



2743-B Gunter Park Drive West
Montgomery, AL 36109
334.244.0766

www.TTLUSA.com

TRANSMITTAL

TO: Rickey's Grocery

DATE: April 17, 2019

265 County Road 682

Heflin, Alabama 36264

ATTN: Mrs. Cindy Herrell

PROJECT:

Rickey's Grocery – Modified Corrective Action Plan-Cost Proposal #12

11542 County Road 49

Heflin, Cleburne County, Alabama

Facility ID No. 22329-029-015532

Incident No. UST15-05-02

WE ARE SENDING:

A paper copy of the Modified Corrective Action Plan

Additional copies have been distributed as indicated:

1 cc: Mr. Chris Krafcheck – ADEM (with CD)

1 cc: TTL Montgomery

REMARKS:

If you have any questions, please call me at (334) 244-0766.

TTL, INC.

Miranda Lucas, Project Professional

**MODIFIED CORRECTIVE ACTION PLAN
FOR REMEDIATION BY NATURAL ATTENUATION WITH MOBILE
ENHANCED MULTI-PHASE EXTRACTION, AND ADDITIONAL
RECOVERY WELL INSTALLATION**

Cost Proposal #12

**Rickey's Grocery
11542 County Road 49
Heflin, Cleburne County, Alabama**

**Facility I.D. No. 22329-029-015532
Incident No. UST15-05-02
TTL Project Number 690215-003**

April 17, 2019



**MODIFIED CORRECTIVE ACTION PLAN
FOR REMEDIATION BY NATURAL ATTENUATION WITH MOBILE
ENHANCED MULTI-PHASE EXTRACTION, AND ADDITIONAL
RECOVERY WELL INSTALLATION**

(Cost Proposal No. 12)

**Rickey's Grocery
11542 County Road 49
Heflin, Cleburne County, Alabama**

**Facility ID No. 22329-029-015532
Incident No. UST15-05-02
TTL Project No. 690215-003**

April 17, 2019



CERTIFICATION PAGE

I certify under penalty of law that I am a registered professional engineer or geologist experienced in hydrogeologic investigations. The investigation described in this report was performed by a geologist(s) or registered engineer(s) experienced in hydrogeologic investigations. 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.

Project: Modified Corrective Action Plan (CP #12)
Rickey's Grocery
11542 County Road 49
Heflin, Cleburne County, Alabama
Facility I.D. No. 22329-029-015532
Incident No. UST15-05-02
TTL Project No. 690215-003



Signature

Sheryle G. Reeves, P.E.
Alabama Lic. No. 20128

4-17-19

Date

A handwritten signature in blue ink that reads "Miranda Lucas Sr".

Signature

Miranda L. Lucas

Project Professional

April 17, 2019

Date

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SECTION 1.0
UST Release Fact Sheet
AND
UST Site Classification System Checklist

UST RELEASE FACT SHEET

GENERAL INFORMATION

SITE NAME: Rickey's Grocery

ADDRESS: 11542 County Road 49, Heflin, Cleburne County, Alabama

FACILITY I.D. NO.: 22329-029-015532

UST INCIDENT NO.: UST15-05-02

RESULTS OF EXPOSURE ASSESSMENT:

How many private drinking water wells are located within 1,000 ft. of site?	11
How many public water supply wells are located within 1 mile of the site?	0
Have any drinking water supply wells been impacted by contamination from this release?	No
Is there an imminent threat of contamination to any drinking water wells?	() Yes (x) No
Have vapors or contaminated ground water 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?	(x) Yes () No
Is there an imminent threat of contamination to surface waters?	() Yes (x) No
What is the type of surrounding population?	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: None

Maximum TPH in soil: TPH of soil stockpile was 33 mg/Kg collected on December 8, 2015.

Maximum BTEX or MTBE concentrations detected in groundwater: 279.5 mg/L BTEX detected in a sample collected from MW-14 on July 16, 2015; 35.9 mg/L MTBE detected in a sample collected from MW-13 on July 22, 2006.

ADEM GROUND-WATER 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: Rickey's Grocery
 SITE ADDRESS: 11542 County Road 49
Heflin, Cleburne County, Alabama
 FACILITY I.D. NO.: Facility I.D. No. 22329-029-015532
 UST INCIDENT NO.: Incident No. UST15-05-02

OWNER NAME: Cindy Herrell
 OWNER ADDRESS: 265 County Road 682
Heflin, Alabama 36264

NAME & ADDRESS OF PERSON
 COMPLETING THIS FORM: Miranda Lucas - TTL, Inc.
2743-B Gunter Park Drive West
Montgomery, Alabama 36109

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.		X
A.2	Vapor concentrations at or approaching explosive levels are present in subsurface utility system(s), but no buildings or residences are impacted.		X
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.		X
B.2	An active domestic water supply well, domestic water supply line or domestic surface water intake is impacted or immediately threatened.		X
B.3	The release is located within a designated Wellhead Protection Area I.		X
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.		X
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.		X

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.		X
D.2	A non-potable water supply well is impacted or immediately threatened.		X
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.		X
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.		X
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.		X
F.2	Groundwater is impacted and a domestic well is located within 1,000 feet of the site.	X	
F.3	Contaminated soils and/or groundwater are located within designated Wellhead Protection Areas (Areas II or III).		X
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.	X	
CLASS H	SHORT TERM THREAT TO HUMAN HEALTH, SAFETY, OR SENSITIVE ENVIRONMENTAL RECEPTORS		
H.1	Impacted surface water, stormwater or groundwater discharges within 500 feet of a surface water body used for human drinking water, whole body water-contact sports, or habitat to a protected or listed endangered plant and animal species.		X
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.		X

ADDITIONAL COMMENTS:

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

Enter the determined classification ranking:	F.2
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SECTION 2.0

Introduction

2.0 INTRODUCTION

At the request of the Alabama Department of Environmental Management (ADEM) in letters dated October 18, 2018, and January 4, 2019, approving Cost Proposal #12 (Appendix A), TTL, Inc. (TTL), on behalf of Mrs. Cindy Herrell has prepared this modified Corrective Action Plan (CAP) for the Rickey's Grocery site in Heflin, Cleburne County, Alabama. This modified CAP was developed in response to elevated concentrations of dissolved hydrocarbons in the soil and groundwater associated with the site. Based on the High-Resolution Site Characterization study performed at the site in October 2017, the dissolved hydrocarbons found in the unsaturated and saturated soil and groundwater at the site appear to originate from one gasoline release originating from the on-site dispenser island.

TTL is proposing Remediation by Natural Attenuation (RNA) with mobile enhanced multi-phase extraction (MEME), and additional recovery well installation. The intent of this CAP is to reduce the concentrations of petroleum hydrocarbons below the site-specific target levels (SSTLs) established during the Alabama Risked-Based Corrective Action (ARBCA) evaluation for the site (December 2007). Specifically, a series of MEME events are proposed to reduce source area concentrations. Prior to the MEME events, TTL proposes to install additional recovery wells on and off-site. After several MEME events, TTL proposes to initiate monitoring for RNA.

Incorporated herein are: descriptions of the site and the assessment activities that have taken place; the corrective actions that have already taken place at the site; an exposure assessment; a discussion of the proposed remediation methods and the rationale for use of the methods; and various other supporting documents.

2.1 Site Location

The Rickey's Grocery site is located in the southwest $\frac{1}{4}$, of the northeast $\frac{1}{4}$ of Section 16, Township 18 South, Range 12 East as shown on the Fruithurst, Alabama 7.5 Minute USGS Topographic Map (Photorevised 1980) on Figure 1 of Section 13. The site is located at 11542 County Road 49, Cleburne County, Alabama (Figure 2).

The site currently is an inactive gas station/convenience store. The area in front of the store is mostly paved with concrete. The site contains a convenience store building, and one gasoline dispenser island. The current tank pit consists of two 1,000-gallon underground storage tanks (USTs) located northwest of the store. The tank pit previously consisted of three 1,000-gallon USTs (the third tank

was emptied and filled with flowable fill (concrete) in February 2017 at the request of the ADEM). The land surface near the site is generally flat, but slopes northward. Surface runoff from the site appears to generally flow northeastward. A total of 25 monitoring/recovery wells (MW-1 through MW-4, MW-4D, MW-5 through MW-19, and RW-1 through RW-5) and 20 ozone sparge wells (SP-1 through SP-20) are located on and off-site. A site map showing monitoring/recovery/sparge well locations can be referenced on **Figure 2**.

2.2 Site Conditions

Lithology under the site has been determined by logging borings advanced during the Preliminary and Secondary Investigations conducted by previous consultants, and an On-Site Secondary Investigation conducted by TTL. The site is located in the Northern Piedmont Upland physiographic province, which is characterized by metamorphosed sedimentary and igneous rocks. In general, the site is underlain by silty sand and silty clay, to about 17 feet below ground surface (BGS), and interbedded clay/shale layers to about 18 to 19 feet BGS. Logs of soil borings from previous site investigations are provided in Section 14.0.

Based on information obtained during current and previous assessments conducted at the site, COC (chemical of concern) concentrations in soil and groundwater on and off-site are elevated, with the highest total benzene, toluene, ethyl benzene, and total xylenes (BTEX) concentrations in on-site soil being up to 1,090.7 mg/Kg (milligrams per kilogram, December 2005); and the highest off-site concentration being 770 mg/Kg (October 2017). Based on groundwater sampling events performed at the site, the highest total BTEX concentration on-site was 65.7 mg/L (milligrams per liter), recorded at monitoring well MW-1 (May 2014) and the highest total BTEX concentration off-site was 279.500 mg/L, recorded at monitoring well MW-14 (July 2014).

Groundwater depths vary widely across the site, and can range from about 2 to 15 feet BGS on-site, and from 1 to 14 feet BGS off-site. COC concentrations in groundwater are significantly elevated in on-site monitoring well MW-1 and off-site monitoring well MW-14.

2.3 Event Chronology

- Phase II Environmental Site Assessment (ESA), September 2000
- Preliminary Investigation, December 2005
- Off-Site Secondary Investigation, July 2006 through May 2007
- Alabama Risk-based Corrective Action (ARBCA) Evaluation Report, December 2007

- Pilot Test for Chemical Injection and Ozone System Installation, February through April 2009
- UST System Leak Test, May 2014
- Continued groundwater monitoring/MEME events, 2009 through August 2015
- On-Site Secondary Investigation, December 2015 (conducted by TTL, Inc)
- Groundwater Monitoring, December 2015-Present (conducted by TTL, Inc)
- In-Place Tank Closure, February 2017 (conducted by TTL)
- Soil Investigation, October 2017 (conducted by TTL)

SECTION 3.0

Summary of Previous Site Assessments

3.0 SUMMARY OF PREVIOUS SITE ASSESSMENTS

3.1 Investigations

Phase II Environmental Site Assessment (September 2005)

In September 2005, Kemron Environmental Services, Inc (Kemron), conducted a Phase II Environmental Assessment of the subject property. Kemron advanced three soil borings (B-1 through B-3) on-site near the USTs, associated product piping, and dispensers. Detected concentrations of BTEX in soil and groundwater samples exceeded the respective commercial ISLs (initial screening levels) presented in the ARBCA Guidance Manual, Revision 1.0, November 2001. Detected concentrations in borehole B-2 exceeded the ISLs for benzene, toluene, and ethyl benzene. Based on the analytical data, Mr. Rickey Norton (owner of Rickey's Grocery) reported a release to the ADEM. On November 3, 2005, the ADEM required that a Preliminary Investigation be conducted at the subject site.

Preliminary Investigation (December 2005)

On December 14, 2005, Oak Environmental Services (OES) conducted a Preliminary Investigation at the subject site. OES advanced four soil borings (MW-1 through M-4), and collected a total of 20 soil samples. Detected concentrations of benzene, toluene, ethyl benzene, total xylenes, methyl tertiary-butyl ether (MTBE), and naphthalene in several soil samples exceeded the respective ISLs. Groundwater samples collected from monitoring wells MW-1, MW-3, and MW-4 exceeded the ISLs for benzene, toluene, and ethyl benzene. Based on the results of the Preliminary Investigation, the ADEM required that a Secondary Investigation be conducted for the subject site.

Secondary Investigation (July 11, 2006 through May 10, 2007)

OES conducted the Secondary Investigation in two phases from July 11, 2006, through May 10, 2007. OES advanced 15 soil borings for the installation of monitoring wells MW-5 through MW-19, and MW-4D, which were completed to depths of less than 20 feet below ground surface (BGS), with the exception of monitoring well MW-4D, which was completed as a Type II monitoring well to a depth of 41 feet BGS. According to OES, monitoring well MW-4D was designed to evaluate the vertical extent of COC impacts. OES also advanced three soil borings (B-4 through B-6), for the collection of soil samples only. COC concentrations detected in soil samples collected from the boreholes for monitoring wells MW-8, MW-9, MW-13, MW-14, and B-6 exceeded the respective ISLs for benzene, toluene, ethyl benzene, MTBE, and naphthalene. COC concentrations detected in the groundwater samples collected from monitoring wells MW-1, MW-3, MW-4, MW-6, MW-9, and MW-13 through MW-17 (on either July 22, 2006 or May 10, 2007), exceeded the ISL for benzene, toluene, MTBE, and naphthalene. At the

conclusion of the Secondary Investigation, OES concluded that the vertical and horizontal extent of the COC impact was delineated in all directions.

Alabama Risk-based Corrective Action (ARBCA) Evaluation (December 2007)

At the request of the ADEM, consultant NewFields completed an ARBCA Evaluation for the site on December 7, 2007, using the data from the previous studies conducted at the site (Section 5).

Pilot Test for Chemical Oxidant Injection and Ozone System Installation (February-April 2009)

A MEME event was performed by G & RK Consulting Associates, LLC (GRK) on February 24, 2009. The MEME event was performed to determine the volume and injection rate of sodium persulfate that was planned to be injected at the site. According to the report, a total of 34 equivalent gallons of gasoline (hydrocarbons) and 329 gallons of liquid were recovered during the event. On March 11 and 12, 2009, GRK installed ozone sparge points SP-1 through SP-14. Each sparge point consisted of a 12-inch diffuser with 21 feet of ½-inch diameter stainless steel riser. GRK installed sparge points SP-1 through SP-6 on the northeast property boundary and sparge points SP-7 through SP-14 were installed off-site between monitoring wells MW-13 and MW-14. Installation of the sparge points and associated tubing/piping was completed between March 16 and 20, 2009. GRK started the ozone injections on April 21, 2009.

Ecovac Services under subcontract to and supervision by GRK, injected an activated aqueous solution of sodium persulfate into the monitoring wells (MW-1 and MW-4) closest to the source area. Two MEME events were performed in June 2009, recovering a total of 59 equivalent gallons of hydrocarbons and 694 gallons of liquid. Ecovac also injected approximately 400 gallons of sodium persulfate solution during and immediately following the last MEME event. GRK would go on to contract with Environmental Products and Services of Vermont, Inc (EPS) to conduct 15 MEME events at the site from July 2011 through May 2014. A total of approximately 723 equivalent gallons of hydrocarbons and around 4,542 gallons of liquid were recovered at the conclusion of the events. All of the events used monitoring well MW-1 as the extraction point, with monitoring well MW-4 being used as an extraction point for two events in 2012.

GRK continued to sparge ozone through points SP-1 through SP-14 from April 2009 through February 19, 2011. On September 6, 2011, six additional sparge points (SP-15 through SP-20) were installed immediately upgradient of monitoring well MW-15. The system would operate intermittently until May 31, 2014, when the system was shut down per ADEM instruction to assess the effectiveness of the

system. GRK performed a groundwater monitoring event on August 26, 2014. Detected concentrations of COCs exceeded the SSCALs in the samples collected from monitoring wells MW-1, MW-3, MW-4, MW-10, MW-13, MW-14, MW-15, MW-16, and MW-17.

UST System Leak Test (May 2014)

On November 6, 2014, the ADEM approved a plan for the performance of a leak detection test at the site. PPM suspected an ongoing leak at one of the UST system components because of rising COC concentrations, consistent MEME recoveries, and the appearance of free product in source well MW-1. LDT performed the leak test over a 22-day period in January and February 2015. At the conclusion of the test, LDT confirmed a leak in the northernmost UST (Tank 3, ADEM ID number 43240) at the site, which is the tank located furthest from the dispensers. LDT determined that the tank was leaking at a rate between 150 to 500 gallons of gasoline per year. Based on the results, a suspected release was reported to the ADEM by PPM via email on January 22, 2015. PPM would conclude that the existing remedial measures would not be effective with the continued UST leak, and recommended that the tank be repaired as soon as possible or taken out of service.

On June 17, 2015, the ADEM determined the facility was covered under the Alabama Tank Trust Fund. Subsequently, PPM was notified by both Rickey Norton and Mrs. Cindy Herrell (current site owner) in July 2015 that TTL would become the new Trust Fund contractor for the new release incident associated with the site (UST15-05-02), as well as the "old" original release incident (UST05-09-10) for the site. Mrs. Herrell filed a Notice of Temporary Closure on July 1, 2015. In a letter dated September 3, 2015, the ADEM approved Cost Proposal #1 for Secondary Investigation activities.

On-Site Secondary Investigation (December 2015)

An On-site Secondary Investigation was performed by TTL at the site in December 2015, which included the construction of four recovery wells RW-2 through RW-5 and the overdrilling of existing monitoring well MW-1 (which was also converted from a 2-inch diameter well into a 4-inch diameter well). Benzene was detected at a concentration higher than the commercial ISL in the soil sample collected from 5 feet BGS in the borehole for recovery well RW-2. MTBE was detected at a concentration higher than the commercial ISL in the soil sample collected from 9 feet BLS in the borehole for recovery well RW-5. Benzene, toluene, ethyl benzene, and naphthalene were detected at concentrations higher than the commercial ISL in the groundwater sample collected from monitoring/recovery well MW-1.

Underground Storage Tank (UST) In-Place Closure (February 2017)

TTL completed an UST in-place closure assessment at the site in February 2017. Auburn Environmental, under sub-contract by TTL mobilized to the subject site on February 6, 2017, to start closure activities on Tank 43240 (Tank 3). These activities included 1) disconnecting the product line at the dispenser; and purging/capping the end of the product line, 2) disconnecting the product line at the submersible turbine pump (STP), and capping the line, and 3) filling the tank (~1,000 gallon) with flowable fill material (~5 cubic yards).

Subsurface High-Resolution Vertical Profiling (October 2017)

In October 2017, a soil investigation was performed to evaluate the vertical and horizontal extents of the dissolved contaminant plume, and to better understand the contaminant migration pathways in the subsurface. TTL subcontracted with Dakota Technologies to perform the investigation using LIF (laser-induced fluorescence), and MiHPT (membrane interface hydraulic profiling tool) technologies.

Four probeholes were advanced with the LIF/UVOST® probe, a technology used to map the presence of LNAPL. Low level LNAPL signatures were observed in two (UVOSTHP-2 and UVOSTHP-3) of the four probeholes at depths ranging from 5 feet BGS to 15 feet BGS. The LNAPL fluorescence signature indicates weathered gasoline. See boring location map in **Section 13.0**.

Fourteen probeholes were advanced with the MiHPT probe along 3 distinct transects that are generally oriented in a northwest – southeast direction. The MiHPT probe utilizes a photo ionization detector (PID), a flame ionization detector (FID), and a Halogen Specific Detector (XSD) to indicate the presence of phase petroleum compounds. Elevated PID and FID responses were recorded at all of the MiHPT boring locations. The probehole locations with the highest responses were in the interior of the transect and the lower responses were at the outer locations. Elevated PID and FID responses occurred at depths ranging from 5 feet to greater than 36 feet. MiHPT locations MiHPT-01, 07, and 14 specifically showed elevated readings below 20 feet BGS.

Based on the soil investigation data, it appears that there is one distinct linear-shaped dissolved-phase hydrocarbon plume associated with the site. The weathered gasoline plume that originates near the dispenser island near source well MW-1, is approximately 5 to 26 feet BGS (on-site). The plume extends to the northeast moving off-site into the adjacent wooded field, where the plume

extends deeper in the subsurface (6.5 to 35 feet BGS). TTL submitted a *High-Resolution Site Characterization Report* to the ADEM on February 7, 2018.

Groundwater Monitoring Events (February 2017-Present)

TTL has performed groundwater monitoring at the site approximately quarterly between February 2017 to present. Historical water-table elevations measured in the monitoring/recovery wells are presented in **Table 1** and shown on **Figures 3a** through **3c** of **Section 14.0**. Results of field measurements for conductivity, dissolved oxygen, redox potential, pH, and temperature of ground water are presented in **Table 2** and shown on **Figures 4a** through **4c**. Historical concentrations of BTEX, MTBE, and naphthalene in samples of groundwater collected from monitoring/recovery wells are presented in **Table 3** and shown of **Figures 5a** through **5c**. Concentrations of BTEX, MTBE, and naphthalene detected in surface water samples collected from the off-site creek (located downgradient to the northeast) are presented in **Table 4** and shown on **Figures 6a** through **6c**.

Between February 2017 to present, concentrations of BTEX and or MTBE in groundwater samples collected from monitoring/recovery wells MW-1, MW-4, MW-13, MW-14, MW-15, and MW-16 within the plume have generally fluctuated. MTBE has been detected in at least one surface water location (SW-2, SW-3, and SW-4) since TTL started sampling the off-site creek in June 2017. BTEX/MTBE concentrations in periphery wells (and recovery wells RW-2 through RW-5) have consistently been either non-detect and or below respective target levels.

Groundwater in the monitoring/recovery wells was most recently sampled on February 14, 2019, under Cost Proposal #9. Detected COC concentrations in the samples collected from monitoring wells MW-1, MW-9, and MW-13 through MW-16 exceeded respective SSTLs. Surface water samples collected from surface water locations SW-2, SW-3, and SW-4 contained concentrations of MTBE, with the detected concentration in the sample collected from surface water location SW-2 being above the ISL for MTBE (0.020 mg/L).

SECTION 4.0

Summary of Previously Conducted Corrective Action

4.0 SUMMARY OF PREVIOUSLY CONDUCTED CORRECTIVE ACTION

4.1 Mobile Enhanced Multi-Phase Extraction Events/Chemical Oxidant Injection

Free product has historically not been recorded at the site (although according to the August 2015 *Corrective Action System Effectiveness Report* submitted by PPM Consultants, Inc., source monitoring well MW-1 in May 2014, "appeared" to have contained free product).

According to historical reports approximately 25 MEME events have been performed at the site between February 2009 and July 2015. An estimated 1,024.54 equivalent gallons of gasoline (and 6,000 gallons of water) have been recovered from the site. Also stated in the reports, in 2009, Ecovac injected approximately 400 gallons of an activated aqueous solution of sodium persulfate into monitoring wells MW-1 and MW-4 (one-time event based on historical search). The injection event was performed in conjunction with MEME events. A summary of the amounts of equivalent gallons of free product and gallons of groundwater recovered from the site during historical MEME events is provided in the following table.

Date of MPE Event	Duration of Event (hours)	Volume of Free Product Recovered (equivalent gallons of gasoline)	Volume of Ground Water Recovered (gallons)
2/24/2009	8	34	329
6/15/2009	8	44	649
6/16/2009	5	15	45
7/12/2011	8	108.57	157
10/20/2011	8	46.19	25
1/10/2012	8	17.81	100
4/10/2012	8	19.54	265
8/27/2012	8	17.42	225
11/8/2012	8	60.23	125
2/18/2013	8	45.57	150
4/30/2013	8	101.84	49
5/28/2013	8	43.36	55
6/25/2013	8	32.80	425
1/22/2014	8	13.72	345
2/14/2014	8	23.37	305
3/13/2014	8	40.98	480
4/15/2014	8	13.78	471

5/13/2014	8	44.92	342
12/23/2014	8	21.43	122
2/24/2015	8	33.36	161
3/26/2015	8	10.83	227
4/23/2015	8	13.06	435
5/28/2015	8	74.02	229
6/25/2015	8	35.33	189
7/23/2015	8	113.41	138
Cumulative	197	1,024.54	6,043

*Based on MEME/MPE vendors summary reports for the site: TTL could not locate individual reports on the ADEM's eFile database.

SECTION 5.0
Exposure Assessment

5.0 EXPOSURE ASSESSMENT

At the request of the ADEM, consultant NewFields completed an ARBCA Evaluation for the site on December 7, 2007, using the data from the previous studies conducted at the site. Site-specific target levels (SSTLs) were established for indoor and outdoor inhalation of vapors for both residential and commercial receptors and for groundwater resource protection (GRP) as well as stream protection (SP).

The on-site representative concentration of benzene, toluene, and total xylenes in soil exceeded the SSTLs for commercial workers and construction workers based on indoor vapor inhalation. The off-site representative concentration of benzene in groundwater exceeded the SSTL for residents based on indoor vapor inhalation. Benzene, ethyl benzene, toluene, MTBE, and/or naphthalene concentrations in groundwater exceeded the GRP values in the source well, MW-1, and the on-site compliance wells MW-3 and MW-4.

Due to the potential for the installation of drinking water wells on off-site properties, the off-site groundwater GRP values are equal to the maximum contaminant levels (MCLs) for drinking water, which according to the report were exceeded in monitoring wells MW-9, MW-10, and MW-13 through MW-17. The calculated groundwater SP values were exceeded in the source well, MW-1, and compliance wells MW-4, MW-9, and MW-13 through MW-15.

The ADEM approved the Site-Specific Corrective Action Levels (SSCALs) in a letter dated February 6, 2008. NewFields performed four quarters of groundwater monitoring at the site from August 24, 2007 through May 27, 2008.

In a letter dated May 9, 2016, the ADEM requested TTL to calculate SSTLs for newly installed recovery wells RW-2 through RW-5. TTL calculated the SSTLs in March 2017, and included them in the *Groundwater Monitoring Report* submitted on March 31, 2017.

SECTION 6.0

Evaluation of Plume Status Through Primary Lines of Evidence

6.0 EVALUATION OF PLUME STATUS THROUGH PRIMARY LINES OF EVIDENCE

Water-table elevations in monitoring wells on February 14, 2019, are included in Table 1. Depths to groundwater in the monitoring/recovery wells ranged from 1.21 feet BMP (below measuring point) at monitoring well MW-17 to 4.59 feet BMP at recovery well RW-5 on February 14, 2019. Relative ground-water elevations in the monitoring/recovery wells at the site ranged from 1015.14 feet AMSL (above mean sea level) in monitoring well MW-16 to 1048.64 feet AMSL in monitoring well MW-2 on February 14, 2019.

Based on review of groundwater elevation data over the past three groundwater monitoring events, ground water at the site generally flows northeastward across the site. Relative groundwater elevations and flow directions on February 14, 2019, October 18, 2018, and June 21, 2018, can be referenced on Figures 3a through 3c in Section 13.0.

Review of the analytical results of the groundwater samples collected on February 14, 2019, indicates that benzene was detected in the samples collected from monitoring/recovery wells MW-1, MW-6, MW-9, MW-13, and MW-14, with concentrations ranging from 0.0614 mg/L in the groundwater sample collected from monitoring well MW-6 to 5.920 mg/L in the groundwater sample collected from monitoring well MW-14. MTBE was detected in samples collected from monitoring/recovery wells MW-4, MW-9, MW-13, MW-16, and RW-5. Detected MTBE concentrations ranged from 0.0052 mg/L in the groundwater sample collected from recovery well RW-5 to 0.5496 mg/L in the groundwater sample collected from monitoring well MW-13.

Naphthalene was detected in the samples collected from monitoring/recovery wells MW-3, MW-4, MW-6, MW-13, MW-15, and RW-5. Detected naphthalene concentrations ranged from 0.0083 mg/L in the sample collected from recovery well RW-5 to 0.4295 mg/L in the sample collected from monitoring well MW-4. MTBE was detected in the samples collected from surface water locations SW-2 (0.0371 mg/L), SW-3 (0.0166 mg/L), and SW-4 (0.0098 mg/L).

Since the initiation of monitoring at the site, concentrations of BTEX and or MTBE in groundwater samples collected from monitoring/recovery wells MW-1, MW-4, MW-13, MW-14, MW-15, and MW-16 within the plume have generally fluctuated.

SECTION 7.0
Proposed Remediation Method

7.0 PROPOSED REMEDIATION METHOD

7.1 Proposed Remediation Approach

The proposed remediation method for the site is Remediation by Natural Attenuation (RNA) enhanced with MEME technology. RNA groundwater monitoring is a strategy based on natural processes of biodegradation, dilution, dispersion, volatilization, and/or bio-decay. TTL proposes to conduct a series of MEME events at the site to remove on-site source area hydrocarbons (and off-site contamination) which have become sorbed to soils, that are likely present in a volatilized state, and have dissolved in groundwater on-site. The hydrocarbon plume has migrated northward, extending underneath the on-site building into the adjacent field located off-site. The MEME events will also serve to enhance natural attenuation of the source area for the reduction of COC concentrations which exceeded the ARBCA SSTLs for on-site indoor inhalation and groundwater resource protection.

TTL believes that RNA enhanced with MEME technology utilizing monitoring/recovery wells located on and off-site may have a significant impact on decreasing the source mass and elevated COC concentrations in the soil and groundwater on and off-site.

Note: The original CAP for the injection of BOS 200® could not be approved due to Underground Injection Control (UIC) requirements. TTL would like to keep the option for an alternative bioremediation technology (injection of chemical or oxygen enhancing compounds) open for future considerations. Bioremediation technologies will be evaluated after four quarters of RNA monitoring/MEME events have been conducted.

SECTION 8.0

Rationale for Remediation Method

8.0 RATIONALE FOR REMEDIATION METHOD

Estimated Effectiveness of Remediation by Natural Attenuation

The principal process influencing RNA is biodegradation which occurs under aerobic conditions. RNA groundwater monitoring is conducted at frequencies to determine current site conditions, detect changes in plume migration, and identify degradation byproducts. The RNA progression requires long-term monitoring to ensure that natural attenuation processes are performing as predicted and meeting established remediation goals.

The greatest potential for aerobic degradation of dissolved hydrocarbons in groundwater occurs when dissolved oxygen concentrations are greater than or equal to 1 to 2 mg/L. The historical average (February 2017-present) for DO concentrations in monitoring/recovery wells within the plume of hydrocarbons is 1.69 mg/L. Thus, the average DO concentrations of groundwater within monitoring/recovery wells containing dissolved hydrocarbons is sufficient for aerobic degradation of dissolved hydrocarbons.

The historical average oxidation-reduction potential value in monitoring/recovery wells within [53 mv (millivolts)] the plume of hydrocarbons is within acceptable limits for anaerobic degradation of dissolved hydrocarbons to potentially occur.

Effective biodegradation can generally occur within a temperature range of 5°C (degrees Celsius) to 45°C; ideally, temperatures should be above 15°C for optimum biological activity. The historical average temperature of groundwater in monitoring/recovery wells within the plum of hydrocarbons is about 18.3 C; therefore, the temperature is within the parameters for biodegradation to occur.

Historical results of field measurements for temperature, dissolved oxygen, pH, and oxidation-reduction potential are listed in Table 2 and shown on Figures 4a through 4c. The COCs which have exceeded the ARBCA SSTLs at the site are BTEX/MTBE/naphthalene. Benzene has a high susceptibility to biodegradation, thereby, indicating natural attenuation is potentially effective for the site.

SECTION 9.0
Additional Recovery Well Installation

9.0 ADDITIONAL RECOVERY WELL INSTALLATION

Groundwater samples collected from monitoring wells MW-1 and MW-14 contain the highest concentrations of COCs. TTL originally thought that there may be two source areas associated with the site. One plume located on-site near monitoring well MW-1 and a second deeper plume off-site centered around monitoring well MW-14. However, after further review of the soil investigation report, it appears that there is one distinct linear-shaped dissolved-phase plume associated with the site. The plume originates near source well MW-1 and extends to the northeast (underneath the on-site building) moving off-site into the adjacent wooded field.

It also appears that several (if not all) of the existing monitoring/recovery wells installed on and off-site are screened at a depth interval that is either too shallow or too deep. Which may explain why groundwater samples collected from monitoring wells located generally in between monitoring wells MW-1 and MW-14 are generally below SSTLs/non-detect.

As part of the remedial technologies considered for the site, TTL is also proposing to install seven additional recovery wells (RW-6 through RW-12) on and off-site. The newly installed recovery wells will be 4-inches in diameter. Each well will be screened at a discrete depth interval that correlates with the data obtained from the *Soil Investigation Report*. TTL believes this will aid in remedial efforts.

Proposed recovery well locations are hand drawn on Figure 7. Proposed screen intervals for each well can be seen in the table below.

Well ID	Diameter (inches)	Estimated Total Depth (feet below ground surface)	Estimated Screened Interval (feet below ground surface)
RW-6	4	35.50	20-35
RW-7	4	24.50	9-24
RW-8	4	30.50	15-30
RW-9	4	30.50	15-30
RW-10	4	15.50	5-15
RW-11	4	15.50	5-15
RW-12	4	35.50	20-35

SECTION 10.0

Mobile Enhanced Multi-Phase Extraction Events

10.0 MEME EVENTS

A series of MEME events will be conducted at the site for the removal of petroleum hydrocarbons and the enhancement of natural attenuation within target areas on and off-site. MEME technology is effective at recovering free product and dissolved-phase hydrocarbons from saturated and unsaturated soils. Contaminated groundwater and vapor are extracted from the monitoring/recovery wells. Groundwater is contained in a tanker truck, then transported to a permitted facility for disposal, while vapors are destroyed in a thermal oxidizer.

TTL proposes to contract with Fruits & Associates, Inc. (Fruits) to conduct three MEME events each of the four quarters. A cost estimate from Fruits is attached. During the MEME events, fluids will be extracted from a suite of on and off-site monitoring/recovery wells. Possible extraction wells include monitoring/recovery wells MW-1, RW-6, RW-7, RW-9, RW-10, and RW-11. Each MEME event will be performed for at least eight-hours. Fruits has also provided TTL with cost estimates for 12 and 24-hour events (attached).

Prior to each event, the proposed extraction wells and surrounding wells will be gauged for depth to water. Monitoring/recovery well fluid levels, vacuum influence, vacuum pressures, vapor flow rates, extracted vapor concentrations, and total volume of recovered liquids will be recorded. Fruits will haul and dispose of the extracted fluids after each event, and also generate and submit a progress status report for each event.

Additionally, TTL will submit ADEM Form 448 with required attachments to the ADEM Air Division to obtain an Air ID Number for each MEME event. Furthermore, ADEM Form 449 with required attachments will also be submitted to the ADEM Air Division.

SECTION 11.0

Quarterly Groundwater Monitoring Program

11.0 QUARTERLY GROUNDWATER MONITORING PROGRAM

TTL has been approved under Cost Proposal #10 to continue current remediation monitoring activities at the site. TTL plans to conduct the next groundwater monitoring event in early May 2019.

RNA Groundwater Monitoring Events

1. TTL will measure the depths to groundwater in the 32 monitoring/recovery wells (MW-1 through MW-4, MW-4D, MW-5 through MW-19, RW-1 through RW-5, and proposed wells RW-6 through RW-12) to the nearest 0.01 foot with an electric water-level indicator. In addition, TTL will turn off the electronic water-level indicator and measure the total depth of each monitoring/recovery.
2. The water-level indicator will be decontaminated between each monitoring/recovery well by rinsing with an Alconox spray, followed by deionized water. If a sheen is observed on the water-level indicator after a measurement, then rubbing alcohol also will be used as the first rinse to further clean the instrument. Monitoring well MW-1 has historically contained measurable thicknesses of free product.
3. TTL proposes that a suite of 17 monitoring/recovery wells (MW-1, MW-3, MW-4, MW-6, MW-9, MW-13 through MW-16, and RW-5 through RW-12) be sampled during the first, second, and third quarterly sampling events. TTL proposes that all 32 monitoring/recovery wells (MW-1 through MW-4, MW-4D, MW-5 through MW-19, and RW-1 through RW-12) at the site be sampled during the fourth quarterly sampling event.
4. After measuring the water level in each of the monitoring/recovery wells, field measurements of dissolved oxygen, conductivity, temperature, pH, and oxidation-reduction potential will be performed at each monitoring/recovery well included in the sampling suite. All parameters will be measured with a YSI meter in a sample of groundwater extracted from each monitoring/recovery well, before purging, with a disposable polyethylene bailer.
5. After field measurements are performed, a minimum of three well-volumes of groundwater will be purged from each monitoring/recovery well with disposable polyethylene bailers in preparation of sample collection. If monitoring/recovery wells go dry before three well-volumes are obtained, the well will be considered sufficiently purged.

6. The water levels in the monitoring/recovery wells will be allowed to stabilize following purging, and groundwater samples will be collected from each well for analyses for BTEX (benzene, toluene, ethyl benzene, and total xylenes), MTBE (methyl tertiary-butyl ether), and naphthalene. Separate, new disposable polyethylene bailers will be used to collect the groundwater sample from each monitoring/recovery well.
7. During each sampling event, TTL will also collect surface water samples (SW-1 through SW-4) from the unnamed stream located downgradient and to the northeast of monitoring well MW-16 for BTEX/MTBE/naphthalene analyses.
8. Groundwater/surface water samples for BTEX/MTBE/naphthalene analyses will be placed in quadruplicate 40-milliliter glass vials treated with hydrochloric acid as a preservative.
9. All samples will be packed on ice, along with a trip blank of deionized water prepared in the laboratory prior to sample collection, and transported to TTL's laboratory in Tuscaloosa, Alabama. Samples will be analyzed for BTEX/MTBE/naphthalene in general accordance with Method 8260 outlined in 40CFR, Part 136.
10. Purge water will be stored temporarily in 55-gallon drums on-site. At the conclusion of each sampling event, the purge water will be treated with carbon adsorption filters by TTL's portable treatment trailer, sampled for BTEX, and disposed of in accordance with ADEM guidelines.
11. A separate *Groundwater Monitoring Report* will be prepared and submitted to the UST Corrective Action Section for each quarterly monitoring event. Each report will include summaries of water elevation data, field measurements, sample collection methods, analytical methods, and analytical results.

SECTION 12.0
Proposed Reporting Requirements

12.0 PROPOSED REPORTING REQUIREMENTS

TTL has been approved under Cost Proposal # 10 to continue groundwater monitoring activities at the site, with the next report being due May 30, 2019.

After implementation of the proposed CAP, Corrective Action Effectiveness Reports for RNA will be submitted to the ADEM quarterly. The reports will be prepared in accordance with Section VI.12, "Correction Action Effectiveness Reporting", of the May 1995, Alabama Underground Storage Tank Release Investigation and Corrective Action Guidance Manual. The reports also will include recommendations for any additional measures, as appropriate.

SECTION 13.0

Anticipated Clean-Up Time/Projected Clean-up Costs

13.0 ANTICIPATED CLEAN-UP TIME/PROJECTED CLEAN-UP COSTS

The anticipated clean-up time for the site will be dependent upon response of the contaminants to the MEME technology and RNA. TTL anticipates combined MEME events and RNA groundwater monitoring for at least five years. RNA groundwater monitoring may be necessary beyond five years.

Since the site has been entered in the Alabama Trust fund, TTL calculates that approximately \$200,000 has been spent at the site to date. Upon completion of approved scope(s) of work corresponding to Cost Proposals 13 through 16 (see note below), TTL calculates that approximately \$175,000 additional dollars will have been spent. If remediation goals are achieved by MEME and RNA GWM within five years, TTL estimates that total clean-up costs will not exceed \$800,000. However, if alternate remedial technologies are implemented due to failure of MEME technology and RNA GWM to achieve remediation goals, total clean-up costs may exceed over \$1,500,000.

Cost Proposals corresponding to the proposed activities will be submitted to the ADEM under a separate cover. A generalized schedule of implementation is provided below:

<u>Quarter to Implement</u>	<u>Proposed Activity</u>
1	Install seven recovery wells (CP 13).
1	Conduct three MEME events and one RNA GWM event (CP 13).
2	Conduct three MEME events and one RNA GWM event (CP 14).
3	Conduct three MEME events and one RNA GWM event (CP 15).
4	Conduct three MEME events and one RNA GWM event (CP 16).

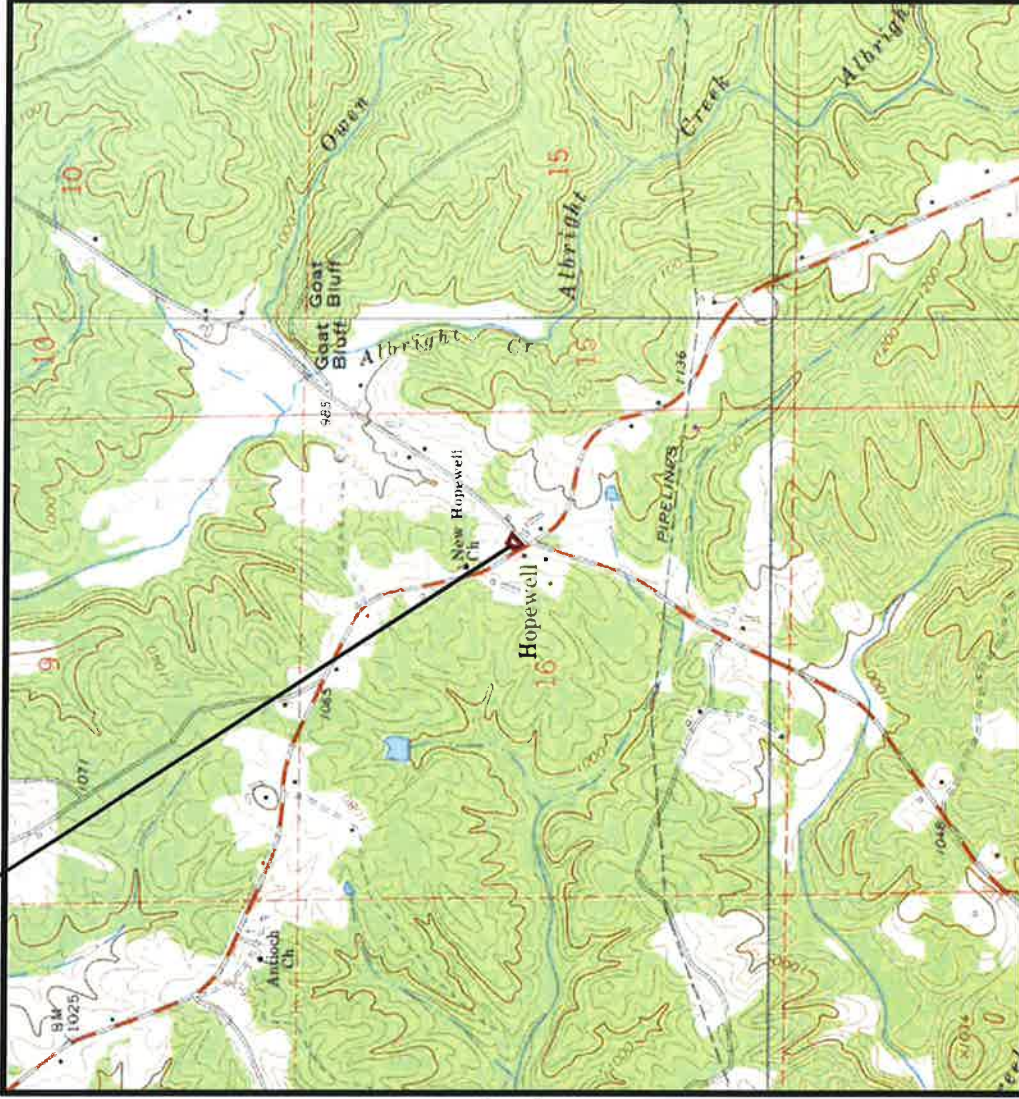
Concentrations at source and POC wells will be compared to the appropriate SSTLs in each corrective action effectiveness report to evaluate progress toward achieving clean-up goals.

SECTION 14.0

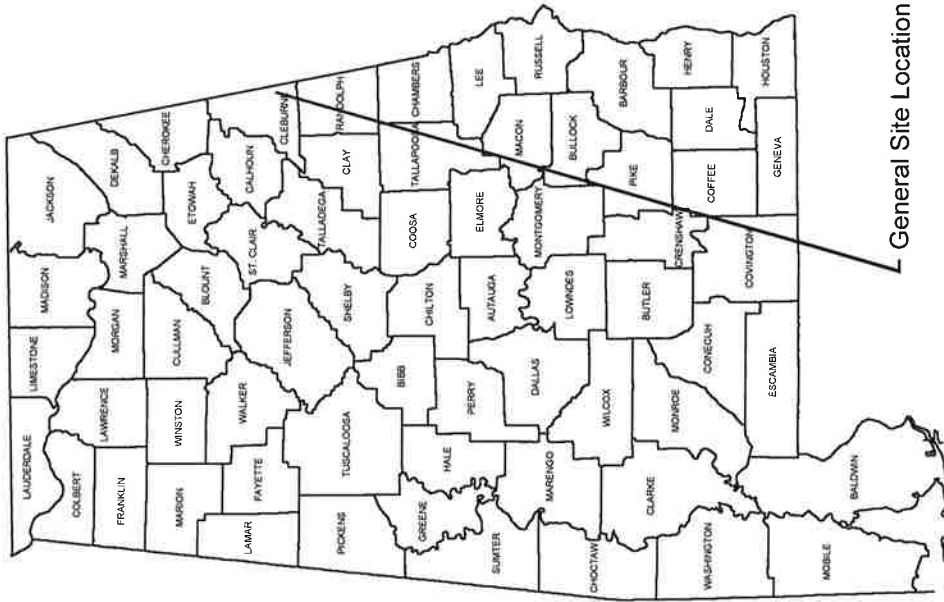
Figures

Approximate Site Boundary

R. 12 E.



Source: USGS Fruithurst, Ala., 7.5 Minute Quadrangle Map, 1966 (Photorevised 1980)
 USGS Talapoosa South, Ga.-Ala. 7.5 Minute Quadrangle Map, 1965 (Photorevised 1980)
 USGS Hightower, Ala. 7.5 Minute Quadrangle Map, 1966 (Photorevised 1980)
 USGS Bowden West, Ga.-Ala. 7.5 Minute Quadrangle Map, 1966 (Photorevised 1980)



General Site Location



Figure 1. Topographic Location Map

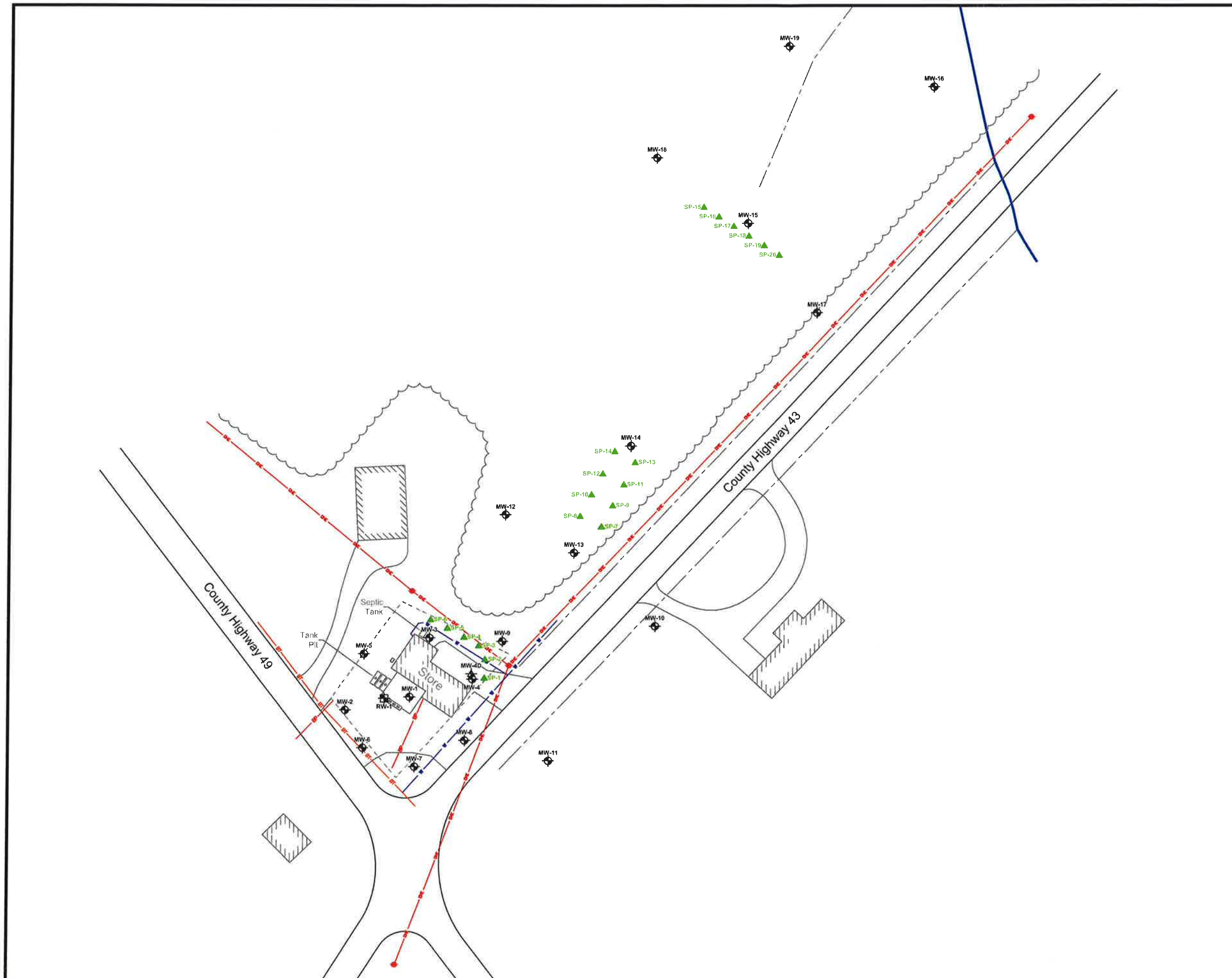
SW $\frac{1}{4}$ of the NE $\frac{1}{4}$, Sec. 16, T. 18 S., R. 12 E., of the Fruithurst, Ala. 7.5 Minute Quadrangle Map

Rickey's Grocery
 11542 County Road 49
 Heflin, Cleburne County, Alabama

Facility ID No. 2329-029-015532
 Incident No. UST15-05-02





TTL PROJECT NO: 690215003
 DATE: 03/24/2017






1" = 2000'
(Approximate)



LEGEND



-  MW-19 Monitoring Well Location and Identifier
-  MW-4D Deeper Monitoring Well Location and Identifier
-  RW-1 Deeper Monitoring Well Location and Identifier
-  IW-4 Sparge Point Location and Identifier

-  OHE Overhead Electric Line
-  BP Underground Electric Line
-  BT Underground Telephone Line
-  W Water Line
-  Ditch Centerline



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334.244.0766 • Fax 334.244.0568

APPROXIMATE SCALE: 1" = 80'	TTL PROJ. NO.: 690215003
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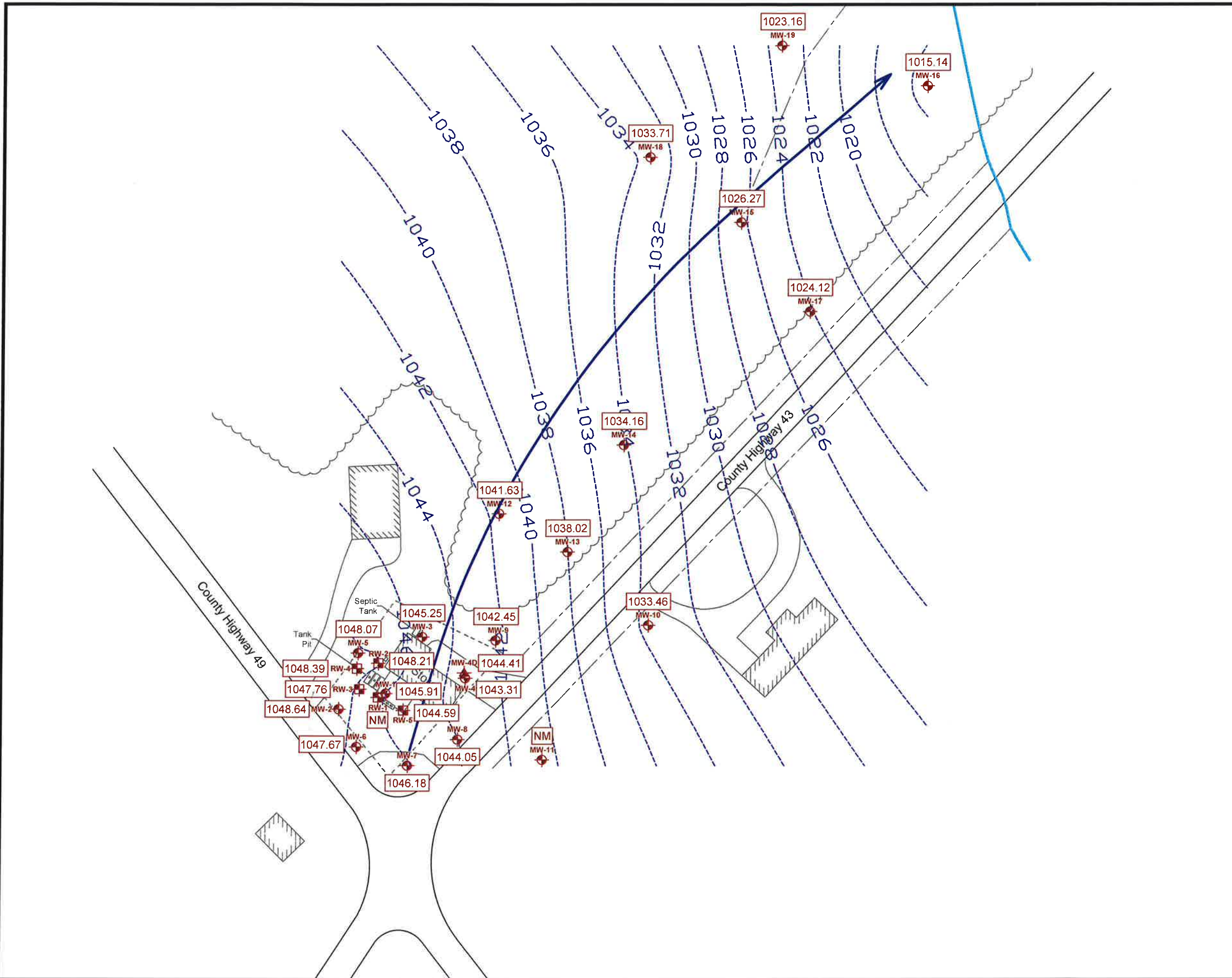
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SOURCE:
Modified from site maps by PPM Consultants, Inc.

Figure 2. Site Map




Rickey's Grocery
11542 County Road 49
Heflin, Cleburne County, Alabama

Facility ID No. 22329-029-015532
Incident No. UST15-05-02




LEGEND




-  **MW-19** Monitoring Well Location and Identifier
-  **MW-4D** Deeper Monitoring Well Location and Identifier (not used to contour groundwater)
-  **RW-5** Recovery Well Location and Identifier

1045.91 Relative groundwater elevation in feet AMSL (above mean sea level)

NM = Not Measured

 Groundwater contour in feet AMSL (Contour interval = 2 feet)

 General direction of groundwater flow

Groundwater contours generated using Surfer® Surface Mapping System Version 14 by Golden Software, Inc.



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SOURCE: Modified from site maps by PPM Consultants, Inc.		

Figure 3a. Potentiometric Surface Map

February 14, 2019




Rickey's Grocery
11542 County Road 49
Heflin, Cleburne County, Alabama

Facility ID No. 22329-029-015532
Incident No. UST15-05-02





LEGEND



-  **MW-19** Monitoring Well Location and Identifier
-  **MW-4D** Deeper Monitoring Well Location and Identifier (not used to contour groundwater)
-  **RW-5** Recovery Well Location and Identifier

1039.10 Relative groundwater elevation in feet AMSL (above mean sea level)
 NM = Not Measured

 Groundwater contour in feet AMSL (Contour interval = 2 feet)

 General direction of groundwater flow

Groundwater contours generated using Surfer® Surface Mapping System Version 14 by Golden Software, Inc.



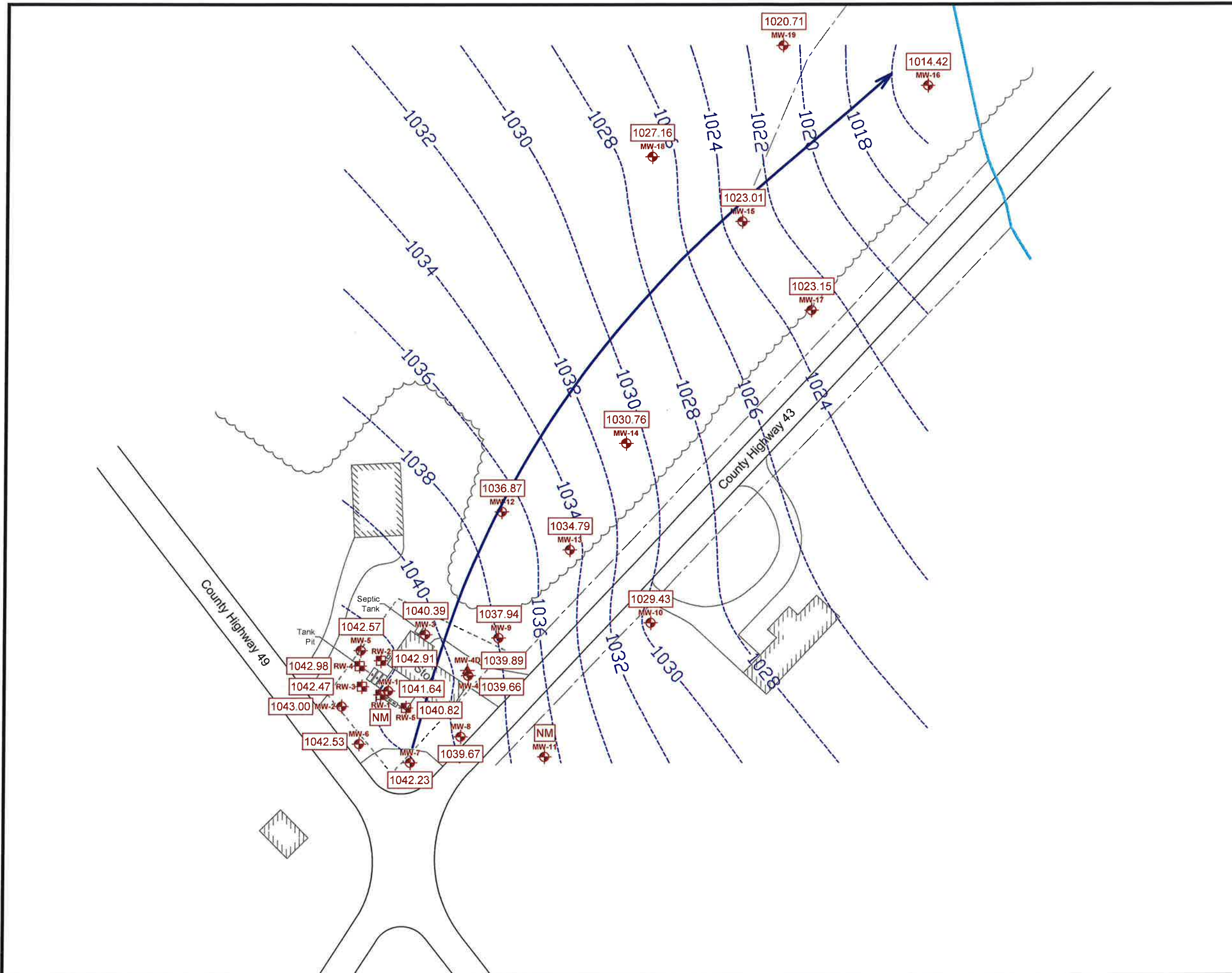
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SOURCE: Modified from site maps by PPM Consultants, Inc.		

Figure 3b. Potentiometric Surface Map

October 18, 2018

Rickey's Grocery
 11542 County Road 49
 Heflin, Cleburne County, Alabama

Facility ID No. 22329-029-015532
 Incident No. UST15-05-02



LEGEND



- MW-19 Monitoring Well Location and Identifier
- MW-4D Deeper Monitoring Well Location and Identifier (not used to contour groundwater)
- RW-5 Recovery Well Location and Identifier

1041.64 Relative groundwater elevation in feet AMSL (above mean sea level)

NM = Not Measured

Groundwater contour in feet AMSL (Contour interval = 2 feet)

General direction of groundwater flow

Groundwater contours generated using Surfer® Surface Mapping System Version 14 by Golden Software, Inc.



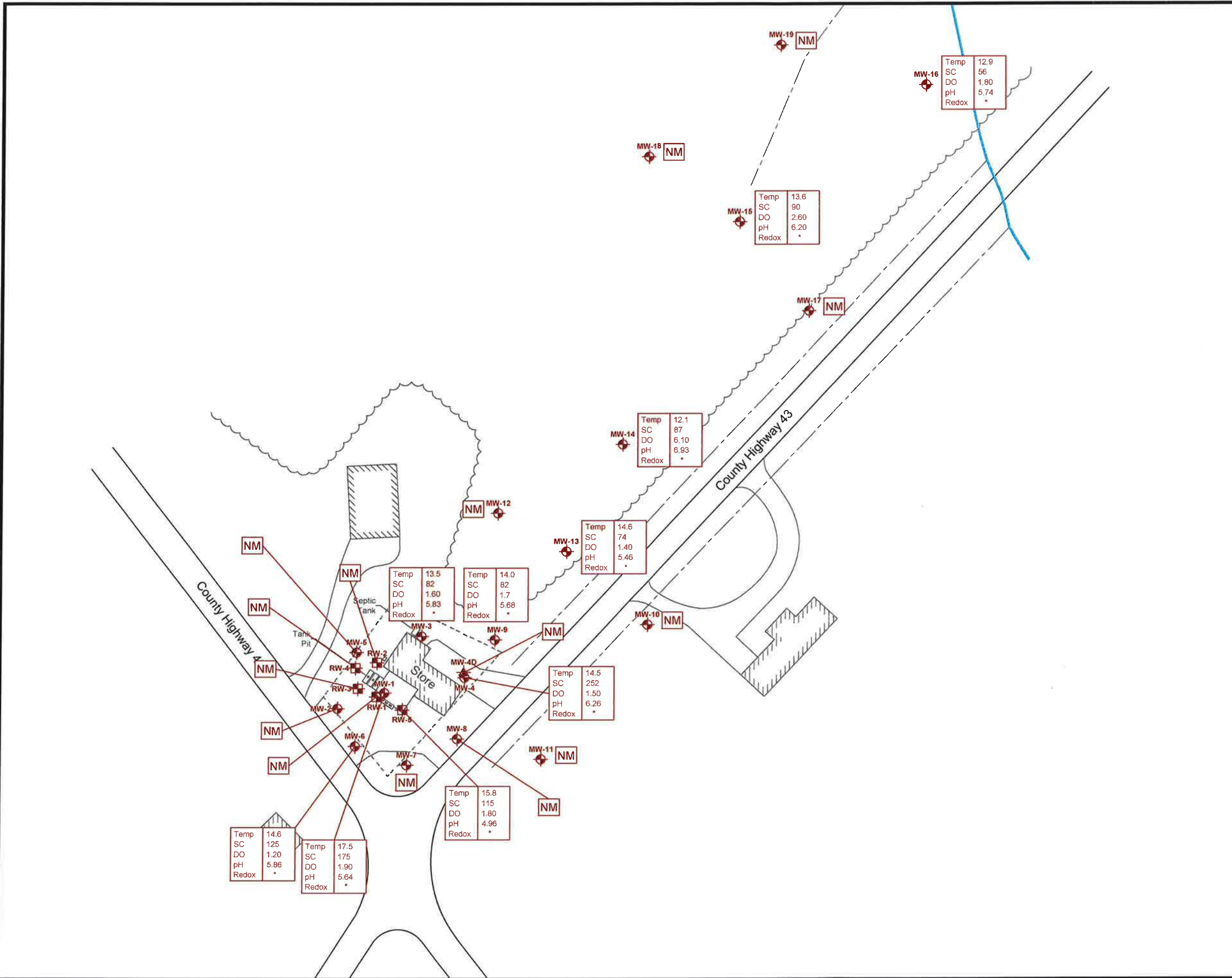
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SOURCE: Modified from site maps by PPM Consultants, Inc.		

Figure 3c. Potentiometric Surface Map

June 21, 2018




Rickey's Grocery
11542 County Road 49
Heflin, Cleburne County, Alabama

Facility ID No. 22329-029-015532
Incident No. UST15-05-02



LEGEND



-  **MW-19** Monitoring Well Location and Identifier
-  **MW-4D** Deeper Monitoring Well Location and Identifier
-  **RW-5** Recovery Well Location and Identifier

Temp	17.5	Temperature in °C
SC	175	Specific conductance in µmhos/cm
DO	1.90	Dissolved oxygen in mg/L
pH	5.64	Standard units
Redox	*	Oxidation reduction potential in millivolts

NM = Not Measured
 * = OPR Meter Not Functional



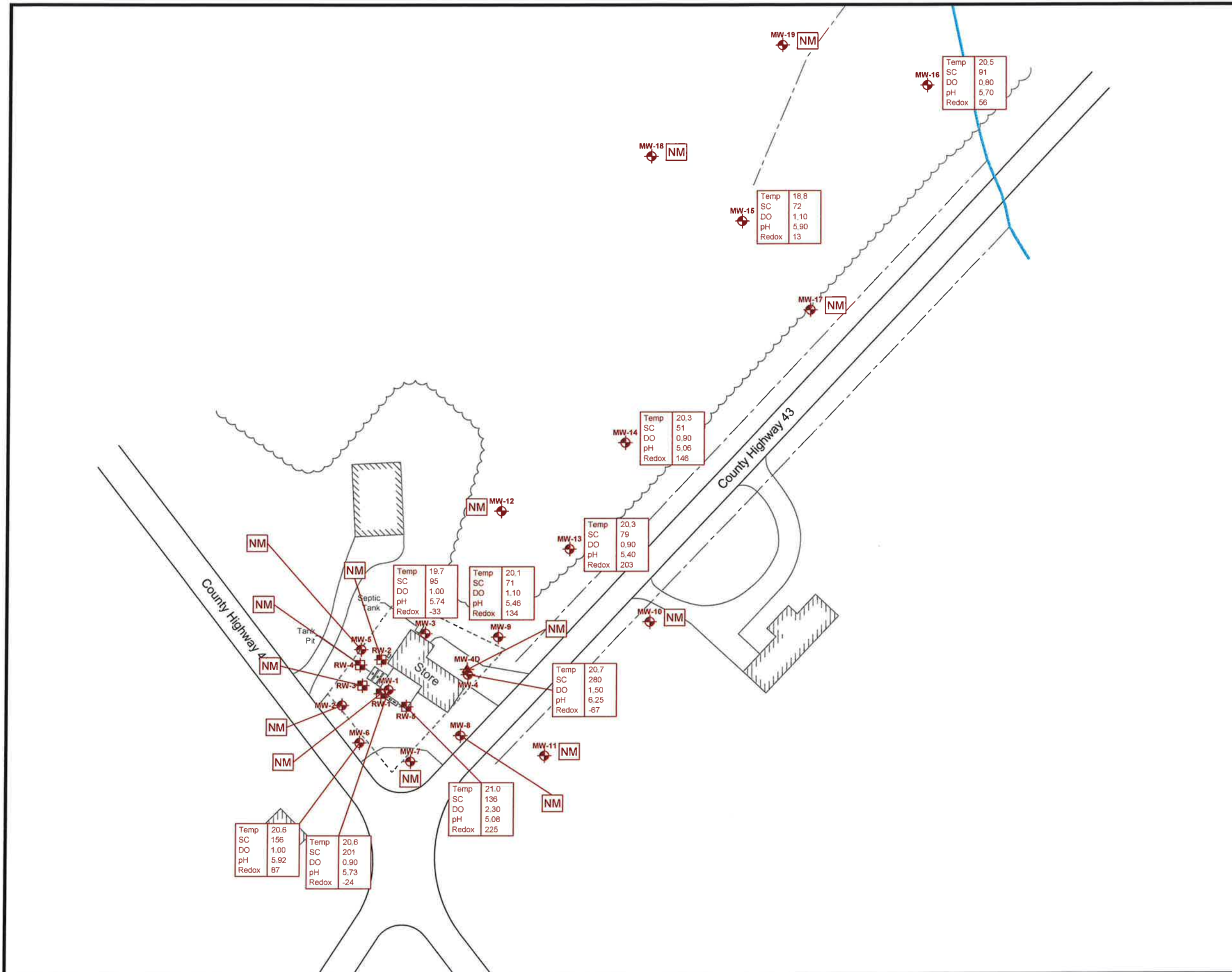
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SOURCE: Modified from site maps by PPM Consultants, Inc.		

Figure 4a. Natural Attenuation Parameters

February 14, 2019

Rickey's Grocery
 11542 County Road 49
 Heflin, Cleburne County, Alabama

Facility ID No. 22329-029-015532
 Incident No. UST15-05-02



LEGEND

- MW-19 Monitoring Well Location and Identifier
- MW-4D Deeper Monitoring Well Location and Identifier
- RW-5 Recovery Well Location and Identifier

Temp	20.6	Temperature in °C
SC	201	Specific conductance in µmhos/cm
DO	0.90	Dissolved oxygen in mg/L
pH	5.73	Standard units
Redox	-24	Oxidation reduction potential in millivolts

NM = Not Measured



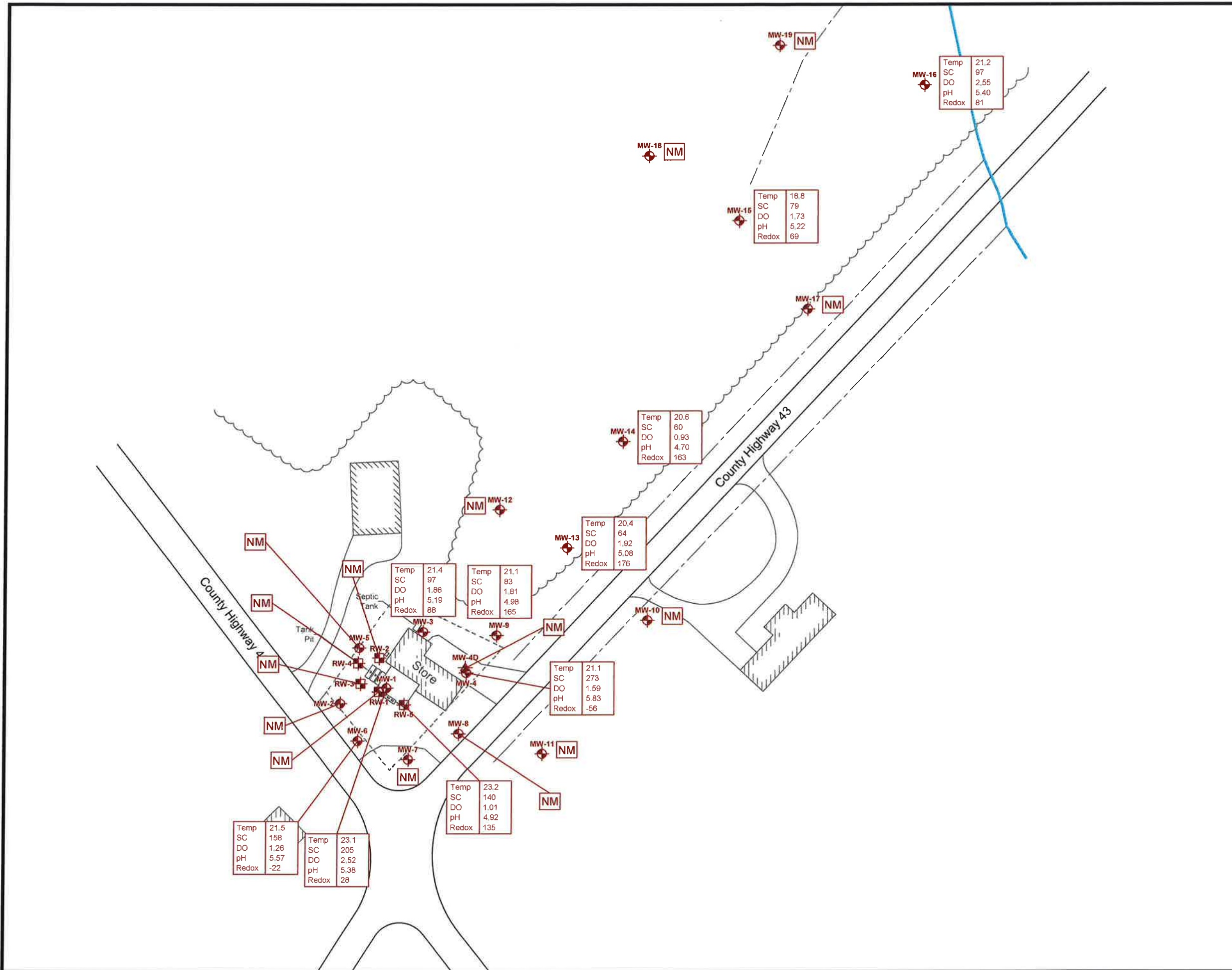
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SOURCE: Modified from site maps by PPM Consultants, Inc.		

Figure 4b. Natural Attenuation Parameters

October 18, 2018

Rickey's Grocery
11542 County Road 49
Heflin, Cleburne County, Alabama

Facility ID No. 22329-029-015532
Incident No. UST15-05-02



LEGEND



- MW-19** Monitoring Well Location and Identifier
- MW-4D** Deeper Monitoring Well Location and Identifier
- RW-5** Recovery Well Location and Identifier

Temp	23.1	Temperature in °C
SC	205	Specific conductance in µmhos/cm
DO	2.52	Dissolved oxygen in mg/L
pH	5.38	Standard units
Redox	28	Oxidation reduction potential in millivolts

NM = Not Measured



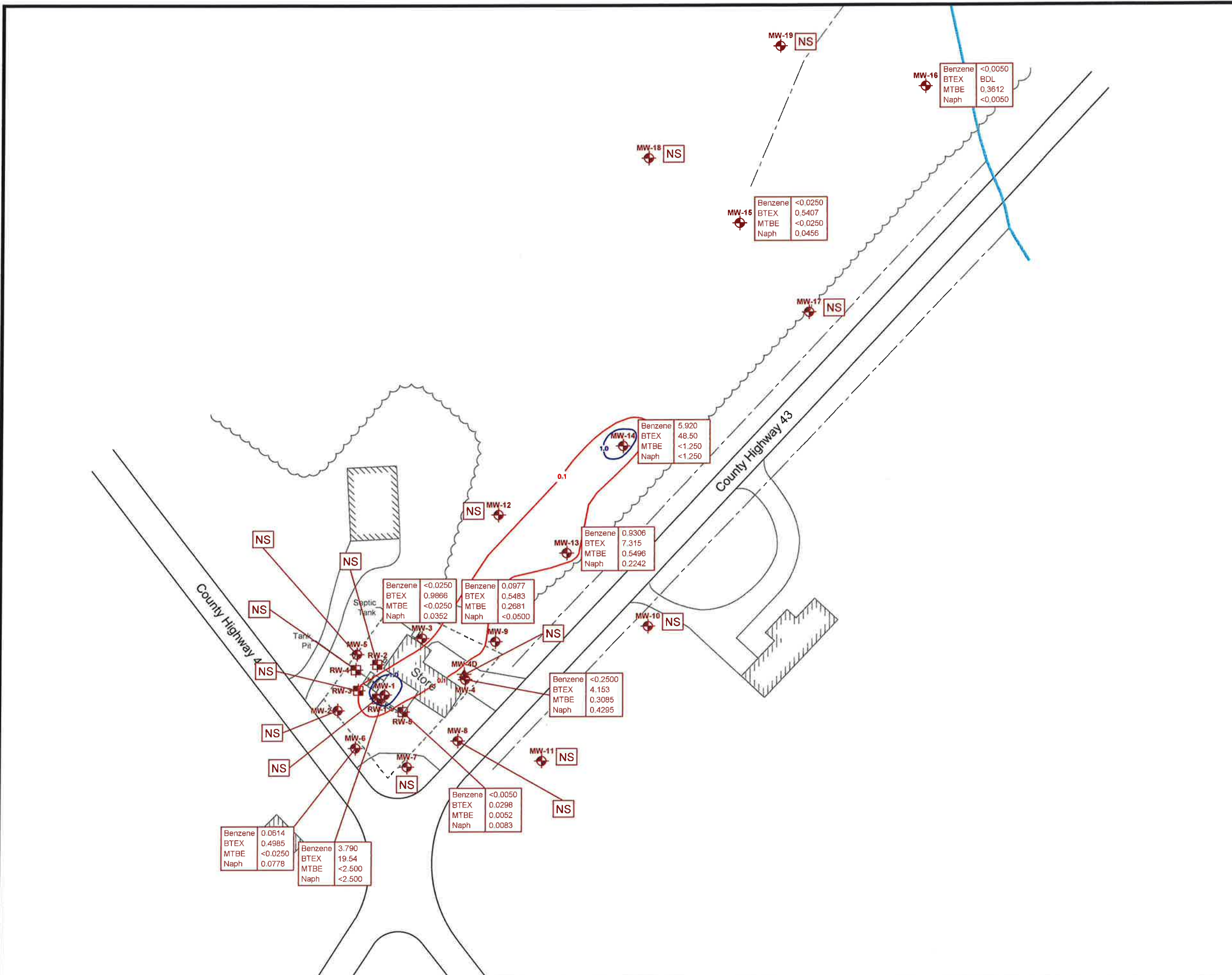
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SOURCE: Modified from site maps by PPM Consultants, Inc.		

Figure 4c. Natural Attenuation Parameters

June 21, 2018




Rickey's Grocery
11542 County Road 49
Heflin, Cleburne County, Alabama

Facility ID No. 22329-029-015532
Incident No. UST15-05-02



LEGEND





-  **MW-19** Monitoring Well Location and Identifier
-  **MW-4D** Deeper Monitoring Well Location and Identifier
-  **RW-5** Recovery Well Location and Identifier

Benzene	3.790	Concentration of benzene, mg/L (milligrams per liter)
BTEX	19.540	Concentration of total BTEX, mg/L
MTBE	<2.500	Concentration of methyl tertiary butyl ether, mg/L
Naph	<2.500	Concentration of naphthalene, mg/L

J = Laboratory results indicate analyte was detected at or above the MDL (Method Detection Limit) but below the quantitation limit.

NS = Not Sampled
BDL = Below Detection Limits

-  Benzene Isocontours (1.0 mg/L)
-  Benzene Isocontours (0.1 mg/L)



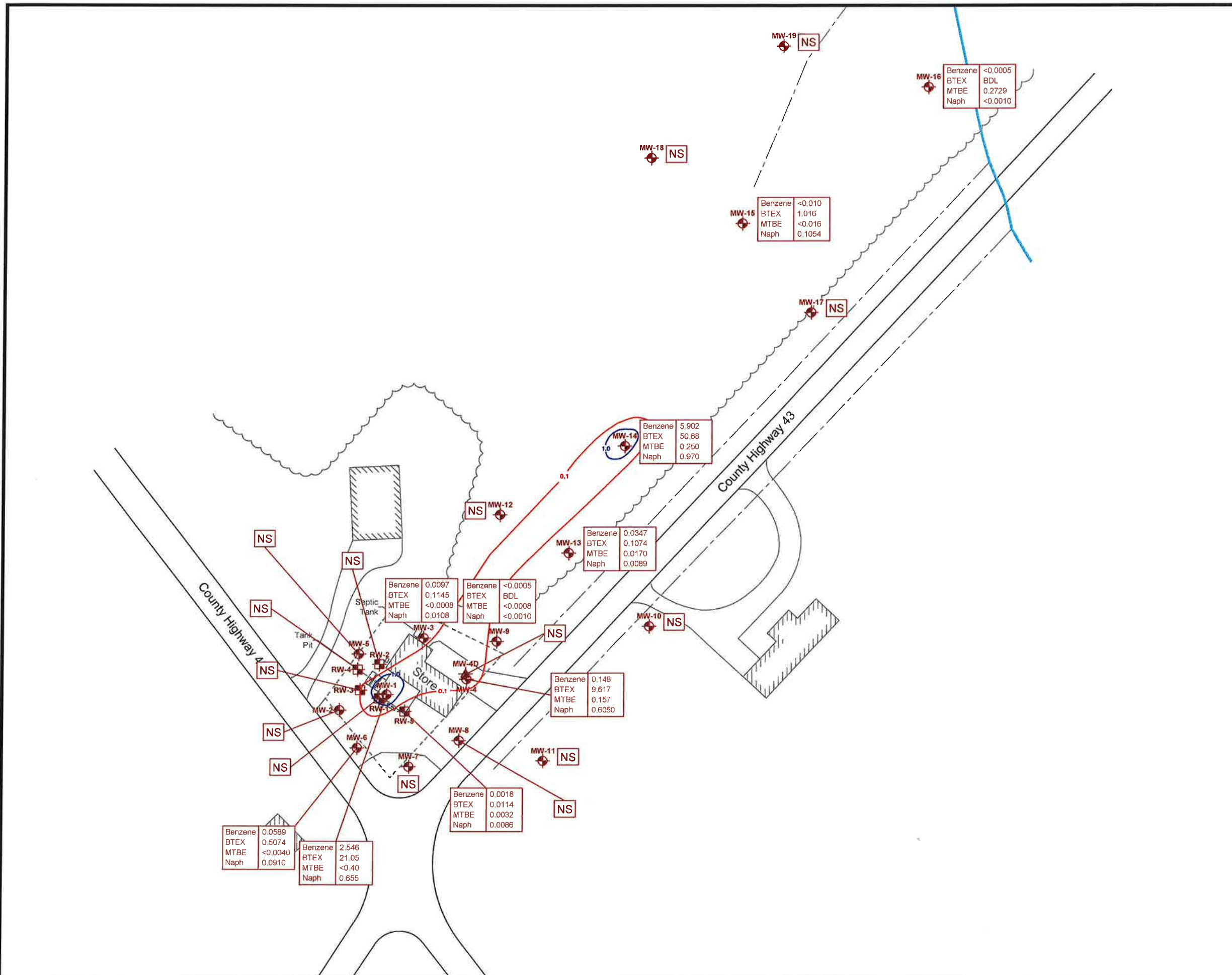
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SOURCE: Modified from site maps by PPM Consultants, Inc.		

Figure 5a. Groundwater Concentration Map

February 14, 2019

Rickey's Grocery
11542 County Road 49
Heflin, Cleburne County, Alabama

Facility ID No. 22329-029-015532
Incident No. UST15-05-02



LEGEND

- MW-19** Monitoring Well Location and Identifier
- MW-4D** Deeper Monitoring Well Location and Identifier
- RW-5** Recovery Well Location and Identifier

Benzene	2.546	Concentration of benzene, mg/L (milligrams per liter)
BTEX	21.05	Concentration of total BTEX, mg/L
MTBE	<0.40	Concentration of methyl tertiary butyl ether, mg/L
Naph	0.655	Concentration of naphthalene, mg/L

J = Laboratory results indicate analyte was detected at or above the MDL (Method Detection Limit) but below the quantitation limit.
 NS = Not Sampled
 BDL = Below Detection Limits

- Benzene Isocontours (1.0 mg/L)
- Benzene Isocontours (0.1 mg/L)



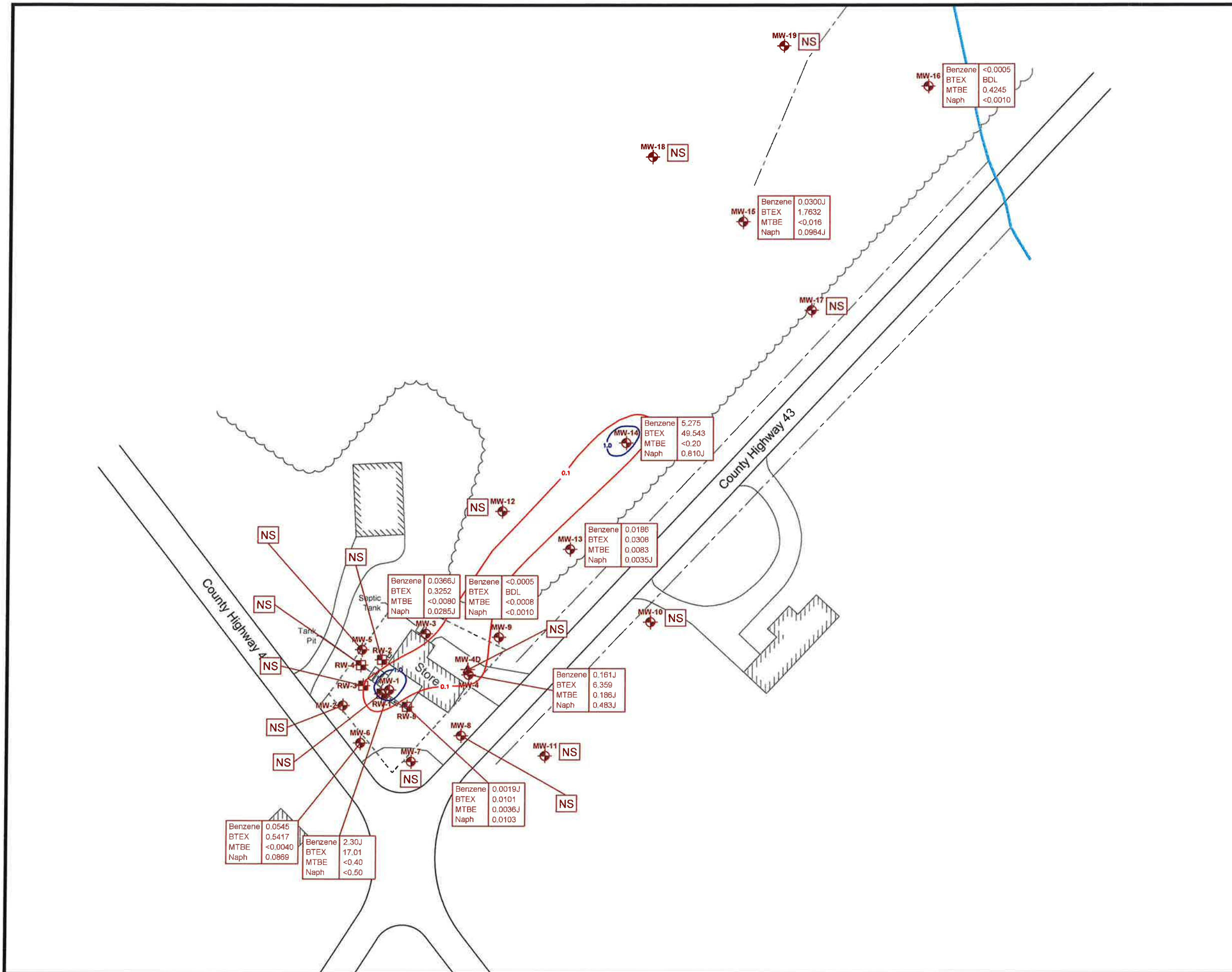
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DATE CREATED: 03/31/2017	DATE REVISED: 11/20/2018	REVISION NUMBER: n/a
DRAWN BY: TCC	CHECKED BY: MLL	
SOURCE: Modified from site maps by PPM Consultants, Inc.		

Figure 5b. Groundwater Concentration Map

October 18, 2018




Rickey's Grocery
 11542 County Road 49
 Heflin, Cleburne County, Alabama

Facility ID No. 22329-029-015532
 Incident No. UST15-05-02





LEGEND



-  **MW-19** Monitoring Well Location and Identifier
-  **MW-4D** Deeper Monitoring Well Location and Identifier
-  **RW-5** Recovery Well Location and Identifier

Benzene	2.30J	Concentration of benzene, mg/L (milligrams per liter)
BTEX	17.01	Concentration of total BTEX, mg/L
MTBE	<0.40	Concentration of methyl tertiary butyl ether, mg/L
Naph	<0.50	Concentration of naphthalene, mg/L

J = Laboratory results indicate analyte was detected at or above the MDL (Method Detection Limit) but below the quantitation limit.
 NS = Not Sampled
 BDL = Below Detection Limits

-  Benzene Isocontours (1.0 mg/L)
-  Benzene Isocontours (0.1 mg/L)



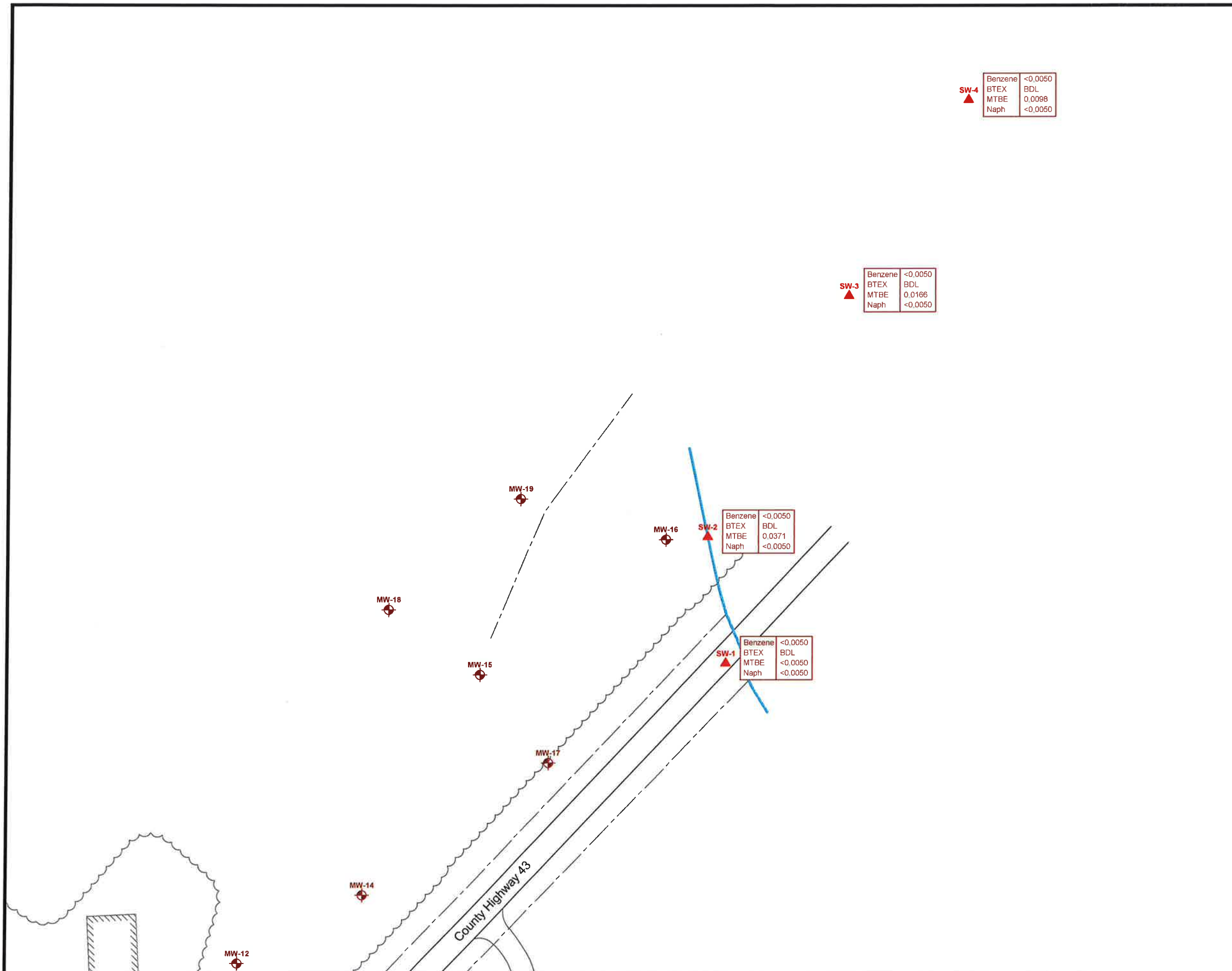
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DATE CREATED: 03/31/2017	DATE REVISED: 07/31/2018	REVISION NUMBER: n/a
DRAWN BY: MJC		CHECKED BY: MLL
SOURCE: Modified from site maps by PPM Consultants, Inc.		

Figure 5c. Groundwater Concentration Map

June 21, 2018





Rickey's Grocery
 11542 County Road 49
 Heflin, Cleburne County, Alabama

Facility ID No. 22329-029-015532
 Incident No. UST15-05-02



LEGEND



-  **MW-19** Monitoring Well Location and Identifier
-  **MW-4D** Deeper Monitoring Well Location and Identifier
-  **RW-5** Recovery Well Location and Identifier
-  **SW-4** Surface Water Sample Location and Identifier

Benzene	<0.0050	Concentration of benzene, mg/L (milligrams per liter)
BTEX	BDL	Concentration of total BTEX, mg/L
MTBE	<0.0050	Concentration of methyl tertiary butyl ether, mg/L
Naph	<0.0050	Concentration of naphthalene, mg/L

J = Laboratory results indicate analyte was detected at or above the MDL (Method Detection Limit) but below the quantitation limit.
 NS = Not Sampled



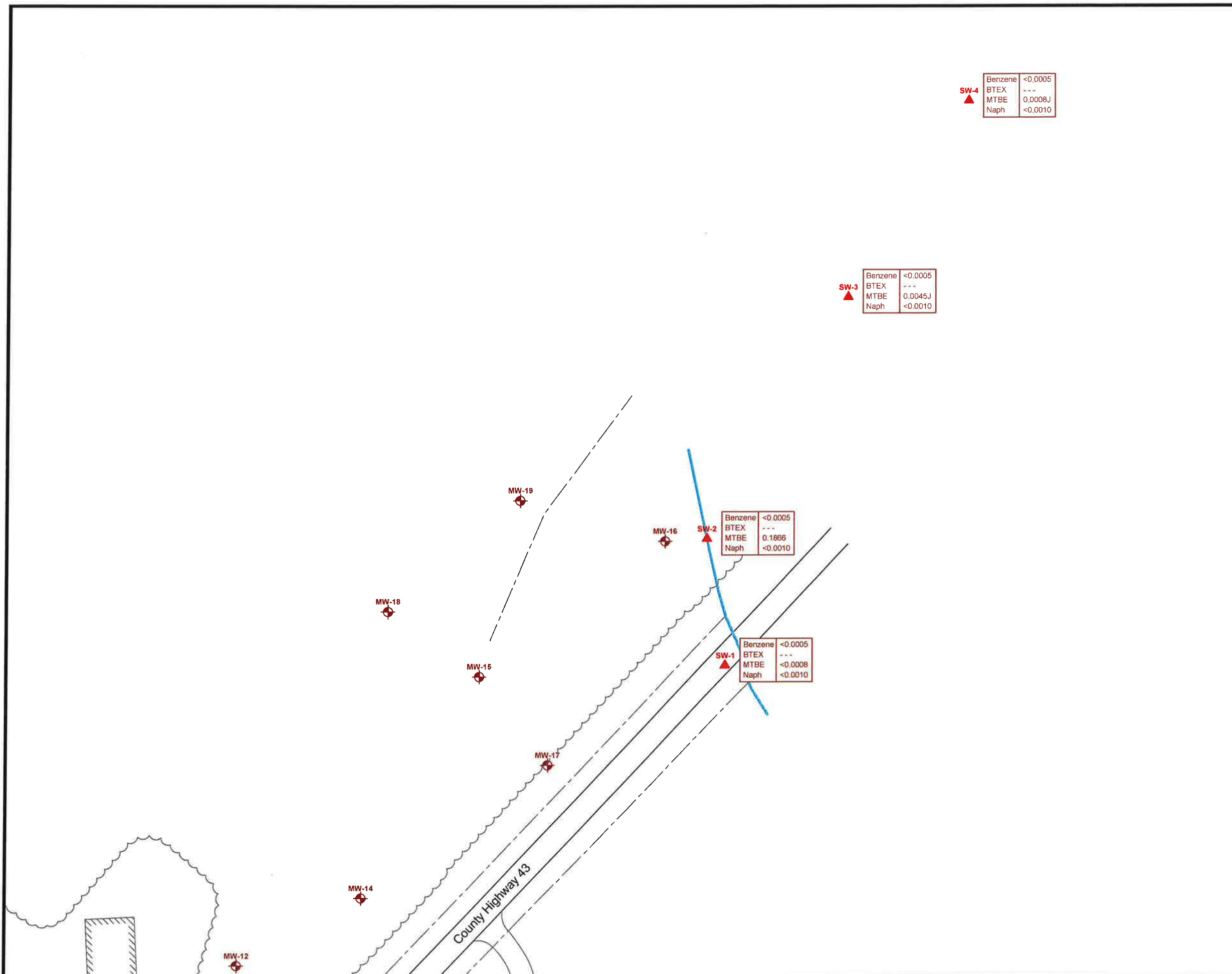
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DATE CREATED: 10/03/2017	DATE REVISED: 03/20/2019	REVISION NUMBER: n/a
DRAWN BY: TCC	CHECKED BY: MLL	
SOURCE: Modified from site maps by PPM Consultants, Inc.		

Figure 6a. Surface Water Concentration Map

February 14, 2019





Rickey's Grocery
 11542 County Road 49
 Heflin, Cleburne County, Alabama

Facility ID No. 22329-029-015532
 Incident No. UST15-05-02



LEGEND



-  **MW-19** Monitoring Well Location and Identifier
-  **MW-4D** Deeper Monitoring Well Location and Identifier
-  **RW-5** Recovery Well Location and Identifier
-  **SW-4** Surface Water Sample Location and Identifier

Benzene	<0.0005	Concentration of benzene, mg/L (milligrams per liter)
BTEX	---	Concentration of total BTEX, mg/L
MTBE	<0.0008	Concentration of methyl tertiary butyl ether, mg/L
Naph	<0.0010	Concentration of naphthalene, mg/L

J = Laboratory results indicate analyte was detected at or above the MDL (Method Detection Limit) but below the quantitation limit.
 NS = Not Sampled



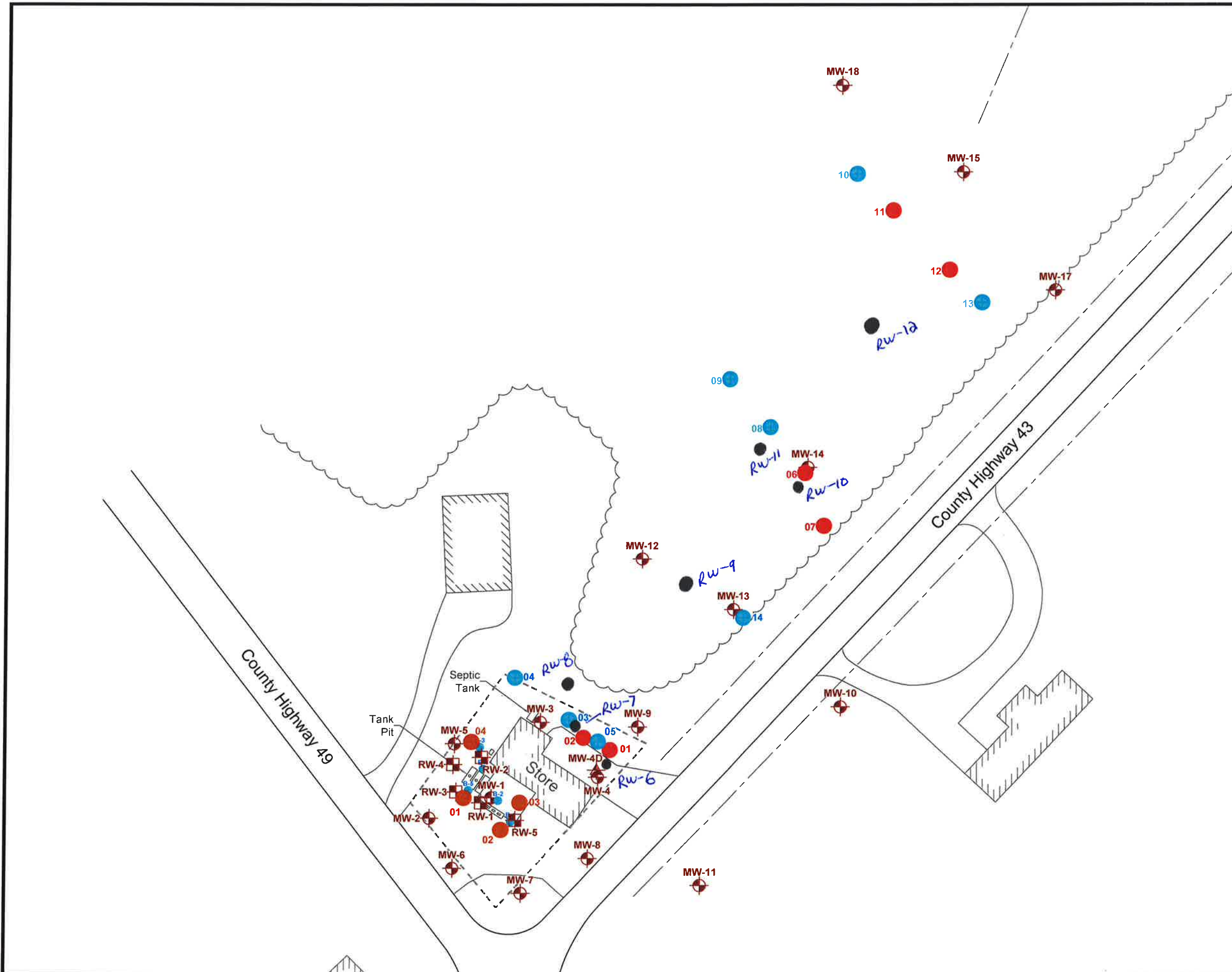
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DATE CREATED: 10/03/2017	DATE REVISED: n/a	REVISION NUMBER: n/a
DRAWN BY: MJC		CHECKED BY: MLL
SOURCE: Modified from site maps by PPM Consultants, Inc.		

Figure 6c. Surface Water Concentration Map

June 21, 2018

Rickey's Grocery
 11542 County Road 49
 Heflin, Cleburne County, Alabama

Facility ID No. 22329-029-015532
 Incident No. UST15-05-02



LEGEND



- ⊕ MW-19 Monitoring Well Location and Identifier
- ⊕ MW-4D Deeper Monitoring Well Location and Identifier
- ⊕ RW-5 Recovery Well Location and Identifier
- 01 MIHPT Probeholes
- 01 MIHPT Probeholes w/ confirmation soil sample
- 01 LIF Probeholes
- Proposed Recovery well locations

Screened Intervals

RW-6	20-35feet
RW-7	9-24'
RW-8	15-30'
RW-9	15-30'
RW-10	5-15'
RW-11	5-15'
RW-12	20-35'



APPROXIMATE SCALE: 1" = 60'	TTL PROJECT NO.: 690215003	
DRAWING PATH: C:\Users\cbutter\appdata\localtemp\AcPublish_5036\Rickys GW 2018 Fig2.dwg		
DATE CREATED: 03/24/2017	DATE REVISED: 10/03/2017	REVISION NUMBER: n/a
DRAWN BY: C L B	CHECKED BY: MLL	
SOURCE: Modified from site maps by PPM Consultants, Inc.		

Figure 7. Boring Location Map

Rickey's Grocery
 11542 County Road 49
 Heflin, Cleburne County, Alabama
 Facility ID No. 22329-029-015532
 Incident No. UST15-05-02

SECTION 15.0
Appendices with Supporting Data

APPENDIX A
ADEM Correspondence

cc
LANCE R. LEFLEUR
DIRECTOR

ADEM

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

October 18, 2018

Ms. Cindy Herrell
Rickey's Grocery
265 County Road 682
Heflin, Alabama 36264

*Miranda
690215-003*

Dear Ms. Herrell:

RE: APPROVAL OF COST PROPOSAL #12 FOR CAP DEVELOPMENT
Rickey's Grocery
11542 County Road 49
Heflin, Cleburne County, Alabama
Facility I.D. No. **22329-029-015532**
UST Incident No. **UST15-05-02**
ADEM File Code: **UST150502/CP12**

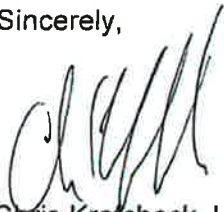
Approval is granted for the above-referenced cost proposal in the amount of **\$8,062.80**.

The Department has the responsibility to deny any unreasonable costs which may be submitted for payment. Obligation of a given amount through approval of a cost proposal does not guarantee final reimbursement of that same amount. The payment request containing the costs approved on this Cost Proposal should be submitted within eighteen months of the date of this letter in order to receive reimbursement.

The CAP is due to the Department by **January 15, 2019**.

Should there be any questions regarding this matter, please contact me at (334) 270-5645.

Sincerely,



Chris Kratchek, Hydrogeologist
UST Corrective Action State and Federal Funds Section
Groundwater Branch/Land Division
CLK/aw

cc: TTL, Inc., 2743-B Gunter Park Drive W., Montgomery, Alabama 36109

Birmingham Branch
110 Vulcan Road
Birmingham, AL 35209-4702
(205) 942-6168
(205) 941-1803 (FAX)

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



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

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

cl
LANCE R. LEFLEUR
DIRECTOR

ADEM

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

January 4, 2019

*Miranda
690215-003*

Ms. Cindy Herrell
Rickey's Grocery
265 County Road 682
Heflin, Alabama 36264

Dear Ms. Herrell:

**RE: REVIEW OF GROUNDWATER MONITORING REPORT DATED
NOVEMBER 30, 2018 (CP 8) AND REQUEST FOR CAP**
Rickey's Grocery
11542 County Road 49
Heflin, Cleburne County, Alabama
Facility I.D. No. **22329-029-015532**
UST Incident No. **UST15-05-02**
ADEM File Code: **UST150502/CORR11119**

The Department has received and reviewed the submitted Groundwater Monitoring Report dated November 30, 2018. The next groundwater monitoring report is due to the Department by March 1, 2018.

As the previously proposed CAP is not able to be implemented due to UIC requirements, please submit a CAP to the Department by **February 15, 2019**.

Should there be any questions regarding this matter, please contact me at (334)270-5645.

Sincerely,



Chris Krafczek, Hydrogeologist
UST Corrective Action State and Federal Funds Section
Groundwater Branch, Land Division
CLK/aw

Cc: TTL, Inc.
2743-B Gunter Park Drive W.
Montgomery, Alabama 36109

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

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Decatur, AL 35603-1333
(256) 353-1713
(256) 340-9359 (FAX)



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

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

ADEM

Alabama Department of Environmental Management
adem.alabama.gov

1400 Coliseum Blvd. 36110-2400 ■ Post Office Box 301463
Montgomery, Alabama 36130-1463
(334) 271-7700 ■ FAX (334) 271-7950

MAR 29 2019

CERTIFIED MAIL 91 7108 2133 3936 7224 0694

Ms. Cindy Herrell
Rickey's Grocery
265 County Road 682
Heflin, Alabama 36264

*Miranda
690215-003*

Dear Ms. Herrell:

RE: NOTICE OF DELINQUENCY
Rickey's Grocery
11542 County Road 49
Heflin, Cleburne County, Alabama
Facility I.D. No. **22329-029-015532**
UST Incident No. **UST15-05-02**
ADEM File Code: **UST150502/WARN09936**

Attached to this Notice of Delinquency is a letter the Department previously issued requiring certain corrective actions to be performed. The due date for the required plan was **February 15, 2019**. To date, the Department has not received the required plan. Therefore, the required activities should be performed and documentation submitted as previously required in the attached letter.

Failure to perform the required activities and/or submit the required documentation may result in further enforcement actions being issued by the Department.

Should there be any questions regarding this matter, please contact Mr. Chris Krafcheck at 334-270-5645.

Sincerely,

Dorothy S. Malaier

Dorothy S. Malaier, Chief
UST Corrective Action State and Federal Funds Section
Groundwater Branch, Land Division
DM/CLK/aw

Attachment

cc: Dorothy Malaier, ADEM

TTL, Inc.
2743-B Gunter Park Drive W.
Montgomery, Alabama 36109



APPENDIX B
Tables

Table 1. Relative water-table elevations; Rickey's Grocery; 11542 County Road 49; Heflin, Cleburne County, Alabama. Facility ID No. 22329-029-015532; Incident No. UST15-05-02

Well Identifier	Relative Elevation of Land Surface (feet)	Relative Elevation of Measuring Point ¹ (feet)	Date of Measurement	Screened Interval (feet)	Depth to Water (ft. BMP) ²	Relative Ground-Water Elevation (ft. AMSL) ³
MW-1	1050.40	1050.12	3/10/14	3.5-18.5	5.88	1044.44
			5/31/14		6.36	1043.76
			8/26/14		10.55	1039.57
			3/23/15		5.80	1044.52
			12/8/15		10.10	1040.02
			1/4/16		5.93	1044.19
			2/27/17		14.35	1035.77
			6/1/17		12.00	1038.12
			9/6/17		12.24	1037.88
			11/30/17		12.60	1037.52
			6/21/18		8.48	1041.64
			10/18/18		11.02	1039.10
			2/14/19		4.21	1045.91
			MW-2		NM	1051.68	3/10/14	4.30	1047.38
5/31/14	5.26	1046.42				
8/26/14	10.40	1041.28				
3/23/15	4.77	1046.91				
2/27/17	15.03	1036.65				
6/1/17	12.74	1038.94				
9/6/17	12.84	1038.84				
11/30/17	13.15	1038.53				
6/21/18	8.68	1043.00				
10/18/18	11.31	1040.37				
2/14/19	3.04	1048.64				
MW-3	NM	1048.40	3/10/14	4.15	1044.25	
			5/31/14	5.27	1043.13	
			8/26/14	9.94	1038.46	
			3/23/15	3.60	1044.80	
			2/27/17	13.50	1034.90	
			6/1/17	11.10	1037.30	
			9/6/17	11.60	1036.80	
			11/30/17	12.00	1036.40	
			6/21/18	8.01	1040.39	
			10/18/18	10.82	1037.58	
			2/14/19	3.15	1045.25	
MW-4	NM	1045.95	3/10/14	3.70	1042.25	
			5/31/14	5.04	1040.91	
			8/26/14	7.50	1038.45	
			3/23/15	3.61	1042.34	
			2/27/17	10.45	1035.50	
			6/1/17	6.73	1039.22	
			9/6/17	7.40	1038.55	
			11/30/17	10.05	1035.90	
			6/21/18	6.29	1039.66	
			10/18/18	8.25	1037.70	
			2/14/19	2.64	1043.31	
MW-4D	NM	1046.11	3/10/14	2.74	1043.37	
			5/31/14	3.96	1042.15	
			8/26/14	8.15	1037.96	
			3/23/15	2.85	1043.26	
			2/27/17	8.45	1037.66	
			6/1/17	9.20	1036.91	
			9/6/17	9.40	1036.71	
			11/30/17	10.00	1036.11	
			6/21/18	6.22	1039.89	
			10/18/18	7.72	1038.39	
			2/14/19	1.70	1044.41	

Table 1. Relative water-table elevations; Rickey's Grocery; 11542 County Road 49; Heflin, Cleburne County, Alabama. Facility ID No. 22329-029-015532; Incident No. UST15-05-02

Well Identifier	Relative Elevation of Land Surface (feet)	Relative Elevation of Measuring Point ¹ (feet)	Date of Measurement	Screened Interval (feet)	Depth to Water (ft. BMP) ²	Relative Ground-Water Elevation (ft. AMSL) ³
MW-5	NM	1049.68	3/10/14		2.71	1046.97
			5/31/14		3.58	1046.10
			8/26/14		8.62	1041.06
			3/23/15		3.18	1046.50
			2/27/17		13.70	1035.98
			6/1/17		11.40	1038.28
			9/6/17		11.50	1038.18
			11/30/17		11.75	1037.93
			6/21/18		7.11	1042.57
			10/18/18		10.01	1039.67
2/14/19		1.61	1048.07			
MW-6	NM	1051.88	3/10/14		5.44	1046.44
			5/31/14		6.50	1045.38
			8/26/14		11.43	1040.45
			3/23/15		6.32	1045.56
			2/27/17		15.10	1036.78
			6/1/17		12.75	1039.13
			9/6/17		13.22	1038.66
			11/30/17		13.43	1038.45
			6/21/18		9.35	1042.53
			10/18/18		11.68	1040.20
2/14/19		4.21	1047.67			
MW-7	NM	1049.50	3/10/14		4.02	1045.48
			5/31/14		5.49	1044.01
			8/26/14		8.91	1040.59
			3/23/15		3.68	1045.82
			2/27/17		2.21	1047.29
			6/1/17		7.38	1042.12
			9/6/17		8.25	1041.25
			11/30/17		11.70	1037.80
			6/21/18		7.27	1042.23
			10/18/18		9.35	1040.15
2/14/19		3.32	1046.18			
MW-8	NM	1047.89	3/10/14		4.92	1042.97
			5/31/14		6.43	1041.46
			8/26/14		9.46	1038.43
			3/23/15		5.43	1042.46
			2/27/17		12.10	1035.79
			6/1/17		9.54	1038.35
			9/6/17		10.30	1037.59
			11/30/17		11.30	1036.59
			6/21/18		8.22	1039.67
			10/18/18		9.98	1037.91
2/14/19		3.84	1044.05			

Table 1. Relative water-table elevations; Rickey's Grocery; 11542 County Road 49; Heflin, Cleburne County, Alabama, Facility ID No. 22329-029-015532; Incident No. UST15-05-02

Well Identifier	Relative Elevation of Land Surface (feet)	Relative Elevation of Measuring Point ¹ (feet)	Date of Measurement	Screened Interval (feet)	Depth to Water (ft. BMP) ²	Relative Ground-Water Elevation (ft. AMSL) ³
MW-9	NM	1044.25	3/10/14		2.79	1041.46
			5/31/14		5.00	1039.25
			8/26/14		7.85	1036.40
			3/23/15		2.22	1042.03
			2/27/17		9.99	1034.26
			6/1/17		6.79	1037.46
			9/6/17		7.94	1036.31
			11/30/17		9.65	1034.60
			6/21/18		6.31	1037.94
			10/18/18		8.40	1035.85
			2/14/19		1.80	1042.45
MW-10	NM	1037.99	3/10/14		5.93	1032.06
			5/31/14		7.60	1030.39
			8/26/14		8.52	1029.47
			3/23/15		4.67	1033.32
			2/27/17		9.35	1028.64
			6/1/17		8.05	1029.94
			9/6/17		8.70	1029.29
			11/30/17		9.23	1028.76
			6/21/18		8.56	1029.43
			10/18/18		9.12	1028.87
			2/14/19		4.53	1033.46
MW-11	NM	1045.71	3/10/14		9.48	1036.23
			5/31/14		10.51	1035.20
			8/26/14		11.45	1034.26
			3/23/15		8.08	1037.63
			2/27/17	Not measured; well not accessible		
			6/1/17	Not measured; well not accessible		
			9/6/17	Not measured; well not accessible		
			11/30/17	Not measured; well not accessible		
			6/21/18	Not measured; well not accessible		
			10/18/18	Not measured; well not accessible		
			2/14/19	Not measured; well not accessible		
MW-12	NM	1045.38	3/10/14		4.30	1041.08
			5/31/14		5.95	1039.43
			8/26/14		11.35	1034.03
			3/23/15		4.98	1040.40
			2/27/17		14.40	1030.98
			6/1/17		11.69	1033.69
			9/6/17		12.40	1032.98
			11/30/17		12.60	1032.78
			6/21/18		8.51	1036.87
			10/18/18		11.77	1033.61
			2/14/19		3.75	1041.63

Table 1. Relative water-table elevations; Rickey's Grocery; 11542 County Road 49; Heflin, Cleburne County, Alabama. Facility ID No. 22329-Q29-015532; Incident No. UST15-05-02

Well Identifier	Relative Elevation of Land Surface (feet)	Relative Elevation of Measuring Point ¹ (feet)	Date of Measurement	Screened Interval (feet)	Depth to Water (ft. BMP) ²	Relative Ground-Water Elevation (ft. AMSL) ³
MW-13	NM	1039.54	3/10/14		2.50	1037.04
			5/31/14		3.45	1036.09
			8/26/14		6.59	1032.95
			3/23/15		1.04	1038.50
			2/27/17		7.92	1031.62
			6/1/17		4.71	1034.83
			9/6/17		6.49	1033.05
			11/30/17		7.70	1031.84
			6/21/18		4.75	1034.79
			10/18/18		6.80	1032.74
			2/14/19		1.52	1038.02
MW-14	NM	1036.87	3/10/14		2.88	1033.99
			5/31/14		4.75	1032.12
			8/26/14		8.21	1028.66
			3/23/15		2.77	1034.10
			2/27/17		9.04	1027.83
			6/1/17		7.31	1029.56
			9/6/17		8.95	1027.92
			11/30/17		8.47	1028.40
			6/21/18		6.11	1030.76
			10/18/18		8.12	1028.75
			2/14/19		2.71	1034.16
MW-15	NM	1029.05	3/10/14		3.60	1025.45
			5/31/14		5.31	1023.74
			8/26/14		7.80	1021.25
			3/23/15		3.62	1025.43
			2/27/17		7.19	1021.86
			6/1/17		6.07	1022.98
			9/6/17		8.10	1020.95
			11/30/17		7.28	1021.77
			6/21/18		6.04	1023.01
			10/18/18		7.53	1021.52
			2/14/19		2.78	1026.27
MW-16	NM	1017.84	3/10/14		2.03	1015.81
			5/31/14		2.90	1014.94
			8/26/14		3.80	1014.04
			3/23/15		1.88	1015.96
			2/27/17		3.36	1014.48
			6/1/17		2.69	1015.15
			9/6/17		3.54	1014.30
			11/30/17		3.09	1014.75
			6/21/18		3.42	1014.42
			10/18/18		3.60	1014.24
			2/14/19		2.70	1015.14
MW-17	NM	1025.33	3/10/14		1.25	1024.08
			5/31/14		1.81	1023.52
			8/26/14		2.61	1022.72
			3/23/15		1.03	1024.30
			2/27/17		2.52	1022.81
			6/1/17		1.90	1023.43
			9/6/17		2.55	1022.78
			11/30/17		2.15	1023.18
			6/21/18		2.18	1023.15
			10/18/18		2.35	1022.98
			2/14/19		1.21	1024.12

Table 1. Relative water-table elevations; Rickey's Grocery; 11542 County Road 49; Heflin, Cleburne County, Alabama. Facility ID No. 22329-029-015532; Incident No. UST15-05-02

Well Identifier	Relative Elevation of Land Surface (feet)	Relative Elevation of Measuring Point ¹ (feet)	Date of Measurement	Screened Interval (feet)	Depth to Water (ft. BMP) ²	Relative Ground-Water Elevation (ft. AMSL) ³
MW-18	NM	1035.49	3/10/14		2.89	1032.60
			5/31/14		5.67	1029.82
			8/26/14		10.78	1024.71
			3/23/15		1.27	1034.22
			2/27/17		13.82	1021.67
			6/1/17		11.58	1023.91
			9/6/17		12.50	1022.99
			11/30/17		11.68	1023.81
			6/21/18		8.33	1027.16
			10/18/18		11.03	1024.46
			2/14/19		1.78	1033.71
MW-19	NM	1027.04	3/10/14		3.74	1023.30
			5/31/14		4.49	1022.55
			8/26/14		7.95	1019.09
			3/23/15		3.85	1023.19
			2/27/17		9.98	1017.06
			6/1/17		8.26	1018.78
			9/6/17		9.37	1017.67
			11/30/17		8.72	1018.32
			6/21/18		6.33	1020.71
			10/18/18		8.26	1018.78
			2/14/19		3.88	1023.16
RW-1	NM	NM	3/13/14		7.08	
			5/31/14		5.56	
			8/26/14		10.53	
			3/23/15		4.85	
			2/27/17		14.75	
			6/1/17		12.47	
			9/6/17		12.55	
			11/30/17		12.88	
			6/21/18		8.57	
			10/18/18		11.22	
			2/14/19		3.54	
RW-2	1050.88	1050.86	12/8/15	3.5-13.5	8.55	1041.57
			1/4/16		5.08	1045.78
			2/27/17		14.13	1036.73
			6/1/17		11.96	1038.90
			9/6/17		12.00	1038.86
			11/30/17		12.35	1038.51
			6/21/18		7.95	1042.91
			10/18/18		10.78	1040.08
			2/14/19		2.65	1048.21

Table 1. Relative water-table elevations; Rickey's Grocery; 11542 County Road 49; Heflin, Cleburne County, Alabama. Facility ID No. 22329-029-015532; Incident No. UST15-05-02

Well Identifier	Relative Elevation of Land Surface (feet)	Relative Elevation of Measuring Point ¹ (feet)	Date of Measurement	Screened Interval (feet)	Depth to Water (ft. BMP) ²	Relative Ground-Water Elevation (ft. AMSL) ³
RW-3	1051.12	1050.94	12/8/15	3.5-18.5	9.10	1041.84
			1/4/16		5.67	1045.27
			2/27/17		14.80	1036.14
			6/1/17		12.55	1038.39
			9/6/17		12.53	1038.41
			11/30/17		12.85	1038.09
			6/21/18		8.47	1042.47
			10/18/18		11.15	1039.79
			2/14/19		3.18	1047.76
RW-4	1050.92	1050.88	12/8/15	3.5-18.5	8.60	1042.28
			1/4/16		5.52	1045.36
			2/27/17		14.30	1036.58
			6/1/17		12.10	1038.78
			9/6/17		12.20	1038.68
			11/30/17		12.47	1038.41
			6/21/18		7.90	1042.98
			10/18/18		10.77	1040.11
			2/14/19		2.49	1048.39
RW-5	1049.42	1049.18	12/8/15	3.5-18.5	8.93	1040.25
			1/4/16		5.74	1043.44
			2/27/17		13.20	1035.98
			6/1/17		10.50	1038.68
			9/6/17		11.40	1037.78
			11/30/17		12.07	1037.11
			6/21/18		8.36	1040.82
			10/18/18		10.48	1038.70
			2/14/19		4.59	1044.59

¹ Measuring Point is the top of the PVC casing

² Feet below measuring point.

³ Feet above mean sea-level

Data collected prior to 12/8/15 were obtained from historical records prepared by previous consultants.

NM Not measured

Table 2. Historical results of natural attenuation parameters measured in groundwater samples collected from monitoring wells; Rickey's Grocery; 11542 County Road 49; Heflin, Cleburne County, Alabama. Facility ID No. 22329-029-015532; Incident No. UST15-05-02.

Sample Identifier	Date of Sample	Temperature (°C)	Specific Conductance (micromhos/centimeter)	Dissolved Oxygen (milligrams/liter)	pH (standard units)	Redox Potential (millivolts)
MW-1	8/26/14	21.1	149	1.78	4.92	143
	3/23/15	17.2	150	2.28	4.89	88
	2/27/17	12.6	1,620	3.53	5.35	41
	6/1/17	21.7	219	1.63	6.49	75
	9/6/17	22.6	210	0.65	5.51	89
	11/30/17	20.4	188	0.91	6.19	42
	6/21/18	23.1	205	2.52	5.38	28
	10/18/18	20.6	201	0.90	5.73	-24
	2/14/19	17.5	175	1.90	5.64	*
MW-2	8/26/14	NM	NM	NM	NM	NM
	3/23/15	NM	NM	NM	NM	NM
	2/27/17	16.8	282	5.41	4.81	40
	6/1/17	23.5	192	1.14	5.75	11
	9/6/17	22.9	43	1.90	4.84	226
	11/30/17	NM	NM	NM	NM	NM
	6/21/18	NM	NM	NM	NM	NM
	10/18/18	NM	NM	NM	NM	NM
	2/14/19	NM	NM	NM	NM	NM
MW-3	8/26/14	19.4	56	1.11	4.81	155
	3/23/15	15.2	283	2.12	5.70	16
	2/27/17	12.4	420	4.30	4.78	43
	6/1/17	21.9	215	1.32	5.75	21
	9/6/17	22.1	68	0.55	4.97	164
	11/30/17	19.3	60	0.94	5.38	111
	6/21/18	21.4	97	1.86	5.19	88
	10/18/18	19.7	95	1.00	5.74	-33
	2/14/19	13.5	82	1.60	5.83	*
MW-4	8/26/14	19.7	264	3.00	5.74	11
	3/23/15	15.8	140	2.50	5.59	54
	2/27/17	14.7	1,644	2.97	6.04	11
	6/1/17	21.5	191	1.62	5.74	20
	9/6/17	24.1	217	0.70	5.85	-8
	11/30/17	18.3	239	0.78	7.25	-55
	6/21/18	21.1	273	1.59	5.83	-56
	10/18/18	20.7	280	1.50	6.25	-67
	2/14/19	14.5	252	1.50	6.26	*
MW-4D	8/26/14	NM	NM	NM	NM	NM
	3/23/15	NM	NM	NM	NM	NM
	2/27/17	11.0	281	12.09	5.23	45
	6/1/17	22.3	57	6.60	5.46	112
	9/6/17	NM	NM	NM	NM	NM
	11/30/17	NM	NM	NM	NM	NM
	6/21/18	NM	NM	NM	NM	NM
	10/18/18	NM	NM	NM	NM	NM
	2/14/19	NM	NM	NM	NM	NM
MW-5	8/26/14	NM	NM	NM	NM	NM
	3/23/15	NM	NM	NM	NM	NM
	2/27/17	16.2	317	8.45	5.27	39
	6/1/17	20.8	95	6.76	6.76	156
	9/6/17	NM	NM	NM	NM	NM
	11/30/17	NM	NM	NM	NM	NM
	6/21/18	NM	NM	NM	NM	NM
	10/18/18	NM	NM	NM	NM	NM
	2/14/19	NM	NM	NM	NM	NM

Table 2. Historical results of natural attenuation parameters measured in groundwater samples collected from monitoring wells; Rickey's Grocery; 11542 County Road 49; Heflin, Cleburne County, Alabama. Facility ID No. 22329-029-015532; Incident No. UST15-05-02.

Sample Identifier	Date of Sample	Temperature (°C)	Specific Conductance (micromhos/centimeter)	Dissolved Oxygen (milligrams/liter)	pH (standard units)	Redox Potential (millivolts)
MW-6	8/26/14	NM	NM	NM	NM	NM
	3/23/15	NM	NM	NM	NM	NM
	2/27/17	14.4	1,432	3.75	5.68	27
	6/1/17	21.5	34	3.08	4.60	240
	9/6/17	22.1	161	0.62	5.66	4
	11/30/17	20.5	135	1.01	5.87	-222
	6/21/18	21.5	158	1.26	5.57	-22
	10/18/18	20.6	156	1.00	5.92	87
	2/14/19	14.6	125	1.20	5.86	*
MW-7	8/26/14	NM	NM	NM	NM	NM
	3/23/15	NM	NM	NM	NM	NM
	2/27/17	13.8	1,210	4.58	5.53	41
	6/1/17	23.7	165	1.58	5.74	167
	9/6/17	NM	NM	NM	NM	NM
	11/30/17	NM	NM	NM	NM	NM
	6/21/18	NM	NM	NM	NM	NM
	10/18/18	NM	NM	NM	NM	NM
	2/14/19	NM	NM	NM	NM	NM
MW-8	8/26/14	NM	NM	NM	NM	NM
	3/23/15	NM	NM	NM	NM	NM
	2/27/17	15.2	900	5.30	5.57	41
	6/1/17	23.3	90	1.45	5.20	165
	9/6/17	NM	NM	NM	NM	NM
	11/30/17	NM	NM	NM	NM	NM
	6/21/18	NM	NM	NM	NM	NM
	10/18/18	NM	NM	NM	NM	NM
	2/14/19	NM	NM	NM	NM	NM
MW-9	8/26/14	18.8	72	2.42	4.60	236
	3/23/15	14.5	69	2.74	4.93	137
	2/27/17	15.1	769	2.89	5.09	261
	6/1/17	18.2	91	2.30	5.24	109
	9/6/17	NM	NM	NM	NM	NM
	11/30/17	19.1	98	0.34	5.64	163
	6/21/18	21.1	83	1.81	4.98	165
	10/18/18	20.1	71	1.10	5.46	134
	2/14/19	14.0	82	1.70	5.68	*
MW-10	8/26/14	19.5	90	1.47	5.10	124
	3/23/15	14.2	77	3.83	4.84	87
	2/27/17	12.8	774	3.30	5.39	245
	6/1/17	20.0	100	1.87	5.41	115
	9/6/17	NM	NM	NM	NM	NM
	11/30/17	NM	NM	NM	NM	NM
	6/21/18	NM	NM	NM	NM	NM
	10/18/18	NM	NM	NM	NM	NM
	2/14/19	NM	NM	NM	NM	NM

Table 2. Historical results of natural attenuation parameters measured in groundwater samples collected from monitoring wells; Rickey's Grocery; 11542 County Road 49; Heflin, Cleburne County, Alabama. Facility ID No. 22329-029-015532; Incident No. UST15-05-02.

Sample Identifier	Date of Sample	Temperature (°C)	Specific Conductance (micromhos/centimeter)	Dissolved Oxygen (milligrams/liter)	pH (standard units)	Redox Potential (millivolts)
MW-11	8/26/14	NM	NM	NM	NM	NM
	3/23/15	NM	NM	NM	NM	NM
	2/27/17		Not measured; well not accessible			
	6/1/17		Not measured; well not accessible			
	9/6/17	NM	NM	NM	NM	NM
	11/30/17	NM	NM	NM	NM	NM
	6/21/18	NM	NM	NM	NM	NM
	10/18/18	NM	NM	NM	NM	NM
	2/14/19	NM	NM	NM	NM	NM
MW-12	8/26/14	NM	NM	NM	NM	NM
	3/23/15	NM	NM	NM	NM	NM
	2/27/17	14.6	466	1.55	4.98	104
	6/1/17	19.0	103	2.02	5.38	56
	9/6/17	NM	NM	NM	NM	NM
	11/30/17	NM	NM	NM	NM	NM
	6/21/18	NM	NM	NM	NM	NM
	10/18/18	NM	NM	NM	NM	NM
	2/14/19	NM	NM	NM	NM	NM
MW-13	8/26/14	12.9	86	2.83	5.13	170
	3/23/15	13.0	72	4.74	5.20	45
	2/27/17	13.4	454	3.16	5.09	173
	6/1/17	19.7	66	2.67	5.15	146
	9/6/17	21.2	75	0.96	4.87	223
	11/30/17	19.3	88	0.49	5.56	196
	6/21/18	20.4	64	1.92	5.08	176
	10/18/18	20.3	79	0.90	5.40	203
	2/14/19	14.6	74	1.40	5.46	*
MW-14	8/26/14	19.6	48	1.70	4.83	229
	3/23/15	15.1	47	2.75	4.87	133
	2/27/17	13.5	365	1.18	4.92	198
	6/1/17	17.2	45	1.95	5.05	141
	9/6/17	18.5	48	0.76	4.72	176
	11/30/17	18.3	47	1.23	5.04	38
	6/21/18	20.6	60	0.93	4.70	163
	10/18/18	20.3	51	0.90	5.06	146
	2/14/19	12.1	87	6.10	6.93	*
MW-15	8/26/14	17.9	73	3.21	5.70	58
	3/23/15	13.9	53	4.31	5.01	49
	2/27/17	12.2	518	1.93	5.28	103
	6/1/17	17.3	52	1.98	5.30	108
	9/6/17	18.1	115	0.79	5.73	9
	11/30/17	18.2	64	0.83	5.68	-103
	6/21/18	18.8	79	1.73	5.22	69
	10/18/18	18.8	72	1.10	5.90	13
	2/14/19	13.6	90	2.60	6.20	*
MW-16	8/26/14	18.2	84	2.12	5.27	121
	3/23/15	13.5	53	4.56	3.10	209
	2/27/17	11.2	1,131	2.67	5.07	248
	6/1/17	18.9	50	2.18	5.14	168
	9/6/17	NM	NM	NM	NM	NM
	11/30/17	16.7	68	0.94	5.49	-2
	6/21/18	21.2	97	2.55	5.40	81
	10/18/18	20.5	91	0.80	5.70	56
	2/14/19	12.9	56	1.80	5.74	*
MW-17	8/26/14	19.2	77	2.99	4.44	144
	3/23/15	13.0	71	4.94	5.60	164
	2/27/17	12.9	488	3.77	5.12	219
	6/1/17	19.4	68	2.27	5.25	151
	9/6/17	NM	NM	NM	NM	NM
	11/30/17	NM	NM	NM	NM	NM
	6/21/18	NM	NM	NM	NM	NM
	10/18/18	NM	NM	NM	NM	NM
	2/14/19	NM	NM	NM	NM	NM

Table 2. Historical results of natural attenuation parameters measured in groundwater samples collected from monitoring wells; Rickey's Grocery; 11542 County Road 49; Heflin, Cleburne County, Alabama. Facility ID No. 22329-029-015532; Incident No. UST15-05-02.

Sample Identifier	Date of Sample	Temperature (°C)	Specific Conductance (micromhos/centimeter)	Dissolved Oxygen (milligrams/liter)	pH (standard units)	Redox Potential (millivolts)
MW-18	8/26/14	NM	NM	NM	NM	NM
	3/23/15	NM	NM	NM	NM	NM
	2/27/17	12.9	607	3.46	4.74	195
	6/1/17	16.2	68	2.31	4.73	167
	9/6/17	NM	NM	NM	NM	NM
	11/30/17	NM	NM	NM	NM	NM
	6/21/18	NM	NM	NM	NM	NM
	10/18/18	NM	NM	NM	NM	NM
2/14/19	NM	NM	NM	NM	NM	
MW-19	8/26/14	NM	NM	NM	NM	NM
	3/23/15	NM	NM	NM	NM	NM
	2/27/17	12.2	314	7.21	4.56	257
	6/1/17	15.5	40	5.08	4.74	180
	9/6/17	NM	NM	NM	NM	NM
	11/30/17	NM	NM	NM	NM	NM
	6/21/18	NM	NM	NM	NM	NM
	10/18/18	NM	NM	NM	NM	NM
2/14/19	NM	NM	NM	NM	NM	
RW-1	2/27/17	15.3	450	3.56	5.30	39
	6/1/17	21.1	37	1.59	4.88	210
	9/6/17	22.5	55	0.95	5.04	163.00
	11/30/17	20.6	35	1.16	5.03	21
	6/21/18	NM	NM	NM	NM	NM
	10/18/18	NM	NM	NM	NM	NM
	2/14/19	NM	NM	NM	NM	NM
RW-2	2/27/17	Dry	Dry	Dry	Dry	Dry
	6/1/17	20.4	33	4.21	4.96	284
	9/6/17	23.7	237	1.16	5.85	223
	11/30/17	20.7	26	4.20	4.74	144
	6/21/18	NM	NM	NM	NM	NM
	10/18/18	NM	NM	NM	NM	NM
	2/14/19	NM	NM	NM	NM	NM
RW-3	2/27/17	15.5	434	4.65	5.21	39
	6/1/17	21.1	45	1.88	4.93	264
	9/6/17	22.6	70	0.93	5.15	293
	11/30/17	20.2	34	1.14	4.83	89
	6/21/18	NM	NM	NM	NM	NM
	10/18/18	NM	NM	NM	NM	NM
	2/14/19	NM	NM	NM	NM	NM
RW-4	2/27/17	16.3	421	8.09	5.88	38
	6/1/17	20.7	60	4.79	5.27	237
	9/6/17	22.4	47	2.41	4.82	314
	11/30/17	19.8	41	2.38	4.90	203
	6/21/18	NM	NM	NM	NM	NM
	10/18/18	NM	NM	NM	NM	NM
	2/14/19	NM	NM	NM	NM	NM
RW-5	2/27/17	14.3	1,191	4.76	4.87	40
	6/1/17	24.2	119	1.64	5.00	161
	9/6/17	23.3	125	0.44	4.93	172
	11/30/17	20.1	103	1.54	5.04	46
	6/21/18	23.2	140	1.01	4.92	135
	10/18/18	21.0	136	2.30	5.08	225
	2/14/19	15.8	115	1.80	4.96	*

All parameters were measured with a YSI meter in a sample of water extracted from each well with a disposable bailer. Data prior to 2/27/17 was obtained from historical reports prepared by previous consultants.

* ORP meter not functional.

Table 3. Concentrations of BTEX¹, MTBE¹, and Naphthalene¹ in groundwater samples collected from monitoring/recovery wells; Rickey's Grocery, 11542 County Road 49; Heflin, Cleburne County, Alabama. Facility ID No. 22329-029-015532; Incident No. UST15-05-02

Well Identifier	Date Collected	PARAMETERS ANALYZED						
		Benzene	Toluene	Ethyl Benzene	Total Xylenes	Total Detected BTEX	MTBE	Naph
		[Concentrations are in milligrams per Liter]						
Commercial ISL²		0.005	1.00	0.700	10		0.020	0.020
MW-1	3/11/14	4.46	17.5	1.97	9.39	33.3	1.63	0.850
	5/31/14	6.60	41.4	4.18	13.5	65.7	13.9	0.742
	8/26/14	2.36	18.4	5.24	19.5	45.50	0.010	0.560
	3/23/15	4.470	25.000	4.190	19.500	53.160	5.460	0.432
	7/16/15	3.100	22.400	4.780	20.500	50.780	<0.200	0.190
	12/8/15	2.595	18.26	2.18J	9.795	32.83	<0.40	0.580J
	2/27/17	2.570	12.68	2.32J	8.080	25.65	0.470J	0.520J
	6/1/17	5.295	22.62	3.930	12.000	43.845	0.645J	0.985J
	9/6/17	2.42J	7.640	1.9J	5.47	17.44	<0.40	0.725J
	11/30/17	2.530	8.050	1.40J	4.04J	16.02	<0.40	0.755J
	6/21/18	2.30J	9.145	1.66J	3.90J	17.01	<0.40	<0.50
	10/18/18	2.545	11.44	1.90	5.16	21.05	<0.40	0.655
	2/14/19	3.790	12.52	<2.500	3.230	19.54	<2.500	<2.500
SSTL for Source Well³		0.534	107	74.8	175		2.14	2.14
MW-2	3/11/14	<0.001	<0.001	<0.001	<0.001	BDL	<0.001	<0.001
	8/26/14				Not Sampled			
	3/23/15				Not Sampled			
	7/16/15	<0.001	<0.001	<0.001	<0.003	BDL	<0.001	<0.005
	2/27/17	<0.0005	<0.0005	<0.0004	<0.0013	BDL	<0.0008	<0.0010
	6/1/2017*	0.0954	0.0133J	0.3387	0.0252J	0.4726	0.0089J	0.0569
	9/6/17	<0.0005	<0.0005	<0.0004	<0.0013	BDL	<0.0008	<0.0010
	11/30/17				Not Sampled			
	6/21/18				Not Sampled			
	10/18/18				Not Sampled			
	2/14/19				Not Sampled			
MW-3	3/11/14	0.023	1.02	0.176	1.00	2.22	<0.01	0.053
	5/31/14	0.010	0.841	0.114	0.507	1.47	<0.01	0.036
	8/26/14	0.001	0.297	0.167	0.642	1.107	<0.001	0.109
	3/23/15	0.016	2.400	0.935	3.840	7.191	<0.005	0.201
	7/16/15	0.134	0.014	0.042	0.175	0.365	0.002	0.046
	2/28/17	0.0128J	1.036	0.2875	0.9622	2.299	0.013J	0.0543
	6/1/17	0.0155J	0.8012	0.2640	0.9433	2.0240	<0.0080	0.1360
	9/6/17	0.1265	0.1362	0.0540	0.2284	0.5451	0.0098J	0.0217J
	11/30/17	0.1149	0.0888	0.0337J	0.1447	0.3821	<0.0080	0.0144J
	6/21/18	0.0366J	0.0772	0.0354J	0.1760	0.3252	<0.0080	0.0285J
	10/18/18	0.0097	0.0332	0.0140	0.0576	0.1145	<0.0008	0.0108
	2/14/19	<0.0250	0.3704	0.1047	0.5115	0.9866	<0.0250	0.0352
SSTL for POC Well³		0.0105	2.10	1.47	21		0.0420	0.0420
MW-4	3/11/14	0.249	0.293	0.844	2.34	3.73	0.411	0.250
	5/31/14	0.722	0.257	0.773	1.23	2.98	1.76	0.383
	8/26/14	0.194	0.371	1.95	6.24	8.755	0.487	1.82
	3/23/15	0.052	0.021	0.075	0.140	0.288	0.190	0.050
	7/16/15	0.741	2.050	4.270	10.600	17.661	1.280	0.345
	2/28/17	0.0691	0.1234	1.081	2.258	3.532	0.0673	0.2099
	6/1/17	0.0806	0.1123	1.486	3.6096	5.2885	0.0701	0.3776
	9/6/17	0.0500J	0.0770J	1.165	2.144	3.436	0.113J	0.386J
	11/30/17	0.0770J	0.148J	1.584	4.149	5.958	<0.080	0.377J
	6/21/18	0.161J	0.159J	1.896	4.143	6.359	0.186J	0.483J
	10/18/18	0.148	0.149	2.553	6.767	9.617	0.157	0.6050
	2/14/19	<0.2500	<0.2500	1.507	2.646	4.153	0.3085	0.4295
SSTL for POC Well³		0.124	21.8	17.4	175		0.496	0.496

Table 3. Concentrations of BTEX¹, MTBE¹, and Naphthalene¹ in groundwater samples collected from monitoring/recovery wells; Rickey's Grocery; 11542 County Road 49; Heflin, Cleburne County, Alabama. Facility ID No. 22329-029-015532; Incident No. UST15-05-02

Well Identifier	Date Collected	PARAMETERS ANALYZED						
		Benzene	Toluene	Ethyl Benzene	Total Xylenes	Total Detected BTEX	MTBE	Naph
[Concentrations are in milligrams per Liter]								
MW-4D	3/13/14	<0.001	<0.001	<0.001	<0.001	BDL	<0.001	<0.001
	8/26/14				Not Sampled			
	3/23/15				Not Sampled			
	7/16/15	<0.001	<0.001	<0.001	<0.003	BDL	<0.001	<0.005
	2/28/17	<0.0005	<0.0005	<0.0004	<0.0013	BDL	<0.0008	<0.0010
	6/1/17	<0.0005	<0.0005	<0.0004	<0.0013	BDL	<0.0008	<0.0010
	9/6/17				Not Sampled			
	11/30/17				Not Sampled			
	6/21/18				Not Sampled			
	10/18/18				Not Sampled			
	2/14/19				Not Sampled			
MW-5	3/13/14	<0.001	<0.001	<0.001	<0.001	BDL	<0.001	<0.001
	8/26/14				Not Sampled			
	3/23/15				Not Sampled			
	7/16/15	<0.001	<0.001	<0.001	<0.003	BDL	<0.001	<0.005
	2/27/17	<0.0005	<0.0005	<0.0004	<0.0013	BDL	<0.0008	<0.0010
	6/1/17	<0.0005	<0.0005	<0.0004	<0.0013	BDL	<0.0008	<0.0010
	9/6/17				Not Sampled			
	11/30/17				Not Sampled			
	6/21/18				Not Sampled			
	10/18/18				Not Sampled			
	2/14/19				Not Sampled			
MW-6	3/11/14	0.161	0.013	0.195	0.047	0.416	<0.005	0.034
	8/26/14				Not Sampled			
	3/23/15				Not Sampled			
	7/16/15	0.281	0.048	0.449	0.093	0.871	<0.010	0.046
	2/27/17	0.1368	0.0204J	0.4648	0.0417	0.6637	0.0041J	0.0963
	6/1/17	<0.0005	<0.0005	<0.0004	<0.0013	BDL	<0.0008	<0.0010
	9/6/17	0.0544	0.0118J	0.3756	0.0232J	0.465	0.0057J	0.0713
	11/30/17	0.0540	0.0108J	0.4350	0.0290	0.5288	0.0054J	0.0801
	6/21/18	0.0545	0.0085J	0.4468	0.0319	0.5417	<0.0040	0.0869
	10/18/18	0.0589	0.0080	0.4199	0.0206	0.5074	<0.0040	0.0910
	2/14/19	0.0614	<0.0250	0.3980	0.0391	0.4985	<0.0250	0.0778
MW-7	3/11/14	<0.001	<0.001	<0.001	<0.001	BDL	0.003	<0.001
	8/26/14				Not Sampled			
	3/23/15				Not Sampled			
	7/16/15	<0.001	<0.001	<0.001	<0.003	BDL	<0.001	<0.005
	2/27/17	<0.0005	<0.0005	<0.0004	<0.0013	BDL	<0.0008	<0.0010
	6/1/17	<0.0005	<0.0005	<0.0004	<0.0013	BDL	<0.0008	<0.0010
	9/6/17				Not Sampled			
	11/30/17				Not Sampled			
	6/21/18				Not Sampled			
	10/18/18				Not Sampled			
	2/14/19				Not Sampled			

Table 3. Concentrations of BTEX¹, MTBE¹, and Naphthalene¹ in groundwater samples collected from monitoring/recovery wells; Rickey's Grocery; 11542 County Road 49; Heflin, Cleburne County, Alabama. Facility ID No. 22329-029-015532; Incident No. UST15-05-02

Well Identifier	Date Collected	PARAMETERS ANALYZED						
		Benzene	Toluene	Ethyl Benzene	Total Xylenes	Total Detected BTEX	MTBE	Naph
[Concentrations are in milligrams per Liter]								
MW-8	3/11/14	<0.001	<0.001	<0.001	<0.001	BDL	<0.001	<0.001
	8/26/14					Not Sampled		
	3/23/15					Not Sampled		
	7/16/15	<0.001	<0.001	<0.001	<0.003	BDL	<0.001	<0.005
	2/27/17	<0.0005	<0.0005	<0.0004	<0.0013	BDL	<0.0008	<0.0010
	6/1/17	<0.0005	<0.0005	<0.0004	<0.0013	BDL	<0.0008	<0.0010
	9/6/17					Not Sampled		
	11/30/17					Not Sampled		
	6/21/18					Not Sampled		
	10/18/18					Not Sampled		
	2/14/19					Not Sampled		
	MW-9	3/13/14	<0.001	<0.001	<0.001	<0.001	BDL	0.050	<0.001
5/31/14		0.002	<0.001	<0.001	0.002	0.004	0.091	<0.001
8/26/14		<0.001	<0.001	<0.001	<0.003	BDL	0.010	<0.005
3/23/15		<0.001	<0.001	<0.001	<0.003	BDL	0.006	<0.005
7/16/15		0.011	<0.001	<0.001	<0.003	0.011	0.492	0.006
2/28/17		0.0196J	<0.0025	0.0023J	0.0046J	0.0265	0.5625	0.0150J
6/2/17		<0.0005	<0.0005	<0.0004	<0.0013	BDL	0.0022J	<0.0010
9/6/17						Not Sampled		
11/30/17		<0.0005	<0.0005	<0.0004	<0.0013	BDL	0.0788	<0.0010
6/21/18		<0.0005	<0.0005	<0.0004	<0.0013	BDL	<0.0008	<0.0010
10/18/18		<0.0005	<0.0005	<0.0004	<0.0013	BDL	<0.0008	<0.0010
2/14/19		0.0977	<0.0500	0.0587	0.3919	0.5483	0.2681	<0.0500
SSTL for POE Well³		0.0555	11.1	7.77	111	...	0.222	0.222
MW-10	3/13/14	<0.001	<0.001	<0.001	<0.001	BDL	0.022	<0.001
	5/31/14	<0.001	<0.001	<0.001	<0.001	BDL	0.050	<0.001
	8/26/14	<0.001	<0.001	<0.001	<0.003	BDL	0.022	<0.005
	3/23/15	<0.001	<0.001	<0.001	<0.003	BDL	0.016	<0.005
	7/16/15	<0.001	<0.001	<0.001	<0.003	BDL	0.048	<0.005
	2/27/17	<0.0005	<0.0005	<0.0004	<0.0013	BDL	0.0022J	<0.0010
	6/2/17	<0.0005	<0.0005	<0.0004	<0.0013	BDL	0.0066	<0.0010
	9/6/17					Not Sampled		
	11/30/17					Not Sampled		
	6/21/18					Not Sampled		
	10/18/18					Not Sampled		
	2/14/19					Not Sampled		
SSTL for POE Well³		0.012	2.4	1.68	24	...	0.0481	0.0481

Table 3. Concentrations of BTEX¹, MTBE¹, and Naphthalene¹ in groundwater samples collected from monitoring/recovery wells; Rickey's Grocery; 11542 County Road 49; Heflin, Cleburne County, Alabama. Facility ID No. 22329-029-015532; Incident No. UST15-05-02

Well Identifier	Date Collected	PARAMETERS ANALYZED						
		Benzene	Toluene	Ethyl Benzene	Total Xylenes	Total Detected BTEX	MTBE	Naph
		[Concentrations are in milligrams per Liter]						
MW-11	3/13/14	<0.001	<0.001	<0.001	<0.001	BDL	<0.001	<0.001
	8/26/14				Not Sampled			
	3/23/15				Not Sampled			
	7/16/15	<0.001	<0.001	<0.001	<0.003	BDL	<0.001	<0.005
	2/27/17				Not Sampled; Well not accessible			
	6/2/17				Not Sampled; Well not accessible			
	9/6/17				Not Sampled			
	11/30/17				Not Sampled			
	6/21/18				Not Sampled			
	10/18/18				Not Sampled			
	2/14/19				Not Sampled			
SSTL for POE Well³		0.005	1.00	0.70	10	...	0.020	0.020
MW-12	3/13/14	<0.001	<0.001	<0.001	<0.001	BDL	<0.001	<0.001
	8/26/14				Not Sampled			
	3/23/15				Not Sampled			
	7/16/15				Not Sampled			
	2/28/17	0.0015J	0.0166	0.0051	0.0439	0.0671	<0.0008	<0.0010
	6/2/17	0.0012J	0.0189	0.0045J	0.0237	0.0483	<0.0008	<0.0010
	9/6/17				Not Sampled			
	11/30/17				Not Sampled			
	6/21/18				Not Sampled			
	10/18/18				Not Sampled			
	2/14/19				Not Sampled			
SSTL for POE Well³		0.005	1.00	0.70	10	...	0.020	0.020
MW-13	3/13/14	1.84	6.64	0.417	4.61	13.5	2.89	0.224
	5/31/14	8.09	91.7	2.37	26.4	129	12.1	0.754
	8/26/14	3.98	20.5	0.83	8.37	33.677	2.46	0.934
	3/23/15	0.237	1.630	0.127	1.220	3.214	0.166	0.089
	7/16/15	2.360	13.900	1.590	7.840	25.690	1.820	0.181
	2/28/17	<0.0005	<0.0005	<0.0004	<0.0013	BDL	0.0009J	<0.0010
	6/2/17	<0.0005	<0.0005	<0.0004	<0.0013	BDL	<0.0008	<0.0010
	9/6/17	0.0033J	0.0056	0.0004J	0.0073J	0.0166	0.0011J	0.0023J
	11/30/17	0.0289	0.0037J	0.0005J	0.0312	0.0643	0.0207	0.0022J
	6/21/18	0.0186	0.0028J	0.0005J	0.0089	0.0308	0.0083	0.0035J
	10/18/18	0.0347	0.0181	0.0035	0.0511	0.1074	0.0170	0.0089
	2/14/19	0.9306	3.397	0.3724	2.615	7.315	0.5496	0.2242
	SSTL for POE Well³		0.005	1.00	0.70	10	...	0.020
MW-14	3/13/14	20.3	48.2	3.19	26.7	98.4	1.76	1.18
	5/31/14	15.7	64.7	3.26	21.2	105	1.3	1.1
	8/26/14	8.24	92.6	4.20	34.6	139.64	0.302	0.310
	3/23/15	17.600	89.600	7.960	57.800	172.960	0.344	0.624
	7/16/15	27.400	147.000	13.300	91.800	279.500	0.376	7.310
	2/28/17	5.490	24.06	1.10J	11.198	41.848	0.498J	0.660J
	6/2/17	5.812	30.73	1.355	12.348	50.245	0.408J	0.638J
	9/6/17	5.675	30.76	1.635	13.583	51.653	0.400J	0.912J
	11/30/17	6.518	34.62	1.592	14.640	57.370	0.432J	0.988J
	6/21/18	5.275	29.97	1.22J	13.078	49.543	<0.20	0.810J
	10/18/18	5.902	28.04	1.388	15.35	50.68	0.250	0.970
	2/14/19	5.920	28.34	1.255	12.980	48.50	<1.250	<1.250
	SSTL for POE Well³		0.005	0.868	0.70	10	...	0.020	0.020

Table 3. Concentrations of BTEX¹, MTBE¹, and Naphthalene¹ in groundwater samples collected from monitoring/recovery wells; Rickey's Grocery; 11542 County Road 49; Heflin, Cleburne County, Alabama. Facility ID No. 22329-029-015532; Incident No. UST15-05-02

Well Identifier	Date Collected	PARAMETERS ANALYZED							
		Benzene	Toluene	Ethyl Benzene	Total Xylenes	Total Detected BTEX	MTBE	Naph	
		[Concentrations are in milligrams per Liter]							
MW-15	3/13/14	0.510	4.36	0.538	5.25	10.7	<0.05	0.252	
	5/31/14	0.560	11.3	1.34	8.43	21.6	0.190	0.268	
	8/26/14	0.070	2.60	0.686	3.65	7.006	<0.001	0.725	
	3/23/15	0.077	1.510	0.470	2.210	4.267	<0.020	0.149	
	7/16/15	0.077	1.420	0.336	1.840	3.673	<0.040	0.279	
	2/28/17	0.0726J	1.025	0.2184	1.4158	2.732	0.0176J	0.1518	
	6/2/17	0.0430J	0.7200	0.1100	0.6150	1.488	<0.016	0.0722J	
	9/6/17	0.0502J	1.353	0.3066	1.706	3.416	0.0188J	0.1678	
	11/30/17	0.0886J	1.747	0.2778	1.864	3.977	0.0174J	0.1902	
	6/21/18	0.0300J	0.7192	0.1824	0.8316	1.7632	<0.016	0.0984J	
	10/18/18	<0.010	0.2196	0.1796	0.6168	1.016	<0.016	0.1054	
	2/14/19	<0.0250	0.1322	0.0894	0.3191	0.5407	<0.0250	0.0456	
	SSTL for POE Well²		0.005	0.296	0.70	10	...	0.020	0.020
MW-16	3/13/14	0.032	0.082	0.008	0.070	0.192	0.605	0.010	
	5/31/14	0.006	0.007	<0.005	0.006	0.019	0.922	<0.005	
	8/26/14	<0.001	<0.001	<0.001	<0.003	BDL	0.266	<0.005	
	3/23/15	0.005	<0.001	<0.001	<0.003	0.005	0.449	<0.005	
	7/16/15	<0.001	<0.001	<0.001	<0.003	BDL	0.642	<0.005	
	2/28/17	<0.0005	<0.0005	<0.0004	<0.0013	BDL	0.2284	<0.0010	
	6/2/17	0.0028J	<0.0005	<0.0004	<0.0013	BDL	0.2764	<0.0010	
	9/6/17				Not Sampled				
	11/30/17	0.0038J	<0.0005	<0.0004	<0.0013	0.0038J	0.5808	<0.0010	
	6/21/18	<0.0005	<0.0005	<0.0004	<0.0013	BDL	0.4245	<0.0010	
	10/18/18	<0.0005	<0.0005	<0.0004	<0.0013	BDL	0.2729	<0.0010	
	2/14/19	<0.0050	<0.0050	<0.0050	<0.01	BDL	0.3612	<0.0050	
	SSTL for POE Well³		0.005	0.175	0.453	10	...	0.020	0.020
MW-17	3/13/14	<0.001	<0.001	<0.001	<0.001	BDL	<0.001	<0.001	
	5/31/14	<0.001	<0.001	<0.001	<0.001	BDL	<0.001	<0.001	
	8/26/14	<0.001	<0.001	<0.001	<0.001	BDL	<0.001	<0.001	
	3/23/15	<0.001	<0.001	<0.001	<0.001	BDL	<0.001	<0.001	
	7/16/15	<0.001	<0.001	<0.001	<0.003	BDL	0.057	<0.005	
	2/28/17	<0.0005	<0.0005	<0.0004	<0.0013	BDL	<0.0008	<0.0010	
	6/2/17	<0.0005	<0.0005	<0.0004	<0.0013	BDL	<0.0008	<0.0010	
	9/6/17				Not Sampled				
	11/30/17				Not Sampled				
	6/21/18				Not Sampled				
	10/18/18				Not Sampled				
	2/14/19				Not Sampled				
	SSTL for POE Well³		0.005	0.321	0.70	10	...	0.020	0.020
MW-18	3/13/14	<0.001	<0.001	<0.001	<0.001	BDL	<0.001	<0.001	
	8/26/14				Not Sampled				
	3/23/15				Not Sampled				
	7/16/15	<0.001	<0.001	<0.001	<0.003	BDL	<0.001	<0.005	
	2/28/17	<0.0005	<0.0005	<0.0004	<0.0013	BDL	<0.0008	<0.0010	
	6/2/17	<0.0005	<0.0005	<0.0004	<0.0013	BDL	<0.0008	<0.0010	
	9/6/17				Not Sampled				
	11/30/17				Not Sampled				
	6/21/18				Not Sampled				
	10/18/18				Not Sampled				
	2/14/19				Not Sampled				
	SSTL for POE Well³		0.005	1.0	0.70	10	...	0.020	0.020

Table 3. Concentrations of BTEX¹, MTBE¹, and Naphthalene¹ in groundwater samples collected from monitoring/recovery wells; Rickey's Grocery; 11542 County Road 49; Heflin, Cleburne County, Alabama. Facility ID No. 22329-029-015532; Incident No. UST15-05-02

PARAMETERS ANALYZED								
Well Identifier	Date Collected	Benzene	Toluene	Ethyl Benzene	Total Xylenes	Total Detected BTEX	MTBE	Naph
MW-19	3/13/14	<0.001	<0.001	<0.001	<0.001	BDL	<0.001	<0.001
	8/26/14				Not Sampled			
	3/23/15				Not Sampled			
	7/16/15	<0.001	<0.001	<0.001	<0.003	BDL	<0.001	<0.001
	2/28/17	<0.0005	<0.0005	<0.0004	<0.0013	BDL	<0.0008	<0.0010
	6/2/17	<0.0005	<0.0005	<0.0004	<0.0013	BDL	<0.0008	<0.0010
	9/6/17				Not Sampled			
	11/30/17				Not Sampled			
	6/21/18				Not Sampled			
	10/18/18				Not Sampled			
	2/14/19				Not Sampled			
SSTL for POE Well²		0.005	1.0	0.70	10	---	0.020	0.020
RW-1	2/27/17	<0.0005	<0.0005	<0.0004	<0.0013	BDL	<0.0008	<0.0010
	6/1/17	<0.0005	<0.0005	<0.0004	<0.0013	BDL	<0.0008	<0.0010
	9/6/17	<0.0005	<0.0005	<0.0004	<0.0013	BDL	<0.0008	<0.0010
	11/30/17	<0.0005	<0.0005	<0.0004	<0.0013	BDL	<0.0008	<0.0010
	6/21/18				Not Sampled			
	10/18/18				Not Sampled			
	2/14/19				Not Sampled			
	SSTL for POC Well⁴		0.244	46.9	34.2	175	---	0.978	0.978
RW-2	12/8/15	0.0009J	<0.0005	<0.0004	<0.0013	0.0009J	<0.0008	<0.0010
	2/27/17				Not Sampled; Well Dry			
	6/1/17	<0.0005	<0.0005	<0.0004	<0.0013	BDL	<0.0008	<0.0010
	9/6/17	<0.0005	<0.0005	<0.0004	<0.0013	BDL	<0.0008	<0.0010
	11/30/17	<0.0005	<0.0005	<0.0004	<0.0013	BDL	<0.0008	<0.0010
	6/21/18				Not Sampled			
	10/18/18				Not Sampled			
	2/14/19				Not Sampled			
SSTL for POC Well⁴		0.333	66.7	46.7	175	---	1.33	1.33
RW-3	12/8/15	<0.0005	0.0005J	<0.0004	<0.0013	0.0005J	<0.0008	<0.0010
	2/27/17	<0.0005	<0.0005	<0.0004	<0.0013	BDL	<0.0008	<0.0010
	6/1/17	<0.0005	<0.0005	<0.0004	<0.0013	BDL	<0.0008	<0.0010
	9/6/17	<0.0005	<0.0005	<0.0004	<0.0013	BDL	<0.0008	<0.0010
	11/30/17	<0.0005	<0.0005	<0.0004	<0.0013	BDL	<0.0008	<0.0010
	6/21/18				Not Sampled			
	10/18/18				Not Sampled			
	2/14/19				Not Sampled			

Table 3. Concentrations of BTEX¹, MTBE¹, and Naphthalene¹ in groundwater samples collected from monitoring/recovery wells; Rickey's Grocery; 11542 County Road 49; Heflin, Cleburne County, Alabama. Facility ID No. 22329-029-015532; Incident No. UST15-05-02

Well Identifier	Date Collected	PARAMETERS ANALYZED						
		Benzene	Toluene	Ethyl Benzene	Total Xylenes	Total Detected BTEX	MTBE	Naph
[Concentrations are in milligrams per Liter]								
RW-4	12/8/15	<0.0005	<0.0005	<0.0004	<0.0013	BDL	<0.0008	<0.0010
	2/27/17	<0.0005	<0.0005	<0.0004	<0.0013	BDL	<0.0008	<0.0010
	6/1/17	<0.0005	<0.0005	<0.0004	<0.0013	BDL	<0.0008	<0.0010
	9/6/17	<0.0005	<0.0005	<0.0004	<0.0013	BDL	<0.0008	<0.0010
	11/30/17	<0.0005	<0.0005	<0.0004	<0.0013	BDL	<0.0008	<0.0010
	6/21/18					Not Sampled		
	10/18/18					Not Sampled		
	2/14/19					Not Sampled		
SSTL for POC Well⁴		0.244	48.9	34.2	175	...	0.978	0.978
RW-5	12/8/15	0.0010J	<0.0005	<0.0004	0.0089	0.0099	<0.0008	0.0062
	2/27/17	0.0015J	<0.0005	<0.0004	0.0128	0.0143	0.0071	0.0088
	6/1/17	0.0024J	0.0010J	<0.0004	0.0137	0.0171	0.0056	0.0100
	9/6/17	0.0031J	<0.0005	<0.0004	0.0142	0.0173	0.0051	0.0090
	11/30/17	0.0028J	<0.0005	<0.0004	0.0109	0.0137	0.0040J	0.0094
	6/21/18	0.0019J	<0.0005	<0.0004	0.0082	0.0101	0.0036J	0.0103
	10/18/18	0.0018	<0.0005	<0.0004	0.0096	0.0114	0.0032	0.0086
	2/14/19	<0.0050	0.0059	0.0064	0.0175	0.0298	0.0052	0.0083
SSTL for POC Well⁴		0.333	66.7	46.7	175	...	1.33	1.33
Treatment	2/14/2019**	0.0073	0.0267	<0.0050	0.0481	0.0821	..	..
Trip Blank	2/14/19	<0.0050	<0.0050	<0.0050	<0.01	..	<0.0050	<0.0050

¹ BTEX = Benzene, toluene, ethyl benzene and total xylenes; MTBE = methyl tertiary-butyl ether; Naph= Naphthalene. Samples were tested in accordance with Method 8260 outlined in 40 CFR, Part 136.

² Commercial Initial Screening Level presented in ADEM's ARBCA Guidance Manual, Revision 1 (November 2001). Concentrations exceeding an ISL are in bold.

³ Site Specific Target Levels, based on a Point of Exposure at the nearest downgradient water supply well. Based on ARBCA Evaluation conducted By PPM; POC = Point of Compliance; POE = Point of Exposure

⁴ Site Specific Target Levels, updated values calculated by TTL.

NA = Not analyzed

*Erroneous result

** carbon filter on the treatment trailer is currently being removed and replaced.

Data collected prior to 12/8/15 were obtained from historical reports prepared by previous consultants.

Table 4. Concentrations of BTEX, MTBE, and Naphthalene in surface water samples; Rickey's Grocery, 11542 County Road 49; Heflin, Cleburne County, Alabama. Facility ID No. 22329-029-015532; Incident No. UST15-05-02

Monitoring Well Number	Sample Date	Benzene (mg/L)	Toluene (mg/L)	EthylBenzene (mg/L)	Xylenes (mg/L)	Total BTEX (mg/L)	MTBE (mg/L)	Naphthalene (mg/L)
SW-1	06/28/17	<0.0005	<0.0005	<0.0004	<0.0013	BDL	<0.0008	<0.0010
	09/06/17	<0.0005	<0.0005	<0.0004	<0.0013	BDL	<0.0008	<0.0010
	12/01/17	<0.0005	<0.0005	<0.0004	<0.0013	BDL	<0.0008	<0.0010
	06/21/18	<0.0005	<0.0005	<0.0004	<0.0013	BDL	<0.0008	<0.0010
	10/18/18	<0.0005	0.0007	<0.0004	<0.0013	0.0007	<0.0008	<0.0010
	02/14/19	<0.0050	<0.0050	<0.0050	<0.01	BDL	<0.0050	<0.0050
Commercial ISL		0.005	1.000	0.700	10.000	.....	0.020	0.020
SW-2	06/28/17	<0.0005	<0.0005	<0.0004	<0.0013	BDL	0.0463	<0.0010
	09/06/17	<0.0005	<0.0005	<0.0004	<0.0013	BDL	0.0368	<0.0010
	12/01/17	<0.0005	<0.0005	<0.0004	<0.0013	BDL	0.0027J	<0.0010
	06/21/18	<0.0005	<0.0005	<0.0004	<0.0013	BDL	0.1866	<0.0010
	10/18/18	<0.0005	<0.0005	<0.0004	<0.0013	BDL	0.3467	<0.0010
	02/14/19	<0.0050	<0.0050	<0.0050	<0.01	BDL	0.0371	<0.0050
Commercial ISL		0.005	1.000	0.700	10.000	.....	0.020	0.020
SW-3	06/28/17	<0.0005	<0.0005	<0.0004	<0.0013	BDL	0.0049J	<0.0010
	09/06/17	<0.0005	<0.0005	<0.0004	<0.0013	BDL	0.0070	<0.0010
	12/01/17	<0.0005	<0.0005	<0.0004	<0.0013	BDL	0.0036J	<0.0010
	06/21/18	<0.0005	<0.0005	<0.0004	<0.0013	BDL	0.0045J	<0.0010
	10/18/18	<0.0005	<0.0005	<0.0004	<0.0013	BDL	0.0018	<0.0010
	02/14/19	<0.0050	<0.0050	<0.0050	<0.01	BDL	0.0166	<0.0050
Commercial ISL		0.005	1.000	0.700	10.000	.....	0.020	0.020
SW-4	06/28/17	<0.0005	<0.0005	<0.0004	<0.0013	BDL	0.0016J	<0.0010
	09/06/17	<0.0005	<0.0005	<0.0004	<0.0013	BDL	0.0023J	<0.0010
	12/01/17	<0.0005	<0.0005	<0.0004	<0.0013	BDL	<0.0008	<0.0010
	06/21/18	<0.0005	<0.0005	<0.0004	<0.0013	BDL	0.0008J	<0.0010
	10/18/18	<0.0005	<0.0005	<0.0004	<0.0013	BDL	<0.0008	<0.0010
	02/14/19	<0.0050	<0.0050	<0.0050	<0.01	BDL	0.0098	<0.0050
Commercial ISL		0.005	1.000	0.700	10.000	.....	0.020	0.020

ISL = Initial Screening Value. Bold exceeds ISL.

APPENDIX C
Logs of Soil Borings

Oak Environmental Services, Inc.

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BORING LOG

Boring No. MU-1 Page 1 of Project Number

Project: Rickey's Grocery Drilling Contractor: Technical Drilling Services

Boring Location: E of dispensers Ground Elevation:

Drilling Method/Equipment: H2A Top of Casing Elev.:

Date: 12/14/05 Start: 1015 Finish: 1100 Logger: W. Henley

Depth Below Ground Surface (feet)	Sample Interval	Type and Number	Time	Rec %	OVA Peak/Avg (ppm)	Remarks	Log	Soil Description/Comments Name, Gradation, Plasticity, Particle Size, Distribution, Color, Moisture, Density, Consistency, Soil Structure, Mineralogy, USCS Group Symbol
						Posthole to 2'		Asphalt Silty Clay - orange-yellow, firm, pine straw @ 2' (fill)
5	3-5	MW-1-3	1025	50				Silt - slightly clayey, some gravel, light brown, some roots near top, odor, slightly moist
	5-7	MW-1-5	1030	100				Clayey silt - orange ish yellow, firm, slightly moist, strong odor
10	9-11	MW-1-9	1035	75				Clayey silt - AA etc. several large (1/2-1" diam) angular rock fragments (qtz?), moderate odor, slightly moist
15	14-16	MW-1-14	1040	100				Clayey silt equalite - strongly foliated, abundant mica, foliations @ a 90°, strong odor, wet @ top of spoon, reddish brown w/ gray foliation
20	19-21		1050			Set 15' screen (0.01-in slt) from 4-19'. Sand to 3'. Barite pellets to 1.5'. Developed ~ 25g w/ pneumatic pump		Augered to 19'. Spoon to 21'. Clayey silt - AA etc some yellow in lower half

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BORING LOG

Boring No. MW-2 Page 1 of 1 Project Number _____

Project: Rickey's Grocery Drilling Contractor: Technical Drly. Services

Boring Location: NW corner of lot Ground Elevation: _____

Drilling Method/Equipment: HSA Top of Casing Elev.: _____

Date: 12/14/05 Start: 1115 Finish: 1200 Logger: W. Henley

Depth Below Ground Surface (feet)	Sample Interval	Type and Number	Time	Rec %	OVA Peak/Avg (ppm)	Remarks	Log	Soil Description/Comments
								Name, Gradation, Plasticity, Particle Size, Distribution, Color, Moisture, Density, Consistency, Soil Structure, Mineralogy, USCS Group Symbol
						Postdated to 2'		Gravel Clayey gravel fill to 1.5' - orange silt - brown, slightly clayey, some organic material to 2'
5	3-5	MW-2-3	1125	100				Silty clay - reddish orange, some minor yellowish mottling, slightly moist
	5-7	MW-2-5	1130	75				Clayey silt - yellowish orange, mottled w/ red, radial foliations evident @ ~ 409, slightly moist
10	9-11	MW-2-9	1135	100			▽	Clayey silt - reddish orange, gray mica strong foliations, damp, wet on spoon.
15	14-16	MW-2-14	1140	100				Clayey silt - light brown, gray, some reddish brown, mica, moist
20	19-21	MW-2-19	1145	70		Set 15' screen from 14'-19' sand to 3'. Bentonite pellets to 1.5'		Augered to 19', spoon to 21' Clayey silt - AA exc. numerous root fragments and wet

Developed ~7.5g w/ bailed bit dry

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BORING LOG

Boring No. MW-3 Page 1 of 1 Project Number _____

Project: Kickey's Drilling Contractor: Technical Dr'g Services

Boring Location: NE corner of store Ground Elevation: _____

Drilling Method/Equipment: HSA Top of Casing Elev.: _____

Date: 12/14/05 Start: 1300 Finish: 1345 Logger: W. Hanley

Depth Below Ground Surface (feet)	Sample Interval	Type and Number	Time	Rec %	OVA Peak/Avg (ppm)	Remarks	Log	Soil Description/Comments Name, Gradation, Plasticity, Particle Size, Distribution, Color, Moisture, Density, Consistency, Soil Structure, Mineralogy, USCS Group Symbol
						~5' of septic tank & 2' W of field line		Grass Silty clay w/ some gravel (fill)
5	3-5	MW-3-3	1300	90				some tan, some brown Silty clay - reddish-orange, foliated (v. s), moist, septic odor
	5-7	MW-3-5	1315	100				Clayey silt - yellowish-orange, somewhat foliated, moist, septic odor
10	9-11	MW-3-9	1320	90				Clayey silt - brownish-red, some gray, strongly foliated, abundant mica, v. moist, strong gasoline odor
15	14-16	MW-3-14	1325	80				Clayey silt - brownish-red, strong foliations, abundant mica, v. moist, moderate gasoline odor
20	19-21	MW-3-19	1330	70		Set 10' screen from 6-16'. Sand to 5'. Bentonite to 3'		Augered to 19'. Spoon to 21' Clayey silt - AA exc w/ some gravel
						Developed ~10g w/ pneumatic pump		

TYPE II MONITORING WELL

<p>WELL NUMBER</p> <p style="text-align: center;">MW-3</p>	<p>FLUSH MOUNTED PROTECTIVE CASING LOCKING AIR/WATER SEALED CAP</p>		<p>TYPE OF SURFACE SEAL</p> <p><u>Grout</u></p>
<p>DRILLER</p> <p>DRILLING METHOD</p> <p>DEVELOPMENT METHOD</p>	<p><u>Technical Drlg</u></p> <p><u>Hollow-stem augers</u></p> <p><u>Pneumatic Pump</u></p>		
<p>WELL MATERIALS USED</p> <p>FEET OF 5 FOOT RISER</p> <p>FEET OF 10 FOOT RISER</p> <p>FEET OF SCREEN</p> <p>CAPS/PLUGS</p> <p>BAGS OF SAND</p> <p>BAGS OF BENTONITE PELLETS</p> <p>BUCKETS OF BENTONITE PELLETS</p> <p>BAGS OF CEMENT</p> <p>BAGS OF CONCRETE MIX</p> <p>HOLE COVERS</p> <p>OTHER</p>	<p><u>5</u></p> <p><u>-</u></p> <p><u>10</u></p> <p><u>locking cap</u></p> <p><u>4</u></p> <p><u>1 bucket</u></p> <p><u>2</u></p> <p><u>2</u></p> <p><u>1</u></p> <p><u> </u></p> <p><u> </u></p>	<p>RISER PIPE ID</p> <p>TYPE OF RISER PIPE</p>	<p><u>2"</u></p> <p><u>Sched 40 PVC</u></p>
		<p>DEPTH OF TOP OF SEAL</p> <p>TYPE OF SEAL</p> <p>DEPTH OF TOP OF SAND PACK</p> <p>DEPTH OF TOP OF SCREEN</p> <p>DEPTH OF TOP OF GROUNDWATER</p> <p>TYPE OF SCREEN</p> <p>LENGTH OF SCREEN</p>	<p><u>3'</u></p> <p><u>Bentonite</u></p> <p><u>5'</u></p> <p><u>6'</u></p> <p><u>7.60'</u></p> <p><u>0.01" slot</u></p> <p><u>10'</u></p>
		<p>DEPTH TO BOTTOM OF SCREEN</p> <p>DEPTH TO BOTTOM OF BORING</p>	<p><u>16'</u></p> <p><u>21'</u></p>
<p>DATE INSTALLED</p> <p>12/18/2005</p>	<p>PROJECT NO.</p> <p>6261-0101</p>	<p>WELL NO.</p> <p>MW-3</p>	<p>SITE NAME AND ADDRESS</p> <p>Rickey's Grocery Heflin, AL</p>
<p>Oak Environmental Services Two Riverchase Office Plaza, Suite 103 Birmingham, Alabama 35244 Phone: (205) 985-4000; Fax: (205) 985-4094</p>			

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BORING LOG

Boring No. MW-4D Page 1 of 1 Project Number _____

Project: Rickey's Grocery Drilling Contractor: Technical Drilling Services

Boring Location: Adjacent to MW-4 Ground Elevation: _____

Drilling Method/Equipment: HSA Top of Casing Elev.: _____

Date: 7/11/06 Start: 1630 Finish: 1800 Logger: W. Hanley

Depth Below Ground Surface (feet)	Sample Interval	Type and Number	Time	Rec %	OVA Peak/Avg (ppm)	Remarks	Log	Soil Description/Comments
								Name, Gradation, Plasticity, Particle Size, Distribution, Color, Moisture, Density, Consistency, Soil Structure, Mineralogy, USCS Group Symbol
								Gravel surface Augered to 24' before sampling
25		24-26	1705	50	4.0	Pushed sampler		Partially weathered rock, phyllite w/ >45° foliations, abundant mica, light reddish-brown & silver-gray laminations, wet, no apparent odor weathers to silty clay
30		29-31	1720	50	5.1	Pushed sampler		Partially weathered rock - AA except more weathered, no apparent odor v. moist
35		34-36	1735	50	26.0	Hammered Sampler - 25 blows		Partially weathered rock - alternating zones of more weathered (light reddish-brown silty clay) and less weathered (silvery-gray phyllite), v. moist, no apparent odor
40		39-41	1750	70	-	Hammered sampler 24 blows TO @ 41'		Partially weathered rock - alternating layers of tan silty sand, gray-black phyllite, wet, no odor

Setwell 7/12:
 Bentonite to 33'
 Sand to 35'
 Screen @ 36-41'

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BORING LOG

Boring No. MW-5 Page 1 of 1 Project Number _____

Project: Ridcey's Grocery Drilling Contractor: Technical Drilling

Boring Location: N edge of site Ground Elevation: _____

Drilling Method/Equipment: H3A Top of Casing Elev.: _____

Date: 7/13/06 Start: 1025 Finish: 1055 Logger: W. Healey

Depth Below Ground Surface (feet)	Sample Interval	Type and Number	Time	Rec %	OVA Peak/Avg (ppm)	Remarks	Log	Soil Description/Comments
								Name, Gradation, Plasticity, Particle Size, Distribution, Color, Moisture, Density, Consistency, Soil Structure, Mineralogy, USCS Group Symbol
								Grass @ surface Post-hole to 4'
5		MW-5-4-6	1030	70	18.2			some clay Sandy silt - orangeish red-tan, sli. moist, vfg sand in top portions
		MW-5-6-8	1035	80	10.7			Clayey silt - reddish brown, reddish tan some mica, moist
10		8-10	1040	80	5.6		IV	Clayey silt (sandy silt) - reddish brown to gray, relict foliations, abund. mica, v. moist
15		13-15	1045	100	-			AA
20		18-20	1050	100	-	Bentonite pellets to 2' Sand to 3' Screen @ 4-19' TD @ 19'		Clayey silt (sandy silt) dark reddish brown, med. gray, abundant mica, relict foliations (high angle), wet

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BORING LOG

Boring No. MW-6 Page 1 of 1 Project Number _____

Project: Rickey's Grocery Drilling Contractor: Technical Drilling

Boring Location: Hwy 49 ROW in front of store Ground Elevation: _____

Drilling Method/Equipment: HSA Top of Casing Elev.: _____

Date: 7/13/06 Start: 1425 Finish: _____ Logger: W. Healey

Depth Below Ground Surface (feet)	Sample Interval	Type and Number	Time	Rec %	OVA Peak/Avg (ppm)	Remarks	Log	Soil Description/Comments
								Name, Gradation, Plasticity, Particle Size, Distribution, Color, Moisture, Density, Consistency, Soil Structure, Mineralogy, USCS Group Symbol
								Concrete @ surface
5		MW-6-4-6	1440	40	-			Clayey silt-sandy in part, reddish-brown to gray, brown in last 3", moist, slight odor in base.
		MW-6-6-8	1445	80	97.4			v. Silty Clay - yellowish tan, greenish gray, and mottled red in last 0.5', pass. slight odor.
10		9-11	1450	100	501			Clayey silt - yellowish tan w/ some mottling of gray, red filiations near base, v. moist, gasoline odor
15		14-16	1500	100				Clayey silt - light reddish brown to silty gray, red filiations, abundant mica, v. moist, slight petroleum odor
20		19-21	1505	100		Barite to 2' Sand to 3' Screen @ 4.75' TD @ 19'		NA exc no odor

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BORING LOG

Boring No. MW-8 Page 1 of 1 Project Number _____

Project: Rickey's Grocery Drilling Contractor: Technical Drilling

Boring Location: E edge of parking lot Ground Elevation: _____

Drilling Method/Equipment: HSA Top of Casing Elev.: _____

Date: 7/13/06 Start: 0800 Finish: _____ Logger: W. Harley

Depth Below Ground Surface (feet)	Sample Interval	Type and Number	Time	Rec %	OVA Peak/Avg (ppm)	Remarks	Log	Soil Description/Comments Name, Gradation, Plasticity, Particle Size, Distribution, Color, Moisture, Density, Consistency, Soil Structure, Mineralogy, USCS Group Symbol
								Concrete Post-hole to 4'
5		MW-8-4-6	0815	70	-			Sandy silt - light brown, moist, slight petroleum odor
		MW-8-6-8	0820	70	-			Silty Clay - orange brown to med. gray, firm, moist, small amt. of v. small gravel, slight odor
10		9-11	0825	60	4083			Clayey silt - reddish brown-tan, moist, some large angular gtz gravel, odor near top
15		13-15	0830	90	146			Clayey silt (syprolite) - orange tan, some gray, relict foliations, mica, v. moist
20		18-20	0840	100	-	Penetrate to 4' Sand to 5' screen @ 6-19' (slip-on cap) TD @ 19'		Clayey silt (syprolite) - yellowish tan, gray, some black mineral staining on high angle foliations, some mica, v. moist

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BORING LOG

Boring No. MW-9 Page 1 of 1 Project Number _____

Project: Rickey's Grocery Drilling Contractor: Technical Drilling

Boring Location: W edge of Harris property Ground Elevation: _____

Drilling Method/Equipment: HSA Top of Casing Elev.: _____

Date: 7/12/06 Start: 1000 Finish: 1030 Logger: W. Hanley

Depth Below Ground Surface (feet)	Sample Interval	Type and Number	Time	Rec %	OVA Peak/Avg (ppm)	Remarks	Log	Soil Description/Comments
								Name, Gradation, Plasticity, Particle Size, Distribution, Color, Moisture, Density, Consistency, Soil Structure, Mineralogy, USCS Group Symbol
								Cleared overgrowth, Bare ground @ surface
		MW-9-2-7	1005	70	871			v. Clayey Silt - yellowish-tan, moist @ base
5		MW-9-4-6	1010	80	306			v. Clayey Silt - AA exc relict foliations w/ some reddish-orange in last 0.5'
10		9-11	1015	90	15.9			(Compacted) Clayey Silt - tan - reddish brown, relict foliations, v. moist @ base, no apparent odor
15		14-16	1020	90	2620			(Compacted) Clayey Silt - reddish-brown, gray, relict foliations, wet, slight odor
20		19-21	1025	100	-	Bentonite to 2' Sand to 3' Screen @ 4-19' TD @ 19'		Clayey Silt - AA

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BORING LOG

Boring No. MW-11 Page 1 of 1 Project Number _____

Project: Rickey's Grocery Drilling Contractor: Technical

Boring Location: S side of Hwy 43 across Ground Elevation: _____
from Grocery

Drilling Method/Equipment: HSA Top of Casing Elev.: _____

Date: 7/10/06 Start: 1300 Finish: 1330 Logger: W. Hanley

Depth Below Ground Surface (feet)	Sample Interval	Type and Number	Time	Rec %	OVA Peak/Avg (ppm)	Remarks	Log	Soil Description/Comments
								Name, Gradation, Plasticity, Particle Size, Distribution, Color, Moisture, Density, Consistency, Soil Structure, Mineralogy, USCS Group Symbol
						HSA 7 7/8" OD		Kudzu @ surface. Post-hole to 4'
5		MW-11-4-6	1300	100	-			V. Silty Clay - reddish-brown, some reddish-gray, firm, moist
		MW-11-6-8	1305	100	1502			V. Silty Clay, light reddish-brown exc. some black (saprolite) mineral staining, more moist @ base, relief foliation
10		9-11	1310	100	-			(saprolite) V. Silty Clay. All exc. several high angle lenses w/ abundant sand, v. moist @ base
15		14-16	1315	100	-			V. Silty Clay (saprolite) - reddish-orange, some relief foliations, firm, wet,
						Dant. pellets to 2' Sand to 3' Screen @ 4-17'		
20		19-21	1320	100	-	Top 19'		V. Silty Clay - reddish-orange, relief foliations, some w/ black staining (mineral), wet, firm

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BORING LOG

Boring No. MW-12 Page 1 of 1 Project Number _____

Project: Rickey's Drilling Contractor: Technical Drilling

Boring Location: N edge of Harris property Ground Elevation: _____

Drilling Method/Equipment: HSA Top of Casing Elev.: _____

Date: 7/12/06 Start: 1545 Finish: _____ Logger: W. Henley

Depth Below Ground Surface (feet)	Sample Interval	Type and Number	Time	Rec %	OVA Peak/Avg (ppm)	Remarks	Log	Soil Description/Comments
								Name, Gradation, Plasticity, Particle Size, Distribution, Color, Moisture, Density, Consistency, Soil Structure, Mineralogy, USCS Group Symbol
								Cleared overgrowth, bare ground @ surface
		MW-12-2.4	1550	31.7				Silty Clay - yellowish tan, stiff, slightly moist @ base
5		MW-12-4.6	1555	183				Clayey Silt (saprolite) - yellowish tan - redd; sh brown gray, relict foliations, moist, some mica
10		9-11	1600	-				Silty Clay - yellowish tan, mottled with red, from 9-10', no odor
								Clayey Silt (saprolite) - reddish brown-gray, relict foliations, u moist, petroleum odor, some mica
15		14-16	1616	-				Clayey Silt (saprolite) - AA exc no odor
20		19-21		-				Bentonite to 2' Sand to 3' See @ 4.5-19.5' SP @ 19.5'
								Clayey Silt (saprolite) - reddish brown gray, relict foliations, abund. mica, wet, poss. slight odor

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BORING LOG

Boring No. MW-13 Page 1 of 1 Project Number _____

Project: Rickey's Grocery Drilling Contractor: Technical Drilling

Boring Location: Harris property Ground Elevation: _____

Drilling Method/Equipment: HSA Top of Casing Elev.: _____

Date: 7/12/06 Start: 1350 Finish: 1420 Logger: W. Henley

Depth Below Ground Surface (feet)	Sample Interval	Type and Number	Time	Rec %	OVA Peak/Avg (ppm)	Remarks	Log	Soil Description/Comments
								Name, Gradation, Plasticity, Particle Size, Distribution, Color, Moisture, Density, Consistency, Soil Structure, Mineralogy, USCS Group Symbol
								Cleared over mouth of bobcat Bare ground @ surface.
		MW-13-2-4	1355	60	385			Slightly sandy silt - light brown-tan, some clay, slightly moist
5		MW-13-4-6	1400	70	1.0			V. Silty Clay - tan - reddish orange, firm, moist @ base, some v. small rock fragments near base
10		9-11	1405	90	118		▽	(saprolite) Clayey silt - light reddish brown to tan, v. moist, slight odor, relict foliations, some mica, some black mineral staining
15		14-16	1410	90	96.8			(saprolite) V. Silty Clay - reddish brown, gray, some black mineral staining, abundant mica relict foliations, wet, slight odor
20		19-21	1420	100	-	Bentonite to 2' Sand to 3' screen @ 4-19' TD @ 19'	NA	

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BORING LOG

Boring No. MW-14 Page 1 of 1 Project Number _____

Project: Rickey's Grocery Drilling Contractor: Technical Drilling

Boring Location: Downgradient of MW-13 Ground Elevation: _____

Drilling Method/Equipment: HSA Top of Casing Elev.: _____

Date: 7/13/06 Start: 1600 Finish: 1655 Logger: W. Healey

Depth Below Ground Surface (feet)	Sample Interval	Type and Number	Time	Rec %	OVA Peak/Avg (ppm)	Remarks	Log	Soil Description/Comments
								Name, Gradation, Plasticity, Particle Size, Distribution, Color, Moisture, Density, Consistency, Soil Structure, Mineralogy, USCS Group Symbol
								Cleared overgrowth Bare ground @ surface
		MW-14-2-4	1615	20	-			V. Silty Clay - yellowish tan, sli. moist, firm, some angular gtz gravel @ 3.5-4.0'
5		MW-14-4-6	1620	80	26.3			Silty Clay - yellowish orange, mottled with red, moist, odor @ base
10		9-11	1630	100	1794			Clayey Silt - tan, yellowish orange, moist, odor
15		14-16	1640	100	-			Clayey Silt (Saprolite) - light reddish brown, some gray, some mica, relict foliations near base, v. moist, odor decreasing toward base
20		19-21	1650	100	-	Rejoinite to 2' Sand to 3' Screen @ 4-19' TD @ 19'		Clayey Silt - AA exc no apparent odor

TYPE II MONITORING WELL

<p>WELL NUMBER <u>MW-15</u></p>	<p>FLUSH MOUNTED PROTECTIVE CASING LOCKING AIR/WATER SEALED CAP</p>		<p>TYPE OF SURFACE SEAL <u>Concrete</u></p>
<p>DRILLER <u>Technical Drlg</u></p> <p>DRILLING METHOD <u>Hollow-stem augers</u></p> <p>DEVELOPMENT METHOD <u>Pump</u></p>			<p>RISER PIPE ID <u>2"</u></p> <p>TYPE OF RISER PIPE <u>Sched 40 PVC</u></p>
<p>WELL MATERIALS USED</p> <p>FEET OF 5 FOOT RISER <u>5</u></p> <p>FEET OF 10 FOOT RISER _____</p> <p>FEET OF SCREEN <u>10</u></p> <p>CAPS/PLUGS <u>2</u></p> <p>BAGS OF SAND <u>3.5 bags</u></p> <p>BAGS OF BENTONITE PELLETS _____</p> <p>BUCKETS OF BENTONITE PELLETS <u>1</u></p> <p>BAGS OF CEMENT _____</p> <p>BAGS OF CONCRETE MIX _____</p> <p>HOLE COVERS <u>1</u></p> <p>OTHER _____</p>	<p>DEPTH OF TOP OF SEAL <u>1'</u></p> <p>TYPE OF SEAL <u>Bentonite</u></p> <p>DEPTH OF TOP OF SAND PACK <u>2.5'</u></p> <p>DEPTH OF TOP OF SCREEN <u>5'</u></p> <p>DEPTH OF TOP OF GROUNDWATER <u>6'</u></p> <p>TYPE OF SCREEN <u>0.01 # slots</u></p> <p>LENGTH OF SCREEN <u>10'</u></p> <p>DEPTH TO BOTTOM OF SCREEN <u>15'</u></p> <p>DEPTH TO BOTTOM OF BORING <u>15'</u></p>		

DATE INSTALLED <u>5/7/2007</u>	PROJECT NO. _____	WELL NO. <u>MW-15</u>	Rickey's Grocery Heflin (Hopewell), AL
<p>NewFields 2 Riverchase Ofc Plaza, Ste 103, Birmingham, AL 35244 Voice: (205) 985-4000 Fax: (205) 985-4094</p>			

TYPE II MONITORING WELL

WELL NUMBER

MW-16

FLUSH MOUNTED PROTECTIVE CASING
LOCKING AIR/WATER SEALED CAP

TYPE OF SURFACE SEAL

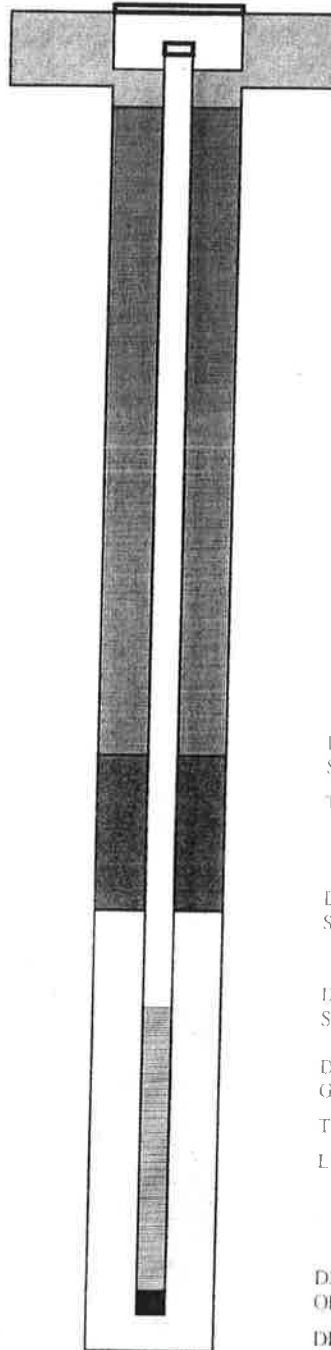
Concrete

DRILLER Technical Drlg
 DRILLING METHOD Hollow-stem augers
 DEVELOPMENT METHOD Pump

RISER PIPE ID 2"
 TYPE OF RISER PIPE Sched 40 PVC

WELL MATERIALS USED

FEET OF 5 FOOT RISER 5
 FEET OF 10 FOOT RISER _____
 FEET OF SCREEN 10
 CAPS/PLUGS 2
 BAGS OF SAND 3 bags
 BAGS OF BENTONITE PELLETS _____
 BUCKETS OF BENTONITE PELLETS 1
 BAGS OF CEMENT _____
 BAGS OF CONCRETE MIX _____
 HOLE COVERS 1
 OTHER _____



DEPTH OF TOP OF SEAL 1'
 TYPE OF SEAL bentonite
 DEPTH OF TOP OF SAND PACK 2.5'
 DEPTH OF TOP OF SCREEN 4.5'
 DEPTH OF TOP OF GROUNDWATER 5'
 TYPE OF SCREEN 0.015 slots
 LENGTH OF SCREEN 10'
 DEPTH TO BOTTOM OF SCREEN 14.5'
 DEPTH TO BOTTOM OF BORING 15'

DATE INSTALLED
5/7/2007

PROJECT NO.

WELL NO.
MW-16

Rickey's Grocery
Heflin (Hopewell), AL

NewFields

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 Voice: (205) 985-4000 Fax: (205) 985-4094

TYPE II MONITORING WELL

WELL NUMBER

MW-17

FLUSH MOUNTED PROTECTIVE CASING
LOCKING AIR/WATER SEALED CAP

TYPE OF SURFACE SEAL

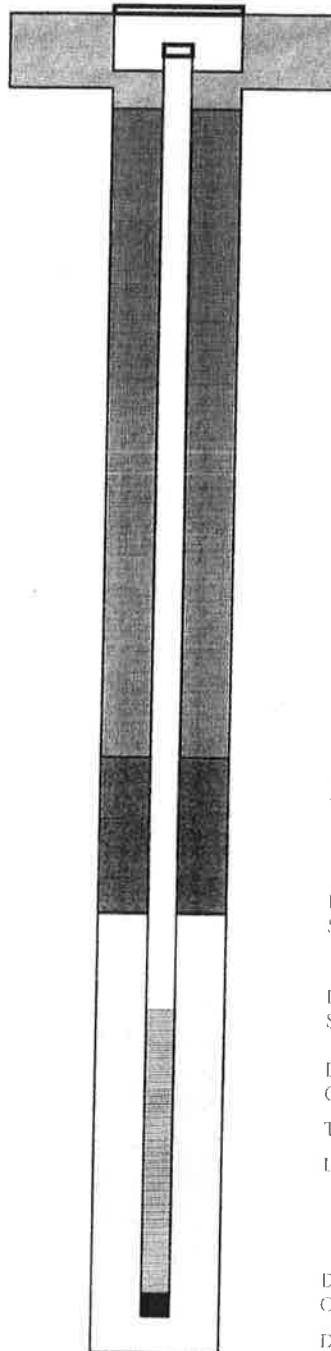
Concrete

DRILLER Technical Drlg
 DRILLING METHOD Hollow-stem augers
 DEVELOPMENT METHOD Pump

RISER PIPE ID 2"
 TYPE OF RISER PIPE Sched 40 PVC

WELL MATERIALS USED

FEET OF 5 FOOT RISER 5
 FEET OF 10 FOOT RISER _____
 FEET OF SCREEN 10
 CAPS/PLUGS 2
 BAGS OF SAND 3 bags
 BAGS OF BENTONITE PELLETS _____
 BUCKETS OF BENTONITE PELLETS 1
 BAGS OF CEMENT _____
 BAGS OF CONCRETE MIX _____
 HOLE COVERS 1
 OTHER _____



DEPTH OF TOP OF SEAL 1'
 TYPE OF SEAL Bentonite
 DEPTH OF TOP OF SAND PACK 2'
 DEPTH OF TOP OF SCREEN 3.5'
 DEPTH OF TOP OF GROUNDWATER 3'
 TYPE OF SCREEN 0.01 in slots
 LENGTH OF SCREEN 10'
 DEPTH TO BOTTOM OF SCREEN 13.5'
 DEPTH TO BOTTOM OF BORING 15'

DATE INSTALLED
5/7/2007

PROJECT NO.

WELL NO.
MW-17

Rickey's Grocery
Heflin (Hopewell), AL

NewFields

2 Riverchase Ofc Plaza, Ste 103, Birmingham, AL 35244
 Voice: (205) 985-4000 Fax: (205) 985-4094

TYPE II MONITORING WELL

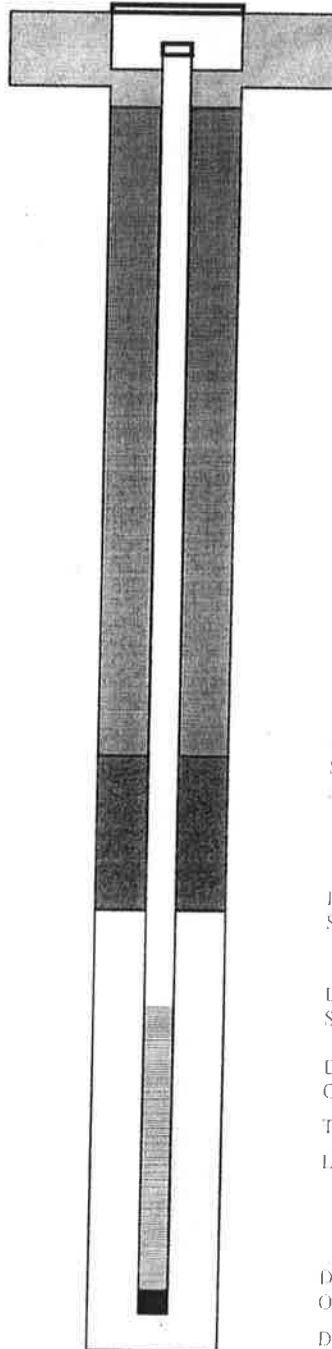
WELL NUMBER
MW-18

FLUSH MOUNTED PROTECTIVE CASING
 LOCKING AIR/WATER SEALED CAP

TYPE OF SURFACE SEAL
Concrete

DRILLER Technical Drlg
 DRILLING METHOD Hollow-stem augers
 DEVELOPMENT METHOD Pump

RISER PIPE ID 2"
 TYPE OF RISER PIPE Sched 40 PVC



WELL MATERIALS USED

FEET OF 5 FOOT RISER 5
 FEET OF 10 FOOT RISER _____
 FEET OF SCREEN 15
 CAPS/PLUGS 2
 BAGS OF SAND 5 bags
 BAGS OF BENTONITE PELLETS _____
 BUCKETS OF BENTONITE PELLETS 1
 BAGS OF CEMENT _____
 BAGS OF CONCRETE MIX _____
 HOLE COVERS 1
 OTHER _____

DEPTH OF TOP OF SEAL 1'
 TYPE OF SEAL Bentonite

DEPTH OF TOP OF SAND PACK 3'

DEPTH OF TOP OF SCREEN 4'

DEPTH OF TOP OF GROUNDWATER 10'

TYPE OF SCREEN 0.01 in slots
 LENGTH OF SCREEN 15'

DEPTH TO BOTTOM OF SCREEN 19'

DEPTH TO BOTTOM OF BORING 20'

<u>DATE INSTALLED</u> 5/7/2007	<u>PROJECT NO.</u>	<u>WELL NO.</u> MW18	Rickey's Grocery Heflin (Hopewell), AL
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TYPE II MONITORING WELL

WELL NUMBER

MW-19

FLUSH MOUNTED PROTECTIVE CASING
LOCKING AIR/WATER SEALED CAP

TYPE OF SURFACE SEAL

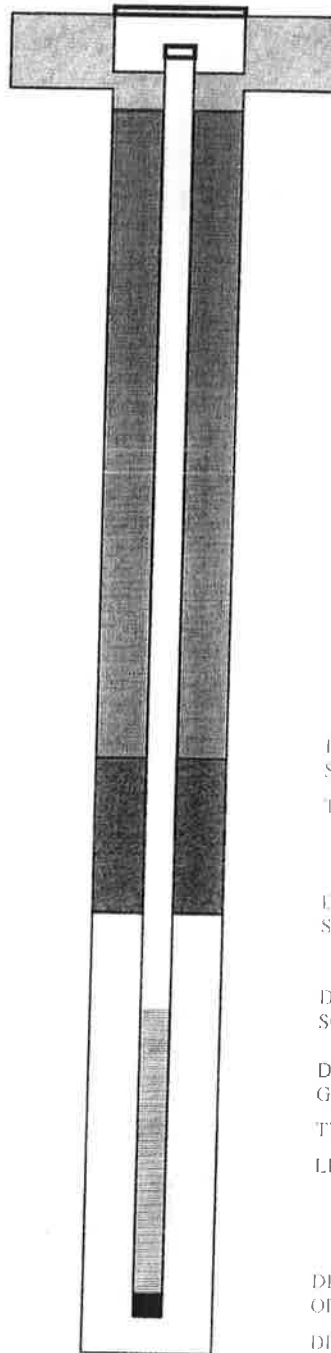
Concrete

DRILLER Technical Drlg
 DRILLING METHOD Hollow-stem augers
 DEVELOPMENT METHOD Pump

RISER PIPE ID 2"
 TYPE OF RISER PIPE Sched 40 PVC

WELL MATERIALS USED

FEET OF 5 FOOT RISER _____
 FEET OF 10 FOOT RISER 10
 FEET OF SCREEN 10
 CAPS/PLUGS 2
 BAGS OF SAND 3.5
 BAGS OF BENTONITE PELLETS _____
 BUCKETS OF BENTONITE PELLETS 1
 BAGS OF CEMENT _____
 BAGS OF CONCRETE MIX _____
 HOLE COVERS 1
 OTHER _____



DEPTH OF TOP OF SEAL 2'
 TYPE OF SEAL Bentonite pellets
 DEPTH OF TOP OF SAND PACK 4'
 DEPTH OF TOP OF SCREEN 6'
 DEPTH OF TOP OF GROUNDWATER 9'
 TYPE OF SCREEN 0.01 in slots
 LENGTH OF SCREEN 10
 DEPTH TO BOTTOM OF SCREEN 16'
 DEPTH TO BOTTOM OF BORING 16'

DATE INSTALLED
5/7/2007

PROJECT NO.

WELL NO.

MW-19

Rickey's Grocery
Heflin (Hopewell), AL

NewFields

2 Riverchase Ofc Plaza, Ste 103, Birmingham, AL 35244
 Voice: (205) 985-4000 Fax: (205) 985-4094



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CINDY HERRELL
RICKEY'S GROCERY

LOG OF WELL
RW-2
& WELL
CONSTRUCTION

PROJECT NUMBER	690215-003	PROFESSIONAL	MLL
LOCATION	Heflin, AL	DATE(S) DRILLED	12/7/2015 - 12/7/2015
DRILLING COMPANY	TTL, Inc.	CASING DIA./TYPE	4" PVC
DRILLER	D. Campbell	SCREEN SLOT/TYPE	0.010-in. slotted PVC
DRILLING METHOD	4 1/4" Hollow Stem Auger w/5' Continuous Sampler	FILTER PACK TYPE	20-40 Graded Filter Sand
REMARKS	Sampled on 12-7-15, at 5 ft BGS @ 1010, and at 9 ft BGS @ 1015.	TOP OF CASING	Ft. AMSL
		GROUND ELEVATION	1050.86 Ft. AMSL
		DEPTH TO WATER	
		WATER ELEVATION	

M:\PROJECTS\2015\690215\003 - RICKEY'S GROCERY\SECONDARY INVESTIGATION\RW-2 - LOG-2015.GPJ 12/16/15 Report 2010 ENV WELL LOG (UPDATED WATER)

DEPTH (feet)	GRAPHIC LOG	U.S.C.S.	SAMPLE			LITHOLOGIC DESCRIPTION	WATER LEVEL & DATE	WELL DIAGRAM
			INTERVAL (feet)	% RECOVERY	PID (ppm)			
0-4	[Dotted pattern]	SM	0-4	75	0	SILTY SAND, yellowish red, (5YR 4/6), with organics.		
					0			
					0			
					0			
4-9	[Red diagonal hatched pattern]	CL	4-9	100	0.2	SILTY CLAY, Mottled, yellow (5Y 8/8) with yellowish red (5YR 5/8) with some mica. Slight odor @ 5 feet BGS.		
					5.0			
					0.3			
					0			
					0			
					0			
9-14			9-14	100	0	Wet @ 10 feet BGS		
BORING TERMINATED AT 14 FEET.								

This well log shall not be separated from the corresponding Instrument of Service; no third party may rely upon this well log or the corresponding Instrument of Service absent a written TTL Secondary Client Agreement.



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CINDY HERRELL
RICKEY'S GROCERY

LOG OF WELL
RW-3
& WELL
CONSTRUCTION

PROJECT NUMBER	690215-003	PROFESSIONAL	MLL
LOCATION	Heflin, AL	DATE(S) DRILLED	12/7/2015 - 12/7/2015
DRILLING COMPANY	TTL, Inc.	CASING DIA./TYPE	4" PVC
DRILLER	D. Campbell	SCREEN SLOT/TYPE	0.010-in. slotted PVC
DRILLING METHOD	4 1/4" Hollow Stem Auger w/5' Continuous Sampler	FILTER PACK TYPE	20-40 Graded Filter Sand
REMARKS	Sampled on 12-7-15, at 9 ft BGS @1150.	TOP OF CASING	Ft. AMSL
		GROUND ELEVATION	1050.86 Ft. AMSL
		DEPTH TO WATER	
		WATER ELEVATION	

M:\PROJECTS\2015\690215\003 - RICKEY'S GROCERY\SECONDARY INVESTIGATION\RW-2-LOG-2015.GPJ 12/16/15 Report 2010 ENV WELL LOG (UPDATED WATER)

DEPTH (feet)	GRAPHIC LOG	U.S.C.S.	SAMPLE			LITHOLOGIC DESCRIPTION	WATER LEVEL & DATE	WELL DIAGRAM
			INTERVAL (feet)	% RECOVERY	PID (ppm)			
0-4		SM	0-4	100	0	SILTY SAND, dark yellowish brown, (10YR 4/4)		
		CL			0	SILTY CLAY, yellowish brown (10YR 5/8).		
4-9		CL	4-9	100	0	SILTY CLAY, strong brown (7.5YR 5/8), with very strong brown (7.5YR 2.5/2)		
		CL			0	SILTY CLAY, MOTTLED, yellow (5Y 8/8) with yellowish red (5YR 5/8) strong brown (7.5YR 5/8)		
					0			
					0			
9-14		CL	9-14	100	0	Wet @ 10 ft BGS		
14-19		CL	14-19	100		SILTY CLAY, interbedded with shale layers, gray Gley 1 (6/N), with mica		
						BORING TERMINATED AT 19 FEET.		



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CINDY HERRELL
RICKEY'S GROCERY

LOG OF WELL
RW-4
& WELL
CONSTRUCTION

PROJECT NUMBER	690215-003	PROFESSIONAL	MLL
LOCATION	Heflin, AL	DATE(S) DRILLED	12/7/2015 - 12/7/2015
DRILLING COMPANY	TTL, Inc.	CASING DIA./TYPE	4" PVC
DRILLER	D. Campbell	SCREEN SLOT/TYPE	0.010-in. slotted PVC
DRILLING METHOD	4 1/4" Hollow Stem Auger w/5' Continuous Sampler	FILTER PACK TYPE	20-40 Graded Filter Sand
REMARKS	Sampled on 12-7-15, at 9 ft BGS @1505.	TOP OF CASING	Ft. AMSL
		GROUND ELEVATION	1050.86 Ft. AMSL
		DEPTH TO WATER	
		WATER ELEVATION	

M:\PROJECTS\2015\690215\003 - RICKEY'S GROCERY\SECONDARY INVESTIGATION\RW-2-LOG-2015.GPJ 12/16/15 Report 2010 ENV WELL LOG (UPDATED WATER)

DEPTH (feet)	GRAPHIC LOG	U.S.C.S.	SAMPLE			LITHOLOGIC DESCRIPTION	WATER LEVEL & DATE	WELL DIAGRAM
			INTERVAL (feet)	% RECOVERY	PID (ppm)			
0-4	[Dotted pattern]	SM	0-4	100	0	SILTY SAND, dark yellowish brown, (10YR 4/4)		
4-9	[Dotted pattern]	SM	4-9	100	0	SILTY SAND, gravel, brown (7.5YR 4/4).		
9-14	[Red diagonal hatching]	CL	9-14	100	0	SILTY CLAY, MOTTLED, yellowish red (5YR 4/6), with yellowish brown (10YR 5/8)		
14-19	[Red diagonal hatching]	CL	14-19	100	0	SILTY CLAY, interbedded with shale layers, gray Gley 1 (8/N), with mica		
BORING TERMINATED AT 19 FEET.								
5						Wet @ 10 ft BGS		

APPENDIX D

Cost Estimates from Fruits & Associates, Inc.

March 22, 2019

Miranda Lucas
TTL, Inc.
2743B Gunter Park Dr.
Montgomery, AL 36109



500 Northpoint Pkwy SE
Acworth, GA 30102
www.fruits-us.com
(866) 974-6999
(770) 974-6999

Subject:
8-hour High-Vac Remediation Event
Rickeys Grocery
11542 County Road 49
Helfin, AL
Fruits & Associates, Inc Proposal No. P-19-35

Dear Miranda:

Fruits & Associates, Inc. will complete a 8-hour free-product abatement activity at the above referenced facility using our High-Vacuum Remediation (HVR) service. During the 8-hours, our trained technicians will record monitoring well fluid gauging (before, during, and after the event), vacuum influence, vacuum pressures, vapor flow rates, extracted vapor concentrations, PSH mass removal, and the total volume of recovered liquids.

• One 8-Hour HVR Event	Including report	\$3,100.00
• Petroleum Contact Water Disposal (PCW)	Est. 3,500 gal. @ \$0.25/gal. *See Note	\$875
• Petroleum Contact Water Transportation	One Unit Load – Local Rate	\$410.00
• Per Diem	Included	0.00
	Total Lump Sum Estimate:	\$4,385.00
• Weekend, Holiday or Night Surcharge		500.00

* Note: Actual costs incurred for transportation and disposal of the contaminated groundwater will be billed. This estimate is based on approximate quantities. If the PCW contains hazardous levels of lead (>5PPM), the cost per gallon for disposal may be higher.

All work will be performed on the approved unit rates as shown or in accordance with Fruits & Associates' current fee schedule. Any additional work authorized by TTL, Inc. will be billed based on Fruits & Associates, Inc. standard unit costs. Invoices will reflect actual work performed on approved tasks.

Terms: Net 30 days from invoiced date. A 1-½ % per month interest charge will be added to past due amounts exceeding these terms.

Sincerely,
Fruits & Associates, Inc.

John M. Fruits

Accepted by: _____

Title: _____

Date: _____

March 22, 2019

Miranda Lucas
TTL, Inc.
2743B Gunter Park Dr.
Montgomery, AL 36109



500 Northpoint Pkwy SE
Acworth, GA 30102
www.fruits-us.com
(888) 974-6989
(770) 974-6989

Subject:
12-hour High-Vac Remediation Event
Rickeys Grocery
11542 County Road 49
Helfin, AL
Fruits & Associates, Inc Proposal No. P-19-35b

Dear Miranda:

Fruits & Associates, Inc. will complete a 12-hour free-product abatement activity at the above referenced facility using our High-Vacuum Remediation (HVR) service. During the 12-hours, our trained technicians will record monitoring well fluid gauging (before, during, and after the event), vacuum influence, vacuum pressures, vapor flow rates, extracted vapor concentrations, PSH mass removal, and the total volume of recovered liquids.

• One 12-Hour HVR Event	Including report	\$3,800.00
• Petroleum Contact Water Disposal (PCW)	Est. 3,500 gal. @ \$0.25/gal. *See Note	\$875
• Petroleum Contact Water Transportation	One Unit Load – Local Rate	\$410.00
• Per Diem	Included	0.00
	Total Lump Sum Estimate:	\$5,085.00
• Weekend, Holiday or Night Surcharge		500.00

* Note: Actual costs incurred for transportation and disposal of the contaminated groundwater will be billed. This estimate is based on approximate quantities. If the PCW contains hazardous levels of lead (>5PPM), the cost per gallon for disposal may be higher.

All work will be performed on the approved unit rates as shown or in accordance with Fruits & Associates' current fee schedule. Any additional work authorized by TTL, Inc. will be billed based on Fruits & Associates, Inc. standard unit costs. Invoices will reflect actual work performed on approved tasks.

Terms: Net 30 days from invoiced date. A 1-½ % per month interest charge will be added to past due amounts exceeding these terms.

Sincerely,
Fruits & Associates, Inc.

John M. Fruits

Accepted by: _____

Title: _____

Date: _____

March 22, 2019

Miranda Lucas
TTL, Inc.
2743B Gunter Park Dr.
Montgomery, AL 36109



500 Northpoint Pkwy SE
Acworth, GA 30102
www.fruits-us.com
(866) 974-6989
(770) 974-6989

Subject:
24-hour High-Vac Remediation Event
Rickeys Grocery
11542 County Road 49
Helfin, AL
Fruits & Associates, Inc Proposal No. P-19-35c

Dear Miranda:

Fruits & Associates, Inc. will complete a 24-hour free-product abatement activity at the above referenced facility using our High-Vacuum Remediation (HVR) service. During the 24 hours, our trained technicians will record monitoring well fluid gauging (before, during, and after the event), vacuum influence, vacuum pressures, vapor flow rates, extracted vapor concentrations, PSH mass removal, and the total volume of recovered liquids.

• One 24-Hour HVR Event	Including report	\$4,300.00
• Petroleum Contact Water Disposal (PCW)	Est. 3,500 gal. @ \$0.25/gal. ^{*See} <small>Note</small>	\$875
• Petroleum Contact Water Transportation	One Unit Load – Local Rate	\$410.00
• Per Diem	Included	0.00
	Total Lump Sum Estimate:	\$5,585.00
• Weekend, Holiday or Night Surcharge		500.00

* Note: Actual costs incurred for transportation and disposal of the contaminated groundwater will be billed. This estimate is based on approximate quantities. If the PCW contains hazardous levels of lead (>5PPM), the cost per gallon for disposal may be higher.

All work will be performed on the approved unit rates as shown or in accordance with Fruits & Associates' current fee schedule. Any additional work authorized by TTL, Inc. will be billed based on Fruits & Associates, Inc. standard unit costs. Invoices will reflect actual work performed on approved tasks.

Terms: Net 30 days from invoiced date. A 1-½ % per month interest charge will be added to past due amounts exceeding these terms.

Sincerely,
Fruits & Associates, Inc.

John M. Fruits

Accepted by: _____

Title: _____

Date: _____

SECTION 16.0
Quality Assurance/Quality Control Plan

Quality Assurance/Quality Control Plan

Samples must be collected, preserved, and transported to maintain sample integrity. Sampling results must yield information which provides a reliable representation of the contamination which exists at a UST site. It is the responsibility of the field sampling staff to ensure that samples are collected with appropriate, clean equipment. Samples must arrive at the laboratory in the appropriate container, with the appropriate preservative, and within the holding times for each particular analysis. The date that analytical results are requested should be indicated on the chain-of-custody form.

Decontamination Requirements

Prior to using any sampling equipment, all equipment shall be properly decontaminated. Disposable bailers will be used to sample monitoring wells. Sampling personnel should avoid having to field-decontaminate equipment when possible. If field decontamination is necessary, then sampling personnel should carefully decontaminate all sampling equipment utilizing EPA, ADEM, and industry standard protocol.

All sampling personnel shall wear clean, disposable sampling gloves while obtaining all ground-water samples. Gloves should be changed between sampling points.

Sample Containers and Sample Preservation

All samples should be placed in clean, laboratory-prepared glass jars or vials. The groundwater samples for BTEX, MTBE, and naphthalene analyses will be placed in triplicate 40-milliliter glass vials, which contain hydrochloric acid as a preservative, and sealed with Teflon®-lined lids. The sample containers shall be completely filled and immediately placed on ice. Samples will be analyzed in general accordance with Method 8260 outlined in 40 CFR, Part 136.

Quality Assurance Samples

TTL will use the following guidelines for collection of quality assurance samples. A water sample trip blank for BTEX/MTBE/naphthalene is required for every set of samples collected for analyses for BTEX/MTBE/naphthalene at the site. Four volatile vials shall be preserved with hydrochloric acid, filled with deionized water in the laboratory and transported to the sample site. The trip blank should be handled as samples collected at the site but they must not be opened at the site. A sample from one of the volatile vials will be analyzed for BTEX/MTBE/ naphthalene. In addition to the trip blank for every set of samples, samples for BTEX/MTBE/ naphthalene analyses are collected in triplicate 40-milliliter glass vials to ensure sample integrity.

Chain-of-Custody Forms

Chain-of-custody forms are to originate in the field immediately upon sampling water. The chain-of-custody forms are to stay with the samples at all times until properly relinquished to the laboratory for analyses.

Information which must be present on all chain-of-custody forms includes the following:

- Site name and address and contact telephone number
- Date and time of collection of each sample
- Sample ID Numbers
- Name of sampler(s)
- Analytical laboratory to be utilized
- Analytical methods to be used. The detection limit must be specified if it varies from the Method Detection Limit.
- Type of sample (i.e., composite, grab, etc.)
- Matrix sampled (soil, water, sludge, etc.)
- Number and type of sample containers
- Remarks regarding sampling, if applicable
- Preservatives used for each sample, also indicate if placed on ice
- Personnel relinquishing samples; times and dates
- Personnel receiving samples; times and dates
- Date analyses requested

SECTION 17.0
Site Health and Safety Plan

Site Health and Safety Plan

This safety plan includes general considerations for personnel involved in investigation and remediation activities at a site with a confirmed or possible release of petroleum product(s).

- A. Potential hazards associated with gasoline:
1. Gasoline is a flammable/combustible material that may be ignited by heat, sparks, or flames.
 2. Gasoline vapor is an explosion hazard indoors, outdoors, or in sewers.
 3. Gasoline vapors may travel to a source of ignition and flash back.
 4. Gasoline vapors may cause dizziness, suffocation, or may be poisonous if inhaled.
 5. A gasoline fire may produce irritating or poisonous gases.
 6. Gasoline may be poisonous if absorbed through skin.
 7. Contact with gasoline may irritate or burn skin and eyes.
 8. Gasoline runoff to a sewer may create a fire or an explosion hazard.
 9. Gasoline runoff from fire control or dilution water may cause pollution of soil, surface or groundwater.
 10. A gasoline container may explode in heat or fire, so personnel should not light or smoke cigarettes in the vicinity of ground water extracted from the subsurface or with such water on their persons.
- B. Fire hazard: A loss of petroleum product(s) is a fire hazard; therefore, necessary steps to be taken if free-phase product is released at land surface will normally be under the jurisdiction of local fire officials. A positive, cooperative attitude with those involved is important to ensure adequate protection of life and property.
- C. The following precautions should be taken when gasoline vapors are noticeably present outside:
1. Immediate steps must be taken to protect the public from the danger of explosion and fire. The hazard area should be isolated and unauthorized entry denied. Unnecessary people should be kept away from the danger zone. The precautions usually will be implemented by local fire officials. The safest direction to be is upwind of vapors. Low areas should be avoided because gasoline vapors are heavier than air and can accumulate in these areas.
 2. Smoking or other sources of ignition should not be permitted in the suspected area.
 3. Vehicles should be kept out of the area.
 4. Electrical switches should not be turned on or off.
 5. Electrical services to the area, where possible and feasible, should be cut off. This should be accomplished in an area where gasoline vapors are not present.
 6. Motors should not be operated in the area unless they are explosion proof.
 7. Immediate efforts should be made to locate and eliminate the source of vapor.
 8. The vapor concentration should be determined with a well-maintained combustible gas indicator or an explosimeter by a trained operator.

9. A self-contained breathing apparatus (SCBA) and a structural firefighter's protective clothing will provide limited protection if vapor concentration is above 5 percent of the lower explosive limits (LEL on indicators).
- D. The following precautions should be taken when gasoline vapors are present in a building:
1. Items C.1 through C.9 should be observed.
 2. Gas services to the building should be disconnected outside the structure.
 3. Electrical cords should not be removed from outlets.
 4. The oxygen concentration should be checked. If it is below 21 percent, personnel should not remain in the area, unless a SCBA is used.
 5. If areas of vapor concentration above 5 percent of the lower flammable limits (LEL on indicators) are exposed to a source of ignition, the area should be evacuated and ventilated. When the flammable vapor has been reduced below 5 percent of the LEL, efforts to locate and eliminate the source of vapor may be resumed.
- E. Sampling precautions
1. Personnel involved in handling waters contaminated with petroleum products should be equipped with personal protective equipment to include the following:
 - a. Safety glasses
 - b. Sampling gloves
 2. Skin contact with petroleum products should be avoided. If this occurs, the affected area should be thoroughly washed with soap and water as soon as possible.
 3. If petroleum products get into the eyes, immediately flush eyes with running water for at least 15 minutes.
 4. Remove and isolate any contaminated clothing and shoes at the site.
 5. Inhalation of petroleum product vapors should be avoided.
- F. General Personal Protective Equipment:
1. Personnel involved in investigation and remedial activities at the site will wear the following personal protective equipment (PPE) at all times on-site:
 - a. Steel-toed boots
 - b. Reflective safety vests
- G. Traffic Safety
1. As stated in Item F, TTL personnel are required to wear reflective safety vests while on-site.
 2. Personnel should be aware of their surrounding at all times and be alert to the movement of traffic around them, both on-site and on the adjacent highway.
- H. General
1. A well-supplied first-aid kit should be on-site.
 2. If someone is overtaken by gasoline or chemical vapors, the victim should be moved to fresh air and emergency medical personnel called. If the victim is not breathing, artificial respiration should be performed. If the victim is having difficulty breathing, oxygen should be given to the victim.

3. Directions to Stringfellow Memorial Hospital [(334) 699-4300] located at 301 East 18th Street in Anniston, Alabama are provided below.

- Go northwest on County Road 49 toward County Road 447 (2.2 miles)
- Turn left to merge onto I-20 W (24.6 miles)
- Take exit 185 toward Oxford/Anniston (0.2 miles)
- Merge onto AL-21 N/S Oxford/Anniston (4.3 miles)
- Turn right onto E 18th Street

