0.017	0.0065	0.5
RDC-04	6/25/2024	44	<0.0005	0.0065	<0.0005	0.0036	0.018	0.0028	0.0154	0.014	0.0035	<0.5
RDC-04	6/25/2024	46	<0.0005	0.046	0.0098	0.008	0.02	0.0026	0.0128	0.013	0.0043	0.7
RDC-04	6/25/2024	48	<0.0005	0.08	0.014	0.0061	0.011	0.0022	0.0104	0.01	0.0027	0.8
RDC-04	6/25/2024	50	<0.0005	0.047	0.0072	0.0018	0.005	0.0021	0.0109	0.0099	0.0034	<0.5

Table 1
Soil Analytical Results

Facility Name: Mapco #5188 **Facility ID #: 10188-121-013521**

Sample location	Sample date	Sample depth (ft)	Chemical of concern (mg/Kg)									
			Dimethyl Sulfide	MTBE	1,2-Dichloroethane	Benzene	Toluene	Ethylbenzene	Total Xylene	1,2,4-Trimethylbenzene	Naphthalene	TVPH
SSTL			**n/a**	**21382**	**n/a**	**161.0**	**1174.0**	**527**	**655.0**	**n/a**	**---**	**n/a**
RDC-05	6/25/2024	20	<0.0005	0.018	<0.0005	0.0029	0.011	0.0036	0.0199	0.017	0.014	<0.5
RDC-05	6/25/2024	22	<0.0005	0.017	<0.0005	0.005	0.031	0.0054	0.04	0.02	0.017	<0.5
RDC-05	6/25/2024	24	<0.01	0.031	<0.01	0.03	0.17	0.026	0.2	0.067	0.021	<10
RDC-05	6/25/2024	26	<0.01	0.016	<0.01	<0.01	0.048	0.011	0.083	0.038	0.016	<10
RDC-05	6/25/2024	28	<0.01	<0.01	<0.01	<0.01	0.015	<0.01	0.019	0.016	<0.01	<10
RDC-05	6/25/2024	30	<0.01	<0.01	<0.01	<0.01	0.028	0.77	5.8	13.7	0.74	210
RDC-05	6/25/2024	32	<0.0005	0.0051	<0.0005	0.001	0.0044	0.002	0.0132	0.017	0.032	<0.5
RDC-05	6/25/2024	34	<0.01	0.036	<0.01	0.026	0.015	0.018	0.097	0.12	0.016	<10
RDC-05	6/25/2024	36	<0.0005	0.069	<0.0005	0.0036	0.0061	0.0037	0.0206	0.021	0.023	<0.5
RDC-05	6/25/2024	38	<0.0005	0.0038	<0.0005	0.0005	0.0028	0.0019	0.0115	0.017	0.007	<0.5
RDC-05	6/25/2024	40	<0.01	0.037	<0.01	<0.01	0.021	0.0093	0.044	0.042	<0.01	<10
RDC-05	6/25/2024	42	<0.01	0.02	<0.01	<0.01	0.013	<0.01	0.019	0.021	<0.01	<10
RDC-05	6/25/2024	44	<0.01	0.081	<0.01	<0.01	0.016	<0.01	0.032	0.023	<0.01	<10
RDC-05	6/25/2024	46	<0.01	0.14	<0.01	0.4	0.041	0.099	0.327	0.13	0.01	<10
RDC-05	6/25/2024	48	<0.0005	0.023	<0.0005	0.0009	0.0062	0.0029	0.0151	0.014	0.0079	<0.5
RDC-05	6/25/2024	50	<0.0005	0.012	<0.0005	0.0006	0.0044	0.0022	0.0116	0.0096	0.0028	<0.5
RDC-06	6/26/2024	20	<0.0005	<0.0005	<0.0005	0.001	0.0049	0.0029	0.0173	0.023	0.0036	<0.5
RDC-06	6/26/2024	22	<0.0005	<0.0005	<0.0005	<0.0005	0.0043	0.0023	0.0144	0.018	0.0029	<0.5
RDC-06	6/26/2024	24	<0.0005	0.0037	<0.0005	<0.0005	0.0014	0.0006	0.0032	0.0017	0.001	<0.5
RDC-06	6/26/2024	26	<0.0005	<0.0005	<0.0005	0.0006	0.0045	0.0022	0.0141	0.017	0.0026	<0.5
RDC-06	6/26/2024	28	<0.0005	<0.0005	<0.0005	0.0009	0.0083	0.0035	0.0207	0.015	0.0023	<0.5
RDC-06	6/26/2024	30	<0.0005	0.0006	<0.0005	<0.0005	0.0031	0.0015	0.0095	0.01	0.0017	<0.5
RDC-06	6/26/2024	32	<0.0005	0.0092	<0.0005	0.0015	0.0019	0.0007	0.0048	0.0024	0.0039	<0.5
RDC-06	6/26/2024	34	<0.0005	0.014	<0.0005	<0.0005	0.0021	0.0012	0.0078	0.0066	0.003	<0.5
RDC-06	6/26/2024	36	<0.0005	0.012	<0.0005	<0.0005	0.0031	0.0013	0.0072	0.0039	0.0031	<0.5
RDC-06	6/26/2024	38	<0.0005	0.013	0.0008	0.0008	0.0028	0.0014	0.008	0.0044	0.0037	<0.5
RDC-06	6/26/2024	40	<0.0005	0.0084	<0.0005	<0.0005	0.0016	0.0007	0.0033	0.0022	0.003	<0.5
RDC-06	6/26/2024	42	<0.0005	0.0075	0.0021	0.0005	0.0013	<0.0005	0.0033	0.0034	0.004	<0.5
RDC-06	6/26/2024	44	<0.0005	0.0075	0.0036	0.0008	0.0019	0.0008	0.0056	0.0038	0.0062	<0.5
RDC-06	6/26/2024	46	<0.0005	0.0009	0.0056	0.0076	0.0022	0.0008	0.0133	0.005	0.0042	<0.5
RDC-06	6/26/2024	48	<0.0005	0.016	0.015	0.0087	0.0017	0.001	0.0055	0.0038	0.011	<0.5
RDC-06	6/26/2024	50	<0.0005	0.045	0.021	0.0096	0.0016	0.0017	0.0044	0.0027	0.014	0.8
RDC-07	6/26/2024	20	<0.0005	<0.0005	<0.0005	<0.0005	0.0022	0.001	0.0054	0.0035	0.0029	<0.5
RDC-07	6/26/2024	22	<0.0005	<0.0005	<0.0005	<0.0005	0.0023	0.0012	0.0071	0.0055	0.0018	<0.5
RDC-07	6/26/2024	24	<0.0005	<0.0005	<0.0005	<0.0005	0.0039	0.0018	0.0097	0.0069	0.0031	<0.5
RDC-07	6/26/2024	26	<0.0005	<0.0005	<0.0005	0.0005	0.0062	0.0032	0.0202	0.0096	0.0015	<0.5
RDC-07	6/26/2024	28	<0.0005	0.0006	<0.0005	<0.0005	0.0043	0.0018	0.0118	0.0084	0.0034	1
RDC-07	6/26/2024	30	<0.0005	<0.0005	<0.0005	<0.0005	0.0018	0.0009	0.0056	0.005	0.0016	<0.5
RDC-07	6/26/2024	32	<0.0005	0.0025	<0.0005	<0.0005	0.0017	0.0008	0.0043	0.0034	0.001	<0.5
RDC-07	6/26/2024	34	<0.0005	<0.0005	<0.0005	<0.0005	0.0025	0.0015	0.0083	0.0066	0.0016	<0.5
RDC-07	6/26/2024	36	<0.0005	0.0008	<0.0005	<0.0005	0.0006	0.0017	0.0054	0.0041	0.001	<0.5
RDC-07	6/26/2024	38	<0.0005	0.0005	<0.0005	<0.0005	0.0025	0.0012	0.0073	0.0064	0.0014	<0.5
RDC-07	6/26/2024	40	<0.0005	0.001	<0.0005	<0.0005	0.0014	0.0011	0.0082	0.0041	0.0016	<0.5
RDC-07	6/26/2024	42	<0.0005	0.0005	<0.0005	<0.0005	0.0009	<0.0005	0.002	0.0016	<0.0005	<0.5
RDC-07	6/26/2024	44	<0.0005	0.0015	<0.0005	0.0005	0.0051	0.0017	0.0088	0.0021	<0.0005	<0.5
RDC-07	6/26/2024	46	<0.0005	0.014	<0.0005	0.0005	0.0022	0.0011	0.0064	0.0051	0.0014	<0.5
RDC-07	6/26/2024	48	<0.01	0.028	<0.01	<0.01	0.012	<0.01	0.016	0.016	<0.01	<10
RDC-08	6/26/2024	20	<0.0005	<0.0005	<0.0005	<0.0005	0.0016	0.0009	0.0047	0.0045	0.0008	<0.5
RDC-08	6/26/2024	22	<0.0005	<0.0005	<0.0005	<0.0005	0.0029	0.0017	0.0094	0.0069	0.0013	<0.5
RDC-08	6/26/2024	24	<0.0005	<0.0005	<0.0005	<0.0005	0.0012	0.0008	0.004	0.0041	0.0008	<0.5
RDC-08	6/26/2024	26	<0.0005	<0.0005	<0.0005	<0.0005	0.0014	0.0011	0.0061	0.0031	0.0009	<0.5
RDC-08	6/27/2024	28	<0.0005	<0.0005	<0.0005	0.0008	0.0063	0.0006	0.041	0.014	0.0017	<0.5

Table 1
Soil Analytical Results

Facility Name: Mapco #5188 **Facility ID #: 10188-121-013521**

Sample location	Sample date	Sample depth (ft)	Chemical of concern (mg/Kg)									
			Dimethyl Sulfide	MTBE	1,2-Dichloroethane	Benzene	Toluene	Ethylbenzene	Total Xylene	1,2,4-Trimethylbenzene	Naphthalene	TVPH
SSTL			**n/a**	**21382**	**n/a**	**161.0**	**1174.0**	**527**	**655.0**	**n/a**	**---**	**n/a**
RDC-09	6/27/2024	20	<0.0005	<0.0005	<0.0005	<0.0005	0.0042	0.0016	0.0098	0.0079	0.005	<0.5
RDC-09	6/27/2024	22	<0.0005	<0.0005	<0.0005	0.0011	0.011	0.12	0.126	4	0.64	120
RDC-09	6/27/2024	24	<0.0005	0.0012	<0.0005	0.0007	0.0025	0.021	0.115	0.67	0.38	5.8
RDC-09	6/27/2024	26	<0.0005	0.003	<0.0005	<0.0005	0.0025	0.0022	0.0182	0.023	0.014	<0.5
RDC-09	6/27/2024	28	<0.01	<0.01	<0.01	<0.01	0.013	<0.01	0.058	0.023	0.014	<10
RDC-09	6/27/2024	30	<0.01	<0.01	<0.01	<0.01	0.01	<0.01	0.019	0.022	<0.01	<10
RDC-09	6/27/2024	32	<0.01	0.025	<0.01	<0.01	0.4	2.9	20.3	36.4	7.5	260
RDC-09	6/27/2024	34	<0.01	0.028	<0.01	<0.01	0.014	0.01	0.086	0.17	0.17	<10
RDC-09	6/27/2024	36	<0.01	0.036	<0.01	0.83	21.2	15.8	91.6	41.8	6.5	530
RDC-09	6/27/2024	38	<0.01	0.041	<0.01	1.4	17.1	8.5	52.1	27.4	5.7	250
RDC-09	6/27/2024	40	<0.01	<0.01	<0.01	<0.01	0.026	0.017	0.108	0.13	0.12	<10
RDC-09	6/27/2024	42	<0.01	0.02	<0.01	<0.01	0.017	<0.01	0.055	0.042	0.021	<10
RDC-09	6/27/2024	44	<0.01	0.022	<0.01	<0.01	0.012	<0.01	0.033	0.025	0.013	<10
RDC-09	6/27/2024	46	<0.01	0.055	<0.01	<0.01	0.024	<0.01	0.067	0.035	0.0097	<10
RDC-09	6/27/2024	48	<0.01	<0.01	<0.01	10.4	119	64.9	356	155	19.5	3000
RDC-09	6/27/2024	50	<0.01	0.14	<0.01	0.05	0.47	0.29	2.26	1.5	0.57	17
RDC-09	6/27/2024	52	<0.01	0.019	<0.01	<0.01	0.058	0.36	7.8	8.5	0.95	220
RDC-09	6/27/2024	54	<0.01	<0.01	<0.01	1.7	23.4	13	75	34.6	3.5	680
RDC-09	6/27/2024	56	<0.01	0.052	<0.01	<0.01	0.041	0.029	0.216	0.18	0.077	<10
RDC-09	6/27/2024	58	<0.01	0.056	<0.01	0.013	0.022	0.024	0.145	0.071	0.016	<10
RDC-09	6/27/2024	60	<0.01	0.067	<0.01	0.01	0.02	0.014	0.108	0.051	0.012	<10
RDC-10	6/28/2024	20	<0.0005	<0.0005	<0.0005	<0.0005	0.0008	<0.0005	0.0023	0.0046	0.0046	<0.5
RDC-10	6/28/2024	22	<0.0005	<0.0005	<0.0005	<0.0005	0.0018	0.0009	0.0052	0.0056	0.0023	<0.5
RDC-10	6/28/2024	24	<0.0005	<0.0005	<0.0005	<0.0005	0.0009	<0.0005	0.0022	0.003	0.0015	<0.5
RDC-10	6/28/2024	26	<0.0005	<0.0005	<0.0005	<0.0005	0.0014	0.0006	0.0032	0.0039	0.0019	<0.5
RDC-10	6/28/2024	28	<0.0005	<0.0005	<0.0005	<0.0005	0.0007	0.0007	0.0041	0.0058	0.0021	<0.5
RDC-13	6/28/2024	20	<0.0005	<0.0005	<0.0005	<0.0005	0.0015	0.0007	0.0033	0.003	0.0012	<0.5
RDC-13	6/28/2024	22	<0.0005	<0.0005	<0.0005	<0.0005	0.0014	0.0006	0.003	0.0026	0.0011	<0.5
RDC-13	6/28/2024	24	<0.0005	<0.0005	<0.0005	<0.0005	0.0017	0.0007	0.0039	0.0031	0.001	<0.5
RDC-13	6/28/2024	26	<0.0005	<0.0005	<0.0005	<0.0005	0.0011	<0.0005	0.002	0.0018	0.0008	<0.5
RDC-13	6/28/2024	28	<0.0005	<0.0005	<0.0005	<0.0005	0.0018	0.0008	0.0044	0.0051	0.0021	<0.5
RDC-13	6/28/2024	30	<0.0005	<0.0005	<0.0005	<0.0005	0.0013	0.0005	0.0027	0.0022	0.0008	<0.5
RDC-13	6/28/2024	32	<0.0005	<0.0005	<0.0005	<0.0005	0.0016	0.0009	0.0042	0.0038	0.001	<0.5
RDC-13	6/28/2024	34	<0.0005	<0.0005	<0.0005	<0.0005	0.0007	0.0008	0.0009	0.0008	<0.0005	<0.5
RDC-13	6/28/2024	36	<0.0005	0.0011	<0.0005	<0.0005	0.0009	<0.0005	0.0011	0.0013	0.0006	<0.5
RDC-13	6/28/2024	38	<0.0005	0.002	<0.0005	<0.0005	0.0006	<0.0005	0.0008	0.001	0.0005	<0.5
RDC-13	6/28/2024	40	<0.0005	0.0043	<0.0005	0.0006	0.0033	0.0015	0.0087	0.006	0.0015	<0.5
RDC-13	6/28/2024	42	<0.0005	0.0072	<0.0005	0.0007	0.0018	0.0008	0.0045	0.0037	0.0014	<0.5
RDC-13	6/28/2024	44	<0.0005	0.0067	<0.0005	<0.0005	0.0016	0.0006	0.0034	0.0027	0.0011	<0.5
RDC-13	6/28/2024	46	<0.0005	0.0097	<0.0005	<0.0005	0.0019	0.001	0.0066	0.0041	0.0011	<0.5
RDC-13	6/28/2024	48	<0.0005	<0.0005	<0.0005	<0.0005	0.0022	0.0011	0.0066	0.0043	0.0007	<0.5
RDC-13	6/28/2024	50	<0.0005	0.0044	<0.0005	<0.0005	0.0008	<0.0005	0.0021	0.0017	0.0006	<0.5

Table 2

Groundwater Elevation Summary

Facility Name: Mapco #5188 **Facility ID #: 10188-121-013521**

Monitoring well number or sample location	Date	Top of casing elevation (ft MSL)	Top of screen elevation (ft MSL)	Total depth of well (ft)	Bottom screen elevation (ft MSL)	Depth to fluid (ft)	Depth to water (ft)	Product thickness (ft)	Water surface elevation (ft MSL)	Adjusted potentiometric surface elevation (ft MSL)	Potentiometric surface within screen interval? (Yes/No)
MW-9	6/26/24	601.23	567.63	48.60	552.63	38.19	38.19	0.00	563.04	563.04	Yes
MW-14	6/28/24	600.12	555.12	60.00	540.12	44.41	44.41	0.00	555.71	555.71	No
RDC-02	6/26/24	588.15	553.15	50.00	538.15	nm	nm	nm	nm	nm	n/a
RDC-04	6/26/24	587.75	552.75	50.00	537.75	nm	nm	nm	nm	nm	n/a
RDC-06	6/26/24	588.50	553.50	50.00	538.50	nm	nm	nm	nm	nm	n/a
RDC-09	6/28/24	589.32	554.32	50.00	539.32	nm	nm	nm	nm	nm	n/a

nm = Not measured

Table 3

Groundwater Analytical Results

Facility Name: Mapco #5188 **Facility ID #: 10188-121-013521**

Sample location	Sample date	Chemical of Concern (mg/L)									
		Dimethyl Sulfide	MTBE	1,2-Dichloroethane	Benzene	Toluene	Ethylbenzene	Total Xylene	1,2,4-Trimethylbenzene	Naphthalene	TVPH
SSTL		**n/a**	**3.53**	**n/a**	**0.88**	**176**	**123**	**175**	**n/a**	**0.02**	**n/a**
MW-14	6/28/2024	<0.01	1.3	<0.01	**3.5**	3.8	0.61	4	0.65	0.018	18
MW-9	6/26/2024	<0.005	0.7	<0.005	**4.1**	2.5	1.2	4.3	1.2	**0.23**	23
RDC-02	6/26/2024	<0.005	2	0.92	**13.4**	20.8	2.7	11.2	2.2	**0.31**	63
RDC-04	6/26/2024	<0.0005	0.86	0.15	0.3	2.2	0.27	2.01	0.25	**0.12**	9.1
RDC-06	6/26/2024	<0.0005	0.22	0.02	0.58	0.0043	0.0075	0.094	0.036	**0.073**	1.6
RDC-09	6/28/2024	<0.01	0.32	<0.01	**4.1**	9.2	2.6	14.3	3.2	**0.44**	61

Table 3

Groundwater Analytical Results

Facility Name: Mapco #5188 **Facility ID #: 10188-121-013521**

Sample location	Sample date	Anions (mg/L)												
		Lactate	Acetate	Propionate	Formate / Isobutyrate	Butyrate	Pyruvate	Chloride	Nitrite	Succinate	Nitrate	Sulfate	Phosphate	Sulfide
MW-14	6/28/2024	<2	<2	<2	<4	<2	<2	8	<2	<10	<2	<2	NA	<2
MW-9	6/26/2024	<2	<2	<2	<4	<2	<2	12	<2	<10	<2	<2	NA	<2
RDC-02	6/26/2024	<2	<2	<2	<4	<2	<2	11	<2	<10	<2	<2	NA	<2
RDC-04	6/26/2024	<2	3.3	<2	<4	<2	<2	22	<2	<10	<2	18	NA	<2
RDC-06	6/26/2024	<2	3.1	<2	<4	<2	<2	20	<2	<10	<2	8.2	NA	<2
RDC-09	6/28/2024	<2	<2	<2	<4	<2	<2	5.9	<2	<10	<2	15	NA	<2

Table 3

Groundwater Analytical Results

Facility Name: Mapco #5188 **Facility ID #: 10188-121-013521**

Sample location	Sample date	Dissolved Gases (mg/L)														
		Methane	Ethane	Ethylene	Propane	Propylene	Isobutane	n-Butane	Acetylene	t-2-Butene	1-Butene	Isobutylene	cis-2-Butene	1,3-Butadiene	Methyl Acetylene	Carbon Dioxide
MW-14	6/28/2024	0.085	<0.002	0.0054	0.0041	<0.002	0.057	0.2	<0.002	0.02	0.014	<0.002	0.015	<0.002	<0.002	6
MW-9	6/26/2024	1.7	<0.002	0.031	<0.002	<0.002	0.053	0.45	<0.002	0.011	0.006	<0.002	0.011	<0.002	<0.002	54
RDC-02	6/26/2024	<0.02	<0.002	0.016	<0.002	<0.002	0.021	0.28	<0.002	0.039	0.0099	<0.002	0.051	<0.002	<0.002	56
RDC-04	6/26/2024	0.086	<0.002	<0.002	<0.002	<0.002	0.0026	0.024	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<2
RDC-06	6/26/2024	<0.02	<0.002	<0.002	<0.002	<0.002	0.0038	0.034	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<2
RDC-09	6/28/2024	0.022	<0.002	<0.002	0.0036	<0.002	<0.002	<0.002	<0.002	0.0098	0.0023	0.14	<0.002	<0.002	<0.002	8

ATTACHMENT A
Soil Boring Logs

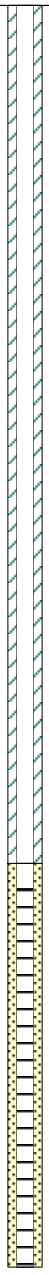
PROJECT:

PM - Mapco #5188

BORING IDENTIFICATION: RDC-01	NORTHING: 572597.6	DATE STARTED: June 24, 2024	AST ENVIRONMENTAL, INC.
DRILLING CONTRACTOR: Challenge Drilling	EASTING: 1071841	DATE FINISHED: June 24, 2024	SCREEN INTERVAL: 35'-50'
DRILLING METHOD: Direct Push	ELEVATION: 588.1881	TOTAL DEPTH: 50'	CASING: PVC
DRILLING EQUIPMENT: Geoprobe 7822		LOGGED BY: Ben Borth	
SAMPLING METHOD: 2.25 Dual Tube		PROJECT MANAGER: Bill Brab	REG. NO.

DEPTH (feet)	REC-OVERY (%)	LAB I.D.	TVPH (soil) (ppm)	Benzene (soil) (ppb)	DESCRIPTION NAME (USCS): color, sorting, plasticity, moisture, sorting, grain size, packing
0					Top 4" concrete, clay, red, dry, stiff, no odor
4					CL: Silty sandy clay, light brown, soft, dry, few grey mottles
8					Silty sandy clay, red and light brown, stiff, moist
					Clay, red, stiff, dry, no odor
					ML: Clayey sandy silt, light brown, grey mottles, soft, slight odor
12					CL: Silty sandy clay, red, saprolite, soft, odor, many colorful striations
16					Saprolite, light brown, many grey mottles, damp, old petrol odor
					ML: Clayey sandy silt, brown, saprolite, soft, damp, old petrol odor
20		RDC-01 (20')	16	<0.01	Clayey sandy silt, brown, saprolite, soft, odor
		RDC-01 (22')	<0.5	0.075	
24		RDC-01 (24')	<0.5	0.011	CL: Clay, red with grey and white mottles, stiff, dry
		RDC-01 (26')	<0.5	0.045	ML: Saprolite, brown, red, and grey, soft, damp, no odor
28		RDC-01 (28')	<0.5	0.065	
		RDC-01 (30')	<0.5	0.0042	
32		RDC-01 (32')	<0.5	0.0039	SM: Silty sand, light brown, fine grain, well sorted, soft, no odor
		RDC-01 (34')	<0.5	0.0021	SC: Clayey silty sand, fine grain, brown, loose, few gravel pieces intermixed, no odor, with white striations
36		RDC-01 (36')	<0.5	<0.0005	SW: Gravelly sand, fine grain, poorly sorted, cream/brown/yellow, loose, wet ~35.5'
		RDC-01 (38')	<0.5	0.0036	CL: Yellow-red sand to clay transition, clay at 38.2', red, very stiff, damp, no odor
40		RDC-01 (40')	<0.5	0.0074	SP: Sand, yellow, moist
		RDC-01 (42')	<0.5	0.0049	CL: Sandy clay, red and brown, damp
					SP: Sand, yellow, moist, fine grain
					CL: Sandy clay, red and brown, moist
44		RDC-01 (44')	<0.5	0.0095	SC: Sand, yellow, dry, fine grain
					ML: Clayey silty sand, yellow brown, stiff, damp, no odor
		RDC-01 (46')	450	1.8	CL: Saprolite
48		RDC-01 (48')	<0.5	0.0054	ML: Clayey silty sand, yellow, loose, damp, no odor
		RDC-01 (50')	<0.5	<0.0005	SM: Silty sandy clay, light yellow-brown, stiff, damp, no odor
					Striated gray and red saprolite, very stiff, dry
52					Gravelly silty sand, brown, loose, damp, no odor
					Boring terminated at 50'
56					

WELL CONSTRUCTION DETAILS AND/OR DRILLING REMARKS



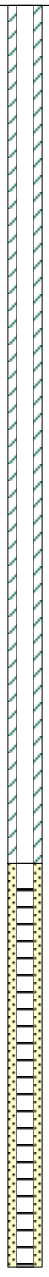
PROJECT:

PM - Mapco #5188

BORING IDENTIFICATION: RDC-02	NORTHING: 572574.3	DATE STARTED: June 24, 2024	AST ENVIRONMENTAL, INC.
DRILLING CONTRACTOR: Challenge Drilling	EASTING: 1071809	DATE FINISHED: June 24, 2024	SCREEN INTERVAL: 35'-50'
DRILLING METHOD: Direct Push	ELEVATION: 588.1523	TOTAL DEPTH: 50'	CASING: PVC
DRILLING EQUIPMENT: Geoprobe 7822		LOGGED BY: Ben Borth	
SAMPLING METHOD: 2.25 Dual Tube		PROJECT MANAGER: Bill Brab	REG. NO.

DEPTH (feet)	REC-OVERY (%)	LAB I.D.	TVPH (soil) (ppm)	Benzene (soil) (ppb)	DESCRIPTION NAME (USCS): color, sorting, plasticity, moisture, sorting, grain size, packing
0					Top 4" concrete, grey compacted fill below
					CL: Clay, stiff, no odor
4					SP: Sand, fine grain, light brown, loose, no odor
					Sandy silty clay, dark red, saprolite, stiff, dry, no odor
8					
					CL: Sandy silty clay, light brown, saprolite, stiff, dry, no odor
12					
					Clay, red, intermixed with light brown fine grain sand, stiff, dry, no odor
16					
					ML: Saprolite, grey, dry, loose, no odor
					SC: Clayey silty sand, brown and red, stiff, dry, no odor
20		RDC-02 (20')	<0.5	0.091	
		RDC-02 (22')	0.7	0.15	ML: Clayey sandy silt, light brown, soft, dry, no odor
24		RDC-02 (24')	<10	0.016	Saprolite, light brown, many gray mottles, soft, dry, no odor
		RDC-02 (26')	3.8	0.04	Sandy silty clay, light brown with grey mottles, saprolite, damp, old petrol odor
28		RDC-02 (28')	10400	110	CL: Sandy silty clay, light brown with many grey mottles, saprolite, damp, strong odor
		RDC-02 (30')	250	1.9	
32		RDC-02 (32')	3.4	0.098	Silty sandy clay, red, stiff, dry, strong odor
		RDC-02 (34')	2.5	0.071	
36		RDC-02 (36')	3.1	0.46	ML: Saprolite, red with grey mottles, stiff, moist, old petrol odor
		RDC-02 (38')	410	4.1	
					Saprolite, light brown/red, stiff, moist, odor, few gravel
40		RDC-02 (40')	0.5	0.024	SM: Silty sand, light brown, loose, fine grain, moist, slight odor
		RDC-02 (42')	2.6	0.15	Silty sand, light brown, fine grain, dense, moist, slight odor
44		RDC-02 (44')	2.5	0.79	CL: Silty clay, brown, soft, wet, no odor
		RDC-02 (46')	1.2	0.036	Clay, grey, stiff, dry, no odor
					ML: Saprolite, light brown and grey, with gravel, mix of sand, silt, clay, damp, no odor
48		RDC-02 (48')	<0.5	0.018	SM: Silty sand, light brown, fine grain, damp, loose, no odor
		RDC-02 (50')	<0.5	0.017	Silty sand, light yellow and brown, fine grain, dry, with gravel, no odor
52					Boring terminated at 50'
56					

WELL CONSTRUCTION DETAILS AND/OR DRILLING REMARKS



PROJECT:

PM - Mapco #5188

BORING IDENTIFICATION: RDC-03	NORTHING: 572583.5	DATE STARTED: June 25, 2024	
DRILLING CONTRACTOR: Challenge Drilling	EASTING: 1071811	DATE FINISHED: June 25, 2024	SCREEN INTERVAL:
DRILLING METHOD: Direct Push	ELEVATION: 588.1523	TOTAL DEPTH:	CASING:
DRILLING EQUIPMENT: Geoprobe 7822		LOGGED BY: Ben Borth	
SAMPLING METHOD: 2.25 Dual Tube		PROJECT MANAGER: Bill Brab	REG. NO.

DEPTH (feet)	REC-OVERY (%)	LAB I.D.	TVPH (soil) (ppm)	Benzene (soil) (ppb)	DESCRIPTION NAME (USCS): color, sorting, plasticity, moisture, sorting, grain size, packing	WELL CONSTRUCTION DETAILS AND/OR DRILLING REMARKS
0					CL: Top 4" concrete, mix of sandy silty clay, light brown/dark red, stiff, dry, no odor	
4						
8					Saprolite, light brown, stiff, dry, no odor	
12					Saprolite, light brown, stiff, dry, slight old petrol odor	
16					ML: Saprolite, light brown, stiff, dry, slight odor	
20		RDC-03 (20')	0.8	0.3		
		RDC-03 (22')	1	0.19		
24		RDC-03 (24')	27	0.2		
		RDC-03 (26')	11700	150	Clayey sandy silt, light brown, many grey mottles, stiff, damp, odor	
		RDC-03 (27')	3700	28.3		
28		RDC-03 (28')	3200	14.3	Saprolite, light brown, many grey mottles, stiff, moist, strong odor	
		RDC-03 (30')	2.1	0.13		
					SC: Clayey silty sand, fine grain, light brown, moist, odor	
32		RDC-03 (32')	20	0.069	CL: Sandy silty clay, red, many grey mottles, very stiff, damp, slight odor	
		RDC-03 (34')	<10	0.072	Saprolite, light brown, stiff, wet, slight odor	
36		RDC-03 (36')	<10	0.062	ML: Saprolite, brown, many grey mottles, stiff, damp, odor	
		RDC-03 (38')	<10	0.063		
					SC: Clayey silty sand, saprolite, light brown, stiff, damp, odor	
40		RDC-03 (40')	<10	0.048		
		RDC-03 (42')	<10	0.028	ML: Saprolite, light brown, stiff, damp, slight odor	
		RDC-03 (43')	1.6	0.073		
44					Refusal at 43'	

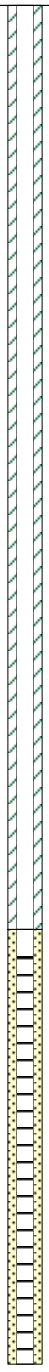
PROJECT:

PM - Mapco #5188

BORING IDENTIFICATION: RDC-04	NORTHING: 572591.6	DATE STARTED: June 25, 2024	
DRILLING CONTRACTOR: Challenge Drilling	EASTING: 1071792	DATE FINISHED: June 25, 2024	SCREEN INTERVAL: 35'-50'
DRILLING METHOD: Direct Push	ELEVATION: 587.7543	TOTAL DEPTH: 50'	CASING: PVC
DRILLING EQUIPMENT: Geoprobe 7822		LOGGED BY: Ben Borth	
SAMPLING METHOD: 2.25 Dual Tube		PROJECT MANAGER: Bill Brab	REG. NO.

DEPTH (feet)	REC-OVERY (%)	LAB I.D.	TVPH (soil) (ppm)	Benzene (soil) (ppb)	DESCRIPTION NAME (USCS): color, sorting, plasticity, moisture, sorting, grain size, packing
0					CL — Top 4" concrete, mix of sand, silt and clay, light brown to dark red, stiff, no odor
4					
8					ML — Saprolite, light brown, stiff, dry, no odor
12					Clayey sandy silt, light brown, stiff, moist, no odor
16					Saprolite, light brown, grey mottles, stiff, moist
					Clay, reddish brown, very stiff, dry, no odor
20		RDC-04 (20')	<0.5	0.08	CL — Silty sandy clay, light brown, stiff, dry, no odor
		RDC-04 (22')	<0.5	0.064	
24		RDC-04 (24')	<0.5	0.0029	Silty sandy clay, light brown, saprolite, stiff, damp to moist at 28'
		RDC-04 (26')	<0.5	<0.0005	
28		RDC-04 (28')	<0.5	<0.0005	
		RDC-04 (30')	<0.5	0.01	Sandy silty clay, red and brown, stiff, moist, slight odor
		RDC-04 (31')	<0.5	<0.0005	
32		RDC-04 (32')	0.9	0.013	ML — Saprolite, light brown, stiff, damp, odor
		RDC-04 (34')	<10	<0.01	Weathered shale zone
36		RDC-04 (36')	<10	0.017	CL — Saprolite, light brown, grey and red, stiff, damp, no odor
					ML — Gravelly silty sandy clay, light brown, stiff, wet, no odor
		RDC-04 (38')	<10	<0.01	SW — Saprolite, light brown, stiff, damp, slight odor
40		RDC-04 (40')	<10	<0.01	ML — Gravelly silty sand, light brown, stiff, wet, no odor; Saprolite, light brown, grey mottles, stiff, damp, slight odor
		RDC-04 (42')	0.5	0.0018	SC — Silty clay, brown, stiff, damp, no odor
44		RDC-04 (44')	<0.5	0.0036	ML — Clayey silty sand, light brown, stiff, damp, fine grain with rock fragments; Gravelly saprolite, light brown, damp, no odor
		RDC-04 (46')	0.7	0.008	SW — Gravelly silty sand, light brown, wet, no odor
48		RDC-04 (48')	0.8	0.0061	CL — Clay, red, stiff, moist, no odor; Gravelly silty clay, yellow orange, damp, no odor
		RDC-04 (50')	<0.5	0.0018	
52					Boring terminated at 50'

WELL CONSTRUCTION DETAILS AND/OR DRILLING REMARKS



PROJECT:

PM - Mapco #5188

BORING IDENTIFICATION: RDC-05	NORTHING: 572570.3	DATE STARTED: June 25, 2024	
DRILLING CONTRACTOR: Challenge Drilling	EASTING: 1071793	DATE FINISHED: June 25, 2024	SCREEN INTERVAL:
DRILLING METHOD: Direct Push	ELEVATION: 588.1523	TOTAL DEPTH:	CASING:
DRILLING EQUIPMENT: Geoprobe 7822		LOGGED BY: Ben Borth	
SAMPLING METHOD: 2.25 Dual Tube		PROJECT MANAGER: Bill Brab	REG. NO.

DEPTH (feet)	REC-OVERY (%)	LAB I.D.	TVPH (soil) (ppm)	Benzene (soil) (ppb)	DESCRIPTION NAME (USCS): color, sorting, plasticity, moisture, sorting, grain size, packing	WELL CONSTRUCTION DETAILS AND/OR DRILLING REMARKS
0					Top 4" concrete, mix of sand, silt, clay, light brown, gray mottles, stiff, dry, no odor	
4					Clay intermixed with saprolite, light brown and dark red, stiff, dry, no odor	
8					CL	
12					Silty sandy clay, yellowish orange, stiff, dry, no odor	
16						
20		RDC-05 (20')	<0.5	0.0029	Silty clay, light brown, stiff, damp, no odor	
		RDC-05 (22')	<0.5	0.005	SC	
24		RDC-05 (24')	<10	0.03	Clayey silty sand, reddish brown, grey mottles, stiff, moist, no odor	
		RDC-05 (26')	<10	<0.01	Silty sand, fine grain, loose, wet, slight odor, few rock fragments	
28		RDC-05 (28')	<10	<0.01	SM	
		RDC-05 (30')	210	<0.01	Silty clayey sand, light brown, stiff, damp, no odor	
32		RDC-05 (32')	<0.5	0.001	Silty clayey sand, yellow orange, stiff, damp, no odor	
		RDC-05 (34')	<10	0.026		
36		RDC-05 (36')	<0.5	0.0036	CL	
		RDC-05 (38')	<0.5	0.0005	Silty sandy clay, light brown, stiff, damp, no odor	
40		RDC-05 (40')	<10	<0.01	ML	
		RDC-05 (42')	<10	<0.01	Saprolite, greenish grey, stiff, damp, no odor	
44		RDC-05 (44')	<10	<0.01	Clayey silty sand, fine grain, orange yellow, stiff, wet, no odor, few rock fragments	
		RDC-05 (46')	<10	0.4	SC	
48		RDC-05 (48')	<0.5	0.0009	Clayey silty sand, orange yellow, stiff, damp, strong petrol odor	
		RDC-05 (50')	<0.5	0.0006	Clayey silty sand, orange yellow, stiff, wet, odor	
52					CL	
					Sandy silty clay, orange yellow, very stiff, dry	
					Sandy silty clay, orange yellow, very stiff, wet	
					SW	
					Gravelly silty clayey sand, stiff, dry, no odor	
					Boring terminated at 50'	

PROJECT:

PM - Mapco #5188

BORING IDENTIFICATION: RDC-06	NORTHING: 572544.4	DATE STARTED: June 26, 2024	
DRILLING CONTRACTOR: Challenge Drilling	EASTING: 1071787	DATE FINISHED: June 26, 2024	SCREEN INTERVAL: 35'-50'
DRILLING METHOD: Direct Push	ELEVATION: 588.5004	TOTAL DEPTH: 50'	CASING: PVC
DRILLING EQUIPMENT: Geoprobe 7822		LOGGED BY: Ben Borth	
SAMPLING METHOD: 2.25 Dual Tube		PROJECT MANAGER: Bill Brab	REG. NO.

DEPTH (feet)	REC-OVERY (%)	LAB I.D.	TVPH (soil) (ppm)	Benzene (soil) (ppb)	DESCRIPTION NAME (USCS): color, sorting, plasticity, moisture, sorting, grain size, packing	WELL CONSTRUCTION DETAILS AND/OR DRILLING REMARKS
0					CL: Top 4" concrete, mix of sand, silt and clay, yellow orange to dark red, stiff, dry, no odor	
4					ML: Saprolite, yellow orange with grey mottles, stiff, dry, no odor	
8						
12					SM: Silty clayey sand, yellow orange, stiff, moist, no odor	
16					SW: Gravelly sand, fine grain, orange yellow, loose, dry, no odor	
					CL: Silty sandy clay, orange yellow and dark red with grey mottles, stiff, moist	
20		RDC-06 (20')	<0.5	0.001		
		RDC-06 (22')	<0.5	<0.0005	SC: Clayey sand, orange yellow, stiff, moist, no odor	
24		RDC-06 (24')	<0.5	<0.0005		
		RDC-06 (26')	<0.5	0.0006	SM: Silty clayey sand, orange yellow with grey mottles, stiff, moist	
28		RDC-06 (28')	<0.5	0.0009		
		RDC-06 (30')	<0.5	<0.0005		
32		RDC-06 (32')	<0.5	0.0015	SM: Silty clayey sand, orange yellow, stiff	
		RDC-06 (34')	<0.5	<0.0005	Silty sand, orange yellow, fine grain, loose, wet, no odor	
					ML: Weathered shale with orange yellow clayey silty sand intermixed, grey, damp	
36		RDC-06 (36')	<0.5	<0.0005	CL: Silty sandy clay, orange yellow with grey mottles, stiff, damp, no odor	
		RDC-06 (38')	<0.5	0.0008	SC: Clayey silty sand, orange yellow, dense, damp, no odor	
40		RDC-06 (40')	<0.5	<0.0005	Weathered shale, some orange yellow silty clayey sand intermixed, stiff, damp	
		RDC-06 (42')	<0.5	0.0005	ML: Saprolite, grey and dark red, stiff, moist, faint old petrol odor	
44		RDC-06 (44')	<0.5	0.0008	Silty sandy clay, orange yellow and red with grey mottles, very stiff, moist	
		RDC-06 (46')	<0.5	0.0076	CL: Silty sandy clay, orange-yellow and red with grey mottles, very stiff, moist	
48		RDC-06 (48')	<0.5	0.0087	SM: Silty clayey sand, orange-yellow, few gravel/rock fragments, stiff, moist, no odor	
		RDC-06 (50')	0.8	0.0096		
52					Boring terminated at 50'	

PROJECT:

PM - Mapco #5188

BORING IDENTIFICATION: RDC-07	NORTHING: 572531.1	DATE STARTED: June 26, 2024	AST ENVIRONMENTAL, INC.	
DRILLING CONTRACTOR: Challenge Drilling	EASTING: 1071915	DATE FINISHED: June 26, 2024	SCREEN INTERVAL:	
DRILLING METHOD: Direct Push	ELEVATION: 590.1665	TOTAL DEPTH:	CASING:	
DRILLING EQUIPMENT: Geoprobe 7822		LOGGED BY: Ben Borth		
SAMPLING METHOD: 2.25 Dual Tube		PROJECT MANAGER: Bill Brab	REG. NO.	

DEPTH (feet)	REC-OVERY (%)	LAB I.D.	TVPH (soil) (ppm)	Benzene (soil) (ppb)	DESCRIPTION NAME (USCS): color, sorting, plasticity, moisture, sorting, grain size, packing	WELL CONSTRUCTION DETAILS AND/OR DRILLING REMARKS
0					ML: Clayey silt, brown, stiff, dry, no odor	
					CL: Clay, brown, stiff, dry, no odor	
4					SC: Clayey silty sand, orange-yellow, fine grain, loose, dry, few rock fragments	
					SM: Silty sand, orange-yellow, fine grain, loose, dry, no odor	
8						
12					CL: Gravelly silty sandy clay, dark brown, stiff, damp, no odor	
					SM: Silty clayey sand, orange-yellow, soft, wet, no odor	
					SC: Clayey silty sand, fine grain, orange-yellow, dense, few white striations of sand interbedded	
16						
20		RDC-07 (20')	<0.5	<0.0005	Clayey silty sand, fine grain, orange-yellow, very stiff, dry, few white striations of sand interbedded	
		RDC-07 (22')	<0.5	<0.0005	SM: Silty clayey sand, orange-yellow and red, stiff, damp, no odor	
24		RDC-07 (24')	<0.5	<0.0005		
		RDC-07 (26')	<0.5	0.0005	ML: Clayey silt, orange-yellow, stiff, damp, no odor	
28		RDC-07 (28')	1	<0.0005		
		RDC-07 (30')	<0.5	<0.0005	Saprolite, orange-yellow and red, stiff	
32		RDC-07 (32')	<0.5	<0.0005	SC: Clayey silty sand, fine grain, light brown, soft, wet, no odor	
		RDC-07 (34')	<0.5	<0.0005	ML: Weathered shale, gray, little orange-yellow sand intermixed, loose, no odor	
36		RDC-07 (36')	<0.5	<0.0005	CL: Sandy silty clay, orange-yellow, stiff, damp, no odor	
		RDC-07 (38')	<0.5	<0.0005	SM: Silty sand, orange-yellow, dense, wet	
40		RDC-07 (40')	<0.5	<0.0005	Silty clay, grey, stiff, damp, no odor	
		RDC-07 (42')	<0.5	<0.0005	CL: Silty sandy clay, brown, stiff, wet, no odor	
44		RDC-07 (44')	<0.5	0.0005		
		RDC-07 (46')	<0.5	0.0005		
48		RDC-07 (48')	<10	<0.01	ML: Clayey silt, orange-yellow, stiff, wet, no odor	
					CL: Silty clay, orange-yellow, stiff, damp, no odor	
					Silty clay, orange-yellow, stiff, wet	
52					ML: Clayey silt, orange-yellow, very stiff	
					After 2 attempts, liner melted in 2.25" rod	
56					Boring terminated at 53'	

PROJECT:

PM - Mapco #5188

BORING IDENTIFICATION: RDC-08	NORTHING: 572541	DATE STARTED: June 26, 2024	
DRILLING CONTRACTOR: Challenge Drilling	EASTING: 1071935	DATE FINISHED: June 27, 2024	SCREEN INTERVAL:
DRILLING METHOD: Direct Push	ELEVATION: 590.3008	TOTAL DEPTH:	CASING:
DRILLING EQUIPMENT: Geoprobe 7822		LOGGED BY: Ben Borth	
SAMPLING METHOD: 2.25 Dual Tube		PROJECT MANAGER: Bill Brab	REG. NO.

DEPTH (feet)	REC-OVERY (%)	LAB I.D.	TVPH (soil) (ppm)	Benzene (soil) (ppb)	DESCRIPTION NAME (USCS): color, sorting, plasticity, moisture, sorting, grain size, packing	WELL CONSTRUCTION DETAILS AND/OR DRILLING REMARKS
0					Silty gravelly clay, black, soft, dry, no odor	
2					CL — Gravelly silty sandy clay, orange-yellow, stiff, dry, no odor	
4						
6					SW — Gravelly sand, orange-yellow, fine grain, loose, damp	
8						
10					Clayey silt, orange-yellow, soft, dry, no odor	
12					Gravelly sandy silt, orange-yellow, loose, dry, no odor	
14					ML — Silt, orange-yellow, soft, dry, no odor	
16						
18						
20		RDC-08 (20')	<0.5	<0.0005	Gravelly sandy silt, light brown, loose, dry, no odor	
22		RDC-08 (22')	<0.5	<0.0005		
24		RDC-08 (24')	<0.5	<0.0005	CL — Gravelly sandy silty clay, few grey mottles, stiff, damp, no odor	
26		RDC-08 (26')	<0.5	<0.0005	ML — Gravelly sandy silt, soft, dry, no odor	
28		RDC-08 (28')	<0.5	0.0008	SW — Gravelly silty sand, fine grain, poorly sorted, loose, dry, chert at 28'	
30					Refusal at 28'	

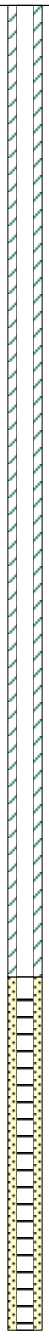
PROJECT:

PM - Mapco #5188

BORING IDENTIFICATION: RDC-09	NORTHING: 572567	DATE STARTED: June 27, 2024	
DRILLING CONTRACTOR: Challenge Drilling	EASTING: 1071915	DATE FINISHED: June 27, 2024	SCREEN INTERVAL: 45'-60'
DRILLING METHOD: Direct Push	ELEVATION: 589.3226	TOTAL DEPTH: 60'	CASING: PVC
DRILLING EQUIPMENT: Geoprobe 7822		LOGGED BY: Ben Borth	
SAMPLING METHOD: 2.25 Dual Tube		PROJECT MANAGER: Bill Brab	REG. NO.

DEPTH (feet)	REC-OVERY (%)	LAB I.D.	TVPH (soil) (ppm)	Benzene (soil) (ppb)	DESCRIPTION NAME (USCS): color, sorting, plasticity, moisture, sorting, grain size, packing
0					CL — Top 4" concrete, mix of sand, silt and clay, yellow-orange, stiff, dry, no odor
4					SM — Silty clayey sand, yellow-orange, stiff, damp, no odor, few silt striations interbedded
8					Silty clayey sand, yellow-orange, very stiff, no odor
12					ML — Clayey sandy silt, greyish red, stiff, moist, no odor, few rock fragments intermixed
					SW — Gravelly silty clayey sand, yellow-orange, damp, no odor
16					ML — Saprolite, yellow-orange, stiff, damp
20		RDC-09 (20')	<0.5	<0.0005	CL — Clay, purple/dark red, stiff, no odor
		RDC-09 (22')	120	0.0011	
24		RDC-09 (24')	5.8	0.0007	SM — Silty clayey sand, yellow-orange, stiff, damp to wet, odor
		RDC-09 (26')	<0.5	<0.0005	CL — Sandy silty clay, grey and yellow-orange, stiff, damp, slight odor
28		RDC-09 (28')	<10	<0.01	
		RDC-09 (30')	<10	<0.01	SC — Clayey silty sand, yellow-orange, fine grain, dense, damp, odor
32		RDC-09 (32')	260	<0.01	
		RDC-09 (34')	<10	<0.01	CL — Silty sandy clay, yellow-orange, stiff, damp, odor
36		RDC-09 (36')	530	0.83	
		RDC-09 (38')	250	1.4	
40		RDC-09 (40')	<10	<0.01	
		RDC-09 (42')	<10	<0.01	Silty sandy clay, yellow-orange, stiff, damp, slight odor
44		RDC-09 (44')	<10	<0.01	
		RDC-09 (46')	<10	<0.01	
					SC — Clayey silty sand, grey red, medium stiff, moist, slight odor
48		RDC-09 (48')	3000	10.4	SP — Sand, yellow-orange, fine grain, loose, wet at 49', strong odor
		RDC-09 (50')	17	0.05	SC — Clayey silty sand, orange-yellow, fine grain, moist, slight odor
52		RDC-09 (52')	220	<0.01	SM — Silty sand, orange-yellow, very dense, dry, no odor
		RDC-09 (54')	680	1.7	Silty sand, yellow-brown, fine grain, wet, strong odor
56		RDC-09 (56')	<10	<0.01	CL — Silty clay, yellow-orange, very stiff, damp, ~2" white fine grain sand at 56', ~1" sand lens at 59'
		RDC-09 (58')	<10	0.013	
60		RDC-09 (60')	<10	0.01	
64					Boring terminated at 60'

WELL CONSTRUCTION DETAILS AND/OR DRILLING REMARKS



PROJECT:

PM - Mapco #5188

BORING IDENTIFICATION: RDC-10	NORTHING: 572548	DATE STARTED: June 27, 2024	
DRILLING CONTRACTOR: Challenge Drilling	EASTING: 1071894	DATE FINISHED: June 28, 2024	SCREEN INTERVAL:
DRILLING METHOD: Direct Push	ELEVATION: 589.7606	TOTAL DEPTH:	CASING:
DRILLING EQUIPMENT: Geoprobe 7822		LOGGED BY: Ben Borth	
SAMPLING METHOD: 2.25 Dual Tube		PROJECT MANAGER: Bill Brab	REG. NO.

DEPTH (feet)	REC-OVERY (%)	LAB I.D.	TVPH (soil) (ppm)	Benzene (soil) (ppb)	DESCRIPTION NAME (USCS): color, sorting, plasticity, moisture, sorting, grain size, packing	WELL CONSTRUCTION DETAILS AND/OR DRILLING REMARKS
0					CL: Top 4" concrete, silty sandy clay, yellow-orange, stiff, dry, no odor	
2						
4						
6					ML: Sandy clayey silt, yellow-orange, stiff, dry, no odor	
8						
10					Geolithological logging not performed	
12					SW: Clayey silty gravelly sand, yellow-orange, stiff, dry, no odor	
14					ML: Clayey sandy silt, yellow-orange, stiff, damp, no odor	
16					Refusal at 16'; offset	
18					CL: Silty sandy gravelly clay, yellow-orange, stiff, damp, no odor	
20		RDC-10 (20')	<0.5	<0.0005	Silty sandy gravelly clay, dark red and yellow-orange, stiff, damp, no odor	
22		RDC-10 (22')	<0.5	<0.0005	SW: Gravelly sand, yellow-orange, loose, dry, no odor	
24		RDC-10 (24')	<0.5	<0.0005	SC: Clayey silty sand, yellow-orange, stiff, dry, no odor	
26		RDC-10 (26')	<0.5	<0.0005	SW: Gravelly silty sand, yellow-orange, stiff, dry, no odor	
28		RDC-10 (28')	<0.5	<0.0005	CL: Silty clay, yellow-orange, stiff, no odor	
					SW: Gravelly sand, fine grain, yellow-orange, loose, dry, no odor	
30					Refusal at 29'	

PROJECT:

PM - Mapco #5188

BORING IDENTIFICATION: RDC-11	NORTHING: 572590.5	DATE STARTED: June 28, 2024	
DRILLING CONTRACTOR: Challenge Drilling	EASTING: 1071793	DATE FINISHED: June 28, 2024	SCREEN INTERVAL:
DRILLING METHOD: Direct Push, 30° angle	ELEVATION: 588.1523	TOTAL DEPTH:	CASING:
DRILLING EQUIPMENT: Geoprobe 7822		LOGGED BY: Ben Borth	
SAMPLING METHOD: 2.25 Dual Tube		PROJECT MANAGER: Bill Brab	REG. NO.

DEPTH (feet)	REC-OVERY (%)	LAB I.D.	TVPH (soil) (ppm)	Benzene (soil) (ppb)	DESCRIPTION NAME (USCS): color, sorting, plasticity, moisture, sorting, grain size, packing	WELL CONSTRUCTION DETAILS AND/OR DRILLING REMARKS
0					CL — Top 4" concrete, yellow-orange, silty sandy clay, stiff, dry, no odor	
2						
4					SM — Silty clayey sand, yellow-orange, dense, dry, no odor	
6						
8						
10					SM — Silty clayey sand, yellow-orange, dense, dry, no odor, with dark red clay weathered seams interbedded	
12						
14						
16						
18					CL — Silty sandy clay, light brown, stiff, damp, no odor	
20					Silty sandy clay, yellow-orange, stiff, moist, no odor	
22					SW — Gravelly silty clayey sand, yellow-orange, dense, damp, no odor	
24						
26						
28						
30						
32						
34					Refusal at 33' of rod length	

PROJECT:

PM - Mapco #5188

BORING IDENTIFICATION: RDC-12	NORTHING: 572557.6	DATE STARTED: June 28, 2024	
DRILLING CONTRACTOR: Challenge Drilling	EASTING: 1071792	DATE FINISHED: June 28, 2024	SCREEN INTERVAL:
DRILLING METHOD: Direct Push, 30° angle	ELEVATION: 588.5004	TOTAL DEPTH:	CASING:
DRILLING EQUIPMENT: Geoprobe 7822		LOGGED BY: Ben Borth	
SAMPLING METHOD: 2.25 Dual Tube		PROJECT MANAGER: Bill Brab	REG. NO.

DEPTH (feet)	REC-OVERY (%)	LAB I.D.	TVPH (soil) (ppm)	Benzene (soil) (ppb)	DESCRIPTION NAME (USCS): color, sorting, plasticity, moisture, sorting, grain size, packing	WELL CONSTRUCTION DETAILS AND/OR DRILLING REMARKS
0					CL — Top 4" concrete, sandy silty clay, yellow-orange, stiff, dry, no odor	
2						
4					ML — Sandy clayey silt, yellow-orange, stiff, dry, purple clay intermixed, no odor	
6						
8						
10					CL — Weathered clay, purple, stiff, dry, no odor	
12					ML — Sandy clayey silt, yellow-orange, stiff, dry, no odor	
14					CL — Clay, purple, very stiff, dry, no odor	
16					ML — Sandy clayey silt, yellow-orange, stiff, dry, no odor	
18					SW — Gravelly clayey silty sand, yellow-orange and purple intermixed, very stiff, no odor	
20					SC — Clayey silty sand, yellow-orange, stiff, damp, no odor	
22						
24						
26					ML — Gravelly clayey sandy silt, dark red, stiff, damp, no odor	
28					CL — Silty sandy clay, yellow-orange, stiff, damp, no odor	
30						
32						
34					Refusal at 33'	

PROJECT:

PM - Mapco #5188

BORING IDENTIFICATION: RDC-13	NORTHING: 572563.4	DATE STARTED: June 28, 2024	AST ENVIRONMENTAL, INC.
DRILLING CONTRACTOR: Challenge Drilling	EASTING: 1071880	DATE FINISHED: June 28, 2024	SCREEN INTERVAL:
DRILLING METHOD: Direct Push	ELEVATION: 589.0533	TOTAL DEPTH:	CASING:
DRILLING EQUIPMENT: Geoprobe 7822		LOGGED BY: Ben Borth	
SAMPLING METHOD: 2.25 Dual Tube		PROJECT MANAGER: Bill Brab	REG. NO.

DEPTH (feet)	REC-OVERY (%)	LAB I.D.	TVPH (soil) (ppm)	Benzene (soil) (ppb)	DESCRIPTION NAME (USCS): color, sorting, plasticity, moisture, sorting, grain size, packing	WELL CONSTRUCTION DETAILS AND/OR DRILLING REMARKS
0					ML: Top 4" concrete, clayey sandy silt, yellow-orange, stiff, dry, no odor	
4					Clayey sandy silt, yellow-orange, stiff, dry, no odor	
					Silty sandy clay, dark red, stiff, dry, no odor	
8					CL: Silty sandy clay, yellow-orange, damp, no odor	
12					SW: Gravelly silty clayey sand, yellow-orange, loose, dry, no odor	
16						
20		RDC-13 (20')	<0.5	<0.0005		
		RDC-13 (22')	<0.5	<0.0005	SM: Silty clayey sand, yellow-orange, with red clay interbedded, stiff, damp	
24		RDC-13 (24')	<0.5	<0.0005		
		RDC-13 (26')	<0.5	<0.0005	ML: Gravelly sandy clayey silt, yellow-orange, stiff, damp, no odor	
28		RDC-13 (28')	<0.5	<0.0005	SM: Silty clayey sand, dark red, yellow, and orange intermixed, very stiff, gravelly, no odor	
		RDC-13 (30')	<0.5	<0.0005		
32		RDC-13 (32')	<0.5	<0.0005	CL: Gravelly sandy silty clay, yellow-orange, stiff, damp, no odor	
		RDC-13 (34')	<0.5	<0.0005		
36		RDC-13 (36')	<0.5	<0.0005	Gravelly silty sandy clay, yellow-orange, stiff, dry, no odor	
		RDC-13 (38')	<0.5	<0.0005	Clay, purple, very stiff, dry	
40		RDC-13 (40')	<0.5	0.0006	ML: Clayey sandy silt, yellow-orange, stiff, damp, no odor	
		RDC-13 (42')	<0.5	0.0007		
44		RDC-13 (44')	<0.5	<0.0005	CL: Sandy silty clay, yellow-orange and dark red, stiff, damp, no odor	
		RDC-13 (46')	<0.5	<0.0005	SW: Clayey silty gravelly sand, yellow-orange, stiff-dense, damp, no odor	
48		RDC-13 (48')	<0.5	<0.0005	SM: Silty clayey sand, yellow-orange, dense, damp, no odor	
		RDC-13 (50')	<0.5	<0.0005		
52					Boring terminated at 50'	

ATTACHMENT B
RPI Laboratory Analytical Report

RPI Soil Laboratory Analytical Report

Mapco #5188

Sample ID. No.	RDC-01				RDC-01				RDC-01				RDC-01				RDC-01				RDC-01				RDC-01			
Date Sampled	6/24/2024				6/24/2024				6/24/2024				6/24/2024				6/24/2024				6/24/2024				6/24/2024			
Sample Depth	20				22				24				26				28				30				32			
		Reporting Limit	Units	Flags		Reporting Limit	Units	Flags		Reporting Limit	Units	Flags		Reporting Limit	Units	Flags		Reporting Limit	Units	Flags		Reporting Limit	Units	Flags		Reporting Limit	Units	Flags
Dimethyl Sulfide	ND	10	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg	
MTBE	11	10	ug/Kg		59	0.5	ug/Kg		64	0.5	ug/Kg		76	0.5	ug/Kg		42	0.5	ug/Kg		3.2	0.5	ug/Kg		1.1	0.5	ug/Kg	
1,2-Dichloroethane	ND	10	ug/Kg		26	0.5	ug/Kg		15	0.5	ug/Kg		29	0.5	ug/Kg		25	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg	
Benzene	ND	10	ug/Kg		75	0.5	ug/Kg		11	0.5	ug/Kg		45	0.5	ug/Kg		65	0.5	ug/Kg		4.2	0.5	ug/Kg		3.9	0.5	ug/Kg	
Toluene	29	10	ug/Kg		210	0.5	ug/Kg		31	0.5	ug/Kg		55	0.5	ug/Kg		70	0.5	ug/Kg		18	0.5	ug/Kg		15	0.5	ug/Kg	
Ethylbenzene	30	10	ug/Kg		23	0.5	ug/Kg		3.1	0.5	ug/Kg		4.1	0.5	ug/Kg		6.9	0.5	ug/Kg		2	0.5	ug/Kg		1.6	0.5	ug/Kg	
m/p-Xylene	190	10	ug/Kg		95	0.5	ug/Kg		12	0.5	ug/Kg		16	0.5	ug/Kg		28	0.5	ug/Kg		8.5	0.5	ug/Kg		5.7	0.5	ug/Kg	
o-Xylene	130	10	ug/Kg		88	0.5	ug/Kg		19	0.5	ug/Kg		54	0.5	ug/Kg		38	0.5	ug/Kg		4.4	0.5	ug/Kg		3.1	0.5	ug/Kg	
1,2,4-Trimethylbenzene	930	10	ug/Kg		38	0.5	ug/Kg		5.9	0.5	ug/Kg		6.3	0.5	ug/Kg		9.6	0.5	ug/Kg		3.4	0.5	ug/Kg		2.1	0.5	ug/Kg	
Naphthalene	190	10	ug/Kg		ND	0.5	ug/Kg		1.7	0.5	ug/Kg		2.1	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg	
TVPH	16	10	mg/Kg		ND	0.5	mg/Kg		ND	0.5	mg/Kg		ND	0.5	mg/Kg		ND	0.5	mg/Kg		ND	0.5	mg/Kg		ND	0.5	mg/Kg	
% Surrogate Recovery																												
1,2-Dichloroethane-d4	125				108				116				114				111				138				131			
d8-Toluene	98				99				101				98				102				98				97			
p-Bromofluorobenzene	108				104				99				100				98				97				93			

Sample ID. No.	RDC-01				RDC-01				RDC-01				RDC-01				RDC-01				RDC-01				RDC-01			
Date Sampled	6/24/2024				6/24/2024				6/24/2024				6/24/2024				6/24/2024				6/24/2024				6/24/2024			
Sample Depth	34				36				38				40				42				44				46			
		Reporting Limit	Units	Flags		Reporting Limit	Units	Flags		Reporting Limit	Units	Flags		Reporting Limit	Units	Flags		Reporting Limit	Units	Flags		Reporting Limit	Units	Flags		Reporting Limit	Units	Flags
Dimethyl Sulfide	ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	10	ug/Kg	
MTBE	1.2	0.5	ug/Kg		2.3	0.5	ug/Kg		1	0.5	ug/Kg		1.2	0.5	ug/Kg		1.6	0.5	ug/Kg		4.1	0.5	ug/Kg		ND	10	ug/Kg	
1,2-Dichloroethane	ND	0.5	ug/Kg		6.3	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	10	ug/Kg	
Benzene	2.1	0.5	ug/Kg		ND	0.5	ug/Kg		3.6	0.5	ug/Kg		7.4	0.5	ug/Kg		4.9	0.5	ug/Kg		9.5	0.5	ug/Kg		1800	10	ug/Kg	
Toluene	8.4	0.5	ug/Kg		27	0.5	ug/Kg		15	0.5	ug/Kg		21	0.5	ug/Kg		15	0.5	ug/Kg		39	0.5	ug/Kg		37600	100	ug/Kg	
Ethylbenzene	0.8	0.5	ug/Kg		2.9	0.5	ug/Kg		1.7	0.5	ug/Kg		1.9	0.5	ug/Kg		1.2	0.5	ug/Kg		3.9	0.5	ug/Kg		13400	100	ug/Kg	
m/p-Xylene	3.4	0.5	ug/Kg		11	0.5	ug/Kg		23	0.5	ug/Kg		6.6	0.5	ug/Kg		4.2	0.5	ug/Kg		15	0.5	ug/Kg		52500	100	ug/Kg	
o-Xylene	1.8	0.5	ug/Kg		5.9	0.5	ug/Kg		3.9	0.5	ug/Kg		2.5	0.5	ug/Kg		1.8	0.5	ug/Kg		6.9	0.5	ug/Kg		21400	100	ug/Kg	
1,2,4-Trimethylbenzene	1.4	0.5	ug/Kg		4.4	0.5	ug/Kg		7.5	0.5	ug/Kg		2.6	0.5	ug/Kg		2	0.5	ug/Kg		6.2	0.5	ug/Kg		35900	100	ug/Kg	
Naphthalene	ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		5000	100	ug/Kg	
TVPH	ND	0.5	mg/Kg		ND	0.5	mg/Kg		ND	0.5	mg/Kg		ND	0.5	mg/Kg		ND	0.5	mg/Kg		ND	0.5	mg/Kg		450	100	mg/Kg	
% Surrogate Recovery																												
1,2-Dichloroethane-d4	120				150				143				144				141				124				110			
d8-Toluene	97				102				108				99				98				100				111			
p-Bromofluorobenzene	96								107				99				98				99				62			

Sample ID. No.	RDC-01				RDC-01			
Date Sampled	6/24/2024				6/24/2024			
Sample Depth	48				50			
		Reporting Limit	Units	Flags		Reporting Limit	Units	Flags
Dimethyl Sulfide	ND	0.5	ug/Kg		ND	0.5	ug/Kg	
MTBE	2.2	0.5	ug/Kg		1.5	0.5	ug/Kg	
1,2-Dichloroethane	ND	0.5	ug/Kg		ND	0.5	ug/Kg	
Benzene	5.4	0.5	ug/Kg		ND	0.5	ug/Kg	
Toluene	38	0.5	ug/Kg		ND	0.5	ug/Kg	
Ethylbenzene	9.2	0.5	ug/Kg		0.6	0.5	ug/Kg	
m/p-Xylene	43	0.5	ug/Kg		3.5	0.5	ug/Kg	
o-Xylene	22	0.5	ug/Kg		0.6	0.5	ug/Kg	
1,2,4-Trimethylbenzene	73	0.5	ug/Kg		1.9	0.5	ug/Kg	
Naphthalene	7.8	0.5	ug/Kg		ND	0.5	ug/Kg	
TVPH	ND	0.5	mg/Kg		ND	0.5	mg/Kg	
% Surrogate Recovery								
1,2-Dichloroethane-d4	136				133			
d8-Toluene	100				97			
p-Bromofluorobenzene	104				97			

RPI Soil Laboratory Analytical Report

Mapco #5188

Sample ID. No.	RDC-02				RDC-02				RDC-02				RDC-02				RDC-02				RDC-02				RDC-02			
Date Sampled	6/24/2024				6/24/2024				6/24/2024				6/24/2024				6/24/2024				6/24/2024				6/24/2024			
Sample Depth	20				22				24				26				28				30				32			
		Reporting Limit	Units	Flags		Reporting Limit	Units	Flags		Reporting Limit	Units	Flags		Reporting Limit	Units	Flags		Reporting Limit	Units	Flags		Reporting Limit	Units	Flags		Reporting Limit	Units	Flags
Dimethyl Sulfide	ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	10	ug/Kg		ND	0.5	ug/Kg		ND	250	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg	
MTBE	44	0.5	ug/Kg		42	0.5	ug/Kg		19	10	ug/Kg		80	0.5	ug/Kg		ND	250	ug/Kg		670	0.5	ug/Kg	E	240	0.5	ug/Kg	
1,2-Dichloroethane	7.8	0.5	ug/Kg		12	0.5	ug/Kg		ND	10	ug/Kg		6	0.5	ug/Kg		ND	250	ug/Kg		300	0.5	ug/Kg		51	0.5	ug/Kg	
Benzene	91	0.5	ug/Kg		150	0.5	ug/Kg		16	10	ug/Kg		40	0.5	ug/Kg		110000	2500	ug/Kg		1900	0.5	ug/Kg	E	98	0.5	ug/Kg	
Toluene	180	0.5	ug/Kg		340	0.5	ug/Kg		70	10	ug/Kg		87	0.5	ug/Kg		1300000	2500	ug/Kg		2200	50	ug/Kg		130	0.5	ug/Kg	
Ethylbenzene	8	0.5	ug/Kg		17	0.5	ug/Kg		20	10	ug/Kg		6.4	0.5	ug/Kg		251000	2500	ug/Kg		5700	50	ug/Kg		22	0.5	ug/Kg	
m/p-Xylene	26	0.5	ug/Kg		56	0.5	ug/Kg		88	10	ug/Kg		21	0.5	ug/Kg		921000	2500	ug/Kg		27500	50	ug/Kg		73	0.5	ug/Kg	
o-Xylene	15	0.5	ug/Kg		31	0.5	ug/Kg		34	10	ug/Kg		13	0.5	ug/Kg		377000	2500	ug/Kg		13900	50	ug/Kg		50	0.5	ug/Kg	
1,2,4-Trimethylbenzene	8.3	0.5	ug/Kg		17	0.5	ug/Kg		120	10	ug/Kg		68	0.5	ug/Kg		544000	2500	ug/Kg		40000	50	ug/Kg		44	0.5	ug/Kg	
Naphthalene	1.2	0.5	ug/Kg		15	0.5	ug/Kg		77	10	ug/Kg		130	0.5	ug/Kg		142000	250	ug/Kg		7400	50	ug/Kg		80	0.5	ug/Kg	
TVPH	ND	0.5	mg/Kg		0.7	0.5	mg/Kg		ND	10	mg/Kg		3.8	0.5	mg/Kg		10400	250	mg/Kg	E	250	50	mg/Kg		3.4	0.5	mg/Kg	
% Surrogate Recovery																												
1,2-Dichloroethane-d4	109				80				103				87				115				102				100			
d8-Toluene	106				105				97				105				104				97				84			
p-Bromofluorobenzene	97				96				98				103				103				108				98			

Sample ID. No.	RDC-02				RDC-02				RDC-02				RDC-02				RDC-02				RDC-02				RDC-02			
Date Sampled	6/24/2024				6/24/2024				6/24/2024				6/24/2024				6/24/2024				6/24/2024				6/24/2024			
Sample Depth	34				36				38				40				42				44				46			
		Reporting Limit	Units	Flags		Reporting Limit	Units	Flags		Reporting Limit	Units	Flags		Reporting Limit	Units	Flags		Reporting Limit	Units	Flags		Reporting Limit	Units	Flags		Reporting Limit	Units	Flags
Dimethyl Sulfide	ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	10	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg	
MTBE	220	0.5	ug/Kg		320	0.5	ug/Kg		100	10	ug/Kg		70	0.5	ug/Kg		320	0.5	ug/Kg		240	0.5	ug/Kg		37	0.5	ug/Kg	
1,2-Dichloroethane	46	0.5	ug/Kg		230	0.5	ug/Kg		ND	10	ug/Kg		6.3	0.5	ug/Kg		36	0.5	ug/Kg		95	0.5	ug/Kg		4.3	0.5	ug/Kg	
Benzene	71	0.5	ug/Kg		460	0.5	ug/Kg		4100	10	ug/Kg		24	0.5	ug/Kg		150	0.5	ug/Kg		790	0.5	ug/Kg		36	0.5	ug/Kg	
Toluene	150	0.5	ug/Kg		610	0.5	ug/Kg		15400	10	ug/Kg	E	71	0.5	ug/Kg		120	0.5	ug/Kg		13	0.5	ug/Kg		88	0.5	ug/Kg	
Ethylbenzene	14	0.5	ug/Kg		55	0.5	ug/Kg		6900	10	ug/Kg		8	0.5	ug/Kg		20	0.5	ug/Kg		11	0.5	ug/Kg		5.6	0.5	ug/Kg	
m/p-Xylene	48	0.5	ug/Kg		190	0.5	ug/Kg		15300	10	ug/Kg	E	28	0.5	ug/Kg		71	0.5	ug/Kg		74	0.5	ug/Kg		8.4	0.5	ug/Kg	
o-Xylene	26	0.5	ug/Kg		170	0.5	ug/Kg		5200	10	ug/Kg		12	0.5	ug/Kg		21	0.5	ug/Kg		78	0.5	ug/Kg		6	0.5	ug/Kg	
1,2,4-Trimethylbenzene	35	0.5	ug/Kg		83	0.5	ug/Kg		15700	10	ug/Kg	E	14	0.5	ug/Kg		36	0.5	ug/Kg		32	0.5	ug/Kg		5.3	0.5	ug/Kg	
Naphthalene	74	0.5	ug/Kg		84	0.5	ug/Kg		5200	10	ug/Kg		24	0.5	ug/Kg		39	0.5	ug/Kg		14	0.5	ug/Kg		3.7	0.5	ug/Kg	
TVPH	2.5	0.5	mg/Kg		3.1	0.5	mg/Kg		410	10	mg/Kg	E	0.5	0.5	mg/Kg		2.6	0.5	mg/Kg		2.5	0.5	mg/Kg		1.2	0.5	mg/Kg	
% Surrogate Recovery																												
1,2-Dichloroethane-d4	76				80				89				87				95				109				80			
d8-Toluene	101				102				98				99				99				100				102			
p-Bromofluorobenzene	95				97				84				91				96				95				92			

Sample ID. No.	RDC-02				RDC-02			
Date Sampled	6/24/2024				6/24/2024			
Sample Depth	48				50			
		Reporting Limit	Units	Flags		Reporting Limit	Units	Flags
Dimethyl Sulfide	ND	0.5	ug/Kg		ND	0.5	ug/Kg	
MTBE	28	0.5	ug/Kg		30	0.5	ug/Kg	
1,2-Dichloroethane	2.1	0.5	ug/Kg		2.4	0.5	ug/Kg	
Benzene	18	0.5	ug/Kg		17	0.5	ug/Kg	
Toluene	48	0.5	ug/Kg		36	0.5	ug/Kg	
Ethylbenzene	4.5	0.5	ug/Kg		2.9	0.5	ug/Kg	
m/p-Xylene	25	0.5	ug/Kg		9.8	0.5	ug/Kg	
o-Xylene	7.9	0.5	ug/Kg		4.1	0.5	ug/Kg	
1,2,4-Trimethylbenzene	11	0.5	ug/Kg		5.5	0.5	ug/Kg	
Naphthalene	3.7	0.5	ug/Kg		2.2	0.5	ug/Kg	
TVPH	ND	0.5	mg/Kg		ND	0.5	mg/Kg	
% Surrogate Recovery								
1,2-Dichloroethane-d4	99				108			
d8-Toluene	106				102			
p-Bromofluorobenzene	94				93			

RPI Soil Laboratory Analytical Report

Mapco #5188

Sample ID. No.	RDC-03				RDC-03				RDC-03				RDC-03				RDC-03				RDC-03				RDC-03			
Date Sampled	6/25/2024				6/25/2024				6/25/2024				6/25/2024				6/25/2024				6/25/2024				6/25/2024			
Sample Depth	20				22				24				26				27				28				30			
		Reporting Limit	Units	Flags		Reporting Limit	Units	Flags		Reporting Limit	Units	Flags		Reporting Limit	Units	Flags		Reporting Limit	Units	Flags		Reporting Limit	Units	Flags		Reporting Limit	Units	Flags
Dimethyl Sulfide	ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	10	ug/Kg		ND	250	ug/Kg		ND	100	ug/Kg		ND	50	ug/Kg		ND	0.5	ug/Kg	
MTBE	120	0.5	ug/Kg		160	0.5	ug/Kg		98	10	ug/Kg		ND	250	ug/Kg		ND	100	ug/Kg		500	50	ug/Kg		310	0.5	ug/Kg	
1,2-Dichloroethane	14	0.5	ug/Kg		10	0.5	ug/Kg		ND	10	ug/Kg		ND	250	ug/Kg		310	100	ug/Kg		260	50	ug/Kg		10	0.5	ug/Kg	
Benzene	300	0.5	ug/Kg		190	0.5	ug/Kg		200	10	ug/Kg		150000	2500	ug/Kg		28300	100	ug/Kg		14300	50	ug/Kg		130	0.5	ug/Kg	
Toluene	470	0.5	ug/Kg		370	0.5	ug/Kg		1400	10	ug/Kg		1460000	2500	ug/Kg		143000	100	ug/Kg	E	351000	500	ug/Kg		290	0.5	ug/Kg	
Ethylbenzene	24	0.5	ug/Kg		20	0.5	ug/Kg		320	10	ug/Kg		340000	2500	ug/Kg		72300	100	ug/Kg		87800	500	ug/Kg		18	0.5	ug/Kg	
m/p-Xylene	75	0.5	ug/Kg		60	0.5	ug/Kg		1400	10	ug/Kg		1240000	2500	ug/Kg		156000	100	ug/Kg	E	333000	500	ug/Kg		56	0.5	ug/Kg	
o-Xylene	51	0.5	ug/Kg		33	0.5	ug/Kg		710	10	ug/Kg		515000	2500	ug/Kg		52800	100	ug/Kg		139000	500	ug/Kg		29	0.5	ug/Kg	
1,2,4-Trimethylbenzene	37	0.5	ug/Kg		21	0.5	ug/Kg		1400	10	ug/Kg		688000	2500	ug/Kg		183000	100	ug/Kg	E	232000	500	ug/Kg		24	0.5	ug/Kg	
Naphthalene	34	0.5	ug/Kg		32	0.5	ug/Kg		310	10	ug/Kg		125000	250	ug/Kg		60100	100	ug/Kg		29100	500	ug/Kg		31	0.5	ug/Kg	
TVPH	0.8	0.5	mg/Kg		1	0.5	mg/Kg		27	10	mg/Kg		11700	250	mg/Kg	E	3700	100	mg/Kg		3200	500	mg/Kg		2.1	0.5	mg/Kg	
% Surrogate Recovery																												
1,2-Dichloroethane-d4	93				92				93				90				89				111				105			
d8-Toluene	104				104				96				102				99				102				99			
p-Bromofluorobenzene	96				91				105				59				95				108				93			

Sample ID. No.	RDC-03				RDC-03				RDC-03				RDC-03				RDC-03				RDC-03				RDC-03			
Date Sampled	6/25/2024				6/25/2024				6/25/2024				6/25/2024				6/25/2024				6/25/2024				6/25/2024			
Sample Depth	32				34				36				38				40				42				43			
		Reporting Limit	Units	Flags		Reporting Limit	Units	Flags		Reporting Limit	Units	Flags		Reporting Limit	Units	Flags		Reporting Limit	Units	Flags		Reporting Limit	Units	Flags		Reporting Limit	Units	Flags
Dimethyl Sulfide	ND	10	ug/Kg		ND	10	ug/Kg		ND	10	ug/Kg		ND	10	ug/Kg		ND	10	ug/Kg		ND	10	ug/Kg		ND	0.5	ug/Kg	
MTBE	220	10	ug/Kg		200	10	ug/Kg		120	10	ug/Kg		140	10	ug/Kg		200	10	ug/Kg		110	10	ug/Kg		170	0.5	ug/Kg	
1,2-Dichloroethane	18	10	ug/Kg		ND	10	ug/Kg		ND	10	ug/Kg		ND	10	ug/Kg		14	10	ug/Kg		ND	10	ug/Kg		11	0.5	ug/Kg	
Benzene	69	10	ug/Kg		72	10	ug/Kg		62	10	ug/Kg		63	10	ug/Kg		48	10	ug/Kg		28	10	ug/Kg		73	0.5	ug/Kg	
Toluene	470	10	ug/Kg		220	10	ug/Kg		200	10	ug/Kg		190	10	ug/Kg		110	10	ug/Kg		84	10	ug/Kg		110	0.5	ug/Kg	
Ethylbenzene	150	10	ug/Kg		41	10	ug/Kg		24	10	ug/Kg		26	10	ug/Kg		17	10	ug/Kg		16	10	ug/Kg		4.8	0.5	ug/Kg	
m/p-Xylene	590	10	ug/Kg		160	10	ug/Kg		100	10	ug/Kg		101	10	ug/Kg		65	10	ug/Kg		62	10	ug/Kg		13	0.5	ug/Kg	
o-Xylene	230	10	ug/Kg		53	10	ug/Kg		38	10	ug/Kg		37	10	ug/Kg		25	10	ug/Kg		21	10	ug/Kg		5.9	0.5	ug/Kg	
1,2,4-Trimethylbenzene	570	10	ug/Kg		120	10	ug/Kg		66	10	ug/Kg		59	10	ug/Kg		40	10	ug/Kg		42	10	ug/Kg		4.6	0.5	ug/Kg	
Naphthalene	150	10	ug/Kg		24	10	ug/Kg		15	10	ug/Kg		ND	10	ug/Kg		ND	10	ug/Kg		ND	10	ug/Kg		4.4	0.5	ug/Kg	
TVPH	20	10	mg/Kg		ND	10	mg/Kg		ND	10	mg/Kg		ND	10	mg/Kg		ND	10	mg/Kg		ND	10	mg/Kg		1.6	0.5	mg/Kg	
% Surrogate Recovery																												
1,2-Dichloroethane-d4	93				90				90				91				91				94				109			
d8-Toluene	96				93				96				95				95				97				102			
p-Bromofluorobenzene	101				103				101				100				99				101				90			

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Sample ID. No.	RDC-04				RDC-04				RDC-04				RDC-04				RDC-04				RDC-04				RDC-04			
Date Sampled	6/25/2024				6/25/2024				6/25/2024				6/25/2024				6/25/2024				6/25/2024				6/25/2024			
Sample Depth	20				22				24				26				28				30				31			
		Reporting Limit	Units	Flags		Reporting Limit	Units	Flags		Reporting Limit	Units	Flags		Reporting Limit	Units	Flags		Reporting Limit	Units	Flags		Reporting Limit	Units	Flags		Reporting Limit	Units	Flags
Dimethyl Sulfide	ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg	
MTBE	57	0.5	ug/Kg		33	0.5	ug/Kg		1.1	0.5	ug/Kg		1.3	0.5	ug/Kg		1.5	0.5	ug/Kg		3.8	0.5	ug/Kg		1.1	0.5	ug/Kg	
1,2-Dichloroethane	4.3	0.5	ug/Kg		3	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg	
Benzene	80	0.5	ug/Kg		64	0.5	ug/Kg		2.9	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		10	0.5	ug/Kg		ND	0.5	ug/Kg	
Toluene	130	0.5	ug/Kg		89	0.5	ug/Kg		10	0.5	ug/Kg		1.1	0.5	ug/Kg		2.5	0.5	ug/Kg		ND	0.5	ug/Kg		1.2	0.5	ug/Kg	
Ethylbenzene	4.6	0.5	ug/Kg		3.4	0.5	ug/Kg		1.3	0.5	ug/Kg		ND	0.5	ug/Kg		1.7	0.5	ug/Kg		7.3	0.5	ug/Kg		0.6	0.5	ug/Kg	
m/p-Xylene	14	0.5	ug/Kg		10	0.5	ug/Kg		4.9	0.5	ug/Kg		1.7	0.5	ug/Kg		7.6	0.5	ug/Kg		37	0.5	ug/Kg		2.3	0.5	ug/Kg	
o-Xylene	7	0.5	ug/Kg		4.8	0.5	ug/Kg		1.8	0.5	ug/Kg		0.8	0.5	ug/Kg		3.3	0.5	ug/Kg		36	0.5	ug/Kg		1.2	0.5	ug/Kg	
1,2,4-Trimethylbenzene	4.1	0.5	ug/Kg		3.4	0.5	ug/Kg		2.5	0.5	ug/Kg		1.2	0.5	ug/Kg		13	0.5	ug/Kg		40	0.5	ug/Kg		1.9	0.5	ug/Kg	
Naphthalene	28	0.5	ug/Kg		5.1	0.5	ug/Kg		1.7	0.5	ug/Kg		0.6	0.5	ug/Kg		1.6	0.5	ug/Kg		83	0.5	ug/Kg		6.7	0.5	ug/Kg	
TVPH	ND	0.5	mg/Kg		ND	0.5	mg/Kg		ND	0.5	mg/Kg		ND	0.5	mg/Kg		ND	0.5	mg/Kg		ND	0.5	mg/Kg		ND	0.5	mg/Kg	
% Surrogate Recovery																												
1,2-Dichloroethane-d4	106				107				111				90				121				98				91			
d8-Toluene	101				102				102				91				105				104				90			
p-Bromofluorobenzene	95				93				94				97				97				100				97			

Sample ID. No.	RDC-04				RDC-04				RDC-04				RDC-04				RDC-04				RDC-04				RDC-04			
Date Sampled	6/25/2024				6/25/2024				6/25/2024				6/25/2024				6/25/2024				6/25/2024				6/25/2024			
Sample Depth	32				34				36				38				40				42				44			
		Reporting Limit	Units	Flags		Reporting Limit	Units	Flags		Reporting Limit	Units	Flags		Reporting Limit	Units	Flags		Reporting Limit	Units	Flags		Reporting Limit	Units	Flags		Reporting Limit	Units	Flags
Dimethyl Sulfide	ND	0.5	ug/Kg		ND	10	ug/Kg		ND	10	ug/Kg		ND	10	ug/Kg		ND	10	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg	
MTBE	1.4	0.5	ug/Kg		ND	10	ug/Kg		ND	10	ug/Kg		18	10	ug/Kg		57	10	ug/Kg		5.4	0.5	ug/Kg		6.5	0.5	ug/Kg	
1,2-Dichloroethane	ND	0.5	ug/Kg		ND	10	ug/Kg		ND	10	ug/Kg		ND	10	ug/Kg		ND	10	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg	
Benzene	13	0.5	ug/Kg		ND	10	ug/Kg		17	10	ug/Kg		ND	10	ug/Kg		ND	10	ug/Kg		1.8	0.5	ug/Kg		3.6	0.5	ug/Kg	
Toluene	260	0.5	ug/Kg		51	10	ug/Kg		310	10	ug/Kg		41	10	ug/Kg		27	10	ug/Kg		9.7	0.5	ug/Kg		18	0.5	ug/Kg	
Ethylbenzene	38	0.5	ug/Kg		14	10	ug/Kg		55	10	ug/Kg		11	10	ug/Kg		ND	10	ug/Kg		4	0.5	ug/Kg		2.8	0.5	ug/Kg	
m/p-Xylene	170	0.5	ug/Kg		57	10	ug/Kg		260	10	ug/Kg		45	10	ug/Kg		29	10	ug/Kg		17	0.5	ug/Kg		11	0.5	ug/Kg	
o-Xylene	150	0.5	ug/Kg		19	10	ug/Kg		160	10	ug/Kg		15	10	ug/Kg		ND	10	ug/Kg		6.3	0.5	ug/Kg		4.4	0.5	ug/Kg	
1,2,4-Trimethylbenzene	78	0.5	ug/Kg		44	10	ug/Kg		140	10	ug/Kg		43	10	ug/Kg		23	10	ug/Kg		17	0.5	ug/Kg		14	0.5	ug/Kg	
Naphthalene	81	0.5	ug/Kg		13	10	ug/Kg		25	10	ug/Kg		12	10	ug/Kg		9.8	10	ug/Kg	J	6.5	0.5	ug/Kg		3.5	0.5	ug/Kg	
TVPH	0.9	0.5	mg/Kg		ND	10	mg/Kg		ND	10	mg/Kg		ND	10	mg/Kg		ND	10	mg/Kg		0.5	0.5	mg/Kg		ND	0.5	mg/Kg	
% Surrogate Recovery																												
1,2-Dichloroethane-d4	110				96				93				98				102				108				110			
d8-Toluene	105				96				97				97				98				104				106			
p-Bromofluorobenzene	98				101				100				99				100				98				94			

Sample ID. No.	RDC-04				RDC-04				RDC-04			
Date Sampled	6/25/2024				6/25/2024				6/25/2024			
Sample Depth	46				48				50			
		Reporting Limit	Units	Flags		Reporting Limit	Units	Flags		Reporting Limit	Units	Flags
Dimethyl Sulfide	ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg	
MTBE	46	0.5	ug/Kg		80	0.5	ug/Kg		47	0.5	ug/Kg	
1,2-Dichloroethane	9.8	0.5	ug/Kg		14	0.5	ug/Kg		7.2	0.5	ug/Kg	
Benzene	8	0.5	ug/Kg		6.1	0.5	ug/Kg		1.8	0.5	ug/Kg	
Toluene	20	0.5	ug/Kg		11	0.5	ug/Kg		5	0.5	ug/Kg	
Ethylbenzene	2.6	0.5	ug/Kg		2.2	0.5	ug/Kg		2.1	0.5	ug/Kg	
m/p-Xylene	9.2	0.5	ug/Kg		7.6	0.5	ug/Kg		8	0.5	ug/Kg	
o-Xylene	3.6	0.5	ug/Kg		2.8	0.5	ug/Kg		2.9	0.5	ug/Kg	
1,2,4-Trimethylbenzene	13	0.5	ug/Kg		10	0.5	ug/Kg		9.9	0.5	ug/Kg	
Naphthalene	4.3	0.5	ug/Kg		2.7	0.5	ug/Kg		3.4	0.5	ug/Kg	
TVPH	0.7	0.5	mg/Kg		0.8	0.5	mg/Kg		ND	0.5	mg/Kg	
% Surrogate Recovery												
1,2-Dichloroethane-d4	86				118				120			
d8-Toluene	104				105				105			
p-Bromofluorobenzene	93				94				95			

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Sample ID. No.	RDC-05				RDC-05				RDC-05				RDC-05				RDC-05				RDC-05				RDC-05			
Date Sampled	6/25/2024				6/25/2024				6/25/2024				6/25/2024				6/25/2024				6/25/2024				6/25/2024			
Sample Depth	20				22				24				26				28				30				32			
		Reporting Limit	Units	Flags		Reporting Limit	Units	Flags		Reporting Limit	Units	Flags		Reporting Limit	Units	Flags		Reporting Limit	Units	Flags		Reporting Limit	Units	Flags		Reporting Limit	Units	Flags
Dimethyl Sulfide	ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	10	ug/Kg		ND	10	ug/Kg		ND	10	ug/Kg		ND	10	ug/Kg		ND	0.5	ug/Kg	
MTBE	18	0.5	ug/Kg		17	0.5	ug/Kg		31	10	ug/Kg		16	10	ug/Kg		ND	10	ug/Kg		ND	10	ug/Kg		5.1	0.5	ug/Kg	
1,2-Dichloroethane	ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	10	ug/Kg		ND	10	ug/Kg		ND	10	ug/Kg		ND	10	ug/Kg		ND	0.5	ug/Kg	
Benzene	2.9	0.5	ug/Kg		5	0.5	ug/Kg		30	10	ug/Kg		ND	10	ug/Kg		ND	10	ug/Kg		ND	10	ug/Kg		1	0.5	ug/Kg	
Toluene	11	0.5	ug/Kg		31	0.5	ug/Kg		170	10	ug/Kg		48	10	ug/Kg		15	10	ug/Kg		28	10	ug/Kg		4.4	0.5	ug/Kg	
Ethylbenzene	3.6	0.5	ug/Kg		5.4	0.5	ug/Kg		26	10	ug/Kg		11	10	ug/Kg		ND	10	ug/Kg		770	10	ug/Kg		2	0.5	ug/Kg	
m/p-Xylene	13	0.5	ug/Kg		20	0.5	ug/Kg		100	10	ug/Kg		49	10	ug/Kg		19	10	ug/Kg		4400	10	ug/Kg		8.6	0.5	ug/Kg	
o-Xylene	6.9	0.5	ug/Kg		20	0.5	ug/Kg		100	10	ug/Kg		34	10	ug/Kg		ND	10	ug/Kg		1400	10	ug/Kg		4.6	0.5	ug/Kg	
1,2,4-Trimethylbenzene	17	0.5	ug/Kg		20	0.5	ug/Kg		67	10	ug/Kg		38	10	ug/Kg		16	10	ug/Kg		13700	10	ug/Kg	E	17	0.5	ug/Kg	
Naphthalene	14	0.5	ug/Kg		17	0.5	ug/Kg		21	10	ug/Kg		16	10	ug/Kg		ND	10	ug/Kg		740	10	ug/Kg		32	0.5	ug/Kg	
TVPH	ND	0.5	mg/Kg		ND	0.5	mg/Kg		ND	10	mg/Kg		ND	10	mg/Kg		ND	10	mg/Kg		210	10	mg/Kg		ND	0.5	mg/Kg	
% Surrogate Recovery																												
1,2-Dichloroethane-d4	111				121				98				107				99				102				87			
d8-Toluene	105				106				97				99				98				93				103			
p-Bromofluorobenzene	95				97				102				101				99				118				96			

Sample ID. No.	RDC-05				RDC-05				RDC-05				RDC-05				RDC-05				RDC-05				RDC-05			
Date Sampled	6/25/2024				6/25/2024				6/25/2024				6/25/2024				6/25/2024				6/25/2024				6/25/2024			
Sample Depth	34				36				38				40				42				44				46			
		Reporting Limit	Units	Flags		Reporting Limit	Units	Flags		Reporting Limit	Units	Flags		Reporting Limit	Units	Flags		Reporting Limit	Units	Flags		Reporting Limit	Units	Flags		Reporting Limit	Units	Flags
Dimethyl Sulfide	ND	10	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	10	ug/Kg		ND	10	ug/Kg		ND	10	ug/Kg		ND	10	ug/Kg	
MTBE	36	10	ug/Kg		69	0.5	ug/Kg		3.8	0.5	ug/Kg		37	10	ug/Kg		20	10	ug/Kg		81	10	ug/Kg		140	10	ug/Kg	
1,2-Dichloroethane	ND	10	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	10	ug/Kg		ND	10	ug/Kg		ND	10	ug/Kg		ND	10	ug/Kg	
Benzene	26	10	ug/Kg		3.6	0.5	ug/Kg		0.5	0.5	ug/Kg		ND	10	ug/Kg		ND	10	ug/Kg		ND	10	ug/Kg		400	10	ug/Kg	
Toluene	15	10	ug/Kg		6.1	0.5	ug/Kg		2.8	0.5	ug/Kg		21	10	ug/Kg		13	10	ug/Kg		16	10	ug/Kg		41	10	ug/Kg	
Ethylbenzene	18	10	ug/Kg		3.7	0.5	ug/Kg		1.9	0.5	ug/Kg		9.3	10	ug/Kg	J	ND	10	ug/Kg		ND	10	ug/Kg		99	10	ug/Kg	
m/p-Xylene	59	10	ug/Kg		11	0.5	ug/Kg		7.8	0.5	ug/Kg		33	10	ug/Kg		19	10	ug/Kg		22	10	ug/Kg		290	10	ug/Kg	
o-Xylene	38	10	ug/Kg		9.6	0.5	ug/Kg		3.7	0.5	ug/Kg		11	10	ug/Kg		ND	10	ug/Kg		10	10	ug/Kg		37	10	ug/Kg	
1,2,4-Trimethylbenzene	120	10	ug/Kg		21	0.5	ug/Kg		17	0.5	ug/Kg		42	10	ug/Kg		21	10	ug/Kg		23	10	ug/Kg		130	10	ug/Kg	
Naphthalene	16	10	ug/Kg		23	0.5	ug/Kg		7	0.5	ug/Kg		ND	10	ug/Kg		ND	10	ug/Kg		ND	10	ug/Kg		10	10	ug/Kg	
TVPH	ND	10	mg/Kg		ND	0.5	mg/Kg		ND	0.5	mg/Kg		ND	10	mg/Kg		ND	10	mg/Kg		ND	10	mg/Kg		ND	10	mg/Kg	
% Surrogate Recovery																												
1,2-Dichloroethane-d4	97				99				106				99				102				98				102			
d8-Toluene	97				104				107				96				95				95				95			
p-Bromofluorobenzene	104				93				96				102				99				102				102			

Sample ID. No.	RDC-05				RDC-05			
Date Sampled	6/25/2024				6/25/2024			
Sample Depth	48				50			
		Reporting Limit	Units	Flags		Reporting Limit	Units	Flags
Dimethyl Sulfide	ND	0.5	ug/Kg		ND	0.5	ug/Kg	
MTBE	23	0.5	ug/Kg		12	0.5	ug/Kg	
1,2-Dichloroethane	ND	0.5	ug/Kg		ND	0.5	ug/Kg	
Benzene	0.9	0.5	ug/Kg		0.6	0.5	ug/Kg	
Toluene	6.2	0.5	ug/Kg		4.4	0.5	ug/Kg	
Ethylbenzene	2.9	0.5	ug/Kg		2.2	0.5	ug/Kg	
m/p-Xylene	11	0.5	ug/Kg		8.4	0.5	ug/Kg	
o-Xylene	4.1	0.5	ug/Kg		3.2	0.5	ug/Kg	
1,2,4-Trimethylbenzene	14	0.5	ug/Kg		9.6	0.5	ug/Kg	
Naphthalene	7.9	0.5	ug/Kg		2.8	0.5	ug/Kg	
TVPH	ND	0.5	mg/Kg		ND	0.5	mg/Kg	
% Surrogate Recovery								
1,2-Dichloroethane-d4	105				117			
d8-Toluene	106				104			
p-Bromofluorobenzene	93				94			

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Sample ID. No.	RDC-06				RDC-06				RDC-06				RDC-06				RDC-06				RDC-06				RDC-06			
Date Sampled	6/26/2024				6/26/2024				6/26/2024				6/26/2024				6/26/2024				6/26/2024				6/26/2024			
Sample Depth	20				22				24				26				28				30				32			
		Reporting Limit	Units	Flags		Reporting Limit	Units	Flags		Reporting Limit	Units	Flags		Reporting Limit	Units	Flags		Reporting Limit	Units	Flags		Reporting Limit	Units	Flags		Reporting Limit	Units	Flags
Dimethyl Sulfide	ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg	
MTBE	ND	0.5	ug/Kg		ND	0.5	ug/Kg		3.7	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		0.6	0.5	ug/Kg		9.2	0.5	ug/Kg	
1,2-Dichloroethane	ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg	
Benzene	1	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		0.6	0.5	ug/Kg		0.9	0.5	ug/Kg		ND	0.5	ug/Kg		1.5	0.5	ug/Kg	
Toluene	4.9	0.5	ug/Kg		4.3	0.5	ug/Kg		1.4	0.5	ug/Kg		4.5	0.5	ug/Kg		8.3	0.5	ug/Kg		3.1	0.5	ug/Kg		1.9	0.5	ug/Kg	
Ethylbenzene	2.9	0.5	ug/Kg		2.3	0.5	ug/Kg		0.6	0.5	ug/Kg		2.2	0.5	ug/Kg		3.5	0.5	ug/Kg		1.5	0.5	ug/Kg		0.7	0.5	ug/Kg	
m/p-Xylene	12	0.5	ug/Kg		10	0.5	ug/Kg		2.1	0.5	ug/Kg		9.7	0.5	ug/Kg		15	0.5	ug/Kg		6.5	0.5	ug/Kg		3.1	0.5	ug/Kg	
o-Xylene	5.3	0.5	ug/Kg		4.4	0.5	ug/Kg		1.1	0.5	ug/Kg		4.4	0.5	ug/Kg		5.7	0.5	ug/Kg		3	0.5	ug/Kg		1.7	0.5	ug/Kg	
1,2,4-Trimethylbenzene	23	0.5	ug/Kg		18	0.5	ug/Kg		1.7	0.5	ug/Kg		17	0.5	ug/Kg		15	0.5	ug/Kg		10	0.5	ug/Kg		2.4	0.5	ug/Kg	
Naphthalene	3.6	0.5	ug/Kg		2.9	0.5	ug/Kg		1	0.5	ug/Kg		2.6	0.5	ug/Kg		2.3	0.5	ug/Kg		1.7	0.5	ug/Kg		3.9	0.5	ug/Kg	
TVPH	ND	0.5	mg/Kg		ND	0.5	mg/Kg		ND	0.5	mg/Kg		ND	0.5	mg/Kg		ND	0.5	mg/Kg		ND	0.5	mg/Kg		ND	0.5	mg/Kg	
% Surrogate Recovery																												
1,2-Dichloroethane-d4	96				110				88				98				102				98				95			
d8-Toluene	100				103				90				102				104				101				91			
p-Bromofluorobenzene	94				98				99				95				93				93				101			

Sample ID. No.	RDC-06				RDC-06				RDC-06				RDC-06				RDC-06				RDC-06				RDC-06			
Date Sampled	6/26/2024				6/26/2024				6/26/2024				6/26/2024				6/26/2024				6/26/2024				6/26/2024			
Sample Depth	34				36				38				40				42				44				46			
		Reporting Limit	Units	Flags		Reporting Limit	Units	Flags		Reporting Limit	Units	Flags		Reporting Limit	Units	Flags		Reporting Limit	Units	Flags		Reporting Limit	Units	Flags		Reporting Limit	Units	Flags
Dimethyl Sulfide	ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg	
MTBE	14	0.5	ug/Kg		12	0.5	ug/Kg		13	0.5	ug/Kg		8.4	0.5	ug/Kg		7.5	0.5	ug/Kg		7.5	0.5	ug/Kg		0.9	0.5	ug/Kg	
1,2-Dichloroethane	ND	0.5	ug/Kg		ND	0.5	ug/Kg		0.8	0.5	ug/Kg		ND	0.5	ug/Kg		2.1	0.5	ug/Kg		3.6	0.5	ug/Kg		5.6	0.5	ug/Kg	
Benzene	ND	0.5	ug/Kg		ND	0.5	ug/Kg		0.8	0.5	ug/Kg		ND	0.5	ug/Kg		0.5	0.5	ug/Kg		0.8	0.5	ug/Kg		7.6	0.5	ug/Kg	
Toluene	2.1	0.5	ug/Kg		3.1	0.5	ug/Kg		2.8	0.5	ug/Kg		1.6	0.5	ug/Kg		1.3	0.5	ug/Kg		1.9	0.5	ug/Kg		2.2	0.5	ug/Kg	
Ethylbenzene	1.2	0.5	ug/Kg		1.3	0.5	ug/Kg		1.4	0.5	ug/Kg		0.7	0.5	ug/Kg		ND	0.5	ug/Kg		0.8	0.5	ug/Kg		0.8	0.5	ug/Kg	
m/p-Xylene	5.7	0.5	ug/Kg		5.2	0.5	ug/Kg		5.9	0.5	ug/Kg		2.3	0.5	ug/Kg		2.3	0.5	ug/Kg		3.7	0.5	ug/Kg		9.2	0.5	ug/Kg	
o-Xylene	2.1	0.5	ug/Kg		2	0.5	ug/Kg		2.1	0.5	ug/Kg		1	0.5	ug/Kg		1	0.5	ug/Kg		1.9	0.5	ug/Kg		4.1	0.5	ug/Kg	
1,2,4-Trimethylbenzene	6.6	0.5	ug/Kg		3.9	0.5	ug/Kg		4.4	0.5	ug/Kg		2.2	0.5	ug/Kg		3.4	0.5	ug/Kg		3.8	0.5	ug/Kg		5	0.5	ug/Kg	
Naphthalene	3	0.5	ug/Kg		3.1	0.5	ug/Kg		3.7	0.5	ug/Kg		3	0.5	ug/Kg		4	0.5	ug/Kg		6.2	0.5	ug/Kg		4.2	0.5	ug/Kg	
TVPH	ND	0.5	mg/Kg		ND	0.5	mg/Kg		ND	0.5	mg/Kg		ND	0.5	mg/Kg		ND	0.5	mg/Kg		ND	0.5	mg/Kg		ND	0.5	mg/Kg	
% Surrogate Recovery																												
1,2-Dichloroethane-d4	102				102				102				107				103				73				84			
d8-Toluene	105				105				106				107				106				101				100			
p-Bromofluorobenzene	96				92				91				91				90				90				89			

Sample ID. No.	RDC-06				RDC-06			
Date Sampled	6/26/2024				6/26/2024			
Sample Depth	48				50			
		Reporting Limit	Units	Flags		Reporting Limit	Units	Flags
Dimethyl Sulfide	ND	0.5	ug/Kg		ND	0.5	ug/Kg	
MTBE	16	0.5	ug/Kg		45	0.5	ug/Kg	
1,2-Dichloroethane	15	0.5	ug/Kg		21	0.5	ug/Kg	
Benzene	8.7	0.5	ug/Kg		9.6	0.5	ug/Kg	
Toluene	1.7	0.5	ug/Kg		1.6	0.5	ug/Kg	
Ethylbenzene	1	0.5	ug/Kg		1.7	0.5	ug/Kg	
m/p-Xylene	3.3	0.5	ug/Kg		3.3	0.5	ug/Kg	
o-Xylene	2.2	0.5	ug/Kg		1.1	0.5	ug/Kg	
1,2,4-Trimethylbenzene	3.8	0.5	ug/Kg		2.7	0.5	ug/Kg	
Naphthalene	11	0.5	ug/Kg		14	0.5	ug/Kg	
TVPH	ND	0.5	mg/Kg		0.8	0.5	mg/Kg	
% Surrogate Recovery								
1,2-Dichloroethane-d4	87				69			
d8-Toluene	92				106			
p-Bromofluorobenzene	83				90			

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Sample ID. No.	RDC-07				RDC-07				RDC-07				RDC-07				RDC-07				RDC-07				RDC-07			
Date Sampled	6/26/2024				6/26/2024				6/26/2024				6/26/2024				6/26/2024				6/26/2024				6/26/2024			
Sample Depth	20				22				24				26				28				30				32			
		Reporting Limit	Units	Flags		Reporting Limit	Units	Flags		Reporting Limit	Units	Flags		Reporting Limit	Units	Flags		Reporting Limit	Units	Flags		Reporting Limit	Units	Flags		Reporting Limit	Units	Flags
Dimethyl Sulfide	ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg	
MTBE	ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		0.6	0.5	ug/Kg		ND	0.5	ug/Kg		2.5	0.5	ug/Kg	
1,2-Dichloroethane	ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg	
Benzene	ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		0.5	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg	
Toluene	2.2	0.5	ug/Kg		2.3	0.5	ug/Kg		3.9	0.5	ug/Kg		6.2	0.5	ug/Kg		4.3	0.5	ug/Kg		1.8	0.5	ug/Kg		1.7	0.5	ug/Kg	
Ethylbenzene	1	0.5	ug/Kg		1.2	0.5	ug/Kg		1.8	0.5	ug/Kg		3.2	0.5	ug/Kg		1.8	0.5	ug/Kg		0.9	0.5	ug/Kg		0.8	0.5	ug/Kg	
m/p-Xylene	3.8	0.5	ug/Kg		5	0.5	ug/Kg		7	0.5	ug/Kg		15	0.5	ug/Kg		8.4	0.5	ug/Kg		3.9	0.5	ug/Kg		3.1	0.5	ug/Kg	
o-Xylene	1.6	0.5	ug/Kg		2.1	0.5	ug/Kg		2.7	0.5	ug/Kg		5.2	0.5	ug/Kg		3.4	0.5	ug/Kg		1.7	0.5	ug/Kg		1.2	0.5	ug/Kg	
1,2,4-Trimethylbenzene	3.5	0.5	ug/Kg		5.5	0.5	ug/Kg		6.9	0.5	ug/Kg		9.6	0.5	ug/Kg		8.4	0.5	ug/Kg		5	0.5	ug/Kg		3.4	0.5	ug/Kg	
Naphthalene	2.9	0.5	ug/Kg		1.8	0.5	ug/Kg		3.1	0.5	ug/Kg		1.5	0.5	ug/Kg		3.4	0.5	ug/Kg		1.6	0.5	ug/Kg		1	0.5	ug/Kg	
TVPH	ND	0.5	mg/Kg		ND	0.5	mg/Kg		ND	0.5	mg/Kg		ND	0.5	mg/Kg		1	0.5	mg/Kg		ND	0.5	mg/Kg		ND	0.5	mg/Kg	
% Surrogate Recovery																												
1,2-Dichloroethane-d4	91				62				104				82				69				85				108			
d8-Toluene	96				90				103				91				96				95				100			
p-Bromofluorobenzene	88				87				92				90				97				88				91			

Sample ID. No.	RDC-07				RDC-07				RDC-07				RDC-07				RDC-07				RDC-07				RDC-07			
Date Sampled	6/26/2024				6/26/2024				6/26/2024				6/26/2024				6/26/2024				6/26/2024				6/26/2024			
Sample Depth	34				36				38				40				42				44				46			
		Reporting Limit	Units	Flags		Reporting Limit	Units	Flags		Reporting Limit	Units	Flags		Reporting Limit	Units	Flags		Reporting Limit	Units	Flags		Reporting Limit	Units	Flags		Reporting Limit	Units	Flags
Dimethyl Sulfide	ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg	
MTBE	ND	0.5	ug/Kg		0.8	0.5	ug/Kg		0.5	0.5	ug/Kg		1	0.5	ug/Kg		0.5	0.5	ug/Kg		1.5	0.5	ug/Kg		14	0.5	ug/Kg	
1,2-Dichloroethane	ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg	
Benzene	ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		0.5	0.5	ug/Kg		0.5	0.5	ug/Kg	
Toluene	2.5	0.5	ug/Kg		0.6	0.5	ug/Kg		2.5	0.5	ug/Kg		1.4	0.5	ug/Kg		0.9	0.5	ug/Kg		5.1	0.5	ug/Kg		2.2	0.5	ug/Kg	
Ethylbenzene	1.5	0.5	ug/Kg		1.7	0.5	ug/Kg		1.2	0.5	ug/Kg		1.1	0.5	ug/Kg		ND	0.5	ug/Kg		1.7	0.5	ug/Kg		1.1	0.5	ug/Kg	
m/p-Xylene	5.9	0.5	ug/Kg		2.8	0.5	ug/Kg		4.9	0.5	ug/Kg		4.9	0.5	ug/Kg		1.4	0.5	ug/Kg		5.9	0.5	ug/Kg		4.6	0.5	ug/Kg	
o-Xylene	2.4	0.5	ug/Kg		2.6	0.5	ug/Kg		2.4	0.5	ug/Kg		3.3	0.5	ug/Kg		0.6	0.5	ug/Kg		2.9	0.5	ug/Kg		1.8	0.5	ug/Kg	
1,2,4-Trimethylbenzene	6.6	0.5	ug/Kg		4.1	0.5	ug/Kg		6.4	0.5	ug/Kg		4.1	0.5	ug/Kg		1.6	0.5	ug/Kg		2.1	0.5	ug/Kg		5.1	0.5	ug/Kg	
Naphthalene	1.6	0.5	ug/Kg		1	0.5	ug/Kg		1.4	0.5	ug/Kg		1.6	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		1.4	0.5	ug/Kg	
TVPH	ND	0.5	mg/Kg		ND	0.5	mg/Kg		ND	0.5	mg/Kg		ND	0.5	mg/Kg		ND	0.5	mg/Kg		ND	0.5	mg/Kg		ND	0.5	mg/Kg	
% Surrogate Recovery																												
1,2-Dichloroethane-d4	74				64				85				78				97				97				86			
d8-Toluene	95				95				99				89				100				91				99			
p-Bromofluorobenzene	91				91				92				96				96				96				93			

Sample ID. No.	RDC-07			
Date Sampled	6/26/2024			
Sample Depth	48			
		Reporting Limit	Units	Flags
Dimethyl Sulfide	ND	10	ug/Kg	
MTBE	28	10	ug/Kg	
1,2-Dichloroethane	ND	10	ug/Kg	
Benzene	ND	10	ug/Kg	
Toluene	12	10	ug/Kg	
Ethylbenzene	ND	10	ug/Kg	
m/p-Xylene	16	10	ug/Kg	
o-Xylene	ND	10	ug/Kg	
1,2,4-Trimethylbenzene	16	10	ug/Kg	
Naphthalene	ND	10	ug/Kg	
TVPH	ND	10	mg/Kg	
% Surrogate Recovery				
1,2-Dichloroethane-d4	99			
d8-Toluene	97			
p-Bromofluorobenzene	100			

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Sample ID. No.	RDC-08				RDC-08				RDC-08				RDC-08				RDC-08			
Date Sampled	6/26/2024				6/26/2024				6/26/2024				6/26/2024				6/27/2024			
Sample Depth	20				22				24				26				28			
		Reporting Limit	Units	Flags		Reporting Limit	Units	Flags		Reporting Limit	Units	Flags		Reporting Limit	Units	Flags		Reporting Limit	Units	Flags
Dimethyl Sulfide	ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg	
MTBE	ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg	
1,2-Dichloroethane	ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg	
Benzene	ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		0.8	0.5	ug/Kg	
Toluene	1.6	0.5	ug/Kg		2.9	0.5	ug/Kg		1.2	0.5	ug/Kg		1.4	0.5	ug/Kg		6.3	0.5	ug/Kg	
Ethylbenzene	0.9	0.5	ug/Kg		1.7	0.5	ug/Kg		0.8	0.5	ug/Kg		1.1	0.5	ug/Kg		0.6	0.5	ug/Kg	
m/p-Xylene	3.4	0.5	ug/Kg		7	0.5	ug/Kg		2.9	0.5	ug/Kg		3.7	0.5	ug/Kg		19	0.5	ug/Kg	
o-Xylene	1.3	0.5	ug/Kg		2.4	0.5	ug/Kg		1.1	0.5	ug/Kg		2.4	0.5	ug/Kg		22	0.5	ug/Kg	
1,2,4-Trimethylbenzene	4.5	0.5	ug/Kg		6.9	0.5	ug/Kg		4.1	0.5	ug/Kg		3.1	0.5	ug/Kg		14	0.5	ug/Kg	
Naphthalene	0.8	0.5	ug/Kg		1.3	0.5	ug/Kg		0.8	0.5	ug/Kg		0.9	0.5	ug/Kg		1.7	0.5	ug/Kg	
TVPH	ND	0.5	mg/Kg		ND	0.5	mg/Kg		ND	0.5	mg/Kg		ND	0.5	mg/Kg		ND	0.5	mg/Kg	
% Surrogate Recovery																				
1,2-Dichloroethane-d4	96				85				78				91				114			
d8-Toluene	97				93				97				90				99			
p-Bromofluorobenzene	94				90				92				93				91			

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Mapco #5188

Sample ID. No.	RDC-09				RDC-09				RDC-09				RDC-09				RDC-09				RDC-09				RDC-09			
Date Sampled	6/27/2024				6/27/2024				6/27/2024				6/27/2024				6/27/2024				6/27/2024				6/27/2024			
Sample Depth	20				22				24				26				28				30				32			
		Reporting Limit	Units	Flags		Reporting Limit	Units	Flags		Reporting Limit	Units	Flags		Reporting Limit	Units	Flags		Reporting Limit	Units	Flags		Reporting Limit	Units	Flags		Reporting Limit	Units	Flags
Dimethyl Sulfide	ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	10	ug/Kg		ND	10	ug/Kg		ND	10	ug/Kg	
MTBE	ND	0.5	ug/Kg		ND	0.5	ug/Kg		1.2	0.5	ug/Kg		3	0.5	ug/Kg		ND	10	ug/Kg		ND	10	ug/Kg		25	10	ug/Kg	
1,2-Dichloroethane	ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	10	ug/Kg		ND	10	ug/Kg		ND	10	ug/Kg	
Benzene	ND	0.5	ug/Kg		1.1	0.5	ug/Kg		0.7	0.5	ug/Kg		ND	0.5	ug/Kg		ND	10	ug/Kg		ND	10	ug/Kg		ND	10	ug/Kg	
Toluene	4.2	0.5	ug/Kg		11	0.5	ug/Kg		2.5	0.5	ug/Kg		2.5	0.5	ug/Kg		13	10	ug/Kg		10	10	ug/Kg		400	10	ug/Kg	
Ethylbenzene	1.6	0.5	ug/Kg		120	0.5	ug/Kg		21	0.5	ug/Kg		2.2	0.5	ug/Kg		ND	10	ug/Kg		ND	10	ug/Kg		2900	10	ug/Kg	
m/p-Xylene	6.5	0.5	ug/Kg		110	0.5	ug/Kg		86	0.5	ug/Kg		9.2	0.5	ug/Kg		25	10	ug/Kg		19	10	ug/Kg		13700	250	ug/Kg	
o-Xylene	3.3	0.5	ug/Kg		16	0.5	ug/Kg		29	0.5	ug/Kg		9	0.5	ug/Kg		33	10	ug/Kg		ND	10	ug/Kg		6600	10	ug/Kg	
1,2,4-Trimethylbenzene	7.9	0.5	ug/Kg		4000	10	ug/Kg		670	0.5	ug/Kg	E	23	0.5	ug/Kg		23	10	ug/Kg		22	10	ug/Kg		36400	250	ug/Kg	
Naphthalene	5	0.5	ug/Kg		640	0.5	ug/Kg	E	380	0.5	ug/Kg		14	0.5	ug/Kg		14	10	ug/Kg		ND	10	ug/Kg		7500	10	ug/Kg	
TVPH	ND	0.5	mg/Kg		120	10	mg/Kg		5.8	0.5	mg/Kg		ND	0.5	mg/Kg		ND	10	mg/Kg		ND	10	mg/Kg		260	10	mg/Kg	
% Surrogate Recovery																												
1,2-Dichloroethane-d4	61				98				79				85				109				111				119			
d8-Toluene	99				92				62				85				98				96				97			
p-Bromofluorobenzene	80				108				44				88				103				103				122			

Sample ID. No.	RDC-09				RDC-09				RDC-09				RDC-09				RDC-09				RDC-09				RDC-09			
Date Sampled	6/27/2024				6/27/2024				6/27/2024				6/27/2024				6/27/2024				6/27/2024				6/27/2024			
Sample Depth	34				36				38				40				42				44				46			
		Reporting Limit	Units	Flags		Reporting Limit	Units	Flags		Reporting Limit	Units	Flags		Reporting Limit	Units	Flags		Reporting Limit	Units	Flags		Reporting Limit	Units	Flags		Reporting Limit	Units	Flags
Dimethyl Sulfide	ND	10	ug/Kg		ND	10	ug/Kg		ND	10	ug/Kg		ND	10	ug/Kg		ND	10	ug/Kg		ND	10	ug/Kg		ND	10	ug/Kg	
MTBE	28	10	ug/Kg		36	10	ug/Kg		41	10	ug/Kg		ND	10	ug/Kg		20	10	ug/Kg		22	10	ug/Kg		55	10	ug/Kg	
1,2-Dichloroethane	ND	10	ug/Kg		ND	10	ug/Kg		ND	10	ug/Kg		ND	10	ug/Kg		ND	10	ug/Kg		ND	10	ug/Kg		ND	10	ug/Kg	
Benzene	ND	10	ug/Kg		830	10	ug/Kg		1400	10	ug/Kg		ND	10	ug/Kg		ND	10	ug/Kg		ND	10	ug/Kg		ND	10	ug/Kg	
Toluene	14	10	ug/Kg		21200	100	ug/Kg		17100	100	ug/Kg		26	10	ug/Kg		17	10	ug/Kg		12	10	ug/Kg		24	10	ug/Kg	
Ethylbenzene	10	10	ug/Kg		15800	100	ug/Kg		8500	100	ug/Kg		17	10	ug/Kg		ND	10	ug/Kg		ND	10	ug/Kg		ND	10	ug/Kg	
m/p-Xylene	54	10	ug/Kg		63500	100	ug/Kg		35500	100	ug/Kg		77	10	ug/Kg		38	10	ug/Kg		23	10	ug/Kg		41	10	ug/Kg	
o-Xylene	32	10	ug/Kg		28100	100	ug/Kg		16600	100	ug/Kg		31	10	ug/Kg		17	10	ug/Kg		10	10	ug/Kg		26	10	ug/Kg	
1,2,4-Trimethylbenzene	170	10	ug/Kg		41800	100	ug/Kg		27400	100	ug/Kg		130	10	ug/Kg		42	10	ug/Kg		25	10	ug/Kg		35	10	ug/Kg	
Naphthalene	170	10	ug/Kg		6500	10	ug/Kg		5700	10	ug/Kg		120	10	ug/Kg		21	10	ug/Kg		13	10	ug/Kg		9.7	10	ug/Kg	J
TVPH	ND	10	mg/Kg		530	100	mg/Kg		250	10	mg/Kg		ND	10	mg/Kg		ND	10	mg/Kg		ND	10	mg/Kg		ND	10	mg/Kg	
% Surrogate Recovery																												
1,2-Dichloroethane-d4	98				96				96				98				88				99				94			
d8-Toluene	95				96				96				96				95				97				97			
p-Bromofluorobenzene	104				48				83				105				101				106				103			

Sample ID. No.	RDC-09				RDC-09				RDC-09				RDC-09				RDC-09				RDC-09				RDC-09			
Date Sampled	6/27/2024				6/27/2024				6/27/2024				6/27/2024				6/27/2024				6/27/2024				6/27/2024			
Sample Depth	48				50				52				54				56				58				60			
		Reporting Limit	Units	Flags		Reporting Limit	Units	Flags		Reporting Limit	Units	Flags		Reporting Limit	Units	Flags		Reporting Limit	Units	Flags		Reporting Limit	Units	Flags		Reporting Limit	Units	Flags
Dimethyl Sulfide	ND	10	ug/Kg		ND	10	ug/Kg		ND	10	ug/Kg		ND	10	ug/Kg		ND	10	ug/Kg		ND	10	ug/Kg		ND	10	ug/Kg	
MTBE	ND	10	ug/Kg		140	10	ug/Kg		19	10	ug/Kg		ND	10	ug/Kg		52	10	ug/Kg		56	10	ug/Kg		67	10	ug/Kg	
1,2-Dichloroethane	ND	10	ug/Kg		ND	10	ug/Kg		ND	10	ug/Kg		ND	10	ug/Kg		ND	10	ug/Kg		ND	10	ug/Kg		ND	10	ug/Kg	
Benzene	10400	250	ug/Kg		50	10	ug/Kg		ND	10	ug/Kg		1700	10	ug/Kg		ND	10	ug/Kg		13	10	ug/Kg		10	10	ug/Kg	
Toluene	119000	250	ug/Kg		470	10	ug/Kg		58	10	ug/Kg		23400	100	ug/Kg		41	10	ug/Kg		22	10	ug/Kg		20	10	ug/Kg	
Ethylbenzene	64900	250	ug/Kg		290	10	ug/Kg		360	10	ug/Kg		13000	100	ug/Kg		29	10	ug/Kg		24	10	ug/Kg		14	10	ug/Kg	
m/p-Xylene	251000	250	ug/Kg		1500	10	ug/Kg		5300	10	ug/Kg		53700	100	ug/Kg		150	10	ug/Kg		94	10	ug/Kg		72	10	ug/Kg	
o-Xylene	105000	250	ug/Kg		760	10	ug/Kg		2500	10	ug/Kg		21300	100	ug/Kg		66	10	ug/Kg		51	10	ug/Kg		36	10	ug/Kg	
1,2,4-Trimethylbenzene	155000	250	ug/Kg		1500	10	ug/Kg		8500	10	ug/Kg		34600	100	ug/Kg		180	10	ug/Kg		71	10	ug/Kg		51	10	ug/Kg	
Naphthalene	19500	250	ug/Kg		570	10	ug/Kg		950	10	ug/Kg		3500	10	ug/Kg		77	10	ug/Kg		16	10	ug/Kg		12	10	ug/Kg	
TVPH	3000	250	mg/Kg		17	10	mg/Kg		220	10	mg/Kg		680	100	mg/Kg		ND	10	mg/Kg		ND	10	mg/Kg		ND	10	mg/Kg	
% Surrogate Recovery																												
1,2-Dichloroethane-d4	109				133				101				96				103				97				102			
d8-Toluene	142				119				95				91				98				95				96			
p-Bromofluorobenzene	153				148				120				46				107				105				106			

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Sample ID. No.	RDC-10				RDC-10				RDC-10				RDC-10				RDC-10			
Date Sampled	6/28/2024				6/28/2024				6/28/2024				6/28/2024				6/28/2024			
Sample Depth	20				22				24				26				28			
		Reporting Limit	Units	Flags		Reporting Limit	Units	Flags		Reporting Limit	Units	Flags		Reporting Limit	Units	Flags		Reporting Limit	Units	Flags
Dimethyl Sulfide	ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg	
MTBE	ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg	
1,2-Dichloroethane	ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg	
Benzene	ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg	
Toluene	0.8	0.5	ug/Kg		1.8	0.5	ug/Kg		0.9	0.5	ug/Kg		1.4	0.5	ug/Kg		0.7	0.5	ug/Kg	
Ethylbenzene	ND	0.5	ug/Kg		0.9	0.5	ug/Kg		ND	0.5	ug/Kg		0.6	0.5	ug/Kg		0.7	0.5	ug/Kg	
m/p-Xylene	1.6	0.5	ug/Kg		3.7	0.5	ug/Kg		1.5	0.5	ug/Kg		2.3	0.5	ug/Kg		2.3	0.5	ug/Kg	
o-Xylene	0.7	0.5	ug/Kg		1.5	0.5	ug/Kg		0.7	0.5	ug/Kg		0.9	0.5	ug/Kg		1.8	0.5	ug/Kg	
1,2,4-Trimethylbenzene	4.6	0.5	ug/Kg		5.6	0.5	ug/Kg		3	0.5	ug/Kg		3.9	0.5	ug/Kg		5.8	0.5	ug/Kg	
Naphthalene	4.6	0.5	ug/Kg		2.3	0.5	ug/Kg		1.5	0.5	ug/Kg		1.9	0.5	ug/Kg		2.1	0.5	ug/Kg	
TVPH	ND	0.5	mg/Kg		ND	0.5	mg/Kg		ND	0.5	mg/Kg		ND	0.5	mg/Kg		ND	0.5	mg/Kg	
% Surrogate Recovery																				
1,2-Dichloroethane-d4	95				96				81				91				82			
d8-Toluene	97				99				97				96				96			
p-Bromofluorobenzene	96				93				95				91				90			

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Sample ID. No.	RDC-13				RDC-13				RDC-13				RDC-13				RDC-13				RDC-13				RDC-13			
Date Sampled	6/28/2024				6/28/2024				6/28/2024				6/28/2024				6/28/2024				6/28/2024				6/28/2024			
Sample Depth	20				22				24				26				28				30				32			
		Reporting Limit	Units	Flags		Reporting Limit	Units	Flags		Reporting Limit	Units	Flags		Reporting Limit	Units	Flags		Reporting Limit	Units	Flags		Reporting Limit	Units	Flags		Reporting Limit	Units	Flags
Dimethyl Sulfide	ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg	
MTBE	ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg	
1,2-Dichloroethane	ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg	
Benzene	ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg	
Toluene	1.5	0.5	ug/Kg		1.4	0.5	ug/Kg		1.7	0.5	ug/Kg		1.1	0.5	ug/Kg		1.8	0.5	ug/Kg		1.3	0.5	ug/Kg		1.6	0.5	ug/Kg	
Ethylbenzene	0.7	0.5	ug/Kg		0.6	0.5	ug/Kg		0.7	0.5	ug/Kg		ND	0.5	ug/Kg		0.8	0.5	ug/Kg		0.5	0.5	ug/Kg		0.9	0.5	ug/Kg	
m/p-Xylene	2.4	0.5	ug/Kg		2.1	0.5	ug/Kg		2.7	0.5	ug/Kg		1.5	0.5	ug/Kg		3.1	0.5	ug/Kg		2	0.5	ug/Kg		2.9	0.5	ug/Kg	
o-Xylene	0.9	0.5	ug/Kg		0.9	0.5	ug/Kg		1.2	0.5	ug/Kg		0.5	0.5	ug/Kg		1.3	0.5	ug/Kg		0.7	0.5	ug/Kg		1.3	0.5	ug/Kg	
1,2,4-Trimethylbenzene	3	0.5	ug/Kg		2.6	0.5	ug/Kg		3.1	0.5	ug/Kg		1.8	0.5	ug/Kg		5.1	0.5	ug/Kg		2.2	0.5	ug/Kg		3.8	0.5	ug/Kg	
Naphthalene	1.2	0.5	ug/Kg		1.1	0.5	ug/Kg		1	0.5	ug/Kg		0.8	0.5	ug/Kg		2.1	0.5	ug/Kg		0.8	0.5	ug/Kg		1	0.5	ug/Kg	
TVPH	ND	0.5	mg/Kg		ND	0.5	mg/Kg		ND	0.5	mg/Kg		ND	0.5	mg/Kg		ND	0.5	mg/Kg		ND	0.5	mg/Kg		ND	0.5	mg/Kg	
% Surrogate Recovery																												
1,2-Dichloroethane-d4	100				97				98				99				66				88				90			
d8-Toluene	99				98				98				98				93				97				98			
p-Bromofluorobenzene	95				92				94				92				93				91				94			

Sample ID. No.	RDC-13				RDC-13				RDC-13				RDC-13				RDC-13				RDC-13				RDC-13			
Date Sampled	6/28/2024				6/28/2024				6/28/2024				6/28/2024				6/28/2024				6/28/2024				6/28/2024			
Sample Depth	34				36				38				40				42				44				46			
		Reporting Limit	Units	Flags		Reporting Limit	Units	Flags		Reporting Limit	Units	Flags		Reporting Limit	Units	Flags		Reporting Limit	Units	Flags		Reporting Limit	Units	Flags		Reporting Limit	Units	Flags
Dimethyl Sulfide	ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg	
MTBE	ND	0.5	ug/Kg		1.1	0.5	ug/Kg		2	0.5	ug/Kg		4.3	0.5	ug/Kg		7.2	0.5	ug/Kg		6.7	0.5	ug/Kg		9.7	0.5	ug/Kg	
1,2-Dichloroethane	ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg	
Benzene	ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		0.6	0.5	ug/Kg		0.7	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg	
Toluene	0.7	0.5	ug/Kg		0.9	0.5	ug/Kg		0.6	0.5	ug/Kg		3.3	0.5	ug/Kg		1.8	0.5	ug/Kg		1.6	0.5	ug/Kg		1.9	0.5	ug/Kg	
Ethylbenzene	0.8	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		1.5	0.5	ug/Kg		0.8	0.5	ug/Kg		0.6	0.5	ug/Kg		1	0.5	ug/Kg	
m/p-Xylene	0.9	0.5	ug/Kg		1.1	0.5	ug/Kg		0.8	0.5	ug/Kg		6.2	0.5	ug/Kg		3.1	0.5	ug/Kg		2.4	0.5	ug/Kg		4.9	0.5	ug/Kg	
o-Xylene	ND	0.5	ug/Kg		ND	0.5	ug/Kg		ND	0.5	ug/Kg		2.5	0.5	ug/Kg		1.4	0.5	ug/Kg		1	0.5	ug/Kg		1.7	0.5	ug/Kg	
1,2,4-Trimethylbenzene	0.8	0.5	ug/Kg		1.3	0.5	ug/Kg		1	0.5	ug/Kg		6	0.5	ug/Kg		3.7	0.5	ug/Kg		2.7	0.5	ug/Kg		4.1	0.5	ug/Kg	
Naphthalene	ND	0.5	ug/Kg		0.6	0.5	ug/Kg		0.5	0.5	ug/Kg		1.5	0.5	ug/Kg		1.4	0.5	ug/Kg		1.1	0.5	ug/Kg		1.1	0.5	ug/Kg	
TVPH	ND	0.5	mg/Kg		ND	0.5	mg/Kg		ND	0.5	mg/Kg		ND	0.5	mg/Kg		ND	0.5	mg/Kg		ND	0.5	mg/Kg		ND	0.5	mg/Kg	
% Surrogate Recovery																												
1,2-Dichloroethane-d4	94				78				89				101				83				66				70			
d8-Toluene	92				97				86				102				97				95				95			
p-Bromofluorobenzene	96				94				91				90				90				87				88			

Sample ID. No.	RDC-13				RDC-13			
Date Sampled	6/28/2024				6/28/2024			
Sample Depth	48				50			
		Reporting Limit	Units	Flags		Reporting Limit	Units	Flags
Dimethyl Sulfide	ND	0.5	ug/Kg		ND	0.5	ug/Kg	
MTBE	ND	0.5	ug/Kg		4.4	0.5	ug/Kg	
1,2-Dichloroethane	ND	0.5	ug/Kg		ND	0.5	ug/Kg	
Benzene	ND	0.5	ug/Kg		ND	0.5	ug/Kg	
Toluene	2.2	0.5	ug/Kg		0.8	0.5	ug/Kg	
Ethylbenzene	1.1	0.5	ug/Kg		ND	0.5	ug/Kg	
m/p-Xylene	4.7	0.5	ug/Kg		1.5	0.5	ug/Kg	
o-Xylene	1.9	0.5	ug/Kg		0.6	0.5	ug/Kg	
1,2,4-Trimethylbenzene	4.3	0.5	ug/Kg		1.7	0.5	ug/Kg	
Naphthalene	0.7	0.5	ug/Kg		0.6	0.5	ug/Kg	
TVPH	ND	0.5	mg/Kg		ND	0.5	mg/Kg	
% Surrogate Recovery								
1,2-Dichloroethane-d4	89				85			
d8-Toluene	95				97			
p-Bromofluorobenzene	92				90			

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Sample ID. No.	MW-9				MW-14				RDC-02			
Date Sampled	6/26/2024				6/28/2024				6/26/2024			
Sample Depth												
		Reporting Limit	Units	Flags		Reporting Limit	Units	Flags		Reporting Limit	Units	Flags
Dimethyl Sulfide	ND	5	ug/L		ND	10	ug/L		ND	5	ug/L	
MTBE	700	5	ug/L		1300	10	ug/L		2000	5	ug/L	
1,2-Dichloroethane	ND	5	ug/L		ND	10	ug/L		920	5	ug/L	
Benzene	4100	5	ug/L		3500	10	ug/L		13400	25	ug/L	
Toluene	2500	5	ug/L		3800	10	ug/L		20800	25	ug/L	
Ethylbenzene	1200	5	ug/L		610	10	ug/L		2700	5	ug/L	
m/p-Xylene	3200	5	ug/L		2600	10	ug/L		7700	25	ug/L	
o-Xylene	1100	5	ug/L		1400	10	ug/L		3500	5	ug/L	
1,2,4-Trimethylbenzene	1200	5	ug/L		650	10	ug/L		2200	5	ug/L	
Naphthalene	230	5	ug/L		18	10	ug/L		310	5	ug/L	
TVPH	23	5	mg/L		18	10	mg/L		63	5	mg/L	
% Surrogate Recovery												
1,2-Dichloroethane-d4	109				93				99			
d8-Toluene	101				93				101			
p-Bromofluorobenzene	98				99				101			
Lactate	ND	2	mg/L		ND	2	mg/L		ND	2	mg/L	
Acetate	ND	2	mg/L		ND	2	mg/L		ND	2	mg/L	
Propionate	ND	2	mg/L		ND	2	mg/L		ND	2	mg/L	
Formate/Isobutyrate	ND	4	mg/L		ND	4	mg/L		ND	4	mg/L	
Butyrate	ND	2	mg/L		ND	2	mg/L		ND	2	mg/L	
Pyruvate	ND	2	mg/L		ND	2	mg/L		ND	2	mg/L	
Chloride	12	2	mg/L		8	2	mg/L		11	2	mg/L	
Nitrite	ND	2	mg/L		ND	2	mg/L		ND	2	mg/L	
Succinate	ND	10	mg/L		ND	10	mg/L		ND	10	mg/L	
Nitrate	ND	2	mg/L		ND	2	mg/L		ND	2	mg/L	
Sulfate	ND	2	mg/L		ND	2	mg/L		ND	2	mg/L	
Phosphate	NA	2	mg/L		NA	2	mg/L		NA	2	mg/L	
Sulfide	ND	2	mg/L		ND	2	mg/L		ND	2	mg/L	
Methane	1700	20	ug/L		85	20	ug/L		ND	20	ug/L	
Ethane	ND	2	ug/L		ND	2	ug/L		ND	2	ug/L	
Ethylene	31	2	ug/L		5.4	2	ug/L		16	2	ug/L	
Propane	ND	2	ug/L		4.1	2	ug/L		ND	2	ug/L	
Propylene	ND	2	ug/L		ND	2	ug/L		ND	2	ug/L	
Isobutane	53	2	ug/L		57	2	ug/L		21	2	ug/L	
n-Butane	450	2	ug/L		200	2	ug/L		280	2	ug/L	
Acetylene	ND	2	ug/L		ND	2	ug/L		ND	2	ug/L	
t-2-Butene	11	2	ug/L		20	2	ug/L		39	2	ug/L	
1-Butene	6	2	ug/L		14	2	ug/L		9.9	2	ug/L	
Isobutylene	ND	2	ug/L		ND	2	ug/L		ND	2	ug/L	
cis-2-Butene	11	2	ug/L		15	2	ug/L		51	2	ug/L	
1,3-Butadiene	ND	2	ug/L		ND	2	ug/L		ND	2	ug/L	
Methyl Acetylene	ND	2	ug/L		ND	2	ug/L		ND	2	ug/L	
Carbon Dioxide	54	2	mg/L		6	2	mg/L		56	2	mg/L	

RPI Groundwater Laboratory Analytical Report

Mapco #5188

Sample ID. No.	RDC-04				RDC-06				RDC-09			
Date Sampled	6/26/2024				6/26/2024				6/28/2024			
Sample Depth												
		Reporting Limit	Units	Flags		Reporting Limit	Units	Flags		Reporting Limit	Units	Flags
Dimethyl Sulfide	ND	0.5	ug/L		ND	0.5	ug/L		ND	10	ug/L	
MTBE	860	5	ug/L		220	0.5	ug/L		320	10	ug/L	
1,2-Dichloroethane	150	0.5	ug/L		20	0.5	ug/L		ND	10	ug/L	
Benzene	300	0.5	ug/L		580	0.5	ug/L		4100	10	ug/L	
Toluene	2200	5	ug/L		4.3	0.5	ug/L		9200	10	ug/L	
Ethylbenzene	270	0.5	ug/L		7.5	0.5	ug/L		2600	10	ug/L	
m/p-Xylene	1600	5	ug/L		82	0.5	ug/L		9700	10	ug/L	
o-Xylene	410	0.5	ug/L		12	0.5	ug/L		4600	10	ug/L	
1,2,4-Trimethylbenzene	250	0.5	ug/L		36	0.5	ug/L		3200	10	ug/L	
Naphthalene	120	0.5	ug/L		73	0.5	ug/L		440	10	ug/L	
TVPH	9.1	0.5	mg/L		1.6	0.5	mg/L		61	10	mg/L	
% Surrogate Recovery												
1,2-Dichloroethane-d4	103				116				96			
d8-Toluene	100				102				93			
p-Bromofluorobenzene	101				106				100			
Lactate	ND	2	mg/L		ND	2	mg/L		ND	2	mg/L	
Acetate	3.3	2	mg/L		3.1	2	mg/L		ND	2	mg/L	
Propionate	ND	2	mg/L		ND	2	mg/L		ND	2	mg/L	
Formate/Isobutyrate	ND	4	mg/L		ND	4	mg/L		ND	4	mg/L	
Butyrate	ND	2	mg/L		ND	2	mg/L		ND	2	mg/L	
Pyruvate	ND	2	mg/L		ND	2	mg/L		ND	2	mg/L	
Chloride	22	2	mg/L		20	2	mg/L		5.9	2	mg/L	
Nitrite	ND	2	mg/L		ND	2	mg/L		ND	2	mg/L	
Succinate	ND	10	mg/L		ND	10	mg/L		ND	10	mg/L	
Nitrate	ND	2	mg/L		ND	2	mg/L		ND	2	mg/L	
Sulfate	18	2	mg/L		8.2	2	mg/L		15	2	mg/L	
Phosphate	NA	2	mg/L		NA	2	mg/L		NA	2	mg/L	
Sulfide	ND	2	mg/L		ND	2	mg/L		ND	2	mg/L	
Methane	86	20	ug/L		ND	20	ug/L		22	20	ug/L	
Ethane	ND	2	ug/L		ND	2	ug/L		ND	2	ug/L	
Ethylene	ND	2	ug/L		ND	2	ug/L		ND	2	ug/L	
Propane	ND	2	ug/L		ND	2	ug/L		3.6	2	ug/L	
Propylene	ND	2	ug/L		ND	2	ug/L		ND	2	ug/L	
Isobutane	2.6	2	ug/L		3.8	2	ug/L		ND	2	ug/L	
n-Butane	24	2	ug/L		34	2	ug/L		ND	2	ug/L	
Acetylene	ND	2	ug/L		ND	2	ug/L		ND	2	ug/L	
t-2-Butene	ND	2	ug/L		ND	2	ug/L		9.8	2	ug/L	
1-Butene	ND	2	ug/L		ND	2	ug/L		2.3	2	ug/L	
Isobutylene	ND	2	ug/L		ND	2	ug/L		140	2	ug/L	
cis-2-Butene	ND	2	ug/L		ND	2	ug/L		ND	2	ug/L	
1,3-Butadiene	ND	2	ug/L		ND	2	ug/L		ND	2	ug/L	
Methyl Acetylene	ND	2	ug/L		ND	2	ug/L		ND	2	ug/L	
Carbon Dioxide	ND	2	mg/L		ND	2	mg/L		8	2	mg/L	

ATTACHMENT C
BOS 200+® Injection Design and Pricing

Client Name	PM Environmental
Project Location	MAPCO #5188 - Talladega, AL

		Area A	Area B	Totals
		MW-14, RDC-09	MW-9, RDC-02	
Site Information	Predominate Geology of Treatment Zone	Silty CLAY	Silty CLAY	
	Treatment Zone Area (ft^2)	1,325	2,100	**3,425**
	Contamination Depth Start (ft bgs)	35.0	30.0	
	Contamination Depth End (ft bgs)	60.0	50.0	
	Treatment Volume (yd^3)	1,226.9	1,555.6	**2,782**
	Triangular Grid Spacing (ft)	6.0	6.0	
	Number of Injection Points - Design	18	35	**53**
	Injection Interval Distance (ft)	2.0	2.0	
	Number of Injection Intervals per Point - Design	13.0	10.5	
	Total Number of Injection Intervals	234	368	**602**
	Effective Porosity	20%	20%	
	Pore Volume (L)	187,620	237,888	
	Soil Density (lb/ft^3)	110	110	
Speciated COC Design Calculations	Contaminant of Concern	Benzene	Benzene	
	Design Basis Soil (mg/kg) or Groundwater (mg/L)	Groundwater	Groundwater	
	Design Concentration	4.10	13.40	
	Design Endpoint	1.25	1.25	
	Contaminant of Concern Mass Loading (lb/ft^3)	5.12E-05	1.67E-04	
	BOS 200 per Injection Interval - Design (lb)	10	30	
	BOS 200 Slurry Volume per Interval (gal)	15	15	
	Average BOS 200 per Injection Point (lb)	130	315	
	BOS 200 Total (lb)	2,340	11,025	**13,400**
TPH Design Calculations	TPH Groundwater Concentration (mg/L)	61	63	
	TPH Soil Concentration (mg/kg)	410	3,000	
	TPH Mass (lb)	1,522	13,922	
	BOS 200 Total Demand (lb)	2,740	25,059	
	BOS 200 per Injection Interval - Design (lb)	15	30	
	BOS 200 Slurry Volume per Interval (gal)	15	15	
	Average BOS 200 per Injection Point (lb)	195	315	
	BOS 200 Total (lb)	3,510	11,025	**14,550**
Design Basis	Select Speciated or TPH	TPH	TPH	
	Design BOS 200 Total per Area (lb)	3,510	11,025	**14,550**
	BOS 200 Loading - Mass Per Unit Volume (lb/ft^3)	0.106	0.263	
Trap & Treat Bacteria Calculations	Bacteria Concentrate (gal)	7	22	**30**
Kinetic Design Additives	Supplemental Gypsum per Interval - Design (lb)	7.5	15	
	Total Supplemental Gypsum (lb)	1,755	5,513	**7,300**
	Supplemental Magnesium Sulfate per Interval - Design (lb)	5	7.5	
	Total Supplemental Magnesium Sulfate (lb)	1,170	2,756	**3,950**
	Food Grade Starch per Interval (lb)	5	8	
	Total Food Grade Starch (lb)	1,170	2,756	**3,950**
	Yeast Extract per Interval (lb)	0.27	0.40	
	Total Yeast Extract (lb)	62	146	**220**
Slurry and Water Volumes	Slurry Volume per Interval (gal)	15	15	
	Estimated Water Volume (gal)	3,510	5,513	**9,023**

Summary	BOS 200 Total (lb)	14,550
	BOS 200 Unit Price ($/lb)	$6.50
	Bacteria Concentrate (gal)	30
	Bacteria Concentrate Price ($/gal)	$115.00
	BOS 200+ Components (LS)	$13,072.50
	Estimated Shipping and Tax ($)	$0.50
	Total Material Price ($)	**$126,083**
	Linear Footage per Day Achievable	300
	Number of Field Days to Complete	10
	Installation Day Rate ($/day)	$5,710
	Per Diem ($/day)	$740
	Mobilization ($)	$4,760
	Preplanning, Procurement, Off Cycle ($)	$4,696
	Total Installation Price ($)	**$73,956**
	Injection Summary Report ($)	**$1,600**
	Total Estimated Price ($)	**$201,639**

AST Standard Terms Conditions

1. Pricing for products and services is valid through December 31, 2024.
2. Pricing is based on the quantities outlined above. Should the quantities change from this design, pricing must be adjusted to conform to the pricing structure shown at: https://www.trapandtreat.com/product-pricing/
3. Unless a MSA is in place, payment terms are full payment of product and shipping costs upon arrival. Payment of injection services is not to exceed 30calendar days from date of invoice. Interest will accrue at a monthly rate of 1.5% for all outstanding balances including interest. The interest rate will be prorated for partial months
4. There will be adequate water onsite (e.g. 25-gpm service) to prepare the BOS materials for injection. The water service should be within 200 ft of all injection locations; fire hoses can be placed and remain in-place for the duration of the injection (i.e. shuttling of water is not required). The water will be provided at no cost to AST. Hydrant permits and fees will be provided by others. Note that AST can bring hose ramps if discussed before mobilization.
5. All utilities and underground appurtenances will be located prior to AST performing injection services on-site. AST has not provided pricing for a private utility locating service, this can be provided by AST for an additional cost. AST will not be responsible for repairs to mis-marked or unmarked buried utilities and other appurtenances. AST has not included any provisions to perform invasive subsurface utility clearance (such as air-knife excavation). Invasive utility clearances such as air knife will be performed at a minimum of 72-hours prior to mobilization of AST Injection Staff. AST does not perform hand-augering.
6. The site stratigraphy allows for pushing up to 300 linear feet of 1.5' or 2.25" direct push rods per day and the geology/logistics allow for the injection of up to 2900 lb of prepared slurry per day.
7. The total depth throughout the area identified in the injection design will be accessible via direct push utilizing a Geoprobe® 3000 or 7000 series rig (or equivalent).
8. Asphalt/concrete penetrations will be patched with like materials. Concrete coring, if necessary, is assumed to be performed by others.
9. Investigated derived waste will be drummed and staged on site for disposal by others.
10. Traffic control and site security to be provided by others, if required.
11. The project is non-union and will not require prevailing wages.
12. Work is performed during standard workweek and hours (Monday-Saturday 7am-6pm)
13. Cold Weather Protocol:
    All injection work is to be performed with overnight temperatures above 32 degrees F. If injections are to be performed with overnight lows below 32 degrees F, the installation price will be subject to an additional 25% charge to account for loss time for additional shutdown/startup time for the injection system.
    Injection work in temperatures below 20 degrees F is a health and safety concern for the injection crew. If temperatures are not above 20 degrees F by 10 a.m., no injection work will be performed that day. A daily stand by rate will be charged for days lost due to cold weather.
14. Extra time may be needed onsite to redevelop monitoring wells. AST will notify the client as soon as possible if this extra time is necessary.

THREE NOTCH GROUP

ADEM FORMS

APPENDIX G

UST RELEASE FACT SHEET

GENERAL INFORMATION:

SITE NAME: Discount Food Mart #188
ADDRESS: 101 West Sloan Avenue
Talladega, Talladega County, Alabama

FACILITY I.D. NO.: 10088-121-013521
INCIDENT NO.: UST98-06-28

RESULTS OF EXPOSURE ASSESSMENT:

How many private drinking water wells are located within 1,000 ft. of site?	0
How many public water supply wells are located within 1 mile of the site?	5
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, { } Diesel, { } Waste Oil
{ } Kerosene, { } Other _____

Free product present in wells? { } Yes {X} No Maximum thickness measured: 0.07 feet in MW-9 (11/21/05)

Maximum TPH concentrations measured in soil: N/A

Maximum BTEX or PAH concentrations measured in groundwater: 62.08 mg/L in MW-9 (07/12/11)

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

ADEM GROUNDWATER BRANCH
UST SITE CLASSIFICATION SYSTEM
CHECKLIST

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

SITE NAME:	Discount Food Mart #188
SITE ADDRESS:	101 West Sloan Avenue
	Talladega, Talladega County, AL
FACILITY I.D. NO.:	10088-121-013521
UST INCIDENT NO.:	UST98-06-28
OWNER NAME:	MAPCO Express, Inc.
OWNER ADDRESS:	1255 Lakes Pkwy, STE 180, Lawrenceville, GA 30043
NAME & ADDRESS OF PERSON COMPLETING THIS FORM:	Three Notch Group, Inc. Jessica Reed, Project Manager 6767 Old Madison Pike, Suite 400 Huntsville, AL 35806

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:
As reported by PM Environmental

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:	F.1

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

THREE NOTCH GROUP

TASKS PERFORMANCE SUMMARY

APPENDIX H

TASK PERFORMANCE SUMMARY

CAP Modification (CP-69)
Discount Food Mart #188
101 West Sloan Avenue
Talladega, Talladega County, Alabama

Task Completed by Personnel/Title:	Project Management	Work Plan Preparation/ Review	Cost Proposal Preparation/ Review	Field Work	Data Interpretation/ Tabulations	Drafting	Report Preparation/ Review	Payment Request Preparation/ Review
Michelle Grantham, PM								X
Alec Black, PG							X	
Jessica Reed, PE/PM	X	X	X		X			
Hayley Benson, Env. Scientist					X		X	
Ray Hollinghead, Drafter						X		
Karen Moore, Admin	X				X			
Lee Ann Wagner, Admin	X							
Kim Ballard, Admin			X					
Sonia McAulliffe, Admin							X	
Leigh Caylor, Admin								X
Ashley Roberts, Admin								X

Notes:
DO=Drilling Oversight
BL=Boring Log Description/Soil Classification
WG=Well Gauging
GSC=Groundwater Sample Collection
MEME=MEME Oversight
PM=Project Management
O&M=Routine Operation & Maintenance
HRS=High Resolution Study
VM=Vapor Monitoring
FC=Fan Check