



K&S Grocery
Corrective Action Plan
25295 US Highway 72W
Athens, Limestone County, Alabama
Facility I.D. # 12546-083-007618
Incident # UST20-03-04
S&ME Project No. 4482-20-018

PREPARED FOR:

J&J Oil Co.

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November 3, 2021



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1.0 Introduction

S&ME, Inc. has prepared this RNA with MEME events CAP for the Former K&S Grocery, located in Athens, Alabama. This CAP was prepared as requested by the Alabama Department of Environmental Management in a letter dated September 20, 2021. This report contains a summary of previously conducted investigations, the rationale for selection of remediation by natural attenuation with MEME events, recovery well installation, and the continued groundwater monitoring program for the site.

2.0 UST Release Fact Sheet & Site Classification Forms

The UST Release Fact Sheet and UST Site Classification Forms are included in Appendix I.

3.0 Site Location

The subject property is located at 25295 U.S. Highway 72 at the northeast corner of Mooresville Road and Highway 72 in Athens, Limestone County, Alabama. More specifically, in the southwest $\frac{1}{4}$ of Section 20, Range 3 West, Township 3 South on the U.S. Geological Survey, Athens, Alabama Quadrangle, 7.5-minute topographic map at $34^{\circ} 45' 56''$ north latitude, $86^{\circ} 57' 38''$ west longitude.

4.0 Summary of Previously Conducted Site Assessments

4.1 Site Geology and Hydrogeology

The subject site is located in an area that generally slopes to the north and northwest. The USGS topographic map indicates that the elevation of the site is approximately 668 to 670 feet above mean sea level (msl). Please refer to the Area Topographic Map (Figure 1) in Appendix II.

The subject site lies in the Highland Rim Section of the Interior Low Plateau physiographic province. The Geological Survey of Alabama Geologic Map of Madison County indicates that the subject site is underlain by the Fort Payne Chert and Warsaw Limestone unit of the Tusculumbia Limestone Formation. The major aquifer in the area is the Fort Payne Chert Formation. Local groundwater movement is expected to be generally north and west toward French Mill Creek following topography. Regional groundwater movement is expected to be to the south towards the Tennessee River.

Shallow groundwater generally flows in directions subparallel to the ground surface and under the influence of gravity toward points of discharge such as creeks, swamps, drainage swales, or pumped groundwater wells. Based upon review of the topographic map, it appears that the primary groundwater flow direction in the uppermost water-bearing unit across the subject property should be to the north and northwest following topography toward French Mill Creek.

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4.2 Chronology of Previously Conducted Site Assessments

S&ME understands that the site was formerly occupied by a Texaco gas station. The site formerly contained three 10,000-gallon underground storage tanks were reported to be installed at the subject site in 1983. Two of the tanks were used to store gasoline and one contained diesel fuel. The tanks were closed by removal in 2012. The ADEM issued a No Further Action Status Letter dated July 23, 2012 following the UST closure. The building, canopy, and pump islands have all been removed from the site. The site is currently vacant with soil, gravel, and trace asphalt surfaces.

A limited Phase II Site Assessment was conducted at the subject site in January 2020 by S&ME, Inc. During this assessment petroleum hydrocarbons were detected in two of five soil borings, and groundwater in five borings which exceeded EPA Regional Screening Levels.

The ADEM issued a Notice of Requirement to Conduct Investigative and Corrective Actions letter dated April 13, 2020.

S&ME has completed Preliminary and Secondary Investigations at the site. The Preliminary Investigation was conducted as required by the ADEM in a Notice of Requirement (NOR) to Conduct Investigative and Corrective Actions letter dated April 13, 2020. The results of the Preliminary Investigation are presented in S&ME's report dated June 26, 2020. As required in the NOR, a Secondary Investigation Plan was prepared to determine the lateral and vertical extent of contamination at the site. The Secondary Investigation was approved by the ADEM in a letter dated August 25, 2020. The results of the Secondary Investigation are presented in S&ME's report dated December 24, 2020.

S&ME submitted an ARBCA Plan and Cost Proposal No.4 on August 19, 2020. The ADEM approved the plan in a letter dated September 24, 2020. S&ME submitted the ARBCA Tier I/II Risk Assessment on February 26, 2021. The ADEM approved the corrective action limits set forth in the risk assessment in a letter dated March 9, 2021.

The ADEM issued a review of Secondary Investigation Report on January 9, 2021 requesting an Additional Well Installation Plan, a Groundwater Monitoring Plan and Cost Proposals for quarterly monitoring. S&ME has submitted the Additional Well Installation Plan and Cost Proposal No. 5, and the Groundwater Monitoring Plan and Cost Proposals No. 6 through 9 on January 15, 2021. The ADEM approved the Additional Well Installation Plan and Groundwater Monitoring Plan on February 18, 2021. S&ME completed the additional well Installation activities in March, 2021 which are detailed in S&ME's report dated April 15, 2021. The Groundwater Monitoring Plan covers site monitoring through January 31, 2022. S&ME has conducted the first and second quarters of groundwater monitoring under Cost Proposals No. 6 and 7, the results of which are detailed in S&ME's reports dated May 5, 2021 and August 13, 2021.

S&ME submitted a CAP evaluation for remediation by soil source removal on August 13, 2021. After review of the CAP evaluation, the ADEM issued a letter dated September 20, 2021 requesting the submittal of a RNA with MEME events CAP to address the remediation of soil and groundwater at the site.



4.3 Compilation of Soil Data

Analytical results of soil sampling during the Preliminary and Secondary Investigations, as well as additional well installation indicated that benzene concentrations in the soil sampled from borings B-2 through B-6, and borings B-10, B-11, B-13, and B-14 exceeded the ARBCA Initial Screening Levels (ISLs). Ethylbenzene and xylenes exceeded their respective ARBCA ISLs in soil samples from borings B-3, B-6, and B-10. MTBE concentrations in the soil sampled from borings B-5, B-6, B-7, B-10, B-11, and B-14 exceeded the ARBCA ISL. Naphthalene exceeded the ARBCA ISL in soil from borings B-3, B-5 and B-14. The Summary of On-Site Soil Analytical Results for BTEX and MTBE is included in Appendix III.

4.4 Compilation of Groundwater Data

A summary of the historical analytical data from the groundwater monitoring events is presented in Appendix III.

4.5 Summary of ARBCA Evaluation

K&S Grocery is a former gasoline station and convenience store located at 25295 Highway 72 W in Athens, Limestone County, Alabama. The USTs were closed in 2012 and the site remains a vacant lot to date. The site is zoned as commercial, and the adjacent properties are a mix of agricultural, residential, and commercial purposes and future land use is likely to remain Commercial.

No private water wells were identified within 1000 feet of the site. The site conceptual exposure model identified complete pathways for a future on-site commercial worker and a future on-site construction worker. Complete pathways include indoor and outdoor inhalation of vapors from subsurface soils and groundwater. The representative concentrations exceed the indoor inhalation Tier I Risk Based Screening Levels for both commercial worker and construction worker. Tier I Groundwater Resource Protection targets for benzene and MTBE also exceed in both soil and groundwater at the source and downgradient of the source.

Site specific fate and transport parameters developed using data obtained during the Preliminary and Secondary Investigations. Using the fate and transport parameters, Site Specific Target Levels (SSTLs) were calculated. Representative concentrations are below the Tier II SSTLs for both the future on-site commercial worker and a future on-site construction worker. Tier II Groundwater Resource Protection targets for benzene and mtbe exceed in groundwater at the source.

Monitoring wells MW-1 through MW-11, and MW-13 through MW-16 were selected as point of compliance (POC) wells for the site. Monitoring wells MW-2, MW-3, MW-4, and MW-10 are located at the source. Monitoring wells MW-5, MW-6, MW-7, MW-8, and MW-11 are located approximately 30 feet, 38 feet, 40 feet, 50 feet, and 60 feet respectively down gradient of the soil source area. (refer to Site Diagram in Appendix II). The maximum COC concentrations detected at the POC wells were compared to Tier II Target Levels. These targets were based on a distance of 550 feet to a Point of Exposure (POE). MTBE concentrations in MW-2 and MW-4 exceeded the Site Specific Target Levels (SSTLs) during the Preliminary and Secondary Investigation groundwater monitoring events. Benzene concentrations exceeded the SSTLs in monitoring wells MW-2 and MW-4 through the Preliminary and Secondary Investigations, and first three quarters of groundwater monitoring, Benzene concentrations exceeded the SSTLs in monitoring wells MW-3 (Preliminary, Secondary, 1st quarter), MW-6 (1st and 2nd quarter), MW-10 (Secondary, 1st and 2nd quarter), MW-13 (Secondary and first 3 quarters), and MW-14 (first three quarters). Free

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product was not detected in the monitoring wells through the third quarter groundwater monitoring events, however a sheen has been observed on MW-2, MW-3, and MW-4.

5.0 Evaluation of Remedial Goals

5.1 Site Remedial Goals

Site remedial goals, as proposed in the Tier I/II ARBCA evaluation, are included in the historical groundwater analytical result summary in Appendix II. The remedial goals for the site are for concentrations in monitoring wells to be below SSTLs for the chemicals of concern and stable or decreasing and for the removal of any free product should it be discovered.

5.2 Receptor Evaluation

Based upon the Tier II ARBCA evaluation, current complete exposure pathways at the site are limited to indoor and outdoor inhalation of soil and groundwater contaminants for commercial and construction workers. There are no current off-site complete exposure pathways.

S&ME conducted a water well survey for private wells within a 1,000-foot radius of the site and public water wells within a 1-mile radius. No private or public water wells were identified during the survey.

5.3 Evaluation of Plume Status

The dissolved hydrocarbon plume has been evaluated through a Preliminary Investigation, Secondary Investigation, Additional Well Installation, ARBCA Tier I/II Evaluation, and two additional groundwater monitoring events. At the time of the ARBCA the COC concentrations detected at POC wells MW-2 and MW-4 exceeded the Tier II Target concentration for Groundwater Resource Protection for MTBE, and the COC concentrations exceeded the Tier II Target concentration for Groundwater Resource Protection for benzene at POC wells MW-2, MW-3, MW-4, and MW-10. At the time of the first quarterly groundwater monitoring event, the COC concentrations exceeded the Tier II Target concentration for Groundwater Resource Protection for benzene in POC wells MW-2, MW-3, MW-4, MW-10, MW-13, and MW-14, and MTBE at POC well MW-4. At the time of the second quarterly groundwater monitoring event, the COC concentrations exceeded the Tier II Target concentration for Groundwater Resource Protection for benzene in POC wells MW-2, MW-4, MW-6, MW-10, MW-13, and MW-14, and MTBE at POC wells MW-4 and MW-6. Free product was not detected in wells during the groundwater sampling events, however, a sheen and a strong petroleum odor was noted while purging wells MW-3 and MW-4 during the sampling events. The soil plume remains undefined to the south past MW-10 toward Highway 72, and is difficult to assess due to utilities.



6.0 RNA Monitoring with MEME Events

6.1 Installation of Recovery Wells

S&ME proposes to install five soil borings for the installation of permanent Type II groundwater recovery wells at the subject site. The shallow soil borings will be installed in order to provide extraction points in the plume for MEME events. The approximate locations of these soil borings/monitoring wells are shown on the attached Proposed Recovery Wells map. The shallow soil borings for well installation will each be advanced to a depth of twenty feet below ground surface (bgs). Each shallow soil boring will be converted to a permanent Type II, 4-inch diameter groundwater monitoring well. Each well will be constructed from schedule 40 PVC with 0.010-inch slotted screen sections. The annulus of the soil boring around the well screen will be filled with coarse grained sand to a level approximately two feet above the top of the screen, with a hydrated bentonite seal above the sand. The remainder of the boring will be sealed with bentonite cement grout. The screened interval will be from 10 to 20 feet bgs to allow for seasonal variation of site groundwater levels. Each well will be finished at the surface with a 12 inch diameter flush mount well cover set in a concrete pad. A typical recovery well diagram is included in Appendix II.

Upon completion of recovery well installation, S&ME will measure the top of casing elevation for each well. A S&ME Geologist will be present to prepare descriptive soil boring logs and to collect soil samples for analysis. Soil samples will be collected in accordance with the protocol described herein.

6.1.1 *Soil Sampling and Analysis*

S&ME will collect soil samples from each soil boring for submittal to an independent laboratory for petroleum hydrocarbon analysis. All soil samples will be collected according to EPA and ADEM recommended protocols. Split spoon samples will be collected at five-foot intervals during soil boring advancement and containerized in sealed bags. A photoionization detector (PID) will be utilized by the S&ME Geologist to select the samples which will be submitted for analysis. Two soil samples will be selected from each soil boring based on the highest PID readings or which visually appear to be impacted. Soil samples will be placed in laboratory provided containers and placed in a cooler with ice to maintain appropriate temperature. The samples will be shipped under chain of custody overnight to the laboratory. Each soil sample will be analyzed for BTEX, MTBE, and naphthalene by EPA Method 8260.

6.1.2 *Groundwater Sampling and Analysis*

The newly installed recovery wells will be developed and then purged of three well volumes using dedicated disposable bailers according to EPA and ADEM protocols. After allowing the wells to recharge, samples will be collected in laboratory provided vials with Teflon lids and sealed without any entrained air. The groundwater samples will be placed in a cooler with ice to maintain proper temperature. The groundwater samples will be shipped to the laboratory under chain of custody overnight to the laboratory. Each sample will be analyzed for BTEX, MTBE, and naphthalene by EPA Method 8260. In addition, each groundwater sample will be field analyzed for dissolved oxygen, pH, conductivity, temperature, and Oxygen-Reduction Potential (ORP) using a calibrated portable multi-meter.



6.2 Mobile Enhanced Multi-Phase Extraction

The potential for RNA to achieve the Target Concentrations established for the subject site in a reasonable timeframe is a significant consideration. Current compliance well average concentrations that exceed the respective target concentration are MTBE in MW-4 and MW-6, and benzene in MW-2, MW-4, MW-6, MW-10, MW-13, and MW-14. The soil source area concentration exceeds the target for groundwater resource protection. The historical analytical result summary in Appendix III includes a comparison of each well to the approved Tier I/II ARBCA values. Based on the soil concentrations at the source area, RNA alone would only lead to migration of contaminants from the shallow soil to further impact the groundwater at the site.

Initial groundwater monitoring data indicate concentrations in seven of the POC wells are increasing, exceeding SSTLs in five of these wells. While decreasing trends are observed in eight of the POC wells, migration of the plume could extend to other wells in the future. Therefore, S&ME is proposing to conduct monthly 24 hour MEME events, focusing on the center of the plume to remove soil vapors and impacted groundwater in an attempt to reduce the mass of the plume and prevent migration across the site.

6.2.1 Risk Reduction and Exposure Prevention

Current complete exposure pathways are limited to indoor and outdoor inhalation from impacted soil and groundwater. The site is located in a commercial and residential area. The subject site is currently vacant and is currently not in use. There are no current residences which overly the known contaminant plume. Based upon this information, it appears that RNA with MEME events will provide an acceptable level of risk control and exposure prevention.

6.2.2 Cost Effectiveness

An estimation of the relative cost of RNA with MEME events was made. The cost for RNA with monthly MEME events would include recovery well installation at \$13,295, with an additional \$60,000-\$65,000 annually in operation for monthly MEME Events, and quarterly groundwater monitoring at \$5,000-\$5,500 per event. Assuming active remediation would be complete in 5 years; the cost would be from \$400,000-\$450,000.

7.0 Groundwater Monitoring Program

7.1 Monitoring Frequency and Well Selection

S&ME has submitted a Groundwater Monitoring Plan for the site, which was approved by the ADEM on February 18, 2021. To date, S&ME has conducted two of the four approved groundwater monitoring events. The next events are scheduled to be conducted in October 2021 and January 2022 under Cost Proposals No. 8 and 9. S&ME proposes continued RNA site monitoring under this plan until the effectiveness of monthly MEME events can be evaluated.

RNA Groundwater monitoring will continue on a quarterly basis at the site to monitor COC concentrations in the on-site monitoring wells. The POC wells at the site include monitoring wells MW-1 through MW-11, and MW-13 through MW-16.



7.2 Monitoring Parameters

Proposed monitoring at the site will include both chemical and intrinsic groundwater parameters. Chemical parameters are the primary line of evidence to support the sufficiency of the natural attenuation process, and will include benzene, toluene, ethylbenzene, xylenes, MTBE, and naphthalene. A stable or shrinking plume is evidence of natural attenuation. Documentation of stable or decreasing concentrations of the contaminants of concern will be used to demonstrate that natural attenuation is occurring at the site.

Secondary lines of evidence at the site will consist of intrinsic parameters including temperature, pH, ORP, dissolved oxygen, and conductivity. These parameters will be monitored in the field, as described below.

Prior to each sampling event, S&ME will measure and record the groundwater surface elevations in each well using a water level indicator. The indicator will be properly decontaminated according to the protocol described herein to avoid cross-contamination.

7.3 Methods for Monitoring Parameters Analysis

The chemical parameters that will be monitored at the site consist of benzene, toluene, ethylbenzene, and xylenes (BTEX), methyl-tert-butyl ether (MTBE), and naphthalene. EPA Method 8260 will be utilized to quantify the listed parameters.

7.4 Methods For Field Measured Parameters

The following section describes the field methods that will be utilized for parameters measured in the field (temperature, pH, ORP, dissolved oxygen, and conductivity).

Portable field meters will be used to measure temperature, pH, ORP, dissolved oxygen, and conductivity. Calibration and field operation of the meters will be performed according to the manufacturer's directions, immediately prior to use.

7.5 Quality Assurance/Quality Control Measures

Dedicated, disposable bailers and nylon twine will be employed to minimize decontamination procedures. Any groundwater sampling equipment employed that requires decontamination will be cleaned using the following procedure:

- Tap water rinse.
- Wash with non-phosphatic detergent solution.
- Distilled water rinse.
- Alcohol wash.
- Distilled water rinse.
- Air dry.

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Upon collection of a sample, the sample container will be sealed, properly labeled, and immediately cooled in a protective container for shipment to the analytical laboratory. A Chain of Custody form will be completed and will accompany the samples from the field to the laboratory. The Chain of Custody will be provided in each groundwater monitoring report.

One duplicate groundwater sample will be collected during each sampling event. This sample will be submitted to the laboratory with a separate sample ID number, and will not be identified as a duplicate sample.

One trip blank will accompany the groundwater samples from the field to the laboratory. This sample will be submitted to the laboratory and analyzed for BTEX to monitor for possible cross-contamination of samples during shipping and handling.

8.0 Proposed Reporting Requirements

S&ME will provide a written report following completion of field activities and receipt of laboratory reports for each monitoring event. The reports will be submitted on ADEM's Natural Attenuation Monitoring Report Forms (NAMR Forms) and will include the following:

- ◆ A site summary that indicates the number and type of both groundwater monitoring wells and other water supply wells and includes a brief summary of the ARBCA evaluation including a table summarizing the SSTLs developed for the site will be provided.
- ◆ Site maps showing all well locations, location of former and/or current UST system(s), receptors, utilities, current and future land use of site and adjacent area within a 500-foot radius, adjacent properties, buildings, point of exposure and point of compliance, will be attached. A scaled map of the site identifying all monitoring wells, groundwater elevations and contours, and primary groundwater flow direction(s) will be attached.
- ◆ A well inventory table listing of all wells at the site will be provided. Groundwater monitoring and water supply well information including installation date, diameter, and screened interval will be included.
- ◆ Analytical method numbers for laboratory methods will be stated. Laboratory reports and Chain of Custody documents for the current event will be attached.
- ◆ Historical results from groundwater monitoring events will be provided in tabular and graphic form. Maps for the three (3) most recent monitoring events illustrating the distribution of all groundwater chemical of concern data will be attached.
- ◆ A table containing historical intrinsic groundwater data will be provided.
- ◆ A table and graph containing historical groundwater elevations of each of the monitoring wells will be provided. The three (3) most recent groundwater elevation maps indicating the direction of groundwater flow will be attached. Groundwater elevation data will be corrected for free product if

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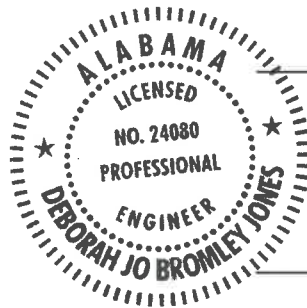


necessary. A table including the surveyed top of casing, depth to water and depth to free product will be attached.

- ◆ A table and graph of site monitoring costs over time will be presented.

9.0 Acknowledgement

I acknowledge under penalty of law that this RNA with MEME events Corrective Action Plan, including recovery well installation, and all plans, specifications, and technical data submitted within were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiring of the person or persons who directly gathered the enclosed information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information.



Deborah J. Jones
Signature

Deborah J. Jones, P.E.
Alabama Engineer Number 2408

11 | 3 | 21

Date

PERSONNEL

Name of Personnel	Title
Jaime S. Curry, P.G.	Field Technician / Staff Geologist
Deborah Jones, P.E.	Senior Engineer / Project Manager / Senior Reviewer
Whitney Cox	Administrative Assistant
Jaime S. Curry, P.G.	Draftsman

Appendices

Appendix I – ADEM FORMS

UST RELEASE FACT SHEET

GENERAL INFORMATION:

SITE NAME: K&S Grocery
 ADDRESS: 25295 U.S. Highway 72, Athens, Alabama
 FACILITY I.D. NO.: 12546-083-007618
 UST INCIDENT NO.: UST 20-03-04

RESULTS OF EXPOSURE ASSESSMENT:

How many private drinking water wells are located within 1,000 ft. of the site?
 How many public water supply wells are located within 1 mile of the site?
 Have any drinking water supply wells been impacted by contamination from this release?
 Is there an imminent threat of contamination to any drinking water wells?
 Have vapors or contaminated groundwater posed a threat to the public?
 Are any underground utilities impacted or imminently threatened by the release?
 Have surface waters been impacted by the release?
 Is there an imminent threat of contamination to surface waters?
 What is the type of surrounding population?

None
None
No
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Residential/ Business/ Agricultural

CONTAMINATION DESCRIPTION:

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

Free Product present in wells? Yes No Maximum thickness measured:
 sheen in MW-3 & MW-4

Maximum TPH concentrations measured in soil: NA

Maximum BTEX or PAH concentrations measured in groundwater in mg/l:
 Benzene: 6.12 (MW-4 7/6/2021) Toluene: 3.65 (MW-3 6/3/2020) Ethylbenzene: 3.45 (MW-3 4/21/2021)
 Xylenes: 13.2 (MW-3 6/3/2020) MTBE: 9.24 (MW-4 4/21/2021) Naphthalene: 0.839 (MW-10 4/21/2021)

**ADEM GROUNDWATER BRANCH
UST SITE CLASSIFICATION SYSTEM
CHECKLIST**

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

SITE NAME: K&S Grocery
 SITE ADDRESS: 25295 U. S. Highway 72
Athens, Limestone County, Alabama
 FACILITY I.D. NO.: 12546-083-007618
 UST INCIDENT NO.: UST 20-03-04
 OWNER NAME: J&J Oil Company
 OWNER ADDRESS: P.O. Box 1144
Athens, Alabama 36612
 NAME & ADDRESS OF PERSON
 COMPLETING THIS FORM: Jaime S. Curry, P.G., S&ME, INC.
360D Quality Circle NW, Suite 450
Huntsville, AL 35806

CLASSIFICATION	DESCRIPTION	YES	NO
CLASS A	IMMEDIATE THREAT TO HUMAN HEALTH, HUMAN SAFETY OR SENSITIVE ENVIRONMENTAL RECEPTOR		
A.1	Vapor concentrations at or approaching explosive levels that could cause health effects, are present in a residence or building.	<input type="checkbox"/>	<input checked="" type="checkbox"/>
A.2	Vapor concentrations at or approaching explosive levels are present in subsurface utility system(s), but no buildings or residences are impacted.	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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.	<input type="checkbox"/>	<input checked="" type="checkbox"/>
B.2	An active domestic water supply well, domestic water supply line or domestic surface water intake is impacted or immediately threatened.	<input type="checkbox"/>	<input checked="" type="checkbox"/>
B.3	The release is located within a designated Wellhead Protection Area I.	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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.	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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.	<input type="checkbox"/>	<input checked="" type="checkbox"/>

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.	<input type="checkbox"/>	<input checked="" type="checkbox"/>
D.2	A non-potable water supply well is impacted or immediately threatened.	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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.	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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.	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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.	<input type="checkbox"/>	<input checked="" type="checkbox"/>
F.2	Groundwater is impacted and a domestic well is located within 1,000 feet of the site.	<input type="checkbox"/>	<input checked="" type="checkbox"/>
F.3	Contaminated soils and/or groundwater are located within designated Wellhead Protection Areas (Areas II or III).	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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.	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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.	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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.	<input checked="" type="checkbox"/>	<input type="checkbox"/>

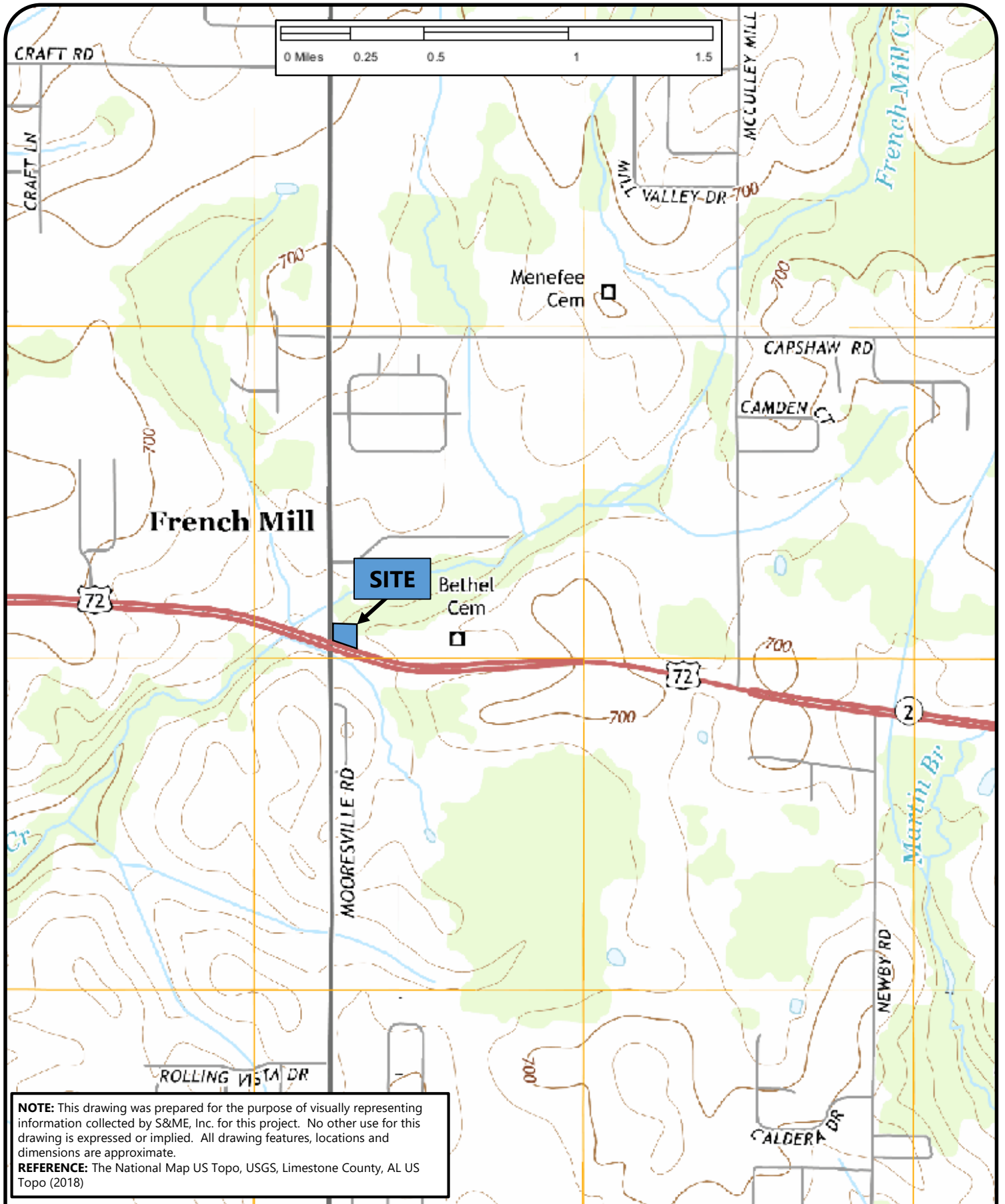
ADDITIONAL COMMENTS:

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:	I.1.
--	------

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

Appendix II – Maps and Figures



TOPOGRAPHIC MAP

K&S Grocery
 25295 Highway 72W Athens, Limestone County, Alabama

SCALE:
 AS SHOWN
 DATE:
 1-27-2020
 PROJECT NUMBER:
 1280-19-081

FIGURE NO.
1



VACANT COMMERCIAL LOT

FIRE HYDRANT

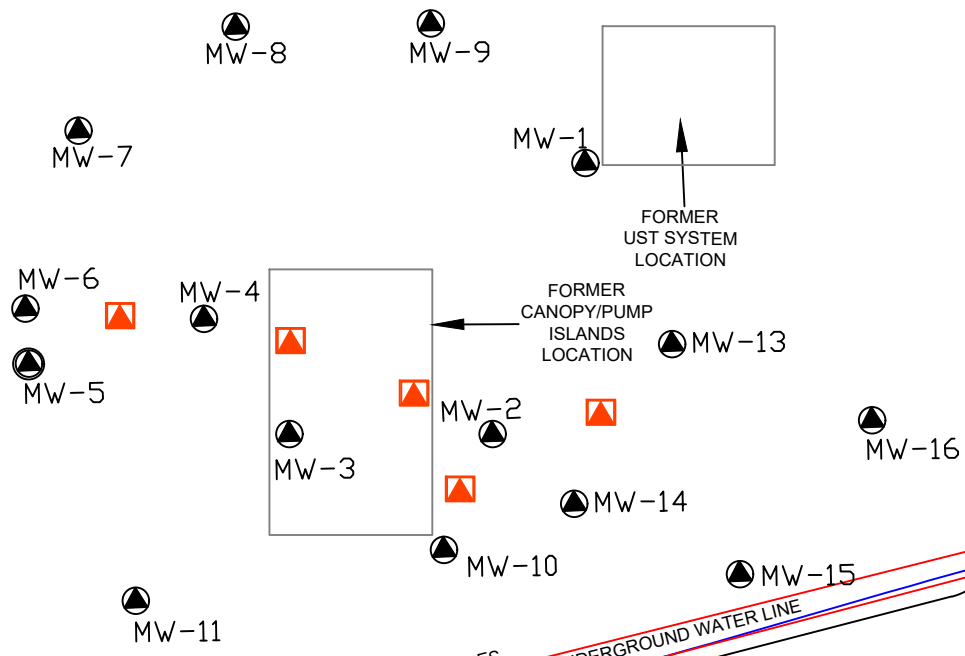


UNDERGROUND COMMUNICATION LINES

OVERHEAD POWER LINES

UNDERGROUND WATER LINE

U.S. Highway 72



LEGEND

- MONITORING WELL
- DEEP MONITORING WELL
- WATER LINE
- COMMUNICATION CONDUIT
- OVERHEAD POWER LINES
- Proposed Recovery Well

This drawing was prepared for the purpose of visually representing information collected by S&ME, Inc. for this project. No other use for this drawing is expressed or implied. All drawing features, locations, and dimensions are approximate.



SITE MAP WITH UTILITIES AND PROPOSED RECOVERY WELL LOCATIONS

K&S GROCERY
25295 U.S. Highway 72
Athens, Limestone County, Alabama

SCALE:
1"=30'
DATE:
06-22-2020
PROJECT NUMBER
4482-20-018

FIGURE NO.

2

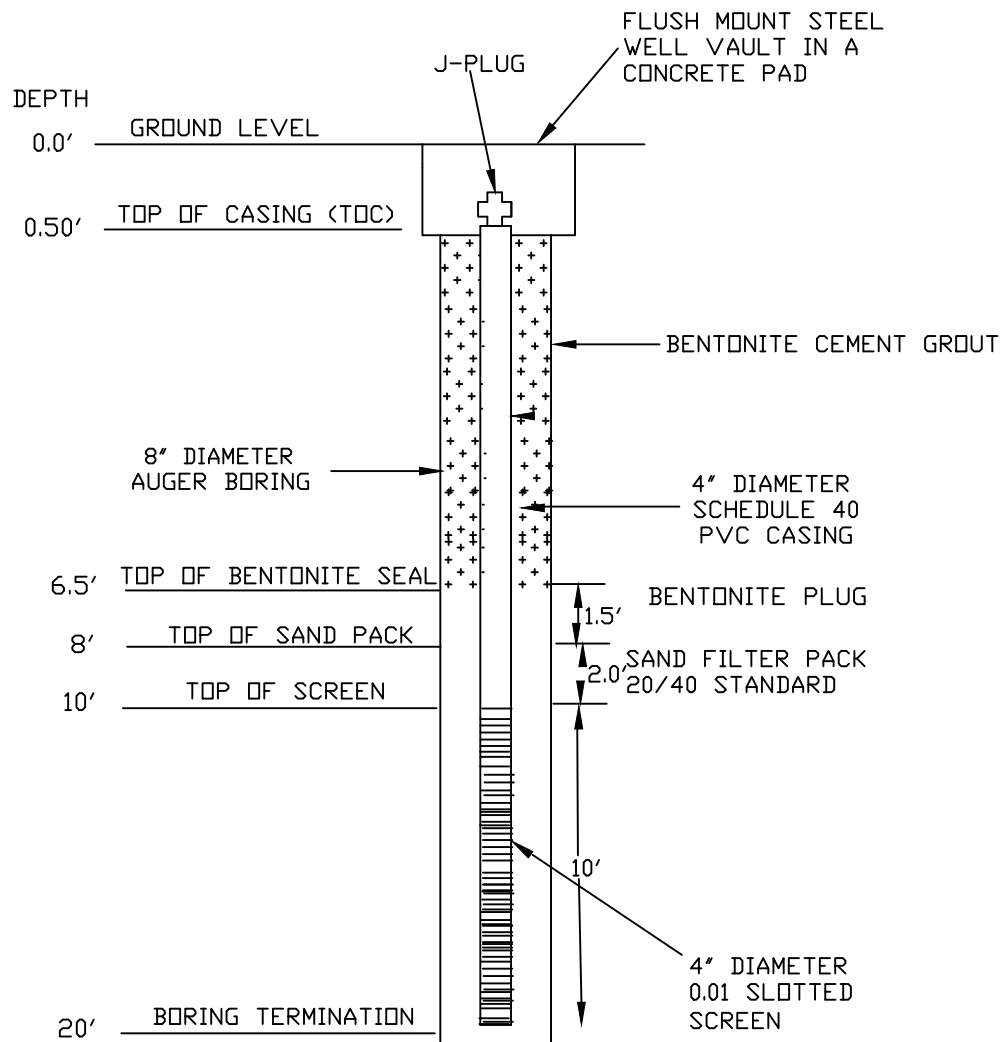
Drawing Path: C:\Users\curry\Desktop\K&S ongoing\4482-20-018 Site.dwg



360D QUALITY CIRCLE NW, SUITE 450, HUNTSVILLE, ALABAMA 35806

K&S Grocery

TYPE II RECOVERY WELL TYPICAL
CONSTRUCTION DIAGRAM



Appendix III– Tables

Monitoring Well Analytical Summary Table		MW-1
Site name: K&S Grocery	Incident No.: UST 20-03-04	
Well Installation date: 6/2/2020	Well Depth/Screen Length: 20 FT/10 FT	
Top of Casing Elevation: 669.04	Well Type II / 2 Inch Diameter	

Date	Benzene	Toluene	Ethylbenzene	Xylenes	BTEX	MTBE	Naphthalene
6/3/2020	0.00144	<0.0010	<0.0010	<0.0030	0.00144	0.0128	0.00116
9/23/2020	0.00409	<0.0010	<0.0010	<0.0030	0.00409	0.0204	0.00485
4/21/2021	0.00389	<0.0010	<0.0010	<0.0030	0.00389	0.0177	<0.0050
7/6/2021	0.00821	<0.0010	<0.0010	<0.0030	0.00821	0.0354	0.0135
10/11/2021	0.00547	<0.0010	<0.0010	<0.0030	0.00547	0.0263	0.00735
SSTLs (GRP 48 FT)	0.385	77	53.9	175	NA	1.54	1.54
ARBCA ISLs	0.005	1.0	0.7	10.0		0.02	0.02

Monitoring Well Analytical Summary Table		MW-3
Site name: K&S Grocery		Incident No.: UST 20-03-04
Well Installation date: 6/2/2020		Well Depth/Screen Length: 20 FT/10 FT
Top of Casing Elevation:	668.12	Well Type II / 2 Inch Diameter

Date	Benzene	Toluene	Ethylbenzene	Xylenes	BTEX	MTBE	Naphthalene
6/3/2020	2.33	3.65	2.90	13.2	22.1	1.30	0.708
9/23/2020	0.792	1.46	3.33	7.99	13.57	0.172	0.737
4/21/2021	0.713	0.764	3.45	11.1	16.0	0.197	0.756
7/6/2021	0.530	0.750	2.66	8.64	12.58	<0.20	<1.00
10/11/2021	0.540	0.755	2.70	9.12	13.12	<0.20	<1.00
SSTLs (GRP @ Source)	0.569	114	79.7	175	NA	2.28	2.28
ARBCA ISLs	0.005	1.0	0.7	10.0		0.02	0.02

Monitoring Well Analytical Summary Table			MW-10
Site name: K&S Grocery		Incident No.: UST 20-03-04	
Well Installation date:	9/15/2020	Well Depth/Screen Length: 20 FT/10 FT	
Top of Casing Elevation:	668.44	Well Type II / 2 Inch Diameter	

Date	Benzene	Toluene	Ethylbenzene	Xylenes	BTEX	MTBE	Naphthalene
9/23/2020	2.27	0.0977	1.28	3.76	7.41	0.872	0.493
4/21/2021	0.653	<0.020	1.22	2.30	4.17	0.225	0.839
7/6/2021	0.899	<0.020	1.65	2.64	5.19	0.291	0.536
10/11/2021	0.482	<0.020	1.69	1.95	4.12	0.172	0.420
SSTLs (GRP = 12 FT)	0.569	114	79.7	175	NA	2.28	2.28
ARBCA ISLs	0.005	1.0	0.7	10.0		0.02	0.02

Monitoring Well Analytical Summary Table			MW-11
Site name: K&S Grocery		Incident No.: UST 20-03-04	
Well Installation date:	9/15/2020	Well Depth/Screen Length: 20 FT/10 FT	
Top of Casing Elevation:	667.62	Well Type II / 2 Inch Diameter	

Date	Benzene	Toluene	Ethylbenzene	Xylenes	BTEX	MTBE	Naphthalene
9/23/2020	0.0604	0.00199	0.318	0.0832	0.464	0.0998	0.371
4/21/2021	0.0494	<0.0010	0.218	0.0425	0.310	0.0844	0.315
7/6/2021	0.020	0.00110	0.375	0.0234	0.420	0.0153	0.173
10/11/2021	0.0171	0.00112	0.119	0.0214	0.159	0.0113	0.0888
SSTLs (GRP = 30 FT)	0.534	107	74.8	175	NA	2.14	2.14
ARBCA ISLs	0.005	1.0	0.7	10.0		0.02	0.02

Monitoring Well Analytical Summary Table				MW-13			
Site name: K&S Grocery				Incident No.: UST 20-03-04			
Well Installation date:		3/5/2021		Well Depth/Screen Length: 20 FT/10 FT			
Top of Casing Elevation:		668.38		Well Type II / 2 Inch Diameter			

Date	Benzene	Toluene	Ethylbenzene	Xylenes	BTEX	MTBE	Naphthalene
3/19/2021	0.793	0.0270	0.0381	1.24	2.10	0.149	0.0527
4/21/2021	0.858	0.0620	0.0504	1.39	2.36	0.169	<0.125
7/6/2021	1.42	0.155	0.281	2.36	4.22	0.165	0.224
10/11/2021	1.43	0.0832	0.210	1.79	3.51	0.174	0.332
SSTLs (GRP = 36 FT)	0.490	98.1	68.6	175	NA	1.960	1.960
ARBCA ISLs	0.005	1.0	0.7	10.0		0.02	0.02

Monitoring Well Analytical Summary Table			MW-14
Site name: K&S Grocery		Incident No.: UST 20-03-04	
Well Installation date:	3/5/2021	Well Depth/Screen Length: 20 FT/10 FT	
Top of Casing Elevation:	668.98	Well Type II / 2 Inch Diameter	

Date	Benzene	Toluene	Ethylbenzene	Xylenes	BTEX	MTBE	Naphthalene
3/19/2021	0.538	0.00267	0.00757	0.302	0.850	0.704	0.0370
4/21/2021	0.976	0.00624	0.00658	0.596	1.585	0.681	0.162
7/6/2021	2.16	0.0448	0.0336	1.75	3.99	0.932	0.248
10/11/2021	1.87	0.0371	0.102	1.22	3.23	1.03	0.275
SSTLs (GRP = 19 FT)	0.568	114	79.6	175	NA	2.270	2.270
ARBCA ISLs	0.005	1.0	0.7	10.0		0.02	0.02

Monitoring Well Analytical Summary Table			MW-15
Site name: K&S Grocery		Incident No.: UST 20-03-04	
Well Installation date:	3/5/2021	Well Depth/Screen Length: 20 FT/10 FT	
Top of Casing Elevation:	668.48	Well Type II / 2 Inch Diameter	

Date	Benzene	Toluene	Ethylbenzene	Xylenes	BTEX	MTBE	Naphthalene
3/19/2021	0.00639	0.00829	0.0727	0.825	0.912	0.00687	0.110
4/21/2021	0.00804	0.0122	0.169	0.807	0.996	0.00734	0.287
7/6/2021	0.00751	0.0102	0.194	0.682	0.894	<0.0010	0.169
10/11/2021	0.00727	0.00905	0.178	0.296	0.490	<0.0010	0.177
SSTLs (GRP 38 FT)	0.473	94.6	66.2	175	NA	1.89	1.89
ARBCA ISLs	0.005	1.0	0.7	10.0		0.02	0.02

Monitoring Well Analytical Summary Table					MW-16		
Site name: K&S Grocery			Incident No.: UST 20-03-04				
Well Installation date:		3/5/2021	Well Depth/Screen Length: 20 FT/10 FT				
Top of Casing Elevation:		667.83	Well Type II / 2 Inch Diameter				

Date	Benzene	Toluene	Ethylbenzene	Xylenes	BTEX	MTBE	Naphthalene
3/19/2021	<0.0010	<0.0010	<0.0010	<0.0030	<0.0060	0.00360	<0.000250
4/21/2021	<0.0010	<0.0010	0.00122	0.00652	0.00774	0.00253	0.0357
7/6/2021	<0.0010	<0.0010	<0.0010	<0.0030	<0.0060	0.00306	0.0176
10/11/2021	<0.0010	<0.0010	<0.0010	<0.0030	<0.0060	0.00301	0.00301
SSTLs (GRP = 62 FT)	0.282	56.4	39.5	175	NA	1.13	1.13
ARBCA ISLs	0.005	1.0	0.7	10.0		0.02	0.02