TOM JOINER & ASSOCIATES, Inc.

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Joseph E. Patrick
Vice President

July 28, 2016

VIA CERTIFIED MAIL

Mr. Mitch Oliver
Alabama Department of Environmental Management
Post Office Box 301463
Montgomery, Alabama 36130-1463

RE: Modified Corrective Action Plan for Cost Proposal No. 52
Circle C #12
508 Oakwood Avenue
Huntsville, Madison County, Alabama
Facility I.D. No.: 10304-089-011902
Incident No.: UST93-09-20

Dear Mitch:

Per your letter dated June 27, 2016, enclosed is a Modified Corrective Action Plan for the referenced UST facility. This work was conducted in accordance with Cost Proposal No. 52.

If you have any questions, please call me at your convenience.

Sincerely,

Kelly Rainwater Johns

Enclosures: Modified CAP (hardcopy and digital copy)

cc: Todd Sitton, without enclosures (hardcopy only)

61E-MO-ModCAP-CP52-072816.KRJ

P.O. Box 1490 • Tuscaloosa, AL 35403 • (205) 345-2311 • Fax: (205) 345-2414

UNDERGROUND STORAGE TANK

MODIFIED
CORRECTIVE ACTION PLAN

Cost Proposal No. 52

Facility No. 10304-089-011902
UST Incident No. UST93-09-20

Circle C #12
508 Oakwood Avenue
Huntsville, Madison County, Alabama

April 6, 2016
Updated: July 28, 2016

Armstrong Oil Company
2409 Memorial Parkway, NW
Huntsville, Alabama 35810
(256) 536-6601

Tom Joiner & Associates, Inc.
Post Office Box 1490
Tuscaloosa, AL 35403
(205) 345-2311

CERTIFICATION PAGE

I certify under penalty of law that this report 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.

Joseph E. Patrick, P.E., P.G.

Date

Kelly Rainwater Johns, P.E.

7/28/2

Date

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I. UST Release Fact Sheet & UST Classification System Checklist

UST RELEASE FACT SHEET

GENERAL INFORMATION:

SITE NAME: Circle C #12

ADDRESS: 508 Oakwood, Huntsville, Alabama 35801

FACILITY I.D. NO.: 10304-089-011902

UST INCIDENT NO.: UST93-09-20

RESULTS OF EXPOSURE ASSESSMENT:

How many private drinking water wells are located within 1,000 ft. of site?	0
How many public water supply wells are located within 1 mile of the site?	2
Have any drinking water supply wells been impacted by contamination from this release?	No
Is there an imminent threat of contamination to any drinking water wells?	{ } Yes { X } No
Have vapors or contaminated groundwater posed a threat to the public?	{ } Yes { X } No
Are any underground utilities impacted or imminently threatened by the release?	{ } Yes { X } No
Have surface waters been impacted by the release?	{ } Yes { X } No
Is there an imminent threat of contamination to surface waters?	{ } Yes { X } No
What is the type of surrounding population?	Commercial/Residential

CONTAMINATION DESCRIPTION:

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

Free product present in wells? {X} Yes { } No Maximum thickness measured: 0.03 ft (EW-4) (in last 12 months)

Maximum TPH concentrations measured in soil:

Maximum BTEX or PAH concentrations measured in groundwater: BTEX 58.920 mg/l (EW-3) (10/22/15)

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: Circle C #12
SITE ADDRESS: 508 Oakwood Avenue
Huntsville, AL 35801
FACILITY I.D. NO.: 10304-089-011902
UST INCIDENT NO.: UST93-09-20

OWNER NAME: Armstrong Oil Company, Inc.
OWNER ADDRESS: 2409 Memorial Parkway, NW, Huntsville, AL 35810

NAME & ADDRESS OF PERSON COMPLETING THIS FORM: Joseph E. Patrick
Tom Joiner & Associates, Inc.
P.O. Box 1490, Tuscaloosa, AL 35403

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

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

ADDITIONAL COMMENTS:

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:	B.3

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

II. Introduction

On behalf of the Circle C #12 in Huntsville, Alabama, Tom Joiner and Associates, Inc. (TJA) has prepared this Modified Corrective Action Plan (CAP). Work performed by TJA personnel is summarized in Appendix A, in accordance with the ADEM Reimbursement and Reasonable Rate Guidance, March 2013.

The facility is located in Huntsville, Alabama just off Interstate 565 South, at the Oakwood Avenue Exit. The site currently has three gasoline underground storage tanks (USTs), one diesel UST and one kerosene UST (See Figures 1, 2, 3, 4 and 5).

Previous Investigations

In December 1992, Armstrong Oil Company performed a kerosene product line closure at this site. The UST closure assessment detected elevated Total Petroleum Hydrocarbons (TPH) concentration in soil sampled taken from the piping trench. Based on the findings of the UST Closure Site Assessment Report, ADEM issued a Notification of Requirement (NOR) and issued UST incident number UST93-09-20 in October 1993. The Preliminary Investigation was performed by ATEC Environmental Consulting Service from December 1994 to February 1995. The investigation confirmed that hydrocarbons had impacted groundwater beneath the site.

Additional assessments at this site include a Secondary Investigation, a Vacuum Pilot Study, groundwater monitoring, Mobile-Enhanced Multiphase Extraction (MEME) events, an Alabama Risk Based Corrective Action (ARBCA) evaluation and Corrective Action via monitoring of natural attenuation. The ARBCA Tier II Evaluation was performed by TJA, and a report was submitted to the Department on May 7, 2003. This evaluation was conducted using site-

specific data to develop Tier II Site Specific Target Levels (SSTLs). This evaluation identified the source area to be near Monitor Wells MW-5 and MW-6. For reference, the ARCBA SSTLs established for Groundwater Resource Protection (GRP) are tabulated on Table 2 with the historical groundwater-monitoring data.

ADEM authorized the implementation remediation by natural attenuation in a letter dated November 28, 2005. At the time of the CAP development, free product was not observed at this site. Therefore, the CAP did not include MEME events. However, due to the observed steady Benzene concentrations in Monitor Wells MW-5 and MW-6, MEME events have been periodically conducted at this facility since 2011. Based on the dissolved concentrations observed in Monitor Wells MW-5 and MW-6, extraction wells (EW-1 and EW-2) were installed at the site in 2010 to further assess the source soils and to be utilized during MEME events. Subsequently, free product was detected at this site in June 2012, and periodically thereafter (See Table 1). An additional two extraction wells (EW-3 and EW-4) were completed in February 2015.

III. Previous Assessments

Preliminary Investigation

The Preliminary Investigation included a soil and groundwater investigation conducted in accordance with ADEM Admin Code R, 335-6-15-.26 Four soil borings/monitor wells (MW-1, MW-2, MW-3 and MW-4) were installed and the result of the investigation revealed that groundwater had been impacted; Benzene concentrations were observed above the allowable drinking water standards. Two public water supply wells were also identified (See Appendix B). These wells (the Dallas and Lincoln) are located approximately 1,000 feet southwest of the site and are owned by Huntsville Utilities. Water from these wells is processed through a Huntsville Utilities water treatment facility before

entering the public water supply system. As a result, a Secondary Investigation was required by ADEM.

Secondary & Supplemental Secondary Investigations

The Secondary Investigation at this site was conducted and was submitted to the Department in two reports dated February 8, 2000 and March 27, 2002. The results of this work are summarized below:

1. The lateral and vertical extent of the contaminant plume has been defined,
2. The public water-supply wells (Dallas and Lincoln) are not directly down-gradient of this UST facility.
3. The surficial aquifer at this site was penetrated at depths of 34 to 54.5 feet bls; the direction of shallow groundwater flow on the Circle C #12 site is primarily to the north-northwest.
4. The subsurface geology at this site consists of weathered, heterogeneous, limestone regolith and residuum clays.
5. The highest Benzene, Toluene, Ethylbenzene & Xylenes (BTEX) concentrations were observed in Monitor Wells MW-5 and MW-6.
6. The dissolved-phase hydrocarbon plume is consistent with a gasoline release.

IV. ARBCA Evaluation

An Alabama Risk Based Corrective Action ARBCA Tier II Evaluation was performed by TJA, and a report was submitted to the Department on May 7, 2003. This evaluation was conducted using site-specific data to develop Tier II SSTLs. This evaluation identified the source area to be near Monitor Wells MW-5 and MW-6. For reference, the ARCBA SSTLs established for GRP are tabulated on Table 2 with the historical groundwater- monitoring data.

V. Previous Corrective Action

As a result of the historical site groundwater monitoring and the results of the ARBCA Tier II evaluation, the lateral and vertical extent of the site contamination was delineated and the contaminant concentrations in the source wells steady to declining. TJA recommended the implementation of a Corrective Action system using dual phase remediation combined with natural attenuation. ADEM responded saying that an additional assessment well was required and that the MEME recovery events (i.e. dual phase extraction) would not be approved in the absence of free-phased product. As a result, TJA submitted a revised CAP on May 31, 2005 for remediation by natural attenuation; this plan was approved by ADEM in their letter dated November 28, 2005.

As groundwater monitoring continued at the site, it was determined that the groundwater contaminant concentrations in source wells (Monitor Wells MW-5 and MW-6) were remaining steady with no appreciable decline. Following the October 2009 monitoring event, TJA recommended additional soil borings near the suspected source area. ADEM approved this work, and two extraction wells were installed in November 2010 followed by the conduction of multiple MEME events using these two wells between April 12, 2011 and July 7, 2011. Groundwater monitoring after these MEME events led to the discovery of free-phased gasoline product in Extraction Well EW-2 on June 19, 2012. Between then and February 2015, TJA continued to conduct groundwater monitoring and MEME events.

Due to the ongoing presence of free product and the stable concentrations observed in Monitor/Extraction Wells MW-5, MW-6, EW-1 and EW-2, TJA recommended conducting Corrective Action Optimization (NAMR dated May 15, 2014). This included shallow-soil borings along the dispenser lines, followed

by the installation of two additional wells (EW-3 and EW-4). The additional shallow assessment was conducted and the results were submitted to the Department in a report dated March 9, 2015. The assessment detected vadose-zone soil contamination above the allowable soil concentrations for GRP near Extraction Wells EW-3 and EW-4 at 8 ft bls and 12 ft bls. Soil from both borings had elevated detections of BTEX and Flame Ionization Detector (FID) readings at depth intervals of 14-16 and 16-18 feet bls (EW-3), and 12-14 and 16-18 feet bls (EW-4). The soil lithology documented these elevated detection depths to be consistent with a thin sand lense identified in Extraction Well EW-4 at a depth of 12 to 12.5 feet bls. Also, hydrocarbon odors were observed from 2.5 to 35 feet bls in boring EW-3 and elevated FID readings were detected 10 to 28 feet bls in boring EW-4, indicating that these borings may be completed in close proximity to the source area for petroleum contamination at this site. Although shallow-soil contamination has been observed at this site, the physical source has not been located.

Current groundwater monitoring data continue to show elevated Benzene concentrations in Monitor/Extraction Wells MW-5, MW-6, EW-1, EW-2, EW-3 and EW-4 above the Tier II allowable SSTL for the source. Groundwater MTBE concentrations in Extraction Wells EW-3 and EW-4 have exceeded the Tier II allowable SSTL for the source. Lastly, free product has been detected in Extraction Wells EW-1, EW-2 and EW-4 as summarized below:

Date	Well	Product Thickness (ft)
June 19, 2012	EW-2	0.75
October 17, 2012	EW-2	0.22
November 1, 2012	EW-2	0.01
February 25, 2013	EW-2	0.03
July 25, 2013	EW-2	0.09
December 9, 2013	EW-2	0.10
January 2, 2014	EW-1	0.05
March 6, 2014	EW-2	0.10
March 26, 2014	EW-2	0.05
September 4, 2014	EW-2	0.03
January 8, 2015	EW-2	0.02
January 28, 2015	EW-2	0.03
April 30, 2015	EW-2	0.02
May 18, 2015	EW-4	0.03
October 5, 2015	EW-4	0.10
October 22, 2015	EW-4	0.03

Following the completion of the Corrective Action Optimization and a result of the presence of free product, TJA recommended the CAP be re-evaluated (in a report dated June 23, 2015). ADEM approved Cost Proposal No. 52 for the development of a Revised CAP for this site.

VI. Corrective Action Technologies

As previously stated, the contamination is consistent with a gasoline release. The technologies considered for remediation at the site are discussed below in the following order:

1. Natural Attenuation
2. MEME Events
3. Enhanced Bioremediation (Biosparging)
4. In-Situ Chemical Oxidation (ISCO)
5. Air Sparge & Soil-Vapor Extraction (SVE)
6. Dual-Phase Extraction (DPE)

1. Natural Attenuation

Natural Attenuation (biodegradation, dispersion, sorption, and volatilization) refers to the processes that can result in Corrective Action levels (SSTLs) being met in an acceptable time frame without human intervention or without the influence of an active remediation technology. Groundwater monitoring has been ongoing at this site since 1999. In that time, natural attenuation has been displayed; concentrations have decreased as much as 70% in some wells located on the hydrocarbon plume perimeter. However, Benzene concentrations in Monitor/Extraction Wells MW-5, MW-6, EW-1, EW-2, EW-3 and EW-4 remain above SSTLs for GRP at the source and free product has been present since June 2012. Due to the recent occurrence of free product and the groundwater-monitoring data collected since 2005, natural attenuation is not considered a viable remediation measure at this site; natural attenuation may be considered at a later time for the final stage of Corrective Action at this site.

2. MEME Events

Since 2004, thirteen (13) MEME events (short-term dual-phase extraction) have been conducted, resulting in the estimated recovery of approximately 100 equivalent gallons of free product (as of October 2015). In the more recent years, the extraction wells (EW-1, EW-2, EW-3 and EW-4) have been utilized during MEME events; these wells are 4-inch diameter wells, completed in 2 ft x 2 ft x 2 ft vaults, installed for the purpose of extraction.

Event	Date	Duration (hrs)	Average Groundwater Elevation (MW-5 & MW-6) (~ft. AMSL)	Equivalent Gallons of Gasoline Recovered	Rate (Equivalent Gallons of Gasoline Recovered per Hour)	Monitor/ Extraction Wells
1	6/17/04	24	631.22	16.885	0.70	MW-5 & MW-6
2	8/18/09	24	631.53	9.491	0.40	MW-5 & MW-6
3	4/12/11	8	635.69	1.263	0.16	EW-1 & EW-2
4	5/10/11	8	637.03	0.452	0.06	EW-1 & EW-2
5	6/2/11	8	633.34	1.517	0.19	EW-1, EW-2, MW-5 & MW-6
6	7/7/11	8	632.23	2.287	0.29	EW-1, EW-2, MW-5 & MW-6
7	10/17/12	EW-1 & EW-2 Pressure Cleaning & Redevelopment				
		24	633.97	10.700	0.45	EW-1 & EW-2
8	12/9/13	24	632.59	30.24	1.26	EW-1, EW-2, MW-5 & MW-6
9	3/6/14	8	635.16	2.153	0.27	EW-1, EW-2, MW-5 & MW-6
10	8/21/14	8	632.89	8.721	1.09	EW-1, EW-2, MW-5 & MW-6
11	1/8/15	2.5	636.61	5.02	2.01	EW-1, EW-2, MW-5 & MW-6
12	4/30/15	8	637.50	3.0	0.38	EW-1, EW-2, EW-3 & EW-4
13	10/5/15	8	632.34	10.8	1.35	EW-1, EW-2, EW-3 & EW-4
			TOTAL	**102.53**		

The hydrocarbon mass has been reduced using periodic MEME events and by natural attenuation. However, as reported in the Natural Attenuation section of this report, Benzene concentrations in Monitor/Extraction Wells MW-5, MW-6, EW-1, EW-2, EW-3 and EW-4 remain above SSTLs. Periodic MEME events, while effective, are not considered an economically viable Corrective Action technology to remediate source concentrations to ARBCA Tier II SSTLs at this site.

3. Enhanced Bioremediation (Biosparging)

Enhanced bioremediation is a technology that stimulates biodegradation of contamination by encouraging the growth of indigenous heterotrophic microorganisms which digest and reduce the hydrocarbon molecules. In an area of petroleum release, this process typically includes providing nutrients (phosphorous, nitrogen) and/or electron acceptors (oxygen, nitrate) in the contamination-impacted area to stimulate the growth of heterotrophic bacteria that degrade hydrocarbons. When this technology is injected into the saturated zone it is referred to as biosparging.

This technology is not recommended in areas of free-phase product; the carbon mass is too great to sustain aerobic biodegradation. Due to the free product occurrence at this site, as well as the presence of vadose-zone contamination, enhanced bioremediation is not considered as an effective technology at this site.

4. In-Situ Chemical Oxidation (ISCO)

ISCO is a technology that utilizes the injection of chemical oxidants into the subsurface soil and groundwater. The resulting chemical reaction involves the transfer of electrons from the hydrocarbon molecules to the oxidant, which results in the chemical breakdown or decomposition of the hydrocarbon. ISCO oxidants for petroleum contamination include ozone, hydrogen peroxide, calcium peroxide, sodium persulfate and potassium permanganate. In areas of low permeability (clay), some contaminants may adhere so tightly to the soil that they are protected from contact with the oxidant. Therefore, the oxidant may effectively oxidize contamination in more permeable layers (sands), but leave the sorbed contamination in the clay zones.

While ISCO is a proven technology, chemical oxidation is not cost-effective at sites with free product. Therefore, this technology would need to be paired with a free-product recovery technology. Additionally, corrosion can occur to underground utilities as a result of the chemical reaction. Due to the presence of free product, the clayey site stratigraphy, and the presence of vadose-zone contamination in close proximity to the UST tank system and dispenser lines, ISCO is not considered a viable Corrective Action technology for this site at this time.

5. Air Sparging & Soil-Vapor Extraction (SVE)

Air sparging is an in-situ remedial technology, also known as in-situ air stripping. Air is injected into the subsurface, through the contaminated aquifer, which removes contaminants by volatilization. Air sparging is often paired with soil-vapor extraction (SVE). SVE is a remediation technology that applies vacuum to the soil to induce airflow to remediate the unsaturated zone soil.

Air sparging can potentially cause mounding (EPA, *How to Evaluate Alternative Cleanup Technologies for Underground Storage Tank Sites*, EPA 510-R-04-002); therefore, air sparging has the potential to cause free product to migrate. Therefore, since measurable free product has been routinely detected since 2012, air sparging is not considered a suitable technology for this site.

6. Dual-Phase Extraction (DPE)

DPE is a technology that removes groundwater, free product and soil-vapor from the subsurface using high-vacuum liquid ring pumps. Extracted liquids and vapor are discharged to an air-water separator. From the separator, the water is transferred to a treatment unit prior to discharge and air is treated (as needed) before being released into the atmosphere. DPE results in a vapor-phase pressure gradient toward the vacuum well(s) which in response results in free-phase product flowing toward the vacuum well. Additionally, DPE induces airflow through the vadose zone, stimulating aerobic contamination degradation. This technology has been proven to be effective with gasoline contamination.

As summarized in Item 2 above, thirteen (13) MEME events have been conducted at this site, and have achieved hydrocarbon recovery. However, based on the rate of hydrocarbon recovery, the MEME event costs and the lack of an impact on the dissolved plume concentrations, MEME events are not considered to be economically feasible at this site. In contrast, a DPE system can be operated continuously. This will allow for recovery of volatile compounds while increasing the oxygen content in the soils and thus encourage biodegradation.

Due to the presence of free product and the dissolved

concentrations of Benzene in Monitor/Extraction Wells MW-5, MW-6, EW-1, EW-2, EW-3 and EW-4, DPE has been chosen as the most effective Corrective Action technology for this site. The site currently has four extraction wells (EW-1, EW-2, EW-3 and EW-4) in place (set in 2 ft x 2 ft x 2 ft vaults). The plume is relatively small, and therefore, rental (instead of purchase) of a DPE system may be recommended following a cost analysis.

VII. Proposed Remediation Method

Based upon the gasoline source of contamination, its presence in both vadose and phreatic zones and vacuum influence/recovery rates (observed during previous MEME events), a DPE system was selected as the most effective remediation technology for this site. Using data collected from previous MEME events, a DPE recovery system supplied by MK Environmental was selected. The remediation system consists of a 10-HP, 150 ACFM (at 20" Hg) oil-sealed liquid ring blower and 200-gallon air water separator (AWS-1), and a 15 gpm water treatment unit (striperator) with off-gas treatment. A Piping and Instrumentation Diagram is included as Appendix F.

Recovered water and vapor from the liquid ring pump will enter a 200-gallon air-water separator (AWS-1) where the water and air will separate. Water will be pumped from the AWS-1 to the 15 gpm oil-water separator/diffused-air aeration unit (striperator) by a 1.5 HP transfer pump. The transfer pump will be equipped with automatic liquid-level controls and a manual over-ride switch for the collection of water samples. Air will be discharged to the atmosphere following treatment with either activated carbon or catalytic oxidizer.

Upon entry into the striperator, water will flow through coalescing plates in an oil/water separator chamber before flowing into the diffused-air aeration

unit where air will be diffused via a 2-HP blower using perforated polyethylene diffuser tubes. The aerator will be equipped with a silencer to reduce noise level of the blower. Once aerated, water will flow into a sump where it will be pumped (via a 1.5-HP transfer pump) through a totalizing flowmeter before being discharged to surface water via a NPDES permitted outfall.

Air vapor from the AWS-1 tank will be directed to an air-water separator (knock-out tank, AWS-3) and then a heat exchanger before being routed to off-gas treatment. Due to the presence of free-phased product at this site, vapors will initially go to a 12,000 BTU oxidizer. In the event that the oxidizer is inoperable, vapors will be directed to two (2) vapor-phase carbon vessels (1,000 pounds each) connected in series.

The system (with the exception of the AWS-3, oxidizer and carbon drums) will be housed inside an aluminum and steel building (approximately 8.5 feet wide by 12 feet long by 9.5 feet high). A telemetry system with manual and automatic control outputs will allow remote restart and shut down capability. Additionally, the system will be equipped with sensors that will shut down the liquid-ring blower due to low-oil levels or high oil temperature and/or failure of treatment components (to include AWS-1 high level, low pressure in aeration unit, and high liquid levels in the water sumps).

Dual phase recovery will be accomplished via four existing extraction wells (EW-1, EW-2, EW-3 and EW-4) previously installed at this site. Each well was constructed using 4-inch diameter solid pipe and continuous slot screen. The surface completion of each well is a 2-foot by 2-foot by 2-foot recovery well vault, with a 2-inch PVC pipe stubbed through one side wall of the cover (See Appendix D). The screened intervals in each well span across the top of the water table and zones of petroleum-impacted soil. The conversion of the wells to

full time recovery wells will require the installation of dedicated 2-inch diameter recovery lines installed below grade (See the enclosed piping trench detail, Figure 8). TJA will periodically monitor groundwater elevations, and adjust drop tubes as needed.

VIII. Rationale for Selection of Remediation Recommendation

TJA recommends dual-phase extraction as the Corrective Action technology for this site. As discussed in detail in Item V, DPE is the most viable technology for this site.

Following the Department's review of this report, TJA will submit cost proposals to purchase, install and implement the approved Corrective Action Plan. These costs will include purchase of Corrective Action materials and system, implementation of the plan and NPDES permitting costs.

In accordance with the general NPDES permit to be acquired, the discharge of the system will be monitored monthly. System maintenance will be performed in accordance with the manufacturer's specifications, and will likely include annual oil and filter changes, quarterly system cleaning and monthly visual inspections of equipment by TJA field technicians. Monthly trips will allow adjustments to the system based upon site measurements of free product (if any) and depth to water.

IX. Proposed Reporting Requirements

Groundwater monitoring will be performed at quarterly intervals. These events will consist of abbreviated events for three quarters followed by a comprehensive monitoring event that will include all monitor/extraction/recovery wells. Abbreviated monitoring events will include the collection of groundwater

elevations from all wells followed by the collection of samples from select wells; sample locations will include wells with recent detections of chemicals-of-concern at or above SSTL concentrations. All samples will be analyzed for BTEX, MTBE and Naphthalene using EPA Method 8260. All site-monitoring activities will be in accordance with TJA Quality Assurance/Quality Control Procedures (Appendix C), and Site Specific Health and Safety Plan (Appendix E).

Cost Proposals for the installation and initial implementation of this CAP will be submitted to the Department under a separate letterhead.

Reports will be submitted to the Department as follows:

System Startup Notification .....Within 15 days of System Startup

Corrective Action Implementation Report .....Within 45 days of System Startup

System Effectiveness Monitoring Reports ..... Following system start, Quarterly

Groundwater remediation will be considered complete when the groundwater and soil contaminant levels do not exceed ARBCA Tier II limits. The remediation system will be operated for two quarters after the groundwater concentration in the source area has declined below the ARBCA Tier II SSTLs for this site (for this site, estimates for the time for remediation are 1 to 2 years). Following this, the remediation system will be shut down and groundwater monitoring of source area wells will be conducted for four additional quarters to demonstrate if the contaminant concentrations are steady and or continuing to decline.

X. Schedule of Implementation

The system will be installed within 120 days following ADEM approval of the CAP and associated cost proposals. Installation will include the delivery of the DPE system, trenching (from the system to the existing extraction wells), initial system start-up and confirmation monitoring.

XI. Conclusions and Recommendations

TJA recommends dual-phase extraction as the Corrective Action technology for this site. The system will include an oil-sealed blower and stripper unit, housed inside a building. Air Pollution Control Devices (APCD) includes an oxidizer as primary and two carbon drums as secondary. Existing extraction wells (EW-1, EW-2, EW-3 and EW-4) will be utilized as full-time recovery wells.

XII. Figures

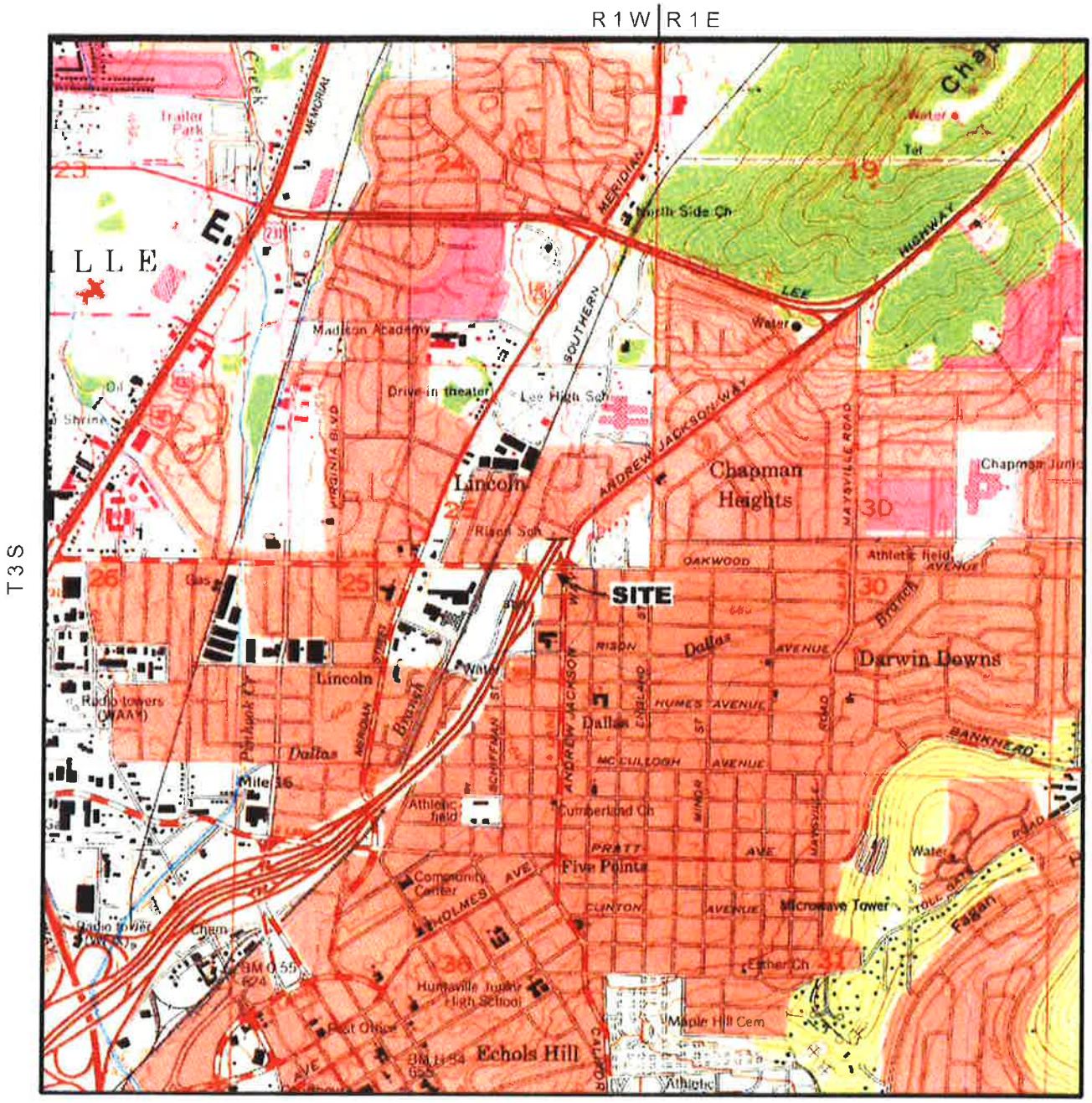


FIGURE 1

VICINITY MAP

CIRCLE C #12
HUNTSVILLE, ALABAMA
FACILITY I. D. NO.:10304-089-011902

N

0 2000'
SCALE IN FEET

SOURCE: MERIDIANVILLE 7.5' USGS QUADRANGLE(1964), PHOTOREVISED(1982)&
HUNTSVILLE 7.5' USGS QUADRANGLE(1971), PHOTOREVISED(1991)

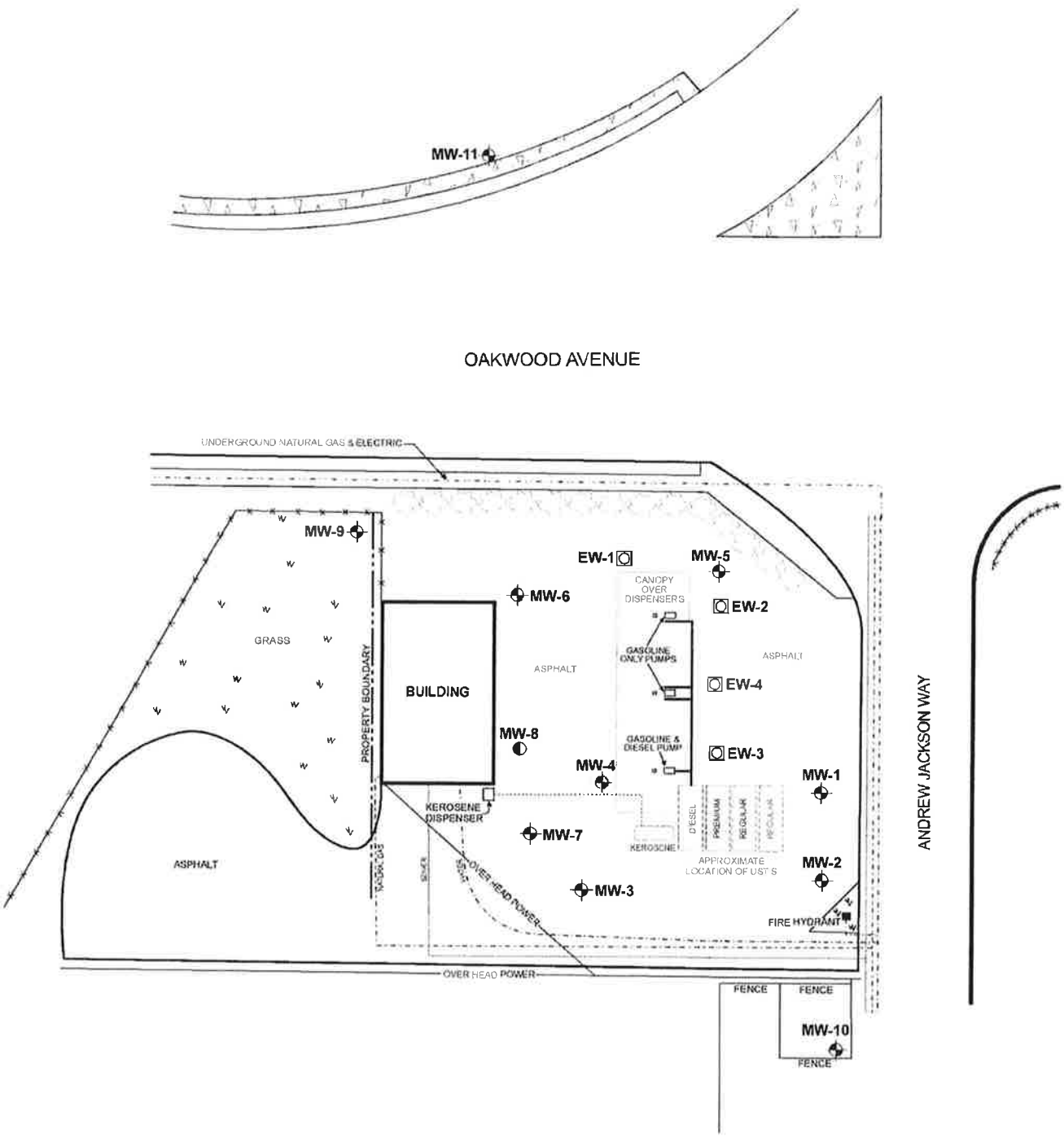


FIGURE 2

SITE MAP

CIRCLE C #12
HUNTSVILLE, ALABAMA
FACILITY I. D. NO.: 10304-089-011902

LEGEND

- TYPE III MONITOR WELL
- TYPE II MONITOR WELLS
- TYPE II EXTRACTION WELL (4-inch Diameter)
- UNDERGROUND UTILITIES
- ASSUMED UNDERGROUND LINE
- GPR LOCATED UNDERGROUND LINE
- CONCRETE

N

0' 50'
SCALE IN FEET

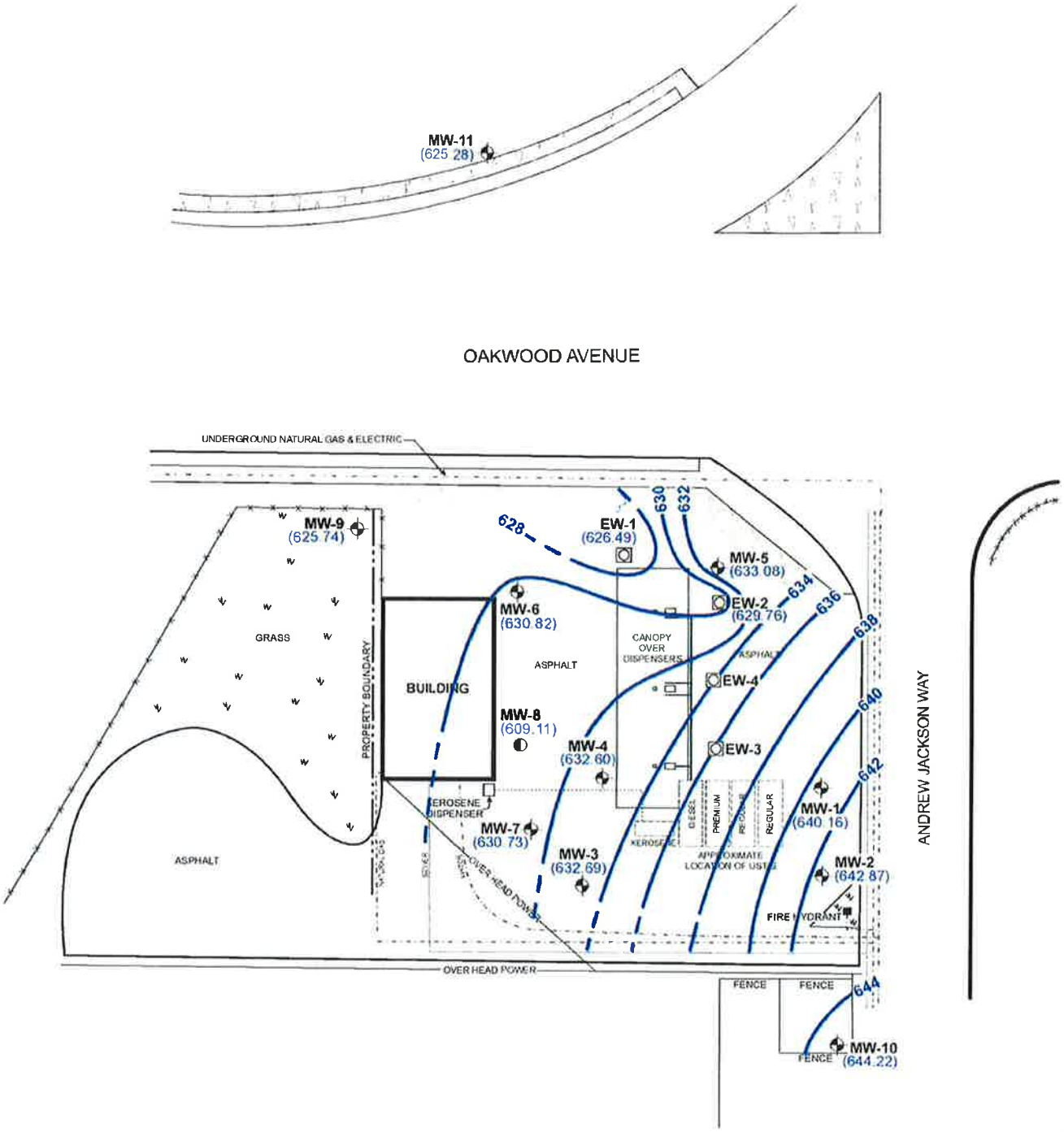


FIGURE 3

POTENTIOMETRIC SURFACE MAP OF THE SURFICIAL AQUIFER

October 22, 2015

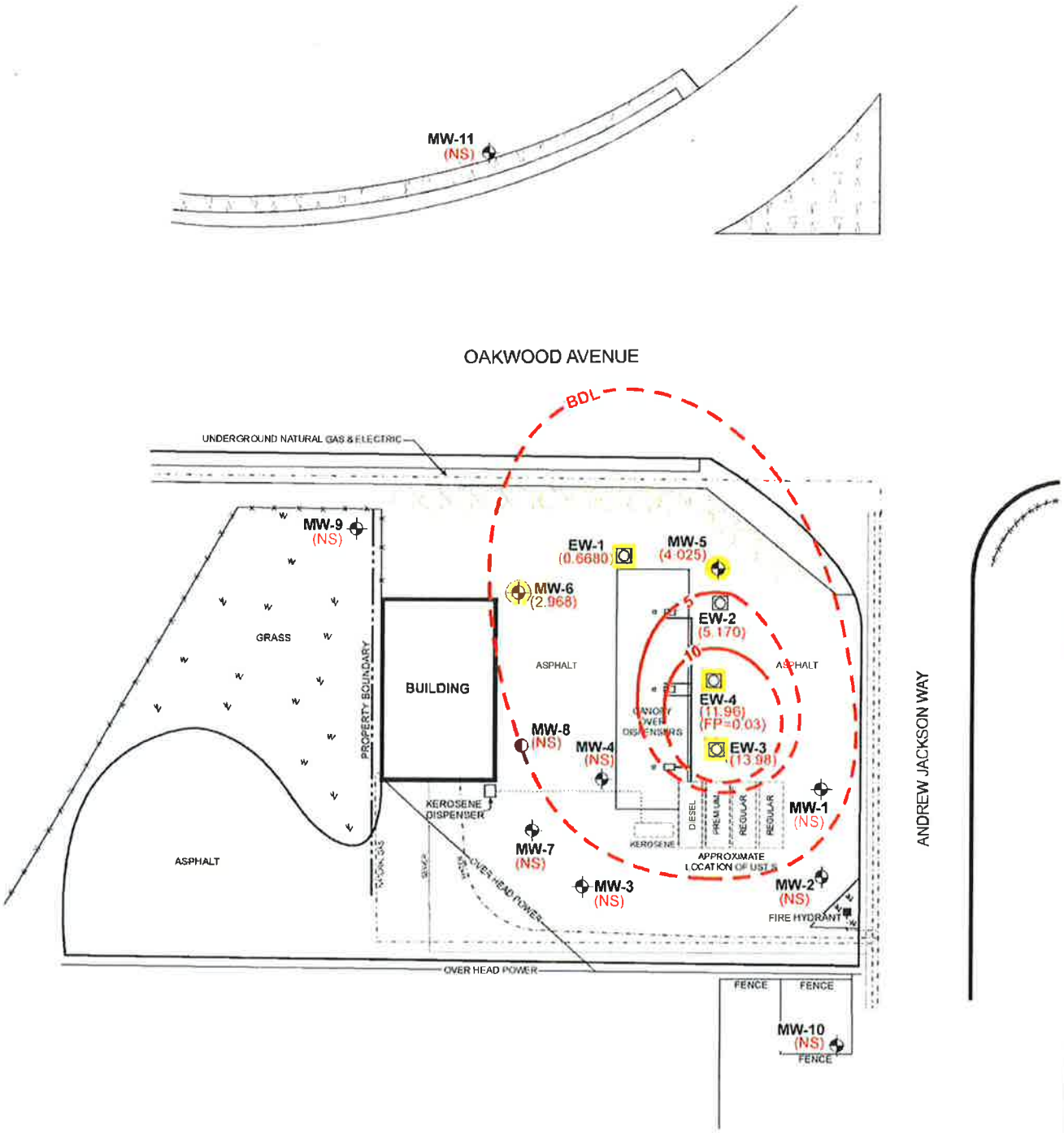
CIRCLE C #12
HUNTSVILLE, ALABAMA
FACILITY I D NO.: 10304-089-011902

LEGEND

- GROUNDWATER CONTOUR
- (633.08) WATER LEVEL ELEVATION (~FT AMSL)
- (NM) NOT MEASURED
- TYPE III MONITOR WELL
- TYPE II MONITOR WELLS
- TYPE II EXTRACTION WELL (4-inch Diameter)
- UNDERGROUND UTILITIES
- ASSUMED UNDERGROUND LINE
- GPR LOCATED UNDERGROUND LINE
- CONCRETE

N

0' 50'
SCALE IN FEET



LEGEND

- BENZENE CONCENTRATION CONTOUR
- BENZENE CONCENTRATION (mg/L)
- NOT SAMPLED
- FREE PRODUCT THICKNESS (Feet)
- TYPE III MONITOR WELL
- TYPE II MONITOR WELLS
- TYPE II EXTRACTION WELL (4-inch Diameter)
- UNDERGROUND UTILITIES
- ASSUMED UNDERGROUND LINE
- GPR LOCATED UNDERGROUND LINE
- CONCRETE
- ABOVE ARBCA TIER II ALLOWABLE GROUNDWATER CONCENTRATION

FIGURE 4

BENZENE ISOCONCENTRATION MAP

October 22, 2015

CIRCLE C #12
HUNTSVILLE, ALABAMA
FACILITY I. D. NO : 10304-089-011902

N

0' 50'
SCALE IN FEET

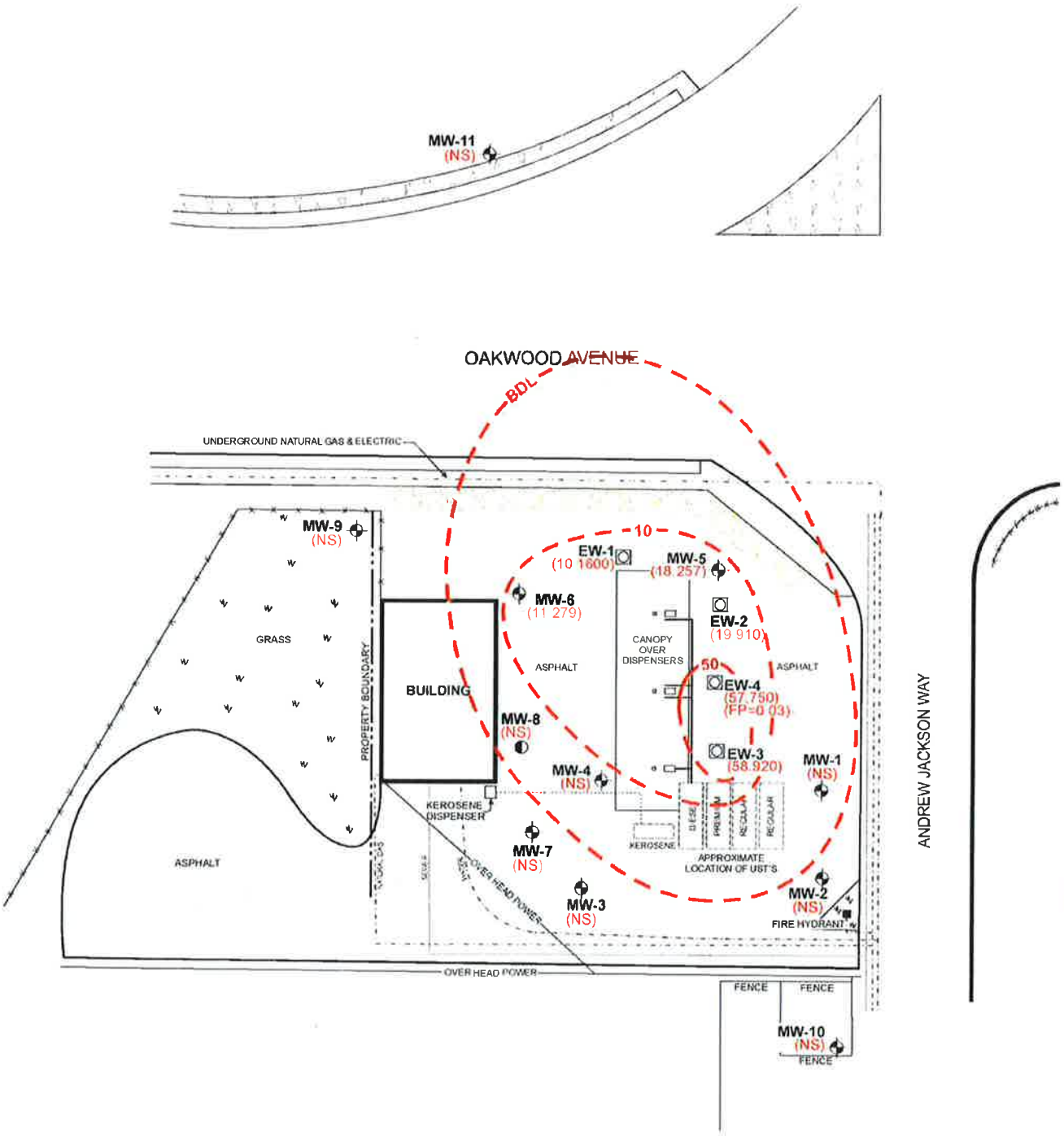


FIGURE 5

TOTAL BTEX ISOCONCENTRATION MAP

October 22, 2015

CIRCLE C #12
HUNTSVILLE, ALABAMA
FACILITY I. D. NO.: 10304-089-011902

LEGEND

- BTEX CONCENTRATION CONTOUR
- (18,257) BTEX CONCENTRATION (mg/L)
- (NS) NOT SAMPLED
- (FP=0.03) FREE PRODUCT THICKNESS (Feet)
- TYPE III MONITOR WELL
- TYPE II MONITOR WELLS
- TYPE II EXTRACTION WELL (4-inch Diameter)
- UNDERGROUND UTILITIES
- ASSUMED UNDERGROUND LINE
- GPR LOCATED UNDERGROUND LINE
- CONCRETE

N

0' 50'
SCALE IN FEET

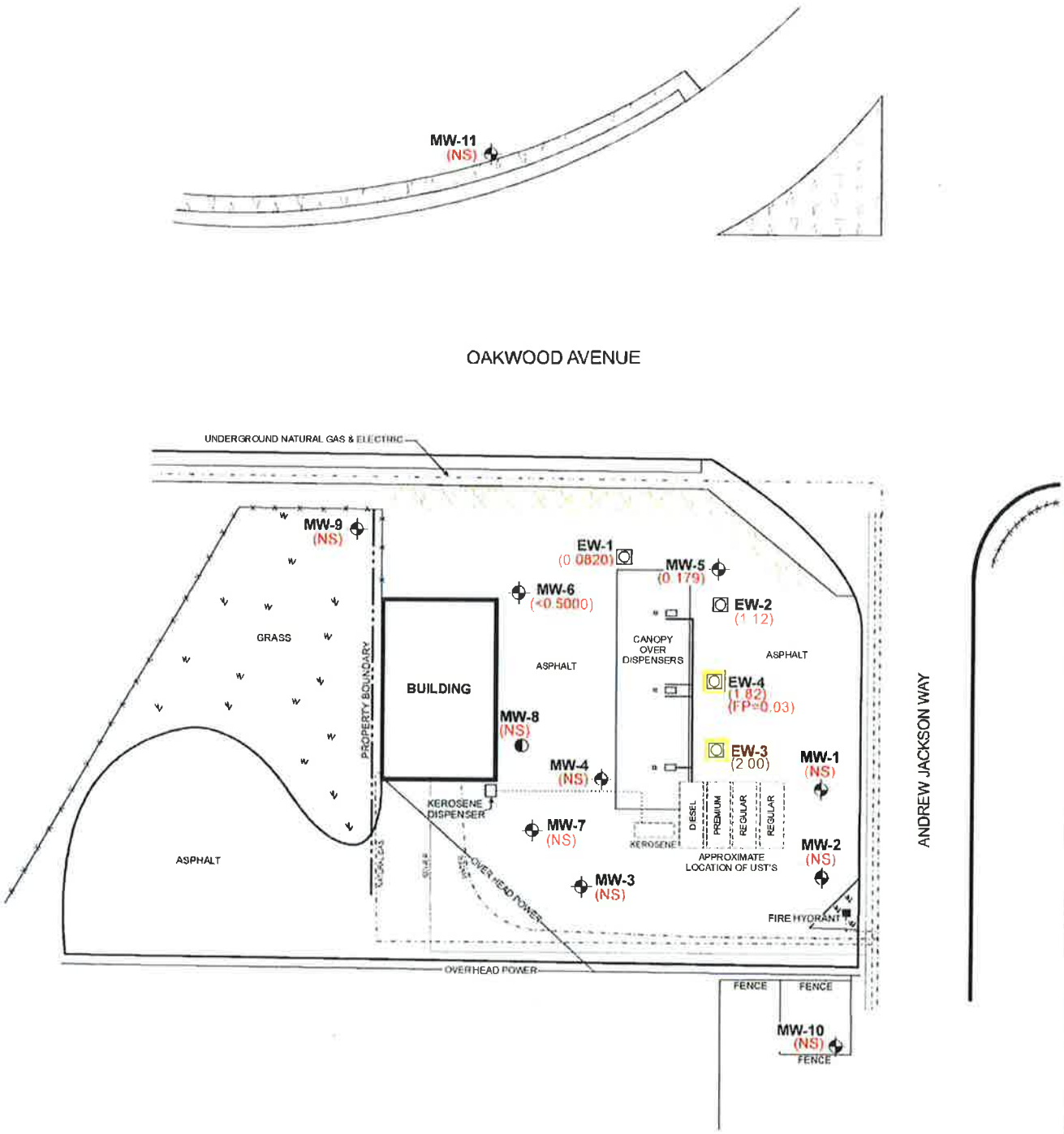


FIGURE 6

MTBE CONCENTRATION MAP

October 22, 2015

CIRCLE C #12
HUNTSVILLE, ALABAMA
FACILITY I. D. NO.: 10304-089-011902

LEGEND

- (0.179) MTBE CONCENTRATION (mg/L)
- (NS) NOT SAMPLED
- (FP=0.03) FREE PRODUCT THICKNESS (Feet)
- TYPE III MONITOR WELL
- TYPE II MONITOR WELLS
- TYPE II EXTRACTION WELL (4-inch Diameter)
- UNDERGROUND UTILITIES
- ASSUMED UNDERGROUND LINE
- GPR LOCATED UNDERGROUND LINE
- CONCRETE
- ABOVE ARBCA TIER II ALLOWABLE GROUNDWATER CONCENTRATION

N

0' 50'
SCALE IN FEET

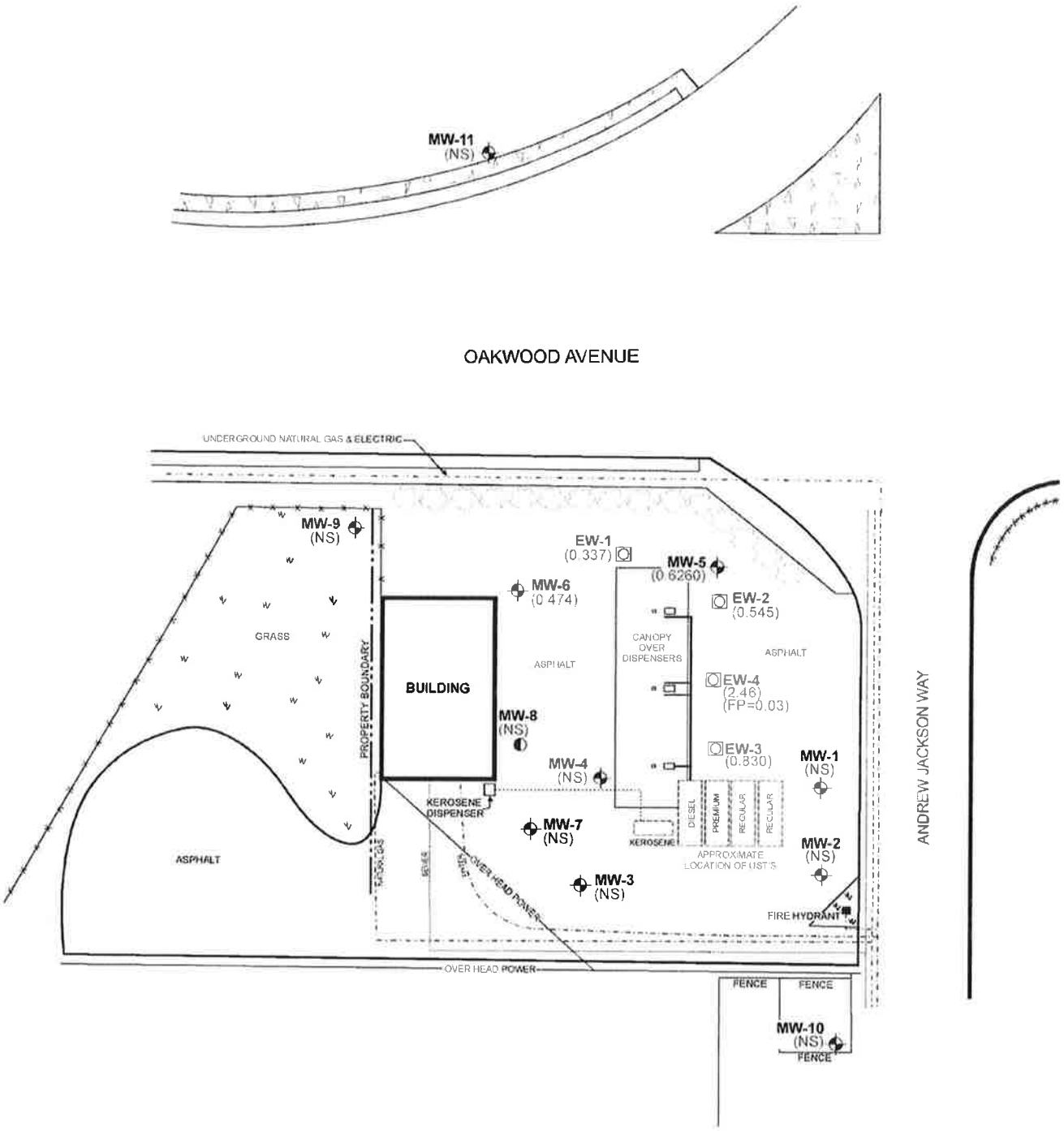


FIGURE 7

NAPHTHALENE CONCENTRATION MAP

October 22, 2015

CIRCLE C #12
HUNTSVILLE, ALABAMA
FACILITY I. D. NO.: 10304-089-011902

LEGEND

(0.6260)	NAPHTHALENE CONCENTRATION (mg/L)
(NS)	NOT SAMPLED
(FP=0.03)	FREE PRODUCT THICKNESS (Feet)
◐	TYPE III MONITOR WELL
⌖	TYPE II MONITOR WELLS
◯	TYPE II EXTRACTION WELL (4-inch Diameter)
	UNDERGROUND UTILITIES
	ASSUMED UNDERGROUND LINE
	GPR LOCATED UNDERGROUND LINE
	CONCRETE

N

0' 50'
SCALE IN FEET

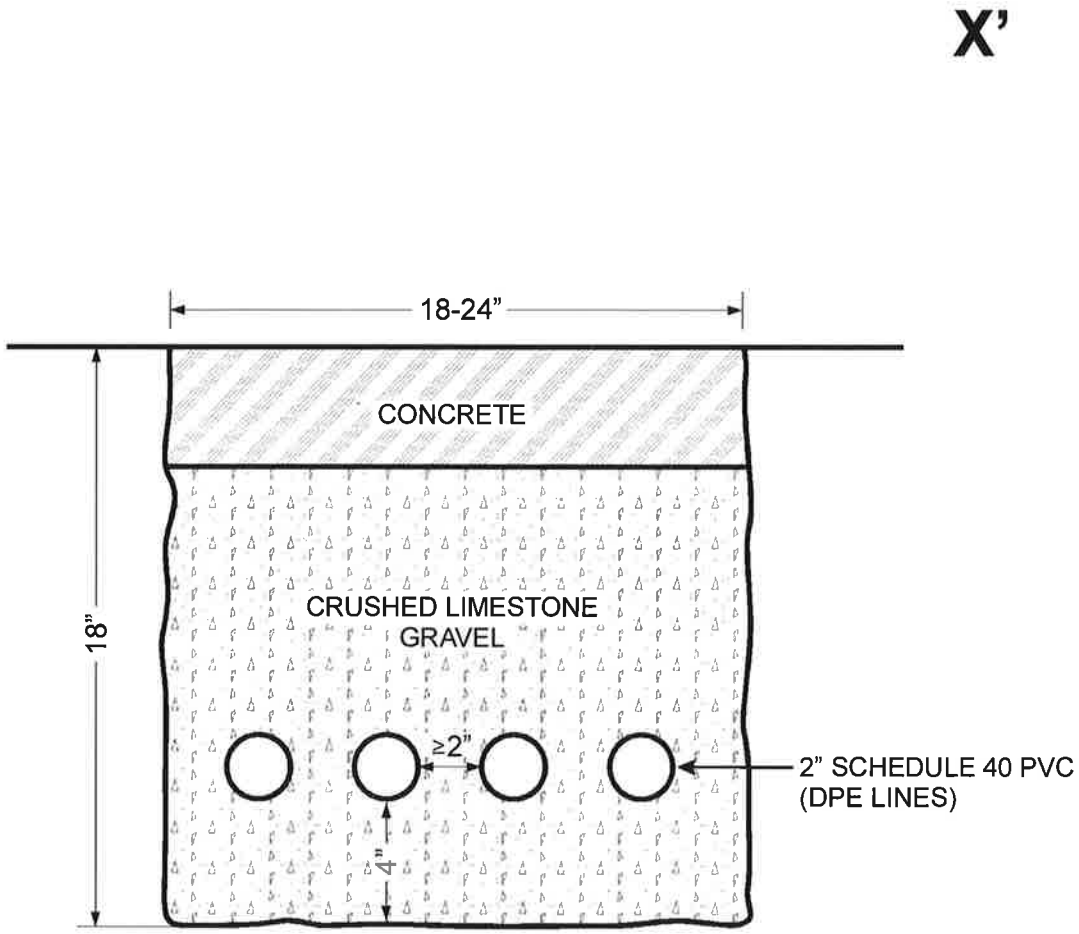
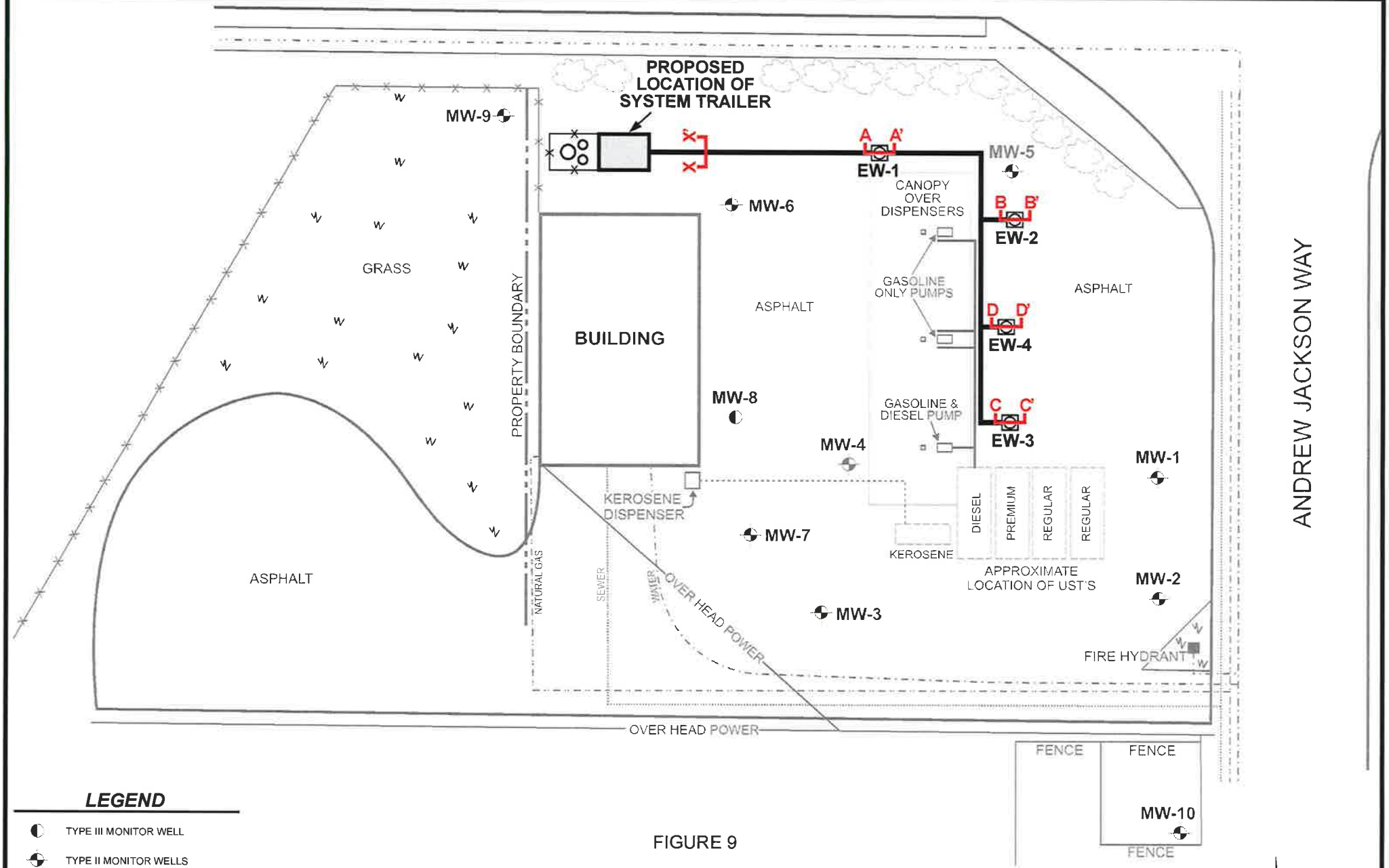


FIGURE 8

RECOVERY LINES AND TRENCH DETAIL

CIRCLE C #12
HUNTSVILLE, ALABAMA
FACILITY I. D. NO.: 10304-089-011902

0 6"
SCALE IN INCHES



LEGEND

- TYPE III MONITOR WELL
- TYPE II MONITOR WELLS
- TYPE II EXTRACTION WELL (4-inch Diameter) TO BECOME RECOVERY WELLS
- UNDERGROUND UTILITIES
- ASSUMED UNDERGROUND LINE
- GPR LOCATED UNDERGROUND LINE
- CONCRETE

FIGURE 9

SITE MAP WITH MODIFICATIONS

CIRCLE C #12
HUNTSVILLE, ALABAMA
FACILITY I. D. NO.: 10304-089-011902

XIII. Tables

Table 1
HISTORICAL GROUNDWATER ELEVATION MEASUREMENTS
Circle C No. 12
Facility I.D. No. 10304-089-011902
Huntsville , Alabama

Date	Well	Top of Casing MP Elev. (~FT.AMSL)	Total Depth Below Top of Casing (FT)	Depth to Product (FT.BTOC)	Depth to Water (FT.BTOC)	Product Thickness (FT)	Groundwater Elevation (~FT. AMSL)
June 9, 1999	MW-1	660.00	29.00	ND	20.03	ND	639.97
	MW-2	659.52	29.50	ND	17.41	ND	642.11
	MW-3	660.85	35.00	ND	25.34	ND	635.51
	MW-4	662.34	34.25	ND	27.85	ND	634.49
	MW-5	662.57	33.25	ND	29.65	ND	632.92
	MW-6	663.26	33.10	ND	30.86	ND	632.40
	MW-7	661.20	33.25	ND	28.11	ND	633.09
	MW-8	662.94	54.70	ND	48.46	ND	614.48
	MW-9	663.08	38.20	NA	NA	NA	NA
	MW-10	657.64	32.10	NA	NA	NA	NA
	MW-11	663.04	37.90	NA	NA	NA	NA
May 15, 2001	MW-1	660.00	29.00	ND	22.88	ND	637.12
	MW-2	659.52	29.50	ND	20.83	ND	638.69
	MW-3	660.85	35.00	ND	27.98	ND	632.87
	MW-4	662.34	34.25	ND	29.71	ND	632.63
	MW-5	662.57	33.25	ND	29.82	ND	632.75
	MW-6	663.26	33.10	ND	32.31	ND	630.95
	MW-7	661.20	33.25	ND	30.32	ND	630.88
	MW-8	662.94	54.70	ND	45.41	ND	617.53
	MW-9	663.08	38.20	ND	35.62	ND	627.46
	MW-10	657.64	32.10	ND	17.88	ND	639.76
	MW-11	663.04	37.90	Dry	Dry	Dry	Dry
October 8, 2002	MW-1	660.00	29.00	ND	23.66	ND	636.34
	MW-2	659.52	29.50	ND	21.62	ND	637.90
(Total Depths Measured)	MW-3	660.85	35.00	ND	28.96	ND	631.89
	MW-4	662.34	34.25	ND	30.52	ND	631.82
	MW-5	662.57	33.25	ND	31.14	ND	631.43
	MW-6	663.26	33.10	ND	31.80	ND	631.46
	MW-7	661.20	33.25	ND	30.96	ND	630.24
	MW-8	662.94	54.70	ND	53.46	ND	--
	MW-9	663.08	38.20	ND	35.71	ND	627.37
	MW-10	657.64	32.10	ND	18.72	ND	638.92
	MW-11	663.04	37.90	Dry	Dry	Dry	Dry
February 13, 2003	MW-1	660.00	29.00	ND	22.21	ND	637.79
	MW-2	659.52	29.50	ND	19.82	ND	639.70
	MW-3	660.85	35.00	ND	27.59	ND	633.26
	MW-4	662.34	34.25	ND	29.71	ND	632.63
	MW-5	662.57	33.25	ND	30.20	ND	632.37
	MW-6	663.26	33.25	ND	32.32	ND	630.94
	MW-7	661.20	34.00	ND	30.15	ND	631.05
	MW-8	662.94	54.70	ND	50.45	ND	612.49
	MW-9	663.08	38.20	ND	36.26	ND	626.82
	MW-10	657.64	32.10	ND	16.1	ND	641.54
	MW-11	663.04	38.20	Dry	Dry	Dry	Dry
June 17, 2004	MW-1	660.00	29.00	ND	24.47	ND	635.53
	MW-2	659.52	29.50	ND	22.14	ND	637.38
	MW-3	660.85	35.00	ND	28.53	ND	632.32
	MW-4	662.34	34.25	ND	30.36	ND	631.98
	MW-5	662.57	33.25	ND	31.11	ND	631.46
	MW-6	663.26	33.25	ND	32.28	ND	630.98
	MW-7	661.20	34.00	ND	31.00	ND	630.20
	MW-8	662.94	54.70	ND	51.77	ND	611.17
	MW-9	663.08	38.20	ND	37.10	ND	625.98
	MW-10	657.64	32.10	NM	NM	NM	NM
	MW-11	663.04	38.20	Dry	Dry	Dry	Dry
July 13, 2004	MW-1	660.00	29.00	ND	23.55	ND	636.45
	MW-2	659.52	29.50	ND	21.06	ND	638.46
	MW-3	660.85	35.00	ND	28.63	ND	632.22
	MW-4	662.34	34.25	ND	30.20	ND	632.14
	MW-5	662.57	33.25	ND	30.64	ND	631.93
	MW-6	663.26	33.25	ND	32.68	ND	630.58
	MW-7	661.20	34.00	ND	31.80	ND	629.40
	MW-8	662.94	54.70	ND	52.44	ND	610.50
	MW-9	663.08	38.20	ND	36.53	ND	626.55
	MW-10	657.64	32.10	NM	NM	NM	NM
	MW-11	663.04	38.20	Dry	Dry	Dry	Dry

*Actual elevs. accurate to ±10ft, based on Huntsville 7.5' USGS Quadrangle.
Relative elevs. accurate to ±0.01ft.
**Elevs. corrected for Free Product using specific gravity for gasoline=0.76
ND=Not Detected
NM=Not Measured

Table 1
HISTORICAL GROUNDWATER ELEVATION MEASUREMENTS
Circle C No. 12
Facility I.D. No. 10304-089-011902
Huntsville , Alabama

Date	Well	Top of Casing MP Elev. (~FT.AMSL)	Total Depth Below Top of Casing (FT)	Depth to Product (FT.BTOC)	Depth to Water (FT.BTOC)	Product Thickness (FT)	Groundwater Elevation (~FT. AMSL)
December 5, 2005	MW-1	660.00	29.00	ND	23.47	ND	636.53
	MW-2	659.52	29.50	ND	20.35	ND	639.17
	MW-3	660.85	35.00	ND	29.77	ND	631.08
	MW-4	662.34	34.25	ND	31.30	ND	631.04
	MW-5	662.57	33.25	ND	32.76	ND	629.81
	MW-6	663.26	33.25	ND	32.33	ND	630.93
	MW-7	661.20	34.00	ND	32.03	ND	629.17
	MW-8	662.94	54.70	ND	53.60	ND	609.34
	MW-9	663.08	38.20	ND	36.30	ND	626.78
	MW-10	657.64	32.10	ND	15.14	ND	642.50
	MW-11	663.04	38.20	Dry	Dry	Dry	Dry
April 3, 2006	MW-1	660.00	29.00	ND	22.60	ND	637.40
	MW-2	659.52	29.50	ND	19.85	ND	639.67
	MW-3	660.85	35.00	ND	28.44	ND	632.41
	MW-4	662.34	34.25	ND	30.07	ND	632.27
	MW-5	662.57	33.25	ND	30.26	ND	632.31
	MW-6	663.26	33.25	ND	32.32	ND	630.94
	MW-7	661.20	34.00	ND	30.70	ND	630.50
	MW-8	662.94	54.70	ND	50.00	ND	612.94
	MW-9	663.08	38.20	ND	36.29	ND	626.79
	MW-10	657.64	32.10	ND	17.66	ND	639.98
	MW-11	663.04	38.20	Dry	Dry	Dry	Dry
July 20, 2006	MW-1	660.00	29.00	ND	26.22	ND	633.78
	MW-2	659.52	29.50	ND	24.22	ND	635.30
	MW-3	660.85	35.00	ND	30.40	ND	630.45
	MW-4	662.34	34.25	ND	31.72	ND	630.62
	MW-5	662.57	33.25	Dry	Dry	Dry	Dry
	MW-6	663.26	33.25	Dry	Dry	Dry	Dry
	MW-7	661.20	34.00	Dry	Dry	Dry	Dry
	MW-8	662.94	54.70	Dry	Dry	Dry	Dry
	MW-9	663.08	38.20	Dry	Dry	Dry	Dry
	MW-10	657.64	32.10	ND	22.90	ND	634.74
	MW-11	663.04	38.20	Dry	Dry	Dry	Dry
January 16, 2007	MW-1	660.00	29.00	ND	21.69	ND	638.31
	MW-2	659.52	29.50	ND	18.05	ND	641.47
(Total Depths Measured)	MW-3	660.85	35.00	ND	27.23	ND	633.62
	MW-4	662.34	34.25	ND	29.20	ND	633.14
	MW-5	662.57	33.25	ND	30.20	ND	632.37
	MW-6	663.26	33.25	ND	31.40	ND	631.86
	MW-7	661.20	34.00	NM	NM	NM	NM
	MW-8	662.94	54.70	ND	49.61	ND	613.33
	MW-9	663.08	38.20	ND	35.36	ND	627.72
	MW-10	657.64	32.10	ND	16.76	ND	640.88
	MW-11	663.04	38.20	ND	38.05	ND	624.99
April 30, 2007	MW-1	660.00	29.00	ND	24.54	ND	635.46
	MW-2	659.52	29.50	ND	22.50	ND	637.02
	MW-3	660.85	35.00	ND	29.26	ND	631.59
	MW-4	662.34	34.25	ND	31.29	ND	631.05
	MW-5	662.57	33.25	ND	32.04	ND	630.53
	MW-6	663.26	33.25	ND	32.32	ND	630.94
	MW-7	661.20	34.00	ND	32.29	ND	628.91
	MW-8	662.94	54.70	ND	52.64	ND	610.30
	MW-9	663.08	38.20	ND	36.67	ND	626.41
	MW-10	657.64	32.10	NM	NM	NM	NM
	MW-11	663.04	38.20	Dry	Dry	Dry	Dry
August 6, 2007	MW-1	660.00	29.00	ND	25.21	ND	634.79
	MW-2	659.52	29.50	ND	22.40	ND	637.12
	MW-3	660.85	35.00	ND	30.18	ND	630.67
	MW-4	662.34	34.25	ND	31.46	ND	630.88
	MW-5	662.57	33.25	ND	31.80	ND	630.77
	MW-6	663.26	33.25	Dry	Dry	Dry	Dry
	MW-7	661.20	34.00	Dry	Dry	Dry	Dry
	MW-8	662.94	54.70	Dry	Dry	Dry	Dry
	MW-9	663.08	38.20	Dry	Dry	Dry	Dry
	MW-10	657.64	32.10	NM	NM	NM	NM
	MW-11	663.04	38.20	Dry	Dry	Dry	Dry

*Actual elevs. accurate to ±10ft, based on Huntsville 7.5' USGS Quadrangle.
Relative elevs. accurate to ±0.01ft.
**Elevs. corrected for Free Product using specific gravity for gasoline=0.76
ND=Not Detected
NM=Not Measured

Table 1
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Circle C No. 12
Facility I.D. No. 10304-089-011902
Huntsville , Alabama

Date	Well	Top of Casing MP Elev. (~FT.AMSL)	Total Depth Below Top of Casing (FT)	Depth to Product (FT.BTOC)	Depth to Water (FT.BTOC)	Product Thickness (FT)	Groundwater Elevation (~FT. AMSL)
November 12, 2007	MW-1	660.00	29.00	ND	27.88	ND	632.12
	MW-2	659.52	29.50	ND	25.90	ND	633.62
	MW-3	660.85	35.00	ND	31.34	ND	629.51
	MW-4	662.34	34.25	ND	32.50	ND	629.84
	MW-5	662.57	33.25	Dry	Dry	Dry	Dry
	MW-6	663.26	33.25	Dry	Dry	Dry	Dry
	MW-7	661.20	34.00	Dry	Dry	Dry	Dry
	MW-8	662.94	54.70	Dry	Dry	Dry	Dry
	MW-9	663.08	38.20	Dry	Dry	Dry	Dry
	MW-10	657.64	32.10	NM	NM	NM	NM
	MW-11	663.04	38.20	Dry	Dry	Dry	Dry
April 23, 2008	MW-1	660.00	29.00	ND	21.30	ND	638.70
	MW-2	659.52	29.50	ND	18.53	ND	640.99
	MW-3	660.85	35.00	ND	27.24	ND	633.61
	MW-4	662.34	34.25	ND	29.10	ND	633.24
	MW-5	662.57	33.25	ND	29.43	ND	633.14
	MW-6	663.26	33.25	ND	31.62	ND	631.64
	MW-7	661.20	34.00	ND	29.95	ND	631.25
	MW-8	662.94	54.70	ND	48.56	ND	614.38
	MW-9	663.08	38.20	ND	35.95	ND	627.13
	MW-10	657.64	32.10	NM	NM	NM	NM
	MW-11	663.04	38.20	Dry	Dry	Dry	Dry
August 18, 2008	MW-1	660.00	29.00	ND	25.30	ND	634.70
	MW-2	659.52	29.50	ND	22.75	ND	636.77
	MW-3	660.85	35.00	ND	29.85	ND	631.00
	MW-4	662.34	34.25	ND	31.51	ND	630.83
	MW-5	662.57	33.25	ND	31.95	ND	630.62
	MW-6	663.26	33.25	ND	32.45	ND	630.81
	MW-7	661.20	34.00	Dry	Dry	Dry	Dry
	MW-8	662.94	54.70	Dry	Dry	Dry	Dry
	MW-9	663.08	38.20	Dry	Dry	Dry	Dry
	MW-10	657.64	32.10	NM	NM	NM	NM
	MW-11	663.04	38.20	Dry	Dry	Dry	Dry
February 19, 2009	MW-1	660.00	29.00	ND	25.10	ND	634.90
	MW-2	659.52	29.50	ND	21.22	ND	638.30
	MW-3	660.85	35.00	ND	29.33	ND	631.52
	MW-4	662.34	34.25	ND	31.25	ND	631.09
	MW-5	662.57	33.25	ND	30.20	ND	632.37
	MW-6	663.26	33.25	ND	32.42	ND	630.84
	MW-7	661.20	34.00	Dry	Dry	Dry	Dry
	MW-8	662.94	54.70	ND	55.23	ND	607.71
	MW-9	663.08	38.20	ND	36.42	ND	626.66
	MW-10	657.64	32.10	NM	NM	NM	NM
	MW-11	663.04	38.20	Dry	Dry	Dry	Dry
June 17, 2009	MW-1	660.00	29.00	ND	22.60	ND	637.40
	MW-2	659.52	29.50	ND	20.27	ND	639.25
	MW-3	660.85	35.00	ND	28.73	ND	632.12
	MW-4	662.34	34.25	ND	29.78	ND	632.56
	MW-5	662.57	33.25	ND	29.85	ND	632.72
	MW-6	663.26	33.25	ND	31.98	ND	631.28
	MW-7	661.20	34.00	ND	30.87	ND	630.33
	MW-8	662.94	54.70	NM	NM	NM	NM
	MW-9	663.08	38.20	ND	36.78	ND	626.30
	MW-10	657.64	32.10	NM	NM	NM	NM
	MW-11	663.04	38.20	Dry	Dry	Dry	Dry
August 18, 2009	MW-1	660.00	29.00	ND	24.11	ND	635.89
	MW-2	659.52	29.50	ND	21.68	ND	637.84
	MW-3	660.85	35.00	ND	29.80	ND	631.05
	MW-4	662.34	34.25	ND	29.89	ND	632.45
	MW-5	662.57	33.25	ND	30.48	ND	632.09
	MW-6	663.26	33.25	ND	32.30	ND	630.96
	MW-7	661.20	34.00	ND	31.90	ND	629.30
	MW-8	662.94	54.70	ND	53.18	ND	609.76
	MW-9	663.08	38.20	ND	36.97	ND	626.11
	MW-10	657.64	32.10	NM	NM	NM	NM
	MW-11	663.04	38.20	ND	37.24	ND	625.80

*Actual elevs. accurate to ±10ft, based on Huntsville 7.5' USGS Quadrangle.
Relative elevs. accurate to ±0.01ft.
**Elevs. corrected for Free Product using specific gravity for gasoline=0.76
ND=Not Detected
NM=Not Measured

Table 1
HISTORICAL GROUNDWATER ELEVATION MEASUREMENTS
Circle C No. 12
Facility I.D. No. 10304-089-011902
Huntsville , Alabama

Date	Well	Top of Casing MP Elev. (~FT.AMSL)	Total Depth Below Top of Casing (FT)	Depth to Product (FT.BTOC)	Depth to Water (FT.BTOC)	Product Thickness (FT)	Groundwater Elevation (~FT. AMSL)
October 14, 2009	MW-1	660.00	29.00	ND	18.24	ND	641.76
	MW-2	659.52	29.50	ND	14.90	ND	644.62
	MW-3	660.85	35.00	ND	25.32	ND	635.53
	MW-4	662.34	34.25	ND	27.58	ND	634.76
	MW-5	662.57	33.25	ND	29.38	ND	633.19
	MW-6	663.26	33.25	ND	28.85	ND	634.41
	MW-7	661.20	34.00	ND	26.20	ND	635.00
	MW-8	662.94	54.70	ND	50.10	ND	612.84
	MW-9	663.08	38.20	ND	36.20	ND	626.88
	MW-10	657.64	32.10	NM	NM	NM	NM
	MW-11	663.04	38.20	ND	37.40	ND	625.64
April 6, 2010	MW-1	660.00	29.00	ND	18.76	ND	641.24
	MW-2	659.52	29.50	ND	16.00	ND	643.52
	MW-3	660.85	35.00	ND	24.82	ND	636.03
	MW-4	662.34	34.25	ND	26.90	ND	635.44
	MW-5	662.57	33.25	ND	27.80	ND	634.77
	MW-6	663.26	33.25	ND	29.13	ND	634.13
	MW-7	661.20	34.00	ND	27.43	ND	633.77
	MW-8	662.94	54.70	ND	42.54	ND	620.40
	MW-9	663.08	38.20	ND	35.25	ND	627.83
	MW-10	657.64	32.10	NM	NM	NM	NM
	MW-11	663.04	38.20	ND	36.78	ND	626.26
July 29, 2010	MW-1	660.00	29.00	ND	22.41	ND	637.59
	MW-2	659.52	29.50	ND	19.23	ND	640.29
	MW-3	660.85	35.00	ND	28.40	ND	632.45
	MW-4	662.34	34.25	ND	29.80	ND	632.54
	MW-5	662.57	33.25	ND	29.95	ND	632.62
	MW-6	663.26	33.25	ND	31.81	ND	631.45
	MW-7	661.20	34.00	ND	30.63	ND	630.57
	MW-8	662.94	54.70	ND	52.42	ND	610.52
	MW-9	663.08	38.20	ND	36.64	ND	626.44
	MW-10	657.64	32.10	NM	NM	NM	NM
	MW-11	663.04	38.20	ND	36.78	ND	626.26
November 18, 2010	MW-1	660.00	29.00	ND	21.22	ND	638.78
	MW-2	659.52	29.50	ND	18.03	ND	641.49
	MW-3	660.85	35.00	ND	29.33	ND	631.52
	MW-4	662.34	34.25	ND	30.54	ND	631.80
	MW-5	662.57	33.25	ND	30.50	ND	632.07
	MW-6	663.26	33.25	Dry	Dry	Dry	Dry
	MW-7	661.20	34.00	ND	32.64	ND	628.56
	MW-8	662.94	54.70	ND	53.83	ND	609.11
	MW-9	663.08	38.20	ND	36.95	ND	626.13
	MW-10	657.64	32.10	NM	NM	NM	NM
	MW-11	663.04	38.20	ND	38.19	ND	624.85
March 10, 2011	MW-1	660.00	29.00	ND	17.34	ND	642.66
	MW-2	659.52	29.50	ND	13.68	ND	645.84
	MW-3	660.85	35.00	ND	23.90	ND	636.95
	MW-4	662.34	34.25	ND	27.06	ND	635.28
	MW-5	662.57	33.25	ND	28.78	ND	633.79
	MW-6	663.26	33.25	ND	28.13	ND	635.13
	MW-7	661.20	34.00	ND	26.75	ND	634.45
	MW-8	662.94	54.70	ND	48.85	ND	614.09
	MW-9	663.08	38.20	ND	31.53	ND	631.55
	MW-10	657.64	32.10	NM	NM	NM	NM
	MW-11	663.04	38.20	ND	38.13	ND	624.91
	EW-1	662.92	35.60	ND	33.28	ND	629.64
	EW-2	662.16	34.30	ND	27.92	ND	634.24
April 12, 2011	MW-1	660.00	29.00	ND	16.80	ND	643.20
	MW-2	659.52	29.50	ND	13.93	ND	645.59
	MW-3	660.85	35.00	ND	22.76	ND	638.09
	MW-4	662.34	34.25	ND	25.06	ND	637.28
	MW-5	662.57	33.25	ND	27.73	ND	634.84
	MW-6	663.26	33.25	ND	26.72	ND	636.54
	MW-7	661.20	34.00	ND	25.24	ND	635.96
	MW-8	662.94	54.70	ND	39.98	ND	622.96
	MW-9	663.08	38.20	ND	33.83	ND	629.25
	MW-10	657.64	32.10	NM	NM	NM	NM
	MW-11	663.04	38.20	ND	36.46	ND	626.58
	EW-1	662.92	35.60	ND	30.53	ND	632.39
	EW-2	662.16	34.30	ND	25.70	ND	636.46

*Actual elevs. accurate to ±10ft, based on Huntsville 7.5' USGS Quadrangle.
Relative elevs. accurate to ±0.01ft.
**Elevs. corrected for Free Product using specific gravity for gasoline=0.76
ND=Not Detected
NM=Not Measured

Table 1
HISTORICAL GROUNDWATER ELEVATION MEASUREMENTS
Circle C No. 12
Facility I.D. No. 10304-089-011902
Huntsville , Alabama

Date	Well	Top of Casing MP Elev. (~FT.AMSL)	Total Depth Below Top of Casing (FT)	Depth to Product (FT.BTOC)	Depth to Water (FT.BTOC)	Product Thickness (FT)	Groundwater Elevation (~FT. AMSL)
May 10, 2011	MW-1	660.00	29.00	ND	16.70	ND	643.30
	MW-2	659.52	29.50	ND	13.66	ND	645.86
	MW-3	660.85	35.00	ND	22.53	ND	638.32
	MW-4	662.34	34.25	ND	24.30	ND	638.04
	MW-5	662.57	33.25	ND	25.38	ND	637.19
	MW-6	663.26	33.25	ND	26.39	ND	636.87
	MW-7	661.20	34.00	ND	24.83	ND	636.37
	MW-8	662.94	54.70	ND	37.58	ND	625.36
	MW-9	663.08	38.20	ND	32.45	ND	630.63
	MW-10	657.64	32.10	NM	NM	NM	NM
	MW-11	663.04	38.20	ND	33.37	ND	629.67
	EW-1	662.92	35.60	ND	28.56	ND	634.36
	EW-2	662.16	34.30	ND	25.31	ND	636.85
June 2, 2011	MW-1	660.00	29.00	ND	20.28	ND	639.72
	MW-2	659.52	29.50	ND	17.43	ND	642.09
	MW-3	660.85	35.00	ND	27.55	ND	633.30
	MW-4	662.34	34.25	ND	28.73	ND	633.61
	MW-5	662.57	33.25	ND	28.08	ND	634.49
	MW-6	663.26	33.25	ND	31.08	ND	632.18
	MW-7	661.20	34.00	ND	29.67	ND	631.53
	MW-8	662.94	54.70	ND	44.19	ND	618.75
	MW-9	663.08	38.20	ND	36.74	ND	626.34
	MW-10	657.64	32.10	NM	NM	NM	NM
	MW-11	663.04	38.20	ND	37.24	ND	625.80
	EW-1	662.92	35.60	ND	32.43	ND	630.49
	EW-2	662.16	34.30	ND	29.70	ND	632.46
July 7, 2011	MW-1	660.00	29.00	ND	19.93	ND	640.07
	MW-2	659.52	29.50	ND	16.71	ND	642.81
	MW-3	660.85	35.00	ND	27.05	ND	633.80
	MW-4	662.34	34.25	ND	28.90	ND	633.44
	MW-5	662.57	33.25	ND	29.49	ND	633.08
	MW-6	663.26	33.25	ND	31.88	ND	631.38
	MW-7	661.20	34.00	ND	29.56	ND	631.64
	MW-8	662.94	54.70	ND	51.18	ND	611.76
	MW-9	663.08	38.20	ND	36.65	ND	626.43
	MW-10	657.64	32.10	NM	NM	NM	NM
	MW-11	663.04	38.20	ND	37.28	ND	625.76
	EW-1	662.92	35.60	ND	33.64	ND	629.28
	EW-2	662.16	34.30	ND	31.05	ND	631.11
August 1, 2011	MW-1	660.00	29.00	ND	20.53	ND	639.47
	MW-2	659.52	29.50	ND	17.30	ND	642.22
	MW-3	660.85	35.00	ND	27.52	ND	633.33
	MW-4	662.34	34.25	ND	29.13	ND	633.21
	MW-5	662.57	33.25	ND	29.52	ND	633.05
	MW-6	663.26	33.25	ND	31.96	ND	631.30
	MW-7	661.20	34.00	ND	29.75	ND	631.45
	MW-8	662.94	54.70	ND	52.95	ND	609.99
	MW-9	663.08	38.20	ND	36.78	ND	626.30
	MW-10	657.64	32.10	NM	NM	NM	NM
	MW-11	663.04	38.20	ND	38.04	ND	625.00
	EW-1	662.92	35.60	ND	32.61	ND	630.31
	EW-2	662.16	34.30	ND	29.93	ND	632.23
November 8, 2011	MW-1	660.00	29.00	ND	21.11	ND	638.89
	MW-2	659.52	29.50	ND	16.80	ND	642.72
	MW-3	660.85	35.00	ND	29.30	ND	631.55
	MW-4	662.34	34.25	ND	29.86	ND	632.48
	MW-5	662.57	33.25	ND	30.94	ND	631.63
	MW-6	663.26	33.25	ND	32.47	ND	630.79
	MW-7	661.20	34.00	ND	31.52	ND	629.68
	MW-8	662.94	54.70	ND	53.83	ND	609.11
	MW-9	663.08	38.20	Dry	Dry	Dry	Dry
	MW-10	657.64	32.10	NM	NM	NM	NM
	MW-11	663.04	38.20	Dry	Dry	Dry	Dry
	EW-1	662.92	35.60	ND	35.50	ND	627.42
	EW-2	662.16	34.30	ND	33.88	ND	628.28

*Actual elevs. accurate to ±10ft, based on Huntsville 7.5' USGS Quadrangle.
Relative elevs. accurate to ±0.01ft.
**Elevs. corrected for Free Product using specific gravity for gasoline=0.76
ND=Not Detected
NM=Not Measured

Table 1
HISTORICAL GROUNDWATER ELEVATION MEASUREMENTS
Circle C No. 12
Facility I.D. No. 10304-089-011902
Huntsville , Alabama

Date	Well	Top of Casing MP Elev. (~FT.AMSL)	Total Depth Below Top of Casing (FT)	Depth to Product (FT.BTOC)	Depth to Water (FT.BTOC)	Product Thickness (FT)	Groundwater Elevation (~FT. AMSL)
June 19, 2012	MW-1	660.00	29.00	ND	20.33	ND	639.67
	MW-2	659.52	29.50	ND	15.20	ND	644.32
	MW-3	660.85	35.00	ND	27.48	ND	633.37
	MW-4	662.34	34.25	ND	28.48	ND	633.86
	MW-5	662.57	33.25	ND	29.93	ND	632.64
	MW-6	663.26	33.25	ND	32.26	ND	631.00
	MW-7	661.20	34.00	ND	29.95	ND	631.25
	MW-8	662.94	54.70	ND	53.69	ND	609.25
	MW-9	663.08	38.20	ND	36.91	ND	626.17
	MW-10	657.64	32.10	NM	NM	NM	NM
	MW-11	663.04	38.20	Dry	Dry	Dry	Dry
	EW-1	662.92	35.60	ND	34.15	ND	628.77
	EW-2	662.16	34.30	32.20	32.95	0.75	629.78
October 17, 2012	MW-1	660.00	29.00	ND	19.05	ND	640.95
	MW-2	659.52	29.50	ND	16.71	ND	642.81
	MW-3	660.85	35.00	ND	27.36	ND	633.49
	MW-4	662.34	34.25	ND	28.00	ND	634.34
	MW-5	662.57	33.25	ND	28.98	ND	633.59
	MW-6	663.26	33.25	ND	31.64	ND	631.62
	MW-7	661.20	34.00	ND	29.56	ND	631.64
	MW-8	662.94	54.70	ND	53.70	ND	609.24
	MW-9	663.08	38.20	ND	36.20	ND	626.88
	MW-10	657.64	32.10	NM	NM	NM	NM
	MW-11	663.04	38.20	ND	37.25	ND	625.79
	EW-1	662.92	35.60	ND	33.63	ND	629.29
	EW-2	662.16	34.30	32.13	32.35	0.22	629.98
October 18, 2012	MW-1	660.00	29.00	ND	19.17	ND	640.83
	MW-2	659.52	29.50	ND	16.43	ND	643.09
	MW-3	660.85	35.00	ND	27.36	ND	633.49
	MW-4	662.34	34.25	ND	28.55	ND	633.79
	MW-5	662.57	33.25	ND	30.40	ND	632.17
	MW-6	663.26	33.25	ND	31.56	ND	631.70
	MW-7	661.20	34.00	ND	29.56	ND	631.64
	MW-8	662.94	54.70	ND	53.70	ND	609.24
	MW-9	663.08	38.20	ND	35.93	ND	627.15
	MW-10	657.64	32.10	NM	NM	NM	NM
	MW-11	663.04	38.20	ND	37.30	ND	625.74
	EW-1	662.92	35.60	ND	33.34	ND	629.58
	EW-2	662.16	34.30	ND	33.32	ND	628.84
November 1, 2012	MW-1	660.00	29.00	ND	19.98	ND	640.02
	MW-2	659.52	29.50	ND	16.88	ND	642.64
	MW-3	660.85	35.00	ND	28.28	ND	632.57
	MW-4	662.34	34.25	ND	29.57	ND	632.77
	MW-5	662.57	33.25	ND	29.41	ND	633.16
	MW-6	663.26	33.25	ND	32.29	ND	630.97
	MW-7	661.20	34.00	ND	30.40	ND	630.80
	MW-8	662.94	54.70	ND	53.70	ND	609.24
	MW-9	663.08	38.20	ND	36.64	ND	626.44
	MW-10	657.64	32.10	ND	14.70	ND	NM
	MW-11	663.04	38.20	ND	37.39	ND	625.65
	EW-1	662.92	35.60	ND	33.55	ND	629.37
	EW-2	662.16	34.30	33.75	33.76	0.01	628.41
February 25, 2013	MW-1	660.00	29.00	ND	16.43	ND	643.57
	MW-2	659.52	29.50	ND	14.24	ND	645.28
	MW-3	660.85	35.00	ND	23.98	ND	636.87
	MW-4	662.34	34.25	ND	26.45	ND	635.89
	MW-5	662.57	33.25	ND	26.77	ND	635.80
	MW-6	663.26	33.25	ND	29.33	ND	633.93
	MW-7	661.20	34.00	ND	26.65	ND	634.55
	MW-8	662.94	54.70	ND	44.98	ND	617.96
	MW-9	663.08	38.20	Dry	Dry	Dry	Dry
	MW-10	657.64	32.10	ND	9.97	ND	647.67
	MW-11	663.04	38.20	Dry	Dry	Dry	Dry
	EW-1	662.92	35.60	ND	31.62	ND	631.30
	EW-2	662.16	34.30	33.30	33.33	0.03	628.85

*Actual elevs. accurate to ±10ft, based on Huntsville 7.5' USGS Quadrangle.
Relative elevs. accurate to ±0.01ft.
**Elevs. corrected for Free Product using specific gravity for gasoline=0.76
ND=Not Detected
NM=Not Measured

Table 1
HISTORICAL GROUNDWATER ELEVATION MEASUREMENTS
Circle C No. 12
Facility I.D. No. 10304-089-011902
Huntsville , Alabama

Date	Well	Top of Casing MP Elev. (~FT.AMSL)	Total Depth Below Top of Casing (FT)	Depth to Product (FT.BTOC)	Depth to Water (FT.BTOC)	Product Thickness (FT)	Groundwater Elevation (~FT. AMSL)
July 25, 2013	MW-1	660.00	29.00	ND	17.34	ND	642.66
	MW-2	659.52	29.50	ND	15.52	ND	644.00
	MW-3	660.85	35.00	ND	26.09	ND	634.76
	MW-4	662.34	34.25	ND	27.73	ND	634.61
	MW-5	662.57	33.25	ND	28.35	ND	634.22
	MW-6	663.26	33.25	ND	30.11	ND	633.15
	MW-7	661.20	34.00	ND	28.40	ND	632.80
	MW-8	662.94	54.70	ND	48.50	ND	614.44
	MW-9	663.08	38.20	ND	36.15	ND	626.93
	MW-10	657.64	32.10	ND	11.98	ND	645.66
	MW-11	663.04	38.20	ND	38.00	ND	625.04
	EW-1	662.92	35.60	ND	32.33	ND	630.59
	EW-2	662.16	34.30	32.41	32.50	0.09	629.73
December 9, 2013	MW-1	660.00	29.00	ND	17.09	ND	642.91
	MW-2	659.52	29.50	ND	14.93	ND	644.59
	MW-3	660.85	35.00	ND	26.86	ND	633.99
	MW-4	662.34	34.25	ND	28.65	ND	633.69
	MW-5	662.57	33.25	ND	28.38	ND	634.19
	MW-6	663.26	33.25	ND	32.28	ND	630.98
	MW-7	661.20	34.00	ND	29.55	ND	631.65
	MW-8	662.94	54.70	ND	53.26	ND	609.68
	MW-9	663.08	38.20	ND	35.65	ND	627.43
	MW-10	657.64	32.10	ND	10.45	ND	647.19
	MW-11	663.04	38.20	ND	37.91	ND	625.13
	EW-1	662.92	35.60	ND	33.35	ND	629.57
	EW-2	662.16	34.30	31.41	31.51	0.10	630.73
December 10, 2013	MW-1	660.00	29.00	ND	16.30	ND	643.70
	MW-2	659.52	29.50	ND	14.05	ND	645.47
	MW-3	660.85	35.00	ND	25.98	ND	634.87
	MW-4	662.34	34.25	ND	27.83	ND	634.51
	MW-5	662.57	33.25	ND	32.76	ND	629.81
	MW-6	663.26	33.25	ND	32.62	ND	630.64
	MW-7	661.20	34.00	ND	28.56	ND	632.64
	MW-8	662.94	54.70	ND	52.95	ND	609.99
	MW-9	663.08	38.20	ND	34.45	ND	628.63
	MW-10	657.64	32.10	ND	8.70	ND	648.94
	MW-11	663.04	38.20	ND	37.90	ND	625.14
	EW-1	662.92	35.60	ND	33.60	ND	629.32
	EW-2	662.16	34.30	ND	33.20	ND	628.96
January 2, 2014	MW-1	660.00	29.00	ND	15.34	ND	644.66
	MW-2	659.52	29.50	ND	13.94	ND	645.58
	MW-3	660.85	35.00	ND	23.58	ND	637.27
	MW-4	662.34	34.25	ND	26.15	ND	636.19
	MW-5	662.57	33.25	ND	26.81	ND	635.76
	MW-6	663.26	33.25	ND	28.00	ND	635.26
	MW-7	661.20	34.00	ND	26.18	ND	635.02
	MW-8	662.94	54.70	ND	48.20	ND	614.74
	MW-9	663.08	38.20	ND	34.95	ND	628.13
	MW-10	657.64	32.10	ND	9.39	ND	648.25
	MW-11	663.04	38.20	ND	38.40	ND	624.64
	EW-1	662.92	35.60	31.43	31.48	0.05	631.48
	EW-2	662.16	34.30	ND	31.76	ND	630.40
March 6, 2014	MW-1	660.00	29.00	ND	16.44	ND	643.56
	MW-2	659.52	29.50	ND	14.79	ND	644.73
	MW-3	660.85	35.00	ND	24.05	ND	636.80
	MW-4	662.34	34.25	ND	26.29	ND	636.05
	MW-5	662.57	33.25	ND	26.71	ND	635.86
	MW-6	663.26	33.25	ND	28.80	ND	634.46
	MW-7	661.20	34.00	ND	26.64	ND	634.56
	MW-8	662.94	54.70	ND	42.53	ND	620.41
	MW-9	663.08	38.20	ND	35.23	ND	627.85
	MW-10	657.64	32.10	ND	10.52	ND	647.12
	MW-11	663.04	38.20	ND	38.03	ND	625.01
	EW-1	662.92	35.60	ND	31.11	ND	631.81
	EW-2	662.16	34.30	31.52	31.62	0.10	630.62

*Actual elevs. accurate to ±10ft, based on Huntsville 7.5' USGS Quadrangle.
Relative elevs. accurate to ±0.01ft.
**Elevs. corrected for Free Product using specific gravity for gasoline=0.76
ND=Not Detected
NM=Not Measured

Table 1
HISTORICAL GROUNDWATER ELEVATION MEASUREMENTS
Circle C No. 12
Facility I.D. No. 10304-089-011902
Huntsville , Alabama

Date	Well	Top of Casing MP Elev. (~FT.AMSL)	Total Depth Below Top of Casing (FT)	Depth to Product (FT.BTOC)	Depth to Water (FT.BTOC)	Product Thickness (FT)	Groundwater Elevation (~FT. AMSL)
March 26, 2014	MW-1	660.00	29.00	ND	18.30	ND	641.70
	MW-2	659.52	29.50	ND	15.05	ND	644.47
	MW-3	660.85	35.00	ND	26.18	ND	634.67
	MW-4	662.34	34.25	ND	27.92	ND	634.42
	MW-5	662.57	33.25	ND	27.96	ND	634.61
	MW-6	663.26	33.25	ND	31.26	ND	632.00
	MW-7	661.20	34.00	ND	28.79	ND	632.41
	MW-8	662.94	54.70	ND	45.03	ND	617.91
	MW-9	663.08	38.20	ND	36.89	ND	626.19
	MW-10	657.64	32.10	ND	11.74	ND	645.90
	MW-11	663.04	38.20	DRY	DRY	DRY	DRY
	EW-1	662.92	35.60	ND	32.48	ND	630.44
	EW-2	662.16	34.30	33.50	33.55	0.05	628.65
August 21, 2014	MW-1	660.00	29.00	ND	17.81	ND	642.19
	MW-2	659.52	29.50	ND	16.04	ND	643.48
	MW-3	660.85	35.00	ND	26.27	ND	634.58
	MW-4	662.34	34.25	ND	27.75	ND	634.59
	MW-5	662.57	33.25	ND	28.30	ND	634.27
	MW-6	663.26	33.25	ND	31.76	ND	631.50
	MW-7	661.20	34.00	ND	29.28	ND	631.92
	MW-8	662.94	54.70	ND	52.30	ND	610.64
	MW-9	663.08	38.20	ND	36.67	ND	626.41
	MW-10	657.64	32.10	NM	NM	NM	NM
	MW-11	663.04	38.20	ND	37.96	ND	625.08
	EW-1	662.92	35.60	ND	32.95	ND	629.97
	EW-2	662.16	34.30	33.50	31.46	ND	630.70
September 4, 2014	MW-1	660.00	29.00	ND	17.51	ND	642.49
	MW-2	659.52	29.50	ND	15.05	ND	644.47
	MW-3	660.85	35.00	ND	26.60	ND	634.25
	MW-4	662.34	34.25	ND	28.36	ND	633.98
	MW-5	662.57	33.25	ND	28.37	ND	634.20
	MW-6	663.26	33.25	ND	32.00	ND	631.26
	MW-7	661.20	34.00	ND	29.11	ND	632.09
	MW-8	662.94	54.70	ND	52.04	ND	610.90
	MW-9	663.08	38.20	ND	36.75	ND	626.33
	MW-10	657.64	32.10	NM	NM	NM	NM
	MW-11	663.04	38.20	ND	37.54	ND	625.50
	EW-1	662.92	35.60	ND	32.95	ND	629.97
	EW-2	662.16	34.30	31.80	31.83	0.03	630.35
January 8, 2015	MW-1	660.00	29.00	ND	17.05	ND	642.95
	MW-2	659.52	29.50	ND	14.08	ND	645.44
	MW-3	660.85	35.00	ND	22.76	ND	638.09
	MW-4	662.34	34.25	ND	22.90	ND	639.44
	MW-5	662.57	33.25	ND	26.48	ND	636.09
	MW-6	663.26	33.25	ND	26.13	ND	637.13
	MW-7	661.20	34.00	ND	25.14	ND	636.06
	MW-8	662.94	54.70	ND	47.20	ND	615.74
	MW-9	663.08	38.20	ND	33.55	ND	629.53
	MW-10	657.64	32.10	NM	NM	NM	NM
	MW-11	663.04	38.20	DRY	DRY	DRY	DRY
	EW-1	662.92	35.60	ND	31.53	ND	631.39
	EW-2	662.16	34.30	30.67	30.69	0.02	631.49
January 28, 2015	MW-1	660.00	29.00	ND	17.26	ND	642.74
	MW-2	659.52	29.50	ND	14.76	ND	644.76
	MW-3	660.85	35.00	ND	25.12	ND	635.73
	MW-4	662.34	34.25	ND	26.93	ND	635.41
	MW-5	662.57	33.25	ND	27.13	ND	635.44
	MW-6	663.26	33.25	ND	29.63	ND	633.63
	MW-7	661.20	34.00	ND	27.56	ND	633.64
	MW-8	662.94	54.70	ND	45.33	ND	617.61
	MW-9	663.08	38.20	ND	36.02	ND	627.06
	MW-10	657.64	32.10	NM	NM	NM	NM
	MW-11	663.04	38.20	ND	37.95	ND	625.09
	EW-1	662.92	35.60	ND	31.65	ND	631.27
	EW-2	662.16	34.30	30.60	30.63	0.03	631.55

*Actual elevs. accurate to ±10ft, based on Huntsville 7.5' USGS Quadrangle.
Relative elevs. accurate to ±0.01ft.
**Elevs. corrected for Free Product using specific gravity for gasoline=0.76
ND=Not Detected
NM=Not Measured

Table 1
HISTORICAL GROUNDWATER ELEVATION MEASUREMENTS
Circle C No. 12
Facility I.D. No. 10304-089-011902
Huntsville , Alabama

Date	Well	Top of Casing MP Elev. (~FT.AMSL)	Total Depth Below Top of Casing (FT)	Depth to Product (FT.BTOC)	Depth to Water (FT.BTOC)	Product Thickness (FT)	Groundwater Elevation (~FT. AMSL)
April 30, 2015	MW-1	660.00	29.00	ND	16.78	ND	643.22
	MW-2	659.52	29.50	ND	13.30	ND	646.22
	MW-3	660.85	35.00	ND	21.71	ND	639.14
	MW-4	662.34	34.25	ND	23.23	ND	639.11
	MW-5	662.57	33.25	ND	25.35	ND	637.22
	MW-6	663.26	33.25	ND	25.48	ND	637.78
	MW-7	661.20	34.00	ND	24.15	ND	637.05
	MW-8	662.94	54.70	ND	38.01	ND	624.93
	MW-9	663.08	38.20	ND	33.20	ND	629.88
	MW-10	657.64	32.10	NM	NM	NM	NM
	MW-11	663.04	38.20	ND	33.88	ND	629.16
	EW-1	660.10	35.60	ND	28.38	ND	631.72
	EW-2	662.16	34.30	27.61	27.63	0.02	634.55
	EW-3		35.00	ND	23.12	ND	NA
	EW-4		35.00	ND	24.61	ND	NA
May 18, 2015	MW-1	660.00	29.00	ND	16.40	ND	643.60
	MW-2	659.52	29.50	ND	14.20	ND	645.32
	MW-3	660.85	35.00	ND	25.81	ND	635.04
	MW-4	662.34	34.25	ND	27.31	ND	635.03
	MW-5	662.57	33.25	ND	27.30	ND	635.27
	MW-6	663.26	33.25	ND	30.24	ND	633.02
	MW-7	661.20	34.00	ND	28.22	ND	632.98
	MW-8	662.94	54.70	ND	42.35	ND	620.59
	MW-9	663.08	38.20	ND	36.59	ND	626.49
	MW-10	657.64	32.10	ND	8.10	ND	649.54
	MW-11	663.04	38.20	ND	37.11	ND	625.93
	EW-1	660.10	35.60	ND	31.36	ND	628.74
	EW-2	662.16	34.30	ND	31.65	ND	630.51
	EW-3		35.00	ND	26.00	ND	NA
	EW-4		35.00	27.29	27.32	0.03	NA
October 5, 2015	MW-1	660.00	29.00	ND	19.02	ND	640.98
	MW-2	659.52	29.50	ND	16.28	ND	643.24
	MW-3	660.85	35.00	ND	27.60	ND	633.25
	MW-4	662.34	34.25	ND	28.29	ND	634.05
	MW-5	662.57	33.25	ND	28.80	ND	633.77
	MW-6	663.26	33.25	ND	32.36	ND	630.90
	MW-7	661.20	34.00	ND	28.89	ND	632.31
	MW-8	662.94	54.70	ND	53.46	ND	609.48
	MW-9	663.08	38.20	ND	37.17	ND	625.91
	MW-10	657.64	32.10	ND	11.60	ND	646.04
	MW-11	663.04	38.20	ND	37.30	ND	625.74
	EW-1	660.10	35.60	ND	33.13	ND	626.97
	EW-2	662.16	34.30	ND	30.83	ND	631.33
	EW-3		35.00	ND	27.56	ND	NA
	EW-4		35.00	28.74	28.84	0.10	NA
October 22, 2015	MW-1	660.00	29.00	ND	19.84	ND	640.16
	MW-2	659.52	29.50	ND	16.65	ND	642.87
	MW-3	660.85	35.00	ND	28.16	ND	632.69
	MW-4	662.34	34.25	ND	29.74	ND	632.60
	MW-5	662.57	33.25	ND	29.49	ND	633.08
	MW-6	663.26	33.25	ND	32.44	ND	630.82
	MW-7	661.20	34.00	ND	30.47	ND	630.73
	MW-8	662.94	54.70	ND	53.83	ND	609.11
	MW-9	663.08	38.20	ND	37.34	ND	625.74
	MW-10	657.64	32.10	ND	13.42	ND	644.22
	MW-11	663.04	38.20	ND	37.76	ND	625.28
	EW-1	660.10	35.60	ND	33.61	ND	626.49
	EW-2	662.16	34.30	ND	32.40	ND	629.76
	EW-3		35.00	ND	28.05	ND	NA
	EW-4		35.00	29.35	29.38	0.03	NA

*Actual elevs. accurate to ±10ft, based on Huntsville 7.5' USGS Quadrangle.
Relative elevs. accurate to ±0.01ft.
**Elevs. corrected for Free Product using specific gravity for gasoline=0.76
ND=Not Detected
NM=Not Measured

Table 1
HISTORICAL GROUNDWATER ELEVATION MEASUREMENTS
Circle C No. 12
Facility I.D. No. 10304-089-011902
Huntsville , Alabama

Date	Well	Top of Casing MP Elev. (~FT.AMSL)	Total Depth Below Top of Casing (FT)	Depth to Product (FT.BTOC)	Depth to Water (FT.BTOC)	Product Thickness (FT)	Groundwater Elevation (~FT. AMSL)
March 23, 2016	MW-1	660.00	29.00	ND	16.80	ND	643.20
	MW-2	659.52	29.50	ND	12.58	ND	646.94
	MW-3	660.85	35.00	ND	23.79	ND	637.06
	MW-4	662.34	34.25	ND	24.91	ND	637.43
	MW-5	662.57	33.25	ND	25.89	ND	636.68
	MW-6	663.26	33.25	ND	29.02	ND	634.24
	MW-7	661.20	34.00	ND	26.30	ND	634.90
	MW-8	662.94	54.70	ND	40.42	ND	622.52
	MW-9	663.08	38.20	ND	34.90	ND	628.18
	MW-10	657.64	32.10	ND	10.40	ND	647.24
	MW-11	663.04	38.20	ND	35.98	ND	627.06
	EW-1	660.10	35.60	ND	30.09	ND	630.01
	EW-2	662.16	34.30	29.84	29.88	0.04	632.31
	EW-3		35.00	ND	24.76	ND	NA
	EW-4		35.00	ND	25.98	ND	NA
April 18, 2016	MW-1	660.00	29.00	ND	18.14	ND	641.86
	MW-2	659.52	29.50	ND	14.42	ND	645.10
	MW-3	660.85	35.00	ND	24.77	ND	636.08
	MW-4	662.34	34.25	ND	25.91	ND	636.43
	MW-5	662.57	33.25	ND	27.68	ND	634.89
	MW-6	663.26	33.25	ND	31.28	ND	631.98
	MW-7	661.20	34.00	ND	27.98	ND	633.22
	MW-8	662.94	54.70	ND	40.90	ND	622.04
	MW-9	663.08	38.20	ND	36.16	ND	626.92
	MW-10	657.64	32.10	ND	11.89	ND	645.75
	MW-11	663.04	38.20	ND	37.54	ND	625.50
	EW-1	660.10	35.60	ND	32.23	ND	627.87
	EW-2	662.16	34.30	30.78	30.79	0.01	631.38
	EW-3	662.06	35.00	ND	26.30	ND	635.76
	EW-4	662.31	35.00	ND	27.70	ND	634.61

*Actual elevs. accurate to ±10ft, based on Huntsville 7.5' USGS Quadrangle.
Relative elevs. accurate to ±0.01ft.
**Elevs. corrected for Free Product using specific gravity for gasoline=0.76
ND=Not Detected
NM=Not Measured

Table 2
HISTORICAL SUMMARY OF GROUNDWATER ANALYTICAL DATA
Circle C No. 12
Facility I.D. No.: 10304-089-011902
Huntsville, Alabama

Well ID	Contaminant	June 9, 1999 (ppm)	May 15, 2001 (ppm)	October 8, 2002 (ppm)	February 13, 2003 (ppm)	MEME EVENT JUNE 17, 2004	July 13, 2004 (ppm)	December 5, 2005 (ppm)	April 3, 2006 (ppm)	July 20, 2006 (ppm)	January 16, 2007 (ppm)	April 30, 2007 (ppm)	August 6, 2007 (ppm)	November 12, 2007 (ppm)	April 23, 2008 (ppm)	August 18, 2008 (ppm)	February 19, 2009 (ppm)	June 17, 2009 (ppm)	MEME EVENT AUGUST 18, 2009	October 14, 2009 (ppm)	April 6, 2010 (ppm)	July 29, 2010 (ppm)	CONTINUED ON PAGE 3
MW-1	Benzene	0.015	<0.001	<0.001	<0.001		<0.005	<0.005	<0.005	<0.005	<0.005	<0.001	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003		<0.003	<0.0030	<0.0030	
	Toluene	<0.001	<0.001	0.001	0.002		<0.005	<0.005	<0.005	<0.005	<0.005	<0.001	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003		<0.003	<0.0030	<0.0030	
	Ethylbenzene	0.002	<0.001	<0.001	<0.001		<0.005	<0.005	<0.005	<0.005	<0.005	<0.001	<0.003	<0.003	<0.003	<0.003	0.0004	<0.003		<0.003	<0.0030	<0.0030	
	Xylenes	<0.005	<0.005	<0.005	<0.005		<0.005	<0.005	<0.005	<0.005	<0.005	<0.001	<0.003	<0.005	<0.005	<0.005	0.0010	<0.008		<0.008	<0.0080	<0.0080	
	Total BTEX	0.017	<0.008	0.001	0.002		<0.025	<0.025	<0.025	<0.025	<0.025	<0.004	<0.012	<0.014	<0.014	<0.014	0.0014	<0.017		<0.017	<0.0170	<0.0170	
	MTBE	0.25	0.135	0.085	0.105		0.064	0.038	0.051	0.03	0.057	0.039	0.035	0.0568	0.0838	0.0271	0.0579	0.0279		0.0316	0.0617	0.0267	
	Naphthalene	NS	NS	NS	NS		NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS		NS	NS	NS	
	Total Lead	<0.005	<0.005	0.013	0.009		NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS		NS	NS	NS	
	Dissolved Lead	<0.005	<0.005	0.007	<0.005		NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS		NS	NS	NS	
MW-2	Benzene	0.06	<0.001	<0.001	<0.001		NS	<0.005	<0.005	<0.005	<0.005	<0.001	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003		0.0022	<0.0030	<0.0030	
	Toluene	0.004	<0.001	<0.001	<0.001		NS	<0.005	<0.005	<0.005	<0.005	<0.001	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003		<0.003	<0.0030	<0.0030	
	Ethylbenzene	0.029	<0.001	<0.001	<0.001		NS	<0.005	<0.005	<0.005	<0.005	<0.001	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003		<0.003	<0.0030	<0.0030	
	Xylenes	0.036	<0.005	<0.005	<0.005		NS	<0.005	<0.005	<0.005	<0.005	<0.001	<0.003	<0.005	<0.005	<0.005	<0.008	<0.008		<0.008	<0.0080	<0.0080	
	Total BTEX	0.129	<0.008	<0.008	<0.008		NS	<0.025	<0.025	<0.025	<0.025	<0.004	<0.012	<0.014	<0.014	<0.014	<0.017	<0.0017		0.0022	<0.0170	<0.0170	
	MTBE	0.554	0.27	0.195	0.122		NS	0.058	0.05	0.041	0.043	0.03	0.024	0.005	0.0254	0.0147	0.0133	0.0104		0.0038	0.0041	0.0035	
	Naphthalene	NS	NS	NS	NS		NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS		NS	NS	NS	
	Total Lead	<0.005	<0.005	0.014	0.007		NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS		NS	NS	NS	
	Dissolved Lead	<0.005	<0.005	0.012	0.006		NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS		NS	NS	NS	
MW-3	Benzene	<0.001	<0.001	<0.001	<0.001		<0.005	<0.005	<0.005	<0.005	<0.005	DRY	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003		<0.003	<0.0030	<0.0030	
	Toluene	<0.001	<0.001	<0.001	<0.001		<0.005	<0.005	<0.005	<0.005	<0.005	DRY	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003		<0.003	<0.0030	<0.0030	
	Ethylbenzene	<0.001	<0.001	<0.001	<0.001		<0.005	<0.005	<0.005	<0.005	<0.005	DRY	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003		<0.003	<0.0030	<0.0030	
	Xylenes	<0.005	<0.005	<0.005	<0.005		<0.005	<0.005	<0.005	<0.005	<0.005	DRY	<0.003	<0.005	<0.005	<0.005	<0.008	<0.008		<0.008	<0.0080	<0.0080	
	Total BTEX	<0.008	<0.008	<0.008	<0.008		<0.020	<0.020	<0.020	<0.020	<0.020	DRY	<0.012	<0.014	<0.014	<0.014	<0.017	<0.017		<0.017	<0.0170	<0.0170	
	MTBE	0.01	<0.001	<0.005	<0.005		<0.005	0.006	<0.005	<0.005	0.015	DRY	0.006	0.005	0.0027	<0.005	0.0040	0.0024		0.0158	0.0033	0.0054	
	Naphthalene	NS	NS	NS	NS		NS	NS	NS	NS	NS	DRY	NS	NS	NS	NS	NS	NS		NS	NS	NS	
	Total Lead	<0.005	<0.005	0.014	0.01		NS	NS	NS	NS	NS	DRY	NS	NS	NS	NS	NS	NS		NS	NS	NS	
	Dissolved Lead	<0.005	<0.005	0.014	0.007		NS	NS	NS	NS	NS	DRY	NS	NS	NS	NS	NS	NS		NS	NS	NS	
MW-4	Benzene	0.078	0.41	0.31	0.166		0.156	0.123	0.089	0.124	0.049	0.075	0.069	0.1006	0.0318	0.0781	0.0442	0.0374		0.0196	0.0259	0.0262	
	Toluene	<0.001	0.002	<0.001	<0.001		<0.025	<0.100	<0.010	<0.010	<0.010	<0.005	<0.003	<0.003	<0.003	<0.003	0.0015	<0.006		<0.003	<0.0030	<0.0030	
	Ethylbenzene	<0.001	0.002	<0.001	<0.001		<0.025	<0.100	<0.010	<0.010	<0.010	<0.005	<0.003	<0.003	<0.003	<0.003	0.0014	<0.006		<0.003	<0.0030	<0.0030	
	Xylenes	<0.005	<0.005	<0.005	<0.005		<0.025	<0.100	<0.010	<0.010	<0.010	<0.005	<0.003	<0.005	0.0007	<0.050	0.0053	<0.016		<0.008	<0.0080	<0.0080	
	Total BTEX	0.078	0.414	0.31	0.166		0.156	0.123	0.089	0.124	0.049	0.075	0.069	0.1006	0.0325	0.0781	0.0524	0.0374		0.0196	0.0259	0.0262	
	MTBE	0.588	3.775	4.735	1.73		2.83	2.33	1.1	2.38	0.815	1.32	1.614	2.732	0.2571	1.088	0.2647	0.3329		0.1557	0.0749	0.2974	
	Naphthalene	NS	NS	NS	NS		NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS		NS	NS	NS	
	Total Lead	<0.005	<0.005	0.012	0.009		NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS		NS	NS	NS	
	Dissolved Lead	<0.005	<0.005	0.01	<0.005		NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS		NS	NS	NS	
MW-5	Benzene	1.12	19.439	6.353	9.827		5.14	6.4	8.58	DRY	7.45	5.46	6.045	NS	6.694	6.35	6.920	7.758		6.226	6.669	5.989	
	Toluene	24.55	29.154	19.027	25.405		13.3	15.7	21.9	DRY	14	9.95	11.02	NS	12.75	10.36	16.38	15.49		11.19	11.93	10.32	
	Ethylbenzene	1.75	3.407	1.801	1.734		1.48	3.23	2.44	DRY	3.4	2.29	2.223	NS	1.506	2.352	2.392	2.233		1.553	1.853	1.9	
	Xylenes	12.2	17.278	11.516	8.757		8.37	18.19	13.44	DRY	17.73	12.2	11.696	NS	8.468	12.608	12.832	11.14		9.470	9.495	9.583	
	Total BTEX	39.62	69.278	38.697	45.723		28.29	43.52	46.36	DRY	42.58	29.9	30.984	NS	29.418	31.67	38.524	36.621		28.439	29.947	27.792	
	MTBE	0.2	0.982	0.823	1.353		1.23	1.24	1.04	DRY	1.69	1.2	0.991	NS	1.54	2.268	1.418	1.566		0.6450	1.395	1.094	
	Naphthalene	NS	NS	NS	NS		NS	NS	NS	DRY	NS	NS	NS	NS	NS	NS	NS	NS		NS	NS	NS	
	Total Lead	<0.005	0.008	0.045	0.01		NS	NS	NS	DRY	NS	NS	NS	NS	NS	NS	NS	NS		NS	NS	NS	
	Dissolved Lead	<0.005	0.008	0.031	0.01		NS	NS	NS	DRY	NS	NS	NS	NS	NS	NS	NS	NS		NS	NS	NS	
MW-6	Benzene	13.3	10.378	8.054	11.561		2.59	2.91	4.61	DRY	5.73	3.86	DRY	DRY	5.191	3.786	3.822	6.389		3.850	5.653	3.494	
	Toluene	15.8	10.245	14.626	21.594		3.86	6.69	5.88	DRY	7.88	6.78	DRY	DRY	6.93	2.829	5.132	9.914		5.659	9.190	5.367	
	Ethylbenzene	1.65	0.785	1.13	1.495		0.683	1.05	0.592	DRY	0.961	1.18	DRY	DRY	1.106	1.049	1.156	0.942		0.5910	1.261	0.777	
	Xylenes	8.6	5.7	8.092	8.317		3.8	6.14	3.34	DRY	5.41	6.47	DRY	DRY	5.794	4.872	5.454	4.854		3.131	6.501	3.801	
	Total BTEX	39.35	27.108	31.902	42.967		10.933	16.79	14.422	DRY	19.981	18.29	DRY	DRY	19.021	12.536	15.564	22.099		13.231	22.605	13.439	
	MTBE	<0.005	0.04	0.065	0.05		<0.0050	<0.100	<0.100	DRY	<0.250	0.136	DRY	DRY	0.19	0.724	0.131	0.118		<0.500	0.414	0.239	
	Naphthalene	NS	NS	NS	NS		NS	NS	NS	DRY	NS	NS	DRY	DRY	NS	NS	NS	NS		NS	NS	NS	
	Total Lead	<0.005	0.02	0.013	0.012		NS	NS	NS	DRY	NS	NS	DRY	DRY	NS	NS	NS	NS		NS	NS	NS	
	Dissolved Lead	<0.005	0.011	0.01	<0.005		NS	NS	NS	DRY	NS	NS	DRY	DRY	NS	NS	NS	NS		NS	NS	NS	
MW-7	Benzene	<0.001	<0.001	0.004	<0.001		<0.005	<0.005	<0.005	DRY	NS	0.003	DRY	DRY	0.0018	DRY	DRY	0.008		<0.003	<0.0030	0.0027	
	Toluene	<0.001	<0.001	<0.001	<0.001		<0.005	<0.005	<0.005	DRY	NS	<0.001	DRY	DRY	<0.003	DRY	DRY	<0.003		<0.003	<0.0030	<0.0030	
	Ethylbenzene	<0.001	<0.001	<0.001	<0.001		<0.005	<0.005	<0.005	DRY	NS	<0.001	DRY	DRY	<0.003	DRY	DRY	<0.003		<0.003	<0.0030	<0.0030	
	Xylenes	<0.005	<0.005	<0.005	<0.005		<0.005	<0.005	<0.005	DRY	NS	<0.001	DRY	DRY	<0.005	DRY	DRY	<0.005		<0.008	<0.0080	<0.0080	
	Total BTEX	<0.008	<0.008	0.004	<0.008		<0.020	<0.020	<0.020	DRY	NS	0.003	DRY	DRY	0.0018	DRY	DRY	0.008		<0.017	<0.0170	0.0027	
	MTBE	<0.001	0.024	0.044	0.017		0.027	0.076	0.073	DRY	NS	0.178	DRY	DRY	0.0625	DRY	DRY	0.685		0.0223	0.0206	0.0545	
	Naphthalene	NS	NS	NS	NS		NS	NS	NS	DRY	NS	NS	DRY	DRY	NS	DRY	DRY	NS		NS	NS	NS	
	Total Lead	<0.005	<0.005	0.013	0.008		NS	NS	NS	DRY	NS	NS	DRY	DRY	NS	DRY	DRY	NS		NS	NS	NS	
	Dissolved Lead	<0.005	<0.005	0.013	0.007		NS	NS	NS	DRY	NS	NS	DRY	DRY	NS	DRY	DRY	NS		NS	NS	NS	
MW-8	Benzene	<0.001	0.007	DRY	<0.001		<0.005	<0.005	<0.005	DRY	<0.005	<0.001	DRY	DRY	<0.003	DRY	DRY	NS		0.0128	0.0021	0.0045	
	Toluene	<0.001	<0.001	DRY	<0.001		<0.005	<0.005	<0.005	DRY	<0.005	<0.001	DRY	DRY	<0.003	DRY	DRY	NS		<0.003	<0.0030	<0.0030	
	Ethylbenzene	<0.001	<0.001	DRY	<0.001		<0.005	<0.005	<0.005	DRY	<0.005	<0.001	DRY	DRY	<0.003	DRY	DRY	NS		0.0008	<0.0030	<0.0030	
	Xylenes	<0.005	<0.005	DRY	<0.005		<0.005	<0.005	<0.005	DRY	<0.005	<0.001	DRY	DRY	<0.005	DRY	DRY	NS		0.0015	<0.0080	<0.0080	
	Total BTEX	<0.008	0.007	DRY	<0.008		<0.020	<0.020	<0.020	DRY	<0.020	<0.004	DRY	DRY	<0.014	DRY	DRY	NS		0.0151	0.0021	0.0045	
	MTBE	<0.001	0.009	DRY	<0.005		0.006	0.007	0.008	DRY	0.005	0.009	DRY	DRY	0.0065	DRY	DRY	NS		0.0056	0.0254	0.0056	
	Naphthalene	NS	NS	DRY	NS		NS	NS	NS	DRY	NS	NS	DRY	DRY	NS	DRY	DRY	NS		NS	NS	NS	
	Total Lead	<0.005	<0.005	DRY	0.107		NS	NS	NS	DRY	NS	NS	DRY	DRY	NS	DRY	DRY	NS		NS	NS	NS	
	Dissolved Lead	<0.005	<0.005	DRY	0.029		NS	NS	NS	DRY	NS	NS	DRY	DRY	NS	DRY	DRY	NS		NS	NS	NS	

ppm Parts Per Million
NS Not Sampled
NA Not Available
NI Not Installed
* Maximum contaminant levels established by ARBCA SSTL, April 6, 2003.
Above ARBCA Tier II Allowable Groundwater Concentration for Groundwater Resource Protection

Table 2
HISTORICAL SUMMARY OF GROUNDWATER ANALYTICAL DATA
Circle C No. 12
Facility I.D. No.: 10304-089-011902
Huntsville, Alabama

Well ID	Contaminant	June 9, 1999 (ppm)	May 15, 2001 (ppm)	October 8, 2002 (ppm)	February 13, 2003 (ppm)	MEME EVENT JUNE 17, 2004	July 13, 2004 (ppm)	December 5, 2005 (ppm)	April 3, 2006 (ppm)	July 20, 2006 (ppm)	January 16, 2007 (ppm)	April 30, 2007 (ppm)	August 6, 2007 (ppm)	November 12, 2007 (ppm)	April 23, 2008 (ppm)	August 18, 2008 (ppm)	February 19, 2009 (ppm)	June 17, 2009 (ppm)	MEME EVENT AUGUST 18, 2009	October 14, 2009 (ppm)	April 6, 2010 (ppm)	July 29, 2010 (ppm)
MW-9	Benzene	NA	<0.001	<0.001	<0.001		<0.005	<0.005	<0.005	DRY	<0.005	<0.001	DRY	DRY	<0.003	DRY	DRY	NS		<0.003	<0.0030	<0.0030
	Toluene	NA	<0.001	<0.001	<0.001		<0.005	<0.005	<0.005	DRY	<0.005	<0.001	DRY	DRY	<0.003	DRY	DRY	NS		<0.003	<0.0030	<0.0030
	Ethylbenzene	NA	<0.001	<0.001	<0.001		<0.005	<0.005	<0.005	DRY	<0.005	<0.001	DRY	DRY	<0.003	DRY	DRY	NS		<0.003	<0.0030	<0.0030
	Xylenes	NA	<0.005	<0.005	<0.005		<0.005	<0.005	<0.005	DRY	<0.005	<0.001	DRY	DRY	<0.005	DRY	DRY	NS		<0.008	<0.0080	<0.0080
	Total BTEX	NA	<0.008	<0.008	<0.008		<0.020	<0.020	<0.020	DRY	<0.020	<0.004	DRY	DRY	<0.014	DRY	DRY	NS		<0.017	<0.0170	<0.0170
	MTBE	NA	<0.001	<0.005	<0.005		<0.005	<0.005	<0.005	DRY	<0.005	<0.001	DRY	DRY	0.001	DRY	DRY	NS		<0.005	<0.0050	<0.0050
	Naphthalene	NS	NS	NS	NS		NS	NS	NS	DRY	NS	NS	DRY	DRY	NS	DRY	DRY	NS		NS	NS	NS
	Total Lead	NA	<0.005	0.012	0.015		NS	NS	NS	DRY	NS	NS	DRY	DRY	NS	DRY	DRY	NS		NS	NS	NS
	Dissolved Lead	NA	<0.005	0.01	0.008		NS	NS	NS	DRY	NS	NS	DRY	DRY	NS	DRY	DRY	NS		NS	NS	NS
MW-10	Benzene	NA	<0.001	<0.001	<0.001		NS	<0.005	<0.005	<0.005	<0.005	NS	NS	NS	NS	NS	NS	NS		NS	NS	NS
	Toluene	NA	<0.001	<0.001	<0.001		NS	<0.005	<0.005	<0.005	<0.005	NS	NS	NS	NS	NS	NS	NS		NS	NS	NS
	Ethylbenzene	NA	<0.001	<0.001	<0.001		NS	<0.005	<0.005	<0.005	<0.005	NS	NS	NS	NS	NS	NS	NS		NS	NS	NS
	Xylenes	NA	<0.005	<0.005	<0.005		NS	<0.005	<0.005	<0.005	<0.005	NS	NS	NS	NS	NS	NS	NS		NS	NS	NS
	Total BTEX	NA	<0.008	<0.008	<0.008		NS	<0.020	<0.020	<0.020	<0.020	NS	NS	NS	NS	NS	NS	NS		NS	NS	NS
	MTBE	NA	<0.001	<0.005	<0.005		NS	<0.005	<0.005	<0.005	<0.005	NS	NS	NS	NS	NS	NS	NS		NS	NS	NS
	Naphthalene	NA	NS	NS	NS		NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS		NS	NS	NS
	Total Lead	NA	<0.005	0.013	0.008		NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS		NS	NS	NS
	Dissolved Lead	NA	<0.005	0.012	0.007		NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS		NS	NS	NS
MW-11	Benzene	NA	DRY	DRY	DRY		DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY		<0.003	NS	<0.0030
	Toluene	NA	DRY	DRY	DRY		DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY		<0.003	NS	<0.0030
	Ethylbenzene	NA	DRY	DRY	DRY		DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY		<0.003	NS	<0.0030
	Xylenes	NA	DRY	DRY	DRY		DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY		<0.008	NS	<0.0080
	Total BTEX	NA	DRY	DRY	DRY		DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY		<0.017	NS	<0.0170
	MTBE	NA	DRY	DRY	DRY		DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY		<0.005	NS	<0.0050
	Naphthalene	NA	DRY	DRY	DRY		DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY		NS	NS	NS
	Total Lead	NA	DRY	DRY	DRY		DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY		NS	NS	NS
	Dissolved Lead	NA	DRY	DRY	DRY		DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY		NS	NS	NS
EW-1	Benzene	NI	NI	NI	NI		NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI		NI	NI	NI
	Toluene	NI	NI	NI	NI		NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI		NI	NI	NI
	Ethylbenzene	NI	NI	NI	NI		NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI		NI	NI	NI
	Xylenes	NI	NI	NI	NI		NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI		NI	NI	NI
	Total BTEX	NI	NI	NI	NI		NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI		NI	NI	NI
	MTBE	NI	NI	NI	NI		NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI		NI	NI	NI
	Naphthalene	NI	NI	NI	NI		NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI		NI	NI	NI
	Total Lead	NI	NI	NI	NI		NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI		NI	NI	NI
	Dissolved Lead	NI	NI	NI	NI		NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI		NI	NI	NI
EW-2	Benzene	NI	NI	NI	NI		NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI		NI	NI	NI
	Toluene	NI	NI	NI	NI		NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI		NI	NI	NI
	Ethylbenzene	NI	NI	NI	NI		NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI		NI	NI	NI
	Xylenes	NI	NI	NI	NI		NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI		NI	NI	NI
	Total BTEX	NI	NI	NI	NI		NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI		NI	NI	NI
	MTBE	NI	NI	NI	NI		NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI		NI	NI	NI
	Naphthalene	NI	NI	NI	NI		NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI		NI	NI	NI
	Total Lead	NI	NI	NI	NI		NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI		NI	NI	NI
	Dissolved Lead	NI	NI	NI	NI		NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI		NI	NI	NI
EW-3	Benzene	NI	NI	NI	NI		NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI		NI	NI	NI
	Toluene	NI	NI	NI	NI		NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI		NI	NI	NI
	Ethylbenzene	NI	NI	NI	NI		NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI		NI	NI	NI
	Xylenes	NI	NI	NI	NI		NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI		NI	NI	NI
	Total BTEX	NI	NI	NI	NI		NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI		NI	NI	NI
	MTBE	NI	NI	NI	NI		NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI		NI	NI	NI
	Naphthalene	NI	NI	NI	NI		NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI		NI	NI	NI
	Total Lead	NI	NI	NI	NI		NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI		NI	NI	NI
	Dissolved Lead	NI	NI	NI	NI		NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI		NI	NI	NI
EW-4	Benzene	NI	NI	NI	NI		NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI		NI	NI	NI
	Toluene	NI	NI	NI	NI		NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI		NI	NI	NI
	Ethylbenzene	NI	NI	NI	NI		NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI		NI	NI	NI
	Xylenes	NI	NI	NI	NI		NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI		NI	NI	NI
	Total BTEX	NI	NI	NI	NI		NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI		NI	NI	NI
	MTBE	NI	NI	NI	NI		NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI		NI	NI	NI
	Naphthalene	NI	NI	NI	NI		NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI		NI	NI	NI
	Total Lead	NI	NI	NI	NI		NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI		NI	NI	NI
	Dissolved Lead	NI	NI	NI	NI		NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI		NI	NI	NI

CONTINUED ON PAGE 4

ppm Parts Per Million
NS Not Sampled
NA Not Available
NI Not Installed
* Maximum contaminant levels established by ARBCA SSTL, April 6, 2003.
Above ARBCA Tier II Allowable Groundwater Concentration for Groundwater Resource Protection

Table 2
HISTORICAL SUMMARY OF GROUNDWATER ANALYTICAL DATA
Circle C No. 12
Facility I.D. No.: 10304-089-011902
Huntsville, Alabama

Well ID	Contaminant	November 18, 2010 (ppm)	March 10, 2011 (ppm)	MEME EVENT APRIL 12, 2011	MEME EVENT MAY 10, 2011	MEME EVENT JUNE 2, 2011	MEME EVENT JULY 7, 2011	August 1, 2011 (ppm)	November 8, 2011 (ppm)	June 19, 2012 (ppm)	MEME EVENT OCTOBER 17-18, 2012	November 1, 2012 (ppm)	February 25, 2013 (ppm)	July 25, 2013 (ppm)	MEME EVENT DECEMBER 9-10, 2013	January 2, 2014 (ppm)	MEME EVENT MARCH 6, 2014	March 26, 2014 (ppm)	MEME EVENT AUGUST 21, 2014	September 4, 2014 (ppm)	MEME EVENT JANUARY 8, 2015	January 28, 2015 (ppm)	MEME EVENT APRIL 30, 2015	May 18, 2015 (ppm)	MEME EVENT OCTOER 5, 2015	October 22, 2015 (ppm)	MEME EVENT MARCH 23, 2016	April 18, 2016 (ppm)	ARBCA Tier II Allowable Groundwater Concentration at the Source (MW-5 & MW-6)	ARBCA Tier II Allowable Groundwater Concentration at the POC (MW-4, MW-7 & MW-9)
MW-1	Benzene	<0.0030	<0.0030					<0.0050	0.0008	<0.0050		0.0011	0.0018	0.0031		0.0031		0.0018		NS		NS		0.0024		NS		NS		
	Toluene	<0.0030	<0.0030					<0.0050	0.0017	<0.0050		<0.0050	<0.0050	0.0005		<0.0050		<0.0050		NS		NS		<0.0050		NS		NS		
	Ethylbenzene	<0.0030	<0.0030					<0.0050	0.0005	<0.0050		<0.0050	0.0006	0.0011		0.0010		<0.0050		NS		NS		<0.0050		NS		NS		
	Xylenes	<0.0080	<0.0080					<0.0100	0.0022	<0.0100		<0.0100	<0.0100	<0.0100		<0.0100		<0.0100		NS		NS		<0.0100		NS		NS		
	Total BTEX	<0.0170	<0.0170					<0.0250	0.0052	<0.0250		0.0011	0.0024	0.0047		0.0041		0.0018		NS		NS		0.0024		NS		NS		
	MTBE	0.0175	0.042					0.0761	0.0227	0.0302		0.0526	0.0398	0.0342		0.0331		0.0337		NS		NS		0.0236		NS		NS		
	Naphthalene	NS	NS					NS	NS	NS		NS	NS	NS		NS		<0.0050		NS		NS		<0.0050		NS		NS		
	Total Lead	NS	NS					NS	NS	NS		NS	NS	NS		NS		NS		NS		NS		NS		NS		NS		
	Dissolved Lead	NS	NS					NS	NS	NS		NS	NS	NS		NS		NS		NS		NS		NS		NS		NS		
MW-2	Benzene	<0.0030	<0.0030					0.0020	<0.0050	<0.0050		<0.0050	<0.0050	0.0023		<0.0050		<0.0050		NS		NS		<0.0050		NS		NS		
	Toluene	<0.0030	<0.0030					0.0005	0.0004	<0.0050		<0.0050	<0.0050	<0.0050		<0.0050		<0.0050		NS		NS		<0.0050		NS		NS		
	Ethylbenzene	<0.0030	<0.0030					<0.0050	<0.0050	<0.0050		<0.0050	<0.0050	<0.0050		<0.0050		<0.0050		NS		NS		<0.0050		NS		NS		
	Xylenes	<0.0080	<0.0080					<0.0100	<0.0100	<0.0100		<0.0100	<0.0100	<0.0100		<0.0100		<0.0100		NS		NS		<0.0100		NS		NS		
	Total BTEX	<0.0170	<0.0170					0.0025	0.0004	<0.0250		<0.0250	<0.0250	0.0023		<0.0250		<0.0250		NS		NS		<0.0250		NS		NS		
	MTBE	0.0034	0.0021					0.0010	0.0010	0.0013		0.0018	0.0012	0.0016		<0.0100		0.0012		NS		NS		0.0026		NS		NS		
	Naphthalene	NS	NS					NS	NS	NS		NS	NS	NS		NS		<0.0050		NS		NS		<0.0050		NS		NS		
	Total Lead	NS	NS					NS	NS	NS		NS	NS	NS		NS		NS		NS		NS		NS		NS		NS		
	Dissolved Lead	NS	NS					NS	NS	NS		NS	NS	NS		NS		NS		NS		NS		NS		NS		NS		
MW-3	Benzene	<0.0030	<0.0030					<0.0050	<0.0050	<0.0050		<0.0050	<0.0050	<0.0050		<0.0050		<0.0050		NS		NS		<0.0050		NS		NS		
	Toluene	<0.0030	<0.0030					<0.0050	<0.0050	<0.0050		<0.0050	<0.0050	<0.0050		<0.0050		<0.0050		NS		NS		<0.0050		NS		NS		
	Ethylbenzene	<0.0030	<0.0030					<0.0050	<0.0050	<0.0050		<0.0050	<0.0050	<0.0050		<0.0050		<0.0050		NS		NS		<0.0050		NS		NS		
	Xylenes	<0.0080	<0.0080					<0.0100	<0.0100	<0.0100		<0.0100	<0.0100	<0.0100		<0.0100		<0.0100		NS		NS		<0.0100		NS		NS		
	Total BTEX	<0.0170	<0.0170					<0.0250	<0.0250	<0.0250		<0.0250	<0.0250	<0.0250		<0.0250		<0.0250		NS		NS		<0.0250		NS		NS		
	MTBE	0.0262	0.0056					0.0027	0.0133	0.0049		0.0174	0.0040	0.0042		0.0056		0.0016		NS		NS		0.0010		NS		NS		
	Naphthalene	NS	NS					NS	NS	NS		NS	NS	NS		NS		<0.0050		NS		NS		<0.0050		NS		NS		
	Total Lead	NS	NS					NS	NS	NS		NS	NS	NS		NS		NS		NS		NS		NS		NS		NS		
	Dissolved Lead	NS	NS					NS	NS	NS		NS	NS	NS		NS		NS		NS		NS		NS		NS		NS		
MW-4	Benzene	0.0278	0.0167					0.0259	0.0147	0.0152		0.0188	0.0089	0.0060		0.0072		0.0041		NS		NS		0.0056		NS		NS		0.177
	Toluene	<0.0030	<0.0030					<0.0050	<0.0050	<0.0050		<0.0050	<0.0050	<0.0050		<0.0050		<0.0050		NS		NS		<0.0050		NS		NS		35.500
	Ethylbenzene	<0.0030	<0.0030					<0.0050	<0.0050	<0.0050		<0.0050	<0.0050	<0.0050		<0.0050		<0.0050		NS		NS		<0.0050		NS		NS		24.800
	Xylenes	<0.0080	<0.0080					<0.0100	<0.0100	<0.0100		<0.0100	<0.0100	<0.0100		<0.0100		<0.0100		NS		NS		<0.0100		NS		NS		175.000
	Total BTEX	0.0278	0.0167					0.0259	0.0147	0.0152		0.0188	0.0089	0.0060		0.0072		0.0041		NS		NS		0.0056		NS		NS		
	MTBE	0.4898	0.1834					0.0815	0.1414	0.2098		0.3278	0.0667	0.0724		0.0490		0.0714		NS		NS		0.1245		NS		NS		0.710
	Naphthalene	NS	NS					NS	NS	NS		NS	NS	NS		NS		0.0016		NS		NS		0.0031		NS		NS		
	Total Lead	NS	NS					NS	NS	NS		NS	NS	NS		NS		NS		NS		NS		NS		NS		NS		
	Dissolved Lead	NS	NS					NS	NS	NS		NS	NS	NS		NS		NS		NS		NS		NS		NS		NS		
MW-5	Benzene	4.748	5.217					4.608	6.451	5.449		6.676	3.697	5.440		2.543		3.412		4.864		4.654		5.697		4.025		4.298	0.346	
	Toluene	5.136	8.297					9.806	8.972	6.760		9.004	5.186	7.661		4.266		5.065		4.227		4.437		4.605		3.505		3.627	69.300	
	Ethylbenzene	1.764	1.830					1.313	1.855	1.964		2.524	1.915	2.546		1.334		1.021		1.345		1.970		2.245		2.099		1.681	48.500	
	Xylenes	8.022	9.520					9.485	9.441	9.286		11.832	8.342	11.791		7.841		7.985		8.438		8.881		10.239		8.628		7.750	175.000	
	Total BTEX	19.670	24.864					25.212	26.719	23.459		30.036	19.140	27.438		15.984		17.483		18.874		19.942		22.786		18.257		17.356		
	MTBE	0.8310	0.8970					0.8050	0.9770	0.7040		0.7730	0.5970	0.459		<1.000		0.389		0.392		0.277		0.277		0.179		0.196	1.390	
	Naphthalene	NS	NS					NS	NS	NS		NS	NS	NS		NS		0.267		0.329		0.5830		0.6400		0.6260		0.477		
	Total Lead	NS	NS					NS	NS	NS		NS	NS	NS		NS		NS		NS		NS		NS		NS		NS		
	Dissolved Lead	NS	NS					NS	NS	NS		NS	NS	NS		NS		NS		NS		NS		NS		NS		NS		
MW-6	Benzene	DRY	1.214					3.631	4.722	NS		4.710	3.290	3.729		1.710		3.660		3.050		2.988		3.243		2.968		2.748	0.346	
	Toluene	DRY	1.324					5.296	8.676	NS		0.7310	6.853	7.267		2.732		8.641		5.746		7.356		8.556		3.429		8.674	69.300	
	Ethylbenzene	DRY	0.5542					1.181	1.010	NS		1.216	1.014	1.164		0.447		0.8500		1.397		1.070		0.8220		1.025		0.9010	48.500	
	Xylenes	DRY	2.4265					5.460	4.546	NS		4.0890	4.686	4.9610		2.172		4.471		6.359		4.905		3.790		3.857		3.9090	175.000	
	Total BTEX	DRY	5.5187					15.568	18.954	NS		10.7460	15.843	17.121		7.0610		17.6220		16.552		16.319		16.4110		11.279		16.2320		
	MTBE	DRY	0.0215					0.187	0.120	NS		0.115	0.169	<0.5000		<1.000		<0.5000		<0.5000		<0.5000		<0.5000		<0.5000		0.0870	1.390	
	Naphthalene	DRY	NS					NS	NS	NS		NS	NS	NS		NS		0.5540		0.5270		0.6600		0.383		0.474		0.387		
	Total Lead	DRY	NS					NS	NS	NS		NS	NS	NS		NS		NS		NS		NS		NS		NS		NS		
	Dissolved Lead	DRY	NS					NS	NS	NS		NS	NS	NS		NS		NS		NS		NS		NS		NS		NS		
MW-7	Benzene	0.0038	<0.0030					<0.0050	0.0014	0.0026		0.0025	<0.0050	<0.0050		<0.0050		<0.0050		NS		NS		0.0005		NS		NS		0.104
	Toluene	<0.0030	<0.0030					<0.0050	<0.0050	<0.0050		<0.0050	<0.0050	<0.0050		<0.0050		<0.0050		NS		NS		<0.0050		NS		NS		20.800
	Ethylbenzene	<0.0030	<0.0030					<0.0050	<0.0050	<0.0050		<0.0050	<0.0050	<0.0050		<0.0050		<0.0050		NS		NS		<0.0050		NS		NS		14.600
	Xylenes	<0.0080	<0.0080					<0.0100	<0.0100	<0.0100		<0.0100	<0.0100	<0.0100		<0.0100		<0.0100		NS		NS		<0.0100		NS		NS		175.000
	Total BTEX	0.0038	<0.0170					<0.0250	0.0014	0.0026		0.0025	<0.0250	<0.0250		<0.0250		<0.0250		NS		NS		0.0005		NS		NS		
	MTBE	0.1626	0.0427					0.0086	0.0645	0.0792		0.0738	0.0182	0.0128		0.0121		0.0261		NS		NS		0.0245		NS		NS		0.417
	Naphthalene	NS	NS					NS	NS	NS		NS	NS	NS		NS		<0.0050		NS		NS		<0.0050		NS		NS		
	Total Lead	NS	NS					NS	NS	NS		NS	NS	NS		NS		NS		NS		NS		NS		NS		NS		
	Dissolved Lead	NS	NS					NS	NS	NS		NS	NS	NS		NS		NS		NS		NS		NS		NS		NS		
MW-8	Benzene	0.0030	0.0013					0.0297	DRY	NS		0.0006	0.0010	0.0010		<0.0050		<0.0050		NS		NS		0.0010		NS		NS		
	Toluene	<0.0030	<0.0030					0.0011	DRY	NS		<0.0050	<0.0050	<0.0050		<0.0050		<0.0050		NS		NS		<0.0050		NS		NS		
	Ethylbenzene	<0.0030	<0.0030					0.0011	DRY	NS		<0.0050	<0.0050	<0.0050		<0.0050		<0.0050		NS		NS		<0.0050		NS		NS		
	Xylenes	<0.0080	<0.0080					0.0050	DRY	NS		<0.0100	<0.0100	<0.0100		<0.0100		<0.0100		NS		NS		<0.0100		NS		NS		
	Total BTEX	0.0030	0.0013					0.0369	DRY	NS		0.0006	0.0010	0.0010		<0.0250		<0.0250		NS		NS		0.0010		NS		NS		
	MTBE	<0.0050	0.0093					0.0088	DRY	NS		0.0054	0.0252	0.0330		0.0303		0.0388		NS		NS		0.0489		NS		NS		
	Naphthalene	NS	NS					NS	DRY	NS		NS	NS	NS		NS		<0.0050		NS		NS		<0.0050		NS		NS		
	Total Lead	NS	NS					NS	DRY	NS		NS	NS	NS		NS		NS		NS		NS		NS		NS		NS		
	Dissolved Lead	NS	NS					NS	DRY	NS		NS	NS	NS		NS		NS		NS		NS		NS		NS		NS		

ppm Parts Per Million
NS Not Sampled
NA Not Available
NI Not Installed
* Maximum contaminant levels established by ARBCA SSTL, April 6, 2003.
Above ARBCA Tier II Allowable Groundwater Concentration for Groundwater Resource Protection

Table 2

HISTORICAL SUMMARY OF GROUNDWATER ANALYTICAL DATA

Circle C No. 12

Facility I.D. No.: 10304-089-011902

Huntsville, Alabama

Well ID	Contaminant	November 18, 2010 (ppm)	March 10, 2011 (ppm)	MEME EVENT APRIL 12, 2011	MEME EVENT MAY 10, 2011	MEME EVENT JUNE 2, 2011	MEME EVENT JULY 7, 2011	August 1, 2011 (ppm)	November 8, 2011 (ppm)	June 19, 2012 (ppm)	MEME EVENT OCTOBER 17-18, 2012	November 1, 2012 (ppm)	February 25, 2013 (ppm)	July 25, 2013 (ppm)	MEME EVENT DECEMBER 9-10, 2013	January 2, 2014 (ppm)	March 26, 2014 (ppm)	MEME EVENT MARCH 6, 2014	September 4, 2014 (ppm)	MEME EVENT AUGUST 21, 2014	January 28, 2015 (ppm)	MEME EVENT JANUARY 8, 2015	May 18, 2015 (ppm)	MEME EVENT APRIL 30, 2015	October 22, 2015 (ppm)	MEME EVENT OCTOER 5, 2015	April 18, 2016 (ppm)	MEME EVENT MARCH 23, 2016	ARBCA Tier II Allowable Groundwater Concentration at the Source (MW-5 & MW-6)	ARBCA Tier II Allowable Groundwater Concentration at the POC (MW-4, MW-7 & MW-9)
MW-9	Benzene	<0.0030	<0.0030					<0.0050	DRY	DRY		<0.0050	DRY	<0.0050		<0.0050	<0.0050		NS		NS		NS		NS		NS			0.104
	Toluene	<0.0030	<0.0030					<0.0050	DRY	DRY		<0.0050	DRY	<0.0050		<0.0050	<0.0050		NS		NS		NS		NS		NS			20,800
	Ethylbenzene	<0.0030	<0.0030					<0.0050	DRY	DRY		<0.0050	DRY	<0.0050		<0.0050	<0.0050		NS		NS		NS		NS		NS			14,600
	Xylenes	<0.0080	<0.0080					<0.0100	DRY	DRY		<0.0100	DRY	<0.0100		<0.0100	<0.0100		NS		NS		NS		NS		NS			175,000
	Total BTEX	<0.0170	<0.0170					<0.0250	DRY	DRY		<0.0250	DRY	<0.0250		<0.0250	<0.0250		NS		NS		NS		NS		NS			
	MTBE	<0.0050	<0.0050					<0.0050	DRY	DRY		<0.0050	DRY	<0.0050		<0.0100	<0.0100		NS		NS		NS		NS		NS			0.417
	Naphthalene	NS	NS					NS	DRY	DRY		NS	DRY	NS		NS	<0.0050		NS		NS		NS		NS		NS			
	Total Lead	NS	NS					NS	DRY	DRY		NS	DRY	NS		NS	NS		NS		NS		NS		NS		NS			
	Dissolved Lead	NS	NS					NS	DRY	DRY		NS	DRY	NS		NS	NS		NS		NS		NS		NS		NS			
MW-10	Benzene	NS	NS					NS	NS	NS		<0.0050	<0.0050	<0.0050		<0.0050	<0.0050		NS		NS		<0.0050		NS		NS			
	Toluene	NS	NS					NS	NS	NS		<0.0050	<0.0050	<0.0050		<0.0050	<0.0050		NS		NS		<0.0050		NS		NS			
	Ethylbenzene	NS	NS					NS	NS	NS		<0.0050	<0.0050	<0.0050		<0.0050	<0.0050		NS		NS		<0.0050		NS		NS			
	Xylenes	NS	NS					NS	NS	NS		<0.0100	<0.0100	<0.0100		<0.0100	<0.0100		NS		NS		<0.0100		NS		NS			
	Total BTEX	NS	NS					NS	NS	NS		<0.0250	<0.0250	<0.0250		<0.0250	<0.0250		NS		NS		<0.0250		NS		NS			
	MTBE	NS	NS					NS	NS	NS		<0.0050	<0.0050	<0.0050		<0.0100	<0.0100		NS		NS		<0.0050		NS		NS			
	Naphthalene	NS	NS					NS	NS	NS		NS	NS	NS		NS	<0.0050		NS		NS		<0.0050		NS		NS			
	Total Lead	NS	NS					NS	NS	NS		NS	NS	NS		NS	NS		NS		NS		NS		NS		NS			
	Dissolved Lead	NS	NS					NS	NS	NS		NS	NS	NS		NS	NS		NS		NS		NS		NS		NS			
MW-11	Benzene	NS	NS					<0.0050	DRY	DRY		<0.0050	DRY	<0.0050		NS	NS		NS		NS		NS		NS		NS			
	Toluene	NS	NS					<0.0050	DRY	DRY		<0.0050	DRY	<0.0050		NS	NS		NS		NS		NS		NS		NS			
	Ethylbenzene	NS	NS					<0.0050	DRY	DRY		<0.0050	DRY	<0.0050		NS	NS		NS		NS		NS		NS		NS			
	Xylenes	NS	NS					<0.0100	DRY	DRY		<0.0100	DRY	<0.0100		NS	NS		NS		NS		NS		NS		NS			
	Total BTEX	NS	NS					<0.0250	DRY	DRY		<0.0250	DRY	<0.0250		NS	NS		NS		NS		NS		NS		NS			
	MTBE	NS	NS					<0.0050	DRY	DRY		<0.0050	DRY	<0.0050		NS	NS		NS		NS		NS		NS		NS			
	Naphthalene	NS	NS					NS	DRY	DRY		NS	DRY	NS		NS	NS		NS		NS		NS		NS		NS			
	Total Lead	NS	NS					NS	DRY	DRY		NS	DRY	NS		NS	NS		NS		NS		NS		NS		NS			
	Dissolved Lead	NS	NS					NS	DRY	DRY		NS	DRY	NS		NS	NS		NS		NS		NS		NS		NS			
EW-1	Benzene	NI	1.531					NS	DRY	NS		1.194	1.399	1.688		1.415	0.9190		1.304		1.353		1.304		0.6680		0.8280		0.346	
	Toluene	NI	10.36					NS	DRY	NS		5.390	7.292	10.47		4.961	5.246		6.611		6.898		9.024		3.421		4.716		69.300	
	Ethylbenzene	NI	1.016					NS	DRY	NS		0.246	0.6000	1.250		0.395	0.488		0.8580		0.8290		0.9620		0.5290		0.7520		48.500	
	Xylenes	NI	6.14					NS	DRY	NS		5.056	5.490	9.246		5.788	5.899		8.785		8.474		8.035		5.542		6.194		175.000	
	Total BTEX	NI	19.047					NS	DRY	NS		11.886	14.7810	22.654		12.559	12.5520		17.5580		17.5540		19.3250		10.1600		12.4900			
	MTBE	NI	<0.5000					NS	DRY	NS		0.0900	0.156	0.120		<1.000	0.133		0.0990		0.127		0.115		0.0820		0.128		1.390	
	Naphthalene	NI	NS					NS	DRY	NS		NS	NS	NS		NS	0.203		0.356		0.317		0.294		0.337		0.320			
	Total Lead	NI	NS					NS	DRY	NS		NS	NS	NS		NS	NS		NS		NS		NS		NS		NS			
	Dissolved Lead	NI	NS					NS	DRY	NS		NS	NS	NS		NS	NS		NS		NS		NS		NS		NS			
EW-2	Benzene	NI	12.05					NS	DRY	NS		2.772	9.324	10.97		10.02	9.355		9.470		8.435		8.085		5.170		6.300		0.346	
	Toluene	NI	15.37					NS	DRY	NS		3.564	17.13	21.06		17.04	14.62		12.50		13.59		9.375		6.660		8.505		69.300	
	Ethylbenzene	NI	1.28					NS	DRY	NS		0.8785	2.530	6.240		2.605	2.870		2.40		2.775		1.43		1.55		1.48		48.500	
	Xylenes	NI	7.63					NS	DRY	NS		4.772	13.898	36.42		14.545	16.045		13.300		15.020		6.345		6.530		7.010		175.000	
	Total BTEX	NI	36.33					NS	DRY	NS		11.9865	42.882	74.690		44.210	42.890		37.670		39.820		25.235		19.910		23.295			
	MTBE	NI	2.518					NS	DRY	NS		0.6505	1.722	1.62		2.54	1.91		2.47		1.91		1.70		1.12		1.36		1.390	
	Naphthalene	NI	NS					NS	DRY	NS		NS	NS	NS		NS	0.765		0.885		0.960		<2.500		0.545		0.830			
	Total Lead	NI	NS					NS	DRY	NS		NS	NS	NS		NS	NS		NS		NS		NS		NS		NS			
	Dissolved Lead	NI	NS					NS	DRY	NS		NS	NS	NS		NS	NS		NS		NS		NS		NS		NS			
EW-3	Benzene	NI	NI					NI	NI	NI		NI	NI	NI		NI	NI		NI		NI		18.66		13.98		14.98		0.346	
	Toluene	NI	NI					NI	NI	NI		NI	NI	NI		NI	NI		NI		NI		26.86		31.72		26.14		69.300	
	Ethylbenzene	NI	NI					NI	NI	NI		NI	NI	NI		NI	NI		NI		NI		1.78		2.23		1.79		48.500	
	Xylenes	NI	NI					NI	NI	NI		NI	NI	NI		NI	NI		NI		NI		8.660		10.990		8.980		175.000	
	Total BTEX	NI	NI					NI	NI	NI		NI	NI	NI		NI	NI		NI		NI		55.960		58.920		51.890			
	MTBE	NI	NI					NI	NI	NI		NI	NI	NI		NI	NI		NI		NI		3.795		2.00		2.830		1.390	
	Naphthalene	NI	NI					NI	NI	NI		NI	NI	NI		NI	NI		NI		NI		0.795		0.830		0.730			
	Total Lead	NI	NI					NI	NI	NI		NI	NI	NI		NI	NI		NI		NI		NS		NS		NS			
	Dissolved Lead	NI	NI					NI	NI	NI		NI	NI	NI		NI	NI		NI		NI		NS		NS		NS			
EW-4	Benzene	NI	NI					NI	NI	NI		NI	NI	NI		NI	NI		NI		NI		13.98		11.96		13.10		0.346	
	Toluene	NI	NI					NI	NI	NI		NI	NI	NI		NI	NI		NI		NI		29.02		28.34		25.00		69.300	
	Ethylbenzene	NI	NI					NI	NI	NI		NI	NI	NI		NI	NI		NI		NI		2.605		2.750		2.02		48.500	
	Xylenes	NI	NI					NI	NI	NI		NI	NI	NI		NI	NI		NI		NI		14.065		14.700		11.150		175.000	
	Total BTEX	NI	NI					NI	NI	NI		NI	NI	NI		NI	NI		NI		NI		59.670		57.750		51.270			
	MTBE	NI	NI					NI	NI	NI		NI	NI	NI		NI	NI		NI		NI		2.42		1.82		1.80		1.390	
	Naphthalene	NI	NI					NI	NI	NI		NI	NI	NI		NI	NI		NI		NI		1.26		2.46		1.13			
	Total Lead	NI	NI					NI	NI	NI		NI	NI	NI		NI	NI		NI		NI		NS		NS		NS			
	Dissolved Lead	NI	NI					NI	NI	NI		NI	NI	NI		NI	NI		NI		NI		NS		NS		NS			

ppm Parts Per Million
NS Not Sampled
NA Not Available
NI Not Installed
* Maximum contaminant levels established by ARBCA SSTL, April 6, 2003.
Above ARBCA Tier II Allowable Groundwater Concentration for Groundwater Resource Protection

Table 3

SOIL ANALYTICAL DATA

Circle C No. 12

Facility I.D. No. 10304-089-011902

Huntsville , Alabama

Well/Boring ID	Depth (feet bls.)	Date	Concentration (mg/kg)								Total PAH	FID (ppm)	PID (ppm)
			Benzene	Toluene	Ethylbenzene	Xylenes	Total BTEX	MTBE	Naphthalene	TPH			
MW-1 (B-1)	13-15	12/1994	--	--	--	--	--	--	--	<10	--	--	15
MW-2 (B-2)	3-5	12/1994	--	--	--	--	--	--	--	<10	--	--	18
MW-3 (B-3)	18-20	12/1994	--	--	--	--	--	--	--	<10	--	--	8
MW-4 (B-4B)	13-15	12/1994	--	--	--	--	--	--	--	<10	--	--	10
MW-5	4-9	5/10/1999	--	--	--	--	--	--	--	--	--	60	--
	9-14	5/10/1999	--	--	--	--	--	--	--	--	--	110	--
	14-19	5/10/1999	0.080	0.028	0.120	0.240	0.468	0.700	--	--	--	5000+	--
	19-24	5/10/1999	--	--	--	--	--	--	--	--	--	1200	--
	24-29	5/10/1999	0.080	0.300	0.160	0.840	1.380	0.050	--	--	--	4000	--
	29-34	5/10/1999	--	--	--	--	--	--	--	--	--	1800	--
MW-6	4-6	5/11/1999	--	--	--	--	--	--	--	--	--	5	--
	9-11	5/11/1999	--	--	--	--	--	--	--	--	--	3	--
	14-16	5/11/1999	--	--	--	--	--	--	--	--	--	75	--
	19-21	5/11/1999	0.030	0.014	BDL	0.032	0.076	BDL	--	--	--	80	--
	24-26	5/11/1999	--	--	--	--	--	--	--	--	--	1100	--
	29-31	5/11/1999	0.720	0.038	0.024	1.240	2.022	BDL	--	--	--	1300	--
MW-7	4-6	5/10/1999	--	--	--	--	--	--	--	--	--	4	--
	9-11	5/10/1999	--	--	--	--	--	--	--	--	--	3	--
	14-16	5/10/1999	--	--	--	--	--	--	--	--	--	1	--
	19-21	5/10/1999	BDL	BDL	BDL	BDL	BDL	BDL	--	--	--	15	--
	24-26	5/10/1999	0.006	0.030	0.007	0.040	0.088	BDL	--	--	--	4	--
	29-31	5/10/1999	--	--	--	--	--	--	--	--	--	1	--
MW-8	4-6	5/11/1999	--	--	--	--	--	--	--	--	--	5	--
	9-11	5/11/1999	--	--	--	--	--	--	--	--	--	20	--
	14-16	5/11/1999	--	--	--	--	--	--	--	--	--	340	--
	19-21	5/11/1999	--	--	--	--	--	--	--	--	--	170	--
	24-26	5/11/1999	0.032	BDL	BDL	BDL	0.032	BDL	--	--	--	2400	--
	29-31	5/11/1999	0.600	0.066	0.064	0.140	0.870	BDL	--	--	--	3900	--
	34-36	5/11/1999	--	--	--	--	--	--	--	--	--	80	--
	39-41	5/11/1999	--	--	--	--	--	--	--	--	--	32	--
	44-46	5/11/1999	--	--	--	--	--	--	--	--	--	18	--
	49-51	5/11/1999	--	--	--	--	--	--	--	--	--	10	--
	54-54.5	5/11/1999	--	--	--	--	--	--	--	--	--	11	--
EW-1	24-25	11/17/2010	<0.0010	<0.0050	<0.0010	<0.0030	<0.0100	<0.0010	--	--	--	100	--
	27-28	11/17/2010	0.0099	0.036	0.032	0.18	0.2579	<0.0010	--	--	--	300	--
EW-2	20-21	11/18/2010	0.19	1.3	0.82	5	7.31	0.072	--	--	--	>10,000	--
	22-23	11/18/2010	<0.10	<0.50	2.3	18	20.3	<0.10	--	--	--	>10,000	--
EW-3	14-16	2/9/2015	2.300	18.000	8.700	42.000	71.000	<1.700	6.800	--	--	>10,000	--
	16-18	2/9/2015	<1.800	22.000	14.000	70.000	106.000	<1.800	15.000	--	--	6,500	--
EW-4	12-14	2/10/2015	<1.200	<1.200	28.000	20.000	48.000	<1.200	22.000	--	--	>10,000	--
	16-18	2/10/2015	<7.300	14.000	69.000	320.000	403.000	<7.300	43.000	--	--	7,500	--
PL-3	4.7-5.2	1/27/2015	<0.0066	<0.0066	<0.0066	<0.0066	<0.0264	<0.0066	<0.0066	--	--	30	--
PL-4	1.6-2.8	1/27/2015	<0.0052	<0.0052	<0.0052	<0.0052	<0.0208	<0.0052	<0.0052	--	--	45	--
PL-6	2.5-3	1/27/2015	<0.0057	<0.0057	<0.0057	<0.0057	<0.0228	<0.0057	<0.0057	--	--	38	--
PL-11	2.86	1/28/2015	<0.0080	<0.0080	<0.0080	<0.0080	<0.0320	<0.0080	<0.0080	--	--	52	--
PL-13	2.6-2.9	1/28/2015	<0.0052	<0.0052	<0.0052	<0.0052	<0.0208	0.015	<0.0052	--	--	50	--
PL-14	1.8-2.4	1/28/2015	<0.290	<0.290	2.500	2.900	5.400	<0.290	6.000	--	27.000	500	--

bls - Below Land Surface

FID - Flame Ionization Detector

BDL - Below Detection Limit

-- Not Sampled

XIV. Appendices

Appendix A

Documentation of Personnel Performing Response Actions

Report Preparation and Production

Personnel Name	Category	Task Completed
Jeanna McNeil	Draftsperson	Data Entry: Figures & Tables
April McDonald	Draftsperson	
Kelly R. Johns	Professional Engineer	Data Interpretation, Technology Evaluations, Report Narrative
Joseph E. Patrick	Professional Engineer/ Professional Geologist	
Beverly Campos	Admin. Assistance	Report Production (copies, binding, mailings)

Appendix B

Summary of Monitor Wells, Extraction Wells & Public Water-Supply Wells

Monitor/Extraction Wells				
Well Number	Date Installed	Diameter (inches)	Screened Interval (feet)*	
MW-1	12/1994	2	10	30
MW-2	12/1994	2	10	30
MW-3	12/1994	2	10	35
MW-4	12/1994	2	10	35
MW-5	5/1999	2	18.25	33.25
MW-6	5/1999	2	18.25	33.25
MW-7	5/1999	2	19	34
MW-8	5/1999	2	44.7	54.7
MW-9	5/2001	2	23.2	38.2
MW-10	5/2001	2	17.1	32.1
MW-11	5/2001	2	18.2	38.2
EW-1	11/2010	4	19.83	34.83
EW-2	11/2010	4	20	35
EW-3	2/9/2015	4	15	35
EW-4	2/10/2015	4	10	35

* See Table 1 for current Total Depths of Monitor/Extraction Wells

Water-Supply Wells Within 1,000 Feet				
Well No.	Well Owner	Well Depth (feet BLS)	Well Use	Surface Elevation (~feet AMSL)
1	Lincoln Well Huntsville Utilities	61	Unknown	Unknown
2	Dallas Well Huntsville Utilities	104	Unknown	Unknown

Appendix C

TJA Quality Assurance/Quality Control Procedures

I. Field Sampling Procedures

Sample Chain-of-Custody will begin at the laboratory with clean, sealed sample containers that have been prepared with the appropriate preservative for the analytical method(s). Field personnel will complete sample labels with waterproof ink at the time of sampling. Sample labels will include, at a minimum, the following:

1. Project name or other designation
2. Sample ID Number
3. Date collected
4. Preservative
5. Designation of analysis to be run
6. Name or initials of sampler

Sample location, time of collection, and any other pertinent information will be noted on the Chain-of-Custody and/or in the field logbook. Preservation of the samples will be per the QA/QC plan of the laboratory performing the analyses.

All calibrations of field measuring equipment (i.e. pH meter, conductivity meter, etc.) will be recorded in the field logbook for the project. The frequency of calibration will be based on the recommendations of the equipment manufacturers, but all equipment will be calibrated at least daily.

Prior to collecting any sample (solid or aqueous) all field personnel shall do a new, clean pair of vinyl gloves to reduce or eliminate the potential for contamination of the sample from skin contact.

II. Decontamination of Field Equipment

Any piece of equipment that will enter a well casing has the potential to contaminate the water in that well. Therefore, any and all equipment used to collect water samples, measure water levels, etc. must be thoroughly decontaminated prior to introduction into the well. The following steps will be used to decontaminate all appropriate equipment:

1. Scrub with a mixture of tap water and alconox soap to remove any particulate matter or surface film.
2. Rinse with tap water to remove all soap.
3. Rinse with analyte-free water.

If the equipment is not immediately used, it can be wrapped in aluminum foil or plastic sheeting to prevent accidental contamination.

III. Quality Control Samples

The accuracy and dependability of sampling results will be confirmed by introducing sample blanks. Sample blanks are used to evaluate the level of contamination and variability of results that could be contributed by potential interferences arising at any point in the transport, collection, or analysis of samples.

Equipment Blanks are designed to address cross-contamination, in the field, between sample sources, due to improper field decontamination procedures. These blanks also address field preservation procedures, site environmental interferences, integrity of the source blank water used for field decontamination, and those concerns singularly addressed by the travel bank. The equipment blank is collected in the field from a distilled water rinse of the sampling equipment following the last step in the field decontamination procedure.

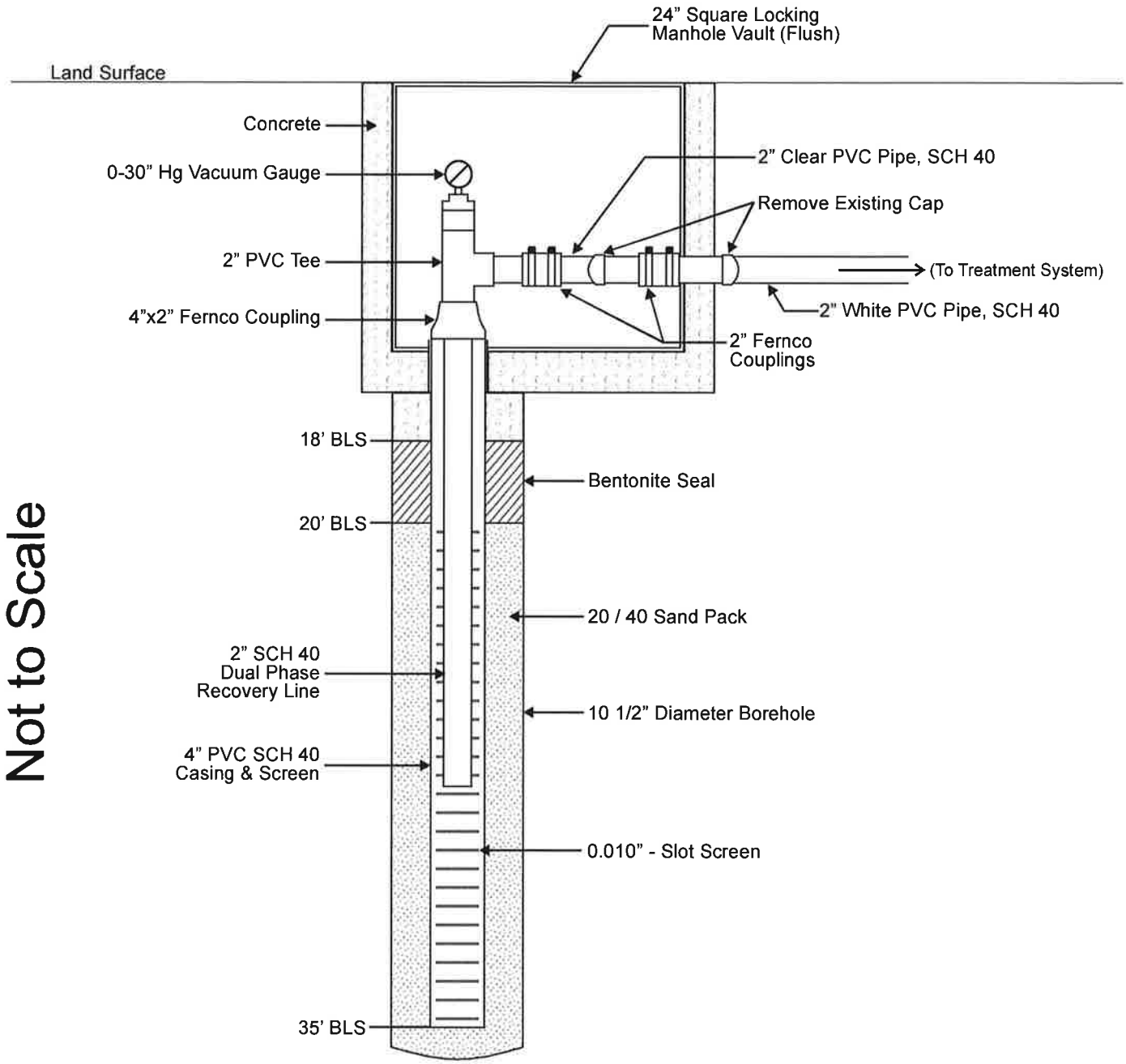
Field Blanks are used to evaluate the sample container filling procedure, the effects of environmental contaminants at the site, purity of preservatives or additives, purity of the distilled water. The field blank is collected on site by filling sample containers with fresh distilled water.

Field Duplicates are collected to check the analytical accuracy and precision of the laboratory conducting the chemical analyses. Field duplicate samples are collected simultaneously from the same source, under identical conditions, into separate containers. One of the samples is given an accurate sample I.D.; the other is given a false I.D. Records will be maintained on the location of the duplicate in the field logbook.

Travel (Trip) Blanks are used to identify interferences due to improper sample container preparation, contaminated source blank water, sample cross-contamination during storage/transport/analysis, and extraneous environmental conditions affecting the sampling event. Travel blanks are prepared in the appropriate sample container using source blank water from the laboratory. Travel blanks are then sealed and stored in the ice chest where real samples will be stored and transported. Travel blanks will originate at the facility providing the field sample kits.

All QC samples will be placed in the ice chest, where other samples will be stored, as soon as they are collected. They will be treated exactly as other samples to ensure the accuracy of the data that they provide.

Appendix D



APPENDIX D

EXTRACTION WELL CONSTRUCTION DIAGRAM & PROPOSED MODIFICATIONS

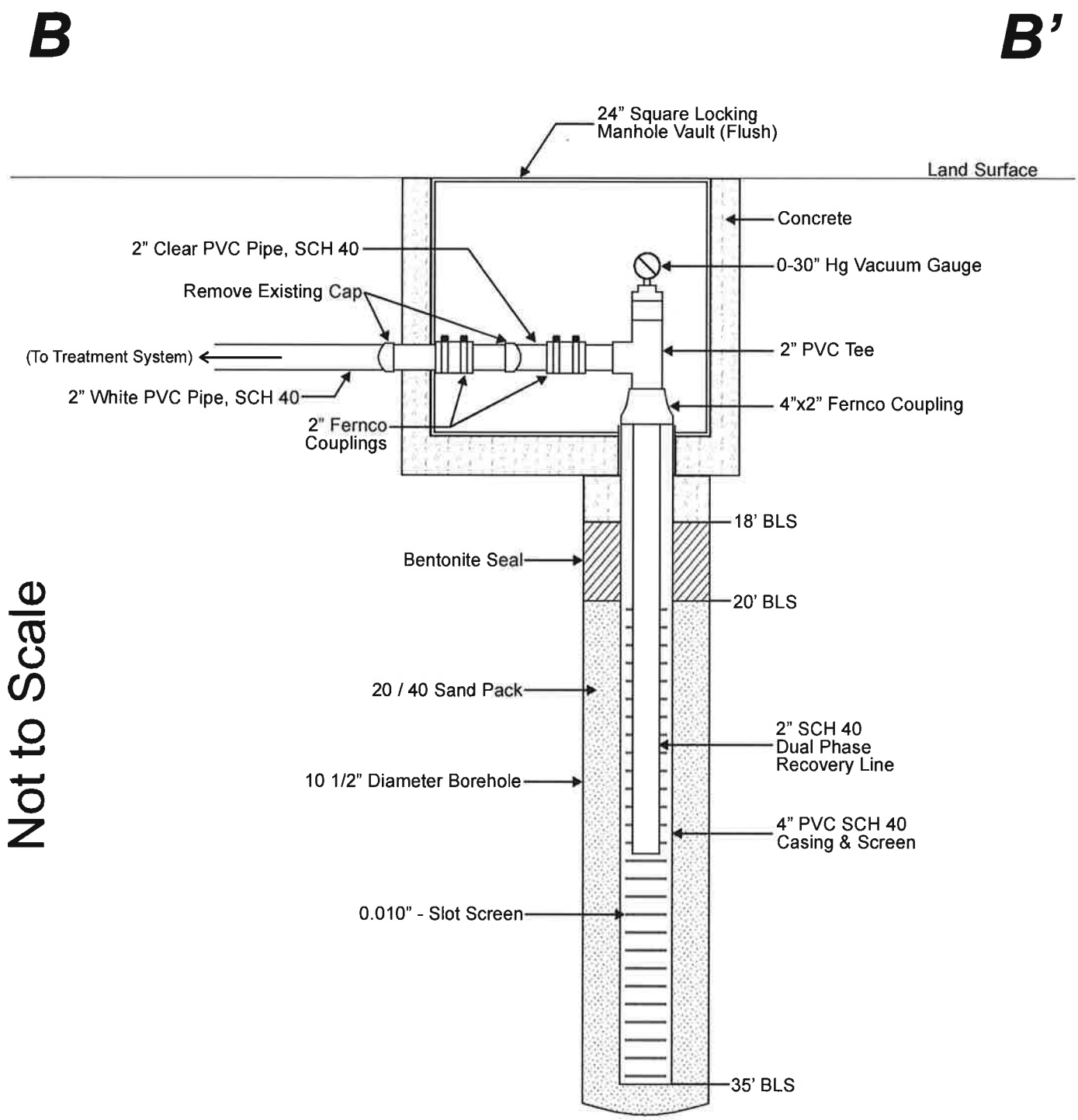
CIRCLE C #12
HUNTSVILLE, ALABAMA
FACILITY I. D. NO.: 10304-089-011902

Well: EW-1

TJ&A Rep: Kelly Johns

Date Installed: 11/2010

Driller: Technical Drilling Services, Inc.



APPENDIX D

EXTRACTION WELL CONSTRUCTION DIAGRAM & PROPOSED MODIFICATIONS

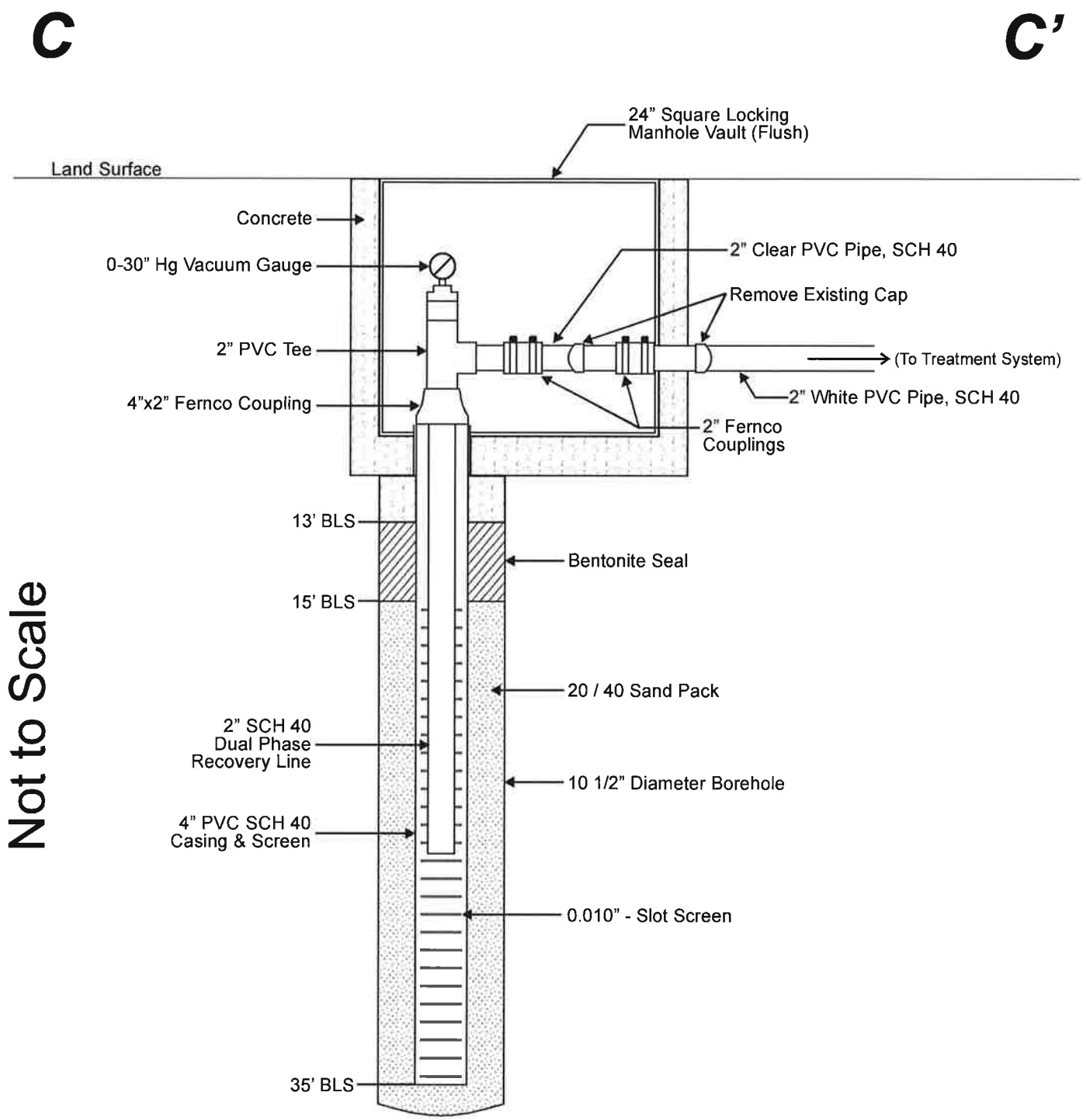
CIRCLE C #12
HUNTSVILLE, ALABAMA
FACILITY I. D. NO.: 10304-089-011902

Well: EW-2

TJ&A Rep: Kelly Johns

Date Installed: 11/2010

Driller: Technical Drilling Services, Inc.



APPENDIX D

EXTRACTION WELL CONSTRUCTION DIAGRAM & PROPOSED MODIFICATIONS

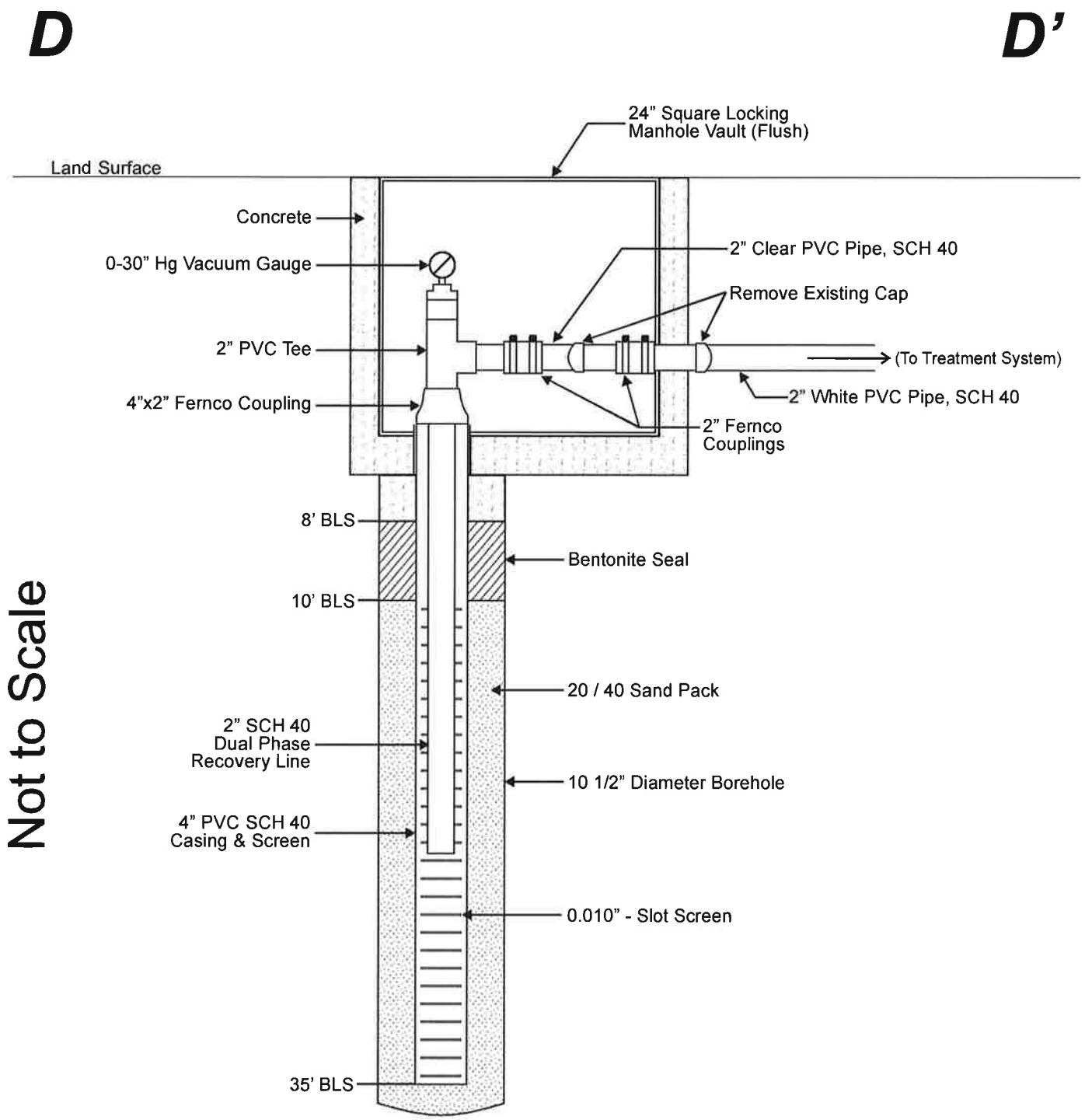
CIRCLE C #12
HUNTSVILLE, ALABAMA
FACILITY I. D. NO.: 10304-089-011902

Well: EW-3

TJ&A Rep: Kelly Johns

Date Installed: 2/09/2015

Driller: Technical Drilling Services, Inc.



APPENDIX D

EXTRACTION WELL CONSTRUCTION DIAGRAM & PROPOSED MODIFICATIONS

CIRCLE C #12
HUNTSVILLE, ALABAMA
FACILITY I. D. NO.: 10304-089-011902

Well: EW-4

TJ&A Rep: Kelly Johns

Date Installed: 2/10/2015

Driller: Technical Drilling Services, Inc.

Appendix E

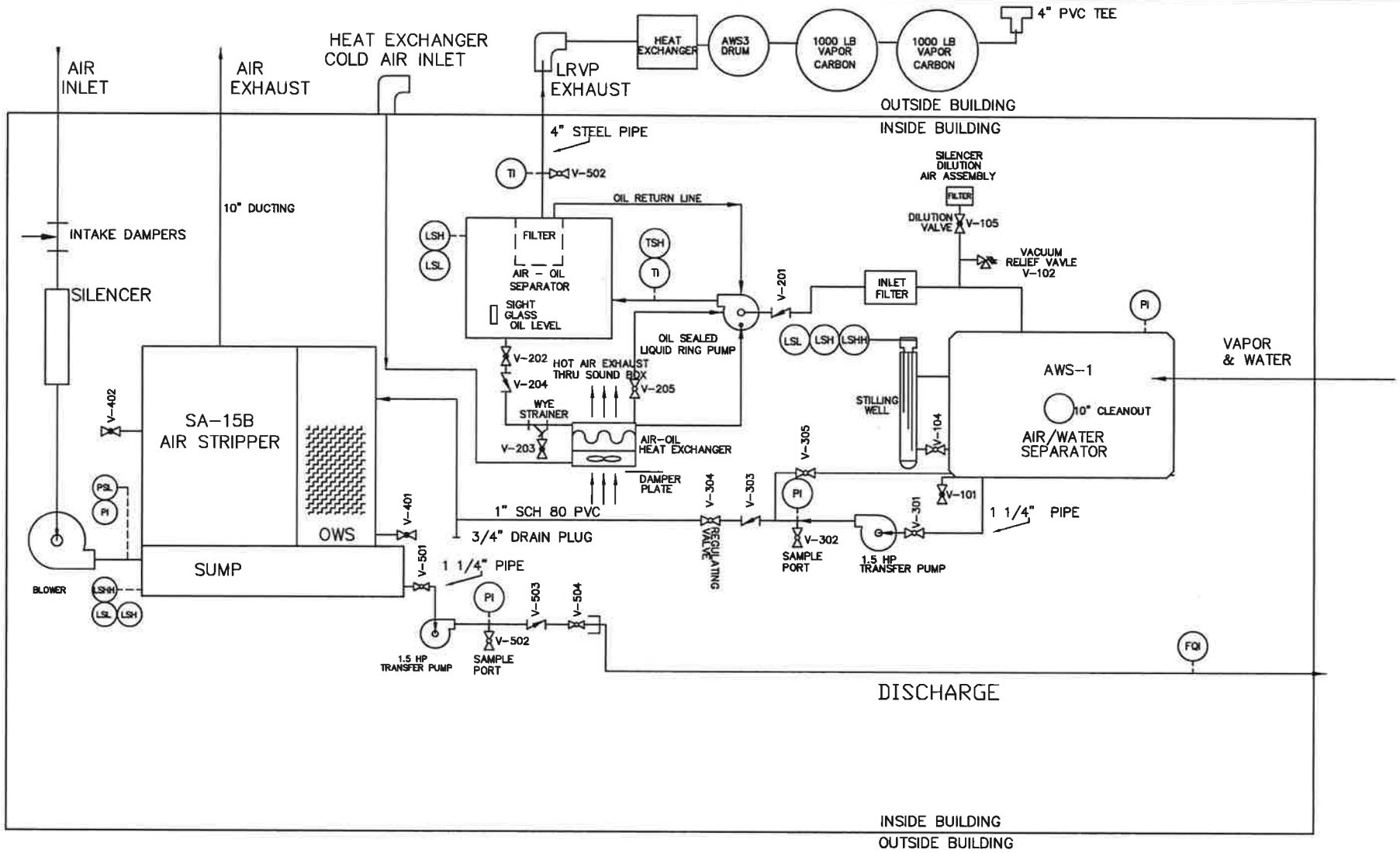
Site Specific Health and Safety Plan

Site Name/Location:	Circle C #12	
	Facility No. 10304-089-011902	
	UST Incident No. UST93-09-20	
	508 Oakwood Avenue	
	Huntsville, Madison County, Alabama	
Site Contact/Ph. No:	Todd Sitton	(205) 942-6860
ADEM Project Mgr/Ph. No:	Mitch Oliver	(334) 270-5640
TJA Project Mgr/Ph. No:	Joseph E. Patrick	(205) 345-2311
TJA Project/Site Manager:	Joseph E. Patrick	
TJA Site Safety Officer:	Joseph E. Patrick	
TJA Field Team Members:	Joseph E. Patrick	
	Kelly R. Johns	

Contingency Planning Information

Local Hospital:	Name:	Huntsville Hospital
	Address:	101 Sivley Rd SW, Huntsville, AL 35801
	Phone:	(256) 265-1000
	Directions:	Travel south on Andrew Jackson Way for 0.9 miles. Continue onto SE California Street for 0.8 miles. Turn Right onto Lowe Ave Southeast for 0.5 miles. Turn Left onto Gallatin St SW for 0.2 miles. Huntsville Hospital will be on the left.
Local Ambulance:		Phone: 911
Local Fire Department:		Phone: 911
Other:		ADEM, Groundwater Branch (334) 270-5655

Appendix F



LABEL	DESCRIPTION	VALVE TYPE	LABEL	DESCRIPTION	VALVE TYPE	LABEL	DESCRIPTION	VALVE TYPE	LABEL	DESCRIPTION	VALVE TYPE	LABEL	DESCRIPTION	VALVE TYPE
V-101	AWS-1 DRAIN	1" BALL VALVE	V-201	AIR/OIL FLOW CHECK	4" CHECK VALVE	V-301	AWS-1 PUMP ON/OFF	1-1/4" BALL VALVE	V-401	OWS DRAIN	1" BALL VALVE	V-501	SUMP PUMP ON/OFF	1-1/4" BALL VALVE
V-102	VACUUM RELIEF	2" VACUUM RELIEF	V-202	SEAL OIL ON/OFF	4" BUTTERFLY	V-302	INFLUENT SAMPLE PORT	1/4" BALL VALVE	V-402	AIR STRIPPER DRAIN	1" BALL VALVE	V-502	EFFLUENT SAMPLE PORT	1/4" BALL VALVE
V-103		1/4" BALL VALVE	V-203	1/2" SEAL OIL DRAIN	1/2" BALL VALVE	V-303	AWS-1 CHECK VALVE	1" BALL CHECK				V-503	SUMP CHECK VALVE	1" BALL CHECK
V-104	STILLING WELL ON/OFF	1" GATE VALVE	V-204	SEAL OIL CHECK VALVE	1" SWING CHECK	V-304	AWS-1 FLOW REGULATOR	1" BALL VALVE				V-504	SUMP FLOW REGULATOR	1" BALL VALVE
V-105	DILULTION VALVE	2" BALL VALVE	V-205	SEAL OIL VENT VALVE	1/4" BALL VALVE	V-305	AWS-1 RECIRCULATION	1/2" BALL VALVE						

V	VACUUM	I	INDICATOR
P	PRESSURE	FQI	FLOW QTY IND. (TOTALIZER)
S	SWITCH	FRI	FLOW RATE INDICATOR
L	LIQUID LEVEL OR LOW	T	TEMPERATURE

MK ENVIRONMENTAL INC.

DATE:	DRAWN BY:	JOB NUMBER	FACILITY ID/TAG#	DRAWING NUMBER
7.27.16	JAG	216027	XXXX XXXXX	P&ID TJA CIRCLE C #12

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