BUNNELL-LAMMONS ENGINEERING, INC.

GEOTECHNICAL, ENVIRONMENTAL AND CONSTRUCTION MATERIALS CONSULTANTS

REPORT OF LIMITED SOIL AND GROUNDWATER SAMPLING

ENMARK #380
2725 COLLEGE STREET
NEWBERRY, SOUTH CAROLINA
SCDHEC UST PERMIT #06588

Prepared For

The Spinx Company
P.O. Box 8624
Greenville, South Carolina 29604

Prepared By

Bunnell-Lammons Engineering, Inc.
6004 Ponders Court
Greenville, South Carolina 29615
SCDHEC Certified Contractor No. UCC-010

February 15, 2010

BLE Project Number J10-6859-01

BUNNELL-LAMMONS ENGINEERING, INC.
GEOTECHNICAL, ENVIRONMENTAL AND CONSTRUCTION MATERIALS CONSULTANTS

February 15, 2010

Mr. Eric L. Baumholser
The Spinx Company, Inc.
P.O. Box 8624
Greenville, South Carolina 29604

Subject: **Report of Limited Soil and Groundwater Sampling**
Enmark #380
2725 College Street
Newberry, South Carolina
SCDHEC UST Permit #10713
BLE Project No. J10-6859-01

Dear Mr. Baumholser:

Bunnell-Lammons Engineering, Inc. (BLE) is pleased to submit this report of Limited Soil and Groundwater Sampling for the subject property located at 2725 College Street in Newberry, South Carolina. Our services were performed as outlined in BLE's Work Acceptance Sheet (P10-0014) dated January 5, 2010. The purpose of this work was to determine if soil and/or groundwater in the areas adjacent and downgradient of the existing fueling system have been impacted by petroleum hydrocarbons at the site.

The findings and recommendations contained herein are based on the data that was obtained from client conversations, field observations, laboratory analysis, and our experience on similar projects. The discovery of any additional information concerning the environmental conditions at the site should be reported to us for our review so that we can reassess potential environmental impacts and modify our recommendations, if necessary.

We appreciate the opportunity to work with you on this project. Please call us if you have any questions or if we may be of further service.

Sincerely,

BUNNELL-LAMMONS ENGINEERING, INC.

TREVOR J. BENTON REGISTERED No. 2395 SOUTH CAROLINA PROFESSIONAL GEOLOGIST

Trevor J. Benton, P.G.
Project Hydrogeologist
Registered, South Carolina No. 2395

Thomas L. Lammons, P.G.
Principal Hydrogeologist
Registered, South Carolina No. 893

c.c: John Skowronek, P.G., SCDHEC Division of UST Management, 2600 Bull St, Columbia, SC 29201

Tom Dolan, Enmark Stations, Inc., 2112 Rankin Street, Savannah, GA 31415

6004 PONDERS COURT
GREENVILLE, SOUTH CAROLINA 29615

PHONE (864) 288-1265
FAX (864) 288-4430

1.0 PROJECT INFORMATION

The subject site is located at 2725 College Street (US Highway 76 Business) in Newberry, South Carolina (Parcel ID #341-1-25-4 – Figure 1). The site currently operates as an Enmark petroleum retail facility known as Enmark #380. Per the South Carolina Department of Health and Environmental Control's (SCDHEC) Underground Storage Tank (UST) Registry, four USTs are located on the property; two 6,000-gallon gasoline tanks and two 8,000-gallon gasoline tanks. The USTs are registered with SCDHEC and are currently in use. Two petroleum hydrocarbons releases have been reported at the facility; the first in December 1989 and the second in November 1995. Eight groundwater monitoring wells have been installed at the site in response to these reported releases. Both releases are still open with SCDHEC; however, to our knowledge, no additional environmental work has been performed at the site since 1999. As part of a due diligence assessment, The Spinx Company, Inc. requested that BLE collect soil and groundwater samples in areas downgradient of the existing fueling system to evaluate current soil and/or groundwater conditions at the site.

2.0 SOIL AND GROUNDWATER SAMPLING AND ANALYSIS

On January 12, 2010, a request to perform three soil samples and eight temporary groundwater sampling borings (direct push points) was submitted to Mr. John Skowronek, P.G. of SCDHEC. Written approval for these locations was issued (#UMW-23418) on January 13, 2010.

On January 19, 2010, a Geoprobe® 6600 direct push drill rig was mobilized to the site to perform two soil sampling points and four temporary groundwater sampling points. Additionally, samples were collected from three existing groundwater monitoring wells associated with the prior releases. The sampling points, designated SB-1 and SB-2 (soil) and GPW-1 through GPW-4 (groundwater) were installed in areas adjacent to and downgradient of the current UST basin, product piping lines, and dispenser islands. Existing monitoring wells MW-1, MW-2, and MW-4 were sampled based on their proximity to the existing UST system and infrastructure. Detailed descriptions of each soil sampling location, temporary groundwater sampling location, and existing groundwater monitoring

well location are provided below and are shown on Figure 2. Sampling procedures are described in Appendix A.

2.1 Soil Sampling Locations

One soil boring was performed adjacent to the existing UST basin (SB-1) and one boring was performed adjacent to the product piping lines (SB-2) to screen for petroleum contaminants (Figure 2). Soil samples from each boring were screened in the field (one-foot intervals) using a properly calibrated organic vapor meter (MiniRae 2000 Photoionization Detector (PID)). Soil samples exhibiting the highest organic vapor measurement from each boring were collected for laboratory analysis. Justification for each sampling location is provided below. Sampling procedures are described in Appendix A.

SB-1 – Boring located along the eastern edge of the UST basin and adjacent to the product piping line trench. The boring location was chosen to monitor possible releases in the area of the active UST basin and product piping lines. A soil sample was collected from 15 feet (highest PID result) below ground surface (bgs) for laboratory analysis.

SB-2 – Boring located along the southern edge of the product piping line trench. The boring location was chosen to monitor possible releases stemming from the product piping lines. A soil sample was collected from 3 feet (highest PID result) bgs for laboratory analysis.

Upon sample collection, each borehole was properly abandoned with a bentonite/cement grout pursuant to South Carolina well standards[1]. Soil sampling locations are shown on Figure 2.

2.2 Temporary Groundwater Sampling Locations

Four temporary groundwater sampling points (GPW-1 through GPW-4) were performed in areas adjacent to and downgradient of the UST basin, product piping lines, and dispenser islands (Figure

2). Groundwater samples from each boring location were scanned in the field with a PID. Only samples from GPW-2 and GPW-3 were submitted for laboratory analysis. Justification for each sampling location is provided below. Geoprobe® sampling procedures are described in Appendix A.

GPW-1 – Boring located along the eastern portion of the UST basin. The boring was located downgradient of the UST's and was selected to intercept groundwater flow from the potential source area. One groundwater sample was collected from 16-20 feet bgs for field screening.

GPW-2 – Boring located adjacent to the southern edge of the product piping line trench. One groundwater sample was collected from 16-20 feet bgs to intercept possible contamination from leakage in the product lines. This sample was submitted for laboratory analysis.

GPW-3 – Boring located to the northeast of the dispenser islands. One groundwater sample was collected for field screening from 16-20 feet bgs to evaluate groundwater quality in this area. This sample was submitted for laboratory analysis.

GPW-4 – Boring located to the north of the dispenser islands. One groundwater sample was collected from 35-39 feet bgs for field screening.

The Geoprobe® borings were only advanced to the shallow water table depths. The water table was encountered from approximately 17-19 feet bgs at the site. Decontamination of the down-hole drilling equipment was conducted between each sample location. Each borehole was properly abandoned with a bentonite/cement grout pursuant to South Carolina well standards. Groundwater sampling locations are shown on Figure 2.

---

[1] South Carolina Well Standards and Regulations, SCDHEC, Promulgated Pursuant to Section 44-55-40 of the 1976 South Carolina Code of Laws, R. 61-71, June 2, 1985.

2.3 Existing Groundwater Monitoring Wells

Eight groundwater monitoring wells (MW-1 through MW-7 and MW-8D) are currently present at the subject site. The wells were installed to assess the extent of the petroleum releases documented in 1989 and 1995. Due to the locations of monitoring wells MW-1 (furthest downgradient monitoring well), MW-2 (upgradient side of the UST basin), and MW-4 (adjacent to the UST basin), these wells were utilized as groundwater sampling points during this assessment. Samples were collected from each well and submitted for laboratory analysis. Monitoring well sampling procedures are described in Appendix A.

2.4 Sample Handling and Laboratory Analysis

In the field, the samples were placed in laboratory prepared 40-milliliter (ml) glass vials with Teflon® lined lids, marked with identifying numbers. Soil samples were preserved using sodium bisulfate ($NaHSO_4$) and methanol (CH_3OH). Groundwater samples were preserved using hydrochloric acid (HCl). The sample containers were maintained at approximately 4° Celsius and were shipped via express courier to Pace Analytical Services, Inc. in Huntersville, North Carolina, for analysis. The two soil samples were analyzed in the laboratory for benzene, toluene, ethylbenzene, and xylenes (BTEX) and naphthalene by EPA Method 8260B. The five groundwater samples were analyzed for BTEX, naphthalene, methyl-tertiary-butyl-ether (MTBE), and 1,2-dichloroethane (1,2-DCA) by EPA Method 8260B.

3.0 RESULTS OF LABORATORY ANALYSES

Laboratory analyses detected concentrations of petroleum hydrocarbons in each of the soil samples. Additionally, concentrations of petroleum hydrocarbons were detected in each of the temporary groundwater sampling locations submitted for laboratory analysis (GPW-2 and GPW-3) and monitoring wells MW-1 and MW-4.

Concentrations of BTEX and naphthalene were detected in the soil samples from SB-1 and SB-2; however, only benzene, toluene, and naphthalene were detected above South Carolina Risk-Based Screening Levels[2] (RBSLs) in SB-1. Additionally, the concentrations of BTEX and naphthalene in SB-2 were detected above established RBSLs.

Concentrations of BTEX and naphthalene (GPW-2, GPW-3, MW-1, and MW-4) and MTBE and 1,2-DCA (GPW-2 and MW-4) were detected in the groundwater samples. The concentrations of BTEX, naphthalene, MTBE, and 1,2-DCA in GPW-2, benzene in GPW-3, benzene and naphthalene in MW-1, and benzene, toluene, and naphthalene in GPW-4 were detected above RBSLs. Soil and groundwater analytical results are shown on Tables 1 and 2, respectively. Laboratory analytical data sheets are provided in Appendix B.

4.0 CONCLUSIONS

- Petroleum hydrocarbons were detected in soil samples SB-1 and SB-2 collected from the site. Concentrations of BTEX and naphthalene exceeded the established RBSLs for these constituents.

- Petroleum hydrocarbons were detected in the temporary groundwater samples (GPW-2 and GPW-3) collected for laboratory analysis. Additionally, petroleum hydrocarbons were detected in monitoring wells MW-1 and MW-4. The concentrations of benzene (GPW-2, GPW-3, MW-1, and MW-4), toluene (GPW-2 and MW-4), ethylbenzene (GPW-2), xylenes (GPW-2), naphthalene (GPW-2, MW-1, and MW-4), MTBE (GPW-2), and 1,2-DCA (GPW-2) exceeded their established RBSLs.

- The field and laboratory results indicate that the source of the petroleum hydrocarbons is most likely emanating from the USTs and product piping lines.

[2] South Carolina Risk-Based Corrective Action for Petroleum Releases, SCDHEC, Bureau of Land and Waste Management, Underground Storage Tank Program, May 15, 2001.

- A petroleum free-product recovery system installed in monitoring well MW-4 is currently inactive. Construction data for the system and historical recovery information was not available to BLE at the time of this report. Free-product was not detected in this well during this assessment; however, a plastic 55-gallon drum of product was observed in the rear of the building, likely from the prior recovery activities.

- The field and laboratory results indicate that the source of the petroleum hydrocarbons is most likely related to the releases reported to SCDHEC in December 1989 and November 1995 and subsequently investigated under UST Permit #06588. The owner/operator and environmental contact for the site is Enmark Stations, Inc., 2112 Rankin Street, Savannah, Georgia 31415, Attn. Mr. Tom Dolan.

5.0 RECOMMENDATIONS

We recommend the removal and proper disposal of the drum of free-product located behind the store at the site. Costs for disposal of these liquids may be reimbursable through the SCDHEC State Underground Petroleum Environmental Response Bank (SUPERB). Additionally, we recommend the sample results reported in this assessment be provided to the SCDHEC, Bureau of Land and Waste Management, Underground Storage Tank Program, in Columbia, South Carolina for review.

6.0 QUALIFICATIONS OF REPORT

The activities and evaluative approaches used in this assessment are consistent with those normally employed in projects of this type. Our evaluation of site conditions has been based on our understanding of the site and project information, and the data obtained in our exploration.

Regardless of the thoroughness of an environmental site assessment, there is always the possibility that conditions between borings will be different from that at the specific boring location due to the variability of subsurface conditions. Therefore, it was not possible to identify all conceivable forms of contamination at this site. The primary objective was to perform sufficient work to assess

specific areas of concern that were noted. It was not the purpose of this evaluation to fully define the degree or extent of all forms of contamination.

TABLES

TABLE 1

SOIL SAMPLING ANALYTICAL RESULTS
Enmark #380
2725 College Street
Newberry, South Carolina
SCDHEC UST Permit #06588
BLE Job Number J10-6859-01

				Soil	
Compound	Method	Units	RBSL	SB-1	SB-2
Sample Depth	--	feet	--	15	3
PID Reading	Field	ppm	--	3,729	3,000
Benzene	8260B	mg/kg	0.007	**1.36**	**3.67**
Toluene	8260B	mg/kg	1.45	**2.70**	**20.1**
Ethylbenzene	8260B	mg/kg	1.15	0.366	**14.2**
Xylenes	8260B	mg/kg	14.5	2.247	**62.9**
Naphthalene	8260B	mg/kg	0.036	**0.4**	**5.07**

Notes:
Soil and groundwater samples were collected on January 19, 2010
PID - MiniRae 2000 Photoionization Detector
ppm - parts per million
mg/kg - milligrams per kilogram (ppm)
ND - Not Detected at the laboratory method detection limit
NS - Not Sampled
J = J flagged results are approximate values where the concentration is detected between the laboratory method detection limit and the laboratory reporting limit.
RBSL - Risk Based Screening Level from South Carolina Department of Health and Environmental Control's Risk-Based Corrective Action for Petroleum Releases, May 15, 2001.

Prepared by: TJB
Checked by: TLL

TABLE 2

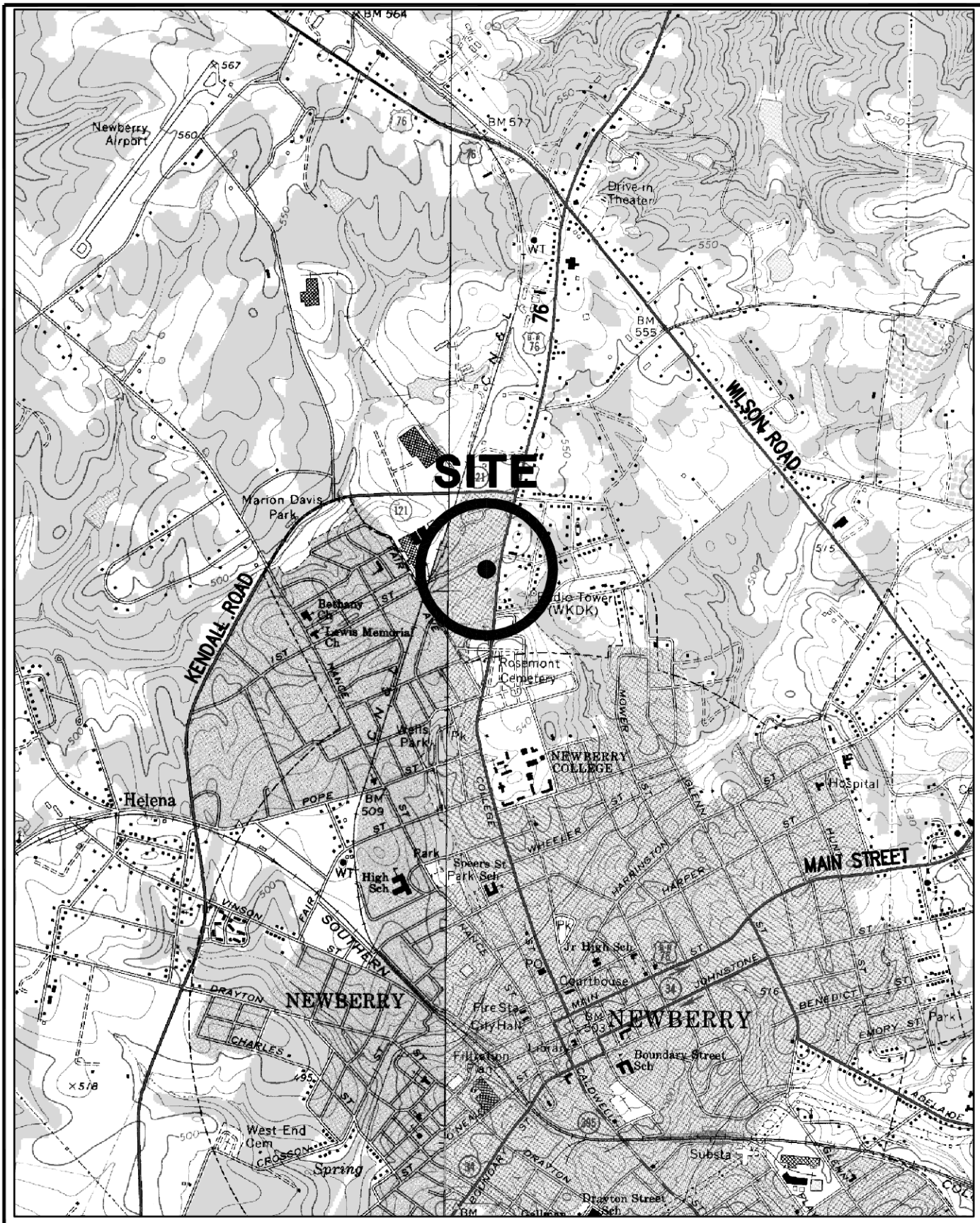
GROUNDWATER SAMPLING ANALYTICAL RESULTS
Enmark #380
2725 College Street
Newberry, South Carolina
SCDHEC UST Permit #06588
BLE Job Number J10-6859-01

				Groundwater						
Compound	Method	Units	RBSL	GPW-1	GPW-2	GPW-3	GPW-4	MW-1	MW-2	MW-4
Boring Depth	--	feet	--	20	20	20	22	39	39	39
PID Reading	Field	ppm	--	3,775	4,403	56.2	8.9	69.9	8.2	80.7
Benzene	8260B	µg/L	5	Not Sampled	**13,400**	**1,180**	Not Sampled	**2,470**	<5	**1,250**
Toluene	8260B	µg/L	1,000		**21,500**	659		341	<5	**3,260**
Ethylbenzene	8260B	µg/L	700		**4,440**	46.7		677	<5	362
Xylenes	8260B	µg/L	10,000		**21,380**	92.4J		2,504	<10	8,700
Naphthalene	8260B	µg/L	25		**1,210**	82.3		**155J**	<5	**830**
MTBE	8260B	µg/L	40		**7,830**	<50		<250	<5	17.8
1,2-DCA	8260B	µg/L	5		**204J**	<50		<250	<5	1.3J

Notes:
Soil and groundwater samples were collected on January 19, 2010
PID - MiniRae 2000 Photoionization Detector
ppm - parts per million
ND - Not detected at the laboratory method detection limit
µg/L - micrograms per liter (ppb)
Shaded cells indicate concentrations above South Carolina Risk-Based Screening Levels
J = J flagged results are approximate values where the concentration is detected between the laboratory method detection limit and the laboratory reporting limit
Regulatory limits from:
South Carolina Department of Health and Environmental Control State Primary Drinking Water Regulation, R 61-58.5, Maximum Contaminant Levels in Drinking Water, September 26, 2003 and from South Carolina Risk-Based Corrective Action for Petroleum Releases, May 15, 2001.

Prepared by: TJB
Checked by: TLL

FIGURES

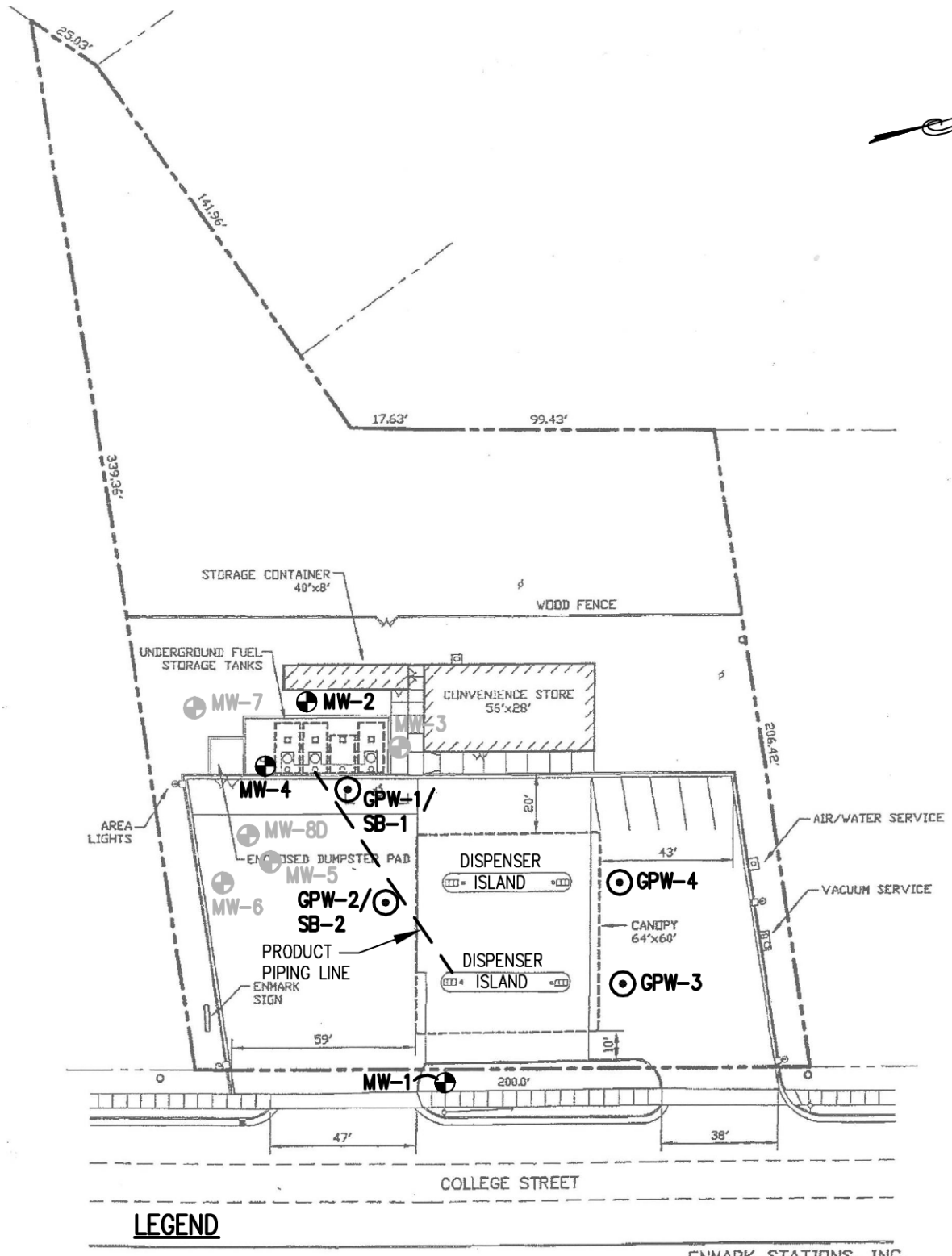


2000 1000 0 2000 4000

APPROXIMATE SCALE IN FEET

REFERENCE:
USGS TOPOGRAPHIC MAP, 7.5 MINUTE SERIES, NEWBERRY WEST AND NEWBERRY EAST, S.C. QUADRANGLES, 1969 AND 1968.

DRAWN: ACE	DATE: 02-04-10	BLE INC. BUNNELL-LAMMONS ENGINEERING, INC. 6004 PONDERS COURT GREENVILLE, SOUTH CAROLINA 29615 PHONE: (864)288-1265 FAX: (864)288-4430	SITE LOCATION MAP ENMARK #380 UST PERMIT #06588 NEWBERRY, SOUTH CAROLINA	FIGURE
CHECKED: TJB	CAD: ENMARK380-SLM			1
APPROVED:	JOB NO: J10-6859-01			



LEGEND

DWG. # ESC03-7

ENMARK STATIONS, INC.
1" = 40' 8/12/03
NEWBERRY, S.C.

APPROXIMATE LOCATION OF EXISTING GROUNDWATER MONITORING WELL

APPROXIMATE LOCATION OF GEOPROBE GROUNDWATER/ SOIL BORING

50 25 0 50 100

APPROXIMATE SCALE IN FEET

REFERENCE:
DRAWING PROVIDED BY THE SPINX COMPANY VIA ENMARK STATIONS, INC.

DRAWN: ACE	DATE: 02-08-10	BLE INC. BUNNELL-LAMMONS ENGINEERING, INC. 6004 PONDERS COURT GREENVILLE, SOUTH CAROLINA 29615 PHONE: (864)288-1265 FAX: (864)288-4430	BORING LOCATION PLAN ENMARK #380 UST PERMIT #06588 NEWBERRY, SOUTH CAROLINA	FIGURE
CHECKED: TJB	CAD: ENMARK380-BLP			2
APPROVED:	JOB NO: J10-6859-01			

APPENDICES

APPENDIX A

SAMPLING PROCEDURES

APPENDIX A

GEOPROBE® SAMPLING PROCEDURES

Soil Samples

Soil samples were collected using a GeoProbe Systems® Sampler. The sampler consisted of a nickel-plated sample tube, replaceable hardened cutting shoe, and a removable acetate liner. The sample tube was capable of recovering cores of soil for laboratory analysis. The sampler was sealed by a piston tip at the end of the sample tube while it was being advanced to the desired sampling depth using sections of alloy steel probe rods driven with a portable automatic hammer. At the desired sampling depth, a piston stop pin at the opposite end of the sampler was removed by means of stainless steel extension rods. The extension rods were inserted down the inside of the probe rods which enabled the piston to retract into the sample tube while the sample was being taken. The sampler was then driven with the hammer to collect the sample. The sample tube and probe rods were then extracted from the ground. Post-extraction, the sample tubes were sealed on each end with vinyl end caps. At 1-foot intervals the sample tube was opened and the resulting soil was scanned using a PID. Samples collected for chemical analysis were placed in laboratory prepared sample jars.

A. General

Soil samples were placed in glass vials or jars and marked with identifying numbers, placed immediately in sample coolers, secured, and maintained at $\leq 4°C$. Samples for VOC analysis were placed in three glass vials (3 grams of soil in each vial). Two vials contained the preservative sodium bisulfate ($NaHSO_4$) and one vial contained methanol (MeOH). The remaining samples were placed in 4-ounce amber jars with no preservative. Samples were shipped to Pace Analytical Services, Inc. in Huntersville, North Carolina, for analysis. Appropriate chain-of-custody records were maintained.

APPENDIX A - CONTINUED

GEOPROBE® SAMPLING PROCEDURES

Groundwater Screening and Sampling

Groundwater samples were collected using a GeoProbe Systems® Screen Point Groundwater Sampler. The assembled sampler had a 1.5-inch outside diameter (OD) and was 48-inches long. The sampler consisted of a 48-inch sealed stainless steel screen encased in a perforated stainless steel sleeve. The sampler was advanced to the desired sampling depth using 5-foot long sections of alloy steel probe rods driven with a portable automatic hammer. At the desired sampling depth, an extension ramrod was attached to extension rods and inserted inside the probe rods. The screen was enclosed in a sampling sheath until it was advanced into the formation at the desired sampling depth. For groundwater screening and sampling, a post-run tubing adapter attached to polypropylene tubing was threaded into the screen connector and groundwater was evacuated using a peristaltic sampling pump. Representative groundwater samples were placed in 100-milliliter glass jars, covered aluminum foil and sealed. The sample containers were allowed to sit undisturbed for approximately 10-15 minutes allowing VOCs in solution to escape into the open headspace of the sample jars. The aluminum foil was punctured and the headspace in the jar was scanned using a PID. Groundwater samples collected for chemical analysis were placed in laboratory prepared sample jars.

A. General

Samples were marked with identifying numbers, placed immediately in sample coolers, secured, and maintained at $\leq$ 4° C. Preservatives were added to the samples as required. Samples were shipped to Pace Analytical Services, Inc. in Huntersville, North Carolina, for analysis. Appropriate chain-of-custody records were maintained.

APPENDIX A - CONTINUED

MONITORING WELL PURGING AND SAMPLING PROCEDURES

The monitoring wells were sampled using 42-inch long disposable bailers attached to an unused polypropylene cord. To minimize the potential for cross-contamination between wells, a new clean bailer was used for each well.

Samples for VOC analysis were placed in laboratory prepared 40-milliliter glass vials with Teflon® lined lids and marked with identifying numbers. The VOC samples were preserved using hydrochloric acid (HCl). The sample containers were maintained at approximately 4° Celsius in a refrigerated sample cooler. The sample cooler was shipped to Pace Analytical Services, Inc., in Huntersville, North Carolina via overnight delivery service for analysis.

APPENDIX B

LABORATORY ANALYTICAL RESULTS

Pace Analytical®
www.pacelabs.com

Pace Analytical Services, Inc.
2225 Riverside Dr.
Asheville, NC 28804
(828)254-7176

Pace Analytical Services, Inc.
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

January 28, 2010

Mr. Trevor Benton
Bunnell-Lammons Engineering
6004 Ponders Court
Greenville, SC 29615

RE: Project: ENMARK #380 J10-6859-01
Pace Project No.: 9261798

Dear Mr. Benton:
Enclosed are the analytical results for sample(s) received by the laboratory on January 21, 2010. The results relate only to the samples included in this report. Results reported herein conform to the most current NELAC standards, where applicable, unless otherwise narrated in the body of the report.

Inorganic Wet Chemistry and Metals analyses were performed at our Pace Asheville laboratory and Organic testing was performed at our Pace Huntersville laboratory unless otherwise footnoted. All Microbiological analyses were performed at the laboratory where the samples were received.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Kevin Godwin

kevin.godwin@pacelabs.com
Project Manager

Enclosures

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without the written consent of Pace Analytical Services, Inc..

ACCREDITED IN ACCORDANCE WITH nelac

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Asheville, NC 28804
(828)254-7176

Pace Analytical Services, Inc.
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

CERTIFICATIONS

Project: ENMARK #380 J10-6859-01
Pace Project No.: 9261798

Charlotte Certification IDs
9800 Kincey Ave. - Ste 100 Huntersville, NC 28078
Connecticut Certification #: PH-0104
Virginia Certification #: 00213
Tennessee Certification #: 04010
South Carolina Drinking Water Cert. #: 990060003
South Carolina Certification #: 990060001
Pennsylvania Certification #: 68-00784
North Carolina Wastewater Certification #: 12
North Carolina Field Services Certification #: 5342
North Carolina Drinking Water Certification #: 37706
New Jersey Certification #: NC012
Louisiana/LELAP Certification #: 04034
Kentucky UST Certification #: 84
Florida/NELAP Certification #: E87627
West Virginia Certification #: 357

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SAMPLE SUMMARY

Project: ENMARK #380 J10-6859-01
Pace Project No.: 9261798

Lab ID	Sample ID	Matrix	Date Collected	Date Received
9261798001	**GPW-2**	Water	01/19/10 11:50	01/21/10 16:20
9261798002	**GPW-3**	Water	01/19/10 12:35	01/21/10 16:20
9261798003	**MW-1**	Water	01/19/10 12:25	01/21/10 16:20
9261798004	**MW-2**	Water	01/19/10 11:20	01/21/10 16:20
9261798005	**MW-4**	Water	01/19/10 11:00	01/21/10 16:20
9261798006	**SB-1 15'**	Solid	01/19/10 11:25	01/21/10 16:20
9261798007	**SB-2 3'**	Solid	01/19/10 12:00	01/21/10 16:20

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Huntersville, NC 28078
(704)875-9092

SAMPLE ANALYTE COUNT

Project: ENMARK #380 J10-6859-01
Pace Project No.: 9261798

Lab ID	Sample ID	Method	Analysts	Analytes Reported
9261798001	**GPW-2**	EPA 8260	MCK	12
9261798002	**GPW-3**	EPA 8260	MCK	12
9261798003	**MW-1**	EPA 8260	MCK	12
9261798004	**MW-2**	EPA 8260	MCK	12
9261798005	**MW-4**	EPA 8260	MCK	12
9261798006	**SB-1 15'**	EPA 8260	DLK	10
		ASTM D2974-87	KDF	1
9261798007	**SB-2 3'**	EPA 8260	DLK	10
		ASTM D2974-87	KDF	1

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Huntersville, NC 28078
(704)875-9092

ANALYTICAL RESULTS

Project: ENMARK #380 J10-6859-01
Pace Project No.: 9261798

Sample: GPW-2 **Lab ID: 9261798001** Collected: 01/19/10 11:50 Received: 01/21/10 16:20 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
Benzene	**13400**	ug/L	2500	600	500		01/26/10 13:32	71-43-2	
1,2-Dichloroethane	**204J**	ug/L	250	65.0	50		01/25/10 15:39	107-06-2	
Ethylbenzene	**4440**	ug/L	250	55.0	50		01/25/10 15:39	100-41-4	
Methyl-tert-butyl ether	**7830**	ug/L	250	100	50		01/25/10 15:39	1634-04-4	
Naphthalene	**1210**	ug/L	250	145	50		01/25/10 15:39	91-20-3	
Toluene	**21500**	ug/L	2500	900	500		01/26/10 13:32	108-88-3	
m&p-Xylene	**14300**	ug/L	500	135	50		01/25/10 15:39	1330-20-7	
o-Xylene	**7080**	ug/L	250	85.0	50		01/25/10 15:39	95-47-6	
4-Bromofluorobenzene (S)	97	%	87-109		50		01/25/10 15:39	460-00-4	
Dibromofluoromethane (S)	101	%	85-115		50		01/25/10 15:39	1868-53-7	
1,2-Dichloroethane-d4 (S)	101	%	79-120		50		01/25/10 15:39	17060-07-0	
Toluene-d8 (S)	100	%	70-120		50		01/25/10 15:39	2037-26-5	

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ANALYTICAL RESULTS

Project: ENMARK #380 J10-6859-01
Pace Project No.: 9261798

Sample: GPW-3 **Lab ID: 9261798002** Collected: 01/19/10 12:35 Received: 01/21/10 16:20 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
Benzene	**1180**	ug/L	50.0	12.0	10		01/26/10 15:16	71-43-2	
1,2-Dichloroethane	ND	ug/L	50.0	13.0	10		01/26/10 15:16	107-06-2	
Ethylbenzene	**46.7J**	ug/L	50.0	11.0	10		01/26/10 15:16	100-41-4	
Methyl-tert-butyl ether	ND	ug/L	50.0	20.0	10		01/26/10 15:16	1634-04-4	
Naphthalene	**82.3**	ug/L	50.0	29.0	10		01/26/10 15:16	91-20-3	
Toluene	**659**	ug/L	50.0	18.0	10		01/26/10 15:16	108-88-3	
m&p-Xylene	**37.2J**	ug/L	100	27.0	10		01/26/10 15:16	1330-20-7	
o-Xylene	**55.2**	ug/L	50.0	17.0	10		01/26/10 15:16	95-47-6	
4-Bromofluorobenzene (S)	95	%	87-109		10		01/26/10 15:16	460-00-4	
Dibromofluoromethane (S)	100	%	85-115		10		01/26/10 15:16	1868-53-7	
1,2-Dichloroethane-d4 (S)	99	%	79-120		10		01/26/10 15:16	17060-07-0	
Toluene-d8 (S)	98	%	70-120		10		01/26/10 15:16	2037-26-5	

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ANALYTICAL RESULTS

Project: ENMARK #380 J10-6859-01
Pace Project No.: 9261798

Sample: MW-1 **Lab ID: 9261798003** Collected: 01/19/10 12:25 Received: 01/21/10 16:20 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
Benzene	**2470**	ug/L	250	60.0	50		01/25/10 16:22	71-43-2	
1,2-Dichloroethane	ND	ug/L	250	65.0	50		01/25/10 16:22	107-06-2	
Ethylbenzene	**677**	ug/L	250	55.0	50		01/25/10 16:22	100-41-4	
Methyl-tert-butyl ether	ND	ug/L	250	100	50		01/25/10 16:22	1634-04-4	
Naphthalene	**155J**	ug/L	250	145	50		01/25/10 16:22	91-20-3	
Toluene	**341**	ug/L	250	90.0	50		01/25/10 16:22	108-88-3	
m&p-Xylene	**2020**	ug/L	500	135	50		01/25/10 16:22	1330-20-7	
o-Xylene	**484**	ug/L	250	85.0	50		01/25/10 16:22	95-47-6	
4-Bromofluorobenzene (S)	95	%	87-109		50		01/25/10 16:22	460-00-4	
Dibromofluoromethane (S)	99	%	85-115		50		01/25/10 16:22	1868-53-7	
1,2-Dichloroethane-d4 (S)	102	%	79-120		50		01/25/10 16:22	17060-07-0	
Toluene-d8 (S)	100	%	70-120		50		01/25/10 16:22	2037-26-5	

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ANALYTICAL RESULTS

Project: ENMARK #380 J10-6859-01
Pace Project No.: 9261798

Sample: MW-2 **Lab ID: 9261798004** Collected: 01/19/10 11:20 Received: 01/21/10 16:20 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
Benzene	ND	ug/L	5.0	1.2	1		01/25/10 07:45	71-43-2	
1,2-Dichloroethane	ND	ug/L	5.0	1.3	1		01/25/10 07:45	107-06-2	
Ethylbenzene	ND	ug/L	5.0	1.1	1		01/25/10 07:45	100-41-4	
Methyl-tert-butyl ether	ND	ug/L	5.0	2.0	1		01/25/10 07:45	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.9	1		01/25/10 07:45	91-20-3	
Toluene	ND	ug/L	5.0	1.8	1		01/25/10 07:45	108-88-3	
m&p-Xylene	ND	ug/L	10.0	2.7	1		01/25/10 07:45	1330-20-7	
o-Xylene	ND	ug/L	5.0	1.7	1		01/25/10 07:45	95-47-6	
4-Bromofluorobenzene (S)	95	%	87-109		1		01/25/10 07:45	460-00-4	
Dibromofluoromethane (S)	103	%	85-115		1		01/25/10 07:45	1868-53-7	
1,2-Dichloroethane-d4 (S)	103	%	79-120		1		01/25/10 07:45	17060-07-0	
Toluene-d8 (S)	99	%	70-120		1		01/25/10 07:45	2037-26-5	

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ANALYTICAL RESULTS

Project: ENMARK #380 J10-6859-01
Pace Project No.: 9261798

Sample: MW-4 **Lab ID: 9261798005** Collected: 01/19/10 11:00 Received: 01/21/10 16:20 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
Benzene	**1250**	ug/L	500	120	100		01/26/10 13:51	71-43-2	
1,2-Dichloroethane	**1.3J**	ug/L	5.0	1.3	1		01/25/10 08:04	107-06-2	
Ethylbenzene	**362J**	ug/L	500	110	100		01/26/10 13:51	100-41-4	
Methyl-tert-butyl ether	**17.8**	ug/L	5.0	2.0	1		01/25/10 08:04	1634-04-4	
Naphthalene	**830**	ug/L	500	290	100		01/26/10 13:51	91-20-3	
Toluene	**3260**	ug/L	500	180	100		01/26/10 13:51	108-88-3	
m&p-Xylene	**4970**	ug/L	1000	270	100		01/26/10 13:51	1330-20-7	
o-Xylene	**3730**	ug/L	500	170	100		01/26/10 13:51	95-47-6	
4-Bromofluorobenzene (S)	111	%	87-109		1		01/25/10 08:04	460-00-4	S2
Dibromofluoromethane (S)	99	%	85-115		1		01/25/10 08:04	1868-53-7	
1,2-Dichloroethane-d4 (S)	104	%	79-120		1		01/25/10 08:04	17060-07-0	
Toluene-d8 (S)	100	%	70-120		1		01/25/10 08:04	2037-26-5	

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ANALYTICAL RESULTS

Project: ENMARK #380 J10-6859-01
Pace Project No.: 9261798

Sample: SB-1 15' **Lab ID: 9261798006** Collected: 01/19/10 11:25 Received: 01/21/10 16:20 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260/5035A Volatile Organics	Analytical Method: EPA 8260								
Benzene	**1360**	ug/kg	265	84.7	50		01/26/10 11:32	71-43-2	
Ethylbenzene	**366**	ug/kg	265	95.3	50		01/26/10 11:32	100-41-4	
Naphthalene	**400**	ug/kg	265	63.6	50		01/26/10 11:32	91-20-3	
Toluene	**2700**	ug/kg	265	95.3	50		01/26/10 11:32	108-88-3	
m&p-Xylene	**1430**	ug/kg	530	191	50		01/26/10 11:32	1330-20-7	
o-Xylene	**817**	ug/kg	265	101	50		01/26/10 11:32	95-47-6	
Dibromofluoromethane (S)	100	%	79-116		50		01/26/10 11:32	1868-53-7	
Toluene-d8 (S)	99	%	88-110		50		01/26/10 11:32	2037-26-5	
4-Bromofluorobenzene (S)	98	%	74-115		50		01/26/10 11:32	460-00-4	
1,2-Dichloroethane-d4 (S)	98	%	69-121		50		01/26/10 11:32	17060-07-0	
Percent Moisture	Analytical Method: ASTM D2974-87								
Percent Moisture	**30.4**	%	0.10	0.10	1		01/25/10 14:09		

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ANALYTICAL RESULTS

Project: ENMARK #380 J10-6859-01
Pace Project No.: 9261798

Sample: SB-2 3' **Lab ID: 9261798007** Collected: 01/19/10 12:00 Received: 01/21/10 16:20 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260/5035A Volatile Organics	Analytical Method: EPA 8260								
Benzene	**3670**	ug/kg	1500	479	250		01/25/10 09:33	71-43-2	
Ethylbenzene	**14200**	ug/kg	1500	539	250		01/25/10 09:33	100-41-4	
Naphthalene	**5070**	ug/kg	1500	360	250		01/25/10 09:33	91-20-3	
Toluene	**20100**	ug/kg	1500	539	250		01/25/10 09:33	108-88-3	
m&p-Xylene	**45000**	ug/kg	3000	1080	250		01/25/10 09:33	1330-20-7	
o-Xylene	**17900**	ug/kg	1500	569	250		01/25/10 09:33	95-47-6	
Dibromofluoromethane (S)	99	%	79-116		250		01/25/10 09:33	1868-53-7	
Toluene-d8 (S)	100	%	88-110		250		01/25/10 09:33	2037-26-5	
4-Bromofluorobenzene (S)	99	%	74-115		250		01/25/10 09:33	460-00-4	
1,2-Dichloroethane-d4 (S)	98	%	69-121		250		01/25/10 09:33	17060-07-0	
Percent Moisture	Analytical Method: ASTM D2974-87								
Percent Moisture	**25.8**	%	0.10	0.10	1		01/25/10 14:10		

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QUALITY CONTROL DATA

Project: ENMARK #380 J10-6859-01
Pace Project No.: 9261798

QC Batch: MSV/9739 — Analysis Method: EPA 8260
QC Batch Method: EPA 8260 — Analysis Description: 8260 MSV
Associated Lab Samples: 9261798004, 9261798005

METHOD BLANK: 394281 — Matrix: Water
Associated Lab Samples: 9261798004, 9261798005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2-Dichloroethane	ug/L	ND	5.0	01/24/10 22:34	
Benzene	ug/L	ND	5.0	01/24/10 22:34	
Ethylbenzene	ug/L	ND	5.0	01/24/10 22:34	
m&p-Xylene	ug/L	ND	10.0	01/24/10 22:34	
Methyl-tert-butyl ether	ug/L	ND	5.0	01/24/10 22:34	
Naphthalene	ug/L	ND	5.0	01/24/10 22:34	
o-Xylene	ug/L	ND	5.0	01/24/10 22:34	
Toluene	ug/L	ND	5.0	01/24/10 22:34	
1,2-Dichloroethane-d4 (S)	%	105	79-120	01/24/10 22:34	
4-Bromofluorobenzene (S)	%	96	87-109	01/24/10 22:34	
Dibromofluoromethane (S)	%	101	85-115	01/24/10 22:34	
Toluene-d8 (S)	%	99	70-120	01/24/10 22:34	

LABORATORY CONTROL SAMPLE: 394282

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2-Dichloroethane	ug/L	50	57.5	115	72-126	
Benzene	ug/L	50	53.3	107	78-128	
Ethylbenzene	ug/L	50	52.1	104	80-127	
m&p-Xylene	ug/L	100	106	106	82-127	
Methyl-tert-butyl ether	ug/L	50	55.0	110	71-130	
Naphthalene	ug/L	50	56.1	112	52-136	
o-Xylene	ug/L	50	53.1	106	83-124	
Toluene	ug/L	50	53.2	106	76-126	
1,2-Dichloroethane-d4 (S)	%			103	79-120	
4-Bromofluorobenzene (S)	%			101	87-109	
Dibromofluoromethane (S)	%			103	85-115	
Toluene-d8 (S)	%			100	70-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 394283 394284

Parameter	Units	9261790028 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Benzene	ug/L	ND	50	50	53.9	54.1	108	108	74-136	0	30	
Toluene	ug/L	ND	50	50	53.6	51.1	107	102	73-131	5	30	
1,2-Dichloroethane-d4 (S)	%						100	98	79-120			
4-Bromofluorobenzene (S)	%						96	94	87-109			
Dibromofluoromethane (S)	%						100	97	85-115			
Toluene-d8 (S)	%						98	97	70-120			

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QUALITY CONTROL DATA

Project: ENMARK #380 J10-6859-01
Pace Project No.: 9261798

QC Batch: MSV/9746 Analysis Method: EPA 8260
QC Batch Method: EPA 8260 Analysis Description: 8260 MSV
Associated Lab Samples: 9261798001, 9261798002, 9261798003

METHOD BLANK: 394351 Matrix: Water
Associated Lab Samples: 9261798001, 9261798002, 9261798003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2-Dichloroethane	ug/L	ND	5.0	01/25/10 11:18	
Benzene	ug/L	ND	5.0	01/25/10 11:18	
Ethylbenzene	ug/L	ND	5.0	01/25/10 11:18	
m&p-Xylene	ug/L	ND	10.0	01/25/10 11:18	
Methyl-tert-butyl ether	ug/L	ND	5.0	01/25/10 11:18	
Naphthalene	ug/L	ND	5.0	01/25/10 11:18	
o-Xylene	ug/L	ND	5.0	01/25/10 11:18	
Toluene	ug/L	ND	5.0	01/25/10 11:18	
1,2-Dichloroethane-d4 (S)	%	102	79-120	01/25/10 11:18	
4-Bromofluorobenzene (S)	%	94	87-109	01/25/10 11:18	
Dibromofluoromethane (S)	%	100	85-115	01/25/10 11:18	
Toluene-d8 (S)	%	97	70-120	01/25/10 11:18	

LABORATORY CONTROL SAMPLE: 394352

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2-Dichloroethane	ug/L	50	58.8	118	72-126	
Benzene	ug/L	50	54.2	108	78-128	
Ethylbenzene	ug/L	50	53.6	107	80-127	
m&p-Xylene	ug/L	100	108	108	82-127	
Methyl-tert-butyl ether	ug/L	50	57.2	114	71-130	
Naphthalene	ug/L	50	61.3	123	52-136	
o-Xylene	ug/L	50	54.3	109	83-124	
Toluene	ug/L	50	54.3	109	76-126	
1,2-Dichloroethane-d4 (S)	%			100	79-120	
4-Bromofluorobenzene (S)	%			101	87-109	
Dibromofluoromethane (S)	%			101	85-115	
Toluene-d8 (S)	%			100	70-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 394353 394354

Parameter	Units	9261795019 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Benzene	ug/L	ND	50	50	46.0	50.8	92	102	74-136	10	30	
Toluene	ug/L	ND	50	50	44.2	48.7	88	97	73-131	10	30	
1,2-Dichloroethane-d4 (S)	%						103	105	79-120			
4-Bromofluorobenzene (S)	%						95	93	87-109			
Dibromofluoromethane (S)	%						101	102	85-115			
Toluene-d8 (S)	%						99	97	70-120			

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QUALITY CONTROL DATA

Project: ENMARK #380 J10-6859-01
Pace Project No.: 9261798

QC Batch: MSV/9729 — Analysis Method: EPA 8260
QC Batch Method: EPA 8260 — Analysis Description: 8260 MSV 5035A Volatile Organics
Associated Lab Samples: 9261798006, 9261798007

METHOD BLANK: 394245 — Matrix: Solid
Associated Lab Samples: 9261798006, 9261798007

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Benzene	ug/kg	ND	5.0	01/25/10 02:28	
Ethylbenzene	ug/kg	ND	5.0	01/25/10 02:28	
m&p-Xylene	ug/kg	ND	10.0	01/25/10 02:28	
Naphthalene	ug/kg	1.2J	5.0	01/25/10 02:28	
o-Xylene	ug/kg	ND	5.0	01/25/10 02:28	
Toluene	ug/kg	ND	5.0	01/25/10 02:28	
1,2-Dichloroethane-d4 (S)	%	99	69-121	01/25/10 02:28	
4-Bromofluorobenzene (S)	%	97	74-115	01/25/10 02:28	
Dibromofluoromethane (S)	%	104	79-116	01/25/10 02:28	
Toluene-d8 (S)	%	100	88-110	01/25/10 02:28	

LABORATORY CONTROL SAMPLE: 394246

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Benzene	ug/kg	50	54.4	109	71-140	
Ethylbenzene	ug/kg	50	55.2	110	69-141	
m&p-Xylene	ug/kg	100	110	110	72-138	
Naphthalene	ug/kg	50	62.3	125	61-138	
o-Xylene	ug/kg	50	55.4	111	74-137	
Toluene	ug/kg	50	53.1	106	69-139	
1,2-Dichloroethane-d4 (S)	%			98	69-121	
4-Bromofluorobenzene (S)	%			102	74-115	
Dibromofluoromethane (S)	%			101	79-116	
Toluene-d8 (S)	%			99	88-110	

MATRIX SPIKE SAMPLE: 394681

Parameter	Units	9261799009 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Benzene	ug/kg	ND	56.6	64.9	115	46-143	
Toluene	ug/kg	ND	56.6	60.6	107	38-145	
1,2-Dichloroethane-d4 (S)	%				101	69-121	
4-Bromofluorobenzene (S)	%				97	74-115	
Dibromofluoromethane (S)	%				100	79-116	
Toluene-d8 (S)	%				99	88-110	

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Pace Analytical
www.pacelabs.com

Pace Analytical Services, Inc.
2225 Riverside Dr.
Asheville, NC 28804
(828)254-7176

Pace Analytical Services, Inc.
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

QUALITY CONTROL DATA

Project: ENMARK #380 J10-6859-01
Pace Project No.: 9261798

SAMPLE DUPLICATE: 394682

Parameter	Units	9261853004 Result	Dup Result	RPD	Max RPD	Qualifiers
Benzene	ug/kg	ND	ND		30	
Ethylbenzene	ug/kg	ND	ND		30	
m&p-Xylene	ug/kg	ND	ND		30	
Naphthalene	ug/kg	ND	ND		30	
o-Xylene	ug/kg	ND	ND		30	
Toluene	ug/kg	ND	ND		30	
1,2-Dichloroethane-d4 (S)	%	104	101	3		
4-Bromofluorobenzene (S)	%	98	99	8		
Dibromofluoromethane (S)	%	104	101	4		
Toluene-d8 (S)	%	100	100	6		

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(704)875-9092

QUALITY CONTROL DATA

Project: ENMARK #380 J10-6859-01
Pace Project No.: 9261798

QC Batch: PMST/2988
QC Batch Method: ASTM D2974-87
Analysis Method: ASTM D2974-87
Analysis Description: Dry Weight/Percent Moisture
Associated Lab Samples: 9261798006, 9261798007

SAMPLE DUPLICATE: 394328

Parameter	Units	9261798006 Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	30.4	30.8	1	25	

SAMPLE DUPLICATE: 394329

Parameter	Units	9261823007 Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	20.2	21.0	4	25	

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9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

QUALIFIERS

Project: ENMARK #380 J10-6859-01
Pace Project No.: 9261798

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

Pace Analytical is NELAP accredited. Contact your Pace PM for the current list of accredited analytes.

U - Indicates the compound was analyzed for, but not detected.

ANALYTE QUALIFIERS

S2 Surrogate recovery outside laboratory control limits due to matrix interferences (confirmed by similar results from sample re-analysis).

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CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Page: 1 of 1

1301313

Section A Required Client Information:

Company: BLE
Address: 6004 Ponders Ct
GREENVILLE, SC 29615
Email To: trevor@blecorp.com
Phone: 864-288-1265 Fax: 864-288-4430
Requested Due Date/TAT: STANDART

Section B Required Project Information:

Report To: TREVOR BENTON
Copy To: SAME
Purchase Order No.:
Project Name: ENMARK #380
Project Number: J10-6859-01

Section C Invoice Information:

Attention: SAME
Company Name:
Address:
Pace Quote Reference:
Pace Project Manager:
Pace Profile #: 1126-1, 8

REGULATORY AGENCY

☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER
☒ UST ☐ RCRA ☐ OTHER

Site Location STATE: SC

Section D Required Client Information

SAMPLE ID (A-Z, 0-9 / ,-) Sample IDs MUST BE UNIQUE

Matrix Codes (MATRIX / CODE): Drinking Water DW; Water WT; Waste Water WW; Product P; Soil/Solid SL; Oil OL; Wipe WP; Air AR; Tissue TS; Other OT

Requested Analysis Filtered (Y/N)

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED Composite Start DATE	COLLECTED Composite Start TIME	COLLECTED Composite End/Grab DATE	COLLECTED Composite End/Grab TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other 5035 KIT	Analysis Test (Y/N): 8260B BTEX+NAP+ MTBE+1,2-DCA	8260B BTEX+NAP	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	GPW-2	WT	G			1/19/10	1150		3				✓					✓			001
2	GPW-3	↓	↓				1235		↓				✓					✓			002
3	MW-1						1225						✓					✓			003
4	MW-2						1120						✓					✓			004
5	MW-4	↓	↓				1100		↓				✓					✓			005
6	SB-1 (15')	SL					1125		4								✓		✓		006
7	SB-2 (3')	SL	↓				1200		4								✓		✓		007
8																					
9																					
10																					
11																					
12																					

9261798

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS: Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
*PLEASE HOLD GPW-1 +	BLE	1/20/10	0800		1-20-10	1845				
PAH SAMPLES FOR SB-1 + SB-2	Benton			Z Moody - Pace	1-21-10	15:00				
	Z Moody	1-21-10	16:20	PACE	1/21/10	1620	3.0	Y	N	Y

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: TREVOR BENTON

SIGNATURE of SAMPLER: DATE Signed (MM/DD/YY): 01/19/2010

2

*Important Note: By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days.

F-ALL-Q-020rev.07, 15-May-2007

BLE INC.
BUNNELL-LAMMONS ENGINEERING, INC.
GEOTECHNICAL, ENVIRONMENTAL AND CONSTRUCTION MATERIALS CONSULTANTS

UST
MAR 24 2011
PROGRAM

March 22, 2011

South Carolina Department of Health and Environmental Control
Bureau of Land and Waste Management
2600 Bull Street
Columbia, South Carolina 29201

Attention: Mr. John Skowronek
Hydrogeologist

Subject: **Additional Assessment Plan**
Spinx 258/Former Enmark 380
UST Permit #06588,
Newberry, South Carolina
BLE Proposal Number P11-0096

Dear Mr. Skowronek:

On behalf of our client, Enmark Stations, Inc., and pursuant to the South Carolina Department of Health and Environmental Control (SCDHEC) Additional Assessment Directive dated February 23, 2011, we have prepared this Additional Assessment Plan and Cost Proposal (attached) for the above referenced facility.

The recommended additional assessment scope of work includes performing groundwater screening, installing four additional Type III telescoping groundwater monitoring wells to define the vertical extent of petroleum CoCs at the site, performing a series of three AFVR events to remove residual free-product from the subsurface and petroleum vapors from the vadose zone, and performing a comprehensive groundwater sampling event of all wells associated with the site.

If you have any questions concerning this submittal, please contact us at 864-288-1265.

Sincerely,
BUNNELL-LAMMONS ENGINEERING, INC.

Trever Z. Slack, G.I.T.
Project Hydrogeologist

Thomas L. Lammons, P.G., CHMM
Principal Hydrogeologist
Registered, South Carolina No. 893

cc: Mr. Tom Dolan, Enmark Stations, Inc., Post Office Box 728, Savannah, Georgia 31402

UST
DOCKET
TD Tech

Attachment

I E C
ROTECT PROSPER

Tier II Assessment Plan
Underground Storage Tank Program

mit #: 06588 County: Newberry Facility Name: Spinx 258/Former Enmark 380

ddress: 2725 College Street City: Newberry State: South Carolina Zipcode: 29108

ible Party: Enmark Stations, Inc. Address: P.O. Box 728

annah State: Georgia Zipcode: 31402

s: four Removed? (date: MM/DD/YYYY) Replaced? (date: MM/DD/YYYY)

se of facility/property:

ect site currently operates as a petroleum retail facility. Two petroleum hydrocarbon releases have been reported at the December 1989 and November 1995. Based upon laboratory analytical results from the previous phase of work, the vertical petroleum CoCs at the subject site has not been fully defined and petroleum CoC have been detected in the bedrock aquifer.

roperty owner name: The Spinx Company Address: P.O. Box 8624

enville State: South Carolina Zipcode: 29604

reening Methodology

ne field screening methodology to be used. The use of field screening methods to optimize the number and location nent wells is required.

proposed well location (Figure 2) a 6-inch diameter outer casing will be installed into the bedrock to a depth of ately 10 feet past the screened interval of the nearest well. The outer casing will be pressure grouted in place using a grout allowed to cure for at least 24-hours. The borehole will then be advanced through the outer casing to the designated groundwater sample will be immediately collected, screened in the field using a properly calibrated organic vapor meter nization Detector (PID)), and submitted for laboratory analysis of BTEX, MTBE, and Naphthalene for a Rush und-Time. Groundwater screening laboratory results will be discussed with the SCDHEC project manager prior to the n of the permanent monitoring well to determine the optimum depths and placement of each deep well.

nt Monitoring Wells (estimate number and total completed depth)

ow wells: 0 Total depth: NA

wells: 4 Total depth: 255

s, if warranted:

pe III telescoping wells will be installed adjacent to MW-22D and MW-24D to a depth of approximately 70 feet bgs. lly, a deep well pair (one to 45 feet bgs and one to 70 feet bgs) will be installed adjacent to downgradient existing monitoring 30. These wells will be used to vertically define the extent of petroleum CoCs at these locations.

nalytical parameters (e.g., BTEX, MTBE) and estimated number.

T Analysis for BTEX + Naphthalene + MTBE (Groundwater Screening) 3 samples
aphthalene + MTBE + 1,2-DCA + EDB (Existing Permanent Monitoring Wells) 43 samples
aphthalene + MTBE + 1,2-DCA + EDB + 8 Oxygenates (Newly installed Permanent Monitoring Wells) 4 samples
aphthalene + MTBE + 1,2-DCA + EDB (Drinking Water Wells) 5 samples

ntation Schedule *(Use MM/DD/YYYY format - Example 01/23/2004)*

ate: 03/25/2011 *(MM/DD/YYYY)* Completion date: 04/25/2011 *(MM/DD/YYYY)*

bmittal date: 05/25/2011 *(MM/DD/YYYY)*

rmit #: 06588 Facility Name: Spinx 258/Former Enmark 380

ps

ch a copy of the relevant portion of the USGS topographic map showing the site location.

pare a site base map. This map must be accurately scaled, but does not need to be surveyed. The map must ude the following:

h arrow	Legend with facility name and address, UST Permit number, date, and a bar scale
ation of property lines	Streets or highways (indicate names and numbers)
ation of buildings	Identification of located buildings
ed areas on or adjacent to site	Location of all present and former ASTs and USTs
ious soil sampling locations	Underground and above ground utilities on or adjacent to site
ious monitoring well locations	Location of any other potential receptor

Characterization

st: ☐ Slug tests: ☑ (check one and provide explanation for choice)

g tests will be conducted in a downgradient well cluster (i.e MW-30, MW-30D, & MW-30DD) to determine aquifer ristics.

olume Disposal Type and Method

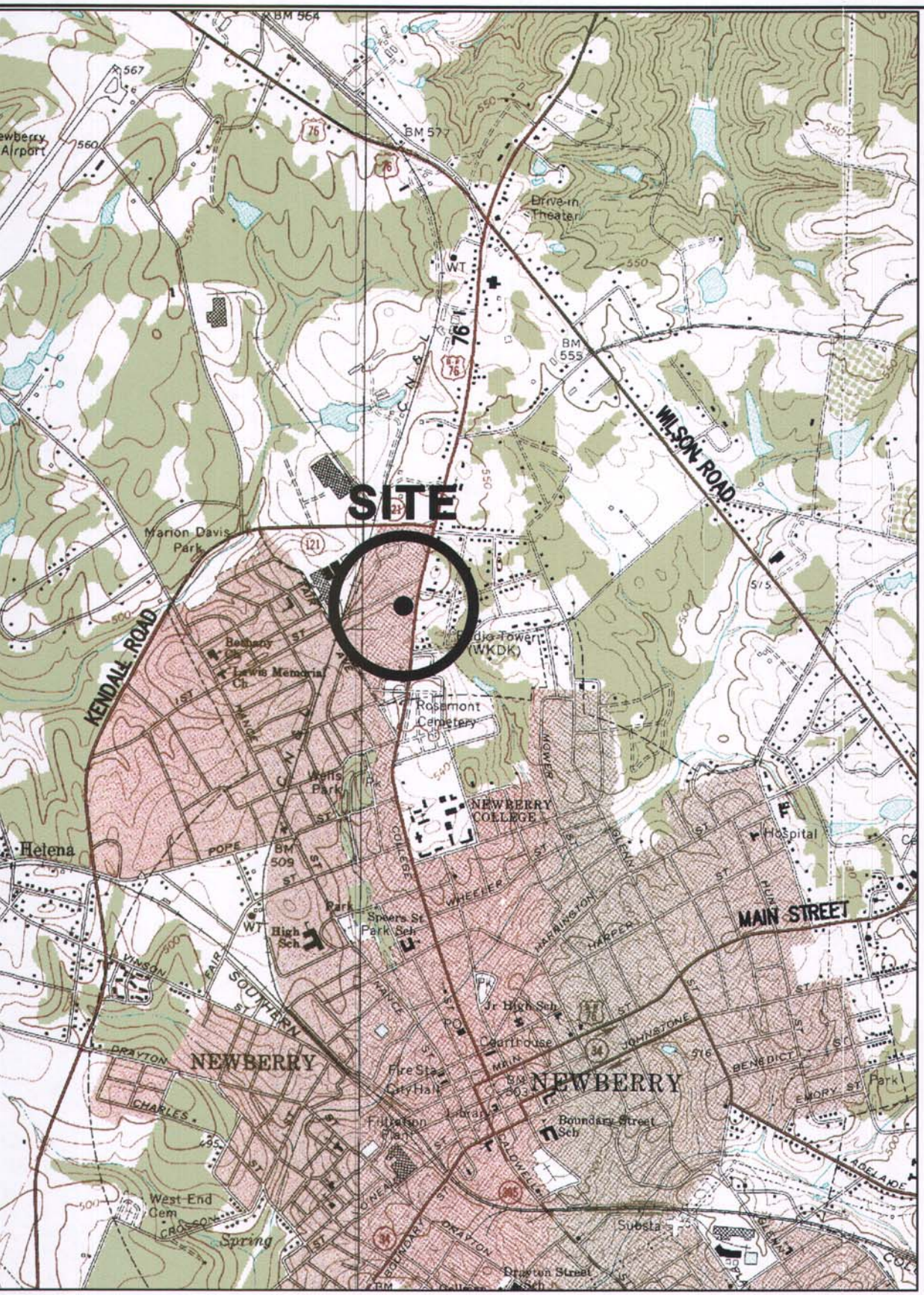
n 55-gallon drums until transportation and disposal to a permitted treatment/disposal facility.

ter:

n 55-gallon drums until transportation and disposal to a permitted treatment/disposal facility.

l comments:

g to historical records, at least 1,400 gallons of gasoline were released to the subsurface in November 1995. To date, only s has been recovered and a considerable volume/mass remains in-situ. During a November 2010 groundwater sampling e-phase petroleum product was detected in MW-5 (0.02 feet), MW-6 (0.06 feet), and MW-7 (0.39 feet). Additionally, total ncentrations detected in monitoring wells MW-19 (59,400 ug/l), MW-23 (77,500 ug/l), and MW-24 (69,100 ug/l) indicate that e petroleum product is present but has not accumulated into the well due to various possible reasons (i.e. low mobility, ension, possible well skin effects resulting from the well installation process). BLE recommends that that a series of three ents be conducted at the site; one AFVR event should be conducted on MW-6 and MW-7; one event should be conducted 3 and MW-19; and one event should be conducted on MW-5 and MW-24. The AFVR events should be spaced ately 15 days apart. Approximately 30 days after the final AFVR event, free-phase petroleum product levels in the wells measured. Based on magnahelic gauge measurements recorded during the AFVR events and the final free-phase product levels in the wells at the conclusion of the AFVR events, it can be determined whether the installation of 4-inch recovery wells is necessary for enhanced recovery of free-phase petroleum product during future AFVR events.



00 0 2000 4000

APPROXIMATE SCALE IN FEET

REFERENCE:
USGS TOPOGRAPHIC MAP, 7.5 MINUTE SERIES, NEWBERRY WEST AND NEWBERRY EAST, S.C. QUADRANGLES, 1969 AND 1968.

CE	DATE: 03-11-11	BLE INC. BUNNELL-LAMMONS ENGINEERING, INC. 6004 PONDERS COURT GREENVILLE, SOUTH CAROLINA 29615 PHONE: (864)288-1265 FAX: (864)288-4430	SITE LOCATION MAP SPINX 258/FORMER ENMARK 380 UST PERMIT #06588 NEWBERRY, SOUTH CAROLINA
ZS	CAD: ENMARK380-P11SLM		
	JOB NO: P11-0096		

FIGURE

1

D H E C

PROMOTE PROTECT PROSPER

South Carolina Department of Health and Environmental Control

ASSESSMENT COMPONENT COST AGREEMENT
SOUTH CAROLINA
Department of Health and Environmental Control
Underground Storage Tank Program
State Underground Petroleum Environmental Response Bank Account

Facility Name Spinx 258/Former Enmark 380

UST Permit # 06588 **Cost Agreement #**

ITEM	QUANTITY	UNIT	UNIT PRICE	TOTAL
1. Plan*				
A. Plan Preparation	1	x	$100.00	$100.00
B. Tax Map		x	$50.00	$0.00
2. Receptor Survey *		x	$500.00	$0.00
3. Comprehensive Survey		x	$1,000.00	$0.00
4. Mob/Demob				
A. Equipment	4	x	$575.00	$2,300.00
B. Personnel	5	each x	$290.00	$1,450.00
C. Adverse Train Vehicle		x	$575.00	$0.00
5. Soil Borings (hand auger)*		feet x	$14.00	$0.00
6. Soil Borings (drilled) & Field Screening				
A. Standard		feet x	$17.00	$0.00
B. Alternative, on-site		feet x	$12.50	$0.00
C. Fractured Rock		feet x	$27.50	$0.00
7. Soil Leachability Model		each x	$200.00	$0.00
8. Abandonment*		feet x	$5.00	$0.00
9. Well Installation*				
A. Water Table (hand auger)		feet x	$20.00	$0.00
B. Water Table (drilled)		feet x	$38.00	$0.00
C. Telescoping	255	feet x	$58.00	$14,790.00
D. Rock Drilling		feet x	$58.00	$0.00
E. 2" Rock Coring		feet x	$44.10	$0.00
F. 4" Rock Coring		feet x	$50.40	$0.00
G. multi sampling port/screen		feet x	$47.20	$0.00
10. Groundwater Sample Collection				
A.Groundwater	9	samples x	$55.00	$495.00
B. Air Vapor		samples x	$90.00	$0.00
C. Water Supply	5	samples x	$25.00	$125.00
D. Groundwater No Purge	38	samples x	$35.00	$1,330.00
E. Gauge Well only		per well x	$20.00	$0.00
F. Sample Below Product		samples x	$50.00	$0.00
G. Passive Diffusion Bag		each x	$40.00	$0.00
11. Analyses-Groundwater (see Analytical Methodology for site-specific analyses)				
A. BTEX+Naphth.+MTBE	52	samples x	$100.00	$5,200.00
B. Rush BTEX analysis	3	samples x	$120.00	$360.00
D. PAH's		samples x	$120.00	$0.00
E. Lead		samples x	$20.00	$0.00
F. EDB	52	samples x	$55.00	$2,860.00
G. 8 RCRA Metals		samples x	$140.00	$0.00
H.TPH (9070)		samples x	$55.00	$0.00
J. BOD		samples x	$40.00	$0.00
K. Nitrate		samples x	$20.00	$0.00
L. Sulfate		samples x	$20.00	$0.00
M. Ferrous Iron		samples x	$20.00	$0.00
N. Methane		samples x	$110.00	$0.00
O. Organic Lead		samples x	$100.00	$0.00
P. 8 Oxygenates	4	samples x	$85.00	$340.00
AA. Filtered Lead		samples x	$46.00	$0.00
BB. 1,2-DCA	52	samples x	$10.75	$559.00

11. Analyses-Soil				
Q. BTEX + Naphth.		samples x	$100.00	$0.00
R. PAH's		samples x	$120.00	$0.00
S. 8 RCRA Metals		samples x	$150.00	$0.00
T. TPH (9071)		samples x	$60.00	$0.00
U. TPH (3550B/8015B)		samples x	$65.00	$0.00
V. TPH (5030B/8015B)		samples x	$65.00	$0.00
W. Grain size/hydrometer		samples x	$75.00	$0.00
X. Total Organic Carbon		samples x	$35.00	$0.00
11. Analyses-Air				
Y. BTEX + Naphthalene		samples x	$247.50	$0.00
Z. Hydrocarbon Fuel Identification		samples x	$620.00	$0.00
12. Aquifer Characterization*				
A. Pumping Test		hours x	$120.00	$0.00
B. Slug Test*	3	tests x	$150.00	$450.00
C. Fractured Rock		tests x	$500.00	$0.00
13. Free Product Recovery Rate Test*		tests x	$120.00	$0.00
14. Fate/Transport Modeling				
A. Mathematical Model		each x	$300.00	$0.00
B. Computer Model		each x	$500.00	$0.00
15. Risk Evaluation				
A. Tier I Risk Evaluation		x	$301.00	$0.00
B. Tier II Risk Evaluation		x	$500.00	$0.00
16. Subsequent Survey*		x	$260.00	$0.00
17. Disposal*				
A. Wastewater				
1. Purging/Sampling	4	drums x	$90.00	$360.00
2. Pumping Test/EFR	3000	gallons x	$0.60	$1,800.00
B. Free Product		drums x	$110.00	$0.00
C. Soil (Treatment/Disposal)	15	drum/ton x	$50.00	$750.00
18. Miscellaneous (attach receipts)				
		x		$0.00
		x		$0.00
		x		$0.00
20. Tier I Assessment (Use DHEC 3665 form)				
21. IGWA (Use DHEC 3666 form)				
22. Corrective Action (Use DHEC 3667 form)				
23. EFR				
A. 8-hour Event*	3	each x	$3,000.00	$9,000.00
B. Additional Hour		per hour x	$204.00	$0.00
C. Off-gas treatment	24	per hour x	$35.00	$840.00
24. Granulated Activated Carbon (GAC) filter system installation & service:				
A. New GAC System Installation*		each x	$2,500.00	$0.00
B. Refurbished GAC Sys. Install*		each x	$850.00	$0.00
C. Filter replacement/removal*		each x	$450.00	$0.00
D. System removal, cleaning, & refurbishment*		each x	$450.00	$0.00
E. GAC System housing		each x	$450.00	$0.00
F. In-line particulate filter		each x	$140.00	$0.00
G. Additional piping & fittings		feet x	$4.00	$0.00
25. Well Repair				
A. Additional Copies of Report		each x	$25.00	$0.00
B. Repair 2x2 MW pad		each x	$100.00	$0.00
C. Repair 4x4 MW pad		each x	$150.00	$0.00
D. Repair well vault		each x	$225.00	$0.00
E. Replace well cover & gasket		each x	$30.00	$0.00
F. Replace well cover bolts		each x	$10.00	$0.00
G. Replace locking well cap & lock		each x	$15.00	$0.00
19. Report/Project Management				
and Coordination	15%	x	$43,109.00	$6,466.35
TOTAL				$49,575.35

*The appropriate mobilization cost can be added to complete these tasks, as necessary

D H E C
PROMOTE PROTECT PROSPER
C. Earl Hunter, Commissioner
Promoting and protecting the health of the public and the environment.

John
UST
DOCKET
11 tech

INTERSTATE STATIONS
ATTN MR RAYMOND LEE
PO BOX 728
SAVANNAH GA 21402-0728

MAY 20 2011

Re: Assessment Report Directive
Spinx 258, 2725 College St., Newberry, SC
UST Permit #06588; CAs #41609 & #41610; MWA # UMW-24238
Release #1 Reported Dec. 29, 1989
Release #2 Reported Nov. 21, 1995
Assessment Plan received March 24, 2011
Newberry County

Dear Mr. Lee:

The Underground Storage Tank (UST) Management Division of the South Carolina Department of Health and Environmental Control (SCDHEC) has reviewed the referenced report. The UST Management Division recognizes your commitment to continue work at this site utilizing Bunnell-Lammons Engineering, Inc.

Assessment activities at the site should begin immediately upon receipt of this letter. Cost agreement numbers 41609 and 41610 have been approved in the amount shown on the enclosed cost agreement forms for installation of up to three deep wells (to top of rock ~46') and one shallow well to define the extent of dissolved CoC and product (see attached Site Map), as well as a groundwater sampling event of the entire monitoring well network. Note that the proposed three deep wells (into rock to ~70') have been deleted. Monitoring well approval has been provided to your site rehabilitation contractor. A copy of the monitoring well approval is enclosed for your records. **The assessment should be conducted in accordance with the Tier II Assessment guidance document and must be conducted in compliance with all applicable regulations. All shallow wells are to be installed with screen intervals that bracket the water table.** Shallow wells should have a 10-foot screen. The SUPERB Account cannot reimburse costs for any shallow well with a screen that does not properly bracket the water table.

Please note that you and/or your contractor are responsible for obtaining all off-site access agreements and/or encroachment permits necessary for this scope of work.

A groundwater sample from any private wells within 1,000 feet of the facility should be collected and analyzed for BTEX, naphthalene, MtBE, 1,2-DCA and EDB. Groundwater samples from existing groundwater monitoring wells with screens that bracket the water table do not need to be purged before a sample is collected. Groundwater samples from all new monitoring wells should be collected and analyzed for BTEX, naphthalene, MtBE, 1,2-DCA, EDB, and 8 oxygenates. Analyses should be in accordance with *Analytical Methodology for Groundwater and Soil Assessment Guidelines* dated August 24, 2005. A copy of this publication is available on line at http://www. scdhec.gov/ eqc5Canalmet.pdf.

Please note the following adjustments to the submitted assessment plan cost agreement:

- 4. Mob/Demob A. Equipment—has been decreased from 4 to 1.
- 4. Mob/Demob B. Personnel—has been decreased from 5 to 2.
- 9. Well Installation B. Water Table (drilled) —has been increased from zero to 22.
- 9. Well Installation C. Telescoping—has been decreased from 255 to 138.
- 10. Groundwater Sample Collection A. Groundwater —has remained at 9, although this will comprise 1 shallow monitoring well, 3 new deep monitoring wells and 5 existing deep monitoring wells.
- 11. Analyses-Groundwater A. BTEX+Naphth+MtBE— has remained at 52, although this will comprise 1 sample that has been approved for a new shallow well, 3 samples for new deep wells, 5 samples for existing deep wells and 38 samples for the existing shallow wells and 5 samples for the water supply wells.
- 11. Analyses- Groundwater B. Rush BTEX analysis—has been decreased from 3 to zero.
- 11. Analyses-Groundwater P. 8 Oxygenates—has been decreased from 4 to 3.
- 12. Aquifer Characterization B. Slug Test—has been decreased from 3 to 1.
- 17. Disposal A. Wastewater 2. Pumping Test/EFR—has been decreased from 3,000 to zero.
- 23. EFR A. 8-hour Event—has been decreased from 3 to zero.
- 23. EFR C. Off-gas treatment—has been decreased from 24 to zero.

The Assessment Report and invoice are due within 90 days from the date of this letter. The report (a signed .pdf copy on CD is preferred) submitted at the completion of these activities should include information outlined in the Tier II Guidance document to include the following:

- Revised geological cross sections that include the new shallow and deep monitoring wells.
- Boring logs and well logs (DHEC form 1903) signed by a well driller licensed in the state of South Carolina for each new well.
- A CoC map based on current groundwater laboratory analytical data. The groundwater data should be adjacent to the relevant monitoring well location.
- Groundwater elevations, depth to groundwater, measurable free product thickness (where applicable), total well depth and screened interval for all monitoring wells associated with the site, unless otherwise directed by the Division, shall be presented in tabular form. Groundwater laboratory analytical data and depth for this and all previous monitoring events for all monitoring wells shall be presented in tabular format.
- A groundwater elevation contour map of the site based on current groundwater potentiometric data.
- Manifests for any contaminated soil and/or groundwater removed from the site for treatment and/or disposal.
- Signature and seal by a professional geologist or engineer registered in the State of South Carolina.

Bunnell-Lammons Engineering, Inc. can submit an invoice for direct payment from the State Underground Petroleum Environmental Response Bank (SUPERB) Act for preapproved costs. An interim well drilling invoice may be submitted for this scope of work. By law, the SUPERB Account cannot compensate any costs that are not pre-approved. Please note that applicable South Carolina certification requirements regarding laboratory services, well installation, and report preparation must be satisfied. According to R.61-98 Section IV.C.1 all plans, reports, invoices, and other documents relating to site rehabilitation activities which have been prepared or approved by a certified contractor shall be signed by the certified contractor and bear his certification number. If the invoice is not submitted within 120 days from the date of this letter, monies allocated to pay this invoice will be uncommitted. This means that the invoice will not be processed for payment until all other committed funds are paid or monies become available. The UST Management Division, because of unnecessary dilution, cannot make decisions if the reporting limit of individual petroleum CoC exceeds Risk-Based Screening Levels (RBSLs). Note that the Division may deny payment for any non-detect analysis where the reporting limit exceeds the RBSL. The UST Management Division encourages the use of 'J' values as necessary so the

appropriate action can be determined for a release. Beginning in 2009, the UST Management Division will begin requiring that laboratories be certified through the SCDHEC Office of Environmental Laboratory Certification for the oxygenate compounds.

The Department grants pre-approval for transportation of virgin petroleum impacted soil and groundwater from the referenced site to a permitted treatment facility. There can be no spillage or leakage in transport. All investigation-derived waste (IDW) must be properly contained and labeled prior to disposal. IDW should not be stored on-site longer than ninety (90) days. A copy of the disposal manifest and/or acceptance letter from the receiving facility that clearly designates the quantity received must be included as an appendix to the report. If the CoC concentrations based on laboratory analysis are below RBSLs, please contact the project manager for approval to dispose of soil and/or groundwater on site. The SUPERB Account will not reimburse for transportation or treatment of soil and/or groundwater with concentrations below RBSLs.

On all correspondence regarding this site and scope of work, please reference UST permit number 06588. Please feel free to contact me at (803) 896-6648, fax me at (803) 896-6245, or e-mail me at skowrojt@dhec.sc.gov, if you have questions or need additional information.

Sincerely,

John Skowronek

John Skowronek, P.G., Hydrogeologist
Assessment Section
Underground Storage Tank Management Division
Bureau of Land and Waste Management

enc: Approved Cost Agreement
Monitoring Well Approval
Site Map

cc: Bunnell-Lammons, Inc. 6004 Ponders Ct, Greenville, SC 29615 (with enc)
Technical File (with enc)

D H E C

PROMOTE PROTECT PROSPER

C. Earl Hunter, Commissioner

Promoting and protecting the health of the public and the environment.

Monitoring Well Approval

Approval is hereby granted to:	Bunnell-Lammons Engineering, Inc.
(On behalf of):	Interstate Stations
Facility:	Spinx 258, 2725 College St., Newberry, SC
UST Permit Number:	06588
County:	Newberry

This approval is for the installation of up to one shallow and three deep groundwater monitoring wells. The monitoring wells are to be installed in the approved locations. The monitoring wells are to be installed following the South Carolina Well Standards, R.61-71, and the applicable guidance documents.

Please note that R.61-71 requires the following:

1. All wells shall be drilled, constructed, and abandoned by a South Carolina certified well driller per R.61-71.D.1.

2. All monitoring wells shall be labeled as required by R.61-71.H.2.c.

3. A Water Well Record Form or other form provided or approved by the Department shall be completed and submitted to the Department within 30 days after well completion or abandonment unless another schedule has been approved by the Department. The form should contain the "as-built" construction details and all other information required by R.61-71.H.1.f

4. All analytical data and water levels obtained from each monitoring well shall be submitted to the Department within 30 days of receipt of laboratory results unless another schedule has been approved by the Department as required by R.61-71.H.1.d.

5. If any of the information provided to the Department changes, notification to the project manager, John Skowronek (tel: 803-896-6648 or e-mail:skowrojt@dhec.sc.gov) shall be provided a minimum of twenty-four (24) hours prior to well construction as required by R.61-71.H.1.a.

6. All temporary monitoring wells shall be abandoned within 5 days of borehole completion using appropriate methods as required by R.61-71.H.4.c. All other wells shall be properly developed per R.61-71.H.2.d.

7. Departmental approval is required prior to abandonment of all monitoring wells as required by R.61-71.H.1.a.

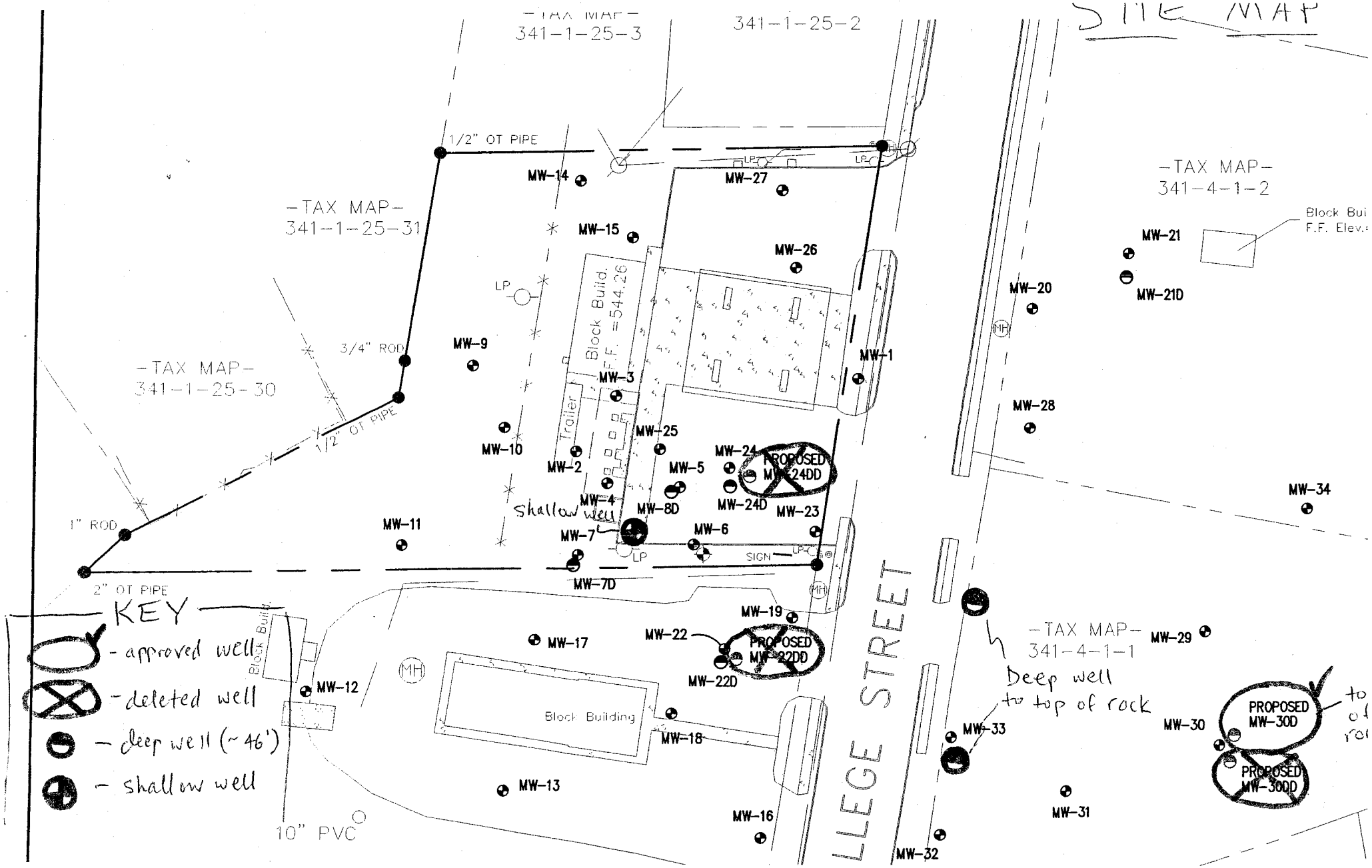
This approval is pursuant to the provisions of Section 44-55-40 of the 1976 South Carolina Code of Laws and R.61-71 of the South Carolina Well Standards and Regulations, dated April 26, 2002. A copy of this approval should be on the site during well installation.

Date of Issuance: May 3, 2011 Approval #: UMW-24238

John Skowronek

John Skowronek, P.G., Hydrogeologist
Assessment Section
Underground Storage Tank Management Division
Bureau of Land and Waste Management

SITE MAP


-TAX MAP-
341-1-25-3
341-1-25-2
-TAX MAP-
341-1-25-31
-TAX MAP-
341-1-25-30
-TAX MAP-
341-4-1-2
-TAX MAP-
341-4-1-1
1/2" OT PIPE
3/4" ROD
1/2" OT PIPE
1" ROD
2" OT PIPE
10" PVC
Block Build.
F.F. =544.26
Trailer
Block Building
LP
SIGN
MH
MW-1
MW-2
MW-3
MW-4
MW-5
MW-6
MW-7
MW-7D
MW-8D
MW-9
MW-10
MW-11
MW-12
MW-13
MW-14
MW-15
MW-16
MW-17
MW-18
MW-19
MW-20
MW-21
MW-21D
MW-22
MW-22D
MW-23
MW-24
MW-24D
MW-25
MW-26
MW-27
MW-28
MW-29
MW-30
MW-31
MW-32
MW-33
MW-34
PROPOSED MW-24DD
PROPOSED MW-22DD
PROPOSED MW-30D
PROPOSED MW-30DD
shallow well
Deep well to top of rock
LLEGE STREET
KEY
- approved well
- deleted well
- deep well (~46')
- shallow well

Approved Cost Agreement 41610

Facility: 06588 SPINX 258
SKOWROJT
PO Number:

Task / Description	Categories	Item	Description	Qty / Pct	Unit Price	Amount
01 PLAN						
		A	PLAN PREPARATION	0.5000	100.00	50.00
04 MOB/DEMOB						
		A	EQUIPMENT	0.5000	575.00	287.50
		B	PERSONNEL	1.0000	290.00	290.00
09 WELL INSTALLATION						
		B	WATER TABLE (DRILLED)	11.0000	38.00	418.00
		C	TELESCOPING	69.0000	58.00	4,002.00
10 SAMPLE COLLECTION						
		A	GROUND WATER	4.0000	55.00	220.00
		C	WATER SUPPLY	2.5000	25.00	62.50
		D	GROUNDWATER NO-PURGE	19.0000	35.00	665.00
11 ANALYSES						
	GW GROUNDWATER	A	BTEX+NAPTH+MTBE	26.0000	100.00	2,600.00
		BB	1,2-DCA	26.0000	10.75	279.50
		F	EDB	26.0000	55.00	1,430.00
		P	8 OXYGENATES	2.0000	85.00	170.00
12 AQUIFER CHARACTERIZATION						
		B	SLUG TEST	0.5000	150.00	75.00
17 DISPOSAL						
		A1	WASTEWATER - PURGING/SAMPLING	2.0000	90.00	180.00
		C	SOIL (TREATMENT/DISPOSAL)	7.5000	50.00	375.00
19 RPT/PROJECT MNGT & COORDINATIO						
		PCT	PERCENT	0.1500	11,104.50	1,665.68
				Total Amount		12,770.18

Approved Cost Agreement 41609

Facility: 06588 SPINX 258
SKOWROJT
PO Number:

Task / Description	Categories	Item	Description	Qty / Pct	Unit Price	Amount
01 PLAN						
		A	PLAN PREPARATION	0.5000	100.00	50.00
04 MOB/DEMOB						
		A	EQUIPMENT	0.5000	575.00	287.50
		B	PERSONNEL	1.0000	290.00	290.00
09 WELL INSTALLATION						
		B	WATER TABLE (DRILLED)	11.0000	38.00	418.00
		C	TELESCOPING	69.0000	58.00	4,002.00
10 SAMPLE COLLECTION						
		A	GROUND WATER	4.0000	55.00	220.00
		C	WATER SUPPLY	2.5000	25.00	62.50
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11 ANALYSES						
	GW GROUNDWATER	A	BTEX+NAPTH+MTBE	26.0000	100.00	2,600.00
		BB	1,2-DCA	26.0000	10.75	279.50
		F	EDB	26.0000	55.00	1,430.00
		P	8 OXYGENATES	2.0000	85.00	170.00
12 AQUIFER CHARACTERIZATION						
		B	SLUG TEST	0.5000	150.00	75.00
17 DISPOSAL						
		A1	WASTEWATER - PURGING/SAMPLING	2.0000	90.00	180.00
		C	SOIL (TREATMENT/DISPOSAL)	7.5000	50.00	375.00
19 RPT/PROJECT MNGT & COORDINATIO						
		PCT	PERCENT	0.1500	11,104.50	1,665.68
				Total Amount		12,770.18

BUNNELL-LAMMONS ENGINEERING, INC.

GEOTECHNICAL, ENVIRONMENTAL AND CONSTRUCTION MATERIALS CONSULTANTS

REPORT OF MONITORING WELL INSTALLATION AND GROUNDWATER SAMPLING EVENT

SPINX 258/FORMER ENMARK 380
2725 COLLEGE STREET
NEWBERRY, NEWBERRY COUNTY, SOUTH CAROLINA
UST PERMIT #06588; COST AGREEMENT #41609 & #41610

Prepared For

Enmark Stations, Inc.
Post Office Box 728
Savannah, Georgia 31402

Prepared By

Bunnell-Lammons Engineering, Inc.
6004 Ponders Court
Greenville, South Carolina 29615
SCDHEC Certified Contractor No. UCC-10

August 30, 2011

BLE Project Number J11-6859-03

BLE INC.
BUNNELL-LAMMONS ENGINEERING, INC.
GEOTECHNICAL, ENVIRONMENTAL AND CONSTRUCTION MATERIALS CONSULTANTS

August 30, 2011

South Carolina Department of Health and Environmental Control
Bureau of Land and Waste Management
Underground Storage Tank Program
2600 Bull Street
Columbia, South Carolina 29201-1708

Attention: Mr. John Skowronek, Hydrogeologist

Subject: **Report of Monitoring Well Installation and Groundwater Sampling Event**
Spinx 258/Former Enmark 380
Newberry, Newberry County, South Carolina
UST Permit #06588; CA #41609 & #41610
BLE Project No. J11-6859-03

Dear Mr. Skowronek:

As authorized, Bunnell-Lammons Engineering, Inc. (BLE) has completed the installation of one shallow (Type II) and three deep (Type III) groundwater monitoring wells at the subject site. Slug testing and a comprehensive groundwater sampling event were completed following the installation of the new monitoring wells. This report describes the work performed and presents the results obtained, along with our comments and recommendations.

We appreciate the opportunity to be of service on behalf of Enmark Stations, Inc. Please do not hesitate to contact us if you have any questions concerning this report.

Sincerely,

BUNNELL-LAMMONS ENGINEERING, INC.

Trever Z. Slack, P.G.
Project Hydrogeologist

Thomas L. Lammons, P.G., CHMM
Principal Hydrogeologist
Registered, South Carolina No. 893

PROFESSIONAL GEOLOGIST
REGISTERED
No. 893
SOUTH CAROLINA
THOMAS L. LAMMONS

cc: Mr. Tom Dolan, Enmark Stations, Inc., Post Office Box 728, Savannah, Georgia 31402

6004 PONDERS COURT
GREENVILLE, SOUTH CAROLINA 29615
PHONE (864) 288-1265
FAX (864) 288-4430

BACKGROUND INFORMATION

The subject property is located at 2725 College Street in Newberry, Newberry County, South Carolina (Figure 1). The site is currently utilized as an automobile fueling station and retail convenience store and is bordered by commercial properties to the east and south and residential properties to the north and west.

According to the SCDHEC Underground Storage Tank (UST) Registry, four USTs (one 6,000-gallon diesel, one 6,000-gallon regular gasoline, one 8,000-gallon premium gasoline, and one 8,000-gallon regular gasoline) are present on site. Two petroleum hydrocarbon releases have been reported at the facility in December 1989 and November 1995.

Site History

In December 1989, MGM Petro Equipment and Environmental Services conducted a soil sampling program at the Enmark 380 site (formerly Interstate 380), and volatile organic compounds were detected in the UST soil backfill material at a concentration of 250 parts per million (ppm) using a HNu Model PI-101 photoionization detector (PID). The results of the soil evaluation were reported to SCDHEC's Mr. Paul Bergstrand in a letter dated December 29, 1989, and Interstate Stations, Inc. (Interstate Stations) requested that the site be included in the SCDHEC Early Detection Incentive Program. A SCDHEC follow-up directive letter dated September 25, 1990 was issued to Interstate Stations requiring an additional investigation to define the horizontal and vertical extent of the contamination in the soil. In response, an assessment plan dated February 4, 1991 and revised May 3, 1991 was submitted to SCDHEC, attention Mr. Joe Bowers and Mr. Christopher Doll, respectively. The revised assessment plan was approved, and five boreholes were drilled in the vicinity of the UST basin, product piping lines, and pump dispensers to depths of 10-feet below ground surface (bgs) to obtain soil samples. Representative soil samples were screened in the field and submitted for laboratory analysis of aromatic volatiles by Method 8020. Additionally, a permanent monitoring well (MW-1) was installed to the east of the pump dispenser islands to obtain a representative groundwater sample. Petroleum compounds were detected above the laboratory method detection limit in numerous soil samples. Additionally, benzene (5,900 ug/l), toluene (5,900

ug/l), ethylbenzene (1,800 ug/l), and xylenes (7,200 ug/l) were detected in the groundwater sample from MW-1. Details of the assessment are summarized in a *correspondence letter* from Interstate Stations to Mr. Christopher Doll of SCDHEC dated October 21, 1991. To our knowledge, no further work has been conducted at the site to specifically address the December 1989 release.

On November 19, 1995, operators at the Interstate Station 380 site noted inventory discrepancies in the premium gasoline tank and on November 20, 1995, an inspection of the UST noted areas of corrosion. Based upon inventory records, it was determined that approximately 1,400-gallons of premium gasoline were lost. The release was reported to SCDHEC on November 22, 2010, and Handex of the Carolinas, Inc. (Handex) was retained to install three recovery wells (MW-2, MW-3, and MW-4) to serve as recovery points for free-product removal. Handex initiated a weekly well monitoring program which included manual bailing of any wells determined to contain free-phase petroleum product. Approximately 17.34 gallons were manually bailed from the wells, and on January 24, 1996, Handex installed a pneumatic pump in MW-4 which was run by compressed air from the stations tire air compressor. An additional 43-gallons of free-phase petroleum product was recovered with the pneumatic pump through February 20, 1996. Details of the free-product recovery and well monitoring activities conducted by Handex were detailed in a correspondence letter dated March 6, 1996 to Ms. Jan Cook of SCDHEC.

The groundwater monitoring well and recovery wells located at the site were sampled on June 11, 1997, and it was determined that benzene, toluene, ethylbenzene, and xylenes (BTEX), naphthalenes, and methyl-tert-butyl ether (MTBE) were present in the groundwater above South Carolina Risk-Based Screening Levels (RBSLs). A Rapid Assessment was completed at the site, which included the installation of three additional shallow monitoring wells (MW-5, MW-6, and MW-7) and one deep, telescoping monitoring well (MW-8D). Details of the Rapid Assessment can be found in the *Risk-Based Corrective Action Tier II Evaluation Report* by Handex dated May 27, 1999.

In May 2010, SCDHEC issued a directive to Enmark Stations, Inc. (Enmark) requesting a Tier II Assessment Plan. BLE was retained by Enmark to prepare the Tier II Assessment Plan, and the plan was submitted to SCDHEC on June 18, 2010. The plan was accepted, with minor modifications, and a Tier II Assessment directive was issued on August 16, 2010. BLE completed the Tier II

Assessment as detailed in the *Tier II Assessment Report* dated February 2, 2011. Thirty-one shallow (Type II) and four deep (Type III) groundwater monitoring wells were installed during the Tier II assessment. Based on a review of the Tier II Assessment report, it was determined that the horizontal extent of the CoC had been defined; however, additional assessment of the vertical extent of groundwater CoCs was necessary. As a result, SCDHEC issued a directive requesting the installation of one shallow (Type II) and three deep (Type III) monitoring wells and the completion of a comprehensive groundwater sampling event. The results of the additional well installation and comprehensive groundwater sampling event are contained herein.

MONITORING WELL INSTALLATION

One shallow (Type II) groundwater monitoring well (MW-40) and three deep (Type III) groundwater monitoring wells (MW-30D, MW-33D, and MW-41D) were installed on June 22 and June 23, 2011. The monitoring wells were installed in the approximate locations indicated on Figure 2.

Type II Well

Monitoring well MW-40 was installed as a Type II monitoring well in the southwestern corner of the petroleum retail fueling facility parking lot. The well borehole was drilled using a Schramm T450WS air rotary hammer drill employing a 6-inch diameter air hammer bit. The monitoring well construction consists of a 2-inch ID, schedule 40 PVC casing with flush-threaded joints. The bottom 10-foot section of the well is a manufactured well screen with 0.010-inch wide machined slots. The well screen was installed to the depth of the boring and bracketed the water table. Standard sand filter pack, bentonite seal and grout were installed to the ground surface. Drilling procedures for the Type II monitoring well are described in Appendix A.

Type III Wells

Monitoring wells MW-30D, MW-33D, and MW-41D were installed as Type III, vertical extent (telescoping) monitoring wells. The well boreholes were drilled using a Schramm T450WS air rotary hammer drill employing a 6-inch and 8-inch diameter air hammer bit. The telescoping wells were constructed with a 6-inch ID schedule 40 PVC outer casing installed to an approximate depth

of 35.5 feet below ground surface (bgs) (MW-30D), 34.5 feet bgs (MW-33D), and 35.0 feet bgs (MW-41D). The casings were then pressure grouted to the ground surface using a grout shoe and allowed to cure for at least 24 hours. After curing, a 6-inch diameter air hammer bit was utilized to advance the boreholes through the outer casing to a termination depth of 46.30 feet bgs (MW-30D), 48.35 feet bgs (MW-33D), and 48.00 feet bgs (MW-41D). A 2-inch ID schedule 40 PVC casing with flush-threaded joints was installed in each borehole. The bottom 5-foot section of each well was a manufactured well screen with 0.010-inch machined slots. Standard filter sand pack, bentonite seal and grout were installed to the ground surface. Drilling procedures for Type III monitoring wells are described in Appendix A.

General

At assigned intervals, drill cuttings were collected for soil classification. Representative portions of the test samples were visually examined and classified in the field. To help prevent cross-contamination, downhole drilling equipment was steam cleaned between borings. Monitoring well construction diagrams and 1903 Water Well Records are included in Appendix A. Monitoring well construction data is provided in Table 1.

Drill cuttings generated during the installation of the monitoring wells were contained in 55-gallon drums on site. Sixteen 55-gallon drums of petroleum impacted soil were transported off-site for disposal. Waste transportation and disposal records are included in Appendix B.

Monitoring well installations were performed by a South Carolina licensed driller from Landprobe Drilling Services, LLC of Greenville, South Carolina while being supervised by a BLE geologist. The monitoring well locations were surveyed by BLE personnel on August 2, 2011 to establish horizontal control and vertical elevations of the top of PVC casing and ground surface. The surveyed locations of the newly installed groundwater monitoring wells are shown on Figure 2. Figures 3a and 3b provide updated hydrogeologic cross-sections through the subsurface. The cross-sections depict the surveyed ground surface elevation, subsurface lithologies, monitoring wells and their respective screened intervals, and the static groundwater elevation.

GROUNDWATER SAMPLING

Twenty-one groundwater monitoring wells are located on site (MW-1 through MW-7, MW-7D, MW-8D, MW-9 through MW-11, MW-14, MW-15, MW-23, MW-24, MW-24D, MW-25 through MW-27, and MW-40) and twenty-six are present off-site (MW-12, MW-13, MW-16 through MW-21, MW-21D, MW-22, MW-22D, MW-28 through MW-30, MW-30D, MW-31 through MW-33, MW-33D, MW-34 through MW-39, and MW-41D). Forty-three groundwater samples were collected during the current groundwater sampling event. Monitoring well MW-4 appeared to be damaged or obstructed at the time of the groundwater sampling event and could not be sampled. A total depth of 14.01 feet below top of casing was recorded during the field activities, contradicting the reported historical total well depth of 25 feet. Monitoring wells MW-5, MW-6, and MW-7 were not sampled due to the presence of free-phase petroleum product in the wells at a thickness of 0.02 feet, 1.20 feet, and 0.20 feet respectively.

Groundwater samples were also collected from private water supply wells DW-1 and DW-3 (Figure 4). Water supply wells DW-2, DW-4, DW-9, and DW-10 did not have power, and were therefore unable to be sampled during the groundwater sampling event. Wells DW-7 and DW-8 appeared to have been permanently closed and were inaccessible. The owner of water supply well DW-5 and DW-6 could not be contacted, therefore these wells were not sampled. Additionally, a surface water sample (SW-1) was collected from the creek (Figure 4).

Pursuant to SCDHEC's directive, only newly installed wells and existing wells were screened across the water table at the time of sampling required purging. Therefore, only monitoring wells MW-7D, MW-8D, MW-21D, MW-22D, MW-24D, MW-30D, MW-33D, MW-36, MW-37, MW-40, and MW-41D were developed prior to sampling. The monitoring wells were developed by purging until it was determined that groundwater flow through the well screen was not inhibited by silt or fine sand. Purge water generated during the monitoring well development and sampling was contained in sealed 55-gallon drums on site. This waste was transported off-site for disposal. Waste transportation and disposal records are attached in Appendix B. Monitoring well purging and sampling field procedures and sampling logs are included in Appendix C.

Sample containers were marked in the field with identifying numbers, properly preserved, placed into sample coolers, secured, and maintained at less than 4 degrees Celsius. The samples and chain-of-custody records were delivered to Shealy Environmental Services, Inc. in Columbia, South Carolina for analysis of BTEX, naphthalene, MTBE, 8-oxygenates, and 1,2-dichloroethane (1,2-DCA) by Environmental Protection Agency (EPA) Method 8260B, and 1,2-dibromoethane (EDB) by EPA Method 8011.

GROUNDWATER SAMPLING RESULTS

Of the forty-three groundwater monitoring wells, two private water supply wells, and one surface water location sampled during the current groundwater sampling event, 20 samples (MW-1, MW-2, MW-3, MW-8D, MW-18, MW-19, MW-22, MW-22D, MW-23, MW-24, MW-24D, MW-25, MW-26, MW-30, MW-30D, MW-32, MW-33D, MW-35, MW-40, and MW-41D) detected petroleum hydrocarbons above established South Carolina Risk Based Screening Levels[1] (RBSLs). Petroleum hydrocarbons detected above RBSLs include:

- **Benzene:** MW-1, MW-3, MW-8D, MW-18, MW-19, MW-22, MW-22D, MW-23, MW-24, MW-24D, MW-25, MW-26, MW-33D, MW-40, and MW-41D
- **Toluene:** MW-1, MW-19, MW-23, MW-24, MW-25, and MW-35
- **Ethylbenzene:** MW-1, MW-18, MW-19, MW-22, MW-23, MW-24, and MW-25
- **Xylenes:** MW-18, MW-19, MW-23, MW-24, and MW-25
- **Naphthalene:** MW-1, MW-2, MW-18, MW-22, MW-24, MW-25, and MW-40
- **MTBE:** MW-1, MW-19, MW-22, MW-23, MW-24, MW-25, MW-30, MW-30D, MW-32, MW-33D, MW-40, and MW-41D
- **1,2-DCA:** MW-1, MW-22, MW-22D, MW-24, MW-25, MW-30, MW-33D, MW-40, and MW-41D
- **EDB:** MW-1, MW-8D, MW-19, MW-22, MW-23, MW-24, MW-25, and MW-40

[1] *South Carolina Risk-Based Corrective Action for Petroleum Releases*, Bureau of Land and Waste Management, Underground Storage Tank Program, May 15, 2001.

- **Tert-butyl alcohol (TBA):** MW-24 and MW-41D
- **Tert-amyl alcohol (TAA):** MW-1, MW-8D, MW-22, MW-23, MW-24, MW-25, MW-30, MW-33D, MW-34, MW-40, and MW-41D
- **Tert-amyl methyl ether (TAME):** MW-22, MW-24, MW-25, and MW-33D
- **Di-isopropyl ether (DIPE):** MW-23, MW-24, MW-33D, and MW-41D

Additionally, free-phase petroleum product was detected in monitoring wells MW-5 (0.02 feet), MW-6 (1.20 feet), and MW-7 (0.20 feet). Dissolved phase petroleum hydrocarbons were also detected in groundwater monitoring wells MW-7D, MW-9, MW-29, MW-31, MW-33, and MW-36, and in private water supply well DW-1, but did not exceed South Carolina established RBSLs. CoC concentrations for each well are shown on Figure 5. A benzene isoconcentration map is included as Figure 6. Laboratory analytical results are summarized on Table 2 and laboratory data sheets are provided in Appendix D.

AQUIFER CHARACTERISTICS

A field permeability (slug) test was performed in monitoring well MW-30D on August 2, 2011 to determine the hydraulic conductivity of the formation material exposed to the well screen. The slug test measured the hydraulic conductivity of the intermediate, partially weathered rock aquifer unit. A summary of the slug test field procedure is provided in Appendix E. The data from this test along with slug test data from the previous Tier II Assessment are presented on Table 3.

Hydraulic Conductivity

Hydraulic conductivity is defined as the ability of the aquifer material to conduct water under a hydraulic gradient. Four slug tests have been performed at the site to measure the in-situ hydraulic conductivity of the uppermost water-table aquifer, intermediate partially weathered rock aquifer, and the shallow bedrock aquifer. The slug test results were evaluated using the Bouwer and Rice Method[2] for partially-penetrating wells in an unconfined aquifer. Historical hydraulic conductivity

[2] Bouwer, H., and Rice, R., A Slug Test for Determining Conductivity of Unconfined Aquifers with Completely or Partially Penetrating Wells, *Water Resources Research,* v. 12, o. 423-428.

values measured at the site are 4.07 x 10^{-3} cm/sec (MW-22) and 3.89 x 10^{-3} cm/sec (MW-24) in the silty sand saprolite aquifer, 9.32 x 10^{-4} cm/sec (MW-30D) in the intermediate partially weathered rock aquifer, and 2.63 x 10^{-3} cm/sec (MW-24D) in the shallow bedrock aquifer. The site-wide geometric mean hydraulic conductivity value is 2.88 x 10^{-3} cm/sec.

Hydraulic Gradient

The hydraulic gradient is determined by dividing the difference in groundwater elevations at two locations (MW-2 to MW-19) by the horizontal distance between those locations along the direction of groundwater flow. The hydraulic gradient across the site is approximately 0.003 ft/ft. However, it should be noted that the hydraulic gradient increases in the downgradient direction to approximately 0.016 ft/ft (MW-31 to MW-37).

Effective Porosity and Specific Yield

Effective porosity is the volume of void spaces through which water or other fluids can travel in a rock or sediment divided by the total volume of the rock or sediment. Effective porosity can be assumed to be approximately equal to specific yield for unconfined (water table) aquifers. Specific yield is defined as the ratio of the volume of water that drains from a saturated rock owing to the attraction of gravity to the total volume of rock. Specific yield measurements of the uppermost saprolite aquifer on site were derived from grain size analysis data for the screened interval of monitoring well MW-22 collected during the previous Tier II Assessment. Based on Fetter (1994)[3], using the textural classification triangle for unconsolidated materials showing the relation between particle size and specific yield (adapted from Johnson, 1967)[4], the specific yield of the uppermost saprolite aquifer is approximately 0.18. An effective porosity of 0.20 was assumed for MW-30D which is screened in the intermediate, partially weathered rock aquifer unit[5]. An effective porosity of 0.05 was assumed for MW-24D which is screened in the shallow bedrock aquifer unit based upon the effective mean porosity of fractured crystalline rock as described in Freeze and Cherry (1979)[6].

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[3] Fetter, C., 1994, Applied Hydrogeology, Prentice Hall, 598 pp.
[4] Johnson, A., 1967, United States Geological Survey Water-Supply Paper 1662-D.
[5] Heath, R.C., 1987, Basic ground-water hydrology: U.S. Geological Survey Water Supply Paper 2220, 84 pp.
[6] Freeze, A., and Cherry, J., 1979, Groundwater, Prentice Hall, 589 pp.

Groundwater Flow Velocity

The velocity of groundwater flow is derived from the equation:

$$V = \frac{Ki}{n_e}$$

Where

V is the flow velocity

K is the hydraulic conductivity

i is the hydraulic gradient; and

$\boldsymbol{n_e}$ is the effective porosity.

Based on these parameters and the data provided above, the geometric mean horizontal movement of groundwater is approximately 68.63 feet/year in the water table aquifer, 14.47 feet/year in the intermediate partially weathered rock aquifer, and 163.28 feet/year in the shallow bedrock aquifer. Table 3 summarizes the groundwater flow velocity calculations.

CONCLUSIONS

- One shallow groundwater monitoring well (MW-40) and three deep groundwater monitoring wells (MW-30D, MW-33D, and MW-41D) were installed to assess the horizontal and vertical extent of petroleum contamination at the site.

- Forty-three groundwater monitoring wells, two private water supply wells, and one surface water location were sampled for laboratory analysis between July 19 and July 22, 2011. Twenty samples (MW-1, MW-2, MW-3, MW-8D, MW-18, MW-19, MW-22, MW-22D, MW-23, MW-24, MW-24D, MW-25, MW-26, MW-30, MW-30D, MW-32, MW-33D, MW-35, MW-40, and MW-41D) detected petroleum CoCs above RBSLs. CoCs detected above RBSL concentrations include benzene, toluene, ethylbenzene, xylenes, naphthalene, 1,2-DCA, MTBE, EDB, TBA, TAA, TAME, and DIPE. Petroleum CoCs were not detected above RBSLs in the water supply wells (DW-1 or DW-3) or in the surface water sample (SW-1). However, for the

first time the petroleum CoCs ethylbenzene, xylenes, MTBE, and naphthalene were detected above the laboratory method detection limit in water supply well DW-1.

- Groundwater flow direction beneath the site is generally to the southeast. Vertical gradients measured in well pairs on site indicate a slight downward (recharging) effect.

- Petroleum CoCs were detected in newly installed deep monitoring wells MW-30D, MW-33D, and MW-41D. Concentrations exceeding South Carolina established RBSLs are present in MW-33D and MW-41D. The CoC plume demonstrates a plunging flow characteristic. Although the groundwater flow velocity measured in the partially weathered rock (PWR) zone of MW-30D is not as high as the saprolite or shallow bedrock zones, the mapped CoC plume data suggests a preference of flow into this PWR geologic zone.

RECOMMENDATIONS

Presently, the contaminant plume appears to be defined in the shallow, saprolite aquifer. However, it appears that petroleum constituents are migrating along the intermediate partially weathered rock zone and possibly into bedrock fractures at downgradient locations. The CoC plume plunges towards the southeast along the center flow line. Petroleum CoCs have impacted the nearest water supply well (DW-1 located approximately 250 feet to the northeast of the site). BLE recommends that additional deep wells be installed adjacent to MW-37, MW-30D, MW-33D, and MW-41D to depths of approximately 85 feet bgs to further assess the vertical extent of CoCs in the bedrock at these locations.

According to records, approximately 1,400-gallons of gasoline were released to the subsurface in November 1995. To date, only 60-gallons have been recovered and a considerable volume/mass remains in-situ. Free-phase petroleum product was detected in MW-5 (0.02 feet), MW-6 (1.20 feet), and MW-7 (0.20 feet) during the current groundwater sampling event. Additionally, total BTEX concentrations approaching solubility limits were detected in monitoring wells MW-19 (60,200 µg/l) and MW-23 (74,000 µg/l), indicating that free-phase petroleum product is likely present but has not accumulated into the well due to various possible reasons (i.e., low mobility, surface tension,

possible well skin effects resulting from the well installation process). BLE recommends that a series of three AFVR events be conducted at the site: one AFVR event should be conducted on MW-6 and MW-7; one event on MW-23 and MW-19; and one event on MW-5. The AFVR events should be spaced approximately 15 days apart. Approximately 30 days after the last AFVR event, free-phase petroleum product levels in the wells should be measured. Based on magnahelic gauge measurements recorded during the AFVR events and the final free-product levels in the wells at the conclusion of the AFVR events, it can be determined whether the installation of 4-inch recovery wells is necessary for enhanced recovery of free-phase petroleum product at the site.

Following the installation of the additional deep wells and completion of the AFVR events, a comprehensive groundwater sampling event should be conducted on all monitoring wells associated with the site and potential receptors to monitor contaminant migration in the shallow and deep aquifers and to establish trends in contaminant concentrations.

TABLES

TABLE 1

Monitoring Well and Groundwater Surface Elevation Data
Enmark 380
Newberry, South Carolina
SCDHEC UST Permit #06588
BLE Project Number J11-6859-03

Monitoring Well	Ground Surface Elev.	TOC Elev.	GW Depth BTOC	GW Elev.	Well Depth	Screened Interval Depth	Screened Interval Elev.
MW-1	542.43	542.17	20.85	521.32	28.30	13.05 - 28.05	529.38 - 514.38
MW-2	543.01	542.83	21.32	521.51	25.20	10.20 - 25.20	532.81 - 517.81
MW-3	543.98	543.63	22.14	521.49	25.00	10.00 - 25.00	533.98 - 518.98
MW-4*	543.58	542.96	12.82	Damaged	25.00	10.00 - 25.00	533.58 - 518.58
MW-5	542.69	542.43	21.65	520.78	25.00	15.00 - 25.00	527.69 - 517.69
MW-6	542.43	542.24	20.76	521.48	25.00	15.00 - 25.00	527.43 - 517.43
MW-7	542.79	542.63	21.26	521.37	25.00	15.00 - 25.00	527.79 - 517.79
MW-7D	542.25	541.75	20.35	521.40	46.04	40.84 - 45.84	501.41 - 496.41
MW-8D	542.76	542.54	19.84	522.70	45.00	40.00 - 45.00	502.76 - 497.76
MW-9	544.20	543.91	22.25	521.66	28.74	18.54 - 28.54	525.66 - 515.66
MW-10	543.29	542.98	21.58	521.40	28.00	17.80 - 27.80	525.49 - 515.49
MW-11	541.88	541.6	19.72	521.88	28.30	18.10 - 28.10	523.78 - 513.78
MW-12	541.90	541.67	19.74	521.93	27.61	17.41 - 27.41	524.49 - 514.49
MW-13	541.19	540.96	19.56	521.40	26.46	16.26 - 26.26	524.93 - 514.93
MW-14	545.14	544.81	22.95	521.86	29.32	19.12 - 29.12	526.02 - 516.02
MW-15	544.11	543.81	21.96	521.85	28.62	18.42 - 28.42	525.69 - 515.69
MW-16	539.55	539.35	18.45	520.90	26.02	15.82 - 25.82	523.73 - 513.73
MW-17	541.46	541.24	19.90	521.34	26.54	16.34 - 26.34	525.12 - 515.12
MW-18	541.42	541.24	20.15	521.09	26.28	16.08 - 26.08	525.34 - 515.34
MW-19	540.98	540.82	19.80	521.02	25.52	15.32 - 25.32	525.66 - 515.66
MW-20	542.61	542.24	21.05	521.19	27.24	17.04 - 27.04	525.57 - 515.57
MW-21	541.95	541.73	20.98	520.75	27.16	16.96 - 26.96	524.99 - 514.99
MW-21D	542.43	542.23	20.46	521.77	46.75	41.55 - 46.55	500.88 495.88
MW-22	541.08	540.89	19.84	521.05	26.25	16.05 - 26.05	525.03 - 515.03
MW-22D	541.22	540.87	19.80	521.07	45.82	40.62 - 45.62	500.60 495.60
MW-23	541.44	541.19	20.06	521.13	25.25	15.05 - 25.05	526.39 - 516.39
MW-24	542.50	542.17	20.94	521.23	25.42	15.22 - 25.22	527.28 - 517.28
MW-24D	542.37	542.14	20.90	521.24	46.03	40.83 - 45.83	501.54 496.54
MW-25	542.98	542.72	21.30	521.42	25.38	15.18 - 25.18	527.80 - 517.80
MW-26	543.01	542.87	21.20	521.67	27.00	16.80 - 26.80	526.21 - 516.21
MW-27	543.72	543.45	21.66	521.79	27.25	17.05 - 27.05	526.67 - 516.67
MW-28	540.32	540.03	18.90	521.13	25.50	15.30 - 25.30	525.02 - 515.02
MW-29	538.80	538.56	18.12	520.44	25.00	14.80 - 24.80	524.00 - 514.00
MW-30	537.42	537.15	17.20	519.95	24.00	13.80 - 23.80	523.62 - 513.62
MW-30D	537.60	537.24	17.10	520.14	46.30	36.10 46.10	501.50 491.50
MW-31	538.87	538.63	18.25	520.38	25.25	15.05 - 25.05	523.82 - 513.82
MW-32	539.18	538.94	18.24	520.70	25.25	15.05 - 25.05	524.13 - 514.13
MW-33	540.16	539.95	19.15	520.80	26.25	16.05 - 26.05	524.11 - 514.11
MW-33D	540.22	540.02	19.20	520.82	48.35	38.15 48.15	502.07 492.07
MW-34	533.67	533.42	12.80	520.62	18.25	8.05 - 18.05	525.62 - 515.62
MW-35	528.00	527.70	7.36	520.34	14.25	4.05 - 14.05	523.95 - 513.95
MW-36	525.24	528.05	13.10	514.95	31.00	20.80 - 30.80	504.44 - 494.44
MW-37	519.24	522.30	4.22	518.08	21.69	11.49 - 21.49	507.75 - 497.75
MW-38	536.16	535.96	16.06	519.90	25.00	14.80 - 24.80	521.36 - 511.36
MW-39	518.80	518.57	2.46	516.11	12.00	1.80 - 11.80	517.00 - 507.00
MW-40	542.66	542.05	21.05	521.00	28.30	18.10 28.10	524.56 514.56
MW-41D	540.98	540.78	19.80	520.98	48.00	37.80 47.80	503.18 493.18

NOTES:

Groundwater levels were measured on July 19, 2011.

Well construction data for MW-1 obtained from *REMTECH Engineers Soil Boring & Well Installation Log* dated July 17, 1991.

Well construction data for MW-2 through MW-7 and MW-8D obtained from *Risk-Based Corrective Action Tier II Evaluation Report* by Handex of the Carolinas, Inc. dated May 27, 1999.

*A total well depth of 14.01 feet btoc for MW-4 was recorded during the groundwater sampling event. MW-4 is assumed to be damaged or obstructed.

0.02 feet, 1.20 feet, and 0.20 feet of free-phase petroleum product were detected in MW-5, MW-6, and MW-7, respectively on July 19, 2011. Depth to groundwater mesurements for these wells have been corrected for the presence of free-product using the specific gravity value of 0.70.

Measurements are in feet

BTOC - Below Top Of Casing

BGS - Below Ground Surface

Elevations are NAVD 88

Prepared By: RAD
Checked By: DRM

TABLE 2

Groundwater Analytical Data
Enmark 380
Newberry, South Carolina
SCDHEC UST Permit #06588
BLE Project Number J11-6859-03

CoC	Method	RBSL (µg/L)	MW-1					MW-2				MW-3				MW-4				MW-5		
Sampling Date	NA	NA	2/24/1992	6/11/1997	6/26/1998	11/2/2010	7/20/2011	6/11/1997	6/26/1998	11/2/2010	7/20/2011	6/11/1997	6/26/1998	11/15/22010	7/22/2011	6/11/1997	6/26/1998	11/2/2010	7/22/2011	6/26/1998	11/2/2010	7/22/2011
Free-Product Thickness	Interface Probe	NA	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.45	0.39	DRY	*	0.02	0.02	0.02
Benzene (µg/L)	8260B	5	**5,900**	**5,900**	**3,550**	**4,400**	**5,600**	**6,750**	**3,780**	**1.9**	**1.4J**	**675**	**411**	**68**	**31**	NS	**25,300**	DRY	*	**10,100**	NS	NS
Toluene (µg/L)	8260B	1,000	**5,900**	**8,010**	**1,910**	**2,100**	**7,700**	**13,500**	**9,380**	**1.8**	**2.0**	**9,000**	**4,150**	**11**	**1.1**	NS	**26,300**	DRY	*	**24,400**	NS	NS
Ethylbenzene (µg/L)	8260B	700	**1,800**	**1,530**	**674**	**1,600**	**1,800**	**900**	**896**	**11**	**52**	**900**	**986**	**8.7**	<1.0	NS	**4,290**	DRY	*	**2,920**	NS	NS
Xylenes (µg/L)	8260B	10,000	**7,200**	**7,420**	**3,150**	**7,200**	**8,300**	**5,180**	**3,340**	**39**	**270**	**5,400**	**5,080**	**89**	**19**	NS	**24,900**	DRY	*	**8,480**	NS	NS
Methyl-tert-butyl ether (MTBE) (µg/L)	8260B	40	NT	**135**	**36**	<20	**110**	**900**	**236**	<1.0	<2.0	**5.0**	40	<1.0	<1.0	NS	**7,000**	DRY	*	**25,300**	NS	NS
Naphthalene (µg/L)	8260B	25	NT	**108**	**35**	**170**	**91**	**254**	**885**	**15**	**27**	**450**	**534**	**21**	**0.67J**	NS	**3,050**	DRY	*	**2,800**	NS	NS
1,2-Dibromoethane (EDB) (µg/L)	8011	0.05	NT	NT	NT	**1.9**	**24**	NT	NT	<0.021	<0.019	NT	NT	<0.020	<0.019	NS	NT	DRY	*	NT	NS	NS
1,2-Dichloroethane (1,2 DCA) (µg/L)	8260B	5	NT	NT	NT	**160**	**160**	NT	NT	<1.0	<2.0	NT	NT	<1.0	<1.0	NS	NT	DRY	*	NT	NS	NS
Acenaphthene (µg/L)	8270C	NE	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NS	NT	DRY	*	NT	NS	NS
Acenaphthylene (µg/L)	8270C	NE	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NS	NT	DRY	*	NT	NS	NS
Anthracene (µg/L)	8270C	NE	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NS	NT	DRY	*	NT	NS	NS
Benzo (a) anthracene (µg/L)	8270C	10	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NS	NT	DRY	*	NT	NS	NS
Benzo (a) pyrene (µg/L)	8270C	NE	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NS	NT	DRY	*	NT	NS	NS
Benzo (b) fluoranthene (µg/L)	8270C	10	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NS	NT	DRY	*	NT	NS	NS
Benzo (g,h,i) perylene (µg/L)	8270C	NE	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NS	NT	DRY	*	NT	NS	NS
Benzo (k) fluoroanthene (µg/L)	8270C	10	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NS	NT	DRY	*	NT	NS	NS
Chrysene (µg/L)	8270C	10	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NS	NT	DRY	*	NT	NS	NS
Debenz (a,h) anthracene (µg/L)	8270C	10	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NS	NT	DRY	*	NT	NS	NS
Fluoranthene (µg/L)	8270C	NE	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NS	NT	DRY	*	NT	NS	NS
Fluorene (µg/L)	8270C	NE	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NS	NT	DRY	*	NT	NS	NS
Indeno (1,2,3-cd) pyrene (µg/L)	8270C	NE	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NS	NT	DRY	*	NT	NS	NS
1-Methylnaphthalene (µg/L)	8270C	25	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NS	NT	DRY	*	NT	NS	NS
2-Methylnaphthalene (µg/L)	8270C	25	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NS	NT	DRY	*	NT	NS	NS
Naphthalene (PAH range) (µg/L)	8270C	25	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NS	NT	DRY	*	NT	NS	NS
Phenanthrene (µg/L)	8270C	NE	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NS	NT	DRY	*	NT	NS	NS
Pyrene (µg/L)	8270C	NE	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NS	NT	DRY	*	NT	NS	NS
Ethyl-tert-butyl ether (ETBE) (µg/L)	8260B	47	NT	NT	NT	<20	<50	NT	NT	<1.0	<2.0	NT	NT	<1.0	<1.0	NS	NT	DRY	*	NT	NS	NS
Ethyl-tert-butyl alcohol (ETBA) (µg/L)	8260B	NE	NT	NT	NT	<400	<1,000	NT	NT	<20	<40	NT	NT	<20	<20	NS	NT	DRY	*	NT	NS	NS
Tert-amyl methyl ether (TAME) (µg/L)	8260B	128	NT	NT	NT	<200	<500	NT	NT	<10	<20	NT	NT	<10	<10	NS	NT	DRY	*	NT	NS	NS
Diisopropyl ether (DIPE) (µg/L)	8260B	150	NT	NT	NT	<100	**57J**	NT	NT	<5.0	<10	NT	NT	<5.0	<5.0	NS	NT	DRY	*	NT	NS	NS
Ethanol (µg/L)	8260B	10,000	NT	NT	NT	<2,000	<5,000	NT	NT	<100	<200	NT	NT	<100	<100	NS	NT	DRY	*	NT	NS	NS
Tert-butyl formate (TBF) (µg/L)	8260B	NE	NT	NT	NT	<100	<250	NT	NT	<5.0	<10	NT	NT	<5.0	<5.0	NS	NT	DRY	*	NT	NS	NS
Tert-butyl alcohol (TBA) (µg/L)	8260B	1,400	NT	NT	NT	<400	<1,000	NT	NT	**59**	25J	NT	NT	**58**	<20	NS	NT	DRY	*	NT	NS	NS
Tert-amyl alcohol (TAA) (µg/L)	8260B	240	NT	NT	NT	<400	**3,700**	NT	NT	<20	15J	NT	NT	**100**	**200**	NS	NT	DRY	*	NT	NS	NS
Lead (µg/L)	6010B	15	NT	NT	NT	<10	NT	NT	NT	**38**	NT	NT	NT	<10	NT	NS	NT	DRY	*	NT	NS	NS
Ferrous Iron (mg/L)	SM 3500-FeD	NE	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NS	NT	DRY	*	NT	NS	NS
Nitrates (mg/L)	8094	NE	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NS	NT	DRY	*	NT	NS	NS
Sulfates (mg/L)	SW9056A	NE	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NS	NT	DRY	*	NT	NS	NS

NOTES:
CoC - Chemical of Concern
RBSL - Risk Based Screening Level
Bold values indicate concentrations detected above the laboratory method detection limit.
Shaded values indicate concentrations exceeding RBSLs.
NA - Not Applicable
ND - Not Detected
NE - Not Established
NT - Not Tested
* MW-4 was damaged (obstructed) and thus no groundwater sample collected.

Prepared By: TZS
Checked By: DRM

TABLE 2 - CONTINUED

Groundwater Analytical Data
Enmark 380
Newberry, South Carolina
SCDHEC UST Permit #06588
BLE Project Number J11-6859-03

CoC	Method	RBSL (µg/L)	MW-6			MW-7			MW-7D		MW-8D			MW-9		MW-10		MW-11		MW-12	
Sampling Date	NA	NA	6/26/1998	11/15/2010	7/22/2011	6/26/1998	11/15/2010	7/22/2011	11/4/2010	7/19/2011	6/26/1998	11/4/2010	7/19/2011	11/2/2010	7/20/2011	11/2/2010	7/20/2011	11/2/2010	7/20/2011	11/2/2010	7/20/2011
Free-Product Thickness	Interface Probe	NA	0.00	0.06	1.20	0.00	0.39	0.20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Benzene (µg/L)	8260B	5	**12,800**	NS	NS	**17,000**	NS	NS	**19**	**2.6**	**47.6**	**13**	**75**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Toluene (µg/L)	8260B	1,000	**20,400**	NS	NS	**27,500**	NS	NS	**3.4**	<1.0	**3.0**	**12**	**0.98J**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Ethylbenzene (µg/L)	8260B	700	**3,980**	NS	NS	**3,660**	NS	NS	**2.3**	<1.0	**1.3**	**4.7**	**0.36J**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Xylenes (µg/L)	8260B	10,000	**19,600**	NS	NS	**12,800**	NS	NS	**16**	<1.0	**29.8**	**29**	**120**	<1.0	**0.64J**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Methyl-tert-butyl ether (MTBE) (µg/L)	8260B	40	**410**	NS	NS	**7,280**	NS	NS	<1.0	<1.0	**74.2**	**5.7**	**23**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Naphthalene (µg/L)	8260B	25	**2,760**	NS	NS	**6,140**	NS	NS	**2.8**	<1.0	**14.0**	**4.4**	**22**	<1.0	**1.0**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,2-Dibromoethane (EDB) (µg/L)	8011	0.05	NT	NS	NS	NT	NS	NS	<0.019	<0.020	NT	<0.020	**0.056**	<0.022	<0.019	<0.020	<0.019	<0.020	<0.019	<0.021	<0.019
1,2-Dichloroethane (1,2 DCA) (µg/L)	8260B	5	NT	NS	NS	NT	NS	NS	<1.0	<1.0	NT	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Acenaphthene (µg/L)	8270C	NE	NT	NS	NS	NT	NS	NS	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Acenaphthylene (µg/L)	8270C	NE	NT	NS	NS	NT	NS	NS	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Anthracene (µg/L)	8270C	NE	NT	NS	NS	NT	NS	NS	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Benzo (a) anthracene (µg/L)	8270C	10	NT	NS	NS	NT	NS	NS	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Benzo (a) pyrene (µg/L)	8270C	NE	NT	NS	NS	NT	NS	NS	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Benzo (b) fluoranthene (µg/L)	8270C	10	NT	NS	NS	NT	NS	NS	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Benzo (g,h,i) perylene (µg/L)	8270C	NE	NT	NS	NS	NT	NS	NS	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Benzo (k) fluoroanthene (µg/L)	8270C	10	NT	NS	NS	NT	NS	NS	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Chrysene (µg/L)	8270C	10	NT	NS	NS	NT	NS	NS	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Debenz (a,h) anthracene (µg/L)	8270C	10	NT	NS	NS	NT	NS	NS	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Fluoranthene (µg/L)	8270C	NE	NT	NS	NS	NT	NS	NS	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Fluorene (µg/L)	8270C	NE	NT	NS	NS	NT	NS	NS	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Indeno (1,2,3-cd) pyrene (µg/L)	8270C	NE	NT	NS	NS	NT	NS	NS	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
1-Methylnaphthalene (µg/L)	8270C	25	NT	NS	NS	NT	NS	NS	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
2-Methylnaphthalene (µg/L)	8270C	25	NT	NS	NS	NT	NS	NS	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Naphthalene (PAH range) (µg/L)	8270C	25	NT	NS	NS	NT	NS	NS	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Phenanthrene (µg/L)	8270C	NE	NT	NS	NS	NT	NS	NS	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Pyrene (µg/L)	8270C	NE	NT	NS	NS	NT	NS	NS	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Ethyl-tert-butyl ether (ETBE) (µg/L)	8260B	47	NT	NS	NS	NT	NS	NS	<1.0	<1.0	NT	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Ethyl-tert-butyl alcohol (ETBA) (µg/L)	8260B	NE	NT	NS	NS	NT	NS	NS	<20	<20	NT	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20
Tert-amyl methyl ether (TAME) (µg/L)	8260B	128	NT	NS	NS	NT	NS	NS	<10	<10	NT	<10	**8.5J**	<10	<10	<10	<10	<10	<10	<10	<10
Diisopropyl ether (DIPE) (µg/L)	8260B	150	NT	NS	NS	NT	NS	NS	<5.0	<5.0	NT	<5.0	**0.44J**	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Ethanol (µg/L)	8260B	10,000	NT	NS	NS	NT	NS	NS	<100	<100	NT	**1,700**	<100	**330**	<100	<100	<100	<100	<100	<100	<100
Tert-butyl formate (TBF) (µg/L)	8260B	NE	NT	NS	NS	NT	NS	NS	<5.0	<5.0	NT	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Tert-butyl alcohol (TBA) (µg/L)	8260B	1,400	NT	NS	NS	NT	NS	NS	<20	**33**	NT	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20
Tert-amyl alcohol (TAA) (µg/L)	8260B	240	NT	NS	NS	NT	NS	NS	<20	**51**	NT	**37**	**400**	<20	**71**	<20	<20	<20	<20	<20	<20
Lead (µg/L)	6010B	15	NT	NS	NS	NT	NS	NS	<10	NT	NT	**17**	NT	**350**	NT	**480**	NT	**220**	NT	**290**	NT
Ferrous Iron (mg/L)	SM 3500-FeD	NE	NT	NS	NS	NT	NS	NS	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Nitrates (mg/L)	8094	NE	NT	NS	NS	NT	NS	NS	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Sulfates (mg/L)	SW9056A	NE	NT	NS	NS	NT	NS	NS	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT

NOTES:
CoC - Chemical of Concern
RBSL - Risk Based Screening Level
Bold values indicate concentrations detected above the laboratory method detection limit.
Shaded values indicate concentrations exceeding RBSLs.
NA - Not Applicable
ND - Not Detected
NE - Not Established
NT - Not Tested

Prepared By: TZS
Checked By: DRM

TABLE 2 - CONTINUED

Groundwater Analytical Data
Enmark 380
Newberry, South Carolina
SCDHEC UST Permit #06588
BLE Project Number J11-6859-03

CoC	Method	RBSL (µg/L)	MW-13		MW-14		MW-15		MW-16		MW-17		MW-18		MW-19		MW-20		MW-21		MW-21D		MW-22	
Sampling Date	NA	NA	11/2/2010	7/20/2011	11/3/2010	7/20/2011	11/3/2010	7/20/2011	11/2/2010	7/20/2011	11/2/2010	7/20/2011	11/2/2010	7/20/2011	11/2/2010	7/20/2011	11/4/2010	7/21/2011	11/4/2010	7/21/2011	11/4/2010	7/19/2011	11/2/2010	7/20/2011
Free-Product Thickness	Interface Probe	NA	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Benzene (µg/L)	8260B	5	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**20**	**28J**	**8,300**	**7,200**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**3,200**	**3,700**
Toluene (µg/L)	8260B	1,000	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**170**	**270**	**29,000**	**27,000**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**1,000**	**230**
Ethylbenzene (µg/L)	8260B	700	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**1,700**	**2,600**	**3,100**	**4,000**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**2,400**	**2,900**
Xylenes (µg/L)	8260B	10,000	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**6,200**	**12,000**	**19,000**	**22,000**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**7,900**	**3,900**
Methyl-tert-butyl ether (MTBE) (µg/L)	8260B	40	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<20	<50	**320**	**260**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**610**	**910**
Naphthalene (µg/L)	8260B	25	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**490**	**400**	**850**	<200	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**630**	**530**
1,2-Dibromoethane (EDB) (µg/L)	8011	0.05	<0.021	<0.019	<0.020	<0.020	<0.020	<0.019	<0.020	<0.019	<0.020	<0.019	<0.020	<0.020	**28**	**24**	<0.020	<0.019	<0.019	<0.019	<0.020	<0.019	**0.28**	**0.17**
1,2-Dichloroethane (1,2 DCA) (µg/L)	8260B	5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<20	<50	<200	<200	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<20	**86**
Acenaphthene (µg/L)	8270C	NE	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Acenaphthylene (µg/L)	8270C	NE	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Anthracene (µg/L)	8270C	NE	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Benzo (a) anthracene (µg/L)	8270C	10	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Benzo (a) pyrene (µg/L)	8270C	NE	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Benzo (b) fluoranthene (µg/L)	8270C	10	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Benzo (g,h,i) perylene (µg/L)	8270C	NE	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Benzo (k) fluoroanthene (µg/L)	8270C	10	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Chrysene (µg/L)	8270C	10	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Debenz (a,h) anthracene (µg/L)	8270C	10	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Fluoranthene (µg/L)	8270C	NE	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Fluorene (µg/L)	8270C	NE	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Indeno (1,2,3-cd) pyrene (µg/L)	8270C	NE	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
1-Methylnaphthalene (µg/L)	8270C	25	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
2-Methylnaphthalene (µg/L)	8270C	25	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Naphthalene (PAH range) (µg/L)	8270C	25	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Phenanthrene (µg/L)	8270C	NE	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Pyrene (µg/L)	8270C	NE	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Ethyl-tert-butyl ether (ETBE) (µg/L)	8260B	47	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<20	<50	<200	<200	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<20	<20
Ethyl-tert-butyl alcohol (ETBA) (µg/L)	8260B	NE	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<400	<1,000	<4,000	<4,000	<20	<20	<20	<20	<20	<20	<400	<400
Tert-amyl methyl ether (TAME) (µg/L)	8260B	128	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<200	<500	<2,000	<2,000	<10	<10	<10	<10	<10	<10	**360**	**420**
Diisopropyl ether (DIPE) (µg/L)	8260B	150	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<100	<250	<1,000	<1,000	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<100	**29J**
Ethanol (µg/L)	8260B	10,000	<100	<100	<100	<100	<100	<100	**220**	<100	**260**	<100	<2,000	<5,000	<20,000	<20,000	<100	<100	<100	<100	<100	<100	<2,000	<2,000
Tert-butyl formate (TBF) (µg/L)	8260B	NE	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<100	<250	<1,000	<1,000	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<100	<100
Tert-butyl alcohol (TBA) (µg/L)	8260B	1,400	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<400	<1,000	<4,000	<4,000	<20	<20	<20	<20	<20	<20	<400	**250J**
Tert-amyl alcohol (TAA) (µg/L)	8260B	240	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<400	<1,000	<4,000	**2,600J**	<20	<20	<20	<20	<20	<20	<400	**5,000**
Lead (µg/L)	6010B	15	**420**	NT	**96**	NT	**70**	NT	**180**	NT	**31**	NT	**270**	NT	**480**	NT	**10**	NT	**22**	NT	**69**	NT	**520**	NT
Ferrous Iron (mg/L)	SM 3500-FeD	NE	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Nitrates (mg/L)	8094	NE	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Sulfates (mg/L)	SW9056A	NE	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT

NOTES:
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Bold values indicate concentrations detected above the laboratory method detection limit.
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NA - Not Applicable
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Prepared By: TZS
Checked By: DRM

TABLE 2 - CONTINUED

Groundwater Analytical Data
Enmark 380
Newberry, South Carolina
SCDHEC UST Permit #06588
BLE Project Number J11-6859-03

CoC	Method	RBSL (µg/L)	MW-22D		MW-23		MW-24		MW-24D		MW-25		MW-26		MW-27		MW-28		MW-29		MW-30		MW-30D
Sampling Date	NA	NA	11/4/2010	7/19/2011	11/3/2010	7/20/2011	11/3/2010	7/20/2011	11/4/2010	7/19/2011	11/3/2010	7/20/2011	11/3/2010	7/21/2011	11/3/2010	7/21/2011	11/4/2010	7/21/2011	11/3/2010	7/21/2011	11/3/2010	7/21/2011	7/19/2011
Free-Product Thickness	Interface Probe	NA	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Benzene (µg/L)	8260B	5	**220**	**320**	**19,000**	**13,000**	**17,000**	**16,000**	**110**	**220**	**6,100**	**14,000**	**27**	**13**	<1.0	<1.0	<1.0	<1.0	<1.0	**0.65J**	**3.6**	<1.0	**2.1**
Toluene (µg/L)	8260B	1,000	<1.0	<1.0	**30,000**	**35,000**	**23,000**	**4,500**	**23**	<1.0	**3,600**	**5,800**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**0.75J**	**19**	<1.0	<1.0
Ethylbenzene (µg/L)	8260B	700	<1.0	<1.0	**4,500**	**4,000**	**5,100**	**3,500**	**9.2**	<1.0	**1,500**	**2,600**	**2.2**	**1.3**	<1.0	<1.0	<1.0	<1.0	<1.0	**0.57J**	**8.3**	<1.0	<1.0
Xylenes (µg/L)	8260B	10,000	**2.0**	**0.64J**	**24,000**	**22,000**	**24,000**	**11,000**	**33**	**1.2**	**7,900**	**12,000**	**8.5**	**4.3**	<1.0	<1.0	<1.0	<1.0	<1.0	**6.9**	**53**	<1.0	<1.0
Methyl-tert-butyl ether (MTBE) (µg/L)	8260B	40	**9.2**	**15**	**2,300**	**260J**	**2,400**	**2,300**	**10**	**39**	**1,000**	**1,700**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**350**	**250**	**45**
Naphthalene (µg/L)	8260B	25	**15**	**23**	**1,000**	<400	**840**	**170**	**14**	**23**	**520**	**94J**	<1.0	**1.1**	<1.0	<1.0	<1.0	<1.0	<1.0	**0.93J**	**9.0**	<1.0	<1.0
1,2-Dibromoethane (EDB) (µg/L)	8011	0.05	<0.019	<0.019	**40**	**42**	**55**	**37**	**0.041**	**0.017**	**3.5**	**4.9**	<0.021	<0.020	<0.021	<0.019	<0.020	<0.019	<0.021	<0.020	<0.020	<0.019	<0.020
1,2-Dichloroethane (1,2 DCA) (µg/L)	8260B	5.0	<1.0	**6.6**	**910**	<400	**630**	**430**	<1.0	**4.9**	<20	**320**	<1.0	**0.32J**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**11**	**5.7**	**3.3**
Acenapthene (µg/L)	8270C	NE	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Acenapthylene (µg/L)	8270C	NE	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Anthracene (µg/L)	8270C	NE	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Benzo (a) anthracene (µg/L)	8270C	10	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Benzo (a) pyrene (µg/L)	8270C	NE	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Benzo (b) fluoranthene (µg/L)	8270C	10	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Benzo (g,h,i) perylene (µg/L)	8270C	NE	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Benzo (k) fluoroanthene (µg/L)	8270C	10	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Chrysene (µg/L)	8270C	10	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Debenz (a,h) anthracene (µg/L)	8270C	10	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Fluoranthene (µg/L)	8270C	NE	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Fluorene (µg/L)	8270C	NE	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Indeno (1,2,3-cd) pyrene (µg/L)	8270C	NE	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
1-Methylnaphthalene (µg/L)	8270C	25	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
2-Methylnaphthalene (µg/L)	8270C	25	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Naphthalene (PAH range) (µg/L)	8270C	25	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Phenanthrene (µg/L)	8270C	NE	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Pyrene (µg/L)	8270C	NE	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Ethyl-tert-butyl ether (ETBE) (µg/L)	8260B	47	<1.0	<1.0	<200	<400	<100	<100	<1.0	<1.0	<20	<100	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Ethyl-tert-butyl alcohol (ETBA) (µg/L)	8260B	NE	<20	<20	<4,000	<8,000	<2,000	<2,000	<20	<20	<400	<2,000	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20
Tert-amyl methyl ether (TAME) (µg/L)	8260B	128	<10	**14**	<2,000	<4,000	<1,000	**330J**	<10	**2.1J**	<200	**220J**	<10	<10	<10	<10	<10	<10	<10	<10	**13**	**10**	**0.98J**
Diisopropyl ether (DIPE) (µg/L)	8260B	150	<5.0	**0.89J**	<1,000	**260J**	<500	**230J**	<5.0	**4.9J**	<100	**54J**	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	**47**	**35**	**8.1**
Ethanol (µg/L)	8260B	10,000	<100	<100	<20,000	<40,000	<10,000	<10,000	<100	<100	<2,000	<10,000	<100	<100	**1,200**	<100	<100	<100	<100	<100	<100	<100	<100
Tert-butyl formate (TBF) (µg/L)	8260B	NE	<5.0	<5.0	<1,000	<2,000	<500	<500	<5.0	<5.0	<100	<500	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Tert-butyl alcohol (TBA) (µg/L)	8260B	1,400	**24**	<20	**14,000**	<8,000	<2,000	**1,300J**	<20	<20	<400	<2,000	<20	<20	<20	<20	<20	<20	<20	<20	**680**	**250**	**64**
Tert-amyl alcohol (TAA) (µg/L)	8260B	240	<20	**160**	<4,000	**18,000**	<2,000	**13,000**	**55**	**170**	**2,800**	**3,900**	**64**	**75**	<20	<20	<20	<20	<20	**120**	**1,000**	**360**	**150**
Lead (µg/L)	6010B	15	**15**	NT	**640**	NT	**120**	NT	<10	NT	**110**	NT	<10	NT	<10	NT	<10	NT	**720**	NT	**170**	NT	NT
Ferrous Iron (mg/L)	SM 3500-FeD	NE	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Nitrates (mg/L)	8094	NE	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Sulfates (mg/L)	SW9056A	NE	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT

NOTES:
CoC - Chemical of Concern
RBSL - Risk Based Screening Level
Bold values indicate concentrations detected above the laboratory method detection limit.
Shaded values indicate concentrations exceeding RBSLs.
NA - Not Applicable
ND - Not Detected
NE - Not Established
NT - Not Tested

Prepared By: TZS
Checked By: DRM

TABLE 2 - CONTINUED

Groundwater Analytical Data
Enmark 380
Newberry, South Carolina
SCDHEC UST Permit #06588
BLE Project Number J11-6859-03

CoC	Method	RBSL (µg/L)	MW-31		MW-32		MW-33		MW-33D	MW-34		MW-35		MW-36		MW-37		MW-38		MW-39		MW-40	MW-41D
Sampling Date	NA	NA	11/3/2010	7/21/2011	11/3/2010	7/21/2011	11/4/2010	7/21/2011	7/19/2011	11/4/2010	7/21/2011	11/4/2010	7/21/2011	11/4/2010	7/21/2011	11/4/2010	7/21/2011	11/4/2010	7/21/2011	11/12/2010	7/21/2011	7/21/2011	7/19/2011
Free-Product Thickness	Interface Probe	NA	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Benzene (µg/L)	8260B	5	<1.0	**0.13J**	<1.0	<1.0	<1.0	**0.14J**	**700**	<1.0	**0.38J**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**2,700**	**8,000**
Toluene (µg/L)	8260B	1,000	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**12**	<1.0	<1.0	<1.0	**1,100**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**150**	**52**
Ethylbenzene (µg/L)	8260B	700	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**86**	**230**
Xylenes (µg/L)	8260B	10,000	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**28**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**1.2**	<1.0	**1,300**	**170**
Methyl-tert-butyl ether (MTBE) (µg/L)	8260B	40	**12**	**3.7**	**15**	**85**	**43**	**23**	**3,100**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**160**	**2,600**
Naphthalene (µg/L)	8260B	25	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**3.3**	<1.0	<1.0	<1.0	**0.90J**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**240**	<50
1,2-Dibromoethane (EDB) (µg/L)	8011	0.05	<0.020	<0.019	<0.020	<0.019	<0.020	<0.020	<0.020	<0.019	<0.019	<0.020	<0.019	<0.020	<0.021	<0.020	<0.019	<0.020	<0.019	<0.019	<0.019	**0.65**	<0.020
1,2-Dichloroethane (1,2 DCA) (µg/L)	8260B	5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**70**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**55**	**320**
Acenapthene (µg/L)	8270C	NE	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Acenapthylene (µg/L)	8270C	NE	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Anthracene (µg/L)	8270C	NE	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Benzo (a) anthracene (µg/L)	8270C	10	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Benzo (a) pyrene (µg/L)	8270C	NE	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Benzo (b) fluoranthene (µg/L)	8270C	10	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Benzo (g,h,i) perylene (µg/L)	8270C	NE	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Benzo (k) fluoroanthene (µg/L)	8270C	10	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Chrysene (µg/L)	8270C	10	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Debenz (a,h) anthracene (µg/L)	8270C	10	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Fluoranthene (µg/L)	8270C	NE	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Fluorene (µg/L)	8270C	NE	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Indeno (1,2,3-cd) pyrene (µg/L)	8270C	NE	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
1-Methylnaphthalene (µg/L)	8270C	25	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
2-Methylnaphthalene (µg/L)	8270C	25	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Naphthalene (PAH range) (µg/L)	8270C	25	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Phenanthrene (µg/L)	8270C	NE	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Pyrene (µg/L)	8270C	NE	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Ethyl-tert-butyl ether (ETBE) (µg/L)	8260B	47	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**0.26J**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<50
Ethyl-tert-butyl alcohol (ETBA) (µg/L)	8260B	NE	<20	<20	<20	<20	<20	<20	**78**	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<1,000
Tert-amyl methyl ether (TAME) (µg/L)	8260B	128	<10	**0.24J**	<10	**6.0J**	<10	**2.6J**	**250**	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	**82**	**63J**
Diisopropyl ether (DIPE) (µg/L)	8260B	150	<5.0	**0.42J**	<5.0	**4.1J**	<5.0	**2.2J**	**170**	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	**11**	**340**
Ethanol (µg/L)	8260B	10,000	<100	<100	<100	<100	<100	<100	**270**	<100	**130**	<100	**110**	<100	<100	<100	<100	<100	<100	<100	<100	<100	<5,000
Tert-butyl formate (TBF) (µg/L)	8260B	NE	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<250
Tert-butyl alcohol (TBA) (µg/L)	8260B	1,400	<20	<20	<20	<20	**23**	<20	<20	<20	**200**	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	**6,200**
Tert-amyl alcohol (TAA) (µg/L)	8260B	240	**30**	<20	<20	<20	**62**	**12J**	**6,500**	<20	**500**	<20	<20	<20	**57**	<20	<20	<20	<20	<20	<20	**3500**	**12,000**
Lead (µg/L)	6010B	15	<10	NT	**1,800**	NT	**11**	NT	NT	<10	NT	<10	NT	**310**	NT	**10**	NT	**35**	NT	**150**	NT	NT	NT
Ferrous Iron (mg/L)	SM 3500-FeD	NE	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Nitrates (mg/L)	8094	NE	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Sulfates (mg/L)	SW9056A	NE	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT

NOTES:
CoC - Chemical of Concern
RBSL - Risk Based Screening Level
Bold values indicate concentrations detected above the laboratory method detection
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NA - Not Applicable
ND - Not Detected
NE - Not Established
NT - Not Tested

Prepared By: TZS
Checked By: DRM

TABLE 2 - CONTINUED

Groundwater Analytical Data
Enmark 380
Newberry, South Carolina
SCDHEC UST Permit #06588
BLE Project Number J11-6859-03

CoC	Method	RBSL (µg/L)	SW-1		DW-1		DW-2		DW-3		DW-4		DW-5		DW-6		DW-7		DW-8		DW-9		DW-10	
Sampling Date	NA	NA	11/12/2010	7/22/2011	11/5/2010	7/22/2011	11/5/2010	7/22/2011	11/5/2010	7/22/2011	11/5/2010	7/22/2011	11/5/2010	7/22/2011	11/5/2010	7/22/2011	11/5/2010	7/22/2011	11/5/2010	7/22/2011	11/5/2010	7/22/2011	11/5/2010	7/22/2011
Free-Product Thickness	Interface Probe	NA	0.00	0.00	0.00	0.00	0.00	NS	0.00	0.00	0.00	NS	0.00	NS	NS	NS	NS	NS	NS	NS	0.00	NS	NS	NS
Benzene (µg/L)	8260B	5	<1.0	<1.0	<1.0	<1.0	<1.0	NS	<1.0	<1.0	<1.0	NS	<1.0	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Toluene (µg/L)	8260B	1,000	<1.0	<1.0	<1.0	<1.0	<1.0	NS	<1.0	<1.0	<1.0	NS	<1.0	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Ethylbenzene (µg/L)	8260B	700	<1.0	<1.0	<1.0	**0.81J**	<1.0	NS	<1.0	<1.0	<1.0	NS	<1.0	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Xylenes (µg/L)	8260B	10,000	<1.0	<1.0	<1.0	**27**	<1.0	NS	<1.0	<1.0	<1.0	NS	<1.0	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Methyl-tert-butyl ether (MTBE) (µg/L)	8260B	40	<1.0	<1.0	<1.0	**0.58J**	<1.0	NS	<1.0	<1.0	<1.0	NS	<1.0	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Naphthalene (µg/L)	8260B	25	<1.0	<1.0	<1.0	**18**	<1.0	NS	<1.0	<1.0	<1.0	NS	<1.0	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
1,2-Dibromoethane (EDB) (µg/L)	8011	0.05	<0.019	<0.020	<0.020	<0.019	<0.019	NS	<0.020	<0.019	<0.020	NS	<0.020	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
1,2-Dichloroethane (1,2 DCA) (µg/L)	8260B	5.0	<1.0	<1.0	<1.0	<1.0	<1.0	NS	<1.0	<1.0	<1.0	NS	<1.0	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Acenaphthene (µg/L)	8270C	NE	NT	NT	NT	NT	NT	NS	NT	NT	NT	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Acenaphthylene (µg/L)	8270C	NE	NT	NT	NT	NT	NT	NS	NT	NT	NT	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Anthracene (µg/L)	8270C	NE	NT	NT	NT	NT	NT	NS	NT	NT	NT	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Benzo (a) anthracene (µg/L)	8270C	10	NT	NT	NT	NT	NT	NS	NT	NT	NT	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Benzo (a) pyrene (µg/L)	8270C	NE	NT	NT	NT	NT	NT	NS	NT	NT	NT	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Benzo (b) fluoranthene (µg/L)	8270C	10	NT	NT	NT	NT	NT	NS	NT	NT	NT	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Benzo (g,h,i) perylene (µg/L)	8270C	NE	NT	NT	NT	NT	NT	NS	NT	NT	NT	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Benzo (k) fluoranthene (µg/L)	8270C	10	NT	NT	NT	NT	NT	NS	NT	NT	NT	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Chrysene (µg/L)	8270C	10	NT	NT	NT	NT	NT	NS	NT	NT	NT	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Debenz (a,h) anthracene (µg/L)	8270C	10	NT	NT	NT	NT	NT	NS	NT	NT	NT	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Fluoranthene (µg/L)	8270C	NE	NT	NT	NT	NT	NT	NS	NT	NT	NT	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Fluorene (µg/L)	8270C	NE	NT	NT	NT	NT	NT	NS	NT	NT	NT	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Indeno (1,2,3-cd) pyrene (µg/L)	8270C	NE	NT	NT	NT	NT	NT	NS	NT	NT	NT	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
1-Methylnaphthalene (µg/L)	8270C	25	NT	NT	NT	NT	NT	NS	NT	NT	NT	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
2-Methylnaphthalene (µg/L)	8270C	25	NT	NT	NT	NT	NT	NS	NT	NT	NT	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Naphthalene (PAH range) (µg/L)	8270C	25	NT	NT	NT	NT	NT	NS	NT	NT	NT	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Phenanthrene (µg/L)	8270C	NE	NT	NT	NT	NT	NT	NS	NT	NT	NT	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Pyrene (µg/L)	8270C	NE	NT	NT	NT	NT	NT	NS	NT	NT	NT	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Ethyl-tert-butyl ether (ETBE) (µg/L)	8260B	47	<1.0	<1.0	<1.0	<1.0	<1.0	NS	<1.0	<1.0	<1.0	NS	<1.0	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Ethyl-tert-butyl alcohol (ETBA) (µg/L)	8260B	NE	<20	<20	<20	<20	<20	NS	<20	<20	<20	NS	<20	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Tert-amyl methyl ether (TAME) (µg/L)	8260B	128	<10	<10	<10	<10	<10	NS	<10	<10	<10	NS	<10	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Diisopropyl ether (DIPE) (µg/L)	8260B	150	<5.0	<5.0	<5.0	<5.0	<5.0	NS	<5.0	<5.0	<5.0	NS	<5.0	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Ethanol (µg/L)	8260B	10,000	<100	<100	<100	<100	<100	NS	<100	<100	<100	NS	<100	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Tert-butyl formate (TBF) (µg/L)	8260B	NE	<5.0	<5.0	<5.0	<5.0	<5.0	NS	<5.0	<5.0	<5.0	NS	<5.0	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Tert-butyl alcohol (TBA) (µg/L)	8260B	1,400	<20	<20	<20	**32**	<20	NS	<20	<20	<20	NS	<20	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Tert-amyl alcohol (TAA) (µg/L)	8260B	240	<20	<20	<20	**250**	<20	NS	<20	<20	<20	NS	<20	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Lead (µg/L)	6010B	15	NT	NT	NT	NT	NT	NS	NT	NT	NT	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Ferrous Iron (mg/L)	SM 3500-FeD	NE	NT	NT	NT	NT	NT	NS	NT	NT	NT	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Nitrates (mg/L)	8094	NE	NT	NT	NT	NT	NT	NS	NT	NT	NT	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Sulfates (mg/L)	SW9056A	NE	NT	NT	NT	NT	NT	NS	NT	NT	NT	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS

NOTES:
CoC - Chemical of Concern
RBSL - Risk Based Screening Level
Bold values indicate concentrations detected above the laboratory method detection
Shaded values indicate concentrations exceeding RBSLs.
NA - Not Applicable
ND - Not Detected
NE - Not Established
NT - Not Tested

Prepared By: TZS
Checked By: DRM

TABLE 3

Interstitial Groundwater Velocity
Enmark 380
Newberry, South Carolina
SCDHEC UST Permit #06588
BLE Project Number J11-6859-03

SHALLOW WATER TABLE VELOCITY CALCULATION	Hydraulic Conductivity (K) (centimeters/second)	Hydraulic Conductivity (K) (feet/day)	Hydraulic Conductivity (K) (feet/year)	Hydraulic Gradient (i) (unitless)	Effective Porosity (n) (unitless)	Groundwater Velocity (V) (feet/day)	Groundwater Velocity (V) (feet/year)	Groundwater Velocity (V) (meters/second)
MW-22	4.07E-03	11.54	4.21E+03	0.003	0.18	1.92E-01	70.19	6.78E-07
MW-24	3.89E-03	11.03	4.02E+03	0.003	0.18	1.84E-01	67.08	6.48E-07
Mathematical Mean	3.98E-03	11.28	4.12E+03	0.003	0.18	1.88E-01	68.63	6.63E-07

INTERMEDIATE PWR VELOCITY CALCULATION	Hydraulic Conductivity (K) (centimeters/second)	Hydraulic Conductivity (K) (feet/day)	Hydraulic Conductivity (K) (feet/year)	Hydraulic Gradient (i) (unitless)	Effective Porosity (n) (unitless)	Groundwater Velocity (V) (feet/day)	Groundwater Velocity (V) (feet/year)	Groundwater Velocity (V) (meters/second)
MW-30D	9.32E-04	2.64	9.64E+02	0.003	0.20	3.96E-02	14.47	1.40E-07
Mathematical Mean	9.32E-04	2.64	9.64E+02	0.003	0.20	3.96E-02	14.47	1.40E-07

SHALLOW BEDROCK VELOCITY CALCULATION	Hydraulic Conductivity (K) (centimeters/second)	Hydraulic Conductivity (K) (feet/day)	Hydraulic Conductivity (K) (feet/year)	Hydraulic Gradient (i) (unitless)	Effective Porosity (n) (unitless)	Groundwater Velocity (V) (feet/day)	Groundwater Velocity (V) (feet/year)	Groundwater Velocity (V) (meters/second)
MW-24D	2.63E-03	7.46	2.72E+03	0.003	0.05	4.47E-01	163.28	1.58E-06
Mathematical Mean	2.63E-03	7.46	2.72E+03	0.003	0.05	4.47E-01	163.28	1.58E-06

Notes:

PWR - partially weathered rock

Hydraulic conductivity values were obtained from slug tests performed by BLE on November 15, 2010, January 4, 2011, and August 2, 2011 (MW-30D).

Effective porosity for MW-22 and MW-24 was estimated from specific yield as described by Fetter (1994), using laboratory grain size data from the screened interval of MW-22 (20'-25').

An effective porosity of 0.20 for partially weathered rock was estimated for MW-30D as described in Heath, R.C., 1987, Basic ground-water hydrology: U.S. Geological Survey Water Supply Paper 2220, 84 pp.

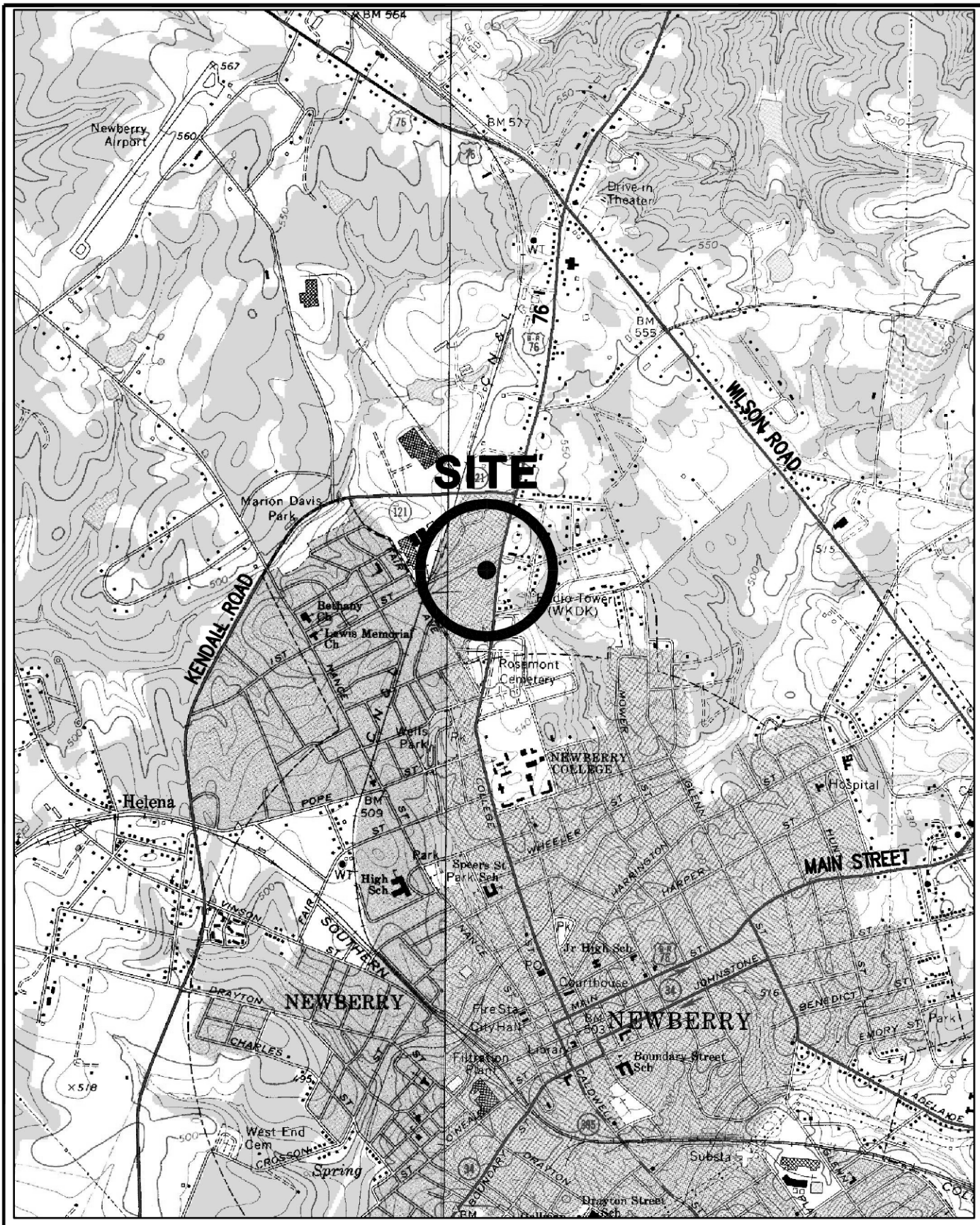
An effective mean porosity of 0.05 for fractured crystalline bedrock was estimated for MW-24D. The effective porosity was based upon representative porosity as described in Freeze, R.A. and Cherry, J.A., 1979, Groundwater, Prentice-Hall, Inc., New Jersey, 604 pp.

The site-wide hydraulic gradient is based on groundwater elevations and distances from MW-2 to MW-19. Water level data was measured on July 19, 2011.

Groundwater velocity derived from the equation V = Ki/n.

Prepared By: TZS
Checked By: DRM

FIGURES

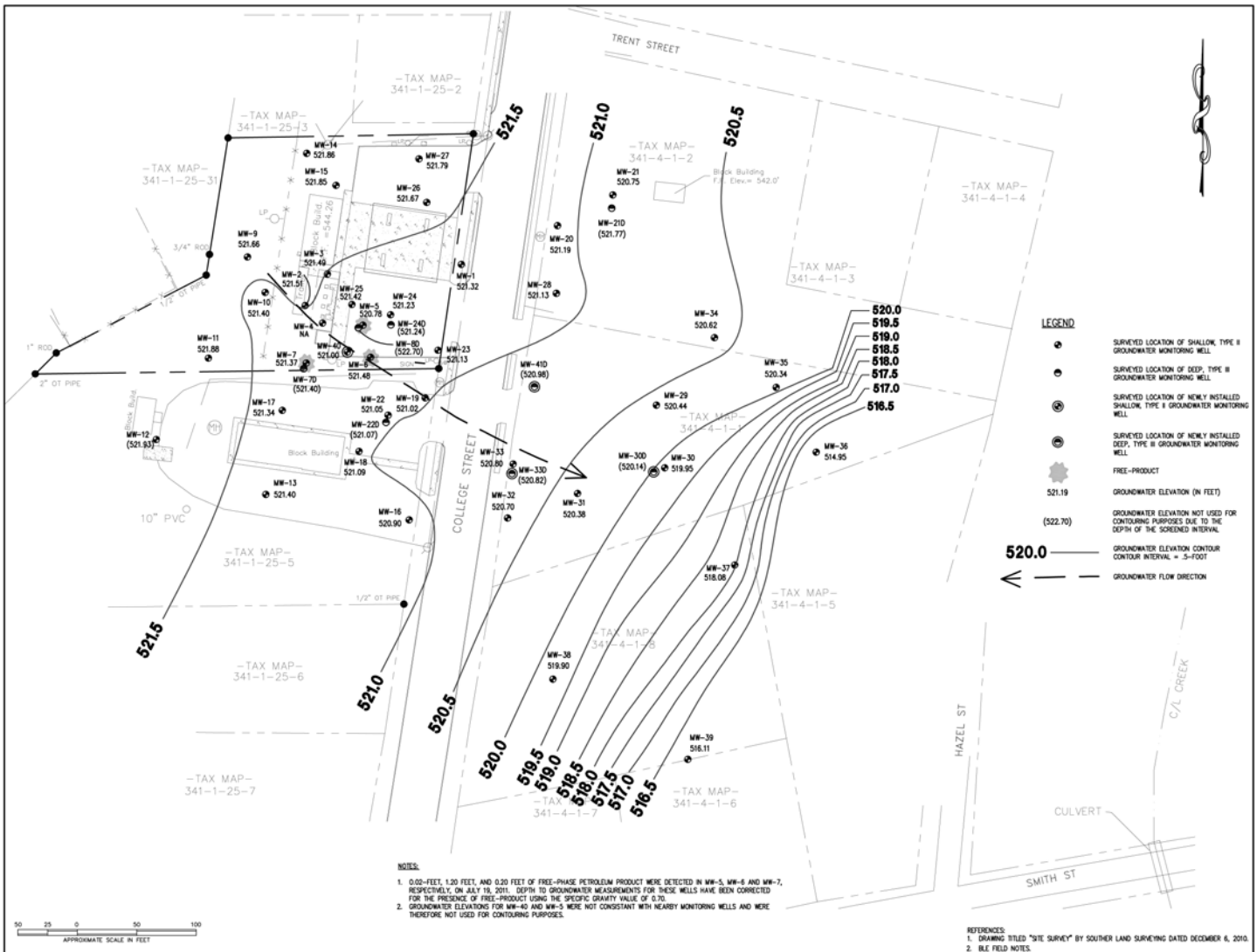


2000 1000 0 2000 4000

APPROXIMATE SCALE IN FEET

REFERENCE:
USGS TOPOGRAPHIC MAP, 7.5 MINUTE SERIES, NEWBERRY WEST AND NEWBERRY EAST, S.C. QUADRANGLES, 1969 AND 1968.

DRAWN: ACE	DATE: 08-06-11	BLE INC. BUNNELL-LAMMONS ENGINEERING, INC. 6004 PONDERS COURT GREENVILLE, SOUTH CAROLINA 29615 PHONE: (864)288-1265 FAX: (864)288-4430	SITE LOCATION MAP SPINX 258/FORMER ENMARK 380 UST PERMIT #06588 NEWBERRY, SOUTH CAROLINA	FIGURE
CHECKED: TZS	CAD: SPINX258-03SLM			1
APPROVED:	JOB NO: J11-6859-03			



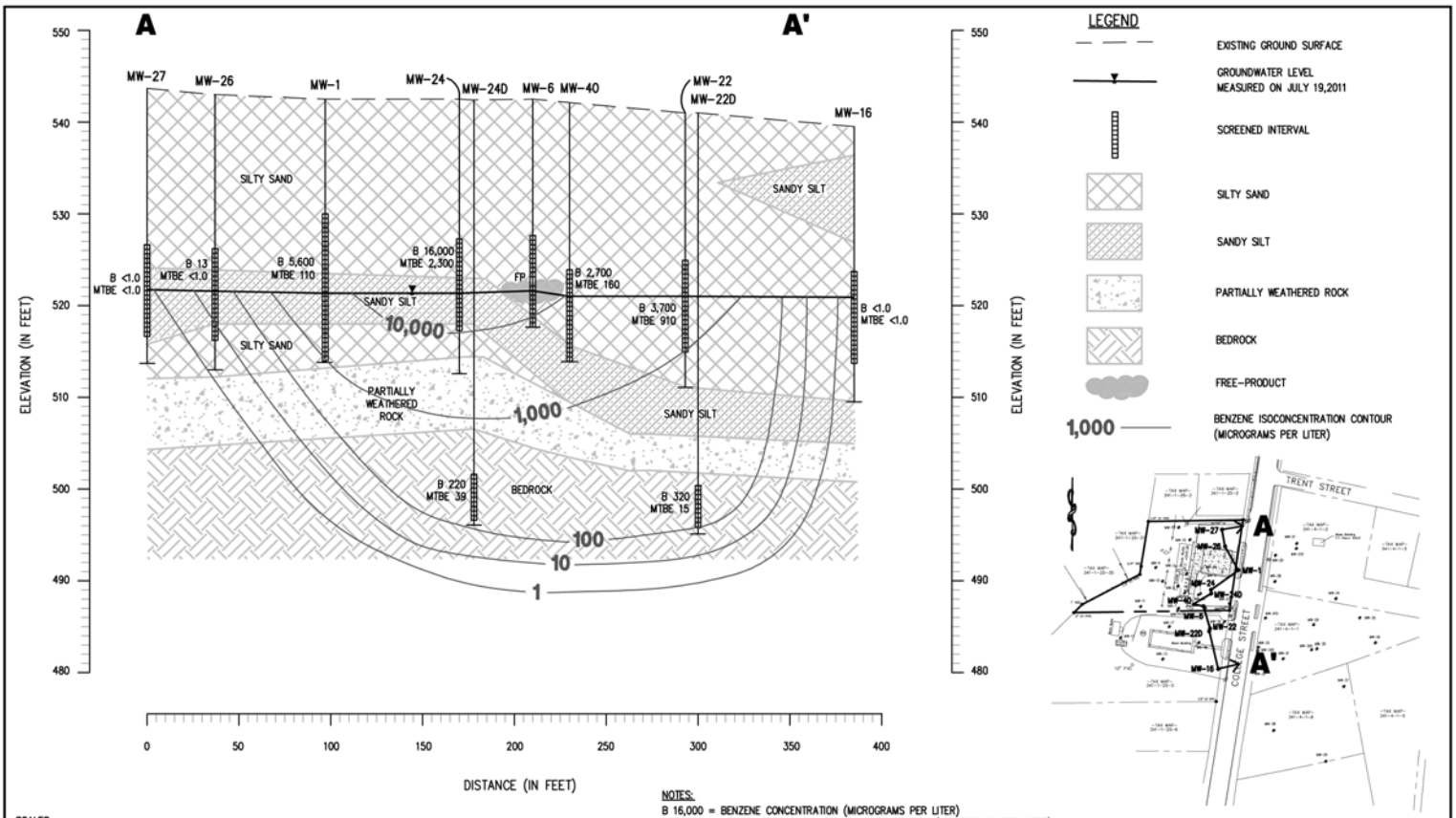
NOTES:

1. 0.02-FEET, 1.20 FEET, AND 0.20 FEET OF FREE-PHASE PETROLEUM PRODUCT WERE DETECTED IN MW-5, MW-6 AND MW-7, RESPECTIVELY, ON JULY 19, 2011. DEPTH TO GROUNDWATER MEASUREMENTS FOR THESE WELLS HAVE BEEN CORRECTED FOR THE PRESENCE OF FREE-PRODUCT USING THE SPECIFIC GRAVITY VALUE OF 0.70.
2. GROUNDWATER ELEVATIONS FOR MW-40 AND MW-5 WERE NOT CONSISTANT WITH NEARBY MONITORING WELLS AND WERE THEREFORE NOT USED FOR CONTOURING PURPOSES.

REFERENCES:

1. DRAWING TITLED "SITE SURVEY" BY SOUTHER LAND SURVEYING DATED DECEMBER 6, 2010.
2. BLE FIELD NOTES.

REVISIONS						
No.	DESCRIPTION	BY	DRAWN: ACE	DATE: 08-12-11	BUNNELL-LAMMONS ENGINEERING, INC. 6004 PONDERS COURT GREENVILLE, SOUTH CAROLINA 29615 PHONE: (864)288-1265 FAX: (864)288-4430	SITE LOCATION AND GROUNDWATER POTENTIOMETRIC MAP - JULY 2011 SPINX 258/FORMER ENMARK 380 UST PERMIT #06588 NEWBERRY, SOUTH CAROLINA	FIGURE NO.
			CHECKED: TZS	CAD FILE: SPINX258-03WTM			2
			APPROVED: RAD	JOB NO: J11-6859-03			



SCALES:
VERTICAL: 1" = 10'
HORIZONTAL: 1" = 50'

NOTES:
B 16,000 = BENZENE CONCENTRATION (MICROGRAMS PER LITER)
MTBE 23 = METHYL-TERT-BUTYL-ETHER CONCENTRATION (MICROGRAMS PER LITER)

DRAWN BY: ACE	DATE: 09-22-11	REVISIONS	
CHECKED BY: TZS	FILE: SPINX258-03PRA	No. / DESCRIPTION / BY	
APPROVED BY:	JOB NO: J11-6859-03		

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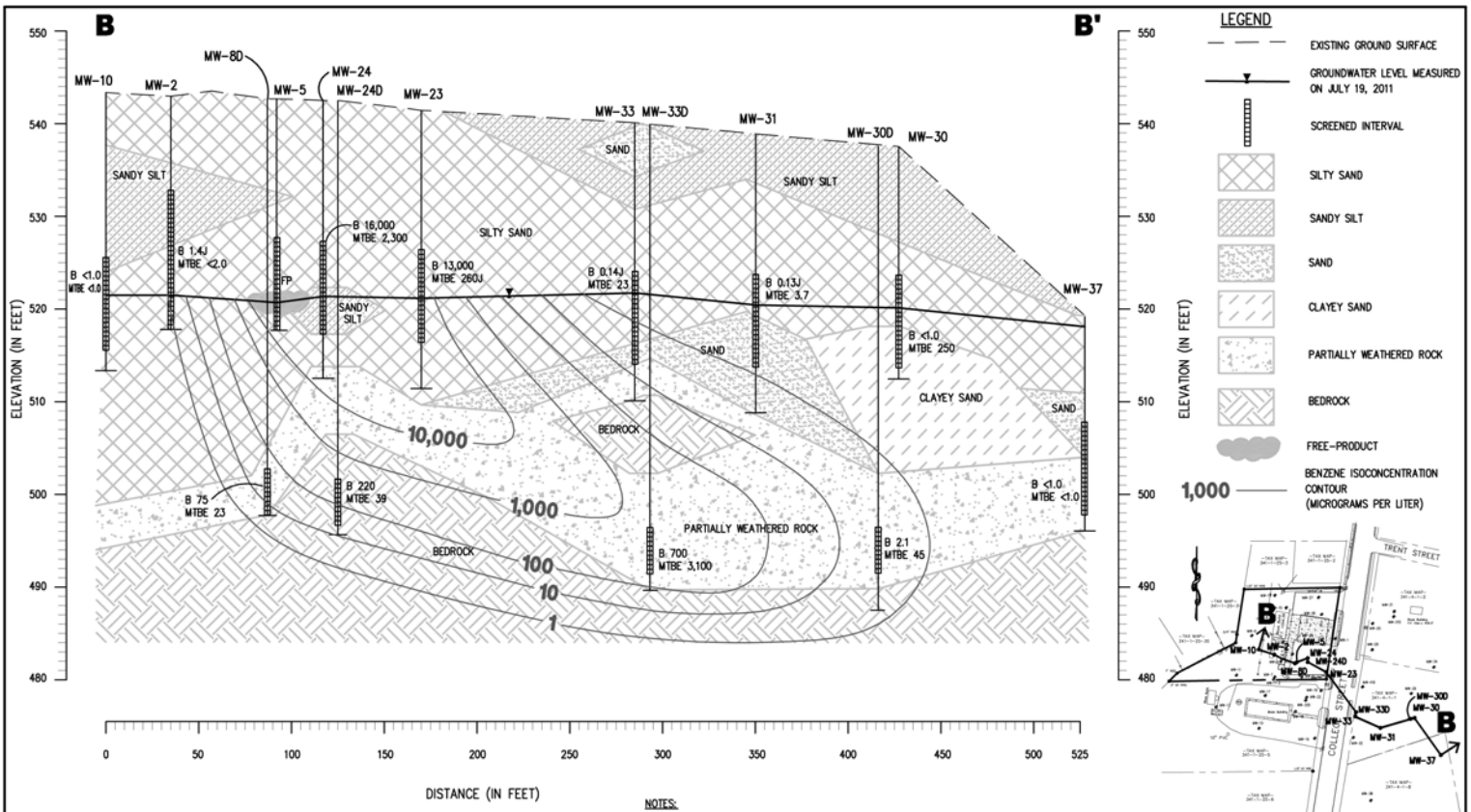
6004 PONDERS COURT
GREENVILLE, SOUTH CAROLINA 29615
PHONE: (864)288-1265 FAX: (864)288-4430

SUBSURFACE GEOLOGIC PROFILE A-A'
SPINX 258/FORMER ENMARK 380
UST PERMIT #06588
NEWBERRY, SOUTH CAROLINA

FIGURE 3A



SCALES:
VERTICAL: 1" = 10'
HORIZONTAL: 1" = 50'

NOTES:
B 16,000 = BENZENE CONCENTRATION (MICROGRAMS PER LITER)
MTBE 23 = METHYL-TERT-BUTYL-ETHER CONCENTRATION (MICROGRAMS PER LITER)

DRAWN BY:	ACE	DATE:	09-22-11
CHECKED BY:	TZS	FILE:	SPINX258-03PRB
APPROVED BY:		JOB NO:	J11-6859-03

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GREENVILLE, SOUTH CAROLINA 29615
PHONE: (864)288-1265 FAX: (864)288-4430

SUBSURFACE GEOLOGIC PROFILE B-B'
SPINX 258/FORMER ENMARK 380
UST PERMIT #06588
NEWBERRY, SOUTH CAROLINA

FIGURE
3B

LEGEND

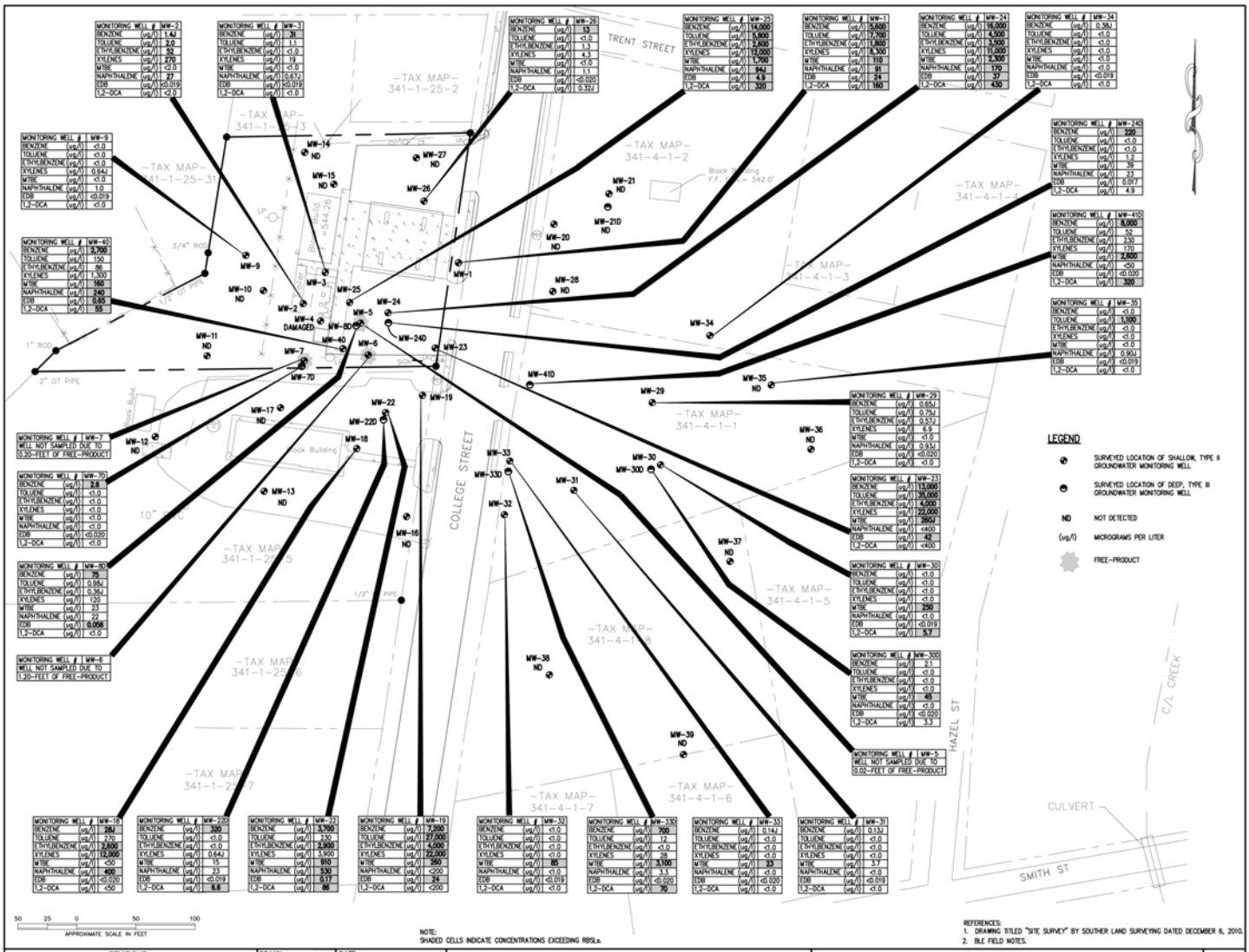
- ● APPROXIMATE LOCATION OF PRIVATE WATER SUPPLY WELL
- ⊠ APPROXIMATE LOCATION OF SURFACE WATER SAMPLING POINT
- APPROXIMATE LOCATION OF CREEK

400 200 0 400 800

APPROXIMATE SCALE IN FEET

REFERENCES:
1. NEWBERRY COUNTY GIS IMAGE DATED 2008.
2. BLE FIELD NOTES.

DRAWN: ACE	DATE: 08-24-11	BLE INC. BUNNELL-LAMMONS ENGINEERING, INC. 6004 PONDERS COURT GREENVILLE, SOUTH CAROLINA 29615 PHONE: (864)288-1265 FAX: (864)288-4430	RECEPTOR SURVEY MAP SPINX 258/FORMER ENMARK 380 UST PERMIT #06588 NEWBERRY, SOUTH CAROLINA	FIGURE 4
CHECKED: TZS	CAD: SPINX258-03RSM			
APPROVED:	JOB NO: J11-6859-03			



MONITORING WELL #	MW-2
BENZENE (ug/l)	1.4J
TOLUENE (ug/l)	2.0
ETHYLBENZENE (ug/l)	52
XYLENES (ug/l)	270
MTBE (ug/l)	<2.0
NAPHTHALENE (ug/l)	27
EDB (ug/l)	<0.019
1,2-DCA (ug/l)	<2.0

MONITORING WELL #	MW-3
BENZENE (ug/l)	31
TOLUENE (ug/l)	1.1
ETHYLBENZENE (ug/l)	<1.0
XYLENES (ug/l)	19
MTBE (ug/l)	<1.0
NAPHTHALENE (ug/l)	5.67J
EDB (ug/l)	<0.019
1,2-DCA (ug/l)	<1.0

MONITORING WELL #	MW-26
BENZENE (ug/l)	13
TOLUENE (ug/l)	<1.0
ETHYLBENZENE (ug/l)	1.3
XYLENES (ug/l)	4.3
MTBE (ug/l)	<1.0
NAPHTHALENE (ug/l)	1.1
EDB (ug/l)	<0.020
1,2-DCA (ug/l)	0.32J

MONITORING WELL #	MW-25
BENZENE (ug/l)	14,000
TOLUENE (ug/l)	5,800
ETHYLBENZENE (ug/l)	2,600
XYLENES (ug/l)	12,000
MTBE (ug/l)	1,700
NAPHTHALENE (ug/l)	94J
EDB (ug/l)	4.9
1,2-DCA (ug/l)	320

MONITORING WELL #	MW-1
BENZENE (ug/l)	5,600
TOLUENE (ug/l)	7,700
ETHYLBENZENE (ug/l)	1,900
XYLENES (ug/l)	6,300
MTBE (ug/l)	110
NAPHTHALENE (ug/l)	91
EDB (ug/l)	24
1,2-DCA (ug/l)	160

MONITORING WELL #	MW-24
BENZENE (ug/l)	16,000
TOLUENE (ug/l)	4,500
ETHYLBENZENE (ug/l)	1,500
XYLENES (ug/l)	11,000
MTBE (ug/l)	2,300
NAPHTHALENE (ug/l)	170
EDB (ug/l)	37
1,2-DCA (ug/l)	430

MONITORING WELL #	MW-34
BENZENE (ug/l)	0.36J
TOLUENE (ug/l)	<1.0
ETHYLBENZENE (ug/l)	<1.0
XYLENES (ug/l)	<1.0
MTBE (ug/l)	<1.0
NAPHTHALENE (ug/l)	<1.0
EDB (ug/l)	<0.019
1,2-DCA (ug/l)	<1.0

MONITORING WELL #	MW-9
BENZENE (ug/l)	<1.0
TOLUENE (ug/l)	<1.0
ETHYLBENZENE (ug/l)	<1.0
XYLENES (ug/l)	0.64J
MTBE (ug/l)	<1.0
NAPHTHALENE (ug/l)	1.0
EDB (ug/l)	<0.019
1,2-DCA (ug/l)	<1.0

MONITORING WELL #	MW-24D
BENZENE (ug/l)	220
TOLUENE (ug/l)	<1.0
ETHYLBENZENE (ug/l)	<1.0
XYLENES (ug/l)	1.2
MTBE (ug/l)	39
NAPHTHALENE (ug/l)	23
EDB (ug/l)	0.017
1,2-DCA (ug/l)	4.9

MONITORING WELL #	MW-40
BENZENE (ug/l)	2,700
TOLUENE (ug/l)	150
ETHYLBENZENE (ug/l)	86
XYLENES (ug/l)	1,500
MTBE (ug/l)	160
NAPHTHALENE (ug/l)	240
EDB (ug/l)	0.65
1,2-DCA (ug/l)	55

MONITORING WELL #	MW-41D
BENZENE (ug/l)	8,000
TOLUENE (ug/l)	52
ETHYLBENZENE (ug/l)	230
XYLENES (ug/l)	170
MTBE (ug/l)	2,600
NAPHTHALENE (ug/l)	<50
EDB (ug/l)	<0.020
1,2-DCA (ug/l)	320

MONITORING WELL #	MW-35
BENZENE (ug/l)	<1.0
TOLUENE (ug/l)	1,100
ETHYLBENZENE (ug/l)	<1.0
XYLENES (ug/l)	<1.0
MTBE (ug/l)	<1.0
NAPHTHALENE (ug/l)	0.90J
EDB (ug/l)	<0.019
1,2-DCA (ug/l)	<1.0

MONITORING WELL #	MW-29
BENZENE (ug/l)	0.65J
TOLUENE (ug/l)	0.75J
ETHYLBENZENE (ug/l)	0.57J
XYLENES (ug/l)	4.9
MTBE (ug/l)	<1.0
NAPHTHALENE (ug/l)	0.93J
EDB (ug/l)	<0.020
1,2-DCA (ug/l)	<1.0

MONITORING WELL #	MW-7
WELL NOT SAMPLED DUE TO 0.30-FEET OF FREE-PRODUCT	

MONITORING WELL #	MW-23
BENZENE (ug/l)	13,000
TOLUENE (ug/l)	35,000
ETHYLBENZENE (ug/l)	4,000
XYLENES (ug/l)	22,000
MTBE (ug/l)	280J
NAPHTHALENE (ug/l)	<400
EDB (ug/l)	42
1,2-DCA (ug/l)	<400

MONITORING WELL #	MW-70
BENZENE (ug/l)	2.6
TOLUENE (ug/l)	<1.0
ETHYLBENZENE (ug/l)	<1.0
XYLENES (ug/l)	<1.0
MTBE (ug/l)	<1.0
NAPHTHALENE (ug/l)	<1.0
EDB (ug/l)	<0.020
1,2-DCA (ug/l)	<1.0

MONITORING WELL #	MW-30
BENZENE (ug/l)	<1.0
TOLUENE (ug/l)	<1.0
ETHYLBENZENE (ug/l)	<1.0
XYLENES (ug/l)	<1.0
MTBE (ug/l)	250
NAPHTHALENE (ug/l)	<1.0
EDB (ug/l)	<0.019
1,2-DCA (ug/l)	5.7

MONITORING WELL #	MW-50
BENZENE (ug/l)	75
TOLUENE (ug/l)	0.98J
ETHYLBENZENE (ug/l)	0.36J
XYLENES (ug/l)	120
MTBE (ug/l)	23
NAPHTHALENE (ug/l)	22
EDB (ug/l)	0.056
1,2-DCA (ug/l)	<1.0

MONITORING WELL #	MW-30D
BENZENE (ug/l)	2.1
TOLUENE (ug/l)	<1.0
ETHYLBENZENE (ug/l)	<1.0
XYLENES (ug/l)	<1.0
MTBE (ug/l)	45
NAPHTHALENE (ug/l)	<1.0
EDB (ug/l)	<0.020
1,2-DCA (ug/l)	3.3

MONITORING WELL #	MW-6
WELL NOT SAMPLED DUE TO 1.20-FEET OF FREE-PRODUCT	

MONITORING WELL #	MW-5
WELL NOT SAMPLED DUE TO 0.02-FEET OF FREE-PRODUCT	

MONITORING WELL #	MW-18
BENZENE (ug/l)	28J
TOLUENE (ug/l)	270
ETHYLBENZENE (ug/l)	2,600
XYLENES (ug/l)	12,000
MTBE (ug/l)	<50
NAPHTHALENE (ug/l)	400
EDB (ug/l)	<0.020
1,2-DCA (ug/l)	<50

MONITORING WELL #	MW-22D
BENZENE (ug/l)	320
TOLUENE (ug/l)	<1.0
ETHYLBENZENE (ug/l)	<1.0
XYLENES (ug/l)	0.64J
MTBE (ug/l)	15
NAPHTHALENE (ug/l)	23
EDB (ug/l)	<0.019
1,2-DCA (ug/l)	6.6

MONITORING WELL #	MW-22
BENZENE (ug/l)	3,700
TOLUENE (ug/l)	230
ETHYLBENZENE (ug/l)	2,900
XYLENES (ug/l)	3,900
MTBE (ug/l)	910
NAPHTHALENE (ug/l)	530
EDB (ug/l)	0.17
1,2-DCA (ug/l)	86

MONITORING WELL #	MW-19
BENZENE (ug/l)	7,200
TOLUENE (ug/l)	27,000
ETHYLBENZENE (ug/l)	4,000
XYLENES (ug/l)	22,000
MTBE (ug/l)	260
NAPHTHALENE (ug/l)	<200
EDB (ug/l)	24
1,2-DCA (ug/l)	<200

MONITORING WELL #	MW-32
BENZENE (ug/l)	<1.0
TOLUENE (ug/l)	<1.0
ETHYLBENZENE (ug/l)	<1.0
XYLENES (ug/l)	<1.0
MTBE (ug/l)	85
NAPHTHALENE (ug/l)	<1.0
EDB (ug/l)	<0.019
1,2-DCA (ug/l)	<1.0

MONITORING WELL #	MW-33D
BENZENE (ug/l)	700
TOLUENE (ug/l)	12
ETHYLBENZENE (ug/l)	<1.0
XYLENES (ug/l)	28
MTBE (ug/l)	3,100
NAPHTHALENE (ug/l)	3.3
EDB (ug/l)	<0.020
1,2-DCA (ug/l)	70

MONITORING WELL #	MW-33
BENZENE (ug/l)	0.14J
TOLUENE (ug/l)	<1.0
ETHYLBENZENE (ug/l)	<1.0
XYLENES (ug/l)	<1.0
MTBE (ug/l)	23
NAPHTHALENE (ug/l)	<1.0
EDB (ug/l)	<0.020
1,2-DCA (ug/l)	<1.0

MONITORING WELL #	MW-31
BENZENE (ug/l)	0.13J
TOLUENE (ug/l)	<1.0
ETHYLBENZENE (ug/l)	<1.0
XYLENES (ug/l)	<1.0
MTBE (ug/l)	3.7
NAPHTHALENE (ug/l)	<1.0
EDB (ug/l)	<0.019
1,2-DCA (ug/l)	<1.0

NOTE:
SHADED CELLS INDICATE CONCENTRATIONS EXCEEDING RBSLs.

REFERENCES:
1. DRAWING TITLED "SITE SURVEY" BY SOUTHER LAND SURVEYING DATED DECEMBER 6, 2010.
2. BLE FIELD NOTES.

REVISIONS			
No.	DESCRIPTION	BY	

DRAWN: ACE
CHECKED: TZS
APPROVED: RAD
DATE: 08-06-11
CAD FILE: SPINX258-03GWCOC
JOB NO: J11-6859-03

BLE INC.
BUNNELL-LAMMONS ENGINEERING, INC.
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GROUNDWATER COC MAP - JULY 2011
SPINX 258/FORMER ENMARK 380
UST PERMIT #06588
NEWBERRY, SOUTH CAROLINA

FIGURE NO. 5

LEGEND

- SURVEYED LOCATION OF SHALLOW, TYPE II GROUNDWATER MONITORING WELL
- SURVEYED LOCATION OF DEEP, TYPE III GROUNDWATER MONITORING WELL
- FREE-PRODUCT
- 0.38J — BENZENE CONCENTRATION
- 100 — BENZENE ISOCONCENTRATION CONTOUR (MICROGRAMS PER LITER)

50 25 0 50 100
APPROXIMATE SCALE IN FEET

NOTE:
0.02-FEET, 1.20 FEET, AND 0.20 FEET OF FREE-PHASE PETROLEUM PRODUCT WERE DETECTED IN MW-5, MW-6 AND MW-7, RESPECTIVELY, ON JULY 19, 2011.

REFERENCES:
1. DRAWING TITLED "SITE SURVEY" BY SOUTHER LAND SURVEYING DATED DECEMBER 6, 2010.
2. BLE FIELD NOTES.

REVISIONS		
No.	DESCRIPTION	BY

DRAWN:	ACE	DATE:	08-19-11
CHECKED:	TZS	CAD FILE:	SPINX258-03BENZ
APPROVED:	TLL	JOB NO:	J11-6859-03

BLE INC.
BUNNELL-LAMMONS ENGINEERING, INC.
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GREENVILLE, SOUTH CAROLINA 29615
PHONE: (864)288-1265 FAX: (864)288-4430

BENZENE ISOCONCENTRATION MAP - JULY 2011
SPINX 258/FORMER EMMARK 380
UST PERMIT #06588
NEWBERRY, SOUTH CAROLINA

FIGURE NO.
6

APPENDICES

APPENDIX A

MONITORING WELL CONSTRUCTION PROCEDURES, MONITORING WELL CONSTRUCTION DIAGRAMS, AND 1903 WATER WELL RECORDS

APPENDIX A

MONITORING WELL CONSTRUCTION PROCEDURES

Type II Well

Type II groundwater monitoring wells consist of 2-inch diameter Schedule 40 polyvinyl chloride (PVC) casing with flush-threaded joints. The bottom 10-foot section of each well is a manufactured well screen with 0.010-inch wide machined slots. The well screen was installed to the depth of the boring and bracketed the water table.

Type III Well

Type III wells were constructed with a 6-inch diameter Schedule 40 PVC outer casing installed to the termination depth of each borehole. The annular space between the borehole and the 6-inch casing was pressure grouted with a cement/bentonite grout mixture to the ground surface using a grout shoe. After curing, a 6-inch diameter air hammer bit was utilized to advance the boreholes through the outer casing to the desired termination depth. A monitoring well was installed, constructed of 2-inch PVC Schedule 40 casing with flush-threaded joints and a manufactured well screen with 0.010-inch wide machined slots. The well screen was 5 feet in length.

A. General

In the Type II and Type III wells, a washed sand filter pack was emplaced around the outside of the pipe from the bottom of the well casing to approximately two feet above the top of the well screen. The sand filter pack was used to stabilize the formation and to help yield a less turbid groundwater sample.

An approximate two-foot thick bentonite seal was installed on top of the sand filter pack to seal the monitoring well at the desired level. The well annulus was then grouted to the surface with a cement/bentonite grout mixture. A PVC cap and flush mount steel, bolted manhole cover or standup steel protective cover was secured over each wellhead.

KEY TO SOIL CLASSIFICATIONS AND CONSISTENCY DESCRIPTIONS

BUNNELL-LAMMONS ENGINEERING, INC.
GREENVILLE, SOUTH CAROLINA

Penetration Resistance* Blows per Foot	Relative Density
SANDS	
0 to 4	Very Loose
5 to 10	Loose
11 to 20	Firm
21 to 30	Very Firm
31 to 50	Dense
over 50	Very Dense

Penetration Resistance* Blows per Foot	Consistency
SILTS and CLAYS	
0 to 2	Very Soft
3 to 4	Soft
5 to 8	Firm
9 to 15	Stiff
16 to 30	Very Stiff
31 to 50	Hard
over 50	Very Hard

*ASTM D 1586

Particle Size Identification

Boulder: Greater than 300 mm
Cobble: 75 to 300 mm
Gravel:
Coarse - 19 to 75 mm
Fine - 4.75 to 19 mm
Sand:
Coarse - 2 to 4.75 mm
Medium - 0.425 to 2 mm
Fine - 0.075 to 0.425 mm
Silt & Clay: Less than 0.075 mm

KEY TO DRILLING SYMBOLS

Grab Sample

Split Spoon Sample

Undisturbed Sample

NR = No reaction to HCL

NA = Not applicable

NS = No sample

Groundwater Table at Time of Drilling

Groundwater Table 24 Hours after Completion of Drilling

KEY TO SOIL CLASSIFICATIONS

Well-graded Gravel
GW

Poorly-graded Gravel
GP

Partially Weathered Rock
BLDRCBBL

High Plasticity Clay
CH

Poorly Graded Sand
SP

Low Plasticity Clay
CL

Sandy Clay
CLS

Silty Clay
CL-ML

Silt
ML

Bedrock
BEDROCK

Clayey Silt
MH

Sandy Silt
MLS

Sand
SW

Clayey Sand
SC

Limestone
LIMESTONE

Silty Sand
SM

Topsoil
TOPSOIL

Trash
MUCKPEAT

Fill
FILL

BLE INC.

BUNNELL-LAMMONS ENGINEERING, INC.

GEOTECHNICAL AND ENVIRONMENTAL CONSULTANTS

GROUNDWATER MONITORING WELL NO. MW-30D

PROJECT: Spinx #258/Former Enmark #380 — PROJECT NO.: J11-6859-03

CLIENT: Enmark Stations, Inc. — START: 6-22-11 END: 6-23-11

LOCATION: Newberry, South Carolina — ELEVATION: 537.60

DRILLER: Landprobe, J. Smith — LOGGED BY: R. Doherty

DRILLING METHOD: Schramm T450 WS; 6-inch and 8-inch diameter air hammer

DEPTH TO - WATER> INITIAL: 15.0 AFTER 24 HOURS: 16.74 CAVING>

ELEVATION/ DEPTH (FT)	DESCRIPTION	SOIL TYPE	MONITOR WELL INSTALLATION DETAILS
	GRASS/organic TOPSOIL		SURFACE COMPLETION Flush mount below ground surface secured with an 8-inch diameter steel, bolted manhole cover in a 2' x 2' concrete pad
	Reddish-brown and slightly yellowish-brown, dry, medium to fine sandy SILT		Ground surface elev. = 537.60 feet Top of PVC casing elev. = 537.24 feet
	Yellowish-brown, slightly moist, silty, medium to fine SAND		6-inch outer casing set to 35.5 feet
	Yellowish-brown, wet, silty, medium to fine SAND		Grout, 0 to 35.6 feet
	Yellowish-brown, wet, clayey, medium to fine SAND		
	PARTIALLY WEATHERED ROCK which sampled as dark yellowish-brown, wet, moderately micaceous, fine to medium SAND		Bentonite seal, 35.6 to 38.4 feet Filter pack, #2 sand 38.4 to 50.0 feet

ELEVATION: 535, 530, 525, 520, 515, 510, 505, 500

DEPTH: 5, 10, 15, 20, 25, 30, 35

GEOT_WELLNB 6859-03.GPJ 8/19/11

BUNNELL-LAMMONS ENGINEERING, INC.
GEOTECHNICAL AND ENVIRONMENTAL CONSULTANTS

GROUNDWATER MONITORING WELL NO. MW-30D

PROJECT: Spinx #258/Former Enmark #380 — PROJECT NO.: J11-6859-03
CLIENT: Enmark Stations, Inc. — START: 6-22-11 END: 6-23-11
LOCATION: Newberry, South Carolina — ELEVATION: 537.60
DRILLER: Landprobe, J. Smith — LOGGED BY: R. Doherty
DRILLING METHOD: Schramm T450 WS; 6-inch and 8-inch diameter air hammer
DEPTH TO - WATER> INITIAL: 15.0 AFTER 24 HOURS: 16.74 CAVING>

ELEVATION/ DEPTH (FT)	DESCRIPTION	SOIL TYPE	MONITOR WELL INSTALLATION DETAILS
495	PARTIALLY WEATHERED ROCK which sampled as dark yellowish-brown, wet, moderately micaceous, fine to medium SAND		2-inch diameter, 0.010-inch slotted Schedule 40 PVC well screen, 41.1 to 46.1 feet
45	PARTIALLY WEATHERED ROCK which sampled as dark yellowish-brown, wet, slightly micaceous, medium to fine SAND		Pipe cap
490	BEDROCK		Total well depth, 46.30 feet
50	Boring terminated at 50 feet. Groundwater encountered at 15.0 feet at time of drilling and at 16.74 feet after 24 hours.		
485			
55			
480			
60			
475			
65			
470			
70			
465			
75			
460			

GEOT_WELLNB 6859-03.GPJ 8/19/11

Water Well Record
Bureau of Water
2600 Bull Street, Columbia, SC 29201-1708; (803) 898-4300

1. WELL OWNER INFORMATION:
Name: Enmark Station, Inc.
Dolan (last) Tom (first)
Address: Post Office Box 728
City: Savannah State: GA zip: 31402
Phone: Work:
Home:

2. LOCATION OF WELL: COUNTY: Newberry
Name: Enmark 380
Address: 2725 College Street
City: Newberry, SC Zip: 29108
Latitude: Longitude:

3. PUBLIC SYSTEM NAME: MW-30D PUBLIC SYSTEM NUMBER:

4. ABANDONMENT: No
Grouted Depth: from to ft.

Formation Description	Thickness of Stratum	Depth to Bottom of Stratum

SEE BORING LOGS

5. REMARKS:
Holeplug: 35.6 - 38.4

6. TYPE: Mud Rotary, Jetted, Bored, Dug, (Air Rotary), Driven, Cable tool, Auger, Other

7. PERMIT NUMBER: 06588 UMW-24238

8. USE: Residential, Public Supply, Process, Irrigation, Air Conditioning, Emergency, Test Well, (Monitor Well), Replacement

9. WELL DEPTH (completed)
46.30 ft. Date Started: 6/22/2011
Date Completed: 6/23/2011

10. CASING: (Threaded) Welded
Diameter: 2" & 6"
Type: PVC
2.0 in. to 46.1 ft. depth
6.0 in. to 35.5 ft. depth
Height: Below
Surface: ft. Weight: lb./ft.
Drive Shoe: No

11. SCREEN:
Type: PVC Diameter: 2"
Slot/Gauge: 0.010 Length: 5'
Set Between: 41.1 ft. and 46.1 ft.
ft. and ft.
Sieve Analysis: Y/N No

12. STATIC WATER LEVEL 16.74 ft. below land surface after 24 hours.

13. PUMPING LEVEL Below Land Surface.
ft. after hrs Pumping GPM
Pumping Test: No
Yield:

14. WATER QUALITY
Chemical Analysis: No Bacterial Analysis: No

15. ARTIFICIAL FILTER (filter pack) Yes
Installed from: 38.4 ft. to 50 ft.
Effective Size: #2 Uniformity Coefficient: Sand

16. WELL GROUTED? Yes
(Neat Cement) Bentonite Bentonite/Cement Other
Depth: From 35.6 ft. to 0.5 ft.

17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: ft. direction
Type: N/A
Well Disinfected: Type: Amount:

18. PUMP: Date installed: N/A
Mfr. Name: Model no.:
H.P.: Volts: Length of pipe: ft.
Capacity: gpm
TYPE:
Submersible Jet (shallow) Turbine
Jet (deep) Reciprocating Centrifugal

19. WELL DRILLER: Brunson (Marty) King CERT NO.: 1089
Address: 6004 Ponders Court Level: A (B) C D
Greenville SC 29615 (circle one)
Telephone: 864-527-9324 Fax: 864-288-4430

20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief.

Signed: Marty King

Date: 6/23/11

If D Level Driller, provide supervising driller's name.

BLE INC.

BUNNELL-LAMMONS ENGINEERING, INC.

GEOTECHNICAL AND ENVIRONMENTAL CONSULTANTS

GROUNDWATER MONITORING WELL NO. MW-33D

PROJECT: Spinx #258/Former Enmark #380 | PROJECT NO.: J11-6859-03

CLIENT: Enmark Stations, Inc. | START: 6-22-11 END: 6-23-11

LOCATION: Newberry, South Carolina | ELEVATION: 540.22

DRILLER: Landprobe, J. Smith | LOGGED BY: R. Doherty

DRILLING METHOD: Schramm T450 WS; 6-inch and 8-inch diameter air hammer

DEPTH TO - WATER> INITIAL: 15.0 AFTER 24 HOURS: 19.00 CAVING>

ELEVATION/ DEPTH (FT)	DESCRIPTION	SOIL TYPE	MONITOR WELL INSTALLATION DETAILS
540	6-inches of ASPHALT		SURFACE COMPLETION Flush mount below ground surface secured with an 8-inch diameter steel, bolted manhole cover in a 2' x 2' concrete pad
	Brown, dry SAND		Ground surface elev. = 540.22 feet
535 – 5	Reddish-brown, dry, medium to fine sandy SILT		Top of PVC casing elev. = 540.02 feet
530 – 10	Reddish-brown and yellowish-brown, slightly moist, silty, medium to fine SAND		
525 – 15	Reddish-brown and yellowish-brown, wet, silty, medium to fine SAND		Grout, 0 to 37.6 feet
			6-inch outer casing set to 34.5 feet
520 – 20			
515 – 25	PARTIALLY WEATHERED ROCK which sampled as yellowish-brown, wet, feldspar rich, medium to fine SAND		
	BEDROCK		
510 – 30			
505 – 35			
	PARTIALLY WEATHERED ROCK which sampled as dark yellowish-brown, wet, feldspar rich, coarse to fine SAND		Bentonite seal, 37.6 to 40.8 feet

BLE INC.

BUNNELL-LAMMONS ENGINEERING, INC.

GEOTECHNICAL AND ENVIRONMENTAL CONSULTANTS

GROUNDWATER MONITORING WELL NO. MW-33D

PROJECT: Spinx #258/Former Enmark #380 | PROJECT NO.: J11-6859-03

CLIENT: Enmark Stations, Inc. | START: 6-22-11 END: 6-23-11

LOCATION: Newberry, South Carolina | ELEVATION: 540.22

DRILLER: Landprobe, J. Smith | LOGGED BY: R. Doherty

DRILLING METHOD: Schramm T450 WS; 6-inch and 8-inch diameter air hammer

DEPTH TO - WATER> INITIAL: 15.0 AFTER 24 HOURS: 19.00 CAVING>

ELEVATION/ DEPTH (FT)	DESCRIPTION	SOIL TYPE	MONITOR WELL INSTALLATION DETAILS
500	PARTIALLY WEATHERED ROCK which sampled as dark yellowish-brown, wet, feldspar rich, coarse to fine SAND		Filter pack, #2 sand 40.8 to 50.0 feet
495 – 45	PARTIALLY WEATHERED ROCK which sampled as dark yellowish-brown, wet, medium to fine SAND		2-inch diameter, 0.010-inch slotted Schedule 40 PVC well screen, 43.15 to 48.15 feet Pipe cap
490 – 50	Boring terminated at 50 feet. Groundwater encountered at 15.0 feet at time of drilling and 19.00 feet after 24 hours.		Total well depth, 48.35 feet
485 – 55			
480 – 60			
475 – 65			
470 – 70			
465 – 75			

GEOT_WELLNB 6859-03.GPJ 8/19/11

Water Well Record
Bureau of Water
2600 Bull Street, Columbia, SC 29201-1708; (803) 898-4300

1. WELL OWNER INFORMATION:
Name: Enmark Station, Inc.
Dolan (last) Tom (first)
Address: Post Office Box 728
City: Savannah State: GA zip: 31402
Phone: Work:
Home:

2. LOCATION OF WELL: COUNTY: Newberry
Name: Enmark 380
Address: 2725 College Street
City: Newberry, SC Zip: 29108
Latitude: Longitude:

3. PUBLIC SYSTEM NAME: MW-33D PUBLIC SYSTEM NUMBER:

4. ABANDONMENT: No
Grouted Depth: from to ft.

Formation Description	Thickness of Stratum	Depth to Bottom of Stratum

SEE BORING LOGS

5. REMARKS:
Holeplug: 37.6 - 40.8

6. TYPE: Mud Rotary, Jetted, Bored, Dug, Air Rotary, Driven, Cable tool, Auger, Other

7. PERMIT NUMBER: 06588 UMW-24238

8. USE: Residential, Public Supply, Process, Irrigation, Air Conditioning, Emergency, Test Well, Monitor Well, Replacement

9. WELL DEPTH (completed)
48.35 ft. Date Started: 6/22/2011 Date Completed: 6/23/2011

10. CASING: Threaded Welded
Diameter: 2" & 6"
Type: PVC
2.0 in. to 43.15 ft. depth
6.0 in. to 34.5 ft. depth
Height: Below
Surface: ft. Weight: lb./ft.
Drive Shoe: No

11. SCREEN:
Type: PVC Diameter: 2"
Slot/Gauge: 0.010 Length: 5'
Set Between: 43.15 ft. and 48.15 ft.
ft. and ft.
Sieve Analysis: Y/N No

12. STATIC WATER LEVEL 19 ft. below land surface after 24 hours.

13. PUMPING LEVEL Below Land Surface.
ft. after hrs Pumping GPM
Pumping Test: No
Yield:

14. WATER QUALITY
Chemical Analysis: No Bacterial Analysis: No

15. ARTIFICIAL FILTER (filter pack) Yes
Installed from: 40.8 ft. to 50 ft.
Effective Size: #2 Uniformity Coefficient: Sand

16. WELL GROUTED? Yes
Neat Cement Bentonite Bentonite/Cement Other
Depth: From 37.6 ft. to 0.5 ft.

17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: ft. direction
Type: N/A
Well Disinfected: Type: Amount:

18. PUMP: Date installed: N/A
Mfr. Name: Model no.:
H.P.: Volts: Length of pipe: ft.
Capacity: gpm
TYPE:
Submersible Jet (shallow) Turbine
Jet (deep) Reciprocating Centrifugal

19. WELL DRILLER: Brunson (Marty) King CERT NO.: 1089
Address: 6004 Ponders Court Level: A B C D (circle one)
Greenville SC 29615
Telephone: 864-527-9324 Fax: 864-288-4430

20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief.

Signed: Marty King

Date: 6/23/11

If D Level Driller, provide supervising driller's name.

BLE INC.

BUNNELL-LAMMONS ENGINEERING, INC.

GEOTECHNICAL AND ENVIRONMENTAL CONSULTANTS

GROUNDWATER MONITORING WELL NO. MW-40

PROJECT: Spinx #258/Former Enmark #380 — PROJECT NO.: J11-6859-03

CLIENT: Enmark Stations, Inc. — START: 6-23-11 END: 6-23-11

LOCATION: Newberry, South Carolina — ELEVATION: 542.66

DRILLER: Landprobe, J. Smith — LOGGED BY: R. Doherty

DRILLING METHOD: Schramm T450 WS; 6-inch and 8-inch diameter air hammer

DEPTH TO - WATER> INITIAL: 20.0 AFTER 24 HOURS: 20.44 CAVING>

ELEVATION/ DEPTH (FT)	DESCRIPTION	SOIL TYPE	MONITOR WELL INSTALLATION DETAILS
	ASPHALT		SURFACE COMPLETION Flush mount below ground surface secured with an 8-inch diameter steel, bolted manhole cover in a 2' x 2' concrete pad
540	Reddish-brown and yellowish-brown (orange), dry, silty, fine to medium SAND		Ground surface elev. = 542.66 feet
5	Reddish-brown (orange), dry, silty, medium to fine SAND		Top of PVC casing elev. = 542.05 feet
535			
10	Pale yellowish-orange, dry, silty, medium to fine SAND		
530			Grout, 0 to 13.8 feet
15	Reddish-brown and yellowish-brown, dry, silty, fine SAND		Bentonite seal, 13.8 to 16.0 feet Filter pack, #2 sand 16.0 to 30.0 feet
525			
20	Dark yellowish-brown, wet, fine sandy SILT		
520			2-inch diameter, 0.010-inch slotted Schedule 40 PVC well screen, 18.1 to 28.1 feet
25			
515			Pipe cap
30			Total well depth, 28.30 feet
	Boring terminated at 30 feet. No groundwater encountered at time of drilling.		
510			
35			
505			

D H E C

PROMOTE PROTECT PROSPER

Water Well Record
Bureau of Water
2600 Bull Street, Columbia, SC 29201-1708; (803) 898-4300

1. WELL OWNER INFORMATION:

Name: Enmark Station, Inc.
Dolan (last) Tom (first)
Address: Post Office Box 728
City: Savannah State: GA zip: 31402
Phone: Work:
Home:

2. LOCATION OF WELL: COUNTY: Newberry

Name: Enmark 380
Address: 2725 College Street
City: Newberry, SC Zip: 29108
Latitude: Longitude:

3. PUBLIC SYSTEM NAME: MW-40 **PUBLIC SYSTEM NUMBER:**

4. ABANDONMENT: No

Grouted Depth: from to ft.

Formation Description	Thickness of Stratum	Depth to Bottom of Stratum

SEE BORING LOGS

5. REMARKS:
Holeplug: 13.8 - 16.0

6. TYPE: Mud Rotary, Jetted, Bored, Dug, (Air Rotary), Driven, Cable tool, Auger, Other

7. PERMIT NUMBER: 06588 UMW-24238

8. USE: Residential, Public Supply, Process, Irrigation, Air Conditioning, Emergency, Test Well, (Monitor Well), Replacement

9. WELL DEPTH (completed)
28.30 ft. Date Started: 6/22/2011 Date Completed: 6/23/2011

10. CASING: (Threaded) Welded
Diameter: 2" & 6"
Type: PVC
2.0 in. to 18.1 ft. depth
in. to ft. depth
Height: Below
Surface: ft. Weight: lb./ft.
Drive Shoe: No

11. SCREEN:
Type: PVC Diameter: 2"
Slot/Gauge: 0.010 Length: 5'
Set Between: 18.1 ft. and 28.1 ft.
ft. and ft.
Sieve Analysis: Y/N No

12. STATIC WATER LEVEL 20.44 ft. below land surface after 24 hours.

13. PUMPING LEVEL Below Land Surface.
ft. after hrs Pumping GPM
Pumping Test: No
Yield:

14. WATER QUALITY
Chemical Analysis: No Bacterial Analysis: No

15. ARTIFICIAL FILTER (filter pack) Yes
Installed from: 16.0 ft. to 30 ft.
Effective Size: #2 Uniformity Coefficient: Sand

16. WELL GROUTED? Yes
(Neat Cement) Bentonite Bentonite/Cement Other
Depth: From 13.8 ft. to 0.5 ft.

17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: ft. direction
Type: N/A
Well Disinfected: Type: Amount:

18. PUMP: Date installed: N/A
Mfr. Name: Model no.:
H.P.: Volts: Length of pipe: ft.
Capacity: gpm
TYPE:
Submersible Jet (shallow) Turbine
Jet (deep) Reciprocating Centrifugal

19. WELL DRILLER: Brunson (Marty) King CERT NO.: 1089
Address: 6004 Ponders Court Level: A (B) C D
Greenville SC 29615 (circle one)
Telephone: 864-527-9324 Fax: 864-288-4430

20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief.

Signed: Marty King

Date: 6/23/11

If D Level Driller, provide supervising driller's name.

BLE INC.

BUNNELL-LAMMONS ENGINEERING, INC.

GEOTECHNICAL AND ENVIRONMENTAL CONSULTANTS

GROUNDWATER MONITORING WELL NO. MW-41D

PROJECT: Spinx #258/Former Enmark #380 — PROJECT NO.: J11-6859-03

CLIENT: Enmark Stations, Inc. — START: 6-22-11 END: 6-23-11

LOCATION: Newberry, South Carolina — ELEVATION: 540.98

DRILLER: Landprobe, J. Smith — LOGGED BY: R. Doherty

DRILLING METHOD: Schramm T450 WS; 6-inch and 8-inch diameter air hammer

DEPTH TO - WATER> INITIAL: 15.0 AFTER 24 HOURS: 19.60 CAVING>

ELEVATION/ DEPTH (FT)	DESCRIPTION	SOIL TYPE	MONITOR WELL INSTALLATION DETAILS
540	6-inches of ASPHALT Yellowish-brown, dry, medium to fine SAND		SURFACE COMPLETION Flush mount below ground surface secured with an 8-inch diameter steel, bolted manhole cover in a 2' x 2' concrete pad Ground surface elev. = 540.98 feet
5 / 535	Reddish-brown (orange) and yellowish-brown, dry, silty, fine to medium SAND		Top of PVC casing elev. = 540.78 feet
10 / 530	Yellowish-brown and light reddish-brown (light orange), dry, slightly silty, medium to fine SAND		
15 / 525	Light yellowish-brown, wet, slightly clayey, medium to fine SAND		Grout, 0 to 37.8 feet 6-inch outer casing set to 35.0 feet
20 / 520			
25 / 515	Yellowish to grayish-brown, wet, slightly clayey, fine SAND		
30 / 510	Yellowish-brown, wet, coarse to medium SAND		
35 / 505	Yellowish-gray, wet, moderately micaceous, clayey, fine to medium SAND		Bentonite seal, 37.8 to 40.3 feet

BLE INC.

BUNNELL-LAMMONS ENGINEERING, INC.

GEOTECHNICAL AND ENVIRONMENTAL CONSULTANTS

GROUNDWATER MONITORING WELL NO. MW-41D

PROJECT: Spinx #258/Former Enmark #380 | PROJECT NO.: J11-6859-03

CLIENT: Enmark Stations, Inc. | START: 6-22-11 END: 6-23-11

LOCATION: Newberry, South Carolina | ELEVATION: 540.98

DRILLER: Landprobe, J. Smith | LOGGED BY: R. Doherty

DRILLING METHOD: Schramm T450 WS; 6-inch and 8-inch diameter air hammer

DEPTH TO - WATER> INITIAL: 15.0 AFTER 24 HOURS: 19.60 CAVING>

ELEVATION/ DEPTH (FT)	DESCRIPTION	SOIL TYPE	MONITOR WELL INSTALLATION DETAILS
500	PARTIALLY WEATHERED ROCK which sampled as dark yellowish-brown, wet, moderately micaceous, medium to fine SAND		Filter pack, #2 sand 40.3 to 50.0 feet
45 / 495			2-inch diameter, 0.010-inch slotted Schedule 40 PVC well screen, 42.8 to 47.8 feet
	BEDROCK		Pipe cap
			Total well depth, 48.00 feet
50 / 490	Boring terminated at 50.0 feet. Groundwater encountered at 15.0 feet at time of drilling and at 19.60 feet after 24 hours.		
55 / 485			
60 / 480			
65 / 475			
70 / 470			
75 / 465			

GEOT_WELLNB 6859-03.GPJ 8/19/11

D H E C

PROMOTE PROTECT PROSPER

Water Well Record
Bureau of Water
2600 Bull Street, Columbia, SC 29201-1708; (803) 898-4300

1. WELL OWNER INFORMATION:

Name: Enmark Station, Inc.
Dolan (last) Tom (first)
Address: Post Office Box 728
City: Savannah State: GA zip: 31402
Phone: Work:
Home:

2. LOCATION OF WELL: COUNTY: Newberry

Name: Enmark 380
Address: 2725 College Street
City: Newberry, SC Zip: 29108
Latitude: Longitude:

3. PUBLIC SYSTEM NAME: MW-41D PUBLIC SYSTEM NUMBER:

4. ABANDONMENT: No

Grouted Depth: from to ft.

Formation Description	Thickness of Stratum	Depth to Bottom of Stratum

SEE BORING LOGS

5. REMARKS:
Holeplug: 42.8 - 47.8

6. TYPE: Mud Rotary, Jetted, Bored, Dug, Air Rotary, Driven, Cable tool, Auger, Other

7. PERMIT NUMBER: 06588 UMW-24238

8. USE: Residential, Public Supply, Process, Irrigation, Air Conditioning, Emergency, Test Well, Monitor Well, Replacement

9. WELL DEPTH (completed)
48.00 ft. Date Started: 6/22/2011 Date Completed: 6/23/2011

10. CASING: Threaded Welded
Diameter: 2" & 6"
Type: PVC
2.0 in. to 42.8 ft. depth
6.0 in. to 35.0 ft. depth
Height: Below
Surface: ft. Weight: lb./ft.
Drive Shoe: No

11. SCREEN:
Type: PVC Diameter: 2"
Slot/Gauge: 0.010 Length: 5'
Set Between: 42.8 ft. and 47.8 ft.
ft. and ft.
Sieve Analysis: Y/N No

12. STATIC WATER LEVEL 19.6 ft. below land surface after 24 hours.

13. PUMPING LEVEL Below Land Surface.
ft. after hrs Pumping GPM
Pumping Test: No
Yield:

14. WATER QUALITY
Chemical Analysis: No Bacterial Analysis: No

15. ARTIFICIAL FILTER (filter pack) Yes
Installed from: 40.3 ft. to 50 ft.
Effective Size: #2 Uniformity Coefficient: Sand

16. WELL GROUTED? Yes
Neat Cement, Bentonite, Bentonite/Cement, Other
Depth: From 37.8 ft. to 0.5 ft.

17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: ft. direction
Type: N/A
Well Disinfected: Type: Amount:

18. PUMP: Date installed: N/A
Mfr. Name: Model no.:
H.P.: Volts: Length of pipe: ft.
Capacity: gpm
TYPE:
Submersible, Jet (shallow), Turbine, Jet (deep), Reciprocating, Centrifugal

19. WELL DRILLER: Brunson (Marty) King CERT NO.: 1089
Address: 6004 Ponders Court Level: A B C D (circle one)
Greenville SC 29615
Telephone: 864-527-9324 Fax: 864-288-4430

20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief.

Signed: Marty King

Date: 6/23/11

If D Level Driller, provide supervising driller's name.

APPENDIX B

SOIL AND GROUNDWATER DISPOSAL MANIFESTS

NON-HAZARDOUS WASTE MANIFEST

1. Generator ID Number | 2. Page 1 of | 3. Emergency Response Phone | 4. Waste Tracking Number 31349

5. Generator's Name and Mailing Address: Enmark Stations, PO Box 728, Savannah, GA 31402 — Mr. Tom Dolan 912/236/1331

Generator's Site Address (if different than mailing address): Spinx #258/Former Enmark #380, 2725 College Street, Newberry, SC — 803/957-9170

Generator's Phone: ~~904/232-1265 Trevor Benton BLE~~

6. Transporter 1 Company Name | U.S. EPA ID Number

7. Transporter 2 Company Name: A&D Environmental Services (SC), LLC | U.S. EPA ID Number: SCD987598331

8. Designated Facility Name and Site Address: A&D Environmental Services (NC), Inc, 2718 Uhwarrie Road, Archdale, NC 27263 | U.S. EPA ID Number: NCD986232221

Facility's Phone: 336-434-7750

9. Waste Shipping Name	10. Containers No.	Type	11. Total Quantity	12. Unit Wt./Vol.	
1. NON-HAZARDOUS NON-REGULATED MATERIAL Soil Cuttings Profile #063011ESS-SF	~~17~~ 6	DM	10,000	P	
2.					
3.					
4.					

13. Special Handling Instructions and Additional Information

A&D (SC) Job #16832 Contact at BLE: ~~Trevor Benton 864-288-1265~~ Trevor Slack Agent for Enmark Stations

14. GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and governmental regulations.

Generator's/Offeror's Printed/Typed Name: Trevor Slack acting as agent for Enmarks Stations | Signature | Month 6 Day 30 Year 11

15. International Shipments: ☐ Import to U.S. ☐ Export from U.S. | Port of entry/exit:

Transporter Signature (for exports only): | Date leaving U.S.:

16. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: Steven Flinchum | Signature: Steven Flinchum | Month 7 Day 12 Year 11

Transporter 2 Printed/Typed Name | Signature | Month | Day | Year

17. Discrepancy

17a. Discrepancy Indication Space: ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

17b. Alternate Facility (or Generator) | U.S. EPA ID Number

Facility's Phone:

17c. Signature of Alternate Facility (or Generator) | Month | Day | Year

18. Designated Facility Owner or Operator: Certification of receipt of materials covered by the manifest except as noted in Item 17a

Printed/Typed Name: Tim Parker | Signature | Month 7 Day 13 Year 11

GENERATOR — TRANSPORTER — INTL — DESIGNATED FACILITY

169-BLC-O 6 10498 (Rev. 9/09) DESIGNATED FACILITY TO GENERATOR

VLS recovery services, llc

NON-HAZARDOUS WASTE MANIFEST

1. Generator ID Number
2. Page 1 of
3. Emergency Response Phone
4. Waste Tracking Number: 7407 02

5. Generator's Name and Mailing Address
Bunnell-Lammons Eng, Inc
6004 Ponders Court
Greenville, SC 29615

Generator's Site Address (if different than mailing address)
Eddies Minit Mart
3300 Abbeyville Hwy
Anderson, SC

Generator's Phone:

6. Transporter 1 Company Name: BLE
U.S. EPA ID Number

7. Transporter 2 Company Name
U.S. EPA ID Number

8. Designated Facility Name and Site Address
VLS Recovery Services
305 South Main St.
Mauldin, SC 29662
Facility's Phone: 864-962-9953
U.S. EPA ID Number: SCR 000762468

	9. Waste Shipping Name and Description	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	
	1. NON HAZ NON REG WELL WATER #11312 EDDIES MINIT MART UST # 00709			620	9	
	2. NON HAZ NON REG WELL WATER #11312 Thomas Brothers 1710 West Bennett Rd UST # 04454			8.5	9	
	3. NON HAZ NON REG WELL WATER #11312 Edmark #380 Newberry, SC UST # 06588			115	9	
	4.					

13. Special Handling Instructions and Additional Information

14. GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations.

Generator's/Offeror's Printed/Typed Name: Regina Koenig
Signature
Month 8 Day 23 Year 11

15. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter Signature (for exports only): Date leaving U.S.:

16. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: Regina Koenig
Signature
Month 8 Day 23 Year 11

Transporter 2 Printed/Typed Name
Signature
Month Day Year

17. Discrepancy

17a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

17b. Alternate Facility (or Generator)
U.S. EPA ID Number
Facility's Phone:

17c. Signature of Alternate Facility (or Generator)
Month Day Year

18. Designated Facility Owner or Operator: Certification of receipt of materials covered by the manifest except as noted in Item 17a

Printed/Typed Name: Angela Tolley
Signature
Month 8 Day 23 Year 11

GENERATOR

INT'L

TRANSPORTER

DESIGNATED FACILITY

APPENDIX C

MONITORING WELL PURGING AND SAMPLING PROCEDURES, MONITORING WELL PURGING AND SAMPLING LOGS

APPENDIX C

MONITORING WELL PURGING AND SAMPLING PROCEDURES

The monitoring wells were purged prior to sample collection to remove any stagnant water from the well so that the samples collected were representative of the groundwater quality in the vicinity of each well. For wells that recovered quickly, a minimum of three volumes of water were evacuated. Specific conductance, pH, and water temperature were measured periodically during well evacuation using instruments which were calibrated daily. Wells that were evacuated to dryness with less than three well volumes being removed were sampled as soon as the well had recovered enough to yield sufficient volume for a sample.

The monitoring wells were purged using a 4-foot long by 1.6-inch diameter disposable polyethylene bailer attached to an unused polypropylene cord. The wells were also sampled using a bailer as described above. To minimize the potential for cross-contamination between wells, a new clean bailer was used at each well.

Samples were placed in the appropriate laboratory supplied containers and marked with identifying numbers. Samples were maintained at 4°Celsius in a refrigerated sample cooler and shipped to Shealy Environmental Services, Inc. in Columbia, South Carolina via courier service for analysis.

BUNNELL-LAMMONS ENGINEERING, INC.

Field Data Information Sheet for Ground Water Sampling
Division of Underground Storage Tank Management

Date	07/20/11
Field Personnel	Reid A. Doherty
General weather Conditions	Clear
Ambient Air Temperature (°C)	33.33

Facility Name: Former Enmark 380 Site ID #: 06588

Quality Assurance

pH Sensor:	Oakton 35630-62	Conductivity Sensor:	35630-32
Serial No.	324976	Serial No.	324976
pH =4.0	4.0	Standard	
pH = 7.0	7.0	Standard	
pH = 7.0		Standard	
pH = 10.0		Standard	

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time
Reid A. Doherty	7/22/2011 1245	Shealy	7/22/2011 1245

Well # MW-1

Well Diameter (D) 2 inch of 28.30 feet(ft) bgs

Conversion Factor (C): 3.143*(D/2)^2

for a 2 inch well C = 0.163

for a 4 inch well C = 0.652

*Free Product Thickness --- ft

Total Well Depth (TWD) 28.30 ft bgs

Depth to Groundwater (DGW) 20.85 ft bgs

Length of Water Colum (LWC = TWD-DGW) 7.45 ft

1 Casing Volume (LWC*C) = 7.45 X .17 = 1.27 gals

3 Casing Volumes = 3 X 1.27 = 3.81 gals

(Standard Purge Volume)

Total Volume of Water Purged Before Sampling -- gals

*If free product is present over 1/8 inch, sampling wiil not be required.

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post	Sample
Volume Purged (gallons)	--							
Time (military)	1750							
pH (s.u)	6.17							
Specific Conductivity	252							
Water Temperature (°C)	23.4							
Turbidity (subjective: clear, slightly cloudy, cloudy)	Clear							
Dissolved Oxygen (mg/l)	0.30							

Remarks: Well sampled at 1750 on July 20, 2011. Strong petroleum odor noted at time of sampling.

BUNNELL-LAMMONS ENGINEERING, INC.

Field Data Information Sheet for Ground Water Sampling
Division of Underground Storage Tank Management

Date 07/20/11
Field Personnel Reid A. Doherty
General weather Conditions Clear
Ambient Air Temperature (°C) 33.33

Facility Name: Former Enmark 380 Site ID #: 06588

Quality Assurance

pH Sensor:	Oakton 35630-62	Conductivity Sensor:	35630-32
Serial No.	324976	Serial No.	324976
pH =4.0	4.0	Standard	
pH = 7.0	7.0	Standard	
pH = 7.0		Standard	
pH = 10.0		Standard	

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time
Reid A. Doherty	7/22/2011 1245	Shealy	7/22/2011 1245

Well # MW-2

Well Diameter (D) 4 inch of 25.20 feet(ft) bgs
Conversion Factor (C): 3.143*(D/2)^2
for a 2 inch well C = 0.163
for a 4 inch well C = 0.652
*Free Product Thickness --- ft
Total Well Depth (TWD) 25.20 ft bgs
Depth to Groundwater (DGW) 21.32 ft bgs
Length of Water Colum (LWC = TWD-DGW) 3.88 ft
1 Casing Volume (LWC*C) = 3.88 X .17 = 0.66 gals
3 Casing Volumes = 3 X 0.66 = 1.98 gals
(Standard Purge Volume)

Total Volume of Water Purged Before Sampling -- gals

*If free product is present over 1/8 inch, sampling wiil not be required.

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post	Sample
Volume Purged (gallons)	--							
Time (military)	1630							
pH (s.u)	5.86							
Specific Conductivity	163							
Water Temperature (°C)	23.4							
Turbidity (subjective: clear, slightly cloudy, cloudy)	Clear							
Dissolved Oxygen (mg/l)	0.20							

Remarks: Well sampled at 1630 on July 20, 2011.

BUNNELL-LAMMONS ENGINEERING, INC.

Field Data Information Sheet for Ground Water Sampling
Division of Underground Storage Tank Management

Date	07/22/11
Field Personnel	Reid A. Doherty
General weather Conditions	Clear
Ambient Air Temperature (°C)	33.33
Facility Name:	Former Enmark 380
Site ID #:	06588

Quality Assurance

pH Sensor:	Oakton 35630-62	Conductivity Sensor:	35630-32
Serial No.	324976	Serial No.	324976
pH =4.0	4.0	Standard	
pH = 7.0	7.0	Standard	
pH = 7.0		Standard	
pH = 10.0		Standard	

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time
Reid A. Doherty	7/22/2011 1245	Shealy	7/22/2011 1245

Well #	MW-3				
Well Diameter (D)	2	inch of	25.00	feet(ft) bgs	
Conversion Factor (C): 3.143*(D/2)^2					
for a 2 inch well C = 0.163					
for a 4 inch well C = 0.652					
*Free Product Thickness	---	ft			
Total Well Depth (TWD)	25.00	ft bgs			
Depth to Groundwater (DGW)	22.14	ft bgs			
Length of Water Colum (LWC = TWD-DGW)			2.86	ft	
1 Casing Volume (LWC*C) =	2.86	X .17	=	0.49	gals
3 Casing Volumes = 3 X	0.49	=		1.47	gals
	(Standard Purge Volume)				
Total Volume of Water Purged Before Sampling			--	gals	

*If free product is present over 1/8 inch, sampling wiil not be required.

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post	Sample
Volume Purged (gallons)	--							
Time (military)	1100							
pH (s.u)	5.67							
Specific Conductivity	117							
Water Temperature (°C)	23.5							
Turbidity (subjective: clear, slightly cloudy, cloudy)	Clear							
Dissolved Oxygen (mg/l)	2.2							

Remarks: Well sampled at 1100 on July 22, 2011.

BUNNELL-LAMMONS ENGINEERING, INC.

Field Data Information Sheet for Ground Water Sampling
Division of Underground Storage Tank Management

Date 07/20/11
Field Personnel Reid A. Doherty
General weather Conditions Clear
Ambient Air Temperature (°C) 32.78

Facility Name: Former Enmark 380 Site ID #: 06588

Quality Assurance

pH Sensor:		Conductivity Sensor:	
Serial No.		Serial No.	
pH =4.0		Standard	
pH = 7.0		Standard	
pH = 7.0		Standard	
pH = 10.0		Standard	

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time

Well # MW-4

Well Diameter (D) 4 inch of 25.00 feet(ft) bgs
Conversion Factor (C): 3.143*(D/2)^2
for a 2 inch well C = 0.163
for a 4 inch well C = 0.652
*Free Product Thickness --- ft
Total Well Depth (TWD) 25.00 ft bgs
Depth to Groundwater (DGW) -- ft bgs
Length of Water Colum (LWC = TWD-DGW) NA ft
1 Casing Volume (LWC*C) = NA X .17 = NA gals
3 Casing Volumes = 3 X NA = NA gals
(Standard Purge Volume)

Total Volume of Water Purged Before Sampling -- gals

*If free product is present over 1/8 inch, sampling wiil not be required.

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post	Sample
Volume Purged (gallons)	--							
Time (military)								
pH (s.u)								
Specific Conductivity								
Water Temperature (°C)								
Turbidity (subjective: clear, slightly cloudy, cloudy)								
Dissolved Oxygen (mg/l)								

Remarks: Well is believed to be damaged or obstructed.

BUNNELL-LAMMONS ENGINEERING, INC.

Field Data Information Sheet for Ground Water Sampling
Division of Underground Storage Tank Management

Date: 07/20/11
Field Personnel: Reid A. Doherty
General weather Conditions: Clear
Ambient Air Temperature (°C): 32.78

Facility Name: Former Enmark 380 Site ID #: 06588

Quality Assurance

pH Sensor:		Conductivity Sensor:	
Serial No.		Serial No.	
pH =4.0		Standard	
pH = 7.0		Standard	
pH = 7.0		Standard	
pH = 10.0		Standard	

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time

Well # MW-5

Well Diameter (D) 2 inch of 25.00 feet(ft) bgs
Conversion Factor (C): 3.143*(D/2)^2
for a 2 inch well C = 0.163
for a 4 inch well C = 0.652
*Free Product Thickness 0.02 ft
Total Well Depth (TWD) 25.00 ft bgs
Depth to Groundwater (DGW) 21.66 ft bgs
Length of Water Colum (LWC = TWD-DGW) 3.34 ft
1 Casing Volume (LWC*C) = 3.34 X .17 = 0.57 gals
3 Casing Volumes = 3 X 0.57 = 1.71 gals
(Standard Purge Volume)

Total Volume of Water Purged Before Sampling -- gals

*If free product is present over 1/8 inch, sampling will not be required.

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post	Sample
Volume Purged (gallons)	--							
Time (military)								
pH (s.u)								
Specific Conductivity								
Water Temperature (°C)								
Turbidity (subjective: clear, slightly cloudy, cloudy)								
Dissolved Oxygen (mg/l)								

Remarks: Well not sampled due to 0.02 feet of free-phase petroleum product present at time of sampling event.

BUNNELL-LAMMONS ENGINEERING, INC.

Field Data Information Sheet for Ground Water Sampling
Division of Underground Storage Tank Management

Date 07/20/11
Field Personnel Reid A. Doherty
General weather Conditions Clear
Ambient Air Temperature (°C) 32.78

Facility Name: Former Enmark 380 Site ID #: 06588

Quality Assurance

pH Sensor:		Conductivity Sensor:	
Serial No.		Serial No.	
pH =4.0		Standard	
pH = 7.0		Standard	
pH = 7.0		Standard	
pH = 10.0		Standard	

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time

Well # MW-6

Well Diameter (D) 2 inch of 25.00 feet(ft) bgs
Conversion Factor (C): 3.143*(D/2)^2
for a 2 inch well C = 0.163
for a 4 inch well C = 0.652
*Free Product Thickness 1.20 ft
Total Well Depth (TWD) 25.00 ft bgs
Depth to Groundwater (DGW) 21.60 ft bgs
Length of Water Colum (LWC = TWD-DGW) 3.40 ft
1 Casing Volume (LWC*C) = 3.40 X .17 = 0.58 gals
3 Casing Volumes = 3 X 0.58 = 1.74 gals
(Standard Purge Volume)

Total Volume of Water Purged Before Sampling -- gals

*If free product is present over 1/8 inch, sampling wiil not be required.

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post	Sample
Volume Purged (gallons)	--							
Time (military)								
pH (s.u)								
Specific Conductivity								
Water Temperature (°C)								
Turbidity (subjective: clear, slightly cloudy, cloudy)								
Dissolved Oxygen (mg/l)								

Remarks: Well not sampled due to 1.20 feet of free-phase petroleum product present at time of sampling event.

BUNNELL-LAMMONS ENGINEERING, INC.

Field Data Information Sheet for Ground Water Sampling
Division of Underground Storage Tank Management

Date 07/20/11
Field Personnel Reid A. Doherty
General weather Conditions Clear
Ambient Air Temperature (°C) 32.78

Facility Name: Former Enmark 380 Site ID #: 06588

Quality Assurance

pH Sensor:		Conductivity Sensor:	
Serial No.		Serial No.	
pH =4.0		Standard	
pH = 7.0		Standard	
pH = 7.0		Standard	
pH = 10.0		Standard	

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time

Well # MW-7

Well Diameter (D) 2 inch of 25.00 feet(ft) bgs
Conversion Factor (C): 3.143*(D/2)^2
for a 2 inch well C = 0.163
for a 4 inch well C = 0.652
*Free Product Thickness 0.20 ft
Total Well Depth (TWD) 25.00 ft bgs
Depth to Groundwater (DGW) 21.4 ft bgs
Length of Water Colum (LWC = TWD-DGW) 3.60 ft
1 Casing Volume (LWC*C) = 3.60 X .17 = 0.61 gals
3 Casing Volumes = 3 X 0.61 = 1.83 gals
(Standard Purge Volume)

Total Volume of Water Purged Before Sampling -- gals

*If free product is present over 1/8 inch, sampling wiil not be required.

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post	Sample
Volume Purged (gallons)	--							
Time (military)								
pH (s.u)								
Specific Conductivity								
Water Temperature (°C)								
Turbidity (subjective: clear, slightly cloudy, cloudy)								
Dissolved Oxygen (mg/l)								

Remarks: Well not sampled due to 0.20 feet of free-phase petroleum product present at time of sampling event.

BUNNELL-LAMMONS ENGINEERING, INC.

Field Data Information Sheet for Ground Water Sampling
Division of Underground Storage Tank Management

Date	07/19/11
Field Personnel	Reid A. Doherty
General weather Conditions	Clear
Ambient Air Temperature (°C)	35
Facility Name:	Former Enmark 380
Site ID #:	06588

Quality Assurance

pH Sensor:	Oakton 35630-62	Conductivity Sensor:	35630-32
Serial No.	324976	Serial No.	324976
pH =4.0	4.0	Standard	
pH = 7.0	7.0	Standard	
pH = 7.0		Standard	
pH = 10.0		Standard	

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time
Reid A. Doherty	7/22/2011 1245	Shealy	7/22/2011 1245

Well #	MW-7D				
Well Diameter (D)	2	inch of	46.04	feet(ft) bgs	
Conversion Factor (C): 3.143*(D/2)^2					
for a 2 inch well C = 0.163					
for a 4 inch well C = 0.652					
*Free Product Thickness	---	ft			
Total Well Depth (TWD)	46.04	ft bgs			
Depth to Groundwater (DGW)	20.35	ft bgs			
Length of Water Colum (LWC = TWD-DGW)			25.69	ft	
1 Casing Volume (LWC*C) =	25.69	X .17	=	4.37	gals
3 Casing Volumes = 3 X	4.37	=		13.11	gals
	(Standard Purge Volume)				
Total Volume of Water Purged Before Sampling			13.5	gals	

*If free product is present over 1/8 inch, sampling wiil not be required.

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post	Sample
Volume Purged (gallons)	--	4.5	9.0	13.5				
Time (military)	1447	1452	1454	1456				
pH (s.u)	6.36	6.01	5.66	5.55				
Specific Conductivity	285	171	165	158				
Water Temperature (°C)	23.5	22.0	20.1	20.1				
Turbidity (subjective: clear, slightly cloudy, cloudy)	Clear	Clear	Clear	Clear				
Dissolved Oxygen (mg/l)	1.8							

Remarks: Well sampled at 1456 on July 19, 2011.

BUNNELL-LAMMONS ENGINEERING, INC.

Field Data Information Sheet for Ground Water Sampling
Division of Underground Storage Tank Management

Date	07/19/11
Field Personnel	Reid A. Doherty
General weather Conditions	Clear
Ambient Air Temperature (°C)	35
Facility Name:	Former Enmark 380
Site ID #:	06588

Quality Assurance

pH Sensor:	Oakton 35630-62	Conductivity Sensor:	35630-32
Serial No.	324976	Serial No.	324976
pH =4.0	4.0	Standard	
pH = 7.0	7.0	Standard	
pH = 7.0		Standard	
pH = 10.0		Standard	

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time
Reid A. Doherty	7/22/2011 1245	Shealy	7/22/2011 1245

Well #	MW-8D				
Well Diameter (D)	2	inch of	45.00	feet(ft) bgs	
Conversion Factor (C): 3.143*(D/2)^2					
for a 2 inch well C = 0.163					
for a 4 inch well C = 0.652					
*Free Product Thickness	---	ft			
Total Well Depth (TWD)	45.00	ft bgs			
Depth to Groundwater (DGW)	19.84	ft bgs			
Length of Water Colum (LWC = TWD-DGW)			25.16	ft	
1 Casing Volume (LWC*C) =	25.16	X .17	=	4.28	gals
3 Casing Volumes = 3 X	4.28	=		12.84	gals
	(Standard Purge Volume)				
Total Volume of Water Purged Before Sampling			4.5	gals	

*If free product is present over 1/8 inch, sampling wiil not be required.

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post	Sample
Volume Purged (gallons)	--	4.5						
Time (military)	1721	1723						
pH (s.u)	9.89	7.52						
Specific Conductivity	391	353						
Water Temperature (°C)	25.3	24.2						
Turbidity (subjective: clear, slightly cloudy, cloudy)	Clear	Clear						
Dissolved Oxygen (mg/l)	2.7							

Remarks: Well purged dry after 4.5 gallons of water removed. Well sampled at 1730 on July 19, 2011.

BUNNELL-LAMMONS ENGINEERING, INC.

Field Data Information Sheet for Ground Water Sampling
Division of Underground Storage Tank Management

Date	07/20/11
Field Personnel	Reid A. Doherty
General weather Conditions	Clear
Ambient Air Temperature (°C)	32.78

Facility Name: Former Enmark 380 Site ID #: 06588

Quality Assurance

pH Sensor:	Oakton 35630-62	Conductivity Sensor:	35630-32
Serial No.	324976	Serial No.	324976
pH =4.0	4.0	Standard	
pH = 7.0	7.0	Standard	
pH = 7.0		Standard	
pH = 10.0		Standard	

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time
Reid A. Doherty	7/22/2011 1245	Shealy	7/22/2011 1245

Well #	MW-9				
Well Diameter (D)	2	inch of	28.74	feet(ft) bgs	
Conversion Factor (C): 3.143*(D/2)^2					
for a 2 inch well C = 0.163					
for a 4 inch well C = 0.652					
*Free Product Thickness	---	ft			
Total Well Depth (TWD)	28.74	ft bgs			
Depth to Groundwater (DGW)	22.25	ft bgs			
Length of Water Colum (LWC = TWD-DGW)			6.49	ft	
1 Casing Volume (LWC*C) =	6.49	X .17	=	1.10	gals
3 Casing Volumes = 3 X	1.10	=		3.30	gals
	(Standard Purge Volume)				
Total Volume of Water Purged Before Sampling			--	gals	

*If free product is present over 1/8 inch, sampling wiil not be required.

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post	Sample
Volume Purged (gallons)	--							
Time (military)	1330							
pH (s.u)	5.42							
Specific Conductivity	112.0							
Water Temperature (°C)	23.1							
Turbidity (subjective: clear, slightly cloudy, cloudy)	Clear							
Dissolved Oxygen (mg/l)	9.5							

Remarks: Well sampled at 1330 on July 20, 2011.

BUNNELL-LAMMONS ENGINEERING, INC.

Field Data Information Sheet for Ground Water Sampling
Division of Underground Storage Tank Management

Date	07/20/11
Field Personnel	Reid A. Doherty
General weather Conditions	Clear
Ambient Air Temperature (°C)	32.78

Facility Name: Former Enmark 380 Site ID #: 06588

Quality Assurance

pH Sensor:	Oakton 35630-62	Conductivity Sensor:	35630-32
Serial No.	324976	Serial No.	324976
pH =4.0	4.0	Standard	
pH = 7.0	7.0	Standard	
pH = 7.0		Standard	
pH = 10.0		Standard	

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time
Reid A. Doherty	7/22/2011 1245	Shealy	7/22/2011 1245

Well # MW-10

Well Diameter (D) 2 inch of 28.00 feet(ft) bgs

Conversion Factor (C): 3.143*(D/2)^2

for a 2 inch well C = 0.163

for a 4 inch well C = 0.652

*Free Product Thickness	---	ft
Total Well Depth (TWD)	28.00	ft bgs
Depth to Groundwater (DGW)	21.58	ft bgs
Length of Water Colum (LWC = TWD-DGW)	6.42	ft
1 Casing Volume (LWC*C) = 6.42 X .17 =	1.09	gals
3 Casing Volumes = 3 X 1.09 = (Standard Purge Volume)	3.27	gals

Total Volume of Water Purged Before Sampling -- gals

*If free product is present over 1/8 inch, sampling wiil not be required.

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post	Sample
Volume Purged (gallons)	--							
Time (military)	1335							
pH (s.u)	5.33							
Specific Conductivity	113.0							
Water Temperature (°C)	21.3							
Turbidity (subjective: clear, slightly cloudy, cloudy)	Clear							
Dissolved Oxygen (mg/l)	1.8							

Remarks: Well sampled at 1335 on July 20, 2011.

BUNNELL-LAMMONS ENGINEERING, INC.

Field Data Information Sheet for Ground Water Sampling
Division of Underground Storage Tank Management

Date	07/20/11
Field Personnel	Reid A. Doherty
General weather Conditions	Clear
Ambient Air Temperature (°C)	32.78
Facility Name:	Former Enmark 380
Site ID #:	06588

Quality Assurance

pH Sensor:	Oakton 35630-62	Conductivity Sensor:	35630-32
Serial No.	324976	Serial No.	324976
pH =4.0	4.0	Standard	
pH = 7.0	7.0	Standard	
pH = 7.0		Standard	
pH = 10.0		Standard	

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time
Reid A. Doherty	7/22/2011 1245	Shealy	7/22/2011 1245

Well #	MW-11				
Well Diameter (D)	2	inch of	28.30	feet(ft) bgs	
Conversion Factor (C): 3.143*(D/2)^2					
for a 2 inch well C = 0.163					
for a 4 inch well C = 0.652					
*Free Product Thickness	---	ft			
Total Well Depth (TWD)	28.30	ft bgs			
Depth to Groundwater (DGW)	19.72	ft bgs			
Length of Water Colum (LWC = TWD-DGW)			8.58	ft	
1 Casing Volume (LWC*C) =	8.58	X .17	=	1.46	gals
3 Casing Volumes = 3 X	1.46	=		4.38	gals
	(Standard Purge Volume)				
Total Volume of Water Purged Before Sampling			--	gals	

*If free product is present over 1/8 inch, sampling wiil not be required.

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post	Sample
Volume Purged (gallons)	--							
Time (military)	1345							
pH (s.u)	5.22							
Specific Conductivity	272							
Water Temperature (°C)	22.2							
Turbidity (subjective: clear, slightly cloudy, cloudy)	Clear							
Dissolved Oxygen (mg/l)	3.5							

Remarks: Well sampled at 1345 on July 20, 2011.

BUNNELL-LAMMONS ENGINEERING, INC.

Field Data Information Sheet for Ground Water Sampling
Division of Underground Storage Tank Management

Date 07/20/11
Field Personnel Reid A. Doherty
General weather Conditions Clear
Ambient Air Temperature (°C) 32.78

Facility Name: Former Enmark 380 Site ID #: 06588

Quality Assurance

pH Sensor:	Oakton 35630-62	Conductivity Sensor:	35630-32
Serial No.	324976	Serial No.	324976
pH =4.0	4.0	Standard	
pH = 7.0	7.0	Standard	
pH = 7.0		Standard	
pH = 10.0		Standard	

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time
Reid A. Doherty	7/22/2011 1245	Shealy	7/22/2011 1245

Well # MW-12

Well Diameter (D) 2 inch of 27.61 feet(ft) bgs
Conversion Factor (C): 3.143*(D/2)^2
for a 2 inch well C = 0.163
for a 4 inch well C = 0.652
*Free Product Thickness --- ft
Total Well Depth (TWD) 27.61 ft bgs
Depth to Groundwater (DGW) 19.74 ft bgs
Length of Water Colum (LWC = TWD-DGW) 7.87 ft
1 Casing Volume (LWC*C) = 7.87 X .17 = 1.34 gals
3 Casing Volumes = 3 X 1.34 = 4.02 gals
(Standard Purge Volume)

Total Volume of Water Purged Before Sampling -- gals

*If free product is present over 1/8 inch, sampling wiil not be required.

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post	Sample
Volume Purged (gallons)	--							
Time (military)	1410							
pH (s.u)	5.25							
Specific Conductivity	124.0							
Water Temperature (°C)	23.3							
Turbidity (subjective: clear, slightly cloudy, cloudy)	Clear							
Dissolved Oxygen (mg/l)	3							

Remarks: Well sampled at 1410 on July 20, 2011.

BUNNELL-LAMMONS ENGINEERING, INC.

Field Data Information Sheet for Ground Water Sampling
Division of Underground Storage Tank Management

Date	07/20/11
Field Personnel	Reid A. Doherty
General weather Conditions	Clear
Ambient Air Temperature (°C)	32.78

Facility Name: Former Enmark 380 Site ID #: 06588

Quality Assurance

pH Sensor:	Oakton 35630-62	Conductivity Sensor:	35630-32
Serial No.	324976	Serial No.	324976
pH =4.0	4.0	Standard	
pH = 7.0	7.0	Standard	
pH = 7.0		Standard	
pH = 10.0		Standard	

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time
Reid A. Doherty	7/22/2011 1245	Shealy	7/22/2011 1245

Well #	MW-13				
Well Diameter (D)	2	inch of	26.46	feet(ft) bgs	
Conversion Factor (C): 3.143*(D/2)^2					
for a 2 inch well C = 0.163					
for a 4 inch well C = 0.652					
*Free Product Thickness	---	ft			
Total Well Depth (TWD)	26.46	ft bgs			
Depth to Groundwater (DGW)	19.56	ft bgs			
Length of Water Colum (LWC = TWD-DGW)			6.90	ft	
1 Casing Volume (LWC*C) =	6.90	X .17	=	1.17	gals
3 Casing Volumes = 3 X	1.17	=		3.51	gals
	(Standard Purge Volume)				
Total Volume of Water Purged Before Sampling			--	gals	

*If free product is present over 1/8 inch, sampling wiil not be required.

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post	Sample
Volume Purged (gallons)	--							
Time (military)	1420							
pH (s.u)	5.24							
Specific Conductivity	141.0							
Water Temperature (°C)	23.3							
Turbidity (subjective: clear, slightly cloudy, cloudy)	Clear							
Dissolved Oxygen (mg/l)	3.4							

Remarks: Well sampled at 1420 on July 20, 2011.

BUNNELL-LAMMONS ENGINEERING, INC.

Field Data Information Sheet for Ground Water Sampling
Division of Underground Storage Tank Management

Date	07/20/11
Field Personnel	Reid A. Doherty
General weather Conditions	Clear
Ambient Air Temperature (°C)	32.78

Facility Name: Former Enmark 380 Site ID #: 06588

Quality Assurance

pH Sensor:	Oakton 35630-62	Conductivity Sensor:	35630-32
Serial No.	324976	Serial No.	324976
pH =4.0	4.0	Standard	
pH = 7.0	7.0	Standard	
pH = 7.0		Standard	
pH = 10.0		Standard	

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time
Reid A. Doherty	7/22/2011 1245	Shealy	7/22/2011 1245

Well #	MW-14				
Well Diameter (D)	2	inch of	29.32	feet(ft) bgs	
Conversion Factor (C): 3.143*(D/2)^2					
for a 2 inch well C = 0.163					
for a 4 inch well C = 0.652					
*Free Product Thickness	---	ft			
Total Well Depth (TWD)	29.32	ft bgs			
Depth to Groundwater (DGW)	23	ft bgs			
Length of Water Colum (LWC = TWD-DGW)			6.37	ft	
1 Casing Volume (LWC*C) =	6.37	X .17	=	1.08	gals
3 Casing Volumes = 3 X	1.08	=		3.24	gals
	(Standard Purge Volume)				
Total Volume of Water Purged Before Sampling			--	gals	

*If free product is present over 1/8 inch, sampling wiil not be required.

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post	Sample
Volume Purged (gallons)	--							
Time (military)	1800							
pH (s.u)	5.64							
Specific Conductivity	124.0							
Water Temperature (°C)	20.6							
Turbidity (subjective: clear, slightly cloudy, cloudy)	Clear							
Dissolved Oxygen (mg/l)	5.40							

Remarks: Well sampled at 1800 on July 20, 2011.

BUNNELL-LAMMONS ENGINEERING, INC.

Field Data Information Sheet for Ground Water Sampling
Division of Underground Storage Tank Management

Date	07/20/11
Field Personnel	Reid A. Doherty
General weather Conditions	Clear
Ambient Air Temperature (°C)	32.78
Facility Name:	Former Enmark 380
Site ID #:	06588

Quality Assurance

pH Sensor:	Oakton 35630-62	Conductivity Sensor:	35630-32
Serial No.	324976	Serial No.	324976
pH =4.0	4.0	Standard	
pH = 7.0	7.0	Standard	
pH = 7.0		Standard	
pH = 10.0		Standard	

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time
Reid A. Doherty	7/22/2011 1245	Shealy	7/22/2011 1245

Well #	MW-15				
Well Diameter (D)	2	inch of	28.62	feet(ft) bgs	
Conversion Factor (C): 3.143*(D/2)^2					
for a 2 inch well C = 0.163					
for a 4 inch well C = 0.652					
*Free Product Thickness	---	ft			
Total Well Depth (TWD)	28.62	ft bgs			
Depth to Groundwater (DGW)	21.96	ft bgs			
Length of Water Colum (LWC = TWD-DGW)			6.66	ft	
1 Casing Volume (LWC*C) =	6.66	X .17	=	1.13	gals
3 Casing Volumes = 3 X	1.13	=		3.39	gals
	(Standard Purge Volume)				
Total Volume of Water Purged Before Sampling			--	gals	

*If free product is present over 1/8 inch, sampling wiil not be required.

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post	Sample
Volume Purged (gallons)	--							
Time (military)	1810							
pH (s.u)	5.23							
Specific Conductivity	83.0							
Water Temperature (°C)	21.7							
Turbidity (subjective: clear, slightly cloudy, cloudy)	Clear							
Dissolved Oxygen (mg/l)	4.3							

Remarks: Well sampled at 1810 on July 20, 2011.

BUNNELL-LAMMONS ENGINEERING, INC.

Field Data Information Sheet for Ground Water Sampling
Division of Underground Storage Tank Management

Date	07/20/11
Field Personnel	Reid A. Doherty
General weather Conditions	Clear
Ambient Air Temperature (°C)	32.78
Facility Name:	Former Enmark 380
Site ID #:	06588

Quality Assurance

pH Sensor:	Oakton 35630-62	Conductivity Sensor:	35630-32
Serial No.	324976	Serial No.	324976
pH =4.0	4.0	Standard	
pH = 7.0	7.0	Standard	
pH = 7.0		Standard	
pH = 10.0		Standard	

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time
Reid A. Doherty	7/22/2011 1245	Shealy	7/22/2011 1245

Well #	MW-16				
Well Diameter (D)	2	inch of	26.02	feet(ft) bgs	
Conversion Factor (C): 3.143*(D/2)^2					
for a 2 inch well C = 0.163					
for a 4 inch well C = 0.652					
*Free Product Thickness	---	ft			
Total Well Depth (TWD)	26.02	ft bgs			
Depth to Groundwater (DGW)	18.45	ft bgs			
Length of Water Colum (LWC = TWD-DGW)			7.57	ft	
1 Casing Volume (LWC*C) =	7.57	X .17	=	1.29	gals
3 Casing Volumes = 3 X	1.29	=		3.87	gals
	(Standard Purge Volume)				
Total Volume of Water Purged Before Sampling			--	gals	

*If free product is present over 1/8 inch, sampling wiil not be required.

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post	Sample
Volume Purged (gallons)	--							
Time (military)	1430							
pH (s.u)	5.27							
Specific Conductivity	124.0							
Water Temperature (°C)	23.3							
Turbidity (subjective: clear, slightly cloudy, cloudy)	Clear							
Dissolved Oxygen (mg/l)	1.8							

Remarks: Well sampled at 1430 on July 20, 2011.

BUNNELL-LAMMONS ENGINEERING, INC.

Field Data Information Sheet for Ground Water Sampling
Division of Underground Storage Tank Management

Date	07/20/11
Field Personnel	Reid A. Doherty
General weather Conditions	Clear
Ambient Air Temperature (°C)	32.78

Facility Name: Former Enmark 380 Site ID #: 06588

Quality Assurance

pH Sensor:	Oakton 35630-62	Conductivity Sensor:	35630-32
Serial No.	324976	Serial No.	324976
pH =4.0	4.0	Standard	
pH = 7.0	7.0	Standard	
pH = 7.0		Standard	
pH = 10.0		Standard	

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time
Reid A. Doherty	7/22/2011 1245	Shealy	7/22/2011 1245

Well #	MW-17				
Well Diameter (D)	2	inch of	26.54	feet(ft) bgs	
Conversion Factor (C): 3.143*(D/2)^2					
for a 2 inch well C = 0.163					
for a 4 inch well C = 0.652					
*Free Product Thickness	---	ft			
Total Well Depth (TWD)	26.54	ft bgs			
Depth to Groundwater (DGW)	19.90	ft bgs			
Length of Water Colum (LWC = TWD-DGW)			6.64	ft	
1 Casing Volume (LWC*C) =	6.64	X .17	=	1.13	gals
3 Casing Volumes = 3 X	1.13	=		3.39	gals
	(Standard Purge Volume)				
Total Volume of Water Purged Before Sampling			--	gals	

*If free product is present over 1/8 inch, sampling wiil not be required.

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post	Sample
Volume Purged (gallons)	--							
Time (military)	1455							
pH (s.u)	5.42							
Specific Conductivity	148.0							
Water Temperature (°C)	23.4							
Turbidity (subjective: clear, slightly cloudy, cloudy)	Clear							
Dissolved Oxygen (mg/l)	3.0							

Remarks: Well sampled at 1455 on July 20, 2011.

BUNNELL-LAMMONS ENGINEERING, INC.

Field Data Information Sheet for Ground Water Sampling
Division of Underground Storage Tank Management

Date	07/20/11
Field Personnel	Reid A. Doherty
General weather Conditions	Clear
Ambient Air Temperature (°C)	32.78
Facility Name:	Former Enmark 380
Site ID #:	06588

Quality Assurance

pH Sensor:	Oakton 35630-62	Conductivity Sensor:	35630-32
Serial No.	324976	Serial No.	324976
pH =4.0	4.0	Standard	
pH = 7.0	7.0	Standard	
pH = 7.0		Standard	
pH = 10.0		Standard	

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time
Reid A. Doherty	7/22/2011 1245	Shealy	7/22/2011 1245

Well #	MW-18				
Well Diameter (D)	2	inch of	26.28	feet(ft) bgs	
Conversion Factor (C): 3.143*(D/2)^2					
for a 2 inch well C = 0.163					
for a 4 inch well C = 0.652					
*Free Product Thickness	---	ft			
Total Well Depth (TWD)	26.28	ft bgs			
Depth to Groundwater (DGW)	20.15	ft bgs			
Length of Water Colum (LWC = TWD-DGW)			6.13	ft	
1 Casing Volume (LWC*C) =	6.13	X .17	=	1.04	gals
3 Casing Volumes = 3 X	1.04	=		3.12	gals
	(Standard Purge Volume)				
Total Volume of Water Purged Before Sampling			--	gals	

*If free product is present over 1/8 inch, sampling wiil not be required.

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post	Sample
Volume Purged (gallons)	--							
Time (military)	1440							
pH (s.u)	5.93							
Specific Conductivity	201							
Water Temperature (°C)	22.8							
Turbidity (subjective: clear, slightly cloudy, cloudy)	Clear							
Dissolved Oxygen (mg/l)	0.7							

Remarks: Well sampled at 1440 on July 20, 2011.

BUNNELL-LAMMONS ENGINEERING, INC.

Field Data Information Sheet for Ground Water Sampling
Division of Underground Storage Tank Management

Date: 07/20/11
Field Personnel: Reid A. Doherty
General weather Conditions: Clear
Ambient Air Temperature (°C): 32.78

Facility Name: Former Enmark 380 Site ID #: 06588

Quality Assurance

pH Sensor:	Oakton 35630-62	Conductivity Sensor:	35630-32
Serial No.	324976	Serial No.	324976
pH =4.0	4.0	Standard	
pH = 7.0	7.0	Standard	
pH = 7.0		Standard	
pH = 10.0		Standard	

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time
Reid A. Doherty	7/22/2011 1245	Shealy	7/22/2011 1245

Well # MW-19

Well Diameter (D) 2 inch of 25.52 feet(ft) bgs
Conversion Factor (C): 3.143*(D/2)^2
for a 2 inch well C = 0.163
for a 4 inch well C = 0.652
*Free Product Thickness --- ft
Total Well Depth (TWD) 25.52 ft bgs
Depth to Groundwater (DGW) 19.8 ft bgs
Length of Water Colum (LWC = TWD-DGW) 5.72 ft
1 Casing Volume (LWC*C) = 5.41 X .17 = 0.97 gals
3 Casing Volumes = 3 X 0.92 = 2.91 gals
(Standard Purge Volume)

Total Volume of Water Purged Before Sampling -- gals

*If free product is present over 1/8 inch, sampling wiil not be required.

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post	Sample
Volume Purged (gallons)	--							
Time (military)	1505							
pH (s.u)	5.50							
Specific Conductivity	118.0							
Water Temperature (°C)	23.2							
Turbidity (subjective: clear, slightly cloudy, cloudy)	Clear							
Dissolved Oxygen (mg/l)	1.1							

Remarks: Well sampled at 1505 on July 20, 2011.

BUNNELL-LAMMONS ENGINEERING, INC.

Field Data Information Sheet for Ground Water Sampling
Division of Underground Storage Tank Management

Date	07/21/11
Field Personnel	Reid A. Doherty
General weather Conditions	Clear
Ambient Air Temperature (°C)	33.33

Facility Name: Former Enmark 380 Site ID #: 06588

Quality Assurance

pH Sensor:	Oakton 35630-62	Conductivity Sensor:	35630-32
Serial No.	324976	Serial No.	324976
pH =4.0	4.0	Standard	
pH = 7.0	7.0	Standard	
pH = 7.0		Standard	
pH = 10.0		Standard	

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time
Reid A. Doherty	7/22/2011 1245	Shealy	7/22/2011 1245

Well #	MW-20				
Well Diameter (D)	2	inch of	27.24	feet(ft) bgs	
Conversion Factor (C): 3.143*(D/2)^2					
for a 2 inch well C = 0.163					
for a 4 inch well C = 0.652					
*Free Product Thickness	---	ft			
Total Well Depth (TWD)	27.24	ft bgs			
Depth to Groundwater (DGW)	21.02	ft bgs			
Length of Water Colum (LWC = TWD-DGW)			6.22	ft	
1 Casing Volume (LWC*C) =	6.22	X .17	=	1.06	gals
3 Casing Volumes = 3 X	1.06	=		3.18	gals
	(Standard Purge Volume)				
Total Volume of Water Purged Before Sampling			--	gals	

*If free product is present over 1/8 inch, sampling wiil not be required.

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post	Sample
Volume Purged (gallons)	--							
Time (military)	1305							
pH (s.u)	5.21							
Specific Conductivity	32							
Water Temperature (°C)	22.9							
Turbidity (subjective: clear, slightly cloudy, cloudy)	Clear							
Dissolved Oxygen (mg/l)	5.1							

Remarks: Well sampled at 1305 on July 21, 2011.

BUNNELL-LAMMONS ENGINEERING, INC.

Field Data Information Sheet for Ground Water Sampling
Division of Underground Storage Tank Management

Date	07/21/11
Field Personnel	Reid A. Doherty
General weather Conditions	Clear
Ambient Air Temperature (°C)	33.33

Facility Name: Former Enmark 380 Site ID #: 06588

Quality Assurance

pH Sensor:	Oakton 35630-62	Conductivity Sensor:	35630-32
Serial No.	324976	Serial No.	324976
pH =4.0	4.0	Standard	
pH = 7.0	7.0	Standard	
pH = 7.0		Standard	
pH = 10.0		Standard	

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time
Reid A. Doherty	7/22/2011 1245	Shealy	7/22/2011 1245

Well # MW-21

Well Diameter (D) 2 inch of 27.16 feet(ft) bgs

Conversion Factor (C): 3.143*(D/2)^2

for a 2 inch well C = 0.163

for a 4 inch well C = 0.652

*Free Product Thickness	---	ft
Total Well Depth (TWD)	27.16	ft bgs
Depth to Groundwater (DGW)	20.98	ft bgs
Length of Water Colum (LWC = TWD-DGW)	6.18	ft
1 Casing Volume (LWC*C) = 6.18 X .17 =	1.05	gals
3 Casing Volumes = 3 X 1.05 = (Standard Purge Volume)	3.15	gals
Total Volume of Water Purged Before Sampling	--	gals

*If free product is present over 1/8 inch, sampling wiil not be required.

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post	Sample
Volume Purged (gallons)	--							
Time (military)	1250							
pH (s.u)	5.43							
Specific Conductivity	53.0							
Water Temperature (°C)	23.1							
Turbidity (subjective: clear, slightly cloudy, cloudy)	Clear							
Dissolved Oxygen (mg/l)	6.1							

Remarks: Well sampled at 1250 on July 21, 2011.

BUNNELL-LAMMONS ENGINEERING, INC.

Field Data Information Sheet for Ground Water Sampling
Division of Underground Storage Tank Management

Date	07/19/11
Field Personnel	Reid A. Doherty
General weather Conditions	Clear
Ambient Air Temperature (°C)	35
Facility Name:	Former Enmark 380
Site ID #:	06588

Quality Assurance

pH Sensor:	Oakton 35630-62	Conductivity Sensor:	35630-32
Serial No.	324976	Serial No.	324976
pH =4.0	4.0	Standard	
pH = 7.0	7.0	Standard	
pH = 7.0		Standard	
pH = 10.0		Standard	

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time
Reid A. Doherty	7/22/2011 1245	Shealy	7/22/2011 1245

Well #	MW-21D				
Well Diameter (D)	2	inch of	46.75	feet(ft) bgs	
Conversion Factor (C): 3.143*(D/2)^2					
for a 2 inch well C = 0.163					
for a 4 inch well C = 0.652					
*Free Product Thickness	---	ft			
Total Well Depth (TWD)	46.75	ft bgs			
Depth to Groundwater (DGW)	20.46	ft bgs			
Length of Water Colum (LWC = TWD-DGW)			26.29	ft	
1 Casing Volume (LWC*C) =	26.29	X .17	=	4.47	gals
3 Casing Volumes = 3 X	4.47	=		13.41	gals
	(Standard Purge Volume)				
Total Volume of Water Purged Before Sampling				13.5	gals

*If free product is present over 1/8 inch, sampling wiil not be required.

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post	Sample
Volume Purged (gallons)	--	4.5	9.0	13.5				
Time (military)	1630	1632	1634	1636				
pH (s.u)	6.24	6.04	5.97	5.94				
Specific Conductivity	123.0	111.0	108.0	108.0				
Water Temperature (°C)	24.6	22.8	22.2	21.4				
Turbidity (subjective: clear, slightly cloudy, cloudy)	Clear	Sli.Cloudy	Sli.Cloudy	Sli.Cloudy				
Dissolved Oxygen (mg/l)	3.5							

Remarks: Well sampled at 1636 on July 19, 2011.

BUNNELL-LAMMONS ENGINEERING, INC.

Field Data Information Sheet for Ground Water Sampling
Division of Underground Storage Tank Management

Date	07/20/11
Field Personnel	Reid A. Doherty
General weather Conditions	Clear
Ambient Air Temperature (°C)	32.78
Facility Name:	Former Enmark 380
Site ID #:	06588

Quality Assurance

pH Sensor:	Oakton 35630-62	Conductivity Sensor:	35630-32
Serial No.	324976	Serial No.	324976
pH =4.0	4.0	Standard	
pH = 7.0	7.0	Standard	
pH = 7.0		Standard	
pH = 10.0		Standard	

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time
Reid A. Doherty	7/22/2011 1245	Shealy	7/22/2011 1245

Well #	MW-22				
Well Diameter (D)	2	inch of	26.25	feet(ft) bgs	
Conversion Factor (C): 3.143*(D/2)^2					
for a 2 inch well C = 0.163					
for a 4 inch well C = 0.652					
*Free Product Thickness	---	ft			
Total Well Depth (TWD)	26.25	ft bgs			
Depth to Groundwater (DGW)	19.84	ft bgs			
Length of Water Colum (LWC = TWD-DGW)			6.41	ft	
1 Casing Volume (LWC*C) =	6.41	X .17	=	1.09	gals
3 Casing Volumes = 3 X	1.09	=		3.27	gals
	(Standard Purge Volume)				
Total Volume of Water Purged Before Sampling			--	gals	

*If free product is present over 1/8 inch, sampling wiil not be required.

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post	Sample
Volume Purged (gallons)	--							
Time (military)	1515							
pH (s.u)	6.53							
Specific Conductivity	515							
Water Temperature (°C)	23.2							
Turbidity (subjective: clear, slightly cloudy, cloudy)	Clear							
Dissolved Oxygen (mg/l)	0.3							

Remarks: Well sampled at 1515 on July 20, 2011. Slight petroleum odor noted at time of sampling.

BUNNELL-LAMMONS ENGINEERING, INC.

Field Data Information Sheet for Ground Water Sampling
Division of Underground Storage Tank Management

Date	07/19/11
Field Personnel	Reid A. Doherty
General weather Conditions	Clear
Ambient Air Temperature (°C)	35
Facility Name:	Former Enmark 380
Site ID #:	06588

Quality Assurance

pH Sensor:	Oakton 35630-62	Conductivity Sensor:	35630-32
Serial No.	324976	Serial No.	324976
pH =4.0	4.0	Standard	
pH = 7.0	7.0	Standard	
pH = 7.0		Standard	
pH = 10.0		Standard	

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time
Reid A. Doherty	7/22/2011 1245	Shealy	7/22/2011 1245

Well #	MW-22D				
Well Diameter (D)	2	inch of	45.82	feet(ft) bgs	
Conversion Factor (C): 3.143*(D/2)^2					
for a 2 inch well C = 0.163					
for a 4 inch well C = 0.652					
*Free Product Thickness	---	ft			
Total Well Depth (TWD)	45.82	ft bgs			
Depth to Groundwater (DGW)	19.8	ft bgs			
Length of Water Colum (LWC = TWD-DGW)			26.02	ft	
1 Casing Volume (LWC*C) =	26.02	X .17	=	4.42	gals
3 Casing Volumes = 3 X	4.42	=		13.26	gals
	(Standard Purge Volume)				
Total Volume of Water Purged Before Sampling				13.5	gals

*If free product is present over 1/8 inch, sampling will not be required.

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post	Sample
Volume Purged (gallons)	--	4.5	9.0	13.5				
Time (military)	1518	1520	1522	1525				
pH (s.u)	6.38	6.35	6.25	6.77				
Specific Conductivity	281	239	219	236				
Water Temperature (°C)	27.5	22.3	21.4	21.4				
Turbidity (subjective: clear, slightly cloudy, cloudy)	Clear	Sli.Cloudy	Sli.Cloudy	Sli.Cloudy				
Dissolved Oxygen (mg/l)	2.3							

Remarks: Well sampled at 1525 on July 19, 2011.

BUNNELL-LAMMONS ENGINEERING, INC.

Field Data Information Sheet for Ground Water Sampling
Division of Underground Storage Tank Management

Date	07/20/11
Field Personnel	Reid A. Doherty
General weather Conditions	Clear
Ambient Air Temperature (°C)	32.78
Facility Name:	Former Enmark 380
Site ID #:	06588

Quality Assurance

pH Sensor:	Oakton 35630-62	Conductivity Sensor:	35630-32
Serial No.	324976	Serial No.	324976
pH =4.0	4.0	Standard	
pH = 7.0	7.0	Standard	
pH = 7.0		Standard	
pH = 10.0		Standard	

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time
Reid A. Doherty	7/22/2011 1245	Shealy	7/22/2011 1245

Well #	MW-23				
Well Diameter (D)	2	inch of	25.25	feet(ft) bgs	
Conversion Factor (C): 3.143*(D/2)^2					
for a 2 inch well C = 0.163					
for a 4 inch well C = 0.652					
*Free Product Thickness	---	ft			
Total Well Depth (TWD)	25.25	ft bgs			
Depth to Groundwater (DGW)	20.06	ft bgs			
Length of Water Colum (LWC = TWD-DGW)			5.19	ft	
1 Casing Volume (LWC*C) =	5.19	X .17	=	0.88	gals
3 Casing Volumes = 3 X	1.02	=		2.64	gals
	(Standard Purge Volume)				
Total Volume of Water Purged Before Sampling			--	gals	

*If free product is present over 1/8 inch, sampling wiil not be required.

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post	Sample
Volume Purged (gallons)	--							
Time (military)	1720							
pH (s.u)	5.36							
Specific Conductivity	112							
Water Temperature (°C)	26.4							
Turbidity (subjective: clear, slightly cloudy, cloudy)	Clear							
Dissolved Oxygen (mg/l)	0.6							

Remarks: Well sampled at 1720 on July 20, 2011. Slight petroleum odor noted at time of sampling.

BUNNELL-LAMMONS ENGINEERING, INC.

Field Data Information Sheet for Ground Water Sampling
Division of Underground Storage Tank Management

Date	07/20/11
Field Personnel	Reid A. Doherty
General weather Conditions	Clear
Ambient Air Temperature (°C)	32.78

Facility Name: Former Enmark 380 Site ID #: 06588

Quality Assurance

pH Sensor:	Oakton 35630-62	Conductivity Sensor:	35630-32
Serial No.	324976	Serial No.	324976
pH =4.0	4.0	Standard	
pH = 7.0	7.0	Standard	
pH = 7.0		Standard	
pH = 10.0		Standard	

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time
Reid A. Doherty	7/22/2011 1245	Shealy	7/22/2011 1245

Well #	MW-24				
Well Diameter (D)	2	inch of	25.42	feet(ft) bgs	
Conversion Factor (C): 3.143*(D/2)^2					
for a 2 inch well C = 0.163					
for a 4 inch well C = 0.652					
*Free Product Thickness	---	ft			
Total Well Depth (TWD)	25.42	ft bgs			
Depth to Groundwater (DGW)	20.94	ft bgs			
Length of Water Colum (LWC = TWD-DGW)			4.48	ft	
1 Casing Volume (LWC*C) =	4.48	X .17	=	0.76	gals
3 Casing Volumes = 3 X	0.76	=		2.28	gals
	(Standard Purge Volume)				
Total Volume of Water Purged Before Sampling			--	gals	

*If free product is present over 1/8 inch, sampling wiil not be required.

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post	Sample
Volume Purged (gallons)	--							
Time (military)	1730							
pH (s.u)	5.83							
Specific Conductivity	300.0							
Water Temperature (°C)	25.9							
Turbidity (subjective: clear, slightly cloudy, cloudy)	Clear							
Dissolved Oxygen (mg/l)	0.2							

Remarks: Well sampled at 1730 on July 20, 2011. Strong petroleum odor noted at time of sampling.

BUNNELL-LAMMONS ENGINEERING, INC.

Field Data Information Sheet for Ground Water Sampling
Division of Underground Storage Tank Management

Date	07/19/11
Field Personnel	Reid A. Doherty
General weather Conditions	Clear
Ambient Air Temperature (°C)	35
Facility Name:	Former Enmark 380
Site ID #:	06588

Quality Assurance

pH Sensor:	Oakton 35630-62	Conductivity Sensor:	35630-32
Serial No.	324976	Serial No.	324976
pH =4.0	4.0	Standard	
pH = 7.0	7.0	Standard	
pH = 7.0		Standard	
pH = 10.0		Standard	

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time
Reid A. Doherty	7/22/2011 1245	Shealy	7/22/2011 1245

Well #	MW-24D				
Well Diameter (D)	2	inch of	46.03	feet(ft) bgs	
Conversion Factor (C): 3.143*(D/2)^2					
for a 2 inch well C = 0.163					
for a 4 inch well C = 0.652					
*Free Product Thickness	---	ft			
Total Well Depth (TWD)	46.03	ft bgs			
Depth to Groundwater (DGW)	20.9	ft bgs			
Length of Water Colum (LWC = TWD-DGW)			25.13	ft	
1 Casing Volume (LWC*C) =	25.13	X .17	=	4.27	gals
3 Casing Volumes = 3 X	4.27	=		12.81	gals
	(Standard Purge Volume)				
Total Volume of Water Purged Before Sampling			13.5	gals	

*If free product is present over 1/8 inch, sampling wiil not be required.

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post	Sample
Volume Purged (gallons)	--	4.5	9.0	13.5				
Time (military)	1745	1747	1749	1752				
pH (s.u)	10.58	8.59	6.25	6.14				
Specific Conductivity	227	214	222	215				
Water Temperature (°C)	25.9	22.6	21.9	22.5				
Turbidity (subjective: clear, slightly cloudy, cloudy)	Clear	Clear	Clear	Clear				
Dissolved Oxygen (mg/l)	4.0							

Remarks: Well sampled at 1752 on July 19, 2011.

BUNNELL-LAMMONS ENGINEERING, INC.

Field Data Information Sheet for Ground Water Sampling
Division of Underground Storage Tank Management

Date	07/20/11
Field Personnel	Reid A. Doherty
General weather Conditions	Clear
Ambient Air Temperature (°C)	32.78
Facility Name:	Former Enmark 380
Site ID #:	06588

Quality Assurance

pH Sensor:	Oakton 35630-62	Conductivity Sensor:	35630-32
Serial No.	324976	Serial No.	324976
pH =4.0	4.0	Standard	
pH = 7.0	7.0	Standard	
pH = 7.0		Standard	
pH = 10.0		Standard	

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time
Reid A. Doherty	7/22/2011 1245	Shealy	7/22/2011 1245

Well #	MW-25				
Well Diameter (D)	2	inch of	25.38	feet(ft) bgs	
Conversion Factor (C): 3.143*(D/2)^2					
for a 2 inch well C = 0.163					
for a 4 inch well C = 0.652					
*Free Product Thickness	---	ft			
Total Well Depth (TWD)	25.38	ft bgs			
Depth to Groundwater (DGW)	21.30	ft bgs			
Length of Water Colum (LWC = TWD-DGW)			4.08	ft	
1 Casing Volume (LWC*C) =	4.08	X .17	=	0.69	gals
3 Casing Volumes = 3 X	0.69	=		2.07	gals
	(Standard Purge Volume)				
Total Volume of Water Purged Before Sampling			--	gals	

*If free product is present over 1/8 inch, sampling wiil not be required.

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post	Sample
Volume Purged (gallons)	--							
Time (military)	1740							
pH (s.u)	6.25							
Specific Conductivity	400.0							
Water Temperature (°C)	24.7							
Turbidity (subjective: clear, slightly cloudy, cloudy)	Clear							
Dissolved Oxygen (mg/l)	0.2							

Remarks: Well sampled at 1740 on July 20, 2011. Slight petroleum odor noted at time of sampling.

BUNNELL-LAMMONS ENGINEERING, INC.

Field Data Information Sheet for Ground Water Sampling
Division of Underground Storage Tank Management

Date	07/21/11
Field Personnel	Reid A. Doherty
General weather Conditions	Clear
Ambient Air Temperature (°C)	33.33
Facility Name:	Former Enmark 380
Site ID #:	06588

Quality Assurance

pH Sensor:	Oakton 35630-62	Conductivity Sensor:	35630-32
Serial No.	324976	Serial No.	324976
pH =4.0	4.0	Standard	
pH = 7.0	7.0	Standard	
pH = 7.0		Standard	
pH = 10.0		Standard	

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time
Reid A. Doherty	7/22/2011 1245	Shealy	7/22/2011 1245

Well #	MW-26				
Well Diameter (D)	2	inch of	27.00	feet(ft) bgs	
Conversion Factor (C): 3.143*(D/2)^2					
for a 2 inch well C = 0.163					
for a 4 inch well C = 0.652					
*Free Product Thickness	---	ft			
Total Well Depth (TWD)	27.00	ft bgs			
Depth to Groundwater (DGW)	21.20	ft bgs			
Length of Water Colum (LWC = TWD-DGW)			5.80	ft	
1 Casing Volume (LWC*C) =	5.80	X .17	=	0.99	gals
3 Casing Volumes = 3 X	0.99	=		2.97	gals
	(Standard Purge Volume)				
Total Volume of Water Purged Before Sampling			--	gals	

*If free product is present over 1/8 inch, sampling wiil not be required.

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post	Sample
Volume Purged (gallons)	--							
Time (military)	1745							
pH (s.u)	5.44							
Specific Conductivity	156.0							
Water Temperature (°C)	23.9							
Turbidity (subjective: clear, slightly cloudy, cloudy)	Clear							
Dissolved Oxygen (mg/l)	0.9							

Remarks: Well sampled at 1745 on July 21, 2011.

BUNNELL-LAMMONS ENGINEERING, INC.

Field Data Information Sheet for Ground Water Sampling
Division of Underground Storage Tank Management

Date	07/21/11
Field Personnel	Reid A. Doherty
General weather Conditions	Clear
Ambient Air Temperature (°C)	33.33
Facility Name:	Former Enmark 380
Site ID #:	06588

Quality Assurance

pH Sensor:	Oakton 35630-62	Conductivity Sensor:	35630-32
Serial No.	324976	Serial No.	324976
pH =4.0	4.0	Standard	
pH = 7.0	7.0	Standard	
pH = 7.0		Standard	
pH = 10.0		Standard	

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time
Reid A. Doherty	7/22/2011 1245	Shealy	7/22/2011 1245

Well #	MW-27				
Well Diameter (D)	2	inch of	27.25	feet(ft) bgs	
Conversion Factor (C): 3.143*(D/2)^2					
for a 2 inch well C = 0.163					
for a 4 inch well C = 0.652					
*Free Product Thickness	---	ft			
Total Well Depth (TWD)	27.25	ft bgs			
Depth to Groundwater (DGW)	21.66	ft bgs			
Length of Water Colum (LWC = TWD-DGW)			5.59	ft	
1 Casing Volume (LWC*C) =	5.59	X .17	=	0.95	gals
3 Casing Volumes = 3 X	0.95	=		2.85	gals
	(Standard Purge Volume)				
Total Volume of Water Purged Before Sampling			--	gals	

*If free product is present over 1/8 inch, sampling wiil not be required.

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post	Sample
Volume Purged (gallons)	--							
Time (military)	1755							
pH (s.u)	4.82							
Specific Conductivity	119.0							
Water Temperature (°C)	22.9							
Turbidity (subjective: clear, slightly cloudy, cloudy)	Clear							
Dissolved Oxygen (mg/l)	3.4							

Remarks: Well sampled at 1755 on July 21, 2011.

BUNNELL-LAMMONS ENGINEERING, INC.

Field Data Information Sheet for Ground Water Sampling
Division of Underground Storage Tank Management

Date	07/21/11
Field Personnel	Reid A. Doherty
General weather Conditions	Clear
Ambient Air Temperature (°C)	33.33
Facility Name:	Former Enmark 380
Site ID #:	06588

Quality Assurance

pH Sensor:	Oakton 35630-62	Conductivity Sensor:	35630-32
Serial No.	324976	Serial No.	324976
pH =4.0	4.0	Standard	
pH = 7.0	7.0	Standard	
pH = 7.0		Standard	
pH = 10.0		Standard	

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time
Reid A. Doherty	7/22/2011 1245	Shealy	7/22/2011 1245

Well #	MW-28				
Well Diameter (D)	2	inch of	25.50	feet(ft) bgs	
Conversion Factor (C): 3.143*(D/2)^2					
for a 2 inch well C = 0.163					
for a 4 inch well C = 0.652					
*Free Product Thickness	---	ft			
Total Well Depth (TWD)	25.50	ft bgs			
Depth to Groundwater (DGW)	18.90	ft bgs			
Length of Water Colum (LWC = TWD-DGW)			6.60	ft	
1 Casing Volume (LWC*C) =	6.60	X .17	=	1.12	gals
3 Casing Volumes = 3 X	1.12	=		3.36	gals
	(Standard Purge Volume)				
Total Volume of Water Purged Before Sampling			--	gals	

*If free product is present over 1/8 inch, sampling wiil not be required.

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post	Sample
Volume Purged (gallons)	--							
Time (military)	1320							
pH (s.u)	5.19							
Specific Conductivity	62.0							
Water Temperature (°C)	22.6							
Turbidity (subjective: clear, slightly cloudy, cloudy)	Clear							
Dissolved Oxygen (mg/l)	1.9							

Remarks: Well sampled at 1320 on July 21, 2011.

BUNNELL-LAMMONS ENGINEERING, INC.

Field Data Information Sheet for Ground Water Sampling
Division of Underground Storage Tank Management

Date	07/21/11
Field Personnel	Reid A. Doherty
General weather Conditions	Clear
Ambient Air Temperature (°C)	33.33
Facility Name:	Former Enmark 380
Site ID #:	06588

Quality Assurance

pH Sensor:	Oakton 35630-62	Conductivity Sensor:	35630-32
Serial No.	324976	Serial No.	324976
pH =4.0	4.0	Standard	
pH = 7.0	7.0	Standard	
pH = 7.0		Standard	
pH = 10.0		Standard	

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time
Reid A. Doherty	7/22/2011 1245	Shealy	7/22/2011 1245

Well #	MW-29				
Well Diameter (D)	2	inch of	25.00	feet(ft) bgs	
Conversion Factor (C): 3.143*(D/2)^2					
for a 2 inch well C = 0.163					
for a 4 inch well C = 0.652					
*Free Product Thickness	---	ft			
Total Well Depth (TWD)	25.00	ft bgs			
Depth to Groundwater (DGW)	18.12	ft bgs			
Length of Water Colum (LWC = TWD-DGW)			6.88	ft	
1 Casing Volume (LWC*C) =	6.88	X .17	=	1.17	gals
3 Casing Volumes = 3 X	1.17	=		3.51	gals
	(Standard Purge Volume)				
Total Volume of Water Purged Before Sampling			--	gals	

*If free product is present over 1/8 inch, sampling wiil not be required.

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post	Sample
Volume Purged (gallons)	--							
Time (military)	1350							
pH (s.u)	5.45							
Specific Conductivity	73							
Water Temperature (°C)	20.9							
Turbidity (subjective: clear, slightly cloudy, cloudy)	Clear							
Dissolved Oxygen (mg/l)	5.4							

Remarks: Well sampled at 1350 on July 21, 2011.

BUNNELL-LAMMONS ENGINEERING, INC.

Field Data Information Sheet for Ground Water Sampling
Division of Underground Storage Tank Management

Date	07/21/11
Field Personnel	Reid A. Doherty
General weather Conditions	Clear
Ambient Air Temperature (°C)	33.33
Facility Name:	Former Enmark 380
Site ID #:	06588

Quality Assurance

pH Sensor:	Oakton 35630-62	Conductivity Sensor:	35630-32
Serial No.	324976	Serial No.	324976
pH =4.0	4.0	Standard	
pH = 7.0	7.0	Standard	
pH = 7.0		Standard	
pH = 10.0		Standard	

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time
Reid A. Doherty	7/22/2011 1245	Shealy	7/22/2011 1245

Well #	MW-30				
Well Diameter (D)	2	inch of	24.00	feet(ft) bgs	
Conversion Factor (C): 3.143*(D/2)^2					
for a 2 inch well C = 0.163					
for a 4 inch well C = 0.652					
*Free Product Thickness	---	ft			
Total Well Depth (TWD)	24.00	ft bgs			
Depth to Groundwater (DGW)	17.20	ft bgs			
Length of Water Colum (LWC = TWD-DGW)			6.80	ft	
1 Casing Volume (LWC*C) =	6.80	X .17	=	1.16	gals
3 Casing Volumes = 3 X	1.16	=		3.48	gals
	(Standard Purge Volume)				
Total Volume of Water Purged Before Sampling			--	gals	

*If free product is present over 1/8 inch, sampling wiil not be required.

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post	Sample
Volume Purged (gallons)	--							
Time (military)	1410							
pH (s.u)	5.85							
Specific Conductivity	271							
Water Temperature (°C)	21.4							
Turbidity (subjective: clear, slightly cloudy, cloudy)	Clear							
Dissolved Oxygen (mg/l)	0.8							

Remarks: Well sampled at 1410 on July 21, 2011.

BUNNELL-LAMMONS ENGINEERING, INC.

Field Data Information Sheet for Ground Water Sampling
Division of Underground Storage Tank Management

Date	07/19/11
Field Personnel	Reid A. Doherty
General weather Conditions	Clear
Ambient Air Temperature (°C)	35
Facility Name:	Former Enmark 380
Site ID #:	06588

Quality Assurance

pH Sensor:	Oakton 35630-62	Conductivity Sensor:	35630-32
Serial No.	324976	Serial No.	324976
pH =4.0	4.0	Standard	
pH = 7.0	7.0	Standard	
pH = 7.0		Standard	
pH = 10.0		Standard	

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time
Reid A. Doherty	7/22/2011 1245	Shealy	7/22/2011 1245

Well #	MW-30D				
Well Diameter (D)	2	inch of	46.30	feet(ft) bgs	
Conversion Factor (C): 3.143*(D/2)^2					
for a 2 inch well C = 0.163					
for a 4 inch well C = 0.652					
*Free Product Thickness	---	ft			
Total Well Depth (TWD)	46.30	ft bgs			
Depth to Groundwater (DGW)	17.10	ft bgs			
Length of Water Colum (LWC = TWD-DGW)			29.20	ft	
1 Casing Volume (LWC*C) =		X .17	=	4.96	gals
3 Casing Volumes = 3 X		=		14.88	gals
(Standard Purge Volume)					
Total Volume of Water Purged Before Sampling			15.0	gals	

*If free product is present over 1/8 inch, sampling wiil not be required.

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post	Sample
Volume Purged (gallons)	--	5.0	10.0	15.0				
Time (military)	1815	1817	1819	1825				
pH (s.u)	11.35	9.08	7.87	7.46				
Specific Conductivity	864	448	409	362				
Water Temperature (°C)	26.3	21.6	20.8	20.3				
Turbidity (subjective: clear, slightly cloudy, cloudy)	Clear	Cloudy	Cloudy	Cloudy				
Dissolved Oxygen (mg/l)	6.9							

Remarks: Well sampled at 1825 on July 19, 2011.

BUNNELL-LAMMONS ENGINEERING, INC.

Field Data Information Sheet for Ground Water Sampling
Division of Underground Storage Tank Management

Date	07/21/11
Field Personnel	Reid A. Doherty
General weather Conditions	Clear
Ambient Air Temperature (°C)	33.33
Facility Name:	Former Enmark 380
Site ID #:	06588

Quality Assurance

pH Sensor:	Oakton 35630-62	Conductivity Sensor:	35630-32
Serial No.	324976	Serial No.	324976
pH =4.0	4.0	Standard	
pH = 7.0	7.0	Standard	
pH = 7.0		Standard	
pH = 10.0		Standard	

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time
Reid A. Doherty	7/22/2011 1245	Shealy	7/22/2011 1245

Well #	MW-31				
Well Diameter (D)	2	inch of	25.25	feet(ft) bgs	
Conversion Factor (C): 3.143*(D/2)^2					
for a 2 inch well C = 0.163					
for a 4 inch well C = 0.652					
*Free Product Thickness	---	ft			
Total Well Depth (TWD)	25.25	ft bgs			
Depth to Groundwater (DGW)	18.25	ft bgs			
Length of Water Colum (LWC = TWD-DGW)			7.00	ft	
1 Casing Volume (LWC*C) =	7.00	X .17	=	1.19	gals
3 Casing Volumes = 3 X	1.19	=		3.57	gals
	(Standard Purge Volume)				
Total Volume of Water Purged Before Sampling			--	gals	

*If free product is present over 1/8 inch, sampling wiil not be required.

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post	Sample
Volume Purged (gallons)	--							
Time (military)	1425							
pH (s.u)	6.23							
Specific Conductivity	596							
Water Temperature (°C)	22.9							
Turbidity (subjective: clear, slightly cloudy, cloudy)	Clear							
Dissolved Oxygen (mg/l)	0.2							

Remarks: Well sampled at 1425 on July 21, 2011.

BUNNELL-LAMMONS ENGINEERING, INC.

Field Data Information Sheet for Ground Water Sampling
Division of Underground Storage Tank Management

Date	07/21/11
Field Personnel	Reid A. Doherty
General weather Conditions	Clear
Ambient Air Temperature (°C)	33.33

Facility Name: Former Enmark 380 Site ID #: 06588

Quality Assurance

pH Sensor:	Oakton 35630-62	Conductivity Sensor:	35630-32
Serial No.	324976	Serial No.	324976
pH =4.0	4.0	Standard	
pH = 7.0	7.0	Standard	
pH = 7.0		Standard	
pH = 10.0		Standard	

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time
Reid A. Doherty	7/22/2011 1245	Shealy	7/22/2011 1245

Well #	MW-32				
Well Diameter (D)	2	inch of	25.25	feet(ft) bgs	
Conversion Factor (C): 3.143*(D/2)^2					
for a 2 inch well C = 0.163					
for a 4 inch well C = 0.652					
*Free Product Thickness	---	ft			
Total Well Depth (TWD)	25.25	ft bgs			
Depth to Groundwater (DGW)	18.24	ft bgs			
Length of Water Colum (LWC = TWD-DGW)			7.01	ft	
1 Casing Volume (LWC*C) =	7.01	X .17	=	1.19	gals
3 Casing Volumes = 3 X	1.19	=		3.57	gals
	(Standard Purge Volume)				
Total Volume of Water Purged Before Sampling			--	gals	

*If free product is present over 1/8 inch, sampling wiil not be required.

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post	Sample
Volume Purged (gallons)	--							
Time (military)	1440							
pH (s.u)	6.09							
Specific Conductivity	196.0							
Water Temperature (°C)	24.0							
Turbidity (subjective: clear, slightly cloudy, cloudy)	Clear							
Dissolved Oxygen (mg/l)	1.1							

Remarks: Well sampled at 1440 on July 21, 2011.

BUNNELL-LAMMONS ENGINEERING, INC.

Field Data Information Sheet for Ground Water Sampling
Division of Underground Storage Tank Management

Date	07/21/11
Field Personnel	Reid A. Doherty
General weather Conditions	Clear
Ambient Air Temperature (°C)	33.33
Facility Name:	Former Enmark 380
Site ID #:	06588

Quality Assurance

pH Sensor:	Oakton 35630-62	Conductivity Sensor:	35630-32
Serial No.	324976	Serial No.	324976
pH =4.0	4.0	Standard	
pH = 7.0	7.0	Standard	
pH = 7.0		Standard	
pH = 10.0		Standard	

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time
Reid A. Doherty	7/22/2011 1245	Shealy	7/22/2011 1245

Well #	MW-33				
Well Diameter (D)	2	inch of	26.25	feet(ft) bgs	
Conversion Factor (C): 3.143*(D/2)^2					
for a 2 inch well C = 0.163					
for a 4 inch well C = 0.652					
*Free Product Thickness	---	ft			
Total Well Depth (TWD)	26.25	ft bgs			
Depth to Groundwater (DGW)	19.15	ft bgs			
Length of Water Colum (LWC = TWD-DGW)			7.10	ft	
1 Casing Volume (LWC*C) =	7.10	X .17	=	1.21	gals
3 Casing Volumes = 3 X	1.21	=		3.63	gals
	(Standard Purge Volume)				
Total Volume of Water Purged Before Sampling			--	gals	

*If free product is present over 1/8 inch, sampling wiil not be required.

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post	Sample
Volume Purged (gallons)	--							
Time (military)	1450							
pH (s.u)	5.45							
Specific Conductivity	86							
Water Temperature (°C)	24.6							
Turbidity (subjective: clear, slightly cloudy, cloudy)	Clear							
Dissolved Oxygen (mg/l)	6.2							

Remarks: Well sampled at 1450 on July 21, 2011.

BUNNELL-LAMMONS ENGINEERING, INC.

Field Data Information Sheet for Ground Water Sampling
Division of Underground Storage Tank Management

Date	07/19/11
Field Personnel	Reid A. Doherty
General weather Conditions	Clear
Ambient Air Temperature (°C)	35
Facility Name:	Former Enmark 380
Site ID #:	06588

Quality Assurance

pH Sensor:	Oakton 35630-62	Conductivity Sensor:	35630-32
Serial No.	324976	Serial No.	324976
pH =4.0	4.0	Standard	
pH = 7.0	7.0	Standard	
pH = 7.0		Standard	
pH = 10.0		Standard	

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time
Reid A. Doherty	7/22/2011 1245	Shealy	7/22/2011 1245

Well #	MW-33D				
Well Diameter (D)	2	inch of	48.35	feet(ft) bgs	
Conversion Factor (C): 3.143*(D/2)^2					
for a 2 inch well C = 0.163					
for a 4 inch well C = 0.652					
*Free Product Thickness	---	ft			
Total Well Depth (TWD)	48.35	ft bgs			
Depth to Groundwater (DGW)	19.2	ft bgs			
Length of Water Colum (LWC = TWD-DGW)			29.15	ft	
1 Casing Volume (LWC*C) =	29.15	X .17	=	4.96	gals
3 Casing Volumes = 3 X	4.96	=		14.88	gals
	(Standard Purge Volume)				
Total Volume of Water Purged Before Sampling				6.0	gals

*If free product is present over 1/8 inch, sampling wiil not be required.

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post	Sample
Volume Purged (gallons)	--	5.0						
Time (military)	1845	1847						
pH (s.u)	7.37	7.26						
Specific Conductivity	464	457.0						
Water Temperature (°C)	26.6	24.3						
Turbidity (subjective: clear, slightly cloudy, cloudy)	Clear	Cloudy						
Dissolved Oxygen (mg/l)	4.4							

Remarks: Well purged dry after 6.0 gallons of water removed. Well sampled at 1855 on July 19, 2011.

BUNNELL-LAMMONS ENGINEERING, INC.

Field Data Information Sheet for Ground Water Sampling
Division of Underground Storage Tank Management

Date	07/21/11
Field Personnel	Reid A. Doherty
General weather Conditions	Clear
Ambient Air Temperature (°C)	33.33
Facility Name:	Former Enmark 380
Site ID #:	06588

Quality Assurance

pH Sensor:	Oakton 35630-62	Conductivity Sensor:	35630-32
Serial No.	324976	Serial No.	324976
pH =4.0	4.0	Standard	
pH = 7.0	7.0	Standard	
pH = 7.0		Standard	
pH = 10.0		Standard	

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time
Reid A. Doherty	7/22/2011 1245	Shealy	7/22/2011 1245

Well #	MW-34				
Well Diameter (D)	2	inch of	18.25	feet(ft) bgs	
Conversion Factor (C): 3.143*(D/2)^2					
for a 2 inch well C = 0.163					
for a 4 inch well C = 0.652					
*Free Product Thickness	---	ft			
Total Well Depth (TWD)	18.25	ft bgs			
Depth to Groundwater (DGW)	12.80	ft bgs			
Length of Water Colum (LWC = TWD-DGW)			5.45	ft	
1 Casing Volume (LWC*C) =	5.45	X .17	=	0.93	gals
3 Casing Volumes = 3 X	0.93	=		2.79	gals
	(Standard Purge Volume)				
Total Volume of Water Purged Before Sampling			--	gals	

*If free product is present over 1/8 inch, sampling wiil not be required.

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post	Sample
Volume Purged (gallons)	--							
Time (military)	1340							
pH (s.u)	5.80							
Specific Conductivity	46.0							
Water Temperature (°C)	21.6							
Turbidity (subjective: clear, slightly cloudy, cloudy)	Clear							
Dissolved Oxygen (mg/l)	4.5							

Remarks: Well sampled at 1340 on July 21, 2011.

BUNNELL-LAMMONS ENGINEERING, INC.

Field Data Information Sheet for Ground Water Sampling
Division of Underground Storage Tank Management

Date	07/21/11
Field Personnel	Reid A. Doherty
General weather Conditions	Clear
Ambient Air Temperature (°C)	33.33
Facility Name:	Former Enmark 380
Site ID #:	06588

Quality Assurance

pH Sensor:	Oakton 35630-62	Conductivity Sensor:	35630-32
Serial No.	324976	Serial No.	324976
pH =4.0	4.0	Standard	
pH = 7.0	7.0	Standard	
pH = 7.0		Standard	
pH = 10.0		Standard	

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time
Reid A. Doherty	7/22/2011 1245	Shealy	7/22/2011 1245

Well #	MW-35				
Well Diameter (D)	2	inch of	14.25	feet(ft) bgs	
Conversion Factor (C): 3.143*(D/2)^2					
for a 2 inch well C = 0.163					
for a 4 inch well C = 0.652					
*Free Product Thickness	---	ft			
Total Well Depth (TWD)	14.25	ft bgs			
Depth to Groundwater (DGW)	7.36	ft bgs			
Length of Water Colum (LWC = TWD-DGW)			6.89	ft	
1 Casing Volume (LWC*C) =	6.89	X .17	=	1.17	gals
3 Casing Volumes = 3 X	1.17	=		3.51	gals
	(Standard Purge Volume)				
Total Volume of Water Purged Before Sampling			--	gals	

*If free product is present over 1/8 inch, sampling wiil not be required.

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post	Sample
Volume Purged (gallons)	--							
Time (military)	1330							
pH (s.u)	5.79							
Specific Conductivity	731							
Water Temperature (°C)	23.0							
Turbidity (subjective: clear, slightly cloudy, cloudy)	Clear							
Dissolved Oxygen (mg/l)	0.1							

Remarks: Well sampled at 1330 on July 21, 2011.

BUNNELL-LAMMONS ENGINEERING, INC.

Field Data Information Sheet for Ground Water Sampling
Division of Underground Storage Tank Management

Date	07/21/11
Field Personnel	Reid A. Doherty
General weather Conditions	Clear
Ambient Air Temperature (°C)	33.33
Facility Name:	Former Enmark 380
Site ID #:	06588

Quality Assurance

pH Sensor:	Oakton 35630-62	Conductivity Sensor:	35630-32
Serial No.	324976	Serial No.	324976
pH =4.0	4.0	Standard	
pH = 7.0	7.0	Standard	
pH = 7.0		Standard	
pH = 10.0		Standard	

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time
Reid A. Doherty	7/22/2011 1245	Shealy	7/22/2011 1245

Well #	MW-36				
Well Diameter (D)	2	inch of	31.00	feet(ft) bgs	
Conversion Factor (C): 3.143*(D/2)^2					
for a 2 inch well C = 0.163					
for a 4 inch well C = 0.652					
*Free Product Thickness	---	ft			
Total Well Depth (TWD)	31.00	ft bgs			
Depth to Groundwater (DGW)	13.10	ft bgs			
Length of Water Colum (LWC = TWD-DGW)			17.90	ft	
1 Casing Volume (LWC*C) =	17.90	X .17	=	3.04	gals
3 Casing Volumes = 3 X	3.04	=		9.12	gals
	(Standard Purge Volume)				
Total Volume of Water Purged Before Sampling				9.3	gals

*If free product is present over 1/8 inch, sampling wiil not be required.

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post	Sample
Volume Purged (gallons)	--	3.1	6.2	9.3				
Time (military)	1703	1707	1711	1715				
pH (s.u)	6.05	5.98	6.02	6.04				
Specific Conductivity	175	158.0	163.0	154.0				
Water Temperature (°C)	21.8	18.8	18.4	28.3				
Turbidity (subjective: clear, slightly cloudy, cloudy)	Clear	Sli.Cloudy	Cloudy	Cloudy				
Dissolved Oxygen (mg/l)	4.3							

Remarks: Well sampled at 1715 on July 21, 2011.

BUNNELL-LAMMONS ENGINEERING, INC.

Field Data Information Sheet for Ground Water Sampling
Division of Underground Storage Tank Management

Date	07/21/11
Field Personnel	Reid A. Doherty
General weather Conditions	Clear
Ambient Air Temperature (°C)	33.33
Facility Name:	Former Enmark 380
Site ID #:	06588

Quality Assurance

pH Sensor:	Oakton 35630-62	Conductivity Sensor:	35630-32
Serial No.	324976	Serial No.	324976
pH =4.0	4.0	Standard	
pH = 7.0	7.0	Standard	
pH = 7.0		Standard	
pH = 10.0		Standard	

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time
Reid A. Doherty	7/22/2011 1245	Shealy	7/22/2011 1245

Well #	MW-37				
Well Diameter (D)	2	inch of	21.69	feet(ft) bgs	
Conversion Factor (C): 3.143*(D/2)^2					
for a 2 inch well C = 0.163					
for a 4 inch well C = 0.652					
*Free Product Thickness	---	ft			
Total Well Depth (TWD)	21.69	ft bgs			
Depth to Groundwater (DGW)	4.22	ft bgs			
Length of Water Colum (LWC = TWD-DGW)			17.47	ft	
1 Casing Volume (LWC*C) =	17.47	X .17	=	2.97	gals
3 Casing Volumes = 3 X	2.97	=		8.91	gals
	(Standard Purge Volume)				
Total Volume of Water Purged Before Sampling				9.0	gals

*If free product is present over 1/8 inch, sampling wiil not be required.

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post	Sample
Volume Purged (gallons)	--	3.0	6.0	9.0				
Time (military)	1628	1632	1636	1640				
pH (s.u)	6.42	6.16	6.13	6.14				
Specific Conductivity	134.0	122.0	119.0	114.0				
Water Temperature (°C)	25.6	22.7	19.9	19.9				
Turbidity (subjective: clear, slightly cloudy, cloudy)	Clear	Sli.Cloudy	Sli.Cloudy	Cloudy				
Dissolved Oxygen (mg/l)	7.5							

Remarks: Well sampled at 1640 on July 21, 2011.

BUNNELL-LAMMONS ENGINEERING, INC.

Field Data Information Sheet for Ground Water Sampling
Division of Underground Storage Tank Management

Date: 07/21/11
Field Personnel: Reid A. Doherty
General weather Conditions: Clear
Ambient Air Temperature (°C): 33.33

Facility Name: Former Enmark 380 Site ID #: 06588

Quality Assurance

pH Sensor:	Oakton 35630-62	Conductivity Sensor:	35630-32
Serial No.	324976	Serial No.	324976
pH =4.0	4.0	Standard	
pH = 7.0	7.0	Standard	
pH = 7.0		Standard	
pH = 10.0		Standard	

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time
Reid A. Doherty	7/22/2011 1245	Shealy	7/22/2011 1245

Well # MW-38

Well Diameter (D) 2 inch of 25.00 feet(ft) bgs
Conversion Factor (C): 3.143*(D/2)^2
for a 2 inch well C = 0.163
for a 4 inch well C = 0.652
*Free Product Thickness --- ft
Total Well Depth (TWD) 25.00 ft bgs
Depth to Groundwater (DGW) 16.06 ft bgs
Length of Water Colum (LWC = TWD-DGW) 8.94 ft
1 Casing Volume (LWC*C) = 8.94 X .17 = 1.52 gals
3 Casing Volumes = 3 X 1.52 = 4.56 gals
(Standard Purge Volume)

Total Volume of Water Purged Before Sampling -- gals

*If free product is present over 1/8 inch, sampling will not be required.

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post	Sample
Volume Purged (gallons)	--							
Time (military)	1550							
pH (s.u)	6.35							
Specific Conductivity	449							
Water Temperature (°C)	25.2							
Turbidity (subjective: clear, slightly cloudy, cloudy)	Clear							
Dissolved Oxygen (mg/l)	2.1							

Remarks: Well sampled at 1550 on July 21, 2011.

BUNNELL-LAMMONS ENGINEERING, INC.

Field Data Information Sheet for Ground Water Sampling
Division of Underground Storage Tank Management

Date	07/21/11
Field Personnel	Reid A. Doherty
General weather Conditions	Clear
Ambient Air Temperature (°C)	33.33
Facility Name:	Former Enmark 380
Site ID #:	06588

Quality Assurance

pH Sensor:	Oakton 35630-62	Conductivity Sensor:	35630-32
Serial No.	324976	Serial No.	324976
pH =4.0	4.0	Standard	
pH = 7.0	7.0	Standard	
pH = 7.0		Standard	
pH = 10.0		Standard	

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time
Reid A. Doherty	7/22/2011 1245	Shealy	7/22/2011 1245

Well #	MW-39				
Well Diameter (D)	2	inch of	12.00	feet(ft) bgs	
Conversion Factor (C): 3.143*(D/2)^2					
for a 2 inch well C = 0.163					
for a 4 inch well C = 0.652					
*Free Product Thickness	---	ft			
Total Well Depth (TWD)	12.00	ft bgs			
Depth to Groundwater (DGW)	2.46	ft bgs			
Length of Water Colum (LWC = TWD-DGW)			9.54	ft	
1 Casing Volume (LWC*C) =	9.54	X .17	=	1.62	gals
3 Casing Volumes = 3 X	1.62	=		4.86	gals
	(Standard Purge Volume)				
Total Volume of Water Purged Before Sampling			--	gals	

*If free product is present over 1/8 inch, sampling wiil not be required.

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post	Sample
Volume Purged (gallons)	--							
Time (military)	1610							
pH (s.u)	6.44							
Specific Conductivity	258							
Water Temperature (°C)	24.9							
Turbidity (subjective: clear, slightly cloudy, cloudy)	Clear							
Dissolved Oxygen (mg/l)	2.2							

Remarks: Well sampled at 1610 on July 21, 2011.

BUNNELL-LAMMONS ENGINEERING, INC.

Field Data Information Sheet for Ground Water Sampling
Division of Underground Storage Tank Management

Date	07/21/11
Field Personnel	Reid A. Doherty
General weather Conditions	Clear
Ambient Air Temperature (°C)	33.33
Facility Name:	Former Enmark 380
Site ID #:	06588

Quality Assurance

pH Sensor:	Oakton 35630-62	Conductivity Sensor:	35630-32
Serial No.	324976	Serial No.	324976
pH =4.0	4.0	Standard	
pH = 7.0	7.0	Standard	
pH = 7.0		Standard	
pH = 10.0		Standard	

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time
Reid A. Doherty	7/22/2011 1245	Shealy	7/22/2011 1245

Well #	MW-40				
Well Diameter (D)	2	inch of	28.30	feet(ft) bgs	
Conversion Factor (C): 3.143*(D/2)^2					
for a 2 inch well C = 0.163					
for a 4 inch well C = 0.652					
*Free Product Thickness	---	ft			
Total Well Depth (TWD)	28.30	ft bgs			
Depth to Groundwater (DGW)	21.05	ft bgs			
Length of Water Colum (LWC = TWD-DGW)			7.25	ft	
1 Casing Volume (LWC*C) =	7.25	X .17	=	1.23	gals
3 Casing Volumes = 3 X	1.23	=		3.69	gals
	(Standard Purge Volume)				
Total Volume of Water Purged Before Sampling				2.0	gals

*If free product is present over 1/8 inch, sampling wiil not be required.

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post	Sample
Volume Purged (gallons)	--	1.3						
Time (military)	1728	1730						
pH (s.u)	6.34	6.43						
Specific Conductivity	283	287						
Water Temperature (°C)	23.1	21.8						
Turbidity (subjective: clear, slightly cloudy, cloudy)	Clear	Sli.Cloudy						
Dissolved Oxygen (mg/l)	2.9							

Remarks: Well purged dry after 2.0 gallons of water removed. Well sampled at 1735 on July 21, 2011. Strong petroleum odor noted at time of sampling.

BUNNELL-LAMMONS ENGINEERING, INC.

Field Data Information Sheet for Ground Water Sampling
Division of Underground Storage Tank Management

Date	07/19/11
Field Personnel	Reid A. Doherty
General weather Conditions	Clear
Ambient Air Temperature (°C)	35

Facility Name: Former Enmark 380 Site ID #: 06588

Quality Assurance

pH Sensor:	Oakton 35630-62	Conductivity Sensor:	35630-32
Serial No.	324976	Serial No.	324976
pH =4.0	4.0	Standard	
pH = 7.0	7.0	Standard	
pH = 7.0		Standard	
pH = 10.0		Standard	

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time
Reid A. Doherty	7/22/2011 1245	Shealy	7/22/2011 1245

Well #	MW-41D				
Well Diameter (D)	2	inch of	48.00	feet(ft) bgs	
Conversion Factor (C): 3.143*(D/2)^2					
for a 2 inch well C = 0.163					
for a 4 inch well C = 0.652					
*Free Product Thickness	---	ft			
Total Well Depth (TWD)	48.00	ft bgs			
Depth to Groundwater (DGW)	19.80	ft bgs			
Length of Water Colum (LWC = TWD-DGW)			28.20	ft	
1 Casing Volume (LWC*C) =	28.20	X .17	=	4.79	gals
3 Casing Volumes = 3 X	4.79	=		14.37	gals
	(Standard Purge Volume)				
Total Volume of Water Purged Before Sampling				15.0	gals

*If free product is present over 1/8 inch, sampling wiil not be required.

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post	Sample
Volume Purged (gallons)	--	5.0	10.0	15.0				
Time (military)	1914	1916	1918	1920				
pH (s.u)	6.96	6.93	6.88	6.88				
Specific Conductivity	587	571	552	513				
Water Temperature (°C)	25.5	23.1	22.8	22.8				
Turbidity (subjective: clear, slightly cloudy, cloudy)	Clear	Cloudy	Cloudy	Cloudy				
Dissolved Oxygen (mg/l)	1.7							

Remarks: Well sampled at 1920 on July 19, 2011.

BUNNELL-LAMMONS ENGINEERING, INC.

Field Data Information Sheet for Ground Water Sampling
Division of Underground Storage Tank Management

Date	07/22/11
Field Personnel	Reid A. Doherty
General weather Conditions	Clear
Ambient Air Temperature (°C)	33.33
Facility Name:	Former Enmark 380
Site ID #:	06588

Quality Assurance

pH Sensor:	Oakton 35630-62	Conductivity Sensor:	35630-32
Serial No.	324976	Serial No.	324976
pH =4.0	4.0	Standard	
pH = 7.0	7.0	Standard	
pH = 7.0		Standard	
pH = 10.0		Standard	

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time
Reid A. Doherty	7/22/2011 1245	Shealy	7/22/2011 1245

Well #	DW-1				
Well Diameter (D)	2	inch of	NA	feet(ft) bgs	
Conversion Factor (C): 3.143*(D/2)^2					
for a 2 inch well C = 0.163					
for a 4 inch well C = 0.652					
*Free Product Thickness	---	ft			
Total Well Depth (TWD)	NA	ft bgs			
Depth to Groundwater (DGW)	NA	ft bgs			
Length of Water Colum (LWC = TWD-DGW)			NA	ft	
1 Casing Volume (LWC*C) =	NA	X .17	=	NA	gals
3 Casing Volumes = 3 X	NA	=		NA	gals
	(Standard Purge Volume)				
Total Volume of Water Purged Before Sampling			--	gals	

*If free product is present over 1/8 inch, sampling wiil not be required.

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post	Sample
Volume Purged (gallons)	--							
Time (military)	0940							
pH (s.u)	6.88							
Specific Conductivity	101.0							
Water Temperature (°C)	21.5							
Turbidity (subjective: clear, slightly cloudy, cloudy)	Clear							
Dissolved Oxygen (mg/l)	1.4							

Remarks: Well sampled at 0940 on July 22, 2011.

BUNNELL-LAMMONS ENGINEERING, INC.

Field Data Information Sheet for Ground Water Sampling
Division of Underground Storage Tank Management

Date	07/22/11
Field Personnel	Reid A. Doherty
General weather Conditions	Clear
Ambient Air Temperature (°C)	33.33

Facility Name: Former Enmark 380 Site ID #: 06588

Quality Assurance

pH Sensor:	Oakton 35630-62	Conductivity Sensor:	35630-32
Serial No.	324976	Serial No.	324976
pH =4.0	4.0	Standard	
pH = 7.0	7.0	Standard	
pH = 7.0		Standard	
pH = 10.0		Standard	

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time
Reid A. Doherty	7/22/2011 1245	Shealy	7/22/2011 1245

Well # DW-3

Well Diameter (D) 2 inch of NA feet(ft) bgs

Conversion Factor (C): 3.143*(D/2)^2

for a 2 inch well C = 0.163

for a 4 inch well C = 0.652

*Free Product Thickness --- ft

Total Well Depth (TWD) NA ft bgs

Depth to Groundwater (DGW) NA ft bgs

Length of Water Colum (LWC = TWD-DGW) NA ft

1 Casing Volume (LWC*C) = NA X .17 = NA gals

3 Casing Volumes = 3 X NA = NA gals

(Standard Purge Volume)

Total Volume of Water Purged Before Sampling -- gals

*If free product is present over 1/8 inch, sampling wiil not be required.

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post	Sample
Volume Purged (gallons)	--							
Time (military)	1005							
pH (s.u)	6.52							
Specific Conductivity	118.0							
Water Temperature (°C)	23.5							
Turbidity (subjective: clear, slightly cloudy, cloudy)	Clear							
Dissolved Oxygen (mg/l)	3.2							

Remarks: Well sampled at 1005 on July 22, 2011.

APPENDIX D

GROUNDWATER AND SURFACE WATER LABORATORY DATA SHEETS

SHEALY ENVIRONMENTAL SERVICES, INC.

Report of Analysis

Bunnell-Lammons Engineering, Inc.
6004 Ponders Court
Greenville, SC 29615
Attention: Trever Slack

Project Name: **Spinx #258 / Enmark #380**

Project Number: **J11-6859-03**

Lot Number: **MG22061**

Date Completed: **08/01/2011**

Lucas Odom
Project Manager

This report shall not be reproduced, except in its entirety, without the written approval of Shealy Environmental Services, Inc.

The following non-paginated documents are considered part of this report: Chain of Custody Record and Sample Receipt Checklist.

• • • • • • • • • •

Case Narrative
Bunnell-Lammons Engineering, Inc.
Lot Number: MG22061

This Report of Analysis contains the analytical result(s) for the sample(s) listed on the Sample Summary following this Case Narrative. The sample receiving date is documented in the header information associated with each sample.

All results listed in this report relate only to the samples that are contained within this report.

Sample receipt, sample analysis, and data review have been performed in accordance with the most current approved NELAC standards, the Shealy Environmental Services, Inc. ("Shealy") Quality Assurance Management Plan (QAMP), standard operating procedures (SOPs), and Shealy policies. Any exceptions to the NELAC standards, the QAMP, SOPs or policies are qualified on the results page or discussed below.

Shealy is not NELAC certified for Phosphorus by 365.1 but is certified in SC and NC.

Shealy is not NELAC certified for VPH, but is certified for VPH in NC.

If you have any questions regarding this report please contact the Shealy Project Manager listed on the cover page.

EDB by Microextraction

The results associated with samples -005, -020, and -024 have a P qualifier for EDB because the relative percent difference (RPD) between the two dissimilar phase GC columns exceeds 40%. In accordance with Section 7.10.4 of SW-846 method 8000B, the higher of the two results is reported. Due to the disparity of the two results, it is likely that the reported result is biased high, or may be a false positive.

Due to large detections of the target compound, samples -001, -016, -022, and -023 were diluted 50X. This large dilution caused the associated surrogate to recover outside of acceptable limits. No corrective action was required as it is known that dilutions of 5X and greater may impact surrogate recoveries.

The compound Tame was qualified with a "B" as there was a detection in the method blank. No corrective action was required as the detection in the method blank was below the PQL.

SHEALY ENVIRONMENTAL SERVICES, INC.

Sample Summary
Bunnell-Lammons Engineering, Inc.
Lot Number: MG22061

Sample Number	Sample ID	Matrix	Date Sampled	Date Received
001	MW-1	Aqueous	07/20/2011 1750	07/22/2011
002	MW-2	Aqueous	07/20/2011 1630	07/22/2011
003	MW-3	Aqueous	07/22/2011 1100	07/22/2011
004	MW-7D	Aqueous	07/19/2011 1456	07/22/2011
005	MW-8D	Aqueous	07/19/2011 1730	07/22/2011
006	MW-9	Aqueous	07/20/2011 1330	07/22/2011
007	MW-10	Aqueous	07/20/2011 1335	07/22/2011
008	MW-11	Aqueous	07/20/2011 1345	07/22/2011
009	MW-12	Aqueous	07/20/2011 1410	07/22/2011
010	MW-13	Aqueous	07/20/2011 1420	07/22/2011
011	MW-14	Aqueous	07/20/2011 1800	07/22/2011
012	MW-15	Aqueous	07/20/2011 1810	07/22/2011
013	MW-16	Aqueous	07/20/2011 1430	07/22/2011
014	MW-17	Aqueous	07/20/2011 1455	07/22/2011
015	MW-18	Aqueous	07/20/2011 1440	07/22/2011
016	MW-19	Aqueous	07/20/2011 1505	07/22/2011
017	MW-20	Aqueous	07/21/2011 1305	07/22/2011
018	MW-21	Aqueous	07/21/2011 1250	07/22/2011
019	MW-21D	Aqueous	07/19/2011 1636	07/22/2011
020	MW-22	Aqueous	07/20/2011 1515	07/22/2011
021	MW-22D	Aqueous	07/19/2011 1525	07/22/2011
022	MW-23	Aqueous	07/20/2011 1720	07/22/2011
023	MW-24	Aqueous	07/20/2011 1730	07/22/2011
024	MW-24D	Aqueous	07/19/2011 1752	07/22/2011
025	MW-25	Aqueous	07/20/2011 1740	07/22/2011
026	MW-26	Aqueous	07/21/2011 1745	07/22/2011
027	MW-27	Aqueous	07/21/2011 1755	07/22/2011
028	MW-28	Aqueous	07/21/2011 1320	07/22/2011
029	MW-29	Aqueous	07/21/2011 1350	07/22/2011
030	MW-30	Aqueous	07/21/2011 1410	07/22/2011
031	MW-30D	Aqueous	07/19/2011 1825	07/22/2011
032	MW-31	Aqueous	07/21/2011 1425	07/22/2011
033	MW-32	Aqueous	07/21/2011 1440	07/22/2011
034	MW-33	Aqueous	07/21/2011 1450	07/22/2011
035	MW-33D	Aqueous	07/19/2011 1855	07/22/2011
036	MW-34	Aqueous	07/21/2011 1340	07/22/2011
037	MW-35	Aqueous	07/21/2011 1330	07/22/2011
038	MW-36	Aqueous	07/21/2011 1715	07/22/2011
039	MW-37	Aqueous	07/21/2011 1640	07/22/2011
040	MW-38	Aqueous	07/21/2011 1550	07/22/2011
041	MW-39	Aqueous	07/21/2011 1610	07/22/2011
042	MW-40	Aqueous	07/21/2011 1735	07/22/2011
043	MW-41D	Aqueous	07/19/2011 1920	07/22/2011
044	DW-1	Aqueous	07/22/2011 0940	07/22/2011
045	DW-3	Aqueous	07/22/2011 1005	07/22/2011

Sample Summary (Continued)

Lot Number: MG22061

Sample Number	Sample ID	Matrix	Date Sampled	Date Received
046	CREEK	Aqueous	07/22/2011 0930	07/22/2011

(46 samples)

Executive Summary
Bunnell-Lammons Engineering, Inc.
Lot Number: MG22061

Sample	Sample ID	Matrix	Parameter	Method	Result	Q	Units	Page
001	MW-1	Aqueous	Benzene	8260B	5600		ug/L	10
001	MW-1	Aqueous	1,2-Dichloroethane	8260B	160		ug/L	10
001	MW-1	Aqueous	Ethylbenzene	8260B	1800		ug/L	10
001	MW-1	Aqueous	Methyl tertiary butyl ether (MTBE)	8260B	110		ug/L	10
001	MW-1	Aqueous	Naphthalene	8260B	91		ug/L	10
001	MW-1	Aqueous	Toluene	8260B	7700		ug/L	10
001	MW-1	Aqueous	Xylenes (total)	8260B	8300		ug/L	10
001	MW-1	Aqueous	Diisopropyl ether (IPE)	8260B	57	J	ug/L	10
001	MW-1	Aqueous	tert-Amyl alcohol (TAA)	8260B	3700		ug/L	10
001	MW-1	Aqueous	1,2-Dibromoethane (EDB)	8011	24		ug/L	11
002	MW-2	Aqueous	Benzene	8260B	1.4	J	ug/L	12
002	MW-2	Aqueous	Ethylbenzene	8260B	52		ug/L	12
002	MW-2	Aqueous	Naphthalene	8260B	27		ug/L	12
002	MW-2	Aqueous	Toluene	8260B	2.0		ug/L	12
002	MW-2	Aqueous	Xylenes (total)	8260B	270		ug/L	12
002	MW-2	Aqueous	tert-Amyl alcohol (TAA)	8260B	15	J	ug/L	12
002	MW-2	Aqueous	tert-butyl alcohol (TBA)	8260B	25	J	ug/L	12
003	MW-3	Aqueous	Benzene	8260B	31		ug/L	14
003	MW-3	Aqueous	Naphthalene	8260B	0.67	J	ug/L	14
003	MW-3	Aqueous	Toluene	8260B	1.1		ug/L	14
003	MW-3	Aqueous	Xylenes (total)	8260B	19		ug/L	14
003	MW-3	Aqueous	tert-Amyl alcohol (TAA)	8260B	200		ug/L	14
004	MW-7D	Aqueous	Benzene	8260B	2.6		ug/L	16
004	MW-7D	Aqueous	tert-Amyl alcohol (TAA)	8260B	51		ug/L	16
004	MW-7D	Aqueous	tert-butyl alcohol (TBA)	8260B	33		ug/L	16
005	MW-8D	Aqueous	Benzene	8260B	75		ug/L	18
005	MW-8D	Aqueous	Ethylbenzene	8260B	0.36	J	ug/L	18
005	MW-8D	Aqueous	Methyl tertiary butyl ether (MTBE)	8260B	23		ug/L	18
005	MW-8D	Aqueous	Naphthalene	8260B	22		ug/L	18
005	MW-8D	Aqueous	Toluene	8260B	0.98	J	ug/L	18
005	MW-8D	Aqueous	Xylenes (total)	8260B	120		ug/L	18
005	MW-8D	Aqueous	Diisopropyl ether (IPE)	8260B	0.44	J	ug/L	18
005	MW-8D	Aqueous	tert-Amyl alcohol (TAA)	8260B	400		ug/L	18
005	MW-8D	Aqueous	tert-Amyl methyl ether (TAME)	8260B	8.5	J	ug/L	18
005	MW-8D	Aqueous	1,2-Dibromoethane (EDB)	8011	0.056	P	ug/L	19
006	MW-9	Aqueous	Naphthalene	8260B	1.0		ug/L	20
006	MW-9	Aqueous	Xylenes (total)	8260B	0.64	J	ug/L	20
006	MW-9	Aqueous	tert-Amyl alcohol (TAA)	8260B	71		ug/L	20
015	MW-18	Aqueous	Benzene	8260B	28	J	ug/L	38
015	MW-18	Aqueous	Ethylbenzene	8260B	2600		ug/L	38
015	MW-18	Aqueous	Naphthalene	8260B	400		ug/L	38
015	MW-18	Aqueous	Toluene	8260B	270		ug/L	38
015	MW-18	Aqueous	Xylenes (total)	8260B	12000		ug/L	38
016	MW-19	Aqueous	Benzene	8260B	7200		ug/L	40
016	MW-19	Aqueous	Ethylbenzene	8260B	4000		ug/L	40

Executive Summary (Continued)

Lot Number: MG22061

Sample	Sample ID	Matrix	Parameter	Method	Result	Q	Units	Page
016	MW-19	Aqueous	Methyl tertiary butyl ether (MTBE)	8260B	260		ug/L	40
016	MW-19	Aqueous	Toluene	8260B	27000		ug/L	40
016	MW-19	Aqueous	Xylenes (total)	8260B	22000		ug/L	40
016	MW-19	Aqueous	tert-Amyl alcohol (TAA)	8260B	2600	J	ug/L	40
016	MW-19	Aqueous	1,2-Dibromoethane (EDB)	8011	24		ug/L	41
020	MW-22	Aqueous	Benzene	8260B	3700		ug/L	48
020	MW-22	Aqueous	1,2-Dichloroethane	8260B	86		ug/L	48
020	MW-22	Aqueous	Ethylbenzene	8260B	2900		ug/L	48
020	MW-22	Aqueous	Methyl tertiary butyl ether (MTBE)	8260B	910		ug/L	48
020	MW-22	Aqueous	Naphthalene	8260B	530		ug/L	48
020	MW-22	Aqueous	Toluene	8260B	230		ug/L	48
020	MW-22	Aqueous	Xylenes (total)	8260B	3900		ug/L	48
020	MW-22	Aqueous	Diisopropyl ether (IPE)	8260B	29	J	ug/L	48
020	MW-22	Aqueous	tert-Amyl alcohol (TAA)	8260B	5000		ug/L	48
020	MW-22	Aqueous	tert-Amyl methyl ether (TAME)	8260B	420		ug/L	48
020	MW-22	Aqueous	tert-butyl alcohol (TBA)	8260B	250	J	ug/L	48
020	MW-22	Aqueous	1,2-Dibromoethane (EDB)	8011	0.17	P	ug/L	49
021	MW-22D	Aqueous	Benzene	8260B	320		ug/L	50
021	MW-22D	Aqueous	1,2-Dichloroethane	8260B	6.6		ug/L	50
021	MW-22D	Aqueous	Methyl tertiary butyl ether (MTBE)	8260B	15		ug/L	50
021	MW-22D	Aqueous	Naphthalene	8260B	23		ug/L	50
021	MW-22D	Aqueous	Xylenes (total)	8260B	0.64	J	ug/L	50
021	MW-22D	Aqueous	Diisopropyl ether (IPE)	8260B	0.89	J	ug/L	50
021	MW-22D	Aqueous	tert-Amyl alcohol (TAA)	8260B	160		ug/L	50
021	MW-22D	Aqueous	tert-Amyl methyl ether (TAME)	8260B	14		ug/L	50
022	MW-23	Aqueous	Benzene	8260B	13000		ug/L	52
022	MW-23	Aqueous	Ethylbenzene	8260B	4000		ug/L	52
022	MW-23	Aqueous	Methyl tertiary butyl ether (MTBE)	8260B	260	J	ug/L	52
022	MW-23	Aqueous	Toluene	8260B	35000		ug/L	52
022	MW-23	Aqueous	Xylenes (total)	8260B	22000		ug/L	52
022	MW-23	Aqueous	Diisopropyl ether (IPE)	8260B	260	J	ug/L	52
022	MW-23	Aqueous	tert-Amyl alcohol (TAA)	8260B	18000		ug/L	52
022	MW-23	Aqueous	1,2-Dibromoethane (EDB)	8011	42		ug/L	53
023	MW-24	Aqueous	Benzene	8260B	16000		ug/L	54
023	MW-24	Aqueous	1,2-Dichloroethane	8260B	430		ug/L	54
023	MW-24	Aqueous	Ethylbenzene	8260B	3500		ug/L	54
023	MW-24	Aqueous	Methyl tertiary butyl ether (MTBE)	8260B	2300		ug/L	54
023	MW-24	Aqueous	Naphthalene	8260B	170		ug/L	54
023	MW-24	Aqueous	Toluene	8260B	4500		ug/L	54
023	MW-24	Aqueous	Xylenes (total)	8260B	11000		ug/L	54
023	MW-24	Aqueous	Diisopropyl ether (IPE)	8260B	230	J	ug/L	54
023	MW-24	Aqueous	tert-Amyl alcohol (TAA)	8260B	13000		ug/L	54
023	MW-24	Aqueous	tert-Amyl methyl ether (TAME)	8260B	330	J	ug/L	54
023	MW-24	Aqueous	tert-butyl alcohol (TBA)	8260B	1300	J	ug/L	54
023	MW-24	Aqueous	1,2-Dibromoethane (EDB)	8011	37		ug/L	55
024	MW-24D	Aqueous	Benzene	8260B	220		ug/L	56
024	MW-24D	Aqueous	1,2-Dichloroethane	8260B	4.9		ug/L	56
024	MW-24D	Aqueous	Methyl tertiary butyl ether (MTBE)	8260B	39		ug/L	56

Executive Summary (Continued)

Lot Number: MG22061

Sample	Sample ID	Matrix	Parameter	Method	Result	Q	Units	Page
024	MW-24D	Aqueous	Naphthalene	8260B	23		ug/L	56
024	MW-24D	Aqueous	Xylenes (total)	8260B	1.2		ug/L	56
024	MW-24D	Aqueous	Diisopropyl ether (IPE)	8260B	4.9	J	ug/L	56
024	MW-24D	Aqueous	tert-Amyl alcohol (TAA)	8260B	170		ug/L	56
024	MW-24D	Aqueous	tert-Amyl methyl ether (TAME)	8260B	2.1	J	ug/L	56
024	MW-24D	Aqueous	1,2-Dibromoethane (EDB)	8011	0.017	JP	ug/L	57
025	MW-25	Aqueous	Benzene	8260B	14000		ug/L	58
025	MW-25	Aqueous	1,2-Dichloroethane	8260B	320		ug/L	58
025	MW-25	Aqueous	Ethylbenzene	8260B	2600		ug/L	58
025	MW-25	Aqueous	Methyl tertiary butyl ether (MTBE)	8260B	1700		ug/L	58
025	MW-25	Aqueous	Naphthalene	8260B	94	J	ug/L	58
025	MW-25	Aqueous	Toluene	8260B	5800		ug/L	58
025	MW-25	Aqueous	Xylenes (total)	8260B	12000		ug/L	58
025	MW-25	Aqueous	Diisopropyl ether (IPE)	8260B	54	J	ug/L	58
025	MW-25	Aqueous	tert-Amyl alcohol (TAA)	8260B	3900		ug/L	58
025	MW-25	Aqueous	tert-Amyl methyl ether (TAME)	8260B	220	J	ug/L	58
025	MW-25	Aqueous	1,2-Dibromoethane (EDB)	8011	4.9		ug/L	59
026	MW-26	Aqueous	Benzene	8260B	13		ug/L	60
026	MW-26	Aqueous	1,2-Dichloroethane	8260B	0.32	J	ug/L	60
026	MW-26	Aqueous	Ethylbenzene	8260B	1.3		ug/L	60
026	MW-26	Aqueous	Naphthalene	8260B	1.1		ug/L	60
026	MW-26	Aqueous	Xylenes (total)	8260B	4.3		ug/L	60
026	MW-26	Aqueous	tert-Amyl alcohol (TAA)	8260B	75		ug/L	60
029	MW-29	Aqueous	Benzene	8260B	0.65	J	ug/L	66
029	MW-29	Aqueous	Ethylbenzene	8260B	0.57	J	ug/L	66
029	MW-29	Aqueous	Naphthalene	8260B	0.93	J	ug/L	66
029	MW-29	Aqueous	Toluene	8260B	0.75	J	ug/L	66
029	MW-29	Aqueous	Xylenes (total)	8260B	6.9		ug/L	66
029	MW-29	Aqueous	tert-Amyl alcohol (TAA)	8260B	120		ug/L	66
030	MW-30	Aqueous	1,2-Dichloroethane	8260B	5.7		ug/L	68
030	MW-30	Aqueous	Methyl tertiary butyl ether (MTBE)	8260B	250		ug/L	68
030	MW-30	Aqueous	Diisopropyl ether (IPE)	8260B	35		ug/L	68
030	MW-30	Aqueous	tert-Amyl alcohol (TAA)	8260B	360		ug/L	68
030	MW-30	Aqueous	tert-Amyl methyl ether (TAME)	8260B	10	B	ug/L	68
030	MW-30	Aqueous	tert-butyl alcohol (TBA)	8260B	250		ug/L	68
031	MW-30D	Aqueous	Benzene	8260B	2.1		ug/L	70
031	MW-30D	Aqueous	1,2-Dichloroethane	8260B	3.3		ug/L	70
031	MW-30D	Aqueous	Methyl tertiary butyl ether (MTBE)	8260B	45		ug/L	70
031	MW-30D	Aqueous	Diisopropyl ether (IPE)	8260B	8.1		ug/L	70
031	MW-30D	Aqueous	tert-Amyl alcohol (TAA)	8260B	150		ug/L	70
031	MW-30D	Aqueous	tert-Amyl methyl ether (TAME)	8260B	0.98	BJ	ug/L	70
031	MW-30D	Aqueous	tert-butyl alcohol (TBA)	8260B	64		ug/L	70
032	MW-31	Aqueous	Benzene	8260B	0.13	J	ug/L	72
032	MW-31	Aqueous	Methyl tertiary butyl ether (MTBE)	8260B	3.7		ug/L	72
032	MW-31	Aqueous	Diisopropyl ether (IPE)	8260B	0.42	J	ug/L	72
032	MW-31	Aqueous	tert-Amyl methyl ether (TAME)	8260B	0.24	BJ	ug/L	72
033	MW-32	Aqueous	Methyl tertiary butyl ether (MTBE)	8260B	85		ug/L	74
033	MW-32	Aqueous	Diisopropyl ether (IPE)	8260B	4.1	J	ug/L	74

Executive Summary (Continued)

Lot Number: MG22061

Sample	Sample ID	Matrix	Parameter	Method	Result	Q	Units	Page
033	MW-32	Aqueous	tert-Amyl methyl ether (TAME)	8260B	6.0	BJ	ug/L	74
034	MW-33	Aqueous	Benzene	8260B	0.14	J	ug/L	76
034	MW-33	Aqueous	Methyl tertiary butyl ether (MTBE)	8260B	23		ug/L	76
034	MW-33	Aqueous	Diisopropyl ether (IPE)	8260B	2.2	J	ug/L	76
034	MW-33	Aqueous	tert-Amyl alcohol (TAA)	8260B	12	J	ug/L	76
034	MW-33	Aqueous	tert-Amyl methyl ether (TAME)	8260B	2.6	BJ	ug/L	76
035	MW-33D	Aqueous	Benzene	8260B	700		ug/L	78
035	MW-33D	Aqueous	1,2-Dichloroethane	8260B	70		ug/L	78
035	MW-33D	Aqueous	Methyl tertiary butyl ether (MTBE)	8260B	3100		ug/L	78
035	MW-33D	Aqueous	Naphthalene	8260B	3.3		ug/L	78
035	MW-33D	Aqueous	Toluene	8260B	12		ug/L	78
035	MW-33D	Aqueous	Xylenes (total)	8260B	28		ug/L	78
035	MW-33D	Aqueous	Diisopropyl ether (IPE)	8260B	170		ug/L	78
035	MW-33D	Aqueous	Ethanol	8260B	270		ug/L	78
035	MW-33D	Aqueous	3,3-Dimethyl-1-butanol	8260B	78		ug/L	78
035	MW-33D	Aqueous	Ethyl-tert-butyl ether (ETBE)	8260B	0.26	J	ug/L	78
035	MW-33D	Aqueous	tert-Amyl alcohol (TAA)	8260B	6500		ug/L	78
035	MW-33D	Aqueous	tert-Amyl methyl ether (TAME)	8260B	250		ug/L	78
036	MW-34	Aqueous	Benzene	8260B	0.38	J	ug/L	80
036	MW-34	Aqueous	Ethanol	8260B	130		ug/L	80
036	MW-34	Aqueous	tert-Amyl alcohol (TAA)	8260B	500		ug/L	80
036	MW-34	Aqueous	tert-butyl alcohol (TBA)	8260B	200		ug/L	80
037	MW-35	Aqueous	Naphthalene	8260B	0.90	J	ug/L	82
037	MW-35	Aqueous	Toluene	8260B	1100		ug/L	82
037	MW-35	Aqueous	Ethanol	8260B	110		ug/L	82
038	MW-36	Aqueous	tert-Amyl alcohol (TAA)	8260B	57		ug/L	84
042	MW-40	Aqueous	Benzene	8260B	2700		ug/L	92
042	MW-40	Aqueous	1,2-Dichloroethane	8260B	55		ug/L	92
042	MW-40	Aqueous	Ethylbenzene	8260B	86		ug/L	92
042	MW-40	Aqueous	Methyl tertiary butyl ether (MTBE)	8260B	160		ug/L	92
042	MW-40	Aqueous	Naphthalene	8260B	240		ug/L	92
042	MW-40	Aqueous	Toluene	8260B	150		ug/L	92
042	MW-40	Aqueous	Xylenes (total)	8260B	1300		ug/L	92
042	MW-40	Aqueous	Diisopropyl ether (IPE)	8260B	11		ug/L	92
042	MW-40	Aqueous	tert-Amyl alcohol (TAA)	8260B	3500		ug/L	92
042	MW-40	Aqueous	tert-Amyl methyl ether (TAME)	8260B	82		ug/L	92
042	MW-40	Aqueous	1,2-Dibromoethane (EDB)	8011	0.65		ug/L	93
043	MW-41D	Aqueous	Benzene	8260B	8000		ug/L	94
043	MW-41D	Aqueous	1,2-Dichloroethane	8260B	320		ug/L	94
043	MW-41D	Aqueous	Ethylbenzene	8260B	230		ug/L	94
043	MW-41D	Aqueous	Methyl tertiary butyl ether (MTBE)	8260B	2600		ug/L	94
043	MW-41D	Aqueous	Toluene	8260B	52		ug/L	94
043	MW-41D	Aqueous	Xylenes (total)	8260B	170		ug/L	94
043	MW-41D	Aqueous	Diisopropyl ether (IPE)	8260B	340		ug/L	94
043	MW-41D	Aqueous	tert-Amyl alcohol (TAA)	8260B	12000		ug/L	94
043	MW-41D	Aqueous	tert-Amyl methyl ether (TAME)	8260B	63	J	ug/L	94
043	MW-41D	Aqueous	tert-butyl alcohol (TBA)	8260B	6200		ug/L	94
044	DW-1	Aqueous	Ethylbenzene	8260B	0.81	J	ug/L	96

Executive Summary (Continued)

Lot Number: MG22061

Sample	Sample ID	Matrix	Parameter	Method	Result	Q	Units	Page
044	DW-1	Aqueous	Methyl tertiary butyl ether (MTBE)	8260B	0.58	J	ug/L	96
044	DW-1	Aqueous	Naphthalene	8260B	18		ug/L	96
044	DW-1	Aqueous	Xylenes (total)	8260B	27		ug/L	96
044	DW-1	Aqueous	tert-Amyl alcohol (TAA)	8260B	230		ug/L	96
044	DW-1	Aqueous	tert-butyl alcohol (TBA)	8260B	32		ug/L	96

(194 detections)

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **MW-1**
Date Sampled: **07/20/2011 1750**
Date Received: **07/22/2011**

Laboratory ID: **MG22061-001**
Matrix: **Aqueous**

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	50	07/27/2011 1831	BM		64569

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Benzene	**71-43-2**	**8260B**	**5600**		**50**	**6.6**	**ug/L**	**1**
1,2-Dichloroethane	**107-06-2**	**8260B**	**160**		**50**	**7.4**	**ug/L**	**1**
Ethylbenzene	**100-41-4**	**8260B**	**1800**		**50**	**17**	**ug/L**	**1**
Methyl tertiary butyl ether (MTBE)	**1634-04-4**	**8260B**	**110**		**50**	**20**	**ug/L**	**1**
Naphthalene	**91-20-3**	**8260B**	**91**		**50**	**20**	**ug/L**	**1**
Toluene	**108-88-3**	**8260B**	**7700**		**50**	**17**	**ug/L**	**1**
Xylenes (total)	**1330-20-7**	**8260B**	**8300**		**50**	**17**	**ug/L**	**1**

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		91	70-130
Bromofluorobenzene		103	70-130
Toluene-d8		106	70-130

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	50	07/27/2011 1831	BM		64569

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Diisopropyl ether (IPE)	**108-20-3**	**8260B**	**57**	**J**	**250**	**20**	**ug/L**	**1**
Ethanol	64-17-5	8260B	ND		5000	1700	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		1000	50	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		50	10	ug/L	1
tert-Amyl alcohol (TAA)	**75-85-4**	**8260B**	**3700**		**1000**	**340**	**ug/L**	**1**
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		500	10	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		1000	340	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260B	ND		250	50	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
Bromofluorobenzene		103	70-130
1,2-Dichloroethane-d4		91	70-130
Toluene-d8		106	70-130

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
H = Out of holding time

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **MW-1**
Date Sampled: **07/20/2011 1750**
Date Received: **07/22/2011**

Laboratory ID: **MG22061-001**
Matrix: **Aqueous**

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	07/26/2011 2035	MPM	07/22/2011 2000	64310
2	8011	8011	50	07/27/2011 1245	MPM	07/22/2011 2000	64310

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,2-Dibromoethane (EDB)	**106-93-4**	**8011**	**24**		**0.96**	**0.30**	**ug/L**	**2**

Surrogate	Q	Run 1 % Recovery	Acceptance Limits	Q	Run 2 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		90	57-137	N	995	57-137

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL

E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
H = Out of holding time

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **MW-2**
Date Sampled: **07/20/2011 1630**
Date Received: **07/22/2011**

Laboratory ID: **MG22061-002**
Matrix: **Aqueous**

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	2	07/27/2011 1852	BM		64569

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Benzene	**71-43-2**	**8260B**	**1.4**	**J**	**2.0**	**0.26**	**ug/L**	**1**
1,2-Dichloroethane	107-06-2	8260B	ND		2.0	0.29	ug/L	1
Ethylbenzene	**100-41-4**	**8260B**	**52**		**2.0**	**0.66**	**ug/L**	**1**
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		2.0	0.80	ug/L	1
Naphthalene	**91-20-3**	**8260B**	**27**		**2.0**	**0.80**	**ug/L**	**1**
Toluene	**108-88-3**	**8260B**	**2.0**		**2.0**	**0.66**	**ug/L**	**1**
Xylenes (total)	**1330-20-7**	**8260B**	**270**		**2.0**	**0.66**	**ug/L**	**1**

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		87	70-130
Bromofluorobenzene		96	70-130
Toluene-d8		100	70-130

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	2	07/27/2011 1852	BM		64569

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Diisopropyl ether (IPE)	108-20-3	8260B	ND		10	0.80	ug/L	1
Ethanol	64-17-5	8260B	ND		200	66	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		40	2.0	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		2.0	0.40	ug/L	1
tert-Amyl alcohol (TAA)	**75-85-4**	**8260B**	**15**	**J**	**40**	**13**	**ug/L**	**1**
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		20	0.40	ug/L	1
tert-butyl alcohol (TBA)	**75-65-0**	**8260B**	**25**	**J**	**40**	**13**	**ug/L**	**1**
tert-Butyl formate (TBF)	762-75-4	8260B	ND		10	2.0	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
Bromofluorobenzene		96	70-130
1,2-Dichloroethane-d4		87	70-130
Toluene-d8		100	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	07/26/2011 2144	MPM	07/22/2011 2000	64310

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
H = Out of holding time

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **MW-2**
Date Sampled: **07/20/2011 1630**
Date Received: **07/22/2011**

Laboratory ID: **MG22061-002**
Matrix: **Aqueous**

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	07/26/2011 2144	MPM	07/22/2011 2000	64310

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0.019	0.0060	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		124	57-137

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
H = Out of holding time

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **MW-3**
Date Sampled: **07/22/2011 1100**
Date Received: **07/22/2011**

Laboratory ID: **MG22061-003**
Matrix: **Aqueous**

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	07/24/2011 2120	LBS		64342

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Benzene	**71-43-2**	**8260B**	**31**		**1.0**	**0.13**	**ug/L**	**1**
1,2-Dichloroethane	107-06-2	8260B	ND		1.0	0.15	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		1.0	0.33	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		1.0	0.40	ug/L	1
Naphthalene	**91-20-3**	**8260B**	**0.67**	**J**	**1.0**	**0.40**	**ug/L**	**1**
Toluene	**108-88-3**	**8260B**	**1.1**		**1.0**	**0.33**	**ug/L**	**1**
Xylenes (total)	**1330-20-7**	**8260B**	**19**		**1.0**	**0.33**	**ug/L**	**1**

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		90	70-130
Bromofluorobenzene		101	70-130
Toluene-d8		105	70-130

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	07/24/2011 2120	LBS		64342

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Diisopropyl ether (IPE)	108-20-3	8260B	ND		5.0	0.40	ug/L	1
Ethanol	64-17-5	8260B	ND		100	33	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		20	1.0	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		1.0	0.20	ug/L	1
tert-Amyl alcohol (TAA)	**75-85-4**	**8260B**	**200**		**20**	**6.7**	**ug/L**	**1**
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		10	0.20	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		20	6.7	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260B	ND		5.0	1.0	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
Bromofluorobenzene		101	70-130
1,2-Dichloroethane-d4		90	70-130
Toluene-d8		105	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	07/26/2011 2207	MPM	07/22/2011 2000	64310

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
H = Out of holding time

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **MW-3**
Date Sampled: **07/22/2011 1100**
Date Received: **07/22/2011**

Laboratory ID: **MG22061-003**
Matrix: **Aqueous**

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	07/26/2011 2207	MPM	07/22/2011 2000	64310

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0.019	0.0059	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		125	57-137

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL

E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
H = Out of holding time

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **MW-7D**
Date Sampled: **07/19/2011 1456**
Date Received: **07/22/2011**

Laboratory ID: **MG22061-004**
Matrix: **Aqueous**

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	07/24/2011 2141	LBS		64342

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Benzene	**71-43-2**	**8260B**	**2.6**		**1.0**	**0.13**	**ug/L**	**1**
1,2-Dichloroethane	107-06-2	8260B	ND		1.0	0.15	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		1.0	0.33	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		1.0	0.40	ug/L	1
Naphthalene	91-20-3	8260B	ND		1.0	0.40	ug/L	1
Toluene	108-88-3	8260B	ND		1.0	0.33	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		1.0	0.33	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		87	70-130
Bromofluorobenzene		97	70-130
Toluene-d8		105	70-130

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	07/24/2011 2141	LBS		64342

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Diisopropyl ether (IPE)	108-20-3	8260B	ND		5.0	0.40	ug/L	1
Ethanol	64-17-5	8260B	ND		100	33	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		20	1.0	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		1.0	0.20	ug/L	1
tert-Amyl alcohol (TAA)	**75-85-4**	**8260B**	**51**		**20**	**6.7**	**ug/L**	**1**
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		10	0.20	ug/L	1
tert-butyl alcohol (TBA)	**75-65-0**	**8260B**	**33**		**20**	**6.7**	**ug/L**	**1**
tert-Butyl formate (TBF)	762-75-4	8260B	ND		5.0	1.0	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
Bromofluorobenzene		97	70-130
1,2-Dichloroethane-d4		87	70-130
Toluene-d8		105	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	07/26/2011 2229	MPM	07/22/2011 2000	64310

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
H = Out of holding time

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **MW-7D**
Date Sampled: **07/19/2011 1456**
Date Received: **07/22/2011**

Laboratory ID: **MG22061-004**
Matrix: **Aqueous**

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	07/26/2011 2229	MPM	07/22/2011 2000	64310

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0.020	0.0062	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		112	57-137

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL

E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
H = Out of holding time

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **MW-8D**
Date Sampled: **07/19/2011 1730**
Date Received: **07/22/2011**

Laboratory ID: **MG22061-005**
Matrix: **Aqueous**

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	07/24/2011 2202	LBS		64342

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Benzene	**71-43-2**	**8260B**	**75**		**1.0**	**0.13**	**ug/L**	**1**
1,2-Dichloroethane	107-06-2	8260B	ND		1.0	0.15	ug/L	1
Ethylbenzene	**100-41-4**	**8260B**	**0.36**	**J**	**1.0**	**0.33**	**ug/L**	**1**
Methyl tertiary butyl ether (MTBE)	**1634-04-4**	**8260B**	**23**		**1.0**	**0.40**	**ug/L**	**1**
Naphthalene	**91-20-3**	**8260B**	**22**		**1.0**	**0.40**	**ug/L**	**1**
Toluene	**108-88-3**	**8260B**	**0.98**	**J**	**1.0**	**0.33**	**ug/L**	**1**
Xylenes (total)	**1330-20-7**	**8260B**	**120**		**1.0**	**0.33**	**ug/L**	**1**

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		88	70-130
Bromofluorobenzene		95	70-130
Toluene-d8		103	70-130

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	07/24/2011 2202	LBS		64342

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Diisopropyl ether (IPE)	**108-20-3**	**8260B**	**0.44**	**J**	**5.0**	**0.40**	**ug/L**	**1**
Ethanol	64-17-5	8260B	ND		100	33	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		20	1.0	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		1.0	0.20	ug/L	1
tert-Amyl alcohol (TAA)	**75-85-4**	**8260B**	**400**		**20**	**6.7**	**ug/L**	**1**
tert-Amyl methyl ether (TAME)	**994-05-8**	**8260B**	**8.5**	**J**	**10**	**0.20**	**ug/L**	**1**
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		20	6.7	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260B	ND		5.0	1.0	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
Bromofluorobenzene		95	70-130
1,2-Dichloroethane-d4		88	70-130
Toluene-d8		103	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	07/26/2011 2252	MPM	07/22/2011 2000	64310

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
H = Out of holding time

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **MW-8D**
Date Sampled: **07/19/2011 1730**
Date Received: **07/22/2011**

Laboratory ID: **MG22061-005**
Matrix: **Aqueous**

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	07/26/2011 2252	MPM	07/22/2011 2000	64310

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,2-Dibromoethane (EDB)	**106-93-4**	**8011**	**0.056**	**P**	**0.019**	**0.0060**	**ug/L**	**1**

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		106	57-137

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
H = Out of holding time

Client: **Bunnell-Lammons Engineering, Inc.** Laboratory ID: **MG22061-006**
Description: **MW-9** Matrix: **Aqueous**
Date Sampled: **07/20/2011 1330**
Date Received: **07/22/2011**

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	07/24/2011 2223	LBS		64342

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Benzene	71-43-2	8260B	ND		1.0	0.13	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		1.0	0.15	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		1.0	0.33	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		1.0	0.40	ug/L	1
Naphthalene	**91-20-3**	**8260B**	**1.0**		**1.0**	**0.40**	**ug/L**	**1**
Toluene	108-88-3	8260B	ND		1.0	0.33	ug/L	1
Xylenes (total)	**1330-20-7**	**8260B**	**0.64**	**J**	**1.0**	**0.33**	**ug/L**	**1**

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		88	70-130
Bromofluorobenzene		96	70-130
Toluene-d8		105	70-130

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	07/24/2011 2223	LBS		64342

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Diisopropyl ether (IPE)	108-20-3	8260B	ND		5.0	0.40	ug/L	1
Ethanol	64-17-5	8260B	ND		100	33	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		20	1.0	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		1.0	0.20	ug/L	1
tert-Amyl alcohol (TAA)	**75-85-4**	**8260B**	**71**		**20**	**6.7**	**ug/L**	**1**
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		10	0.20	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		20	6.7	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260B	ND		5.0	1.0	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
Bromofluorobenzene		96	70-130
1,2-Dichloroethane-d4		88	70-130
Toluene-d8		105	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	07/26/2011 2315	MPM	07/22/2011 2000	64310

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
H = Out of holding time

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **MW-9**
Date Sampled: **07/20/2011 1330**
Date Received: **07/22/2011**

Laboratory ID: **MG22061-006**
Matrix: **Aqueous**

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	07/26/2011 2315	MPM	07/22/2011 2000	64310

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0.019	0.0059	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		110	57-137

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
H = Out of holding time

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **MW-10**
Date Sampled: **07/20/2011 1335**
Date Received: **07/22/2011**

Laboratory ID: **MG22061-007**
Matrix: **Aqueous**

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	07/24/2011 2245	LBS		64342

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Benzene	71-43-2	8260B	ND		1.0	0.13	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		1.0	0.15	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		1.0	0.33	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		1.0	0.40	ug/L	1
Naphthalene	91-20-3	8260B	ND		1.0	0.40	ug/L	1
Toluene	108-88-3	8260B	ND		1.0	0.33	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		1.0	0.33	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		88	70-130
Bromofluorobenzene		97	70-130
Toluene-d8		104	70-130

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	07/24/2011 2245	LBS		64342

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Diisopropyl ether (IPE)	108-20-3	8260B	ND		5.0	0.40	ug/L	1
Ethanol	64-17-5	8260B	ND		100	33	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		20	1.0	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		1.0	0.20	ug/L	1
tert-Amyl alcohol (TAA)	75-85-4	8260B	ND		20	6.7	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		10	0.20	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		20	6.7	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260B	ND		5.0	1.0	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
Bromofluorobenzene		97	70-130
1,2-Dichloroethane-d4		88	70-130
Toluene-d8		104	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	07/26/2011 2337	MPM	07/22/2011 2000	64310

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
H = Out of holding time

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **MW-10**
Date Sampled: **07/20/2011 1335**
Date Received: **07/22/2011**

Laboratory ID: **MG22061-007**
Matrix: **Aqueous**

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	07/26/2011 2337	MPM	07/22/2011 2000	64310

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0.019	0.0060	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		110	57-137

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
H = Out of holding time

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **MW-11**
Date Sampled: **07/20/2011 1345**
Date Received: **07/22/2011**

Laboratory ID: **MG22061-008**
Matrix: **Aqueous**

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	07/24/2011 2306	LBS		64342

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Benzene	71-43-2	8260B	ND		1.0	0.13	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		1.0	0.15	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		1.0	0.33	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		1.0	0.40	ug/L	1
Naphthalene	91-20-3	8260B	ND		1.0	0.40	ug/L	1
Toluene	108-88-3	8260B	ND		1.0	0.33	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		1.0	0.33	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		91	70-130
Bromofluorobenzene		97	70-130
Toluene-d8		108	70-130

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	07/24/2011 2306	LBS		64342

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Diisopropyl ether (IPE)	108-20-3	8260B	ND		5.0	0.40	ug/L	1
Ethanol	64-17-5	8260B	ND		100	33	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		20	1.0	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		1.0	0.20	ug/L	1
tert-Amyl alcohol (TAA)	75-85-4	8260B	ND		20	6.7	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		10	0.20	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		20	6.7	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260B	ND		5.0	1.0	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
Bromofluorobenzene		97	70-130
1,2-Dichloroethane-d4		91	70-130
Toluene-d8		108	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	07/27/2011 0000	MPM	07/22/2011 2000	64310

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
H = Out of holding time

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **MW-11**
Date Sampled: **07/20/2011 1345**
Date Received: **07/22/2011**

Laboratory ID: **MG22061-008**
Matrix: **Aqueous**

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	07/27/2011 0000	MPM	07/22/2011 2000	64310

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0.019	0.0060	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		106	57-137

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL

E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
H = Out of holding time

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **MW-12**
Date Sampled: **07/20/2011 1410**
Date Received: **07/22/2011**

Laboratory ID: **MG22061-009**
Matrix: **Aqueous**

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	07/24/2011 2327	LBS		64342

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Benzene	71-43-2	8260B	ND		1.0	0.13	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		1.0	0.15	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		1.0	0.33	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		1.0	0.40	ug/L	1
Naphthalene	91-20-3	8260B	ND		1.0	0.40	ug/L	1
Toluene	108-88-3	8260B	ND		1.0	0.33	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		1.0	0.33	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		87	70-130
Bromofluorobenzene		94	70-130
Toluene-d8		107	70-130

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	07/24/2011 2327	LBS		64342

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Diisopropyl ether (IPE)	108-20-3	8260B	ND		5.0	0.40	ug/L	1
Ethanol	64-17-5	8260B	ND		100	33	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		20	1.0	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		1.0	0.20	ug/L	1
tert-Amyl alcohol (TAA)	75-85-4	8260B	ND		20	6.7	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		10	0.20	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		20	6.7	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260B	ND		5.0	1.0	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
Bromofluorobenzene		94	70-130
1,2-Dichloroethane-d4		87	70-130
Toluene-d8		107	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	07/27/2011 0022	MPM	07/22/2011 2000	64310

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
H = Out of holding time

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **MW-12**
Date Sampled: **07/20/2011 1410**
Date Received: **07/22/2011**

Laboratory ID: **MG22061-009**
Matrix: **Aqueous**

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	07/27/2011 0022	MPM	07/22/2011 2000	64310

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0.019	0.0059	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		119	57-137

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
H = Out of holding time

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **MW-13**
Date Sampled: **07/20/2011 1420**
Date Received: **07/22/2011**

Laboratory ID: **MG22061-010**
Matrix: **Aqueous**

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	07/24/2011 2348	LBS		64342

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Benzene	71-43-2	8260B	ND		1.0	0.13	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		1.0	0.15	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		1.0	0.33	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		1.0	0.40	ug/L	1
Naphthalene	91-20-3	8260B	ND		1.0	0.40	ug/L	1
Toluene	108-88-3	8260B	ND		1.0	0.33	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		1.0	0.33	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		87	70-130
Bromofluorobenzene		95	70-130
Toluene-d8		105	70-130

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	07/24/2011 2348	LBS		64342

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Diisopropyl ether (IPE)	108-20-3	8260B	ND		5.0	0.40	ug/L	1
Ethanol	64-17-5	8260B	ND		100	33	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		20	1.0	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		1.0	0.20	ug/L	1
tert-Amyl alcohol (TAA)	75-85-4	8260B	ND		20	6.7	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		10	0.20	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		20	6.7	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260B	ND		5.0	1.0	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
Bromofluorobenzene		95	70-130
1,2-Dichloroethane-d4		87	70-130
Toluene-d8		105	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	07/27/2011 0045	MPM	07/22/2011 2000	64310

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
H = Out of holding time

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **MW-13**
Date Sampled: **07/20/2011 1420**
Date Received: **07/22/2011**

Laboratory ID: **MG22061-010**
Matrix: **Aqueous**

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	07/27/2011 0045	MPM	07/22/2011 2000	64310

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0.019	0.0060	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		106	57-137

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL

E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
H = Out of holding time

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **MW-14**
Date Sampled: **07/20/2011 1800**
Date Received: **07/22/2011**

Laboratory ID: **MG22061-011**
Matrix: **Aqueous**

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	07/25/2011 0009	LBS		64342

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Benzene	71-43-2	8260B	ND		1.0	0.13	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		1.0	0.15	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		1.0	0.33	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		1.0	0.40	ug/L	1
Naphthalene	91-20-3	8260B	ND		1.0	0.40	ug/L	1
Toluene	108-88-3	8260B	ND		1.0	0.33	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		1.0	0.33	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		86	70-130
Bromofluorobenzene		94	70-130
Toluene-d8		101	70-130

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	07/25/2011 0009	LBS		64342

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Diisopropyl ether (IPE)	108-20-3	8260B	ND		5.0	0.40	ug/L	1
Ethanol	64-17-5	8260B	ND		100	33	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		20	1.0	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		1.0	0.20	ug/L	1
tert-Amyl alcohol (TAA)	75-85-4	8260B	ND		20	6.7	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		10	0.20	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		20	6.7	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260B	ND		5.0	1.0	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
Bromofluorobenzene		94	70-130
1,2-Dichloroethane-d4		86	70-130
Toluene-d8		101	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	07/27/2011 0107	MPM	07/22/2011 2000	64310

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
H = Out of holding time

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **MW-14**
Date Sampled: **07/20/2011 1800**
Date Received: **07/22/2011**

Laboratory ID: **MG22061-011**
Matrix: **Aqueous**

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	07/27/2011 0107	MPM	07/22/2011 2000	64310

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0.020	0.0061	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		105	57-137

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL

E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
H = Out of holding time

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **MW-15**
Date Sampled: **07/20/2011 1810**
Date Received: **07/22/2011**

Laboratory ID: **MG22061-012**
Matrix: **Aqueous**

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	07/25/2011 0031	LBS		64342

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Benzene	71-43-2	8260B	ND		1.0	0.13	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		1.0	0.15	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		1.0	0.33	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		1.0	0.40	ug/L	1
Naphthalene	91-20-3	8260B	ND		1.0	0.40	ug/L	1
Toluene	108-88-3	8260B	ND		1.0	0.33	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		1.0	0.33	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		87	70-130
Bromofluorobenzene		96	70-130
Toluene-d8		101	70-130

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	07/25/2011 0031	LBS		64342

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Diisopropyl ether (IPE)	108-20-3	8260B	ND		5.0	0.40	ug/L	1
Ethanol	64-17-5	8260B	ND		100	33	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		20	1.0	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		1.0	0.20	ug/L	1
tert-Amyl alcohol (TAA)	75-85-4	8260B	ND		20	6.7	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		10	0.20	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		20	6.7	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260B	ND		5.0	1.0	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
Bromofluorobenzene		96	70-130
1,2-Dichloroethane-d4		87	70-130
Toluene-d8		101	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	07/27/2011 0129	MPM	07/22/2011 2000	64310

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run

PQL = Practical quantitation limit
ND = Not detected at or above the MDL.
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
H = Out of holding time

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **MW-15**
Date Sampled: **07/20/2011 1810**
Date Received: **07/22/2011**

Laboratory ID: **MG22061-012**
Matrix: **Aqueous**

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	07/27/2011 0129	MPM	07/22/2011 2000	64310

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0.019	0.0060	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		114	57-137

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL

E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
H = Out of holding time

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **MW-16**
Date Sampled: **07/20/2011 1430**
Date Received: **07/22/2011**

Laboratory ID: **MG22061-013**
Matrix: **Aqueous**

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	07/25/2011 0052	LBS		64342

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Benzene	71-43-2	8260B	ND		1.0	0.13	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		1.0	0.15	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		1.0	0.33	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		1.0	0.40	ug/L	1
Naphthalene	91-20-3	8260B	ND		1.0	0.40	ug/L	1
Toluene	108-88-3	8260B	ND		1.0	0.33	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		1.0	0.33	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		86	70-130
Bromofluorobenzene		97	70-130
Toluene-d8		102	70-130

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	07/25/2011 0052	LBS		64342

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Diisopropyl ether (IPE)	108-20-3	8260B	ND		5.0	0.40	ug/L	1
Ethanol	64-17-5	8260B	ND		100	33	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		20	1.0	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		1.0	0.20	ug/L	1
tert-Amyl alcohol (TAA)	75-85-4	8260B	ND		20	6.7	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		10	0.20	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		20	6.7	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260B	ND		5.0	1.0	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
Bromofluorobenzene		97	70-130
1,2-Dichloroethane-d4		86	70-130
Toluene-d8		102	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	07/27/2011 0152	MPM	07/22/2011 2000	64310

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
H = Out of holding time

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **MW-16**
Date Sampled: **07/20/2011 1430**
Date Received: **07/22/2011**

Laboratory ID: **MG22061-013**
Matrix: **Aqueous**

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	07/27/2011 0152	MPM	07/22/2011 2000	64310

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0.019	0.0060	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		106	57-137

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL

E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
H = Out of holding time

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **MW-17**
Date Sampled: **07/20/2011 1455**
Date Received: **07/22/2011**

Laboratory ID: **MG22061-014**
Matrix: **Aqueous**

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	07/25/2011 0113	LBS		64342

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Benzene	71-43-2	8260B	ND		1.0	0.13	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		1.0	0.15	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		1.0	0.33	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		1.0	0.40	ug/L	1
Naphthalene	91-20-3	8260B	ND		1.0	0.40	ug/L	1
Toluene	108-88-3	8260B	ND		1.0	0.33	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		1.0	0.33	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		86	70-130
Bromofluorobenzene		94	70-130
Toluene-d8		101	70-130

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	07/25/2011 0113	LBS		64342

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Diisopropyl ether (IPE)	108-20-3	8260B	ND		5.0	0.40	ug/L	1
Ethanol	64-17-5	8260B	ND		100	33	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		20	1.0	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		1.0	0.20	ug/L	1
tert-Amyl alcohol (TAA)	75-85-4	8260B	ND		20	6.7	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		10	0.20	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		20	6.7	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260B	ND		5.0	1.0	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
Bromofluorobenzene		94	70-130
1,2-Dichloroethane-d4		86	70-130
Toluene-d8		101	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	07/27/2011 0214	MPM	07/22/2011 2000	64310

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
H = Out of holding time

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **MW-17**
Date Sampled: **07/20/2011 1455**
Date Received: **07/22/2011**

Laboratory ID: **MG22061-014**
Matrix: **Aqueous**

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	07/27/2011 0214	MPM	07/22/2011 2000	64310

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0.019	0.0060	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		109	57-137

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
H = Out of holding time

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **MW-18**
Date Sampled: **07/20/2011 1440**
Date Received: **07/22/2011**

Laboratory ID: **MG22061-015**
Matrix: **Aqueous**

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	50	07/27/2011 1914	BM		64569

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Benzene	**71-43-2**	**8260B**	**28**	**J**	**50**	**6.6**	**ug/L**	**1**
1,2-Dichloroethane	107-06-2	8260B	ND		50	7.4	ug/L	1
Ethylbenzene	**100-41-4**	**8260B**	**2600**		**50**	**17**	**ug/L**	**1**
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		50	20	ug/L	1
Naphthalene	**91-20-3**	**8260B**	**400**		**50**	**20**	**ug/L**	**1**
Toluene	**108-88-3**	**8260B**	**270**		**50**	**17**	**ug/L**	**1**
Xylenes (total)	**1330-20-7**	**8260B**	**12000**		**50**	**17**	**ug/L**	**1**

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		90	70-130
Bromofluorobenzene		103	70-130
Toluene-d8		106	70-130

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	50	07/27/2011 1914	BM		64569

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Diisopropyl ether (IPE)	108-20-3	8260B	ND		250	20	ug/L	1
Ethanol	64-17-5	8260B	ND		5000	1700	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		1000	50	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		50	10	ug/L	1
tert-Amyl alcohol (TAA)	75-85-4	8260B	ND		1000	340	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		500	10	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		1000	340	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260B	ND		250	50	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
Bromofluorobenzene		103	70-130
1,2-Dichloroethane-d4		90	70-130
Toluene-d8		106	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	07/27/2011 0237	MPM	07/22/2011 2000	64310

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
H = Out of holding time

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **MW-18**
Date Sampled: **07/20/2011 1440**
Date Received: **07/22/2011**

Laboratory ID: **MG22061-015**
Matrix: **Aqueous**

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	07/27/2011 0237	MPM	07/22/2011 2000	64310

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0.020	0.0061	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		130	57-137

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL

E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
H = Out of holding time

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **MW-19**
Date Sampled: **07/20/2011 1505**
Date Received: **07/22/2011**

Laboratory ID: **MG22061-016**
Matrix: **Aqueous**

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	200	07/27/2011 1935	BM		64569

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Benzene	**71-43-2**	**8260B**	**7200**		**200**	**26**	**ug/L**	**1**
1,2-Dichloroethane	107-06-2	8260B	ND		200	29	ug/L	1
Ethylbenzene	**100-41-4**	**8260B**	**4000**		**200**	**66**	**ug/L**	**1**
Methyl tertiary butyl ether (MTBE)	**1634-04-4**	**8260B**	**260**		**200**	**80**	**ug/L**	**1**
Naphthalene	91-20-3	8260B	ND		200	80	ug/L	1
Toluene	**108-88-3**	**8260B**	**27000**		**200**	**66**	**ug/L**	**1**
Xylenes (total)	**1330-20-7**	**8260B**	**22000**		**200**	**66**	**ug/L**	**1**

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		90	70-130
Bromofluorobenzene		103	70-130
Toluene-d8		106	70-130

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	200	07/27/2011 1935	BM		64569

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Diisopropyl ether (IPE)	108-20-3	8260B	ND		1000	80	ug/L	1
Ethanol	64-17-5	8260B	ND		20000	6600	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		4000	200	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		200	40	ug/L	1
tert-Amyl alcohol (TAA)	**75-85-4**	**8260B**	**2600**	**J**	**4000**	**1300**	**ug/L**	**1**
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		2000	40	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		4000	1300	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260B	ND		1000	200	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
Bromofluorobenzene		103	70-130
1,2-Dichloroethane-d4		90	70-130
Toluene-d8		106	70-130

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
H = Out of holding time

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **MW-19**
Date Sampled: **07/20/2011 1505**
Date Received: **07/22/2011**

Laboratory ID: **MG22061-016**
Matrix: **Aqueous**

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	07/27/2011 0259	MPM	07/22/2011 2000	64310
2	8011	8011	50	07/27/2011 1308	MPM	07/22/2011 2000	64310

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,2-Dibromoethane (EDB)	**106-93-4**	**8011**	**24**		**0.98**	**0.30**	**ug/L**	**2**

Surrogate	Q	Run 1 % Recovery	Acceptance Limits	Q	Run 2 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		72	57-137	N	592	57-137

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
H = Out of holding time

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **MW-20**
Date Sampled: **07/21/2011 1305**
Date Received: **07/22/2011**

Laboratory ID: **MG22061-017**
Matrix: **Aqueous**

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	07/25/2011 0134	LBS		64342

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Benzene	71-43-2	8260B	ND		1.0	0.13	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		1.0	0.15	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		1.0	0.33	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		1.0	0.40	ug/L	1
Naphthalene	91-20-3	8260B	ND		1.0	0.40	ug/L	1
Toluene	108-88-3	8260B	ND		1.0	0.33	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		1.0	0.33	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		86	70-130
Bromofluorobenzene		93	70-130
Toluene-d8		102	70-130

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	07/25/2011 0134	LBS		64342

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Diisopropyl ether (IPE)	108-20-3	8260B	ND		5.0	0.40	ug/L	1
Ethanol	64-17-5	8260B	ND		100	33	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		20	1.0	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		1.0	0.20	ug/L	1
tert-Amyl alcohol (TAA)	75-85-4	8260B	ND		20	6.7	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		10	0.20	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		20	6.7	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260B	ND		5.0	1.0	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
Bromofluorobenzene		93	70-130
1,2-Dichloroethane-d4		86	70-130
Toluene-d8		102	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	07/27/2011 0321	MPM	07/22/2011 2000	64310

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
H = Out of holding time

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **MW-20**
Date Sampled: **07/21/2011 1305**
Date Received: **07/22/2011**

Laboratory ID: **MG22061-017**
Matrix: **Aqueous**

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	07/27/2011 0321	MPM	07/22/2011 2000	64310

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0.019	0.0060	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		100	57-137

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL

E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
H = Out of holding time

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **MW-21**
Date Sampled: **07/21/2011 1250**
Date Received: **07/22/2011**

Laboratory ID: **MG22061-018**
Matrix: **Aqueous**

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	07/25/2011 0155	LBS		64342

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Benzene	71-43-2	8260B	ND		1.0	0.13	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		1.0	0.15	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		1.0	0.33	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		1.0	0.40	ug/L	1
Naphthalene	91-20-3	8260B	ND		1.0	0.40	ug/L	1
Toluene	108-88-3	8260B	ND		1.0	0.33	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		1.0	0.33	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		86	70-130
Bromofluorobenzene		94	70-130
Toluene-d8		105	70-130

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	07/25/2011 0155	LBS		64342

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Diisopropyl ether (IPE)	108-20-3	8260B	ND		5.0	0.40	ug/L	1
Ethanol	64-17-5	8260B	ND		100	33	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		20	1.0	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		1.0	0.20	ug/L	1
tert-Amyl alcohol (TAA)	75-85-4	8260B	ND		20	6.7	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		10	0.20	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		20	6.7	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260B	ND		5.0	1.0	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
Bromofluorobenzene		94	70-130
1,2-Dichloroethane-d4		86	70-130
Toluene-d8		105	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	07/27/2011 0343	MPM	07/22/2011 2000	64310

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
H = Out of holding time

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **MW-21**
Date Sampled: **07/21/2011 1250**
Date Received: **07/22/2011**

Laboratory ID: **MG22061-018**
Matrix: **Aqueous**

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	07/27/2011 0343	MPM	07/22/2011 2000	64310

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0.019	0.0059	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		107	57-137

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL

E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
H = Out of holding time

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **MW-21D**
Date Sampled: **07/19/2011 1636**
Date Received: **07/22/2011**

Laboratory ID: **MG22061-019**
Matrix: **Aqueous**

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	07/25/2011 0216	LBS		64342

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Benzene	71-43-2	8260B	ND		1.0	0.13	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		1.0	0.15	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		1.0	0.33	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		1.0	0.40	ug/L	1
Naphthalene	91-20-3	8260B	ND		1.0	0.40	ug/L	1
Toluene	108-88-3	8260B	ND		1.0	0.33	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		1.0	0.33	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		83	70-130
Bromofluorobenzene		93	70-130
Toluene-d8		105	70-130

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	07/25/2011 0216	LBS		64342

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Diisopropyl ether (IPE)	108-20-3	8260B	ND		5.0	0.40	ug/L	1
Ethanol	64-17-5	8260B	ND		100	33	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		20	1.0	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		1.0	0.20	ug/L	1
tert-Amyl alcohol (TAA)	75-85-4	8260B	ND		20	6.7	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		10	0.20	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		20	6.7	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260B	ND		5.0	1.0	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
Bromofluorobenzene		93	70-130
1,2-Dichloroethane-d4		83	70-130
Toluene-d8		105	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	07/27/2011 0406	MPM	07/22/2011 2000	64310

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
H = Out of holding time

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **MW-21D**
Date Sampled: **07/19/2011 1636**
Date Received: **07/22/2011**

Laboratory ID: **MG22061-019**
Matrix: **Aqueous**

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	07/27/2011 0406	MPM	07/22/2011 2000	64310

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0.019	0.0060	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		104	57-137

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL

E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
H = Out of holding time

Client: **Bunnell-Lammons Engineering, Inc.**	Laboratory ID: **MG22061-020**
Description: **MW-22**	Matrix: **Aqueous**
Date Sampled: **07/20/2011 1515**	
Date Received: **07/22/2011**	

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	20	07/27/2011 1957	BM		64569

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Benzene	**71-43-2**	**8260B**	**3700**		**20**	**2.6**	**ug/L**	**1**
1,2-Dichloroethane	**107-06-2**	**8260B**	**86**		**20**	**2.9**	**ug/L**	**1**
Ethylbenzene	**100-41-4**	**8260B**	**2900**		**20**	**6.6**	**ug/L**	**1**
Methyl tertiary butyl ether (MTBE)	**1634-04-4**	**8260B**	**910**		**20**	**8.0**	**ug/L**	**1**
Naphthalene	**91-20-3**	**8260B**	**530**		**20**	**8.0**	**ug/L**	**1**
Toluene	**108-88-3**	**8260B**	**230**		**20**	**6.6**	**ug/L**	**1**
Xylenes (total)	**1330-20-7**	**8260B**	**3900**		**20**	**6.6**	**ug/L**	**1**

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		89	70-130
Bromofluorobenzene		102	70-130
Toluene-d8		105	70-130

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	20	07/27/2011 1957	BM		64569

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Diisopropyl ether (IPE)	**108-20-3**	**8260B**	**29**	**J**	**100**	**8.0**	**ug/L**	**1**
Ethanol	64-17-5	8260B	ND		2000	660	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		400	20	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		20	4.0	ug/L	1
tert-Amyl alcohol (TAA)	**75-85-4**	**8260B**	**5000**		**400**	**130**	**ug/L**	**1**
tert-Amyl methyl ether (TAME)	**994-05-8**	**8260B**	**420**		**200**	**4.0**	**ug/L**	**1**
tert-butyl alcohol (TBA)	**75-65-0**	**8260B**	**250**	**J**	**400**	**130**	**ug/L**	**1**
tert-Butyl formate (TBF)	762-75-4	8260B	ND		100	20	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
Bromofluorobenzene		102	70-130
1,2-Dichloroethane-d4		89	70-130
Toluene-d8		105	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	07/27/2011 0428	MPM	07/22/2011 2000	64310

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
H = Out of holding time

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **MW-22**
Date Sampled: **07/20/2011 1515**
Date Received: **07/22/2011**

Laboratory ID: **MG22061-020**
Matrix: **Aqueous**

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	07/27/2011 0428	MPM	07/22/2011 2000	64310

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,2-Dibromoethane (EDB)	**106-93-4**	**8011**	**0.17**	**P**	**0.019**	**0.0060**	**ug/L**	**1**

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		119	57-137

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
H = Out of holding time

Client: **Bunnell-Lammons Engineering, Inc.** Laboratory ID: **MG22061-021**
Description: **MW-22D** Matrix: **Aqueous**
Date Sampled: **07/19/2011 1525**
Date Received: **07/22/2011**

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	07/25/2011 0237	LBS		64342

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Benzene	**71-43-2**	**8260B**	**320**		**1.0**	**0.13**	**ug/L**	**1**
1,2-Dichloroethane	**107-06-2**	**8260B**	**6.6**		**1.0**	**0.15**	**ug/L**	**1**
Ethylbenzene	100-41-4	8260B	ND		1.0	0.33	ug/L	1
Methyl tertiary butyl ether (MTBE)	**1634-04-4**	**8260B**	**15**		**1.0**	**0.40**	**ug/L**	**1**
Naphthalene	**91-20-3**	**8260B**	**23**		**1.0**	**0.40**	**ug/L**	**1**
Toluene	108-88-3	8260B	ND		1.0	0.33	ug/L	1
Xylenes (total)	**1330-20-7**	**8260B**	**0.64**	**J**	**1.0**	**0.33**	**ug/L**	**1**

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		81	70-130
Bromofluorobenzene		92	70-130
Toluene-d8		103	70-130

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	07/25/2011 0237	LBS		64342

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Diisopropyl ether (IPE)	**108-20-3**	**8260B**	**0.89**	**J**	**5.0**	**0.40**	**ug/L**	**1**
Ethanol	64-17-5	8260B	ND		100	33	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		20	1.0	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		1.0	0.20	ug/L	1
tert-Amyl alcohol (TAA)	**75-85-4**	**8260B**	**160**		**20**	**6.7**	**ug/L**	**1**
tert-Amyl methyl ether (TAME)	**994-05-8**	**8260B**	**14**		**10**	**0.20**	**ug/L**	**1**
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		20	6.7	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260B	ND		5.0	1.0	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
Bromofluorobenzene		92	70-130
1,2-Dichloroethane-d4		81	70-130
Toluene-d8		103	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	07/27/2011 1506	MPM	07/25/2011 1604	64401

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
H = Out of holding time

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **MW-22D**
Date Sampled: **07/19/2011 1525**
Date Received: **07/22/2011**

Laboratory ID: **MG22061-021**
Matrix: **Aqueous**

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	07/27/2011 1506	MPM	07/25/2011 1604	64401

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0.019	0.0059	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		108	57-137

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
H = Out of holding time

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **MW-23**
Date Sampled: **07/20/2011 1720**
Date Received: **07/22/2011**

Laboratory ID: **MG22061-022**
Matrix: **Aqueous**

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	400	07/27/2011 2018	BM		64569

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Benzene	**71-43-2**	**8260B**	**13000**		**400**	**52**	**ug/L**	**1**
1,2-Dichloroethane	107-06-2	8260B	ND		400	59	ug/L	1
Ethylbenzene	**100-41-4**	**8260B**	**4000**		**400**	**130**	**ug/L**	**1**
Methyl tertiary butyl ether (MTBE)	**1634-04-4**	**8260B**	**260**	**J**	**400**	**160**	**ug/L**	**1**
Naphthalene	91-20-3	8260B	ND		400	160	ug/L	1
Toluene	**108-88-3**	**8260B**	**35000**		**400**	**130**	**ug/L**	**1**
Xylenes (total)	**1330-20-7**	**8260B**	**22000**		**400**	**130**	**ug/L**	**1**

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		86	70-130
Bromofluorobenzene		94	70-130
Toluene-d8		99	70-130

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	400	07/27/2011 2018	BM		64569

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Diisopropyl ether (IPE)	**108-20-3**	**8260B**	**260**	**J**	**2000**	**160**	**ug/L**	**1**
Ethanol	64-17-5	8260B	ND		40000	13000	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		8000	400	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		400	80	ug/L	1
tert-Amyl alcohol (TAA)	**75-85-4**	**8260B**	**18000**		**8000**	**2700**	**ug/L**	**1**
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		4000	80	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		8000	2700	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260B	ND		2000	400	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
Bromofluorobenzene		94	70-130
1,2-Dichloroethane-d4		86	70-130
Toluene-d8		99	70-130

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
H = Out of holding time

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **MW-23**
Date Sampled: **07/20/2011 1720**
Date Received: **07/22/2011**

Laboratory ID: **MG22061-022**
Matrix: **Aqueous**

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	07/27/2011 1530	MPM	07/25/2011 1604	64401
2	8011	8011	100	07/29/2011 2220	MPM	07/25/2011 1604	64401

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,2-Dibromoethane (EDB)	**106-93-4**	**8011**	**42**		**1.9**	**0.59**	**ug/L**	**2**

Surrogate	Q	Run 1 % Recovery	Acceptance Limits	Q	Run 2 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		72	57-137	N	0.00	57-137

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
H = Out of holding time

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **MW-24**
Date Sampled: **07/20/2011 1730**
Date Received: **07/22/2011**

Laboratory ID: **MG22061-023**
Matrix: **Aqueous**

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	100	07/28/2011 0516	DLB		64632

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Benzene	**71-43-2**	**8260B**	**16000**		**100**	**13**	**ug/L**	**1**
1,2-Dichloroethane	**107-06-2**	**8260B**	**430**		**100**	**15**	**ug/L**	**1**
Ethylbenzene	**100-41-4**	**8260B**	**3500**		**100**	**33**	**ug/L**	**1**
Methyl tertiary butyl ether (MTBE)	**1634-04-4**	**8260B**	**2300**		**100**	**40**	**ug/L**	**1**
Naphthalene	**91-20-3**	**8260B**	**170**		**100**	**40**	**ug/L**	**1**
Toluene	**108-88-3**	**8260B**	**4500**		**100**	**33**	**ug/L**	**1**
Xylenes (total)	**1330-20-7**	**8260B**	**11000**		**100**	**33**	**ug/L**	**1**

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		87	70-130
Bromofluorobenzene		101	70-130
Toluene-d8		102	70-130

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	100	07/28/2011 0516	DLB		64632
2	5030B	8260B	100	07/29/2011 2012	JJG		64742

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Diisopropyl ether (IPE)	**108-20-3**	**8260B**	**230**	**J**	**500**	**40**	**ug/L**	**1**
Ethanol	64-17-5	8260B	ND		10000	3300	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		2000	100	ug/L	2
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		100	20	ug/L	1
tert-Amyl alcohol (TAA)	**75-85-4**	**8260B**	**13000**		**2000**	**670**	**ug/L**	**1**
tert-Amyl methyl ether (TAME)	**994-05-8**	**8260B**	**330**	**J**	**1000**	**20**	**ug/L**	**1**
tert-butyl alcohol (TBA)	**75-65-0**	**8260B**	**1300**	**J**	**2000**	**670**	**ug/L**	**1**
tert-Butyl formate (TBF)	762-75-4	8260B	ND		500	100	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits	Q	Run 2 % Recovery	Acceptance Limits
Bromofluorobenzene		101	70-130		116	70-130
1,2-Dichloroethane-d4		87	70-130		114	70-130
Toluene-d8		102	70-130		96	70-130

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
H = Out of holding time

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **MW-24**
Date Sampled: **07/20/2011 1730**
Date Received: **07/22/2011**

Laboratory ID: **MG22061-023**
Matrix: **Aqueous**

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	07/27/2011 1554	MPM	07/25/2011 1604	64401
2	8011	8011	100	07/29/2011 2243	MPM	07/25/2011 1604	64401

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,2-Dibromoethane (EDB)	**106-93-4**	**8011**	**37**		**1.9**	**0.60**	**ug/L**	**2**

Surrogate	Q	Run 1 % Recovery	Acceptance Limits	Q	Run 2 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		121	57-137	N	0.00	57-137

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
H = Out of holding time

Client: **Bunnell-Lammons Engineering, Inc.** Laboratory ID: **MG22061-024**
Description: **MW-24D** Matrix: **Aqueous**
Date Sampled: **07/19/2011 1752**
Date Received: **07/22/2011**

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	07/25/2011 0257	LBS		64342

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Benzene	**71-43-2**	**8260B**	**220**		**1.0**	**0.13**	**ug/L**	**1**
1,2-Dichloroethane	**107-06-2**	**8260B**	**4.9**		**1.0**	**0.15**	**ug/L**	**1**
Ethylbenzene	100-41-4	8260B	ND		1.0	0.33	ug/L	1
Methyl tertiary butyl ether (MTBE)	**1634-04-4**	**8260B**	**39**		**1.0**	**0.40**	**ug/L**	**1**
Naphthalene	**91-20-3**	**8260B**	**23**		**1.0**	**0.40**	**ug/L**	**1**
Toluene	108-88-3	8260B	ND		1.0	0.33	ug/L	1
Xylenes (total)	**1330-20-7**	**8260B**	**1.2**		**1.0**	**0.33**	**ug/L**	**1**

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		87	70-130
Bromofluorobenzene		93	70-130
Toluene-d8		105	70-130

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	07/25/2011 0257	LBS		64342

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Diisopropyl ether (IPE)	**108-20-3**	**8260B**	**4.9**	**J**	**5.0**	**0.40**	**ug/L**	**1**
Ethanol	64-17-5	8260B	ND		100	33	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		20	1.0	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		1.0	0.20	ug/L	1
tert-Amyl alcohol (TAA)	**75-85-4**	**8260B**	**170**		**20**	**6.7**	**ug/L**	**1**
tert-Amyl methyl ether (TAME)	**994-05-8**	**8260B**	**2.1**	**J**	**10**	**0.20**	**ug/L**	**1**
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		20	6.7	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260B	ND		5.0	1.0	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
Bromofluorobenzene		93	70-130
1,2-Dichloroethane-d4		87	70-130
Toluene-d8		105	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	07/27/2011 1618	MPM	07/25/2011 1604	64401

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
H = Out of holding time

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **MW-24D**
Date Sampled: **07/19/2011 1752**
Date Received: **07/22/2011**

Laboratory ID: **MG22061-024**
Matrix: **Aqueous**

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	07/27/2011 1618	MPM	07/25/2011 1604	64401

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,2-Dibromoethane (EDB)	**106-93-4**	**8011**	**0.017**	**JP**	**0.019**	**0.0059**	**ug/L**	**1**

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		113	57-137

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
H = Out of holding time

Client: **Bunnell-Lammons Engineering, Inc.** Laboratory ID: **MG22061-025**
Description: **MW-25** Matrix: **Aqueous**
Date Sampled: **07/20/2011 1740**
Date Received: **07/22/2011**

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	100	07/28/2011 0537	DLB		64632

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Benzene	**71-43-2**	**8260B**	**14000**		**100**	**13**	**ug/L**	**1**
1,2-Dichloroethane	**107-06-2**	**8260B**	**320**		**100**	**15**	**ug/L**	**1**
Ethylbenzene	**100-41-4**	**8260B**	**2600**		**100**	**33**	**ug/L**	**1**
Methyl tertiary butyl ether (MTBE)	**1634-04-4**	**8260B**	**1700**		**100**	**40**	**ug/L**	**1**
Naphthalene	**91-20-3**	**8260B**	**94**	**J**	**100**	**40**	**ug/L**	**1**
Toluene	**108-88-3**	**8260B**	**5800**		**100**	**33**	**ug/L**	**1**
Xylenes (total)	**1330-20-7**	**8260B**	**12000**		**100**	**33**	**ug/L**	**1**

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		87	70-130
Bromofluorobenzene		102	70-130
Toluene-d8		102	70-130

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	100	07/28/2011 0537	DLB		64632
2	5030B	8260B	100	07/29/2011 2033	JJG		64742

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Diisopropyl ether (IPE)	**108-20-3**	**8260B**	**54**	**J**	**500**	**40**	**ug/L**	**1**
Ethanol	64-17-5	8260B	ND		10000	3300	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		2000	100	ug/L	2
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		100	20	ug/L	1
tert-Amyl alcohol (TAA)	**75-85-4**	**8260B**	**3900**		**2000**	**670**	**ug/L**	**1**
tert-Amyl methyl ether (TAME)	**994-05-8**	**8260B**	**220**	**J**	**1000**	**20**	**ug/L**	**1**
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		2000	670	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260B	ND		500	100	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits	Q	Run 2 % Recovery	Acceptance Limits
Bromofluorobenzene		102	70-130		113	70-130
1,2-Dichloroethane-d4		87	70-130		114	70-130
Toluene-d8		102	70-130		99	70-130

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
H = Out of holding time

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **MW-25**
Date Sampled: **07/20/2011 1740**
Date Received: **07/22/2011**

Laboratory ID: **MG22061-025**
Matrix: **Aqueous**

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	07/27/2011 1642	MPM	07/25/2011 1604	64401
2	8011	8011	10	07/29/2011 2306	MPM	07/25/2011 1604	64401

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,2-Dibromoethane (EDB)	**106-93-4**	**8011**	**4.9**		**0.19**	**0.059**	**ug/L**	**2**

Surrogate	Q	Run 1 % Recovery	Acceptance Limits	Q	Run 2 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		134	57-137		58	57-137

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL

E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
H = Out of holding time

Client: **Bunnell-Lammons Engineering, Inc.** Laboratory ID: **MG22061-026**
Description: **MW-26** Matrix: **Aqueous**
Date Sampled: **07/21/2011 1745**
Date Received: **07/22/2011**

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	07/25/2011 0318	LBS		64342

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Benzene	**71-43-2**	**8260B**	**13**		**1.0**	**0.13**	**ug/L**	**1**
1,2-Dichloroethane	**107-06-2**	**8260B**	**0.32**	**J**	**1.0**	**0.15**	**ug/L**	**1**
Ethylbenzene	**100-41-4**	**8260B**	**1.3**		**1.0**	**0.33**	**ug/L**	**1**
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		1.0	0.40	ug/L	1
Naphthalene	**91-20-3**	**8260B**	**1.1**		**1.0**	**0.40**	**ug/L**	**1**
Toluene	108-88-3	8260B	ND		1.0	0.33	ug/L	1
Xylenes (total)	**1330-20-7**	**8260B**	**4.3**		**1.0**	**0.33**	**ug/L**	**1**

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		86	70-130
Bromofluorobenzene		93	70-130
Toluene-d8		105	70-130

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	07/25/2011 0318	LBS		64342

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Diisopropyl ether (IPE)	108-20-3	8260B	ND		5.0	0.40	ug/L	1
Ethanol	64-17-5	8260B	ND		100	33	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		20	1.0	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		1.0	0.20	ug/L	1
tert-Amyl alcohol (TAA)	**75-85-4**	**8260B**	**75**		**20**	**6.7**	**ug/L**	**1**
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		10	0.20	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		20	6.7	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260B	ND		5.0	1.0	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
Bromofluorobenzene		93	70-130
1,2-Dichloroethane-d4		86	70-130
Toluene-d8		105	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	07/27/2011 1707	MPM	07/25/2011 1604	64401

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
H = Out of holding time

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **MW-26**
Date Sampled: **07/21/2011 1745**
Date Received: **07/22/2011**

Laboratory ID: **MG22061-026**
Matrix: **Aqueous**

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	07/27/2011 1707	MPM	07/25/2011 1604	64401

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0.020	0.0062	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		108	57-137

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
H = Out of holding time

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **MW-27**
Date Sampled: **07/21/2011 1755**
Date Received: **07/22/2011**

Laboratory ID: **MG22061-027**
Matrix: **Aqueous**

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	07/25/2011 0339	LBS		64342

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Benzene	71-43-2	8260B	ND		1.0	0.13	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		1.0	0.15	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		1.0	0.33	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		1.0	0.40	ug/L	1
Naphthalene	91-20-3	8260B	ND		1.0	0.40	ug/L	1
Toluene	108-88-3	8260B	ND		1.0	0.33	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		1.0	0.33	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		88	70-130
Bromofluorobenzene		96	70-130
Toluene-d8		107	70-130

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	07/25/2011 0339	LBS		64342

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Diisopropyl ether (IPE)	108-20-3	8260B	ND		5.0	0.40	ug/L	1
Ethanol	64-17-5	8260B	ND		100	33	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		20	1.0	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		1.0	0.20	ug/L	1
tert-Amyl alcohol (TAA)	75-85-4	8260B	ND		20	6.7	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		10	0.20	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		20	6.7	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260B	ND		5.0	1.0	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
Bromofluorobenzene		96	70-130
1,2-Dichloroethane-d4		88	70-130
Toluene-d8		107	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	07/27/2011 1819	MPM	07/25/2011 1604	64401

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
H = Out of holding time

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **MW-27**
Date Sampled: **07/21/2011 1755**
Date Received: **07/22/2011**

Laboratory ID: **MG22061-027**
Matrix: **Aqueous**

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	07/27/2011 1819	MPM	07/25/2011 1604	64401

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0.019	0.0060	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		111	57-137

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
H = Out of holding time

Client: **Bunnell-Lammons Engineering, Inc.** Laboratory ID: **MG22061-028**
Description: **MW-28** Matrix: **Aqueous**
Date Sampled: **07/21/2011 1320**
Date Received: **07/22/2011**

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	07/25/2011 0400	LBS		64342

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Benzene	71-43-2	8260B	ND		1.0	0.13	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		1.0	0.15	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		1.0	0.33	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		1.0	0.40	ug/L	1
Naphthalene	91-20-3	8260B	ND		1.0	0.40	ug/L	1
Toluene	108-88-3	8260B	ND		1.0	0.33	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		1.0	0.33	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		87	70-130
Bromofluorobenzene		97	70-130
Toluene-d8		104	70-130

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	07/25/2011 0400	LBS		64342

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Diisopropyl ether (IPE)	108-20-3	8260B	ND		5.0	0.40	ug/L	1
Ethanol	64-17-5	8260B	ND		100	33	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		20	1.0	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		1.0	0.20	ug/L	1
tert-Amyl alcohol (TAA)	75-85-4	8260B	ND		20	6.7	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		10	0.20	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		20	6.7	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260B	ND		5.0	1.0	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
Bromofluorobenzene		97	70-130
1,2-Dichloroethane-d4		87	70-130
Toluene-d8		104	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	07/27/2011 1843	MPM	07/25/2011 1604	64401

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
H = Out of holding time

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **MW-28**
Date Sampled: **07/21/2011 1320**
Date Received: **07/22/2011**

Laboratory ID: **MG22061-028**
Matrix: **Aqueous**

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	07/27/2011 1843	MPM	07/25/2011 1604	64401

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0.019	0.0059	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		101	57-137

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL

E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
H = Out of holding time

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **MW-29**
Date Sampled: **07/21/2011 1350**
Date Received: **07/22/2011**

Laboratory ID: **MG22061-029**
Matrix: **Aqueous**

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	07/26/2011 0431	LBS		64415

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Benzene	**71-43-2**	**8260B**	**0.65**	**J**	**1.0**	**0.13**	**ug/L**	**1**
1,2-Dichloroethane	107-06-2	8260B	ND		1.0	0.15	ug/L	1
Ethylbenzene	**100-41-4**	**8260B**	**0.57**	**J**	**1.0**	**0.33**	**ug/L**	**1**
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		1.0	0.40	ug/L	1
Naphthalene	**91-20-3**	**8260B**	**0.93**	**J**	**1.0**	**0.40**	**ug/L**	**1**
Toluene	**108-88-3**	**8260B**	**0.75**	**J**	**1.0**	**0.33**	**ug/L**	**1**
Xylenes (total)	**1330-20-7**	**8260B**	**6.9**		**1.0**	**0.33**	**ug/L**	**1**

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		86	70-130
Bromofluorobenzene		96	70-130
Toluene-d8		103	70-130

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	07/26/2011 0431	LBS		64415

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Diisopropyl ether (IPE)	108-20-3	8260B	ND		5.0	0.40	ug/L	1
Ethanol	64-17-5	8260B	ND		100	33	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		20	1.0	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		1.0	0.20	ug/L	1
tert-Amyl alcohol (TAA)	**75-85-4**	**8260B**	**120**		**20**	**6.7**	**ug/L**	**1**
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		10	0.20	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		20	6.7	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260B	ND		5.0	1.0	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
Bromofluorobenzene		96	70-130
1,2-Dichloroethane-d4		86	70-130
Toluene-d8		103	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	07/27/2011 1907	MPM	07/25/2011 1604	64401

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
H = Out of holding time

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **MW-29**
Date Sampled: **07/21/2011 1350**
Date Received: **07/22/2011**

Laboratory ID: **MG22061-029**
Matrix: **Aqueous**

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	07/27/2011 1907	MPM	07/25/2011 1604	64401

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0.020	0.0061	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		108	57-137

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL

E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
H = Out of holding time

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **MW-30**
Date Sampled: **07/21/2011 1410**
Date Received: **07/22/2011**

Laboratory ID: **MG22061-030**
Matrix: **Aqueous**

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	07/24/2011 2225	LBS		64343

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Benzene	71-43-2	8260B	ND		1.0	0.13	ug/L	1
1,2-Dichloroethane	**107-06-2**	**8260B**	**5.7**		**1.0**	**0.15**	**ug/L**	**1**
Ethylbenzene	100-41-4	8260B	ND		1.0	0.33	ug/L	1
Methyl tertiary butyl ether (MTBE)	**1634-04-4**	**8260B**	**250**		**1.0**	**0.40**	**ug/L**	**1**
Naphthalene	91-20-3	8260B	ND		1.0	0.40	ug/L	1
Toluene	108-88-3	8260B	ND		1.0	0.33	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		1.0	0.33	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		98	70-130
Bromofluorobenzene		98	70-130
Toluene-d8		101	70-130

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	07/24/2011 2225	LBS		64343

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Diisopropyl ether (IPE)	**108-20-3**	**8260B**	**35**		**5.0**	**0.40**	**ug/L**	**1**
Ethanol	64-17-5	8260B	ND		100	33	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		20	1.0	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		1.0	0.20	ug/L	1
tert-Amyl alcohol (TAA)	**75-85-4**	**8260B**	**360**		**20**	**6.7**	**ug/L**	**1**
tert-Amyl methyl ether (TAME)	**994-05-8**	**8260B**	**10**	**B**	**10**	**0.20**	**ug/L**	**1**
tert-butyl alcohol (TBA)	**75-65-0**	**8260B**	**250**		**20**	**6.7**	**ug/L**	**1**
tert-Butyl formate (TBF)	762-75-4	8260B	ND		5.0	1.0	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
Bromofluorobenzene		98	70-130
1,2-Dichloroethane-d4		98	70-130
Toluene-d8		101	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	07/27/2011 1930	MPM	07/25/2011 1604	64401

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
H = Out of holding time

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **MW-30**
Date Sampled: **07/21/2011 1410**
Date Received: **07/22/2011**

Laboratory ID: **MG22061-030**
Matrix: **Aqueous**

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	07/27/2011 1930	MPM	07/25/2011 1604	64401

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0.019	0.0058	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		129	57-137

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
H = Out of holding time

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **MW-30D**
Date Sampled: **07/19/2011 1825**
Date Received: **07/22/2011**

Laboratory ID: **MG22061-031**
Matrix: **Aqueous**

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	07/24/2011 2246	LBS		64343

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Benzene	**71-43-2**	**8260B**	**2.1**		**1.0**	**0.13**	**ug/L**	**1**
1,2-Dichloroethane	**107-06-2**	**8260B**	**3.3**		**1.0**	**0.15**	**ug/L**	**1**
Ethylbenzene	100-41-4	8260B	ND		1.0	0.33	ug/L	1
Methyl tertiary butyl ether (MTBE)	**1634-04-4**	**8260B**	**45**		**1.0**	**0.40**	**ug/L**	**1**
Naphthalene	91-20-3	8260B	ND		1.0	0.40	ug/L	1
Toluene	108-88-3	8260B	ND		1.0	0.33	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		1.0	0.33	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		97	70-130
Bromofluorobenzene		99	70-130
Toluene-d8		100	70-130

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	07/24/2011 2246	LBS		64343

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Diisopropyl ether (IPE)	**108-20-3**	**8260B**	**8.1**		**5.0**	**0.40**	**ug/L**	**1**
Ethanol	64-17-5	8260B	ND		100	33	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		20	1.0	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		1.0	0.20	ug/L	1
tert-Amyl alcohol (TAA)	**75-85-4**	**8260B**	**150**		**20**	**6.7**	**ug/L**	**1**
tert-Amyl methyl ether (TAME)	**994-05-8**	**8260B**	**0.98**	**BJ**	**10**	**0.20**	**ug/L**	**1**
tert-butyl alcohol (TBA)	**75-65-0**	**8260B**	**64**		**20**	**6.7**	**ug/L**	**1**
tert-Butyl formate (TBF)	762-75-4	8260B	ND		5.0	1.0	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
Bromofluorobenzene		99	70-130
1,2-Dichloroethane-d4		97	70-130
Toluene-d8		100	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	07/27/2011 1954	MPM	07/25/2011 1604	64401

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
H = Out of holding time

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **MW-30D**
Date Sampled: **07/19/2011 1825**
Date Received: **07/22/2011**

Laboratory ID: **MG22061-031**
Matrix: **Aqueous**

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	07/27/2011 1954	MPM	07/25/2011 1604	64401

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0.020	0.0061	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		111	57-137

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
H = Out of holding time

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **MW-31**
Date Sampled: **07/21/2011 1425**
Date Received: **07/22/2011**

Laboratory ID: **MG22061-032**
Matrix: **Aqueous**

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	07/24/2011 2308	LBS		64343

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Benzene	**71-43-2**	**8260B**	**0.13**	**J**	**1.0**	**0.13**	**ug/L**	**1**
1,2-Dichloroethane	107-06-2	8260B	ND		1.0	0.15	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		1.0	0.33	ug/L	1
Methyl tertiary butyl ether (MTBE)	**1634-04-4**	**8260B**	**3.7**		**1.0**	**0.40**	**ug/L**	**1**
Naphthalene	91-20-3	8260B	ND		1.0	0.40	ug/L	1
Toluene	108-88-3	8260B	ND		1.0	0.33	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		1.0	0.33	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		88	70-130
Bromofluorobenzene		97	70-130
Toluene-d8		101	70-130

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	07/24/2011 2308	LBS		64343

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Diisopropyl ether (IPE)	**108-20-3**	**8260B**	**0.42**	**J**	**5.0**	**0.40**	**ug/L**	**1**
Ethanol	64-17-5	8260B	ND		100	33	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		20	1.0	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		1.0	0.20	ug/L	1
tert-Amyl alcohol (TAA)	75-85-4	8260B	ND		20	6.7	ug/L	1
tert-Amyl methyl ether (TAME)	**994-05-8**	**8260B**	**0.24**	**BJ**	**10**	**0.20**	**ug/L**	**1**
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		20	6.7	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260B	ND		5.0	1.0	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
Bromofluorobenzene		97	70-130
1,2-Dichloroethane-d4		88	70-130
Toluene-d8		101	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	07/27/2011 2017	MPM	07/25/2011 1604	64401

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
H = Out of holding time

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **MW-31**
Date Sampled: **07/21/2011 1425**
Date Received: **07/22/2011**

Laboratory ID: **MG22061-032**
Matrix: **Aqueous**

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	07/27/2011 2017	MPM	07/25/2011 1604	64401

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0.019	0.0059	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		114	57-137

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
H = Out of holding time

Client: **Bunnell-Lammons Engineering, Inc.**	Laboratory ID: **MG22061-033**
Description: **MW-32**	Matrix: **Aqueous**
Date Sampled: **07/21/2011 1440**	
Date Received: **07/22/2011**	

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	07/24/2011 2330	LBS		64343

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Benzene	71-43-2	8260B	ND		1.0	0.13	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		1.0	0.15	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		1.0	0.33	ug/L	1
Methyl tertiary butyl ether (MTBE)	**1634-04-4**	**8260B**	**85**		**1.0**	**0.40**	**ug/L**	**1**
Naphthalene	91-20-3	8260B	ND		1.0	0.40	ug/L	1
Toluene	108-88-3	8260B	ND		1.0	0.33	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		1.0	0.33	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		84	70-130
Bromofluorobenzene		97	70-130
Toluene-d8		106	70-130

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	07/24/2011 2330	LBS		64343

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Diisopropyl ether (IPE)	**108-20-3**	**8260B**	**4.1**	**J**	**5.0**	**0.40**	**ug/L**	**1**
Ethanol	64-17-5	8260B	ND		100	33	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		20	1.0	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		1.0	0.20	ug/L	1
tert-Amyl alcohol (TAA)	75-85-4	8260B	ND		20	6.7	ug/L	1
tert-Amyl methyl ether (TAME)	**994-05-8**	**8260B**	**6.0**	**BJ**	**10**	**0.20**	**ug/L**	**1**
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		20	6.7	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260B	ND		5.0	1.0	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
Bromofluorobenzene		97	70-130
1,2-Dichloroethane-d4		84	70-130
Toluene-d8		106	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	07/27/2011 2040	MPM	07/25/2011 1604	64401

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
H = Out of holding time

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **MW-32**
Date Sampled: **07/21/2011 1440**
Date Received: **07/22/2011**

Laboratory ID: **MG22061-033**
Matrix: **Aqueous**

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	07/27/2011 2040	MPM	07/25/2011 1604	64401

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0.019	0.0060	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		108	57-137

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
H = Out of holding time

Client: **Bunnell-Lammons Engineering, Inc.** Laboratory ID: **MG22061-034**
Description: **MW-33** Matrix: **Aqueous**
Date Sampled: **07/21/2011 1450**
Date Received: **07/22/2011**

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	07/24/2011 2352	LBS		64343

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Benzene	**71-43-2**	**8260B**	**0.14**	**J**	**1.0**	**0.13**	**ug/L**	**1**
1,2-Dichloroethane	107-06-2	8260B	ND		1.0	0.15	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		1.0	0.33	ug/L	1
Methyl tertiary butyl ether (MTBE)	**1634-04-4**	**8260B**	**23**		**1.0**	**0.40**	**ug/L**	**1**
Naphthalene	91-20-3	8260B	ND		1.0	0.40	ug/L	1
Toluene	108-88-3	8260B	ND		1.0	0.33	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		1.0	0.33	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		85	70-130
Bromofluorobenzene		96	70-130
Toluene-d8		101	70-130

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	07/24/2011 2352	LBS		64343

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Diisopropyl ether (IPE)	**108-20-3**	**8260B**	**2.2**	**J**	**5.0**	**0.40**	**ug/L**	**1**
Ethanol	64-17-5	8260B	ND		100	33	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		20	1.0	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		1.0	0.20	ug/L	1
tert-Amyl alcohol (TAA)	**75-85-4**	**8260B**	**12**	**J**	**20**	**6.7**	**ug/L**	**1**
tert-Amyl methyl ether (TAME)	**994-05-8**	**8260B**	**2.6**	**BJ**	**10**	**0.20**	**ug/L**	**1**
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		20	6.7	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260B	ND		5.0	1.0	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
Bromofluorobenzene		96	70-130
1,2-Dichloroethane-d4		85	70-130
Toluene-d8		101	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	07/27/2011 2103	MPM	07/25/2011 1604	64401

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
H = Out of holding time

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **MW-33**
Date Sampled: **07/21/2011 1450**
Date Received: **07/22/2011**

Laboratory ID: **MG22061-034**
Matrix: **Aqueous**

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	07/27/2011 2103	MPM	07/25/2011 1604	64401

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0.020	0.0062	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		108	57-137

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
H = Out of holding time

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **MW-33D**
Date Sampled: **07/19/2011 1855**
Date Received: **07/22/2011**

Laboratory ID: **MG22061-035**
Matrix: **Aqueous**

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	07/25/2011 1427	BM		64390
2	5030B	8260B	20	07/26/2011 0928	LBS		64415

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Benzene	**71-43-2**	**8260B**	**700**		**1.0**	**0.13**	**ug/L**	**1**
1,2-Dichloroethane	**107-06-2**	**8260B**	**70**		**1.0**	**0.15**	**ug/L**	**1**
Ethylbenzene	100-41-4	8260B	ND		1.0	0.33	ug/L	1
Methyl tertiary butyl ether (MTBE)	**1634-04-4**	**8260B**	**3100**		**20**	**8.0**	**ug/L**	**2**
Naphthalene	**91-20-3**	**8260B**	**3.3**		**1.0**	**0.40**	**ug/L**	**1**
Toluene	**108-88-3**	**8260B**	**12**		**1.0**	**0.33**	**ug/L**	**1**
Xylenes (total)	**1330-20-7**	**8260B**	**28**		**1.0**	**0.33**	**ug/L**	**1**

Surrogate	Q	Run 1 % Recovery	Acceptance Limits	Q	Run 2 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		85	70-130		86	70-130
Bromofluorobenzene		89	70-130		94	70-130
Toluene-d8		100	70-130		102	70-130

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	07/25/2011 1427	BM		64390

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Diisopropyl ether (IPE)	**108-20-3**	**8260B**	**170**		**5.0**	**0.40**	**ug/L**	**1**
Ethanol	**64-17-5**	**8260B**	**270**		**100**	**33**	**ug/L**	**1**
3,3-Dimethyl-1-butanol	**624-95-3**	**8260B**	**78**		**20**	**1.0**	**ug/L**	**1**
Ethyl-tert-butyl ether (ETBE)	**637-92-3**	**8260B**	**0.26**	**J**	**1.0**	**0.20**	**ug/L**	**1**
tert-Amyl alcohol (TAA)	**75-85-4**	**8260B**	**6500**		**20**	**6.7**	**ug/L**	**1**
tert-Amyl methyl ether (TAME)	**994-05-8**	**8260B**	**250**		**10**	**0.20**	**ug/L**	**1**
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		20	6.7	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260B	ND		5.0	1.0	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
Bromofluorobenzene		89	70-130
1,2-Dichloroethane-d4		85	70-130
Toluene-d8		100	70-130

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
H = Out of holding time

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **MW-33D**
Date Sampled: **07/19/2011 1855**
Date Received: **07/22/2011**

Laboratory ID: **MG22061-035**
Matrix: **Aqueous**

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	07/27/2011 2126	MPM	07/25/2011 1604	64401

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0.020	0.0061	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		105	57-137

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
N = Recovery is out of criteria
H = Out of holding time

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **MW-34**
Date Sampled: **07/21/2011 1340**
Date Received: **07/22/2011**

Laboratory ID: **MG22061-036**
Matrix: **Aqueous**

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	07/25/2011 1447	BM		64390
2	5030B	8260B	1	07/26/2011 0245	LBS		64415

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Benzene	**71-43-2**	**8260B**	**0.38**	**J**	**1.0**	**0.13**	**ug/L**	**1**
1,2-Dichloroethane	107-06-2	8260B	ND		1.0	0.15	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		1.0	0.33	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		1.0	0.40	ug/L	2
Naphthalene	91-20-3	8260B	ND		1.0	0.40	ug/L	1
Toluene	108-88-3	8260B	ND		1.0	0.33	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		1.0	0.33	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits	Q	Run 2 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		83	70-130		90	70-130
Bromofluorobenzene		92	70-130		98	70-130
Toluene-d8		100	70-130		103	70-130

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	07/25/2011 1447	BM		64390

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Diisopropyl ether (IPE)	108-20-3	8260B	ND		5.0	0.40	ug/L	1
Ethanol	**64-17-5**	**8260B**	**130**		**100**	**33**	**ug/L**	**1**
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		20	1.0	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		1.0	0.20	ug/L	1
tert-Amyl alcohol (TAA)	**75-85-4**	**8260B**	**500**		**20**	**6.7**	**ug/L**	**1**
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		10	0.20	ug/L	1
tert-butyl alcohol (TBA)	**75-65-0**	**8260B**	**200**		**20**	**6.7**	**ug/L**	**1**
tert-Butyl formate (TBF)	762-75-4	8260B	ND		5.0	1.0	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
Bromofluorobenzene		92	70-130
1,2-Dichloroethane-d4		83	70-130
Toluene-d8		100	70-130

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
H = Out of holding time

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **MW-34**
Date Sampled: **07/21/2011 1340**
Date Received: **07/22/2011**

Laboratory ID: **MG22061-036**
Matrix: **Aqueous**

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	07/27/2011 2150	MPM	07/25/2011 1604	64401

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0.019	0.0059	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		106	57-137

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL

E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
H = Out of holding time

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **MW-35**
Date Sampled: **07/21/2011 1330**
Date Received: **07/22/2011**

Laboratory ID: **MG22061-037**
Matrix: **Aqueous**

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	07/26/2011 0804	LBS		64415
2	5030B	8260B	5	07/27/2011 1521	BM		64570

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Benzene	71-43-2	8260B	ND		1.0	0.13	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		1.0	0.15	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		1.0	0.33	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		1.0	0.40	ug/L	1
Naphthalene	**91-20-3**	**8260B**	**0.90**	**J**	**1.0**	**0.40**	**ug/L**	**1**
Toluene	**108-88-3**	**8260B**	**1100**		**5.0**	**1.7**	**ug/L**	**2**
Xylenes (total)	1330-20-7	8260B	ND		1.0	0.33	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits	Q	Run 2 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		85	70-130		95	70-130
Bromofluorobenzene		95	70-130		93	70-130
Toluene-d8		103	70-130		93	70-130

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	07/26/2011 0804	LBS		64415

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Diisopropyl ether (IPE)	108-20-3	8260B	ND		5.0	0.40	ug/L	1
Ethanol	**64-17-5**	**8260B**	**110**		**100**	**33**	**ug/L**	**1**
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		20	1.0	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		1.0	0.20	ug/L	1
tert-Amyl alcohol (TAA)	75-85-4	8260B	ND		20	6.7	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		10	0.20	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		20	6.7	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260B	ND		5.0	1.0	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
Bromofluorobenzene		95	70-130
1,2-Dichloroethane-d4		85	70-130
Toluene-d8		103	70-130

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
H = Out of holding time

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **MW-35**
Date Sampled: **07/21/2011 1330**
Date Received: **07/22/2011**

Laboratory ID: **MG22061-037**
Matrix: **Aqueous**

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	07/27/2011 2213	MPM	07/25/2011 1604	64401

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0.019	0.0060	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		101	57-137

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
H = Out of holding time

Client: **Bunnell-Lammons Engineering, Inc.** Laboratory ID: **MG22061-038**
Description: **MW-36** Matrix: **Aqueous**
Date Sampled: **07/21/2011 1715**
Date Received: **07/22/2011**

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	07/25/2011 1508	BM		64390

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Benzene	71-43-2	8260B	ND		1.0	0.13	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		1.0	0.15	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		1.0	0.33	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		1.0	0.40	ug/L	1
Naphthalene	91-20-3	8260B	ND		1.0	0.40	ug/L	1
Toluene	108-88-3	8260B	ND		1.0	0.33	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		1.0	0.33	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		85	70-130
Bromofluorobenzene		93	70-130
Toluene-d8		104	70-130

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	07/25/2011 1508	BM		64390

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Diisopropyl ether (IPE)	108-20-3	8260B	ND		5.0	0.40	ug/L	1
Ethanol	64-17-5	8260B	ND		100	33	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		20	1.0	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		1.0	0.20	ug/L	1
tert-Amyl alcohol (TAA)	**75-85-4**	**8260B**	**57**		**20**	**6.7**	**ug/L**	**1**
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		10	0.20	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		20	6.7	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260B	ND		5.0	1.0	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
Bromofluorobenzene		93	70-130
1,2-Dichloroethane-d4		85	70-130
Toluene-d8		104	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	07/27/2011 2236	MPM	07/25/2011 1604	64401

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
H = Out of holding time

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **MW-36**
Date Sampled: **07/21/2011 1715**
Date Received: **07/22/2011**

Laboratory ID: **MG22061-038**
Matrix: **Aqueous**

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	07/27/2011 2236	MPM	07/25/2011 1604	64401

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0.021	0.0064	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		122	57-137

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
H = Out of holding time

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **MW-37**
Date Sampled: **07/21/2011 1640**
Date Received: **07/22/2011**

Laboratory ID: **MG22061-039**
Matrix: **Aqueous**

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	07/25/2011 1529	BM		64390

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Benzene	71-43-2	8260B	ND		1.0	0.13	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		1.0	0.15	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		1.0	0.33	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		1.0	0.40	ug/L	1
Naphthalene	91-20-3	8260B	ND		1.0	0.40	ug/L	1
Toluene	108-88-3	8260B	ND		1.0	0.33	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		1.0	0.33	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		84	70-130
Bromofluorobenzene		92	70-130
Toluene-d8		101	70-130

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	07/25/2011 1529	BM		64390

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Diisopropyl ether (IPE)	108-20-3	8260B	ND		5.0	0.40	ug/L	1
Ethanol	64-17-5	8260B	ND		100	33	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		20	1.0	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		1.0	0.20	ug/L	1
tert-Amyl alcohol (TAA)	75-85-4	8260B	ND		20	6.7	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		10	0.20	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		20	6.7	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260B	ND		5.0	1.0	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
Bromofluorobenzene		92	70-130
1,2-Dichloroethane-d4		84	70-130
Toluene-d8		101	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	07/27/2011 2258	MPM	07/25/2011 1604	64401

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
H = Out of holding time

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **MW-37**
Date Sampled: **07/21/2011 1640**
Date Received: **07/22/2011**

Laboratory ID: **MG22061-039**
Matrix: **Aqueous**

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	07/27/2011 2258	MPM	07/25/2011 1604	64401

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0.019	0.0059	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		108	57-137

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
H = Out of holding time

Client: **Bunnell-Lammons Engineering, Inc.** Laboratory ID: **MG22061-040**
Description: **MW-38** Matrix: **Aqueous**
Date Sampled: **07/21/2011 1550**
Date Received: **07/22/2011**

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	07/25/2011 1550	BM		64390

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Benzene	71-43-2	8260B	ND		1.0	0.13	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		1.0	0.15	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		1.0	0.33	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		1.0	0.40	ug/L	1
Naphthalene	91-20-3	8260B	ND		1.0	0.40	ug/L	1
Toluene	108-88-3	8260B	ND		1.0	0.33	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		1.0	0.33	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		88	70-130
Bromofluorobenzene		95	70-130
Toluene-d8		101	70-130

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	07/25/2011 1550	BM		64390

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Diisopropyl ether (IPE)	108-20-3	8260B	ND		5.0	0.40	ug/L	1
Ethanol	64-17-5	8260B	ND		100	33	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		20	1.0	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		1.0	0.20	ug/L	1
tert-Amyl alcohol (TAA)	75-85-4	8260B	ND		20	6.7	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		10	0.20	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		20	6.7	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260B	ND		5.0	1.0	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
Bromofluorobenzene		95	70-130
1,2-Dichloroethane-d4		88	70-130
Toluene-d8		101	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	07/28/2011 0029	MPM	07/25/2011 1604	64402

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
H = Out of holding time

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **MW-38**
Date Sampled: **07/21/2011 1550**
Date Received: **07/22/2011**

Laboratory ID: **MG22061-040**
Matrix: **Aqueous**

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	07/28/2011 0029	MPM	07/25/2011 1604	64402

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0.019	0.0059	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		102	57-137

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
H = Out of holding time

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **MW-39**
Date Sampled: **07/21/2011 1610**
Date Received: **07/22/2011**

Laboratory ID: **MG22061-041**
Matrix: **Aqueous**

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	07/25/2011 1612	BM		64390

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Benzene	71-43-2	8260B	ND		1.0	0.13	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		1.0	0.15	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		1.0	0.33	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		1.0	0.40	ug/L	1
Naphthalene	91-20-3	8260B	ND		1.0	0.40	ug/L	1
Toluene	108-88-3	8260B	ND		1.0	0.33	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		1.0	0.33	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		86	70-130
Bromofluorobenzene		93	70-130
Toluene-d8		101	70-130

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	07/25/2011 1612	BM		64390

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Diisopropyl ether (IPE)	108-20-3	8260B	ND		5.0	0.40	ug/L	1
Ethanol	64-17-5	8260B	ND		100	33	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		20	1.0	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		1.0	0.20	ug/L	1
tert-Amyl alcohol (TAA)	75-85-4	8260B	ND		20	6.7	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		10	0.20	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		20	6.7	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260B	ND		5.0	1.0	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
Bromofluorobenzene		93	70-130
1,2-Dichloroethane-d4		86	70-130
Toluene-d8		101	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	07/28/2011 0051	MPM	07/25/2011 1604	64402

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
H = Out of holding time

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **MW-39**
Date Sampled: **07/21/2011 1610**
Date Received: **07/22/2011**

Laboratory ID: **MG22061-041**
Matrix: **Aqueous**

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	07/28/2011 0051	MPM	07/25/2011 1604	64402

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0.019	0.0060	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		123	57-137

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
H = Out of holding time

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **MW-40**
Date Sampled: **07/21/2011 1735**
Date Received: **07/22/2011**

Laboratory ID: **MG22061-042**
Matrix: **Aqueous**

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	07/26/2011 0825	LBS		64415
2	5030B	8260B	10	07/27/2011 1543	BM		64570

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Benzene	**71-43-2**	**8260B**	**2700**		**10**	**1.3**	**ug/L**	**2**
1,2-Dichloroethane	**107-06-2**	**8260B**	**55**		**1.0**	**0.15**	**ug/L**	**1**
Ethylbenzene	**100-41-4**	**8260B**	**86**		**1.0**	**0.33**	**ug/L**	**1**
Methyl tertiary butyl ether (MTBE)	**1634-04-4**	**8260B**	**160**		**1.0**	**0.40**	**ug/L**	**1**
Naphthalene	**91-20-3**	**8260B**	**240**		**1.0**	**0.40**	**ug/L**	**1**
Toluene	**108-88-3**	**8260B**	**150**		**10**	**3.3**	**ug/L**	**2**
Xylenes (total)	**1330-20-7**	**8260B**	**1300**		**1.0**	**0.33**	**ug/L**	**1**

Surrogate	Q	Run 1 % Recovery	Acceptance Limits	Q	Run 2 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		84	70-130		96	70-130
Bromofluorobenzene		95	70-130		97	70-130
Toluene-d8		104	70-130		95	70-130

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	07/26/2011 0825	LBS		64415

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Diisopropyl ether (IPE)	**108-20-3**	**8260B**	**11**		**5.0**	**0.40**	**ug/L**	**1**
Ethanol	64-17-5	8260B	ND		100	33	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		20	1.0	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		1.0	0.20	ug/L	1
tert-Amyl alcohol (TAA)	**75-85-4**	**8260B**	**3500**		**20**	**6.7**	**ug/L**	**1**
tert-Amyl methyl ether (TAME)	**994-05-8**	**8260B**	**82**		**10**	**0.20**	**ug/L**	**1**
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		20	6.7	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260B	ND		5.0	1.0	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
Bromofluorobenzene		95	70-130
1,2-Dichloroethane-d4		84	70-130
Toluene-d8		104	70-130

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
H = Out of holding time

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **MW-40**
Date Sampled: **07/21/2011 1735**
Date Received: **07/22/2011**

Laboratory ID: **MG22061-042**
Matrix: **Aqueous**

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	07/28/2011 0113	MPM	07/25/2011 1604	64402

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,2-Dibromoethane (EDB)	**106-93-4**	**8011**	**0.65**		**0.020**	**0.0061**	**ug/L**	**1**

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		95	57-137

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL

E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
H = Out of holding time

Client: **Bunnell-Lammons Engineering, Inc.** Laboratory ID: **MG22061-043**
Description: **MW-41D** Matrix: **Aqueous**
Date Sampled: **07/19/2011 1920**
Date Received: **07/22/2011**

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	50	07/28/2011 0558	DLB		64632

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Benzene	**71-43-2**	**8260B**	**8000**		**50**	**6.6**	**ug/L**	**1**
1,2-Dichloroethane	**107-06-2**	**8260B**	**320**		**50**	**7.4**	**ug/L**	**1**
Ethylbenzene	**100-41-4**	**8260B**	**230**		**50**	**17**	**ug/L**	**1**
Methyl tertiary butyl ether (MTBE)	**1634-04-4**	**8260B**	**2600**		**50**	**20**	**ug/L**	**1**
Naphthalene	91-20-3	8260B	ND		50	20	ug/L	1
Toluene	**108-88-3**	**8260B**	**52**		**50**	**17**	**ug/L**	**1**
Xylenes (total)	**1330-20-7**	**8260B**	**170**		**50**	**17**	**ug/L**	**1**

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		87	70-130
Bromofluorobenzene		99	70-130
Toluene-d8		102	70-130

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	50	07/28/2011 0558	DLB		64632
2	5030B	8260B	50	07/29/2011 2055	JJG		64742

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Diisopropyl ether (IPE)	**108-20-3**	**8260B**	**340**		**250**	**20**	**ug/L**	**1**
Ethanol	64-17-5	8260B	ND		5000	1700	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		1000	50	ug/L	2
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		50	10	ug/L	1
tert-Amyl alcohol (TAA)	**75-85-4**	**8260B**	**12000**		**1000**	**340**	**ug/L**	**1**
tert-Amyl methyl ether (TAME)	**994-05-8**	**8260B**	**63**	**J**	**500**	**10**	**ug/L**	**1**
tert-butyl alcohol (TBA)	**75-65-0**	**8260B**	**6200**		**1000**	**340**	**ug/L**	**1**
tert-Butyl formate (TBF)	762-75-4	8260B	ND		250	50	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits	Q	Run 2 % Recovery	Acceptance Limits
Bromofluorobenzene		99	70-130		98	70-130
1,2-Dichloroethane-d4		87	70-130		113	70-130
Toluene-d8		102	70-130		97	70-130

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
H = Out of holding time

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **MW-41D**
Date Sampled: **07/19/2011 1920**
Date Received: **07/22/2011**

Laboratory ID: **MG22061-043**
Matrix: **Aqueous**

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	07/28/2011 0136	MPM	07/25/2011 1604	64402

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0.020	0.0061	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		128	57-137

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
H = Out of holding time

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **DW-1**
Date Sampled: **07/22/2011 0940**
Date Received: **07/22/2011**

Laboratory ID: **MG22061-044**
Matrix: **Aqueous**

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	07/26/2011 0846	LBS		64415
2	5030B	8260B	1	07/27/2011 0323	LBS		64501

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Benzene	71-43-2	8260B	ND		1.0	0.13	ug/L	2
1,2-Dichloroethane	107-06-2	8260B	ND		1.0	0.15	ug/L	1
Ethylbenzene	**100-41-4**	**8260B**	**0.81**	**J**	**1.0**	**0.33**	**ug/L**	**1**
Methyl tertiary butyl ether (MTBE)	**1634-04-4**	**8260B**	**0.58**	**J**	**1.0**	**0.40**	**ug/L**	**1**
Naphthalene	**91-20-3**	**8260B**	**18**		**1.0**	**0.40**	**ug/L**	**1**
Toluene	108-88-3	8260B	ND		1.0	0.33	ug/L	2
Xylenes (total)	**1330-20-7**	**8260B**	**27**		**1.0**	**0.33**	**ug/L**	**1**

Surrogate	Q	Run 1 % Recovery	Acceptance Limits	Q	Run 2 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		88	70-130		90	70-130
Bromofluorobenzene		96	70-130		92	70-130
Toluene-d8		104	70-130		90	70-130

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	07/26/2011 0846	LBS		64415

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Diisopropyl ether (IPE)	108-20-3	8260B	ND		5.0	0.40	ug/L	1
Ethanol	64-17-5	8260B	ND		100	33	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		20	1.0	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		1.0	0.20	ug/L	1
tert-Amyl alcohol (TAA)	**75-85-4**	**8260B**	**230**		**20**	**6.7**	**ug/L**	**1**
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		10	0.20	ug/L	1
tert-butyl alcohol (TBA)	**75-65-0**	**8260B**	**32**		**20**	**6.7**	**ug/L**	**1**
tert-Butyl formate (TBF)	762-75-4	8260B	ND		5.0	1.0	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
Bromofluorobenzene		96	70-130
1,2-Dichloroethane-d4		88	70-130
Toluene-d8		104	70-130

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
H = Out of holding time

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **DW-1**
Date Sampled: **07/22/2011 0940**
Date Received: **07/22/2011**

Laboratory ID: **MG22061-044**
Matrix: **Aqueous**

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	07/28/2011 0158	MPM	07/25/2011 1604	64402

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0.019	0.0059	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		112	57-137

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
H = Out of holding time

Client: **Bunnell-Lammons Engineering, Inc.** Laboratory ID: **MG22061-045**
Description: **DW-3** Matrix: **Aqueous**
Date Sampled: **07/22/2011 1005**
Date Received: **07/22/2011**

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	07/25/2011 1633	BM		64390

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Benzene	71-43-2	8260B	ND		1.0	0.13	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		1.0	0.15	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		1.0	0.33	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		1.0	0.40	ug/L	1
Naphthalene	91-20-3	8260B	ND		1.0	0.40	ug/L	1
Toluene	108-88-3	8260B	ND		1.0	0.33	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		1.0	0.33	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		74	70-130
Bromofluorobenzene		76	70-130
Toluene-d8		82	70-130

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	07/25/2011 1633	BM		64390

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Diisopropyl ether (IPE)	108-20-3	8260B	ND		5.0	0.40	ug/L	1
Ethanol	64-17-5	8260B	ND		100	33	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		20	1.0	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		1.0	0.20	ug/L	1
tert-Amyl alcohol (TAA)	75-85-4	8260B	ND		20	6.7	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		10	0.20	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		20	6.7	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260B	ND		5.0	1.0	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
Bromofluorobenzene		76	70-130
1,2-Dichloroethane-d4		74	70-130
Toluene-d8		82	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	07/28/2011 0220	MPM	07/25/2011 1604	64402

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
N = Recovery is out of criteria
H = Out of holding time

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **DW-3**
Date Sampled: **07/22/2011 1005**
Date Received: **07/22/2011**

Laboratory ID: **MG22061-045**
Matrix: **Aqueous**

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	07/28/2011 0220	MPM	07/25/2011 1604	64402

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0.019	0.0059	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		119	57-137

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
H = Out of holding time

Client: **Bunnell-Lammons Engineering, Inc.** Laboratory ID: **MG22061-046**
Description: **CREEK** Matrix: **Aqueous**
Date Sampled: **07/22/2011 0930**
Date Received: **07/22/2011**

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	07/25/2011 1654	BM		64390

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Benzene	71-43-2	8260B	ND		1.0	0.13	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		1.0	0.15	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		1.0	0.33	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		1.0	0.40	ug/L	1
Naphthalene	91-20-3	8260B	ND		1.0	0.40	ug/L	1
Toluene	108-88-3	8260B	ND		1.0	0.33	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		1.0	0.33	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		88	70-130
Bromofluorobenzene		94	70-130
Toluene-d8		104	70-130

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	07/25/2011 1654	BM		64390

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Diisopropyl ether (IPE)	108-20-3	8260B	ND		5.0	0.40	ug/L	1
Ethanol	64-17-5	8260B	ND		100	33	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		20	1.0	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		1.0	0.20	ug/L	1
tert-Amyl alcohol (TAA)	75-85-4	8260B	ND		20	6.7	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		10	0.20	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		20	6.7	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260B	ND		5.0	1.0	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
Bromofluorobenzene		94	70-130
1,2-Dichloroethane-d4		88	70-130
Toluene-d8		104	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	07/28/2011 0242	MPM	07/25/2011 1604	64402

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
N = Recovery is out of criteria
H = Out of holding time

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **CREEK**
Date Sampled: **07/22/2011 0930**
Date Received: **07/22/2011**

Laboratory ID: **MG22061-046**
Matrix: **Aqueous**

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	07/28/2011 0242	MPM	07/25/2011 1604	64402

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0.020	0.0061	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		112	57-137

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
H = Out of holding time

QC Summary

Volatile Organic Compounds by GC/MS - MB

Sample ID: MQ64342-001
Batch: 64342
Analytical Method: 8260B

Matrix: Aqueous
Prep Method: 5030B

Parameter	Result	Q	Dil	PQL	MDL	Units	Analysis Date
Benzene	ND		1	1.0	0.13	ug/L	07/24/2011 1953
1,2-Dichloroethane	ND		1	1.0	0.15	ug/L	07/24/2011 1953
Ethylbenzene	ND		1	1.0	0.33	ug/L	07/24/2011 1953
Methyl tertiary butyl ether (MTBE)	ND		1	1.0	0.40	ug/L	07/24/2011 1953
Naphthalene	ND		1	1.0	0.40	ug/L	07/24/2011 1953
Toluene	ND		1	1.0	0.33	ug/L	07/24/2011 1953
Xylenes (total)	ND		1	1.0	0.33	ug/L	07/24/2011 1953

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		97	70-130
1,2-Dichloroethane-d4		91	70-130
Toluene-d8		104	70-130

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N - Recovery is out of criteria
+ - RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

Volatile Organic Compounds by GC/MS - LCS

Sample ID: MQ64342-002
Batch: 64342
Analytical Method: 8260B

Matrix: Aqueous
Prep Method: 5030B

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
Benzene	50	56		1	111	70-130	07/24/2011 1828
1,2-Dichloroethane	50	48		1	95	70-130	07/24/2011 1828
Ethylbenzene	50	56		1	111	70-130	07/24/2011 1828
Methyl tertiary butyl ether (MTBE)	50	55		1	109	60-140	07/24/2011 1828
Naphthalene	50	60		1	119	70-130	07/24/2011 1828
Toluene	50	56		1	112	70-130	07/24/2011 1828
Xylenes (total)	100	110		1	114	70-130	07/24/2011 1828

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		95	70-130
1,2-Dichloroethane-d4		88	70-130
Toluene-d8		105	70-130

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N - Recovery is out of criteria
+ - RPD is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

Volatile Organic Compounds by GC/MS - LCSD

Sample ID: MQ64342-003
Batch: 64342
Analytical Method: 8260B

Matrix: Aqueous
Prep Method: 5030B

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% RPD	% Rec Limit	% RPD Limit	Analysis Date
Benzene	50	57		1	114	2.6	70-130	20	07/24/2011 1850
1,2-Dichloroethane	50	50		1	99	4.2	70-130	20	07/24/2011 1850
Ethylbenzene	50	58		1	115	4.0	70-130	20	07/24/2011 1850
Methyl tertiary butyl ether (MTBE)	50	55		1	110	0.82	60-140	20	07/24/2011 1850
Naphthalene	50	62		1	124	3.8	70-130	20	07/24/2011 1850
Toluene	50	59		1	118	5.1	70-130	20	07/24/2011 1850
Xylenes (total)	100	120		1	117	3.2	70-130	20	07/24/2011 1850

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		93	70-130
1,2-Dichloroethane-d4		87	70-130
Toluene-d8		102	70-130

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N - Recovery is out of criteria
+ - RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

Volatile Organic Compounds by GC/MS - MB

Sample ID: MQ64342-001
Batch: 64342
Analytical Method: 8260B

Matrix: Aqueous
Prep Method: 5030B

Parameter	Result	Q	Dil	PQL	MDL	Units	Analysis Date
tert-Amyl alcohol (TAA)	ND		1	20	6.7	ug/L	07/24/2011 1953
tert-Amyl methyl ether (TAME)	ND		1	10	0.20	ug/L	07/24/2011 1953
tert-Butyl formate (TBF)	ND		1	5.0	1.0	ug/L	07/24/2011 1953
Diisopropyl ether (IPE)	ND		1	5.0	0.40	ug/L	07/24/2011 1953
3,3-Dimethyl-1-butanol	ND		1	20	1.0	ug/L	07/24/2011 1953
Ethanol	ND		1	100	33	ug/L	07/24/2011 1953
Ethyl-tert-butyl ether (ETBE)	ND		1	1.0	0.20	ug/L	07/24/2011 1953
tert-butyl alcohol (TBA)	ND		1	20	6.7	ug/L	07/24/2011 1953

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		97	70-130
1,2-Dichloroethane-d4		91	70-130
Toluene-d8		104	70-130

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N - Recovery is out of criteria
+ - RPD is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

Volatile Organic Compounds by GC/MS - LCS

Sample ID: MQ64342-002
Batch: 64342
Analytical Method: 8260B

Matrix: Aqueous
Prep Method: 5030B

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
tert-Amyl alcohol (TAA)	1000	1000		1	105	70-130	07/24/2011 1828
tert-Amyl methyl ether (TAME)	50	56		1	112	70-130	07/24/2011 1828
tert-Butyl formate (TBF)	250	240		1	96	70-130	07/24/2011 1828
Diisopropyl ether (IPE)	50	56		1	113	70-130	07/24/2011 1828
3,3-Dimethyl-1-butanol	1000	910		1	91	70-130	07/24/2011 1828
Ethanol	5000	4000		1	80	70-130	07/24/2011 1828
Ethyl-tert-butyl ether (ETBE)	50	49		1	99	70-130	07/24/2011 1828
tert-butyl alcohol (TBA)	1000	800		1	80	70-130	07/24/2011 1828

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		95	70-130
1,2-Dichloroethane-d4		88	70-130
Toluene-d8		105	70-130

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N - Recovery is out of criteria
+ - RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

Volatile Organic Compounds by GC/MS - LCSD

Sample ID: MQ64342-003
Batch: 64342
Analytical Method: 8260B

Matrix: Aqueous
Prep Method: 5030B

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% RPD	% Rec Limit	% RPD Limit	Analysis Date
tert-Amyl alcohol (TAA)	1000	1000		1	101	4.2	70-130	20	07/24/2011 1850
tert-Amyl methyl ether (TAME)	50	56		1	111	0.88	70-130	20	07/24/2011 1850
tert-Butyl formate (TBF)	250	250		1	100	3.9	70-130	20	07/24/2011 1850
Diisopropyl ether (IPE)	50	59		1	117	3.7	70-130	20	07/24/2011 1850
3,3-Dimethyl-1-butanol	1000	910		1	91	0.39	70-130	20	07/24/2011 1850
Ethanol	5000	4400		1	88	9.8	70-130	20	07/24/2011 1850
Ethyl-tert-butyl ether (ETBE)	50	51		1	102	3.5	70-130	20	07/24/2011 1850
tert-butyl alcohol (TBA)	1000	800		1	80	0.40	70-130	20	07/24/2011 1850

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		93	70-130
1,2-Dichloroethane-d4		87	70-130
Toluene-d8		102	70-130

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N - Recovery is out of criteria
+ - RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

Volatile Organic Compounds by GC/MS - MB

Sample ID: MQ64343-001
Batch: 64343
Analytical Method: 8260B

Matrix: Aqueous
Prep Method: 5030B

Parameter	Result	Q	Dil	PQL	MDL	Units	Analysis Date
Benzene	ND		1	1.0	0.13	ug/L	07/24/2011 2044
1,2-Dichloroethane	ND		1	1.0	0.15	ug/L	07/24/2011 2044
Ethylbenzene	ND		1	1.0	0.33	ug/L	07/24/2011 2044
Methyl tertiary butyl ether (MTBE)	ND		1	1.0	0.40	ug/L	07/24/2011 2044
Naphthalene	ND		1	1.0	0.40	ug/L	07/24/2011 2044
Toluene	ND		1	1.0	0.33	ug/L	07/24/2011 2044
Xylenes (total)	ND		1	1.0	0.33	ug/L	07/24/2011 2044

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		99	70-130
1,2-Dichloroethane-d4		98	70-130
Toluene-d8		99	70-130

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N - Recovery is out of criteria
+ - RPD is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

Volatile Organic Compounds by GC/MS - LCS

Sample ID: MQ64343-002
Batch: 64343
Analytical Method: 8260B

Matrix: Aqueous
Prep Method: 5030B

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
Benzene	50	49		1	99	70-130	07/24/2011 1917
1,2-Dichloroethane	50	47		1	94	70-130	07/24/2011 1917
Ethylbenzene	50	50		1	99	70-130	07/24/2011 1917
Methyl tertiary butyl ether (MTBE)	50	48		1	96	60-140	07/24/2011 1917
Naphthalene	50	47		1	93	70-130	07/24/2011 1917
Toluene	50	49		1	99	70-130	07/24/2011 1917
Xylenes (total)	100	100		1	100	70-130	07/24/2011 1917

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		99	70-130
1,2-Dichloroethane-d4		96	70-130
Toluene-d8		100	70-130

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N - Recovery is out of criteria
+ - RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

Volatile Organic Compounds by GC/MS - LCSD

Sample ID: MQ64343-003
Batch: 64343
Analytical Method: 8260B

Matrix: Aqueous
Prep Method: 5030B

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% RPD	% Rec Limit	% RPD Limit	Analysis Date
Benzene	50	47		1	95	4.1	70-130	20	07/24/2011 1939
1,2-Dichloroethane	50	46		1	92	2.8	70-130	20	07/24/2011 1939
Ethylbenzene	50	48		1	96	3.0	70-130	20	07/24/2011 1939
Methyl tertiary butyl ether (MTBE)	50	46		1	93	3.1	60-140	20	07/24/2011 1939
Naphthalene	50	46		1	91	2.2	70-130	20	07/24/2011 1939
Toluene	50	48		1	95	4.0	70-130	20	07/24/2011 1939
Xylenes (total)	100	96		1	96	4.1	70-130	20	07/24/2011 1939

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		99	70-130
1,2-Dichloroethane-d4		95	70-130
Toluene-d8		100	70-130

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N - Recovery is out of criteria
+ - RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

Volatile Organic Compounds by GC/MS - MB

Sample ID: MQ64343-001
Batch: 64343
Analytical Method: 8260B

Matrix: Aqueous
Prep Method: 5030B

Parameter	Result	Q	Dil	PQL	MDL	Units	Analysis Date
tert-Amyl alcohol (TAA)	ND		1	20	6.7	ug/L	07/24/2011 2044
tert-Amyl methyl ether (TAME)	**1.4**	**J**	**1**	**10**	**0.20**	**ug/L**	**07/24/2011 2044**
tert-Butyl formate (TBF)	ND		1	5.0	1.0	ug/L	07/24/2011 2044
Diisopropyl ether (IPE)	ND		1	5.0	0.40	ug/L	07/24/2011 2044
3,3-Dimethyl-1-butanol	ND		1	20	1.0	ug/L	07/24/2011 2044
Ethanol	ND		1	100	33	ug/L	07/24/2011 2044
Ethyl-tert-butyl ether (ETBE)	ND		1	1.0	0.20	ug/L	07/24/2011 2044
tert-butyl alcohol (TBA)	ND		1	20	6.7	ug/L	07/24/2011 2044

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		99	70-130
1,2-Dichloroethane-d4		98	70-130
Toluene-d8		99	70-130

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N - Recovery is out of criteria
+ - RPD is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

Volatile Organic Compounds by GC/MS - LCS

Sample ID: MQ64343-002
Batch: 64343
Analytical Method: 8260B

Matrix: Aqueous
Prep Method: 5030B

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
tert-Amyl alcohol (TAA)	1000	920		1	92	70-130	07/24/2011 1917
tert-Amyl methyl ether (TAME)	50	45		1	90	70-130	07/24/2011 1917
tert-Butyl formate (TBF)	250	220		1	89	70-130	07/24/2011 1917
Diisopropyl ether (IPE)	50	49		1	98	70-130	07/24/2011 1917
3,3-Dimethyl-1-butanol	1000	940		1	94	70-130	07/24/2011 1917
Ethanol	5000	5500		1	109	70-130	07/24/2011 1917
Ethyl-tert-butyl ether (ETBE)	50	46		1	92	70-130	07/24/2011 1917
tert-butyl alcohol (TBA)	1000	890		1	89	70-130	07/24/2011 1917

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		99	70-130
1,2-Dichloroethane-d4		96	70-130
Toluene-d8		100	70-130

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N - Recovery is out of criteria
+ - RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

Volatile Organic Compounds by GC/MS - LCSD

Sample ID: MQ64343-003
Batch: 64343
Analytical Method: 8260B

Matrix: Aqueous
Prep Method: 5030B

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% RPD	% Rec Limit	% RPD Limit	Analysis Date
tert-Amyl alcohol (TAA)	1000	890		1	89	4.0	70-130	20	07/24/2011 1939
tert-Amyl methyl ether (TAME)	50	44		1	88	2.9	70-130	20	07/24/2011 1939
tert-Butyl formate (TBF)	250	220		1	88	2.0	70-130	20	07/24/2011 1939
Diisopropyl ether (IPE)	50	48		1	95	3.0	70-130	20	07/24/2011 1939
3,3-Dimethyl-1-butanol	1000	910		1	91	3.3	70-130	20	07/24/2011 1939
Ethanol	5000	5200		1	103	5.6	70-130	20	07/24/2011 1939
Ethyl-tert-butyl ether (ETBE)	50	44		1	89	3.3	70-130	20	07/24/2011 1939
tert-butyl alcohol (TBA)	1000	860		1	86	3.7	70-130	20	07/24/2011 1939

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		99	70-130
1,2-Dichloroethane-d4		95	70-130
Toluene-d8		100	70-130

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N - Recovery is out of criteria
+ - RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

Volatile Organic Compounds by GC/MS - MB

Sample ID: MQ64390-001
Batch: 64390
Analytical Method: 8260B

Matrix: Aqueous
Prep Method: 5030B

Parameter	Result	Q	Dil	PQL	MDL	Units	Analysis Date
Benzene	ND		1	1.0	0.13	ug/L	07/25/2011 1212
1,2-Dichloroethane	ND		1	1.0	0.15	ug/L	07/25/2011 1212
Ethylbenzene	ND		1	1.0	0.33	ug/L	07/25/2011 1212
Methyl tertiary butyl ether (MTBE)	ND		1	1.0	0.40	ug/L	07/25/2011 1212
Naphthalene	ND		1	1.0	0.40	ug/L	07/25/2011 1212
Toluene	ND		1	1.0	0.33	ug/L	07/25/2011 1212
Xylenes (total)	ND		1	1.0	0.33	ug/L	07/25/2011 1212

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		92	70-130
1,2-Dichloroethane-d4		85	70-130
Toluene-d8		103	70-130

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N - Recovery is out of criteria
+ - RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

Volatile Organic Compounds by GC/MS - LCS

Sample ID: MQ64390-002
Batch: 64390
Analytical Method: 8260B

Matrix: Aqueous
Prep Method: 5030B

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
Benzene	50	53		1	106	70-130	07/25/2011 0950
1,2-Dichloroethane	50	47		1	94	70-130	07/25/2011 0950
Ethylbenzene	50	53		1	106	70-130	07/25/2011 0950
Methyl tertiary butyl ether (MTBE)	50	53		1	107	60-140	07/25/2011 0950
Naphthalene	50	60		1	120	70-130	07/25/2011 0950
Toluene	50	54		1	109	70-130	07/25/2011 0950
Xylenes (total)	100	110		1	110	70-130	07/25/2011 0950

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		94	70-130
1,2-Dichloroethane-d4		90	70-130
Toluene-d8		103	70-130

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N - Recovery is out of criteria
+ - RPD is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

Volatile Organic Compounds by GC/MS - MB

Sample ID: MQ64390-001
Batch: 64390
Analytical Method: 8260B

Matrix: Aqueous
Prep Method: 5030B

Parameter	Result	Q	Dil	PQL	MDL	Units	Analysis Date
tert-Amyl alcohol (TAA)	ND		1	20	6.7	ug/L	07/25/2011 1212
tert-Amyl methyl ether (TAME)	ND		1	10	0.20	ug/L	07/25/2011 1212
tert-Butyl formate (TBF)	ND		1	5.0	1.0	ug/L	07/25/2011 1212
Diisopropyl ether (IPE)	ND		1	5.0	0.40	ug/L	07/25/2011 1212
3,3-Dimethyl-1-butanol	ND		1	20	1.0	ug/L	07/25/2011 1212
Ethanol	ND		1	100	33	ug/L	07/25/2011 1212
Ethyl-tert-butyl ether (ETBE)	ND		1	1.0	0.20	ug/L	07/25/2011 1212
tert-butyl alcohol (TBA)	ND		1	20	6.7	ug/L	07/25/2011 1212

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		92	70-130
1,2-Dichloroethane-d4		85	70-130
Toluene-d8		103	70-130

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N - Recovery is out of criteria
+ - RPD is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

Volatile Organic Compounds by GC/MS - LCS

Sample ID: MQ64390-002
Batch: 64390
Analytical Method: 8260B

Matrix: Aqueous
Prep Method: 5030B

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
tert-Amyl alcohol (TAA)	1000	1000		1	105	70-130	07/25/2011 0950
tert-Amyl methyl ether (TAME)	50	52		1	104	70-130	07/25/2011 0950
tert-Butyl formate (TBF)	250	250		1	101	70-130	07/25/2011 0950
Diisopropyl ether (IPE)	50	56		1	112	70-130	07/25/2011 0950
3,3-Dimethyl-1-butanol	1000	920		1	92	70-130	07/25/2011 0950
Ethanol	5000	4000		1	80	70-130	07/25/2011 0950
Ethyl-tert-butyl ether (ETBE)	50	49		1	99	70-130	07/25/2011 0950
tert-butyl alcohol (TBA)	1000	820		1	82	70-130	07/25/2011 0950

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		94	70-130
1,2-Dichloroethane-d4		90	70-130
Toluene-d8		103	70-130

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N - Recovery is out of criteria
+ - RPD is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

Volatile Organic Compounds by GC/MS - MB

Sample ID: MQ64415-001
Batch: 64415
Analytical Method: 8260B
Matrix: Aqueous
Prep Method: 5030B

Parameter	Result	Q	Dil	PQL	MDL	Units	Analysis Date
Benzene	ND		1	1.0	0.13	ug/L	07/26/2011 0159
1,2-Dichloroethane	ND		1	1.0	0.15	ug/L	07/26/2011 0159
Ethylbenzene	ND		1	1.0	0.33	ug/L	07/26/2011 0159
Methyl tertiary butyl ether (MTBE)	ND		1	1.0	0.40	ug/L	07/26/2011 0159
Naphthalene	ND		1	1.0	0.40	ug/L	07/26/2011 0159
Toluene	ND		1	1.0	0.33	ug/L	07/26/2011 0159
Xylenes (total)	ND		1	1.0	0.33	ug/L	07/26/2011 0159

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		94	70-130
1,2-Dichloroethane-d4		85	70-130
Toluene-d8		104	70-130

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N - Recovery is out of criteria
+ - RPD is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

Volatile Organic Compounds by GC/MS - LCS

Sample ID: MQ64415-002
Batch: 64415
Analytical Method: 8260B

Matrix: Aqueous
Prep Method: 5030B

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
Benzene	50	57		1	113	70-130	07/26/2011 0056
1,2-Dichloroethane	50	48		1	96	70-130	07/26/2011 0056
Ethylbenzene	50	57		1	114	70-130	07/26/2011 0056
Methyl tertiary butyl ether (MTBE)	50	54		1	108	60-140	07/26/2011 0056
Naphthalene	50	61		1	123	70-130	07/26/2011 0056
Toluene	50	58		1	115	70-130	07/26/2011 0056
Xylenes (total)	100	120		1	116	70-130	07/26/2011 0056

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		95	70-130
1,2-Dichloroethane-d4		87	70-130
Toluene-d8		104	70-130

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N - Recovery is out of criteria
+ - RPD is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

Volatile Organic Compounds by GC/MS - MB

Sample ID: MQ64415-001
Batch: 64415
Analytical Method: 8260B

Matrix: Aqueous
Prep Method: 5030B

Parameter	Result	Q	Dil	PQL	MDL	Units	Analysis Date
tert-Amyl alcohol (TAA)	ND		1	20	6.7	ug/L	07/26/2011 0159
tert-Amyl methyl ether (TAME)	ND		1	10	0.20	ug/L	07/26/2011 0159
tert-Butyl formate (TBF)	ND		1	5.0	1.0	ug/L	07/26/2011 0159
Diisopropyl ether (IPE)	ND		1	5.0	0.40	ug/L	07/26/2011 0159
3,3-Dimethyl-1-butanol	ND		1	20	1.0	ug/L	07/26/2011 0159
Ethanol	ND		1	100	33	ug/L	07/26/2011 0159
Ethyl-tert-butyl ether (ETBE)	ND		1	1.0	0.20	ug/L	07/26/2011 0159
tert-butyl alcohol (TBA)	ND		1	20	6.7	ug/L	07/26/2011 0159

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		94	70-130
1,2-Dichloroethane-d4		85	70-130
Toluene-d8		104	70-130

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N - Recovery is out of criteria
+ - RPD is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

Volatile Organic Compounds by GC/MS - LCS

Sample ID: MQ64415-002
Batch: 64415
Analytical Method: 8260B

Matrix: Aqueous
Prep Method: 5030B

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
tert-Amyl alcohol (TAA)	1000	1100		1	106	70-130	07/26/2011 0056
tert-Amyl methyl ether (TAME)	50	51		1	102	70-130	07/26/2011 0056
tert-Butyl formate (TBF)	250	250		1	100	70-130	07/26/2011 0056
Diisopropyl ether (IPE)	50	58		1	116	70-130	07/26/2011 0056
3,3-Dimethyl-1-butanol	1000	1000		1	100	70-130	07/26/2011 0056
Ethanol	5000	4900		1	97	70-130	07/26/2011 0056
Ethyl-tert-butyl ether (ETBE)	50	50		1	100	70-130	07/26/2011 0056
tert-butyl alcohol (TBA)	1000	870		1	87	70-130	07/26/2011 0056

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		95	70-130
1,2-Dichloroethane-d4		87	70-130
Toluene-d8		104	70-130

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N - Recovery is out of criteria
+ - RPD is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

Volatile Organic Compounds by GC/MS - MB

Sample ID: MQ64501-001
Batch: 64501
Analytical Method: 8260B

Matrix: Aqueous
Prep Method: 5030B

Parameter	Result	Q	Dil	PQL	MDL	Units	Analysis Date
Benzene	ND		1	1.0	0.13	ug/L	07/26/2011 2241
Toluene	ND		1	1.0	0.33	ug/L	07/26/2011 2241

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		96	70-130
1,2-Dichloroethane-d4		97	70-130
Toluene-d8		93	70-130

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N - Recovery is out of criteria
+ - RPD is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

Volatile Organic Compounds by GC/MS - LCS

Sample ID: MQ64501-002
Batch: 64501
Analytical Method: 8260B

Matrix: Aqueous
Prep Method: 5030B

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
Benzene	50	55		1	110	70-130	07/26/2011 2116
Toluene	50	52		1	104	70-130	07/26/2011 2116

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		100	70-130
1,2-Dichloroethane-d4		84	70-130
Toluene-d8		99	70-130

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N - Recovery is out of criteria
+ - RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

Volatile Organic Compounds by GC/MS - LCSD

Sample ID: MQ64501-003
Batch: 64501
Analytical Method: 8260B

Matrix: Aqueous
Prep Method: 5030B

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% RPD	% Rec Limit	% RPD Limit	Analysis Date
Benzene	50	52		1	104	6.2	70-130	20	07/26/2011 2137
Toluene	50	49		1	98	5.6	70-130	20	07/26/2011 2137

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		96	70-130
1,2-Dichloroethane-d4		82	70-130
Toluene-d8		95	70-130

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N - Recovery is out of criteria
+ - RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

Volatile Organic Compounds by GC/MS - MB

Sample ID: MQ64569-001
Batch: 64569
Analytical Method: 8260B

Matrix: Aqueous
Prep Method: 5030B

Parameter	Result	Q	Dil	PQL	MDL	Units	Analysis Date
Benzene	ND		1	1.0	0.13	ug/L	07/27/2011 1152
1,2-Dichloroethane	ND		1	1.0	0.15	ug/L	07/27/2011 1152
Ethylbenzene	ND		1	1.0	0.33	ug/L	07/27/2011 1152
Methyl tertiary butyl ether (MTBE)	ND		1	1.0	0.40	ug/L	07/27/2011 1152
Naphthalene	ND		1	1.0	0.40	ug/L	07/27/2011 1152
Toluene	ND		1	1.0	0.33	ug/L	07/27/2011 1152
Xylenes (total)	ND		1	1.0	0.33	ug/L	07/27/2011 1152

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		96	70-130
1,2-Dichloroethane-d4		89	70-130
Toluene-d8		104	70-130

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N - Recovery is out of criteria
+ - RPD is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

Volatile Organic Compounds by GC/MS - LCS

Sample ID: MQ64569-002
Batch: 64569
Analytical Method: 8260B

Matrix: Aqueous
Prep Method: 5030B

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
Benzene	50	52		1	104	70-130	07/27/2011 1026
1,2-Dichloroethane	50	39		1	78	70-130	07/27/2011 1026
Ethylbenzene	50	55		1	111	70-130	07/27/2011 1026
Methyl tertiary butyl ether (MTBE)	50	44		1	89	60-140	07/27/2011 1026
Naphthalene	50	41		1	83	70-130	07/27/2011 1026
Toluene	50	53		1	105	70-130	07/27/2011 1026
Xylenes (total)	100	110		1	113	70-130	07/27/2011 1026

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		105	70-130
1,2-Dichloroethane-d4		94	70-130
Toluene-d8		108	70-130

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N - Recovery is out of criteria
+ - RPD is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

Volatile Organic Compounds by GC/MS - LCSD

Sample ID: MQ64569-003
Batch: 64569
Analytical Method: 8260B

Matrix: Aqueous
Prep Method: 5030B

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% RPD	% Rec Limit	% RPD Limit	Analysis Date
Benzene	50	49		1	98	5.4	70-130	20	07/27/2011 1047
1,2-Dichloroethane	50	37		1	73	6.9	70-130	20	07/27/2011 1047
Ethylbenzene	50	52		1	103	7.2	70-130	20	07/27/2011 1047
Methyl tertiary butyl ether (MTBE)	50	41		1	83	7.2	60-140	20	07/27/2011 1047
Naphthalene	50	39		1	78	6.0	70-130	20	07/27/2011 1047
Toluene	50	50		1	101	4.0	70-130	20	07/27/2011 1047
Xylenes (total)	100	110		1	105	7.3	70-130	20	07/27/2011 1047

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		98	70-130
1,2-Dichloroethane-d4		88	70-130
Toluene-d8		104	70-130

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N - Recovery is out of criteria
+ - RPD is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

Volatile Organic Compounds by GC/MS - MB

Sample ID: MQ64569-001
Batch: 64569
Analytical Method: 8260B

Matrix: Aqueous
Prep Method: 5030B

Parameter	Result	Q	Dil	PQL	MDL	Units	Analysis Date
tert-Amyl alcohol (TAA)	ND		1	20	6.7	ug/L	07/27/2011 1152
tert-Amyl methyl ether (TAME)	ND		1	10	0.20	ug/L	07/27/2011 1152
tert-Butyl formate (TBF)	ND		1	5.0	1.0	ug/L	07/27/2011 1152
Diisopropyl ether (IPE)	ND		1	5.0	0.40	ug/L	07/27/2011 1152
3,3-Dimethyl-1-butanol	ND		1	20	1.0	ug/L	07/27/2011 1152
Ethanol	ND		1	100	33	ug/L	07/27/2011 1152
Ethyl-tert-butyl ether (ETBE)	ND		1	1.0	0.20	ug/L	07/27/2011 1152
tert-butyl alcohol (TBA)	ND		1	20	6.7	ug/L	07/27/2011 1152

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		96	70-130
1,2-Dichloroethane-d4		89	70-130
Toluene-d8		104	70-130

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N - Recovery is out of criteria
+ - RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

Volatile Organic Compounds by GC/MS - LCS

Sample ID: MQ64569-002
Batch: 64569
Analytical Method: 8260B

Matrix: Aqueous
Prep Method: 5030B

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
tert-Amyl alcohol (TAA)	1000	970		1	97	70-130	07/27/2011 1026
tert-Amyl methyl ether (TAME)	50	45		1	90	70-130	07/27/2011 1026
tert-Butyl formate (TBF)	250	210		1	82	70-130	07/27/2011 1026
Diisopropyl ether (IPE)	50	49		1	98	70-130	07/27/2011 1026
3,3-Dimethyl-1-butanol	1000	840		1	84	70-130	07/27/2011 1026
Ethanol	5000	6700	N	1	135	70-130	07/27/2011 1026
Ethyl-tert-butyl ether (ETBE)	50	46		1	92	70-130	07/27/2011 1026
tert-butyl alcohol (TBA)	1000	980		1	98	70-130	07/27/2011 1026

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		105	70-130
1,2-Dichloroethane-d4		94	70-130
Toluene-d8		108	70-130

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N - Recovery is out of criteria
+ - RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

Volatile Organic Compounds by GC/MS - LCSD

Sample ID: MQ64569-003
Batch: 64569
Analytical Method: 8260B

Matrix: Aqueous
Prep Method: 5030B

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% RPD	% Rec Limit	% RPD Limit	Analysis Date
tert-Amyl alcohol (TAA)	1000	890		1	89	8.5	70-130	20	07/27/2011 1047
tert-Amyl methyl ether (TAME)	50	42		1	84	6.0	70-130	20	07/27/2011 1047
tert-Butyl formate (TBF)	250	190		1	76	7.7	70-130	20	07/27/2011 1047
Diisopropyl ether (IPE)	50	46		1	93	5.5	70-130	20	07/27/2011 1047
3,3-Dimethyl-1-butanol	1000	790		1	79	7.3	70-130	20	07/27/2011 1047
Ethanol	5000	6400		1	128	5.0	70-130	20	07/27/2011 1047
Ethyl-tert-butyl ether (ETBE)	50	43		1	86	7.1	70-130	20	07/27/2011 1047
tert-butyl alcohol (TBA)	1000	890		1	89	9.5	70-130	20	07/27/2011 1047

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		98	70-130
1,2-Dichloroethane-d4		88	70-130
Toluene-d8		104	70-130

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N - Recovery is out of criteria
+ - RPD is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

Volatile Organic Compounds by GC/MS - MB

Sample ID: MQ64570-001
Batch: 64570
Analytical Method: 8260B

Matrix: Aqueous
Prep Method: 5030B

Parameter	Result	Q	Dil	PQL	MDL	Units	Analysis Date
Benzene	ND		1	1.0	0.13	ug/L	07/27/2011 1143
Toluene	ND		1	1.0	0.33	ug/L	07/27/2011 1143

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		90	70-130
1,2-Dichloroethane-d4		90	70-130
Toluene-d8		93	70-130

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N - Recovery is out of criteria
+ - RPD is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

Volatile Organic Compounds by GC/MS - LCS

Sample ID: MQ64570-002
Batch: 64570
Analytical Method: 8260B

Matrix: Aqueous
Prep Method: 5030B

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
Benzene	50	53		1	105	70-130	07/27/2011 1019
Toluene	50	50		1	99	70-130	07/27/2011 1019

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		94	70-130
1,2-Dichloroethane-d4		76	70-130
Toluene-d8		95	70-130

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N - Recovery is out of criteria
+ - RPD is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

Volatile Organic Compounds by GC/MS - LCSD

Sample ID: MQ64570-003
Batch: 64570
Analytical Method: 8260B

Matrix: Aqueous
Prep Method: 5030B

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% RPD	% Rec Limit	% RPD Limit	Analysis Date
Benzene	50	53		1	105	0.0076	70-130	20	07/27/2011 1040
Toluene	50	49		1	98	0.81	70-130	20	07/27/2011 1040

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		94	70-130
1,2-Dichloroethane-d4		75	70-130
Toluene-d8		95	70-130

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N - Recovery is out of criteria
+ - RPD is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

Volatile Organic Compounds by GC/MS - MB

Sample ID: MQ64632-001
Batch: 64632
Analytical Method: 8260B

Matrix: Aqueous
Prep Method: 5030B

Parameter	Result	Q	Dil	PQL	MDL	Units	Analysis Date
Benzene	ND		1	1.0	0.13	ug/L	07/28/2011 0013
1,2-Dichloroethane	ND		1	1.0	0.15	ug/L	07/28/2011 0013
Ethylbenzene	ND		1	1.0	0.33	ug/L	07/28/2011 0013
Methyl tertiary butyl ether (MTBE)	ND		1	1.0	0.40	ug/L	07/28/2011 0013
Naphthalene	ND		1	1.0	0.40	ug/L	07/28/2011 0013
Toluene	ND		1	1.0	0.33	ug/L	07/28/2011 0013
Xylenes (total)	ND		1	1.0	0.33	ug/L	07/28/2011 0013

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		96	70-130
1,2-Dichloroethane-d4		89	70-130
Toluene-d8		103	70-130

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N - Recovery is out of criteria
+ - RPD is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

Volatile Organic Compounds by GC/MS - LCS

Sample ID: MQ64632-002
Batch: 64632
Analytical Method: 8260B

Matrix: Aqueous
Prep Method: 5030B

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
Benzene	50	52		1	104	70-130	07/27/2011 2249
1,2-Dichloroethane	50	40		1	79	70-130	07/27/2011 2249
Ethylbenzene	50	54		1	108	70-130	07/27/2011 2249
Methyl tertiary butyl ether (MTBE)	50	42		1	84	60-140	07/27/2011 2249
Naphthalene	50	38		1	76	70-130	07/27/2011 2249
Toluene	50	53		1	105	70-130	07/27/2011 2249
Xylenes (total)	100	110		1	111	70-130	07/27/2011 2249

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		105	70-130
1,2-Dichloroethane-d4		95	70-130
Toluene-d8		110	70-130

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N - Recovery is out of criteria
+ - RPD is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

Volatile Organic Compounds by GC/MS - LCSD

Sample ID: MQ64632-003
Batch: 64632
Analytical Method: 8260B

Matrix: Aqueous
Prep Method: 5030B

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% RPD	% Rec Limit	% RPD Limit	Analysis Date
Benzene	50	49		1	98	6.7	70-130	20	07/27/2011 2310
1,2-Dichloroethane	50	37		1	74	6.7	70-130	20	07/27/2011 2310
Ethylbenzene	50	51		1	102	6.3	70-130	20	07/27/2011 2310
Methyl tertiary butyl ether (MTBE)	50	39		1	79	5.9	60-140	20	07/27/2011 2310
Naphthalene	50	37		1	73	3.3	70-130	20	07/27/2011 2310
Toluene	50	51		1	101	4.2	70-130	20	07/27/2011 2310
Xylenes (total)	100	100		1	102	8.0	70-130	20	07/27/2011 2310

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		98	70-130
1,2-Dichloroethane-d4		90	70-130
Toluene-d8		104	70-130

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N - Recovery is out of criteria
+ - RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

Volatile Organic Compounds by GC/MS - MB

Sample ID: MQ64632-001
Batch: 64632
Analytical Method: 8260B

Matrix: Aqueous
Prep Method: 5030B

Parameter	Result	Q	Dil	PQL	MDL	Units	Analysis Date
tert-Amyl alcohol (TAA)	ND		1	20	6.7	ug/L	07/28/2011 0013
tert-Amyl methyl ether (TAME)	ND		1	10	0.20	ug/L	07/28/2011 0013
tert-Butyl formate (TBF)	ND		1	5.0	1.0	ug/L	07/28/2011 0013
Diisopropyl ether (IPE)	ND		1	5.0	0.40	ug/L	07/28/2011 0013
Ethanol	ND		1	100	33	ug/L	07/28/2011 0013
Ethyl-tert-butyl ether (ETBE)	ND		1	1.0	0.20	ug/L	07/28/2011 0013
tert-butyl alcohol (TBA)	ND		1	20	6.7	ug/L	07/28/2011 0013

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		96	70-130
1,2-Dichloroethane-d4		89	70-130
Toluene-d8		103	70-130

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N - Recovery is out of criteria
+ - RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

Volatile Organic Compounds by GC/MS - LCS

Sample ID: MQ64632-002
Batch: 64632
Analytical Method: 8260B

Matrix: Aqueous
Prep Method: 5030B

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
tert-Amyl alcohol (TAA)	1000	750		1	75	70-130	07/27/2011 2249
tert-Amyl methyl ether (TAME)	50	42		1	84	70-130	07/27/2011 2249
tert-Butyl formate (TBF)	250	190		1	76	70-130	07/27/2011 2249
Diisopropyl ether (IPE)	50	48		1	97	70-130	07/27/2011 2249
Ethanol	5000	5100		1	101	70-130	07/27/2011 2249
Ethyl-tert-butyl ether (ETBE)	50	45		1	89	70-130	07/27/2011 2249
tert-butyl alcohol (TBA)	1000	750		1	75	70-130	07/27/2011 2249

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		105	70-130
1,2-Dichloroethane-d4		95	70-130
Toluene-d8		110	70-130

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N - Recovery is out of criteria
+ - RPD is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

Volatile Organic Compounds by GC/MS - LCSD

Sample ID: MQ64632-003
Batch: 64632
Analytical Method: 8260B

Matrix: Aqueous
Prep Method: 5030B

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% RPD	% Rec Limit	% RPD Limit	Analysis Date
tert-Amyl alcohol (TAA)	1000	780		1	78	4.2	70-130	20	07/27/2011 2310
tert-Amyl methyl ether (TAME)	50	40		1	80	4.6	70-130	20	07/27/2011 2310
tert-Butyl formate (TBF)	250	180		1	71	6.8	70-130	20	07/27/2011 2310
Diisopropyl ether (IPE)	50	45		1	90	6.9	70-130	20	07/27/2011 2310
Ethanol	5000	5900		1	118	15	70-130	20	07/27/2011 2310
Ethyl-tert-butyl ether (ETBE)	50	42		1	85	5.1	70-130	20	07/27/2011 2310
tert-butyl alcohol (TBA)	1000	790		1	79	6.0	70-130	20	07/27/2011 2310

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		98	70-130
1,2-Dichloroethane-d4		90	70-130
Toluene-d8		104	70-130

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N - Recovery is out of criteria
+ - RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

Volatile Organic Compounds by GC/MS - MB

Sample ID: MQ64742-001
Batch: 64742
Analytical Method: 8260B

Matrix: Aqueous
Prep Method: 5030B

Parameter	Result	Q	Dil	PQL	MDL	Units	Analysis Date
3,3-Dimethyl-1-butanol	ND		1	20	1.0	ug/L	07/29/2011 1900

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		99	70-130
1,2-Dichloroethane-d4		117	70-130
Toluene-d8		101	70-130

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N - Recovery is out of criteria
+ - RPD is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

Volatile Organic Compounds by GC/MS - LCS

Sample ID: MQ64742-002
Batch: 64742
Analytical Method: 8260B

Matrix: Aqueous
Prep Method: 5030B

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
3,3-Dimethyl-1-butanol	1000	890		1	89	70-130	07/29/2011 1734

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		96	70-130
1,2-Dichloroethane-d4		109	70-130
Toluene-d8		108	70-130

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N - Recovery is out of criteria
+ - RPD is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

Volatile Organic Compounds by GC/MS - LCSD

Sample ID: MQ64742-003
Batch: 64742
Analytical Method: 8260B

Matrix: Aqueous
Prep Method: 5030B

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% RPD	% Rec Limit	% RPD Limit	Analysis Date
3,3-Dimethyl-1-butanol	1000	1100	+	1	110	21	70-130	20	07/29/2011 1755

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		98	70-130
1,2-Dichloroethane-d4		107	70-130
Toluene-d8		110	70-130

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N - Recovery is out of criteria
+ - RPD is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

Volatile Organic Compounds by GC/MS - Duplicate

Sample ID: MG22061-023DU
Batch: 64742
Analytical Method: 8260B

Matrix: Aqueous
Prep Method: 5030B

Parameter	Sample Amount (ug/L)	Result (ug/L)	Q	Dil	% RPD	% RPD Limit	Analysis Date
3,3-Dimethyl-1-butanol	ND	ND		100	0.00	20	07/30/2011 0134

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		104	70-130
1,2-Dichloroethane-d4		108	70-130
Toluene-d8		114	70-130

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N - Recovery is out of criteria
+ - RPD is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

Volatile Organic Compounds by GC/MS - MS

Sample ID: MG22061-023MS
Batch: 64742
Analytical Method: 8260B

Matrix: Aqueous
Prep Method: 5030B

Parameter	Sample Amount (ug/L)	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
3,3-Dimethyl-1-butanol	ND	100000	100000		100	105	70-130	07/30/2011 0155

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		103	70-130
1,2-Dichloroethane-d4		114	70-130
Toluene-d8		99	70-130

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N - Recovery is out of criteria
+ - RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

EDB & DBCP by Microextraction - MB

Sample ID: MQ64310-001
Batch: 64310
Analytical Method: 8011

Matrix: Aqueous
Prep Method: 8011
Prep Date: 07/22/2011 2000

Parameter	Result	Q	Dil	PQL	MDL	Units	Analysis Date
1,2-Dibromoethane (EDB)	ND		1	0.020	0.0062	ug/L	07/26/2011 1949

Surrogate	Q	% Rec	Acceptance Limit
1,1,1,2-Tetrachloroethane		107	57-137

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N - Recovery is out of criteria
+ - RPD is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

EDB & DBCP by Microextraction - LCS

Sample ID: MQ64310-002
Batch: 64310
Analytical Method: 8011

Matrix: Aqueous
Prep Method: 8011
Prep Date: 07/22/2011 2000

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
1,2-Dibromoethane (EDB)	0.25	0.28		1	111	60-140	07/26/2011 2012

Surrogate	Q	% Rec	Acceptance Limit
1,1,1,2-Tetrachloroethane		113	57-137

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N - Recovery is out of criteria
+ - RPD is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

EDB & DBCP by Microextraction - MS

Sample ID: MG22061-001MS
Batch: 64310
Analytical Method: 8011

Matrix: Aqueous
Prep Method: 8011
Prep Date: 07/22/2011 2000

Parameter	Sample Amount (ug/L)	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
1,2-Dibromoethane (EDB)	24	0.24	26	N	1	-1240	60-140	07/26/2011 2058

Surrogate	Q	% Rec	Acceptance Limit
1,1,1,2-Tetrachloroethane		134	57-137

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N - Recovery is out of criteria
+ - RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

EDB & DBCP by Microextraction - MSD

Sample ID: MG22061-001MD
Batch: 64310
Analytical Method: 8011

Matrix: Aqueous
Prep Method: 8011
Prep Date: 07/22/2011 2000

Parameter	Sample Amount (ug/L)	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% RPD	% Rec Limit	% RPD Limit	Analysis Date
1,2-Dibromoethane (EDB)	24	0.24	18	N,+	1	-4600	36	60-140	20	07/26/2011 2121

Surrogate	Q	% Rec	Acceptance Limit
1,1,1,2-Tetrachloroethane		127	57-137

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N - Recovery is out of criteria
+ - RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

EDB & DBCP by Microextraction - MB

Sample ID: MQ64401-001
Batch: 64401
Analytical Method: 8011

Matrix: Aqueous
Prep Method: 8011
Prep Date: 07/25/2011 1604

Parameter	Result	Q	Dil	PQL	MDL	Units	Analysis Date
1,2-Dibromoethane (EDB)	ND		1	0.020	0.0062	ug/L	07/27/2011 1355

Surrogate	Q	% Rec	Acceptance Limit
1,1,1,2-Tetrachloroethane		104	57-137

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N - Recovery is out of criteria
+ - RPD is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

EDB & DBCP by Microextraction - LCS

Sample ID: MQ64401-002
Batch: 64401
Analytical Method: 8011

Matrix: Aqueous
Prep Method: 8011
Prep Date: 07/25/2011 1604

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
1,2-Dibromoethane (EDB)	0.25	0.27		1	107	60-140	07/27/2011 1419

Surrogate	Q	% Rec	Acceptance Limit
1,1,1,2-Tetrachloroethane		111	57-137

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N - Recovery is out of criteria
+ - RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

EDB & DBCP by Microextraction - MS

Sample ID: MG22061-026MS
Batch: 64401
Analytical Method: 8011

Matrix: Aqueous
Prep Method: 8011
Prep Date: 07/25/2011 1604

Parameter	Sample Amount (ug/L)	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
1,2-Dibromoethane (EDB)	ND	0.24	0.25		1	104	60-140	07/27/2011 1731

Surrogate	Q	% Rec	Acceptance Limit
1,1,1,2-Tetrachloroethane		106	57-137

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N - Recovery is out of criteria
+ - RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

EDB & DBCP by Microextraction - MSD

Sample ID: MG22061-026MD
Batch: 64401
Analytical Method: 8011

Matrix: Aqueous
Prep Method: 8011
Prep Date: 07/25/2011 1604

Parameter	Sample Amount (ug/L)	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% RPD	% Rec Limit	% RPD Limit	Analysis Date
1,2-Dibromoethane (EDB)	ND	0.24	0.25		1	105	0.00	60-140	20	07/27/2011 1755

Surrogate	Q	% Rec	Acceptance Limit
1,1,1,2-Tetrachloroethane		105	57-137

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N - Recovery is out of criteria
+ - RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

EDB & DBCP by Microextraction - MB

Sample ID: MQ64402-001
Batch: 64402
Analytical Method: 8011

Matrix: Aqueous
Prep Method: 8011
Prep Date: 07/25/2011 1604

Parameter	Result	Q	Dil	PQL	MDL	Units	Analysis Date
1,2-Dibromoethane (EDB)	ND		1	0.020	0.0062	ug/L	07/27/2011 2344

Surrogate	Q	% Rec	Acceptance Limit
1,1,1,2-Tetrachloroethane		100	57-137

PQL = Practical quantitation limit
ND = Not detected at or above the MDL.
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N - Recovery is out of criteria
+ - RPD is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

EDB & DBCP by Microextraction - LCS

Sample ID: MQ64402-002
Batch: 64402
Analytical Method: 8011

Matrix: Aqueous
Prep Method: 8011
Prep Date: 07/25/2011 1604

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
1,2-Dibromoethane (EDB)	0.25	0.25		1	100	60-140	07/28/2011 0006

Surrogate	Q	% Rec	Acceptance Limit
1,1,1,2-Tetrachloroethane		102	57-137

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N - Recovery is out of criteria
+ - RPD is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

EDB & DBCP by Microextraction - MS

Sample ID: MG22061-046MS
Batch: 64402
Analytical Method: 8011

Matrix: Aqueous
Prep Method: 8011
Prep Date: 07/25/2011 1604

Parameter	Sample Amount (ug/L)	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
1,2-Dibromoethane (EDB)	ND	0.24	0.25		1	103	60-140	07/28/2011 0305

Surrogate	Q	% Rec	Acceptance Limit
1,1,1,2-Tetrachloroethane		112	57-137

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N - Recovery is out of criteria
+ - RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

EDB & DBCP by Microextraction - MSD

Sample ID: MG22061-046MD
Batch: 64402
Analytical Method: 8011

Matrix: Aqueous
Prep Method: 8011
Prep Date: 07/25/2011 1604

Parameter	Sample Amount (ug/L)	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% RPD	% Rec Limit	% RPD Limit	Analysis Date
1,2-Dibromoethane (EDB)	ND	0.25	0.26		1	105	4.5	60-140	20	07/28/2011 0327

Surrogate	Q	% Rec	Acceptance Limit
1,1,1,2-Tetrachloroethane		109	57-137

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N - Recovery is out of criteria
+ - RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

SHEALY ENVIRONMENTAL SERVICES, INC.

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www.shealylab.com

SHEALY

Chain of Custody Record

Number 13634

Client: BLF	Report to Contact: Trace Stock, tstock@blessrp.com	Sampler (Printed Name): Paul A Doherty	Quote No.
Address: 1004 Pendleton Court	Telephone No. / Fax No. / Email: (864) 287 1263	Signature: paul.doherty@blessrp.com	Page 1 of 5
City: Greenville; State: SC; Zip Code: 29615	Preservative: 1. Unpres. 2. NaOH-ZnA 3. H_2SO_4 4. HNO_3 5. HCL 6. Na Thio. 7. NaOH		Number of Containers
Project Name: Spur 2259 / Eastwood 2340			Solids (See instructions on back)
			Preservative
Project Number: TU - 6859 - 03	P.O Number		Lot No. MG22061

Sample ID / Description (Containers for each sample may be combined on one line)	Date	Time	Grab (G) Composite (C)	Matrix: GW	DW	WW	S	Other	Analysis: 8260B (BTEX, MTBE, Naphthalene)	8260B (VOC)									Remarks / Cooler ID
MW-1	7/20/11	1750	G	X					X	X									
MW-2	7/20/11	1130																	
MW-3	7/20/11	1100																	
MW-7D	7/19/11	1450																	
MW-8D	7/19/11	1730																	
MW-9	7/20/11	1330																	
MW-10	7/20/11	1335																	
MW-11	7/20/11	1345																	
MW-12	7/20/11	1410																	
MW-13	7/20/11	1420																	

Turn Around Time Required (Prior lab approval required for expedited TAT): ☑ Standard ☐ Rush (Please Specify)

Sample Disposal: ☐ Return to Client ☐ Disposal by Lab

QC Requirements (Specify):

Possible Hazard Identification: ☑ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison ☐ Unknown

	Date	Time		Date	Time
1. Relinquished by / Sampler	7/20/11	1245	1. Received by	7/20/11	1245
2. Relinquished by			2. Received by		
3. Relinquished by			3. Received by		
4. Relinquished by	7/21/11	1630	4. Laboratory Received by	7/22/11	1650

Note: All samples are retained for six weeks from receipt unless other arrangements are made.

LAB USE ONLY: Received on Ice (Check) ☑ Yes ☐ No ☐ Ice Pack ☐ Receipt Temp. 1.0 °C Temp. Blank ☐ Y / ☐ N

SHEALY ENVIRONMENTAL SERVICES, INC.

Shealy Environmental Services, Inc.
106 Vantage Point Drive
West Columbia, South Carolina 29172
Telephone No. (803) 791-9700 Fax No. (803) 791-9111
www.shealylab.com

SHEALY

Chain of Custody Record

Number 13635

Client: BLE	Report to Contact: Trevor Stone tstone@blecorp.com	Sampler (Printed Name): Brad A. Delaney	Quote No.
Address: 6634 Pioneer Court	Telephone No. / Fax No. / Email: (803) 252 1265	~~Waybill No.~~ mdelaney@blecorp.com	Page 2 of 5
City: Cayce; State: SC; Zip Code: 29045	Preservative: 1. Unpres. 2. NaOH/ZnA 3. HNO3 4. HCL 5. NaOH 6. Na Thio.		Number of Containers
Project Name: Spec # 259 / Camden # 380			Bottle (See instructions on back)
			Preservative
Project Number: TM-6859-03	PO Number		Lot No. MQ2206

Sample ID / Descriptor (Composites for each sample may be combined on one line)	Date	Time	Grab/Composite	Matrix: GW	SW	WW	S	Other	Analysis: Semivolatile Organics (Method 8260)	Soil Gas
MW-14	7/20/11	1800	G	X					X	X
MW-15	7/20/11	1810								
MW-16	7/20/11	1430								
MW-17	7/20/11	1455								
MW-18	7/20/11	1440								
MW-19	7/20/11	1505								
MW-20	7/21/11	1305								
MW-21	7/21/11	1250								
MW-21D	7/19/11	1030								
MW-22	7/20/11	1515								

Remarks / Cooler ID

Turn Around Time Required (Prior to approval required for expedited TAT): ☑ Standard ☐ Rush (Please Specify)

Sample Disposal: ☐ Return to Client ☑ Disposal by Lab

QC Requirements (Specify):

Possible Hazard Identification: ☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison ☐ Unknown

1. Relinquished by / Sampler	Date 7/20/11	Time 1245	1. Received by	Date 7/20/11	Time 1245
2. Relinquished by	Date	Time	2. Received by	Date	Time
3. Relinquished by	Date	Time	3. Received by	Date	Time
4. Relinquished by	Date 7/22/11	Time 1650	4. Laboratory Received by	Date 7/22/11	Time 1650

Note: All samples are retained for six weeks from receipt unless other arrangements are made.

LAB USE ONLY: Received on Ice (Circle) ☑ Yes ☐ No Ice Pack; Receipt Temp 1.0/-0 °C; Temp Blank: ☐ Yes ☐ No

SHEALY ENVIRONMENTAL SERVICES, INC.

Shealy Environmental Services, Inc.
106 Vantage Point Drive
West Columbia, South Carolina 29172
Telephone No. (803) 791-9700 Fax No. (803) 791-9111
www.shealylab.com

SHEALY **Chain of Custody Record** Number 13636

Client: BLE	Report to Contact: Terrence Stack, tstack@blegroup.com	Sampler (Printed Name): Reid A. Doherty	Quote No.
Address: 6204 Pendery Court	Telephone No. / Fax No. / Email: (864) 233-1265	Worker No.: reid.doherty@blegroup.com	Page 3 of 5
City: Greenville, State: SC, Zip Code: 29615	Preservative: 1. Unpres 4. HNO3 7. NaOH; 2. NaOH-ZnA 5. HCL; 3. H2SO4 6. Na Thio		Number of Containers
Project Name: Solvent 250 / Remedia # 380			Bottle (See instructions on back)
			Preservative
Project Number: 11-0859-03	P.O. Number		Lot No.: M220641
Sample ID / Description (Containers for each sample may be combined on one line)	Date / Time	Matrix: GW, DW, WW, S, Other; Grab / Composite	Remarks / Cooler ID
MW-22D	7/19/11 1525	Grab, GW	
MW-23	7/20/11 1320	Grab, GW	
MW-24	7/20/11 1330	Grab, GW	
MW-24D	7/19/11 1352	Grab, GW	
MW-25	7/20/11 1340	Grab, GW	
MW-26	7/21/11 1315	Grab, GW	
MW-27	7/21/11 1355	Grab, GW	
MW-28	7/21/11 1320	Grab, GW	
MW-29	7/21/11 1350	Grab, GW	
MW-30	7/21/11 1410	Grab, GW	

Analysis: 8260B/Remediation List (GW); 8011 (EDB)

Turn Around Time Required (Prior lab approval required for expedited TAT): ☑ Standard ☐ Rush (Please Specify)

Sample Disposal: ☐ Return to Client ☑ Disposal by Lab

QC Requirements (Specify):

Possible Hazard Identification: ☑ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison ☐ Unknown

	Date	Time		Date	Time
1. Relinquished by / Sampler: [signature]	7/22/11	1245	1. Received by: [signature]	7/22/11	1245
2. Relinquished by:	Date	Time	2. Received by:	Date	Time
3. Relinquished by:	Date	Time	3. Received by:	Date	Time
4. Relinquished by: [signature]	7/22/11	1650	4. Laboratory Received by: [signature]	7/22/11	1650

Note: All samples are retained for six weeks from receipt unless other arrangements are made.

LAB USE ONLY: Received on Ice (Check) ☑ Yes ☐ No Cooler Pass Bottom Temp 1.0 °C Temp Blank ☐ Y ☐ N

SHEALY ENVIRONMENTAL SERVICES, INC.

Shealy Environmental Services, Inc.
106 Vantage Point Drive
West Columbia, South Carolina 29172
Telephone No. (803) 791-9700 Fax No. (803) 791-9111
www.shealylab.com

SHEALY **Chain of Custody Record** Number 13637

Client: BLE	Report to Contact: Tom Slack, tslack@blecorp.com	Sampler (Printed Name): Kevin A. Doherty	Quote No.
Address: 6004 Reeder Court	Telephone No. / Fax No. / Email: (864) 282-1205	Waybill No.: kevin.doherty@blecorp.com	Page 1 of 5
City: Greenville State: SC Zip Code: 29615	Preservative: 1. Unpres. 4. HNO3 7. NaOH; 2. NaOH-ZnA 5. HCL; 3. H2SO4 6. Na Thio.		Number of Containers
Project Name: Site 258 / Bennett #389			Bottle (See Instructions on back)
			Preservative
Project Number: TH-6859-03	P.O. Number:		Lot No.
Sample ID / Description (Combination for each sample may be combined on one line)	Date / Time / Grab (G) C-Composite / Matrix: GW DW WW S Other	Analysis: Alkalinity (Mg/L as CaCO3) / NH3 (as N) (mg/L) / pH (EPA)	Remarks / Cooler ID
MW-30D	7/19/11 1825 G X	X X	
MW-31	7/20/11 1425		
MW-32	7/20/11 1410		
MW-33	7/20/11 1450		
MW-33D	7/19/11 1855		
MW-34	7/20/11 1310		
MW-35	7/20/11 1330		
MW-36	7/20/11 1715		
MW-37	7/20/11 1640		
MW-38	7/20/11 1550		

TAT-Actual Time Required (Prior lab approval required for expedited TAT): ☑ Standard ☐ Rush (Please Specify)

Sample Disposal: ☐ Return to Client ☐ Disposal by Lab

QC Requirements (Specify):

Possible Hazard Identification: ☑ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison ☐ Unknown

	Date	Time		Date	Time
1. Relinquished by (Sampler): [signature]	7/20/11	1245	1. Received by: [signature]	7/20/11	1245
2. Relinquished by	Date	Time	2. Received by	Date	Time
3. Relinquished by	Date	Time	3. Received by	Date	Time
4. Relinquished by: [signature]	7/22/11	1650	4. Laboratory Received by: [signature]	7/22/11	1650

Note: All samples are retained for six weeks from receipt unless other arrangements are made.

LAB USE ONLY: Received on Ice (Circle): ☑ Yes ☐ No ☐ Ice Pack Receipt Temp. 1.0 / 1.0 °C Temp Blank: ☑ Y / ☐ N

SHEALY ENVIRONMENTAL SERVICES, INC.

SHEALY **Chain of Custody Record**

106 Vantage Point Drive
West Columbia, South Carolina 29172
Telephone No. (803) 791-9700 Fax No. (803) 791-9111

Number 89243

Client: BLE	Report to Contact: Trevor Slack	Telephone No. / Fax No. / E-mail: (864) 233 1265 x tslack@bleeng.com	Quote No:
Address: 6004 Pondview Court	Sampler's Signature: x	Report to: rdoherty@bleeng.com	Page 5 of 5
City: Greenville; State: SC; Zip Code: 29615	Printed Name: Rick A. Doherty	Analysis (Attach list if more space is needed)	
Project Name: Spur 259 / Exponent # 389			
Project No: 711-6955-03	PO. No:		Lab No: 1MG7106

Sample ID / Description (Combination for each sample may be combined on one line)	Date	Time	Grab / Composite	Matrix: Potable	Non-Potable	Solid/Sludge	Air	No. of Containers by Preservative Type: Sterile	HCl	HNO3	NaOH	Air	Cadmium	Sodium Acetate	Bacteria/Coliform (Potable)	Nitrate (Potable)	Remarks / Cooler I.D.
MW-39	7/22/11	1610	G	X							X				X	X	
MW-40	7/22/11	1235															
MW-41D	7/22/11	1120															
DW-1	7/22/11	0940															
DW-3	7/22/11	1005															
Creek	7/22/11	0930															

Possible Hazard Identification: ☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison ☐ Unknown

Sample Disposal: ☐ Return to Client ☑ Disposed by Lab

Note: All samples are retained for six weeks from receipt unless other arrangements are made.

Turn Around Time Required (Prior lab approval required for expedited TAT): ☑ Standard ☐ Rush (Specify)

QC Requirements (Specify):

	Date	Time		Date	Time
1. Relinquished by: [signature]	7/22/11	1245	1. Received by: [signature]	7/22/11	1245
2. Relinquished by:	Date	Time	2. Received by:	Date	Time
3. Relinquished by: [signature]	7/22/11	1650	3. Laboratory received by: [signature]	7/22/11	1650

Comments:

LAB USE ONLY: Received on Ice (Circle): Yes No Ice Pack; Receipt Temp. 1-9.1.8

DISTRIBUTION: WHITE & YELLOW (Return to laboratory with Samples); PINK (Client Copy)

Printed Name: [illegible] Effective Date: [illegible]

SHEALY ENVIRONMENTAL SERVICES, INC.

Shealy Environmental Services, Inc.
Document Number: F-AD-016
Revision Number: 8

Page 1 of 1
Replaces Date: 02/23/11
Effective Date: 05/06/11

Sample Receipt Checklist (SRC)

Client: SAE Cooler Inspected by/date: [illegible] 7/22/11 Lot #: MG22061

Means of receipt: ☑ SESI ☐ Client ☐ UPS ☐ FedEx ☐ Airborne Exp ☐ Other

Yes ☐	No ☑		1. Were custody seals present on the cooler?
Yes ☐	No ☑		2. If custody seals were present, were they intact and unbroken?

Cooler ID/temperature upon receipt 1.0 °C 1.0 °C / °C / °C / °C / °C / °C / °C

Method: ☐ Temperature Blank ☑ Against Bottles

Method of coolant: ☑ Wet Ice ☐ Blue Ice ☐ Dry Ice ☐ None

If response is No (or Yes for 14, 15, 16), an explanation/resolution must be provided.

Yes ☐	No ☐	NA ☑	3. If temperature of any cooler exceeded 6.0°C, was Project Manager notified? PM notified by SRC, phone, note (circle one), other: _____. (For coolers received via commercial courier, PMs are to be notified immediately.
Yes ☐	No ☐	NA ☑	4. Is the commercial courier's packing slip attached to this form?
Yes ☑	No ☐		5. Were proper custody procedures (relinquished/received) followed?
Yes ☐	No ☐	NA ☑	5a Were samples relinquished by client to commercial courier?
Yes ☑	No ☐		6. Were sample IDs listed?
Yes ☑	No ☐		7. Was collection date & time listed?
Yes ☑	No ☐		8. Were tests to be performed listed on the COC?
Yes ☑	No ☐		9. Did all samples arrive in the proper containers for each test?
Yes ☑	No ☐		10. Did all container label information (ID, date, time) agree with COC?
Yes ☑	No ☐		11. Did all containers arrive in good condition (unbroken, lids on, etc.)?
Yes ☑	No ☐		12. Was adequate sample volume available?
Yes ☐	No ☑		13. Were all samples received within ½ the holding time or 48 hours, whichever comes first?
Yes ☐	No ☑		14. Were any samples containers missing?
Yes ☐	No ☑		15. Were there any excess samples not listed on COC?
Yes ☐	No ☑	NA ☐	16. Were bubbles present >"pea-size" (¼"or 6mm in diameter) in any VOA vials?
Yes ☐	No ☐	NA ☑	17. Were all metals/O&G/HEM/nutrient samples received at a pH of <2?
Yes ☐	No ☐	NA ☑	18. Were all cyanide and/or sulfide samples received at a pH >12?
Yes ☐	No ☐	NA ☑	19. Were all applicable NH3/TKN/cyanide/phenol/BNA/pest/PCB/herb (<0.2mg/L)samples free of residual chlorine?
Yes ☐	No ☐	NA ☑	20. Were collection temperatures documented on the COC for NC samples?

Sample Preservation (Must be completed for any sample(s) incorrectly preserved or with headspace.)

Sample(s) _____ were received incorrectly preserved and were adjusted accordingly in sample receiving with _____ (H_2SO_4,HNO_3,HCl,NaOH) with the SR # (number) _____.

Sample(s) _____ were received with bubbles >6 mm in diameter.

Sample(s) _____ were received with TRC >0.2 mg/L for NH3/TKN/cyanide/BNA/pest/PCB/herb.

Corrective Action taken, if necessary:

Was client notified: Yes ☐ No ☐ Did client respond: Yes ☐ No ☐

SESI employee: _____ Date of response: _____

Comments: _____

APPENDIX E

SLUG TEST PROCEDURES AND RESULTS

APPENDIX E

SLUG TEST PROCEDURES AND RESULTS

A field permeability (slug) test was performed in monitoring well MW-30D to determine the hydraulic conductivity of the intermediate, partially weathered rock formation materials exposed to the well screen. The field procedures used to determine this parameter were as follows:

1. Measure the static groundwater elevation in the well to be tested;
2. Effect a sudden change to the static water level in the well displacing a known volume of water via solid slug; and
3. Measure the rate at which the water column recovers to its original level.

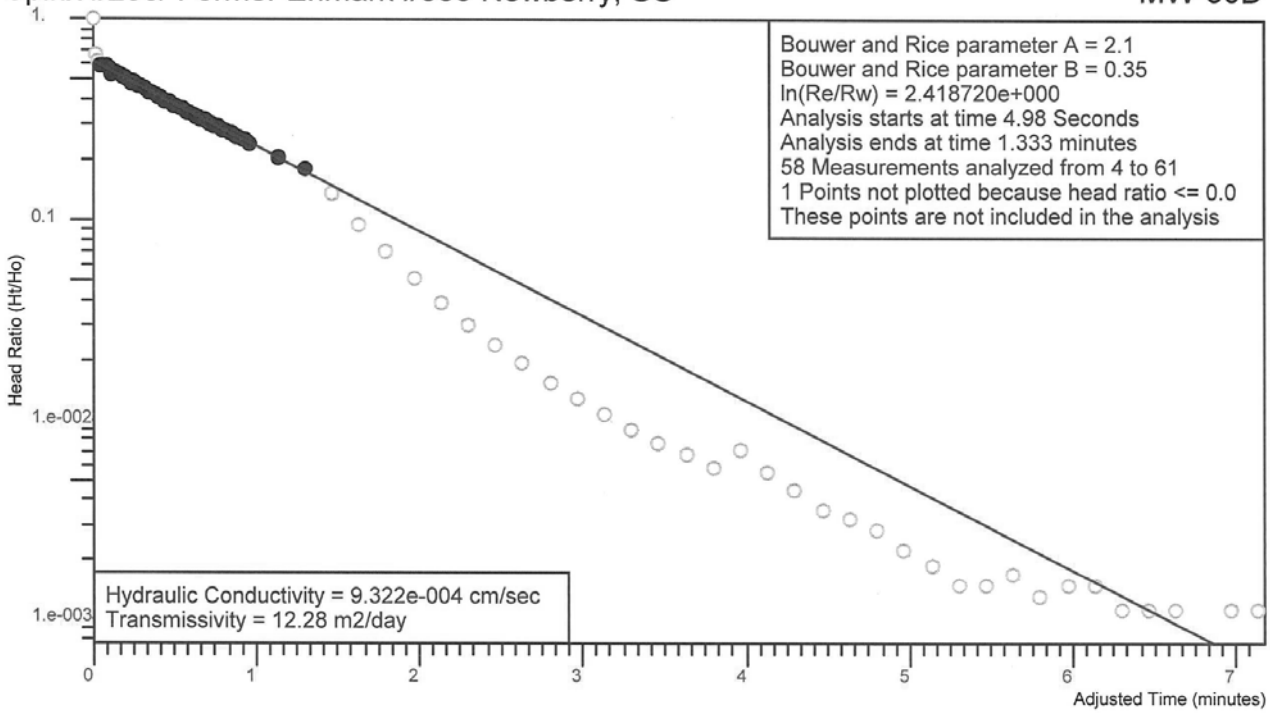
Slug test data was reduced and the hydraulic conductivity values were computed using Bouwer, H. and R. C. Rice "*A Slug Test for Determining Conductivity of Unconfined Aquifers with Completely or Partially Penetrating Wells*," Water Resources Research, 12 (1976): 423-28.

Falling Head Slug Test August 2, 2011

Bouwer and Rice Graph

Spinx #258/ Former Enmark #380 Newberry, SC

MW-30D



Project Number: UST Permit #06588 for Enmark Stations, Inc.

Analysis by Starpoint Software

Ho is 5.339 feet at 1.98 Seconds

Falling Head Slug Test

Site Name:	Spinx #258/ Former Enmark #380
Location:	Newberry, SC
Test Date:	August 2, 2011
Client:	Enmark Stations, Inc.
Project Number:	UST Permit #06588
Import File:	\\PC039\Public PC039\PROJECTS\ENMARK STATIONS\Enmark 380 - Newbe

Well Label:	MW-30D
Aquifer Thickness:	50. feet
Screen Length:	5. feet
Casing Radius:	1. Inches
Effective Radius:	3. Inches
Static Water Level:	0. feet
Water Table to Screen Bottom:	29.2 feet
Anisotropy Ratio:	1.
Time Adjustment:	1.98 Seconds

Test starts with trial 0
There are 96 time and drawdown measurements
Maximum head is 5.339 feet
Minimum head is 0. feet

Trial	Time (minutes)	Adjusted Time (minutes)	Drawdown (feet)	Head (feet)	Head Ratio
1	3.3e-002	0.	-5.339	5.339	1.
2	5.e-002	1.7e-002	-3.562	3.562	0.6672
3	6.7e-002	3.4e-002	-3.317	3.317	0.6213
4	8.3e-002	5.e-002	-3.164	3.164	0.5926
5	0.1	6.7e-002	-3.192	3.192	0.5979
6	0.117	8.4e-002	-3.152	3.152	0.5904
7	0.133	0.1	-3.093	3.093	0.5793
8	0.15	0.117	-2.829	2.829	0.5299
9	0.167	0.134	-2.947	2.947	0.552
10	0.183	0.15	-2.911	2.911	0.5452
11	0.2	0.167	-2.859	2.859	0.5355
12	0.217	0.184	-2.807	2.807	0.5258
13	0.233	0.2	-2.765	2.765	0.5179
14	0.25	0.217	-2.71	2.71	0.5076
15	0.267	0.234	-2.555	2.555	0.4786
16	0.283	0.25	-2.604	2.604	0.4877
17	0.3	0.267	-2.559	2.559	0.4793
18	0.317	0.284	-2.512	2.512	0.4705
19	0.333	0.3	-2.47	2.47	0.4626
20	0.35	0.317	-2.425	2.425	0.4542
21	0.367	0.334	-2.382	2.382	0.4462
22	0.383	0.35	-2.342	2.342	0.4387
23	0.4	0.367	-2.302	2.302	0.4312
24	0.417	0.384	-2.262	2.262	0.4237
25	0.433	0.4	-2.224	2.224	0.4166
26	0.45	0.417	-2.184	2.184	0.4091
27	0.467	0.434	-2.149	2.149	0.4025
28	0.483	0.45	-2.111	2.111	0.3954
29	0.5	0.467	-2.078	2.078	0.3892
30	0.517	0.484	-2.043	2.043	0.3827
31	0.533	0.5	-2.01	2.01	0.3765
32	0.55	0.517	-1.977	1.977	0.3703
33	0.567	0.534	-1.944	1.944	0.3641

34	0.583	0.55	-1.913	1.913	0.3583
35	0.6	0.567	-1.88	1.88	0.3521
36	0.617	0.584	-1.852	1.852	0.3469
37	0.633	0.6	-1.821	1.821	0.3411
38	0.65	0.617	-1.793	1.793	0.3358
39	0.667	0.634	-1.767	1.767	0.331
40	0.683	0.65	-1.738	1.738	0.3255
41	0.7	0.667	-1.71	1.71	0.3203
42	0.717	0.684	-1.684	1.684	0.3154
43	0.733	0.7	-1.658	1.658	0.3105
44	0.75	0.717	-1.632	1.632	0.3057
45	0.767	0.734	-1.606	1.606	0.3008
46	0.783	0.75	-1.583	1.583	0.2965
47	0.8	0.767	-1.557	1.557	0.2916
48	0.817	0.784	-1.533	1.533	0.2871
49	0.833	0.8	-1.51	1.51	0.2828
50	0.85	0.817	-1.486	1.486	0.2783
51	0.867	0.834	-1.465	1.465	0.2744
52	0.883	0.85	-1.443	1.443	0.2703
53	0.9	0.867	-1.42	1.42	0.266
54	0.917	0.884	-1.399	1.399	0.262
55	0.933	0.9	-1.377	1.377	0.2579
56	0.95	0.917	-1.356	1.356	0.254
57	0.967	0.934	-1.338	1.338	0.2506
58	0.983	0.95	-1.316	1.316	0.2465
59	1.	0.967	-1.297	1.297	0.2429
60	1.167	1.134	-1.112	1.112	0.2083
61	1.333	1.3	-0.961	0.961	0.18
62	1.5	1.467	-0.725	0.725	0.1358
63	1.667	1.634	-0.511	0.511	9.571e-002
64	1.833	1.8	-0.369	0.369	6.911e-002
65	2.	1.967	-0.272	0.272	5.095e-002
66	2.167	2.134	-0.206	0.206	3.858e-002
67	2.333	2.3	-0.159	0.159	2.978e-002
68	2.5	2.467	-0.126	0.126	2.36e-002
69	2.667	2.634	-0.102	0.102	1.91e-002
70	2.833	2.8	-8.3e-002	8.3e-002	1.555e-002
71	3.	2.967	-6.9e-002	6.9e-002	1.292e-002
72	3.167	3.134	-5.7e-002	5.7e-002	1.068e-002
73	3.333	3.3	-4.8e-002	4.8e-002	8.99e-003
74	3.5	3.467	-4.1e-002	4.1e-002	7.679e-003
75	3.667	3.634	-3.6e-002	3.6e-002	6.743e-003
76	3.833	3.8	-3.1e-002	3.1e-002	5.806e-003
77	4.	3.967	-3.8e-002	3.8e-002	7.117e-003
78	4.167	4.134	-2.9e-002	2.9e-002	5.432e-003
79	4.333	4.3	-2.4e-002	2.4e-002	4.495e-003
80	4.5	4.467	-1.9e-002	1.9e-002	3.559e-003
81	4.667	4.634	-1.7e-002	1.7e-002	3.184e-003
82	4.833	4.8	-1.5e-002	1.5e-002	2.81e-003
83	5.	4.967	-1.2e-002	1.2e-002	2.248e-003
84	5.167	5.134	-1.e-002	1.e-002	1.873e-003
85	5.333	5.3	-8.e-003	8.e-003	1.498e-003
86	5.5	5.467	-8.e-003	8.e-003	1.498e-003
87	5.667	5.634	-9.e-003	9.e-003	1.686e-003
88	5.833	5.8	-7.e-003	7.e-003	1.311e-003
89	6.	5.967	-8.e-003	8.e-003	1.498e-003
90	6.167	6.134	-8.e-003	8.e-003	1.498e-003

91	6.333	6.3	-6.e-003	6.e-003	1.124e-003
92	6.5	6.467	-6.e-003	6.e-003	1.124e-003
93	6.667	6.634	-6.e-003	6.e-003	1.124e-003
94	6.833	6.8	-4.e-003	4.e-003	7.492e-004
95	7.	6.967	-6.e-003	6.e-003	1.124e-003
96	7.167	7.134	-6.e-003	6.e-003	1.124e-003

D H E C

PROMOTE PROTECT PROSPER

C. Earl Hunter, Commissioner

Promoting and protecting the health of the public and the environment.

MR TOM DOLAN
INTERSTATE STATIONS INC
PO BOX 728
SAVANNAH GA 31402-0728

JAN 1 1 2012

UST 13th DOCKETING

Re: QAPP Contractor Addendum Directive for AFVR and Tier II
Spinx 258, 2725 College St, Newberry, SC
UST Permit #06588
Release #1 reported Dec. 29, 1989, Release #2 reported Nov. 21, 1995
Additional Assessment Report received September 2, 2011
Newberry County

Dear Mr. Dolan:

The Underground Storage Tank (UST) Management Division of the South Carolina Department of Health and Environmental Control (SCDHEC) reviewed the referenced report. The report indicates presence of chemicals of concern in the groundwater and free phase product is present in monitoring wells MW-5, MW-6 and MW-7.

To determine what risk the referenced release may pose to human health and the environment, and in accordance with Section 280.65 of the South Carolina Underground Storage Tank Control Regulations, implementation of an Aggressive Fluid and Vapor Recovery event on monitoring wells MW-5, MW-6 and MW-7 and a Tier II Assessment as outlined in the UST Quality Assurance Program Plan (QAPP) is necessary. The Tier II must be conducted in accordance with the UST Management Division QAPP and must be conducted in compliance with all applicable regulations. A copy of SCDHEC QAPP for the Underground Storage Tank Division is available at http://www.dhec.sc.gov/environment/ lwm/pubs/DHEC%20UST%20QAPPRev-1_Feb2011 _3.pdf.

Your contractor must complete and submit the QAPP Contractor Addendum and Cost Agreement within thirty (30) days of the date of this letter. Every component may not be necessary to complete the above scope of work. The State Underground Petroleum Environmental Response Bank (SUPERB) Account allowable cost for each component is included on the Assessment Component Cost Agreement Form. **Please note that approval from the Department must be issued before work begins**.

On all correspondence regarding this site, please reference UST Permit #06588. If you have questions or need additional information, feel free to call me at (803) 896-6648, fax me at (803) 896-6245 or e-mail me at skowrojt@dhec.sc.gov.

Sincerely,

John Skowronek

John Skowronek, P.G., Hydrogeologist
Assessment Section
Underground Storage Tank Management Division
Bureau of Land and Waste Management

cc: Bunnell-Lammons Engineering, Inc., 6004 Ponders Court, Greenville, SC 29615
Technical File

D H E C

PROMOTE PROTECT PROSPER

C. Earl Hunter, Commissioner

Promoting and protecting the health of the public and the environment.

MR R KIRK MCLEOD JR
122 BLAND AVE
SUMTER SC 29150-3818

JAN 1 1 2012

Re: QAPP Contractor Addendum Directive for Tier II
Lots 9, 10, 15 & 16, 842 North Main Street, Sumter, SC
UST Permit #16067
Release reported June 30, 1993
Assessment Report received December 16, 2011
Sumter County

Dear Mr. McLeod:

The Underground Storage Tank (UST) Management Division of the South Carolina Department of Health and Environmental Control (SCDHEC) reviewed the referenced report. The report indicates presence of chemicals of concern in the groundwater and the horizontal and vertical extent of the plume is not defined.

To determine what risk the referenced release may pose to the environment and public health, and in accordance with Section 280.65 of the South Carolina Underground Storage Tank Control Regulations, sampling of the existing monitoring wells, screening shallow and deep, and the installation of shallow and deep wells as outlined in the UST Quality Assurance Program Plan (QAPP) is necessary. The Tier II should be conducted in accordance with the UST Quality Assurance Program Plan and must be conducted in compliance with all applicable regulations. A copy of SCDHEC QAPP for the Underground Storage Tank Division is available at http://www.dhec.sc.gov/environment/lwm/pubs/DHEC%20UST%20QAPP_Rev-1_Feb2011_3.pdf.

Please have your contractor complete and submit the QAPP Contractor Addendum and Cost Agreement within thirty (30) days of the date of this letter. The cost agreement should include sampling of all water supply wells within 1,000 feet of this facility. Every component may not be necessary to complete the above scope of work. The State Underground Petroleum Environmental Response Bank (SUPERB) Account allowable cost for each component is included on the Assessment Component Cost Agreement Form. **Please note that approval from the Department must be issued before work begins.**

On all correspondence regarding this site, please reference UST Permit #16067. If you have questions or need additional information, feel free to call me at (803) 896-6629.

Sincerely,

Andrew McCormick, Hydrogeologist
Assessment Section
Underground Storage Tank Management Division
Bureau of Land and Waste Management

cc: Emerald Inc., PO Box 3050, Sumter, SC 29151
Technical File

BLE INC.
BUNNELL-LAMMONS ENGINEERING, INC.
GEOTECHNICAL, ENVIRONMENTAL AND CONSTRUCTION MATERIALS CONSULTANTS

February 8, 2012

UST
FEB 10 2012
PROGRAM

UST
14tech
DOCKETING

South Carolina Department of Health and Environmental Control
Bureau of Underground Storage Tank Management
2600 Bull Street
Columbia, South Carolina 29201-1708

Attention: Mr. John Skowronek, P.G.
Hydrogeologist

Subject: **QAPP Addendum – Tier II Assessment**
Revision Number: 0
Spinx 258/Former Enmark 380
2725 College Street
Newberry, Newberry County, South Carolina
SCDHEC UST Permit #06588
BLE Project No. J12-6859-04

Dear Mr. Skowronek:

On behalf of Enmark Stations, Inc., Bunnell-Lammons Engineering, Inc. (BLE) submits herein the completed Quality Assurance Program Plan (QAPP) addendum for the subject site. This submittal is in response to the South Carolina Department of Health and Environmental Control's (SCDHEC) QAPP addendum request dated January 11, 2012 for the implementation of Aggressive Fluid Vapor Recovery, groundwater monitoring well installations, and a groundwater sampling event at the subject site. Upon approval from the SCDHEC, additional copies of the QAPP addendum will be distributed to the parties listed in section A3.

Please do not hesitate to contact us if you have any questions concerning this submittal.

Sincerely,

BUNNELL-LAMMONS ENGINEERING, INC.

TREVER Z. SLACK REGISTERED No. 2565 SOUTH CAROLINA PROFESSIONAL GEOLOGIST

Trever Z. Slack, P.G.
Project Hydrogeologist
Registered, South Carolina #2565

PROFESSIONAL GEOLOGIST REGISTERED No. 893 SOUTH CAROLINA THOMAS L. LAMMONS

Thomas L. Lammons, P.G., CHMM
Principal Hydrogeologist
Registered, South Carolina #893

cc: Mr. Tom Dolan, Enmark Stations, Inc., P.O. Box 728, Savannah, Georgia 31402-0728

6004 PONDERS COURT
GREENVILLE, SOUTH CAROLINA 29615

PHONE (864) 288-1265
FAX (864) 288-4430

Appendix B: Contractor Addendum

Section A – Project Management

A1 Title and Approval Page

Quality Assurance Project Plan
Addendum to the SCDHEC UST Programmatic QAPP
For
Spinx 258/Former Enmark 380 – UST Permit #06588

2725 College Street, Newberry, Newberry County, South Carolina

Prepared by: Trever Z. Slack, P.G. – Bunnell-Lammons Engineering, Inc.

Date: February 8, 2012

Bunnell-Lammons Engineering, Inc. – SCDHEC Certified Contractor No. UCC-010

Approvals

John Skowronek, P.G. SCDHEC Project Manager	_____ Signature	Date _____
Trevor J. Benton, P.G. Contractor QA Manager	_____ Signature	Date 02/08/2012
Thomas L. Lammons, P.G. Site Rehabilitation Contractor	_____ Signature	Date 02/08/2012
Michael Woodrum Laboratory Director	_____ Signature	Date 02/08/2012

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Attachment D – YSI 550A Dissolved Oxygen Instrument Calibration, Maintenance, and Operation Procedures

ASSESSMENT COMPONNENT COST AGREEMENT

A3 Distribution List

Name	Title	Organization/Address	Telephone Number	Fax Number	Email Address
John Skowronek, P.G.	SCDHEC Technical Project Manager	SCDHEC UST Management Division 2600 Bull Street Columbia, SC 29201	803-896-6648	803-896-6245	skowrojt@ dhec.sc.gov
Thomas Lammons, P.G., CHMM	Site Rehabilitation Contractor	Bunnell-Lammons Engineering, Inc. 6004 Ponders Court Greenville, SC 29615	864-288-1265	864-288-4430	tom@blecorp.com
Trever Slack, P.G.	Field Manager	Bunnell-Lammons Engineering, Inc. 6004 Ponders Court Greenville, SC 29615	864-288-1265	864-288-4430	tslack@blecorp.com
Marty King	Well Services/Driller	Landprobe Drilling 6004 Ponders Court Greenville, SC 29615	864-527-9324	864-288-4430	marty@landprobe. com
Trevor Benton, P.G.	Contractor QA Manager/ Project Verifier	Bunnell-Lammons Engineering, Inc. 6004 Ponders Court Greenville, SC 29615	864-288-1265	864-288-4430	trevor@blecorp.com
Michael Woodrum	Laboratory Director	Shealy Environmental Services, Inc. 106 Vantage Point Drive West Columbia, SC 29172	803-791-9700	803-791-9111	mwoodrum@ shealylab.com

Table 1A: Addendum Distribution List

A4 Project Organization

Role from the UST Master QAPP	Name of person in this Role for this Project	Organization/ Address	Telephone Number	Fax Number	Email Address
Project Manager	John Skowronek, P.G.	SCDHEC UST Management Division 2600 Bull Street Columbia, SC 29201	803-896-6648	803-896-6245	skowrojt@ dhec.sc.gov
Site Rehabilitation Contractor	Thomas Lammons, P.G., CHMM	Bunnell-Lammons Engineering, Inc. 6004 Ponders Court Greenville, SC 29615	864-288-1265	864-288-4430	tom@blecorp.com

Role from the UST Master QAPP	Name of person in this Role for this Project	Organization/ Address	Telephone Number	Fax Number	Email Address
Field Manager	Trever Slack, P.G.	Bunnell-Lammons Engineering, Inc. 6004 Ponders Court Greenville, SC 29615	864-288-1265	864-288-4430	tslack@blecorp.com
Analytical Laboratory Director	Michael Woodrum	Shealy Environmental Services, Inc. 106 Vantage Point Drive West Columbia, SC 29172	803-791-9700	803-791-9111	mwoodrum@ shealylab.com
Monitoring Well Driller	Marty King	Landprobe Drilling 6004 Ponders Court Greenville, SC 29615	864-527-9324	864-288-4430	marty@landprobe. com
Contractor QA Manager/ Project Verifier	Trevor Benton, P.G.	Bunnell-Lammons Engineering, Inc. 6004 Ponders Court Greenville, SC 29615	864-288-1265	864-288-4430	trevor@blecorp.com

Table 2A: Addendum Role Identification and Contact Information

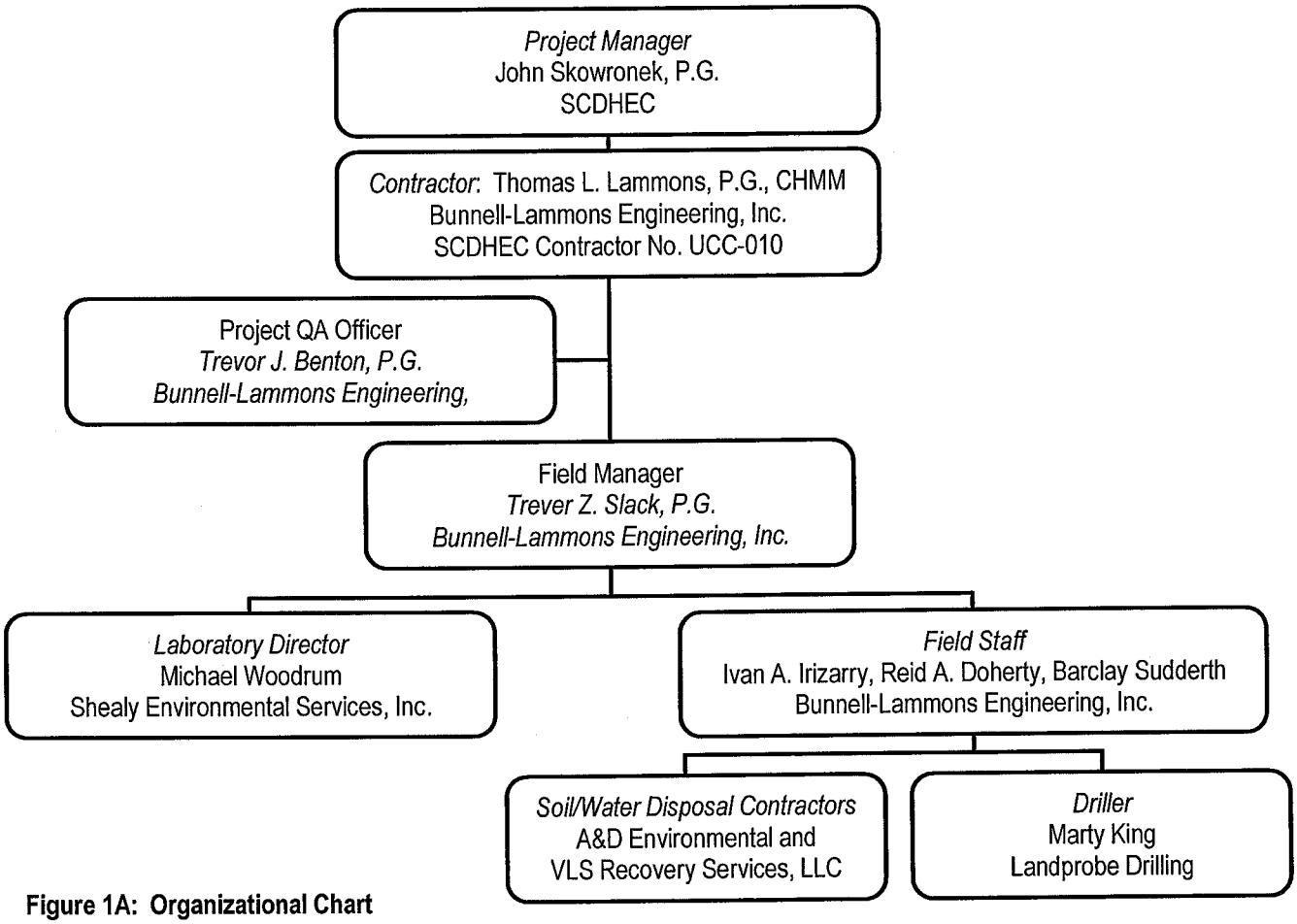


Figure 1A: Organizational Chart

Discuss the responsibilities of key individuals associated with the project.

SCDHEC Project Manager – Responsible for direct oversight of contractors conducting assessment and site rehabilitation of releases at UST sites. Perform day-to-day review of plans and reports related to site rehabilitation activities on their assigned sites. These reviews include verification and analysis of data submitted to the UST Management Division by site rehabilitation contractors and analytical laboratories and recommendations for future work. Also responsible for validating the Project Data.

Contractor – Responsible for managing and coordinating field and office activities necessary for assessment or cleanup. Perform data analysis and interpretation of field data.

Project QA Officer – Responsible for the Quality Assurance aspect of the Project. The QA officer is independent of the staff generating the project data; however, works closely with the Field Manager to ensure tasks are completed in compliance with the QAPP procedures.

Field Manager – Oversees and reviews all field activities. Responsible for all duties (i.e site access, boring access, utility clearance, etc.) required to initiate field activities. Field Staff and the analytical laboratory report directly to the Field Manager with any problems or potential issues. The Field Manager also reviews and compiles all field data provided by the Field Staff and analytical laboratory. Project information is discussed with the Project QA Officer to ensure compliance.

Lab Director – Responsible for ensuring production, quality, and overall direction of the laboratory. Oversees the laboratory QA manager and has the authority to stop work and initiate Corrective Actions if problems are identified.

Field Staff – Conducts field activities such as drilling oversight and sample collection. Field Staff report directly to and provide daily field notes to the Field Manager. Additionally, the field staff are responsible for coordination and management of on-site subcontractors during field work completion.

Soil Boring and Monitoring Well Driller – Installs soil borings and monitoring wells at the direction of the Field Manager and Field Staff. Driller must be a certified South Carolina Well Driller.

A5 Problem Definition/Background

Discuss the background (as much as is known) of the site and appropriate historical information, and why this site is being assessed.

In December 1989, MGM Petro Equipment and Environmental Services conducted a soil sampling program at the Enmark 380 site (formerly Interstate 380), and volatile organic compounds were detected in the UST soil backfill material at a concentration of 250 parts per million (ppm) using a HNu Model PI-101 photoionization detector (PID). The results of the soil evaluation were reported to SCDHEC's Mr. Paul Bergstrand in a letter dated December 29, 1989, and Interstate Stations, Inc. (Interstate Stations) requested that the site be included in the SCDHEC Early Detection Incentive Program. A SCDHEC follow-up directive letter dated September 25, 1990 was issued to Interstate Stations requiring an additional investigation to define the horizontal and vertical extent of the contamination in the soil. In response, an assessment plan dated February 4, 1991 and revised May 3, 1991 was submitted to SCDHEC, attention Mr. Joe Bowers and Mr. Christopher Doll, respectively. The revised assessment plan was approved, and five boreholes were drilled in the vicinity of the UST basin, product piping lines, and pump dispensers to depths of 10-feet below ground surface (bgs) to obtain soil samples. Representative soil samples were screened in the field and submitted for laboratory analysis of aromatic volatiles by Method 8020. Additionally, a permanent monitoring well (MW-1) was installed to the east of the pump dispenser islands to obtain a representative

groundwater sample. Petroleum compounds were detected above the laboratory method detection limit in numerous soil samples. Additionally, benzene (5,900 ug/l), toluene (5,900 ug/l), ethylbenzene (1,800 ug/l), and xylenes (7,200 ug/l) were detected in the groundwater sample from MW-1. Details of the assessment are summarized in a *correspondence letter* from Interstate Stations to Mr. Christopher Doll of SCDHEC dated October 21, 1991. To our knowledge, no further work has been conducted at the site to specifically address the December 1989 release.

On November 19, 1995, operators at the Interstate Station 380 site noted inventory discrepancies in the premium gasoline tank and on November 20, 1995, an inspection of the UST noted areas of corrosion. Based upon inventory records, it was determined that approximately 1,400-gallons of premium gasoline were lost. The release was reported to SCDHEC on November 22, 2010, and Handex of the Carolinas, Inc. (Handex) was retained to install three recovery wells (MW-2, MW-3, and MW-4) to serve as recovery points for free-product removal. Handex initiated a weekly well monitoring program which included manual bailing of any wells determined to contain free-phase petroleum product. Approximately 17.34 gallons were manually bailed from the wells, and on January 24, 1996, Handex installed a pneumatic pump in MW-4 which was run by compressed air from the stations tire air compressor. An additional 43 gallons of free-phase petroleum product was recovered with the pneumatic pump through February 20, 1996. Details of the free-product recovery and well monitoring activities conducted by Handex were detailed in a correspondence letter dated March 6, 1996 to Ms. Jan Cook of SCDHEC.

The groundwater monitoring well and recovery wells located at the site were sampled on June 11, 1997, and it was determined that benzene, toluene, ethylbenzene, and xylenes (BTEX), naphthalenes, and methyl-tert-butyl ether (MTBE) were present in the groundwater above South Carolina Risk-Based Screening Levels (RBSLs). A Rapid Assessment was completed at the site, which included the installation of three additional shallow monitoring wells (MW-5, MW-6, and MW-7) and one deep, telescoping monitoring well (MW-8D). Details of the Rapid Assessment can be found in the *Risk-Based Corrective Action Tier II Evaluation Report* by Handex dated May 27, 1999.

In May 2010, SCDHEC issued a directive to Enmark Stations, Inc. (Enmark) requesting a Tier II Assessment Plan. BLE was retained by Enmark to prepare the Tier II Assessment Plan, and the plan was submitted to SCDHEC on June 18, 2010. The plan was accepted, with minor modifications, and a Tier II Assessment directive was issued on August 16, 2010. BLE completed the Tier II Assessment as detailed in the *Tier II Assessment Report* dated February 2, 2011. Thirty-one shallow (Type II) and four deep (Type III) groundwater monitoring wells were installed during the Tier II assessment. Based on a review of the Tier II Assessment report, it was determined that the horizontal extent of the CoC had been defined; however, additional assessment of the vertical extent of groundwater CoCs was necessary. As a result, the SCDHEC issued a directive requesting the installation of one shallow (Type II) and three deep (Type III) groundwater monitoring wells and the completion of a comprehensive groundwater sampling event. These activities were completed by BLE and documented in a *Report of Monitoring Well Installation and Groundwater Sampling Event* dated August 30, 2011.

The conclusions of the report documented that the contaminant plume appears to be defined in the shallow, saprolite aquifer at the site, but that petroleum constituents may be migrating along the intermediate partially weathered rock zone and possibly into bedrock fractures at downgradient locations. Additionally, petroleum CoCs were documented in the nearest water supply well (DW-1 located approximately 250 feet to the northeast of the site) for the first time. Free-phase petroleum product was detected in MW-5 (0.02 feet), MW-6 (1.20 feet), and MW-7 (0.20 feet) during the current groundwater sampling event. Additionally, total BTEX concentrations approaching solubility limits were detected in monitoring wells MW-19 (60,200 µg/l) and MW-23 (74,000 µg/l), indicating that free-phase petroleum product was likely present but had not accumulated into the well due to various possible reasons (i.e., low mobility, surface tension, possible well skin effects resulting from the well installation process, etc.).

Please answer the following: Does this project fall under UST or Brownfields area?

UST Division (UST Permit #06588)

A6 Project/Task Description

1. ***Summarize what is known about the work to be done. This can be a short sentence indicating what the Scope of this project is (see Master QAPP Section A6).***

   Conduct a series of Aggressive Fluid Vapor Recovery (AFVR) events, install three additional groundwater monitoring wells (two Type III and one Type II), and conduct a comprehensive groundwater sampling event at the subject site pursuant to the SCDHEC's Master QAPP - Section A6.

2. ***The work will begin within <u>two weeks</u> after cost approval and the project should be <u>completed within 90 days</u>.***

3. ***Are there are time or resource constraints? Include those factors that may interfere with the tentative schedule.***

   Off-site property access, utility clearance, weather, and drill rig availability are potential time constraints for this project.

A7 Data Quality Objectives (DQOs) and Data Quality Indicators (DQIs)

Detail the geographical area that is to be part of the project. Maps should be included to show not only the topography and the geographical area of the State, but also to show more detail of the site itself including property lines.

See attached Figures 1 and 2.

A8 Training and Certificates

Required training and licenses:

Title/Job	Name	Training Required	Date Training Received	Type of License	License Number
Hydrogeologist	Thomas Lammons, P.G., CHMM	40-hour OSHA HAZWOPER & 8-Hour Refresher	2/3/12	SC Professional Geologist	#893
Hydrogeologist	Trevor Benton, P.G.	40-hour OSHA HAZWOPER & 8-Hour Refresher	2/3/12	SC Professional Geologist	#2395
Hydrogeologist	Trever Slack, P.G.	40-hour OSHA HAZWOPER & 8-Hour Refresher	2/3/12	SC Professional Geologist	#2565
Geologist	Ivan Irizarry	40-hour OSHA HAZWOPER & 8-Hour Refresher	2/3/12	N/A	N/A

Title/Job	Name	Training Required	Date Training Received	Type of License	License Number
Geologist	Reid Doherty	40-hour OSHA HAZWOPER & 8-Hour Refresher	2/3/12	N/A	N/A
Geologist	Barclay Sudderth	40-hour OSHA HAZWOPER & 8-Hour Refresher	2/3/12	N/A	N/A
Well Driller	Marty King	40-hour OSHA HAZWOPER & 8-Hour refresher	2/3/12	SC Well Driller	#1089
Surveyor	Ben Souther	NA	NA	PLS	#21232

Table 3A: Required Training and Licenses

Thomas L. Lammons, P.G. of Bunnell-Lammons Engineering, Inc. is responsible for ensuring that personnel participating in this project receive the proper training. All training records will be stored in the following location: Bunnell-Lammons Engineering, Inc., Human Resources Department Files c/o Ms. Esther Lande.

It is understood that training records will be produced if requested by SC DHEC.

The following Laboratory(ies) will be used for this Project:

Commercial Lab(s)

Full Name of the Laboratory: Shealy Environmental Services, Inc.
Name of Lab Director: Michael Woodrum
SC DHEC Certification Number: 32010
Parameters this Lab will analyze for this project:

- Benzene, toluene, ethylbenzene, and xylenes (BTEX), naphthalene, methyl-tert-butyl-ether (MTBE), 1,2-dichloroethane (1,2-DCA), and 8 oxygenates by EPA Method 8260B
- 1,2-dibromoethane (EDB) by EPA Method 8011
- Total lead by EPA Method 6010C

Please note: SCDHEC may require that the contractor submit some or all of the Laboratory's SOPs as part of this QAPP.

A9 Documents and Records

Personnel will receive the most current version of the QAPP Addendum via: (Check all that apply)

_✓_US Mail _____ Courier _✓_Hand delivered

Other (please specify): _____

Record	Produced By	Hardcopy/ Electronic	Storage Location & For how long?	Archival
Project Field Notes	BLE Personnel	Hardcopy	BLE file library. Hard copy storage for a minimum of 5 years.	After 5 years, the project data may be scanned and transferred to CD. CDs will be archived in BLE's file library.
Boring Logs	Landprobe Personnel	Hardcopy	BLE file library. Hard copy storage for a minimum of 5 years.	After 5 years, the project data may be scanned and transferred to CD. CDs will be archived in BLEs file library.
Instrument Raw Data	Shealy Environmental Services, Inc.	Hardcopy and Electronic	Hardcopy: Off-site 7 years Electronic: External hard drive for 10 years	Yes
Laboratory Analytical Data	Shealy Environmental Services, Inc.	Hardcopy & Electronic	Shealy will retain data on an external hard drive for 10 years. Data stored in BLE file library and electronic data storage backup. BLE hard copy storage for a minimum of 5 years.	After 5 years, the project data may be scanned and transferred to CD. CDs will be archived in BLEs file library.
Final Report	BLE Personnel	Hardcopy & Electronic	BLE file library and electronic data storage backup. Hard copy storage for a minimum of 5 years.	After 5 years, the project data may be scanned and transferred to CD. CDs will be archived in BLEs file library.

Table 4A: Record Identification, Storage, and Disposal

Section B – Measurement/Data Acquisition

B1 Sampling Process/Experimental Design

Item	Start Date	End Date	Comments
QAPP Addendum Preparation/Approval	January 11, 2012	February 24, 2012	Date assumes two weeks for SCDHEC QAPP review.
Off-Site Property Access	February 24, 2012	March 9, 2012	Off-site property access will be required for groundwater monitoring well installations and sampling on all off-site properties.
Well Drilling	March 12, 2012	March 16, 2012	1 shallow (Type II) groundwater monitoring well will be installed to approximately 30 feet below ground surface with a 10-foot screen and 2 deep (Type III) groundwater monitoring wells will be installed to approximately 50 feet below ground surface with 5 foot screens. Deep groundwater monitoring wells will be installed to screen the partially weathered rock zone just above competent bedrock. See SOP Attachment A for procedures for installing monitoring wells. Additionally, see attached Figure 2 for approximate proposed monitoring well locations.
Well Development	March 19, 2012	March 19, 2012	Purge a minimum of three well volumes to remove fine-grained sediments from the well screen and filter pack.
Site Survey Update	March 20, 2011	March 20, 2011	Perform a site survey update to incorporate the newly installed groundwater monitoring wells on one site map. Survey results will be tied into the State Plane Coordinate System.
Monitoring Well Sampling	March 22, 2012	March 23, 2012	Sample forty-seven existing and three newly installed groundwater monitoring wells. See SOP Attachment B for groundwater sampling procedures. Additionally, see attached Figure 2 for monitoring well locations.
AFVR Events	March 26, 2011	May 10, 2011	Perform a series of three AFVR events at the site: one AFVR event will be conducted on MW-6 and MW-7; one event on MW-23 and MW-19; and one event on MW-5. The AFVR events will be spaced approximately 15 days apart.
Report Preparation, Review, and Submittal	March 23, 2011	May 24, 2011	Report preparation, review, and submittal dates are contingent on completion of all required project activities. Date may be subject to change.

Table 5A: Sampling Activities

B2 Sampling Methods

Please note: The contractor must follow sampling protocols as given in the UST QAPP.

***Estimate* the number of samples of each matrix that are expected to be collected:**

Soil	0
Groundwater from monitoring wells	50 (47 existing and 3 newly installed monitoring wells)
From Drinking/Irrigation water wells	5 (Downgradient private water supply wells)
From surface water features	1 (Downgradient stream)
Field Duplicates	3 (one duplicate sample per 20 monitoring wells)
Field Blanks	3 (one per day)
Trip Blanks	3 (one trip blank per sample cooler)
Total number of Water samples	65
Total number of Soil samples	0

The samples will be (check as many as apply): ____Homogenized ____Split

For the sample matrices indicated above, please describe how samples will be collected and the equipment needed.

A Heron Little Dipper Water Level Indicator and/or Solinst Interface Meter will be used to measure the depth-to-water and free-product thickness in the monitoring wells prior to sample collection. An Oakton Model 35630-62 Multi-Parameter Meter will be used to measure pH, specific conductivity, and temperature during the groundwater sampling event. Additionally, an YSI 550A Dissolved Oxygen Meter will be used to measure dissolved oxygen levels in the groundwater.

Groundwater monitoring well samples will be collected with disposable polyethylene bailers. A new bailer will be utilized for each sampling location. Monitoring well sampling procedures are provided in SOP Attachment B.

Will Sampling Equipment have to be cleaned and decontaminated or is everything disposable?

Drilling rods and equipment will be decontaminated (high pressure steam-cleaning) prior to mobilizing to the site. Additionally, all drill rods will be properly decontaminated after each boring location and prior to leaving the site.

Disposable sampling equipment (i.e tubing, bailers, latex gloves, etc.) will be utilized for collecting groundwater samples.

Groundwater monitoring well samples will be collected with disposable polyethylene bailers. A new bailer will be utilized for each sampling location. Monitoring well sampling procedures are provided in SOP Attachment B.

The Heron Little Dipper Water Level Indicator and Solinst Interface Meter will require cleaning and decontamination between each groundwater monitoring well. The Oakton Model 35630-62 Multi-Parameter Meter and YSI 550A Dissolved Oxygen Meter will require cleaning and decontamination between measurements.

If sampling equipment must be cleaned please give a detailed description of how this is done and the disposal of by-products from the cleaning and decontamination.

A decontamination pad will be established on-site. Soil cuttings and drilling decontamination fluids will be contained and transferred to steel 55-gallon drums, which will be staged on-site for proper disposal. High pressure steam-cleaning will be utilized as the decontamination procedure.

Disposable sampling equipment (i.e. tubing, bailers, latex gloves, etc.) will be utilized for collecting groundwater samples, and will be properly disposed of after collection of each groundwater sample.

The Heron Little Dipper Water Level Indicator and Solinst Interface Meter will be cleaned and decontaminated by between each use. Decontamination procedures will consist of donning a new, clean pair of disposable gloves. A clean, lint free paper towel saturated with an alconox (or similar laboratory detergent)-potable water mix and a second paper towel saturated with distilled water will be used to wipe the water level tape as it is rewound onto the spool. Plastic will be placed underneath the meter to capture any rinse fluids. The water level/free-product indicator probe will be rinsed with an alconox-potable water mix, followed by a final rinse with distilled water. Used gloves and paper towels will be properly disposed of after decontamination procedures are complete.

The Oakton Model 35630-62 Multi-Parameter Meter and YSI 550A Dissolved Oxygen Meter will be cleaned and decontaminated between each measurement by first rinsing with an alconox-potable water mix. If the sampling equipment is severely contaminated, a soft disposable brush will be used. The alconox-potable water rinse will be followed by several rinses with de-ionized water prior to the next measurement.

By-products of the cleaning and decontamination will be contained in a 55-gallon drum and transported off-site for disposal at a permitted facility.

Identify any equipment and support facilities needed. This may include such things as Fed-Ex to ship the samples, a Geoprobe, field analysis done by another contractor (who must be certified), and electricity to run sampling equipment.

Equipment: CME 750 ATV drill rig
Schramm T450WS air rotary drill rig (if bedrock is encountered)

Soil/Water Disposal Contractor: A&D Environmental – 1741 Calks Ferry Road, Lexington, SC
VLS Recovery Services, LLC – 305 S. Main Street, Mauldin, SC 29662

Surveyor: Souther Land Surveying – 10253 Asheville Highway, Inman, SC (SC PLS #21232)

Address the actions to be taken when problems occur in the field, and the person responsible for taking corrective action and how the corrective action will be documented.

Failure	Response	Documentation	Individual Responsible
Property Access	Notify SCDHEC PM of failure to receive property access.	Telephone record/email correspondence to the SCDHEC placed in project file.	*Field Manager* Trever Z. Slack, P.G.

Failure	Response	Documentation	Individual Responsible
Drill Rig Breakdown	Make repairs in field or get replacement drilling equipment.	Field notes placed in project file.	*Driller* Joseph Smith
Well Location Inaccessibility – Power Lines or Other Utilities	Move well within 5 feet of proposed boring location. Notify SCDHEC PM if location is still not accessible.	Field notes placed in project file. Telephone record/email (if applicable) to SCDHEC placed in project file.	*Field Manager* Trever Z. Slack, P.G.
Heron Little Dipper Water Level Indicator Failure	Notify field manager of equipment failure. Clean indicator probe and replace batteries in the field. If problem persists, use backup water level indicator and send failed equipment to Field Environmental Instruments, Inc. in Pittsburgh, Pennsylvania for repair.	Telephone record/email correspondence to field manager.	*Field Staff* Ivan A. Irizarry Reid A. Doherty *Field Manager* Trever Z. Slack, P.G.
Solinst Interface Meter – Model 122	Notify field manager of equipment failure. Clean indicator probe and replace batteries in the field. If problem persists, use backup water level indicator and send failed equipment to Field Environmental Instruments, Inc. in Pittsburgh, Pennsylvania for repair.	Telephone record/email correspondence to field manager.	*Field Staff* Ivan A. Irizarry Reid A. Doherty *Field Manager* Trever Z. Slack, P.G.
Oakton Model 35630-62 Multi-Parameter Meter Failure	Notify field manager of equipment failure. Clean probe and replace batteries in the field, then recalibrate according to manufacturer's standards. If problem persists, use backup meter and send failed equipment to Field Environmental Instruments, Inc. in Pittsburgh, Pennsylvania for repair.	Telephone record/email correspondence to field manager.	*Field Staff* Ivan A. Irizarry Reid A. Doherty *Field Manager* Trever Z. Slack, P.G.
YSI 550A Dissolved Oxygen Meter Failure	Notify field manager of equipment failure. Replace membrane with spare, clean probe, and replace batteries in the field, then recalibrate according to manufacturer's standards. If problem persists, use backup meter and send failed equipment to Pine Environmental Services in Lilburn, Georgia for repair.	Telephone record/email correspondence to field manager.	*Field Staff* Ivan A. Irizarry Reid A. Doherty *Field Manager* Trever Z. Slack, P.G.

Table 6A: Field Corrective Action

B3 Sample Handling and Custody

1. How will the samples get from the Site to the Lab to ensure holding requirements are met?

By vehicle to BLE office; then vehicle pick-up by laboratory courier who delivers to lab location.

2. ***How will the contractors cool the samples and keep the samples cool?***

   Wet ice will be used in an appropriate sized cooler for storage of samples between project site and office. Once at office, samples will be maintained at appropriate temperatures in a refrigerator/freezer in a secured storage room located within the office.

3. ***How will the lab determine the temperature of the samples upon receipt? Will they be using a temperature blank?***

   A calibrated thermometer and temperature blank will be used to document sample temperature. The temperature blank is immediately checked by the sample receiving technician upon arrival at the laboratory.

4. ***Where will the samples be stored in the Lab once they are received?***

   All samples are stored in clean refrigeration units monitored and maintained at 4 degrees C +/- 2 degrees. Volatile organic samples are stored separately from all other samples.

5. ***Describe the chain of custody procedure and attach a copy of each chain of custody that will be used. If a Chain of Custody SOP exists from the Lab and the Contractor is willing to adhere to it, then this may be attached.***

   A chain of custody (COC) will be filled out for each sampling event at the site. COC will be signed by Bunnell-Lammons Engineering, Inc. field staff and Shealy Environmental Services, Inc. lab staff at time physical transfer of samples occurs to courier. Shealy Environmental Services, Inc. uses the following COC procedures to protect sample integrity following pickup by their courier: A full time Sample Receiving Technician receives all samples and completes a Sample Receipt Checklist (SRC), which will identify any anomalies. If any anomalies exist, the Sample Receiving Technician or Project Manager must resolve the deviation internally and/or notify the client to resolve the anomaly. A copy of a standard Shealy Environmental Services, Inc. COC is included with SOP Attachment B.

B4 Analytical Methods

1. ***Identify the SOPs which will be used to analyze the samples, the method which the SOP references and the equipment or instrumentation that is needed:***

Parameter	SOP ID*	Method Referenced	Equipment	Comments
BTEX+Naphthalene +MTBE+1,2-DCA+Oxygenates	S-VO-002	8260B	GC/MS	None
EDB	S-SV-012	8011	GC	None
Total Lead	S-IM-022	6010C	ICP	None
Specific Conductivity	See Attachment C Standard Operating Procedures for Oakton pH/Conductivity Series 10 Multi-Parameter Tester Analysis	Manufacturer Product Manual/Specifications	Oakton Model 35630-62 Multi-Parameter Meter	None

Parameter	SOP ID*	Method Referenced	Equipment	Comments
pH	See Attachment C Standard Operating Procedures for Oakton pH/Conductivity Series 10 Multi-Parameter Tester Analysis	Manufacturer Product Manual/Specifications	Oakton Model 35630-62 Multi-Parameter Meter	None
Temperature	See Attachment C Standard Operating Procedures for Oakton pH/Conductivity Series 10 Multi-Parameter Tester Analysis	Manufacturer Product Manual/Specifications	Oakton Model 35630-62 Multi-Parameter Meter	None
Dissolved Oxygen	See Attachment D Standard Operating Procedures for YSI 550A Dissolved Oxygen Instrument Analysis	Manufacturer Product Manual/Specifications	YSI 550A Dissolved Oxygen Meter	None

Table 7A: Analytical SOPs and Referenced Methods
*** This can be a full name of a SOP, an abbreviation, or a number. In the latter two cases, the abbreviation or number must be associated with the full name of the SOP. See also Table 8A SOP Abbreviation Key.**

Abbreviation	Lab Identification of this SOP	Full Name of the SOP
S-VO-002	S-VO-002	GC/MS Volatiles Analysis Based on EPA Methods 8260B and 624 Prepared by EPA Methods 5030B, 5035 and 3585
S-SV-012	S-SV-012	GC/ECD Analysis of EDB And DBCP Based On Method 8011 & 504.1
S-IM-022	S-IM-022	Inductively Coupled Plasma Atomic Emission Spectroscopy-Spectrometric Method for Trace Element Analyses Method 6010C
SOP Attachment A	SOP Attachment A	Monitoring Well Construction Procedures
SOP Attachment B	SOP Attachment B	Monitoring Well Purging and Sampling Procedures
SOP Attachment C	SOP Attachment C	Oakton ph/Conductivity Series 10 Multi-Parameter Tester Calibration and Operation Procedures
SOP Attachment D	SOP Attachment D	YSI 550A Dissolved Oxygen Instrument Calibration, Maintenance, and Operation Procedures

Table 8A: SOP Abbreviation Key

2. **Identify procedures to follow when failures occur, identify the individual responsible for corrective action and appropriate documentation:**

Failure	Response	Documented Where?	Individual Responsible
COC or Sample Receiving Issues	Call Client	Sample Receiving Checklist (SRC)	PM – Lucas Odom lodom@shealylab.com
Analytical Errors	Corrective Action Form (CAF)	CAF filled out by PM	Lab Director – Michael Woodrum mwoodrum@shealylab.com

Failure	Response	Documented Where?	Individual Responsible
QA/QC Failure	Corrective Action Form (CAF)	CAF filled out by PM	Lab Director – Michael Woodrum mwoodrum@shealylab.com QA/QC Office – Jami Savje jsavje@shealylab.com
On Time Delivery	Corrective Action Form (CAF)	CAF filled out by PM	Lab Director – Michael Woodrum mwoodrum@shealylab.com QA/QC Office – Jami Savje jsavje@shealylab.com
Specific Conductivity Reading Failure	Notify field manager of equipment failure. Clean probe and replace batteries in the field, then recalibrate according to manufacturer's standards. If problem persists, use backup meter and send failed equipment to Field Environmental Instruments, Inc. in Pittsburgh, Pennsylvania for repair.	Include a narrative of problem in field notes	*Field Staff* Ivan A. Irizarry Reid A. Doherty *Field Manager* Trever Z. Slack, P.G. tslack@blecorp.com
pH Reading Failure	Notify field manager of equipment failure. Clean probe and replace batteries in the field, then recalibrate according to manufacturer's standards. If problem persists, use backup meter and send failed equipment to Field Environmental Instruments, Inc. in Pittsburgh, Pennsylvania for repair.	Include a narrative of problem in field notes	*Field Staff* Ivan A. Irizarry Reid A. Doherty *Field Manager* Trever Z. Slack, P.G. tslack@blecorp.com
Temperature Reading Failure	Notify field manager of equipment failure. Clean probe and replace batteries in the field, then recalibrate according to manufacturer's standards. If problem persists, use backup meter and send failed equipment to Field Environmental Instruments, Inc. in Pittsburgh, Pennsylvania for repair.	Include a narrative of problem in field notes	*Field Staff* Ivan A. Irizarry Reid A. Doherty *Field Manager* Trever Z. Slack, P.G. tslack@blecorp.com
Dissolved Oxygen Reading Failure	Notify field manager of equipment failure. Replace membrane with spare, clean probe, and replace batteries in the field, then recalibrate according to manufacturer's standards. If problem persists, use backup meter and send failed equipment to Pine Environmental Services in Lilburn, Georgia for repair.	Include a narrative of problem in field notes	*Field Staff* Ivan A. Irizarry Reid A. Doherty *Field Manager* Trever Z. Slack, P.G. tslack@blecorp.com

Table 9A: Corrective Action Procedures

3. **Identify sample disposal procedures.**

Analysis	Matrix	Schedule for Disposal	Method for disposal	Comments
BTEX+Naphthalene+ MTBE+1,2-DCA+Oxygenates	Waters/Soils	Six Weeks	Tested for Hazardous Constituents and disposed as Hazardous or non-Hazardous waste.	None
EDB	Waters/Soils	Six Weeks	Tested for Hazardous Constituents and disposed as Hazardous or non-Hazardous waste.	None
Lead (total and/or dissolved)	Waters/Soils	Six Weeks	Tested for Hazardous Constituents and disposed as Hazardous or non-Hazardous waste.	None

Table 10A: Sample Disposal

4. **Provide SOPs for the Kerr Method or the Ferrous Iron Method if these are parameters for this study. This can be attached or written here. If attached please note that it is an attachment and where it is located (if applicable).**

   Not Applicable for this scope of work.

B5 Quality Control Requirements:

All QC will follow the requirements laid out in Section B5 of the UST Programmatic QAPP.

B6 Field Instrument and Equipment Testing, Inspection and Maintenance

1. **Identify all field and laboratory equipment needing periodic maintenance, the schedule for this, and the person responsible. Note the availability and location of spare parts.**

Instrument	Serial Number	Type of Maintenance	Frequency	Parts Needed/Location	Person Responsible
Heron little dipper water level indicator	18816	Indicator probe cleaning and battery monitoring	Daily	Replacement probe/battery – available at Field Environmental Instruments, Inc. in Pittsburgh, PA	Ivan Irizarry
Solinst Interface Meter - Model 122	122 007909-1	Indicator probe cleaning	Daily	Replacement probe – available at Field Environmental Instruments, Inc. in Pittsburgh, PA	Ivan Irizarry
Oakton 35630-62 Multi-Parameter Meter (pH, specific conductivity, and temperature)	324976	Probe cleaning and calibration	Weekly	Replacement parts available at Field Environmental Instruments, Inc. in Pittsburgh, PA	Ivan Irizarry

Instrument	Serial Number	Type of Maintenance	Frequency	Parts Needed/Location	Person Responsible
YSI 550A Dissolved Oxygen Meter	06A1121AC	Probe cleaning and membrane replacement	Cleaning – daily Membrane replacement – Monthly	Cleaning supplies and additional membranes and salt solution – available at Pine Environmental Services, Inc. in Lilburn, GA	Ivan Irizarry
Volatiles Mass Spec	ALL	Change traps, clean ion source, replace filaments	Periodic	Laboratory	MSV Analyst
ECD GC	ALL	Injection port maintenance, column replacement	Periodic	Laboratory	GC Analyst
ICP	ALL	Clean Sample introduction system, auto sampler, torch, Change spray chamber, torch tubing, tubing	Periodic	Laboratory	ICP Analyst

Table 11A: Instrument and Equipment Maintenance

2. **Identify the testing criteria for each lab or field instrument that is used to ensure the equipment is performing properly. Indicate how deficiencies, if found, will be resolved, re-inspections performed, and effectiveness of corrective action determined and documented. Give the person responsible for this.**

Instrument/Equipment & Serial Number	Type of Inspection	Requirement	Individual Responsible	Resolution of Deficiencies
Oakton 35630-62 Multi-Parameter Meter 324976	Inspect probe condition and verify output reading accuracy	Inspect probe for cracks or breaks. Inspect for residue on probe tips. Compare output readings to known standards.	Ivan Irizarry	Clean/replace probe. Calibrate instrument if output readings do not match standard values
YSI 55 Dissolved Oxygen Meter 06A1121AC	Inspect probe/membrane condition	Inspect probe for cracks or breaks. Verify that probe membrane is filled with salt (KCl) solution. Inspect for residue on probe tips. Compare output readings to known standards.	Ivan Irizarry	Clean/replace probe. Replace membrane. Calibrate instrument if output readings do not match standard values
Heron little dipper water level indicator	Daily indicator probe cleaning and battery monitoring	Inspect probe for cracks. Verify that probe is functioning and that batteries are charged..	Ivan Irizarry	Clean/replace probe or batteries
Solinst Interface Meter - Model 122	Daily indicator probe cleaning and battery monitoring	Inspect probe for cracks. Verify that probe is functioning and that batteries are charged.	Ivan Irizarry	Clean/replace probe or batteries

Instrument/Equipment & Serial Number	Type of Inspection	Requirement	Individual Responsible	Resolution of Deficiencies
Volatiles Mass Spec	Daily calibration check	Method Requirements	MSV Analyst	Recalibration or instrument maintenance
ECD GC	Daily calibration check	Method Requirements	GC Analyst	Recalibration or instrument maintenance
ICP	Daily calibration check	Method Requirements	ICP Analyst	Recalibration or instrument maintenance

Table 12A: Instrument and Equipment Inspection

B7 Instrument Calibration and Frequency

1. **Identify equipment, tools, and instruments for field or lab work that should be calibrated and the frequency.**
2. **Describe how the calibrations should be performed and documented, indicating test criteria and standards or certified equipment.**
3. **Identify how deficiencies should be resolved and documented. Identify the person responsible for corrective action.**

Instrument	Calibration Procedure	Frequency of Calibration	Acceptance Criteria	Corrective Action (CA)	Person Responsible for CA	SOP Reference*
Oakton 35630-62 Multi-Parameter Meter	Four point conductivity calibration; three point pH calibration; temperature verification	Daily	pH: Output value within ±1.00 pH unit of buffer Conductivity: Output value within 20% of calibration range.	Recalibrate equipment. If calibrations will not hold then replace unit.	Ivan Irizarry	SOP Attachment G *Oakton pH/Conductivity Series 10 Multi-Parameter Tester Calibration Procedures*
YSI 55 Dissolved Oxygen Meter	% Saturation	Daily	Output value within 1 mg/L of calibration solution.	Recalibrate equipment or replace membrane.	Ivan Irizarry	SOP Attachment H *YSI 550A Dissolved Oxygen Instrument Calibration and Maintenance Procedures*
Heron little dipper water level indicator	Calibrate against an invar steel surveyor's chain or steel tape	Monthly	Within 0.01 foot per 10 feet length	Replace water level meter tape	Ivan Irizarry	See Master QAPP
Solinst Interface Meter - Model 122	Calibrate against an invar steel surveyor's chain or steel tape	Monthly	Within 0.01 foot per 10 feet length	Replace water level meter tape	Ivan Irizarry	See Master QAPP

Instrument	Calibration Procedure	Frequency of Calibration	Acceptance Criteria	Corrective Action (CA)	Person Responsible for CA	SOP Reference*
Volatiles Mass Spec	Minimum of 5 calibration standards for all compounds	When indicated by continuous calibration verification standard	Method Criteria	Detailed in SOP	MSV Analyst	S-VO-002
GC ECD	Minimum of 5 calibration standards for all compounds	When indicated by calibration verification standard	Method Criteria	Detailed in SOP	GC Analyst	S-SV-012
ICP	Minimum of 3 calibration standards for all compounds	When indicated by calibration verification standard	Method Criteria	Detailed in SOP	ICP Analyst	S-IM-022

Table 13A: Instrument Calibration Criteria and Corrective Action
*** This can be a full name of a SOP, an abbreviation, or a number. In the latter two cases, the abbreviation or number must be associated with the full name of the SOP. See also Table 8A SOP Abbreviation Key.**

B8 Inspection/Acceptance Requirements for Supplies and Consumables

1. **Identify critical supplies and consumables for field and laboratory, noting supply source, acceptance criteria, and procedures for tracking, storing and retrieving these materials.**

2. **Identify the individual(s) responsible for this.**

Item	Vendor	Acceptance criteria	Handling/Storage Conditions	Person Responsible for Inspection and Tracking
Leather Work Gloves	Grainger	New or in good condition (if previously used) with no tears	Store away from direct sunlight in work vehicle	Ivan Irizarry
Latex Gloves	Eon Products	New material	Store in clean supply room located at BLE office	Ivan Irizarry
36-inch Weighted Polyethylene Bailer	Eon Products	New material	Store in clean supply room located at BLE office	Ivan Irizarry

Item	Vendor	Acceptance criteria	Handling/Storage Conditions	Person Responsible for Inspection and Tracking
Five-gallon Polyethylene Bucket	Lowes	New or in good condition (if previously used) with no cracks or holes	Store in clean supply room located at BLE office	Ivan Irizarry
Nylon Twine	Grainger/Lowes	New material	Store in clean supply room located at BLE office	Ivan Irizarry
Laboratory Chemicals	Fisher,VWR	Certificates of analysis and laboratory testing	Laboratory storage	Receiving and laboratory personnel
Laboratory Standards	O2Si, Restek, High Purity, VHG, Supelco	Certificates of analysis and laboratory verifications	Vendor specific storage conditions	Laboratory Analysts
Sample Containers	Daniels Scientific, QEC	Certificates of analysis and laboratory testing	Bottle storage area	Sample receiving personnel
15-lb Bags of Ice	Convenience Store	Pre-package bag of wet ice	Store in laboratory provided coolers	Ivan Irizarry
55-gallon Steel Open-head Drums	Dependable Drum Co.	New or reconditioned. Drums with holes or cracks will not be accepted	Storage at Landprobe lay-down yard until transported to site. At the site, drums will be filled and staged in a safe location. Drums will be moved around the site with a 1,000-lb capacity drum dolly.	Joe Smith
Non-hazardous Waste Labels (Vinyl)	Grainger	New material	Store in clean supply room located at BLE office	Ivan Irizarry

Table 14A: List of Consumables and Acceptance Criteria

B9 Data Acquisition Requirements (Non-Direct Measurements)

1. **Identify data sources, for example, computer databases or literature files, or models that should be accessed or used.**

2. **Describe the intended use of this information and the rationale for their selection, i.e., its relevance to project.**

3. **Indicate the acceptance criteria for these data sources and/or models.**

Data Source	Used For	Justification For Use In This Project	Comments
Report of Monitoring Well Installation and Groundwater Sampling Event by BLE, Inc. dated August 30, 2011	Historical laboratory analytical results and prior site map.	Historical analytical results utilized for intrawell COC data comparisons. Prior site map utilized for locating existing/proposed well locations.	None

Table 15A: Non-Direct Measurements

4. **Identify key resources/support facilities needed.**

Not applicable to this scope of work.

B10 Data Management

1. **Describe the data management scheme from field to final use and storage.**

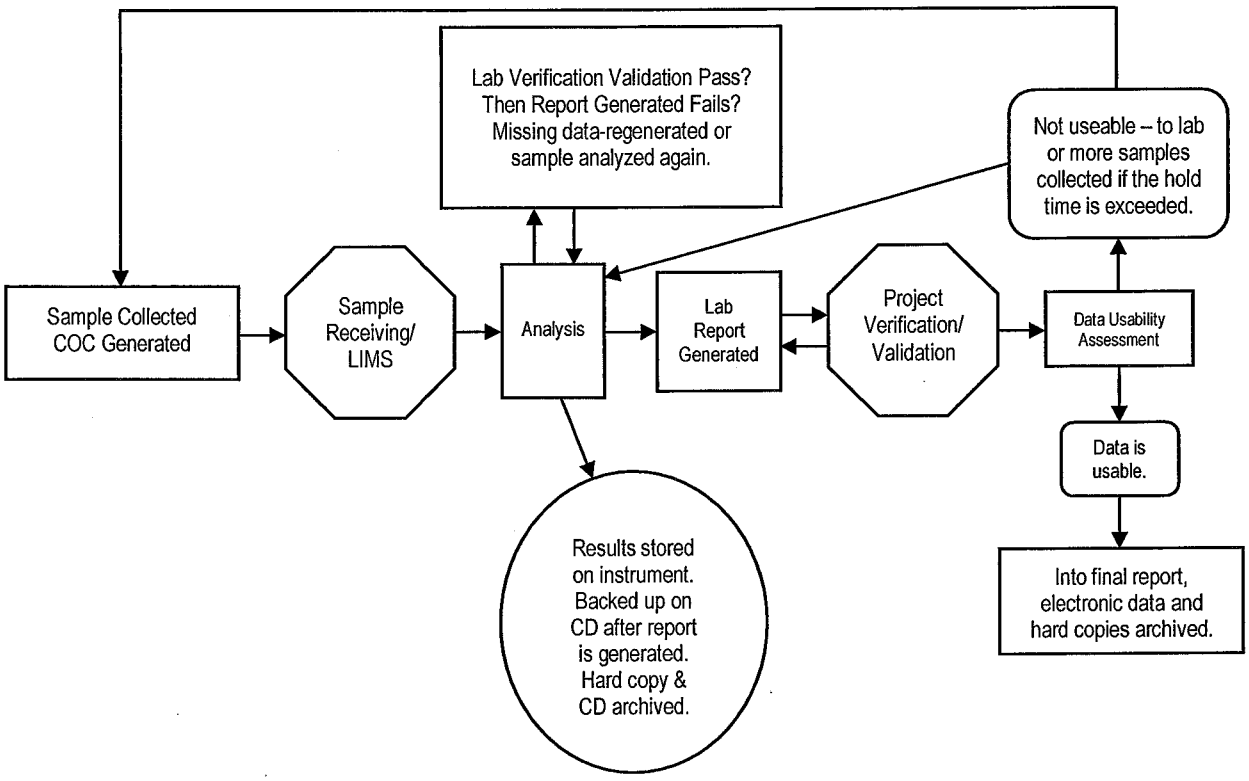


Figure 2: Example of a Data Management Scheme

1. **How does the lab and field staff ensure that no unauthorized changes are made to the chain of custody, sampling notebooks, laboratory notebooks and computer records?**

The chain of custody has an attached carbon copy, in which the field staff keeps one copy after the laboratory picks up samples. This original is used to determine if any changes are made to the COC after laboratory receipt. All COCs are reviewed by the laboratory during receipt of samples and submittal of final

report. Looking for inappropriate changes to the COC is in the scope of both laboratory reviews. The Quality Assurance/Quality Control Department oversees adherence to and review of these programs.

Field notes and logs will be stored in hardback bound field books and/or on standard 8 ½" x 11" field data sheets. Field data sheets are signed by field staff upon completion of daily work. Copies of field notes and driller 1903 forms are provided to the Field Manager on a daily basis and placed in the project file. Field boring logs are submitted to the BLE AutoCAD operator for boring log finalization. Digital copies of the final boring logs are kept on a backed-up digital file library.

Copies of field notes, boring logs, and sampling logs are reviewed by the Field Manager and placed in the project file. Additionally, field notes/logs are scanned, password secured, and placed into the digital project file. Original data sheets will also be kept by the field staff in field notebooks/folders for a minimum of three years.

2. **How does the lab ensure that there are no errors in samples records including times when sample information is compiled, data calculated and/or transmitted.**

The use of a Laboratory Information Management System (LIMS) is employed. The LIMS database is reviewed daily by laboratory management. Furthermore, the database is backed up daily to prevent the loss of data in the event of a system malfunction. Documentation of these procedures is provided in laboratory SOP S-AD-003, LIMS.

3. **How will the data be archived once the report is produced? How can it be retrieved? (This applies to both electronic and hard copies).**

The laboratory QA/QC department maintains and archives hardcopy data offsite. Electronic data is maintained and archived by the laboratory IT systems manager.

The final analytical data from Shealy Environmental Services, Inc. will be kept by the laboratory for a minimum of seven years. A hard copy of the data will be stored at an off-site facility and a digital copy will be saved on a backed-up computer server.

Hard copies of BLE's final reports are contained in the specific project folder in BLE's file library. Additionally, each report is converted to digital format and stored in its applicable digital file folder. Hard copy storage will be for a minimum of three years. Digital storage will be indefinite. Digital data is backed-up on a weekly basis on a four month rolling schedule. For security purposes, current week's data is stored at an off-site location. Additionally, data is backed-up and stored for a minimum of three years at an off-site location on a biannual basis.

Section C – Assessment and Oversight

C1 Assessment and Response Actions

1. ***The Contractor is supposed to observe field personnel daily during sampling activities to ensure samples are collected and handled properly and report problems to DHEC within 24 hours. Please state who is responsible for doing this and what observations will be made. Will this person have the authority to stop work if severe problems are seen?***

   Internal field audits may be performed on a daily basis by Trevor Benton, P.G. of Bunnell-Lammons Engineering, Inc. If any significant problems or deviations from the QAPP are noted, work may be stopped to resolve the issues. The SCDHEC project manager will be notified of the issues within 24 hours of the occurrence.

2. ***The SCDHEC UST QAPP states that the Lab will receive an Offsite Technical System Audit. For this project, what assessments will be done on the Commercial Lab(s) that are being used—other than their certification audit? When or how often are these done? Who will the results be given to and who has the ability to stop work if problems are severe?***

   The laboratory submits annual Proficiency Testing (PT) samples to Wibby Environmental. Wibby is an approved vendor that submits PT results to the office of environmental laboratory certification. The laboratory director has the authority to stop work and submit Corrective Actions if problems are severe.

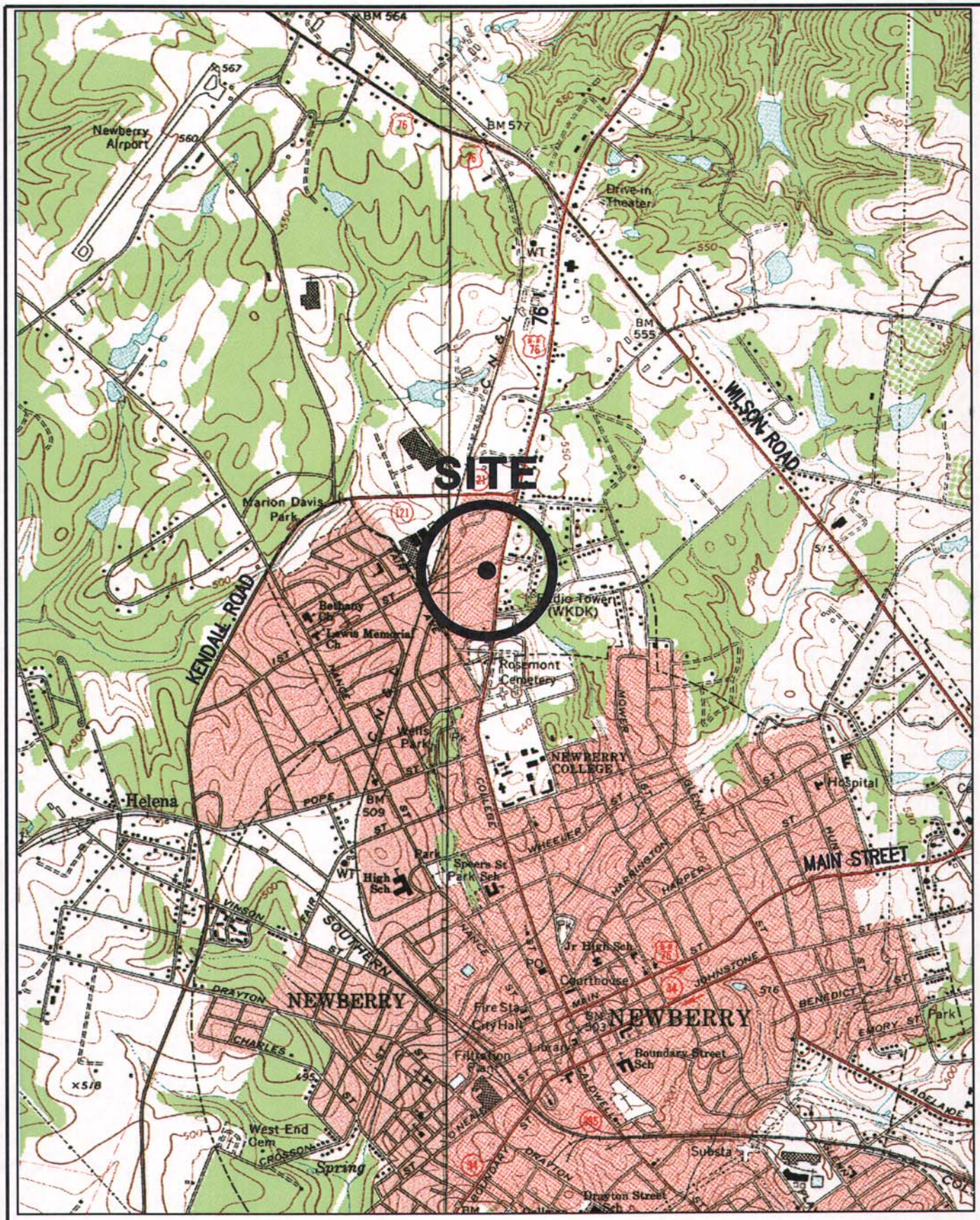
C2 Reports to Management

See the SC DHEC UST Programmatic QAPP (UST Master QAPP).

Section D – Data Validation and Usability

See the SC DHEC UST Programmatic QAPP (UST Master QAPP).

FIGURES



2000 1000 0 2000 4000

APPROXIMATE SCALE IN FEET

REFERENCE:
USGS TOPOGRAPHIC MAP, 7.5 MINUTE SERIES, NEWBERRY WEST AND NEWBERRY EAST, S.C. QUADRANGLES, 1969 AND 1968.

DRAWN: ACE	DATE: 02-03-12	BLE INC. BUNNELL-LAMMONS ENGINEERING, INC. 6004 PONDERS COURT GREENVILLE, SOUTH CAROLINA 29615 PHONE: (864)288-1265 FAX: (864)288-4430	SITE LOCATION MAP SPINX 258/FORMER ENMARK 380 UST PERMIT #06588 NEWBERRY, SOUTH CAROLINA	FIGURE 1
CHECKED: TZS	CAD: SPINX258-04SLM			
APPROVED:	JOB NO: J12-6859-04			

STANDARD OPERATING PROCEDURES AND FORMS

BLE

ATTACHMENT A

MONITORING WELL CONSTRUCTION PROCEDURES

Shallow Type II Well

Type II groundwater monitoring wells consist of 2-inch polyvinyl chloride (PVC) Schedule 40 casing with flush-threaded joints installed in an 8 ½-inch nominal diameter augered borehole or 6-inch nominal diameter air rotary borehole. The bottom 10-foot section of each well is a manufactured well screen with 0.010-inch wide machined slots. The well screen is installed to the depth of the boring and brackets the water table.

Deep Type III Well

In the Type III well installation, a 10 ½-inch nominal diameter boring is advanced through the overburden soils using 6.25-inch inside diameter (ID) hollow stem augers. A 6-inch diameter PVC casing is installed to the termination depth of the borehole. The annular space between the borehole and the 6-inch casing is pressure grouted with a cement/bentonite grout mixture to the ground surface. After curing, a 5 7/8-inch nominal diameter mud rotary bit or 5 ¾-inch nominal diameter air rotary bit is utilized to advance the borehole through the outer casing to the desired termination depth. A monitoring well is installed, constructed of 2-inch PVC Schedule 40 casing with flush-threaded joints and a 5-foot long manufactured well screen with 0.010-inch wide machined slots.

A. General

In the Type II and Type III wells, a washed sand filter pack is emplaced around the outside of the pipe from the bottom of the well casing to approximately two feet above the top of the well screen. The sand filter pack is used to stabilize the formation and to help yield a less turbid groundwater sample.

An approximate two-foot thick bentonite seal is installed on top of the sand filter pack to seal the monitoring well at the desired level. The well annulus is then grouted to the surface with a cement/bentonite grout mixture. A PVC cap and flush mount steel, bolted manhole cover is secured over each wellhead.

BLE

ATTACHMENT B

MONITORING WELL PURGING AND SAMPLING PROCEDURES

The monitoring wells are purged prior to sample collection to remove any stagnant water from the well so that the samples collected are representative of the groundwater quality in the vicinity of each well. For wells that recovered quickly, a minimum of three volumes of water were evacuated. Specific conductance, pH, and water temperature are measured periodically during well evacuation using instruments which were calibrated accordingly. Wells that are evacuated to dryness with less than three well volumes being removed are sampled as soon as the well has recovered enough to yield sufficient volume for a sample.

The monitoring wells are purged using a 3-foot long by 1.6-inch diameter disposable polyethylene bailer attached to an unused nylon cord. The wells are also sampled using a bailer as described above. To minimize the potential for cross-contamination between wells, a new clean bailer is used at each well.

Samples are placed in the appropriate laboratory supplied containers and marked with identifying numbers. Samples are maintained at 4°Celsius in a refrigerated sample cooler and shipped to Shealy Environmental Services, Inc. in West Columbia, South Carolina via courier service for analysis.

Shealy Environmental Services, Inc.
106 Vantage Point Drive
West Columbia, South Carolina 29172
Telephone No. (803) 791-9700 Fax No. (803) 791-9111
www.shealylab.com

SHEALY

Chain of Custody Record

Number 02112

Client	Report to Contact	Sampler (Printed Name)	Quote No.
Address	Telephone No. / Fax No. / Email	Waybill No.	Page ___ of ___
City / State / Zip Code	Preservative 1. Unpres. 4. HNO3 7. NaOH 2. NaOH/ZnA 5. HCL 3. H2SO4 6. Na Thio.		
Project Name			
Project Number	P.O Number		

Sample ID / Description (Containers for each sample may be combined on one line)	Date	Time	G=Grab C=Composite	Matrix: GW	DW	WW	S	Other	Analysis													Number of Containers / Bottle (See Instructions on back) / Preservative / Lot No.	Remarks / Cooler ID

Turn Around Time Required (Prior lab approval required for expedited TAT)	Sample Disposal	QC Requirements (Specify)	Possible Hazard Identification
☐ Standard ☐ Rush (Please Specify)	☐ Return to Client ☐ Disposal by Lab		☐Non-Hazard ☐Flammable ☐Skin Irritant ☐Poison ☐Unknown

1. Relinquished by / Sampler	Date	Time	1. Received by	Date	Time
2. Relinquished by	Date	Time	2. Received by	Date	Time
3. Relinquished by	Date	Time	3. Received by	Date	Time
4. Relinquished by	Date	Time	4. Laboratory Received by	Date	Time

Note: All samples are retained for six weeks from receipt unless other arrangements are made.

LAB USE ONLY
Received on Ice (Check) ☐ Yes ☐ No ☐ Ice Pack
Receipt Temp. _____ °C
Temp. Blank ☐ Y / ☐ N

BLE

ATTACHMENT C

OAKTON PH/CONDUCTIVITY SERIES 10 MULTI-PARAMETER TESTER CALIBRATION AND OPERATION PROCEDURES

The Oakton pH/conductivity multi-parameter series 10 tester requires a set of three calibrations for each of its output components. The three calibrations required for the meter are temperature, pH, and specific conductivity. The temperature calibration is based on comparing the meter based temperature reading to an appropriately calibrated thermometer. The pH calibration is based on a multi-point calibration utilizing three different buffers (pH 4, pH 7, and pH 10). The conductivity calibration is based on a four point calibration setup utilizing a set of predefined conductivity range solutions. The procedures to perform the three different calibrations are as follow.

Temperature Calibration

The built-in temperature sensor included in the probe is factory calibrated. The temperature sensor is calibrated only if temperature errors are suspected or if the probe is replaced. Temperature calibration procedures are as follows:

1. Power on the meter and select the pH mode.

2. Pres the Cal/measure key to enter calibration monde, the CAL indicator will appear above the primary display.

3. While in pH calibration mode, press the MODE key to enter temperature calibration mode. The primary display shows the temperature reading with zero offset and the secondary display shows you what the temperature value was initially.

4. The probe is dipped into a temperature bath and its allowed sufficient time for the meter's temperature reading to stabilize.

5. Once stabilized the temperature is set in to the meter using the up and down keys to match the temperature bath. The word Con appears on the screen indicating that calibration is complete.

Note: Since temperature readings affect the accuracy of the pH and conductivity measurements, pH and conductivity calibration are performed following the completion of the temperature calibration is.

pH Calibration

The instrument is capable of performing three point calibrations for pH. Though the three points are not essential for calibration, for our purposes we shall perform a three point pH calibration. The calibrations are performed by using standard pH buffers of 4.00, 7.00 and 10.00.

1. Select pH mode

2. Rinse the probe with DI water or rinse solution.

3. Dip the probe into the calibration buffer and stir the buffer. Press CAL/MEAS to enter the pH calibration mode. The primary display will show the measured reading while the smaller secondary display will indicate the pH standard buffer solution.

OAKTON PH/CONDUCTIVITY SERIES 10 MULTI-PARAMETER TESTER CALIBRATION AND OPERATION PROCEDURES - CONTINUED

4. Wait for the measured pH value to stabilize. The READY indicator will display when the reading stabilizes.

5. After the reading has stabilized and the READY indicator is displayed, press ENTER to confirm the calibration. A confirming indicator (CON) flashes and disappears. The meter is now calibrated to the buffer indicated in the secondary display.

The secondary display automatically scrolls to the next buffer calibration option if you are performing multi-point calibration, go to

6. Press the up or down keys to select the next buffer value you want to calibrate (pH 4.00, 7.00 or 10.00).

7. Repeat steps 1 through 6.

8. When calibration is complete, press CAL/MEAS to return to pH measurement mode.

Note: If the selected buffer value is not within ±1.00 pH from the measured pH value: The electrode and buffer icon blink and the ERR enunciator appears in the lower left corner of the display. These indicators also flash if the buffer used is not the same as the buffer value on the secondary display.

Conductivity Calibration

The series 10 pH/conductivity meter has four different conductivity measuring ranges. You can calibrate one point in each of the measuring ranges (up to four points). If you are measuring values in more than one range, each of the ranges must be calibrated. The following table lists the corresponding conductivity range. You should calibrate each range using a solution that falls between the values in the "recommended calibration solution range" column.

Conductivity Range Calibration Solution Range:

0.00 µS	19.99 µS	6.00 µS	17.0 µS
0.00 µS	199.9 µS	60.0 µS	170 µS
0.00 µS	1999 µS	600 µS	1700 µS
0.00 mS	19.99 mS	6.00 mS	17.00 mS

Note: Minimum calibration value should be 20% of full scale for the specific range (e.g.: the **LOWEST** calibration value for the range of 0.00 to 19.99 µS is 4.00 µS). When the meter is recalibrated, old calibrations are replaced on a range basis.

Conductivity calibration procedures are as follows:

1. Pour out two separate portions of the selected calibration standard and one of DI water into separate clean containers.

2. Select the conductivity mode on the meter.

OAKTON PH/CONDUCTIVITY SERIES 10 MULTI-PARAMETER TESTER CALIBRATION AND OPERATION PROCEDURES - CONTINUED

3. Rinse the probe with DI water, and then rinse the probe in one portion of the calibration standard. Submerge the probe into the second portion of the calibration standard. The meter auto ranging function selects the appropriate conductivity range (four ranges are possible). Be sure the probe is free from air bubbles and sufficient calibration standard is used to cover the conductivity sensor. Wait for the reading to stabilize. Once the readings have stabilized, the READY indicator should appear in the upper left hand corner.

4. Press the CAL/MEAS key. The CAL indicator appears above the primary display. The primary display shows the measured reading and the secondary display shows the temperature.

5. Use the up and down keys to match the reading to the solution standard.

6. Press the ENTER key to confirm calibration. Upon confirmation, the CON indicator appears briefly. The meter automatically switches back into Measurement mode. The display now shows the calibrated, temperature compensated conductivity value.

7. For calibration in other ranges (maximum: four ranges) repeat steps 1 through 6 with the appropriate calibration standards.

Meter Operation

The READY indicator appears on the display when the meter has stabilized. It will turn off if the readings start to fluctuate.

To take measurements:

1. Rinse the probe with DI water before use to remove any impurities adhering to the probebody. If the pH electrode has dehydrated, soak it for 30 minutes in tap water.

2. Switch on the meter. The MEAS annunciator appears on the top center of the LCD. The ATC indicator appears in the lower right hand corner to indicate Automatic Temperature Compensation.

3. Dip the probe into the sample. Allow time for the readings to stabilize. Note the readings on the display. When the readings are stable, the READY annunciator appears.

   Note: *Conductivity readings are auto-ranging and will automatically move to the correct range (four ranges possible).*

4. To toggle between pH and conductivity readings, press the MODE key.

   Note: *When measuring a sample, make sure that the probe is immersed beyond the electrode band. Stir the sample using the probe gently to create a homogenous sample.*

BLE

ATTACHMENT D

YSI 550A DISSOLVED OXYGEN INSTRUMENT CALIBRATION, MAINTENANCE, AND OPERATION PROCEDURES

INSTRUMENT CALIBRATION

Dissolved oxygen calibration must be done in an environment with known oxygen content. The YSI 550A DO Instrument can be calibrated in either mg/L or % saturation. BLE's preference is utilizing the % saturation method. Calibration instructions are described below:

1. Ensure that the sponge inside the instrument's calibration chamber is moist. Insert the probe into the calibration chamber.

2. Power the instrument on and allow readings to stabilize. This may take 5 to 15 minutes, depending on the age of the instrument and condition of the probe.

3. Press and release both the **UP ARROW** and **DOWN ARROW** keys at the same time to enter the calibration menu.

4. Press the **Mode** key until "%" is displayed on the right side of the screen for oxygen units. Press **ENTER**.

5. The LCD will prompt you to enter the local altitude in hundreds of feet. Use the arrow keys to increase or decrease the altitude. When the proper altitude appears on the LCD, press the **ENTER** key.

6. **CAL** will now display in the lower left corner of the screen, the calibration value in the lower right corner and the current DO reading (before calibration) will be the main display. Once the current DO reading is stable, press the **ENTER** button.

7. The LCD will prompt you to enter the approximate salinity of the water you are about to analyze. You can enter any number from 0 to 70 parts per thousand (PPT) of salinity. Use the arrow keys to increase or decrease the salinity setting. When the correct salinity appears on the LCD, press the **ENTER** key. The instrument will return to normal operation.

Upon completion of % saturation calibration, dissolved oxygen values can be compared to a known oxygen content for verification. Typically a 0.0 mg/L dissolved oxygen solution is utilized for this verification step.

MEMBRANE MAINTENANCE

A thin semi-permeable membrane, stretched over the sensor, isolates the electrodes from the environment, while allowing gases to enter. When a polarizing voltage is applied to the sensor electrodes oxygen that has passed through the membrane reacts at the cathode causing a current to flow. The membrane passes oxygen at a rate proportional to the pressure difference across it. Since oxygen is rapidly consumed at the cathode, it can be assumed that the oxygen pressure inside the membrane is zero. Hence, the force causing the oxygen to diffuse through the membrane is proportional to the partial pressure of oxygen outside the membrane. As the oxygen partial pressure varies, so does the oxygen diffusion through the membrane.

YSI 550A DISSOLVED OXYGEN INSTRUMENT CALIBRATION, MAINTENANCE, AND OPERATION PROCEDURES - CONTINUED

This causes the probe current to change proportionally. Additional membrane changes will be required over time. The average replacement interval is 4 to 8 weeks, although they may last longer if kept clean. To clean the membrane, a Kimwipe, and rubbing alcohol will be used to gently remove the contamination. Membranes will be replaced as necessary. Membrane replacement procedures are described below:

1. Remove the probe sensor guard to access the probe tip.
2. Unscrew and remove the old membrane cap and discard.
3. Thoroughly rinse the sensor tip with distilled or DI water.
4. Fill a new membrane cap with O2 probe solution that has been prepared according to the directions on the bottle. Be very careful not to touch the membrane surface. Lightly tap the side of the membrane cap to release bubbles that may be trapped.
5. Thread the membrane cap onto the probe. It is normal for a small amount of electrolyte to overflow.
6. Replace the probe sensor guard.

METER OPERATION

It is important to recognize that a very small amount of oxygen dissolved in the sample is consumed during probe operation. It is therefore essential that the sample be continuously stirred at the sensor tip. If stagnation occurs, measurements will appear artificially low. Stirring may be accomplished by mechanically moving the sample around the probe tip, or by moving the probe through the sample. The YSI Model 550A has a flow dependence of <25%. The rate of stirring required is 1/2 foot per second (16cm per second). Measurement procedures are as follows:

1. Insert the probe into the sample to be measured.
2. Continuously stir or move the probe through the sample.
3. Allow temperature and dissolved oxygen readings to stabilize.
4. Observe/Record readings.
5. Rinse the probe with clean water after each use and return probe to the calibration/storage chamber.
6. If unstable readings or membrane damage occurs, replace both the membrane cap and electrolyte solution.

ASSESSMENT COMPONENT COST AGREEMENT

D H E C

PROMOTE PROTECT PROSPER

ASSESSMENT COMPONENT COST AGREEMENT
SOUTH CAROLINA
Department of Health and Environmental Control
Underground Storage Tank Management Division
State Underground Petroleum Environmental Response Bank Account

Facility Name: Spinx 258/former Enmark 380

UST Permit #: 06588 **Cost Agreement #** _____

ITEM	QUANTITY	UNIT	UNIT PRICE		TOTAL
1. **Plan***					
B. Tax Map		x	$50.00		$0.00
C. Tier II or Comp. Plan /QAPP Appendix B	1	x	$525.00		$525.00
2. **Receptor Survey ***		x	$500.00		$0.00
3. **Survey (500 x 500 feet)**					
A. Comprehensive Survey		x	$1,000.00		$0.00
B. Subsurface Geophysical Survey					
1. < 10 meters below grade		x	$2,750.00		$0.00
2. > 10 meters below grade		x	$3,250.00		$0.00
C. Geophysical UST or Drum Survey		x	$1,125.00		$0.00
4. **Mob/Demob (Each)**					
A. Equipment	4	x	$575.00		$2,300.00
B. Personnel	8	x	$290.00		$2,320.00
C. Adverse Terrain Vehicle to install wells		x	$575.00		$0.00
5. **Soil Borings (hand auger)* (Feet)**		feet x	$14.00		$0.00
6. **Soil Borings (drilled) & Field Screening ***					
Rate includes collection of water sample or soil sample, and lab or other analyses					
A. Standard		feet x	$17.00		$0.00
C. Fractured Rock		feet x	$27.50		$0.00
7. **Soil Leachability Model (Each)**		each x	$200.00		$0.00
8. **Abandonment* (per foot)**					
A. 2" diameter or less		feet x	$5.00		$0.00
B. Greater than 2" to 6" diameter		feet x	$5.50		$0.00
C. Dug/Bored well (up to 6 foot diameter)		feet x	$18.00		$0.00
9. **Well Installation* (per foot)**					
A. Water Table (hand augered)		feet x	$20.00		$0.00
B. Water Table (drill rig)	30	feet x	$38.00		$1,140.00
C. Telescoping/ Pit Cased	100	feet x	$58.00		$5,800.00
D. Rock Drilling		feet x	$58.00		$0.00
E. 2" Rock Coring		feet x	$45.00		$0.00
G. Rock Multi-sampling ports/screens		feet x	$47.20		$0.00
H. Recovery Well (4 inch diameter)		each x	$45.00		$0.00
I. Pushed Pre-packed screen (1.25 diameter)		each x	$18.50		$0.00
J. Rotosonic (2 inch diameter)		each x	$45.00		$0.00
10. **Groundwater Sample Collection / Gauge Depth to Water or Product (Each)**					
A. Groundwater Purge	11	wells x	$55.00		$605.00
B. Air or Vapors		samples x	$90.00		$0.00
C. Water Supply	5	samples x	$30.00		$150.00
D. Groundwater No Purge or Duplicate	42	samples x	$35.00		$1,470.00
E. Gauge Well only		per well x	$20.00		$0.00
F. Sample Below Product		wells x	$50.00		$0.00
G. Pasive Diffusion Bag		each x	$40.00		$0.00
H. Field Blank	3	each x	$5.00		$15.00

ITEM	QUANTITY	UNIT	UNIT PRICE		TOTAL
11. Laboratory Analyses-Groundwater (Each Sample)					
A1. BTEX+Naphth.+ Oxyg's+ 1,2 DCA + Ethanol	65	samples x	$100.00		$6,500.00
AA. Lead, Filtered		samples x	$46.00		$0.00
B1. Rush EPA Method 8260B (All of item A.)		samples x	$143.00		$0.00
C1. Trimethal, Butyl, and Isopropyl Benzenes		samples x	$40.00		$0.00
D. PAH's		samples x	$120.00		$0.00
E. Lead, Unfiltered	56	samples x	$20.00		$1,120.00
F. EDB by EPA 8011	65	samples x	$55.00		$3,575.00
FF. EDB by EPA Method 8011 Rush		samples x	$75.00		$0.00
G. 8 RCRA Metals		samples x	$140.00		$0.00
H. TPH (9070)		samples x	$55.00		$0.00
I. pH		samples x	$10.00		$0.00
J. BOD		samples x	$40.00		$0.00
P1. Ethanol		samples x	$21.50		$0.00
11. **Analyses-Soil (Each Sample)**					
Q. BTEX + Naphth.		samples x	$100.00		$0.00
R. PAH's		samples x	$120.00		$0.00
S. 8 RCRA Metals		samples x	$150.00		$0.00
T. Oil & Grease (9071)		samples x	$60.00		$0.00
U. TPH-DRO (3550B/8015B)		samples x	$65.00		$0.00
V. TPH- GRO (5030B/8015B)		samples x	$65.00		$0.00
W. Grain size/hydrometer		samples x	$99.00		$0.00
X. Total Organic Carbon		samples x	$35.00		$0.00
11. **Analyses-Air (Each Sample)**					
Y. BTEX + Naphthalene		samples x	$247.50		$0.00
11. **Analyses-Free Phase Product (Each Sample)**					
Z. Hydrocarbon Fuel Identification		samples x	$620.00		$0.00
12. **Aquifer Characterization***					
A. Pumping Test		hours x	$120.00		$0.00
B. Slug Test*		tests x	$150.00		$0.00
C. Fractured Rock		tests x	$500.00		$0.00
13. **Free Product Recovery Rate Test* (Each)**		tests x	$120.00		$0.00
14. **Fate/Transport Modeling**					
A. Mathematical Model		each x	$300.00		$0.00
B. Computer Model		each x	$500.00		$0.00
15. **Risk Evaluation**					
A. Tier I Risk Evaluation		x	$300.00		$0.00
B. Tier II Risk Evaluation		x	$500.00		$0.00
16. **Subsequent Survey***		x	$300.00		$0.00
17. **Disposal* (gallons or tons)**					
A. Wastewater	3150	gallons x	$0.80		$2,520.00
B1. Free Product		gallons x	$0.85		$0.00
C. Soil Treatment/Disposal	10	tons x	$72.50		$725.00
D. Drilling fluids Decon water	25	gallons x	$0.80		$20.00
18. **Miscellaneous (attach receipts)**					
		x			$0.00
		x			$0.00
		x			$0.00
20. **Tier I Assessment (Use DHEC 3665 form)**		x			$0.00
21. **IGWA (Use DHEC 3666 form)**		x			$0.00
22. **Corrective Action (Use DHEC 3667 form)**		x			$0.00
23. **Aggressive Fluid & Vapor Recovery (AFVR)**					
A. 8-hour Event*	3	each x	$3,000.00		$9,000.00
B. AFVR per-hour Continuance		per hour x	$204.00		$0.00
C. Off-gas treatment per-hour Continuance	24	per hour x	$35.00		$840.00

ITEM	QUANTITY	UNIT	UNIT PRICE		TOTAL
24. **Granulated Activated Carbon (GAC) filter system installation & service:**					
A. New GAC System Installation*		each x	$2,500.00		$0.00
B1. Refurbished GAC Sys. Install*		each x	$1,180.00		$0.00
C. Filter replacement/removal*		each x	$450.00		$0.00
D1. GAC System removal, cleaning, & refurbishment*		each x	$720.00		$0.00
E. GAC System housing		each x	$450.00		$0.00
F. In-line particulate filter		each x	$150.00		$0.00
G. Additional piping & fittings		feet x	$4.00		$0.00
25. **Well Repair**					
A. Additional Copies of the Report Delivered		each x	$32.50		$0.00
B. Repair 2x2 MW pad		each x	$100.00		$0.00
C. Repair 4x4 MW pad		each x	$150.00		$0.00
D. Repair well vault		each x	$225.00		$0.00
F. Replace well cover bolts		each x	$10.00		$0.00
G. Replace locking well cap & lock		each x	$15.00		$0.00
H. Replace/Repair stick-up		each x	$137.50		$0.00
I. Convert Flush-mount to Stick-up		each x	$175.00		$0.00
J. Convert Stick-up to Flush-mount		each x	$125.00		$0.00
K. Replace missing/illegible well ID plate		each x	$22.50		$0.00
Report Prep & Project Management	15%	x	$38,625.00		$5,793.75
TOTAL					$44,418.75

*The appropriate mobilization cost can be added to complete these tasks, as necessary

D H E C

PROMOTE PROTECT PROSPER

Catherine B. Templeton, Director

Promoting and protecting the health of the public and the environment

MR TOM DOLAN
INTERSTATE STATIONS INC
PO BOX 728
SAVANNAH GA 31402-0728

APR 10 2012

UST 15 tech DOCKETING

Re: AFVR and Assessment Directive
Spinx 258, 2725 College St, Newberry, SC
UST Permit #06588; Cost Agreement #s 43532 & 43533
Release #1 reported Dec. 29, 1989, Release #2 reported Nov. 21, 1995
Additional Assessment Report received September 2, 2011
Site Specific QAPP Contractor Addendum received February 10, 2012
Newberry County

Dear Mr. Dolan:

The Underground Storage Tank Division of the South Carolina Department of Health and Environmental Control (SCDHEC) has reviewed the referenced report and all information on-file for the referenced facility. The report indicates that chemicals of concern are present in the groundwater at concentrations that exceed risk-based screening levels and free phase product is present. To determine what risk the chemicals may pose to the environment and public health, and in accordance with Section 280.65 of the South Carolina Underground Storage Tank Control Regulations, the UST Division has determined three additional monitoring wells are required: one deep monitoring well downgradient of MW-16, and a shallow/deep monitoring well cluster between MW-36 and MW-37, and implementation of three Aggressive Fluid and Vapor Recovery (AFVR) events and sampling of the existing groundwater monitoring well network is necessary at this time. The work should be in accordance with the *SCDHEC Quality Assurance Program Plan for Underground Storage Tank Management.* A copy of this document is available at http://www.scdhec.gov /environment/lwm/html/ust.htm.

The report, contractor checklist, and invoice should be submitted to the Division within 100 days of the date of this correspondence. Installation of the new monitoring wells and conducting the AFVR events will proceed immediately upon receipt of this letter. Monitoring well approval and the signed site-specific QAPP contractor addendum are enclosed for your information. A copy of each has been provided your site rehabilitation contractor. The shallow monitoring well must be installed with a 10-foot screen that brackets the water table. **The SUPERB Account cannot reimburse costs for any shallow well with a screen that does not properly bracket the water table.** Approximately one month after completion of the AFVR event, a groundwater sampling event should be completed to obtain current data. Groundwater samples should be collected from each water supply well within 1,000 feet of the referenced facility. The samples should be analyzed for BTEX, Naphthalene, 8 Oxygenates, 1,2 DCA, Ethanol, MtBE and EDB. **No-purge** groundwater samples should be collected from all monitoring wells associated with this facility, unless the well screen does not bracket the water table or the well is newly installed, then the samples should be collected after the monitoring well has been purged. Groundwater samples from all monitoring wells should be analyzed for BTEX, Naphthalene, 8 Oxygenates, 1,2 DCA, Ethanol, MtBE, Lead, and EDB. The groundwater samples should be analyzed in accordance with Appendix E. Analytical Parameters and Methods of the *SCDHEC QAPP for Underground Storage Tank Management* to include duplicate samples, field and trip blanks.

Magnehelic gauges must be installed on the extraction wells and monitoring wells immediately surrounding the extraction wells. The AFVR should be completed by establishing a vacuum on the subsurface through the existing monitoring wells. The unit must be capable of providing a minimum airflow of 250 cubic feet per minute (CPM) at 32 inches Mercury vacuum. An airtight seal must be established on the top of each extraction well. Drop tubes inserted in the well(s) should have an inside diameter of at least one (1) inch and should initially be installed six inches below the bottom of the product or the top of the well screen, whichever is deeper. The drop tubes should be lowered deeper in the well only if the well exhibits slow recovery (repeatedly goes dry) or if it is deemed necessary to establish a steeper hydraulic gradient to enhance free product migration toward the well. The goal is to maximize the recovery of free product and petroleum vapors in the capillary fringe and minimize the recovery of ground water. The AFVR/Assessment Report submitted at the completion of these activities should include the following:

- A narrative portion documenting each AFVR event noting site conditions, the name of the AFVR contractor, field personnel, date, time each AFVR event started and ended, ambient air temperature, general weather conditions during the AFVR event, and the estimated amount in gallons of the petroleum products removed as a liquid or vapor for the event. AFVR data reported must include product recovery rate, volatile air emission concentration, vacuum radius of influence measurements taken at 30-minute intervals during the event and gauging data. Wells containing free phase product should be gauged at the beginning and end of each AFVR event. Disposal manifests for the AFVR event should be included as part of the final report.
- A narrative portion documenting site conditions after each AFVR event and noting the names of field personnel, date, time, ambient air temperature, and general weather conditions during the sampling event.
- Boring logs and Water Well Logs (DHEC Form 1903) signed by a South Carolina certified well driller for each temporary or permanent monitoring well in accordance with the South Carolina Well Standards, R.61-71.
- A narrative portion documenting current site conditions during the groundwater sampling event noting the names of field personnel, date, time, ambient air temperature, and general weather conditions during the sampling event. The report shall also contain well purging data, pH, specific conductivity, water temperature, PID readings (where applicable) and turbidity measurements.
- Groundwater elevations, depth to groundwater, measurable free product thickness (where applicable), total well depth and screened interval for all monitoring wells associated with the site, unless otherwise directed by the Division, shall be presented in tabular form. Groundwater laboratory analytical data for all monitoring wells shall be presented in tabular format.
- A groundwater elevation contour map of the site based on current groundwater potentiometric data.
- A CoC map based on current groundwater laboratory analytical data. The groundwater data should be adjacent to the relevant monitoring well location.
- Manifests for any contaminated soil and/or groundwater removed from the site for treatment and/or disposal.
- Signature and seal by a professional geologist or engineer registered in the State of South Carolina.
- According to R.61-98 Section IV.C.1 all plans, reports, invoices, and other documents relating to site rehabilitation activities which have been prepared or approved by a certified contractor shall be signed by the certified contractor and bear his certification number.

Cost agreement numbers 43532 and 43533 have been approved for the amounts shown on the enclosed cost agreements.

Bunnell-Lammons Engineering, Inc. can submit an invoice for direct payment from State Underground Petroleum Environmental Response Bank (SUPERB) Account for preapproved costs. An interim well drilling invoice may be submitted for this scope of work. If you would like the UST Division to pay an

interim invoice for the AFVR event, please submit an interim AFVR Report to my attention and an invoice for the AFVR event to the attention of the UST Financial Section. Please note that Sections 44-2-110(4) and 44-2-130 of the SUPERB Statute state that no costs will be allowed unless prior approval from the Department is obtained. If for any reason additional tasks will be completed, these additional tasks and the associated costs must be pre-approved by the Department for the costs to be paid. The SCDHEC reserves the authority to pay only for work properly performed and/or technically justified and will only pay rates in accordance with established criteria. Further, SCDHEC reserves the right to question and/or reject costs if deemed unreasonable and to audit project records at any time during the project or after completion of work. All work must be conducted by well drillers, laboratories, and contractors that are licensed by the state of South Carolina and SCDHEC. The UST Management Division encourages the use of 'J' values as necessary so the appropriate action can be determined for a release. Note that the Division may deny payment for any non-detect analysis where the reporting limit exceeds the RBSL.

The Department grants pre-approval for transportation of virgin petroleum impacted soil and groundwater from the referenced site to a permitted treatment facility. There can be no spillage or leakage in transport. All investigation derived waste (IDW) must be properly contained and labeled prior to disposal. IDW should not be stored on-site longer than ninety (90) days. A copy of the disposal manifest and/or acceptance letter from the receiving facility that clearly designates the quantity received must be included as an appendix to the report. If the COC concentrations based on laboratory analysis is below Risk Based Screening Levels (RBSLs), please contact the project manager for approval to dispose of soil and/or groundwater on site. The SUPERB Account will not reimburse for transportation or treatment of soil and/or groundwater with concentrations below RBSLs.

On all correspondence regarding this site, please reference UST Permit #06588. Should you have any questions regarding this correspondence, please feel free to contact me at (803) 896-6648.

Sincerely,

John Skowronek

John Skowronek, P.G., Hydrogeologist
Assessment Section
Underground Storage Tank Management Division
Bureau of Land and Waste Management

enc: Approved Cost Agreements
Monitoring Well Approval
Signed Site Specific QAPP Contractor Addendum

cc: Bunnell-Lammons Engineering, Inc., 6004 Ponders Court, Greenville, SC 29615(with enc.)
Technical file (with enc.)

D H E C

PROMOTE PROTECT PROSPER

Catherine B. Templeton, Director

Promoting and protecting the health of the public and the environment

Monitoring Well Approval

Approval is hereby granted to:	Bunnell-Lammons Engineering, Inc.
(on behalf of):	Enmark Stations, Incorporated
Facility:	Spinx 258/ Enmark 380, 2725 College Street, Newberry, SC
UST Permit Number:	06588
County:	Newberry

This approval is for the installation of one shallow and two deep groundwater monitoring wells. The monitoring wells are to be installed in the approved locations. The monitoring wells are to be installed following the South Carolina Well Standards, R.61-71, and the applicable guidance documents.

Please note that R.61-71 requires the following:

1. All wells shall be drilled, constructed, and abandoned by a South Carolina certified well driller per R.61-71.D.1.
2. All monitoring wells shall be labeled as required by R.61-71.H.2.c.
3. A Water Well Record Form or other form provided or approved by the Department shall be completed and submitted to the Department within 30 days after well completion or abandonment unless another schedule has been approved by the Department. The form should contain the "as-built" construction details and all other information required by R.61-71.H.1.f
4. All analytical data and water levels obtained from each monitoring well shall be submitted to the Department within 30 days of receipt of laboratory results unless another schedule has been approved by the Department as required by R.61-71.H.1.d.
5. If any of the information provided to the Department changes, notification to John Skowronek (tel: (803) 896-6648 or e-mail:skowrojt@dhec.sc.gov) shall be provided a minimum of twenty-four (24) hours prior to well construction as required by R.61-71.H.1.a.
6. All temporary monitoring wells shall be abandoned within 5 days of borehole completion using appropriate methods as required by R.61-71.H.4.c. All other wells shall be properly developed per R.61-71.H.2.d.
7. Departmental approval is required prior to abandonment of all monitoring wells as required by R.61-71.H.1.a.

This approval is pursuant to the provisions of Section 44-55-40 of the 1976 South Carolina Code of Laws and R.61-71 of the South Carolina Well Standards and Regulations, dated April 26, 2002. A copy of this approval should be on the site during well installation.

Date of Issuance: **April 2, 2012** **Approval #:** **UMW-24531**

John Skowronek

John Skowronek, P.G., Hydrogeologist
Assessment Section
Underground Storage Tank Management Division
Bureau of Land and Waste Management

Section A – Project Management

A1 Title and Approval Page

Quality Assurance Project Plan
Addendum to the SCDHEC UST Programmatic QAPP
For
Spinx 258/Former Enmark 380 – UST Permit #06588

2725 College Street, Newberry, Newberry County, South Carolina

Prepared by: Trever Z. Slack, P.G. – Bunnell-Lammons Engineering, Inc.

Date: February 8, 2012

Bunnell-Lammons Engineering, Inc. – SCDHEC Certified Contractor No. UCC-010

Approvals

John Skowronek, P.G. SCDHEC Project Manager	John Skowronek Signature	Date 4/02/2012
Trevor J. Benton, P.G. Contractor QA Manager	Signature	Date 02/08/2012
Thomas L. Lammons, P.G. Site Rehabilitation Contractor	Signature	Date 02/08/2012
Michael Woodrum Laboratory Director	Signature	Date 02/08/2012

Approved Cost Agreement 43532

Facility: 06588 SPINX 258
SKOWROJT
PO Number:

Task / Description	Categories	Item Description	Qty / Pct	Unit Price	Amount
01 PLAN					
		C TIER II/COMP. PLAN/QAPP APP B	0.5000	525.00	262.50
04 MOB/DEMOB					
		A EQUIPMENT	2.0000	575.00	1,150.00
		B PERSONNEL	4.0000	290.00	1,160.00
09 WELL INSTALLATION					
		B WATER TABLE (DRILLED)	15.0000	38.00	570.00
		C TELESCOPING	50.0000	58.00	2,900.00
10 SAMPLE COLLECTION					
		A GROUND WATER	5.5000	55.00	302.50
		C WATER SUPPLY	2.5000	30.00	75.00
		D GROUNDWATER NO-PURGE	21.0000	35.00	735.00
		H FIELD BLANK	1.5000	5.00	7.50
11 ANALYSES					
	GW GROUNDWATER	A1 BTEXNM+OXYGS+1,2-DCA+ETH-8260B	32.5000	100.00	3,250.00
		E LEAD	28.0000	20.00	560.00
		F EDB	32.5000	55.00	1,787.50
17 DISPOSAL					
		A WASTEWATER	1,575.0000	0.80	1,260.00
		C SOIL (TREATMENT/DISPOSAL)	5.0000	72.50	362.50
		D DRILLING FLUIDS	12.5000	0.80	10.00
19 RPT/PROJECT MNGT & COORDINATIO					
		PCT PERCENT	0.1500	19,312.50	2,896.88
23 EFR					
		A 8 HOUR EVENT	1.5000	3,000.00	4,500.00
		C OFF GAS TREATMENT	12.0000	35.00	420.00
			Total Amount		22,209.38

Approved Cost Agreement 43533

Facility: 06588 SPINX 258
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BUNNELL-LAMMONS ENGINEERING, INC.

GEOTECHNICAL, ENVIRONMENTAL AND CONSTRUCTION MATERIALS CONSULTANTS

REPORT OF AGGRESSIVE FLUID VAPOR RECOVERY, MONITORING WELL INSTALLATION, & GROUNDWATER SAMPLING

SPINX 258/FORMER ENMARK 380
2725 COLLEGE STREET
NEWBERRY, NEWBERRY COUNTY, SOUTH CAROLINA
UST PERMIT #06588; COST AGREEMENT #43532 & #43533

Prepared For

Enmark Stations, Inc.
Post Office Box 728
Savannah, Georgia 31402

Prepared By

Bunnell-Lammons Engineering, Inc.
6004 Ponders Court
Greenville, South Carolina 29615
SCDHEC Certified Contractor No. UCC-10

August 30, 2012

BLE Project Number J12-6859-04

BUNNELL-LAMMONS ENGINEERING, INC.
GEOTECHNICAL, ENVIRONMENTAL AND CONSTRUCTION MATERIALS CONSULTANTS

August 30, 2012

South Carolina Department of Health and Environmental Control
Bureau of Land and Waste Management
Underground Storage Tank Program
2600 Bull Street
Columbia, South Carolina 29201-1708

Attention: Mr. John Skowronek, P.G., Hydrogeologist

Subject: **Report of Aggressive Fluid Vapor Recovery, Monitoring Well Installation, and Groundwater Sampling**
Spinx 258/Former Enmark 380
Newberry, Newberry County, South Carolina
UST Permit #06588; CA #43532 & #43533
BLE Project No. J12-6859-04

Dear Mr. Skowronek:

As authorized, Bunnell-Lammons Engineering, Inc. (BLE) has completed a series of three aggressive fluid vapor recovery (AFVR) events, installation of one shallow (Type II) and two deep (Type III) groundwater monitoring wells, and a comprehensive groundwater sampling event at the subject site pursuant to the SCDHEC's April 10, 2012 *AFVR and Assessment Directive*. This report describes the work performed and presents the results obtained, along with our comments and recommendations.

We appreciate the opportunity to be of service on behalf of Enmark Stations, Inc. Please do not hesitate to contact us if you have any questions concerning this report.

Sincerely,

BUNNELL-LAMMONS ENGINEERING, INC.

Trever Z. Slack, P.G.
Project Hydrogeologist
Registered, South Carolina No. 2565

Thomas L. Lammons, P.G., CHMM
Principal Hydrogeologist
Registered, South Carolina No. 893

6004 PONDERS COURT
GREENVILLE, SOUTH CAROLINA 29615

PHONE (864) 288-1265
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BACKGROUND INFORMATION

The subject property is located at 2725 College Street in Newberry, Newberry County, South Carolina (**Figure 1**). The site is currently utilized as an automobile fueling station and retail convenience store and is bordered by commercial properties to the east and south and residential properties to the north and west.

According to the SCDHEC Underground Storage Tank (UST) Registry, four USTs (one 6,000-gallon diesel, one 6,000-gallon regular gasoline, one 8,000-gallon premium gasoline, and one 8,000-gallon regular gasoline) are present on-site. Two petroleum hydrocarbon releases have been reported at the facility in December 1989 and November 1995.

Site History

In December 1989, MGM Petro Equipment and Environmental Services conducted a soil sampling program at the Enmark 380 site (formerly Interstate 380), and volatile organic compounds were detected in the UST soil backfill material at a concentration of 250 parts per million (ppm) using a HNu Model PI-101 photoionization detector (PID). The results of the soil evaluation were reported to the SCDHEC's Mr. Paul Bergstrand in a letter dated December 29, 1989, and Interstate Stations, Inc. (Interstate Stations) requested that the site be included in the SCDHEC Early Detection Incentive Program. A SCDHEC follow-up directive letter dated September 25, 1990 was issued to Interstate Stations requiring an additional investigation to define the horizontal and vertical extent of the contamination in the soil. In response, an assessment plan dated February 4, 1991 and revised May 3, 1991 was submitted to the SCDHEC, attention Mr. Joe Bowers and Mr. Christopher Doll, respectively. The revised assessment plan was approved, and five boreholes were drilled in the vicinity of the UST basin, product piping lines, and pump dispensers to depths of 10-feet below ground surface (bgs) to obtain soil samples. Representative soil samples were screened in the field and submitted for laboratory analysis of aromatic volatiles by Method 8020. Additionally, a permanent monitoring well (06588-MW01) was installed to the east of the pump dispenser islands to obtain a representative groundwater sample. Petroleum compounds were detected above the laboratory method detection limit in numerous soil samples. Additionally, benzene (5,900 ug/l),

toluene (5,900 ug/l), ethylbenzene (1,800 ug/l), and xylenes (7,200 ug/l) were detected in the groundwater sample collected from monitoring well 06588-MW01. Details of the assessment are summarized in a *correspondence letter* from Interstate Stations to Mr. Christopher Doll of the SCDHEC dated October 21, 1991.

On November 19, 1995, operators at the Interstate Station 380 site noted inventory discrepancies in the premium gasoline tank and on November 20, 1995 an inspection of the UST noted areas of corrosion. Based upon inventory records, it was determined that approximately 1,400-gallons of premium gasoline were lost. The release was reported to the SCDHEC on November 22, 2010, and Handex of the Carolinas, Inc. (Handex) was retained to install three recovery wells (06588-MW02, 06588-MW03, and 06588-MW04) to serve as recovery points for free-product removal. Handex initiated a weekly well monitoring program which included manual bailing of any wells determined to contain free-phase petroleum product. Approximately 17.34 gallons were manually bailed from the wells, and on January 24, 1996, Handex installed a pneumatic pump in 06588-MW04 which was run by compressed air from the stations tire air compressor. An additional 43 gallons of free-phase petroleum product was recovered with the pneumatic pump through February 20, 1996. Details of the free-product recovery and well monitoring activities conducted by Handex were detailed in a correspondence letter dated March 6, 1996 to Ms. Jan Cook of the SCDHEC.

The groundwater monitoring well and recovery wells located at the site were sampled on June 11, 1997, and it was determined that benzene, toluene, ethylbenzene, and xylenes (BTEX), naphthalenes, and methyl-tert-butyl ether (MTBE) were present in the groundwater above South Carolina Risk-Based Screening Levels (RBSLs)[1]. A Rapid Assessment was completed at the site, which included the installation of three additional shallow monitoring wells (06588-MW05, 06588-MW06, and 06588-MW07) and one deep, telescoping monitoring well (06588-MW08D). Details of the Rapid Assessment can be found in the *Risk-Based Corrective Action Tier II Evaluation Report* by Handex dated May 27, 1999.

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[1] *South Carolina Risk-Based Corrective Action for Petroleum Releases*, Bureau of Land and Waste Management, Underground Storage Tank Program, May 15, 2001.

In May 2010, the SCDHEC issued a directive to Enmark Stations, Inc. (Enmark) requesting a Tier II Assessment Plan. BLE was retained by Enmark to prepare the Tier II Assessment Plan, and the plan was submitted to the SCDHEC on June 18, 2010. The plan was accepted, with minor modifications, and a Tier II Assessment directive was issued on August 16, 2010. BLE completed the Tier II Assessment as detailed in the *Tier II Assessment Report* dated February 2, 2011. Thirty-one shallow (Type II) and four deep (Type III) groundwater monitoring wells were installed during the Tier II assessment. Based on a review of the *Tier II Assessment Report*, it was determined that the horizontal extent of the contaminants of concern (CoC) had been defined; however, additional assessment of the vertical extent of groundwater CoCs was necessary. As a result, the SCDHEC issued a directive requesting the installation of one shallow (Type II) and three deep (Type III) monitoring wells and the completion of a comprehensive groundwater sampling event. The additional well installations were completed by BLE and followed by a comprehensive groundwater sampling event. During the groundwater sampling event, free-phase petroleum product was detected in monitoring wells 06588-MW05 (0.02-feet), 06588-MW06 (1.20-feet), and 06588-MW07 (0.20-feet). Details of the activities are included in the *Report of Monitoring Well Installation and Groundwater Sampling Event* by BLE dated August 30, 2011.

Upon review of the additional assessment results, the SCDHEC issued a directive on April 10, 2012, requiring the installation of additional shallow and deep groundwater monitoring wells, the completion of AFVR events to remove free-phase petroleum product from select monitoring wells, and the completion of a comprehensive groundwater sampling event. The completion of these directed activities is documented herein.

AGGRESSIVE FLUID VAPOR RECOVERY EVENT #1 – May 8, 2012

On May 8, 2012, an 8-hour AFVR event was conducted on monitoring wells 06588-MW06 and 06588-MW23. The AFVR event was performed by Landprobe Drilling Services, LLC (Landprobe) of Greenville, South Carolina and a geologist was on-site for observation and monitoring. Prior to initiating the event, BLE personnel gauged the monitoring wells using a Solinst® Interface Meter

Model 122. 1.63-feet and 1.74-feet of free-phase petroleum product were detected in monitoring wells 06588-MW06 and 06588-MW23, respectively, prior to the AFVR event.

The AFVR event was initiated at 0915 and concluded at 1715. The general weather conditions observed during this period of time were clear to mostly cloudy; winds varied between 0 and 5 miles per hour (mph) with an ambient temperature between 69º and 87º Fahrenheit. Throughout the duration of the AFVR event, a continuous vacuum ranging from 19.5 to 20.5 inches of mercury was applied to monitoring wells 06588-MW06 and 06588-MW23. The vacuum was measured in adjacent monitoring wells 06588-MW19 and 06588-MW40 every 30 minutes to evaluate the radius of influence. Gauging data observed during the event is shown in **Table 1A**.

Due to the close proximity of the site to a public area, volatile air emissions were treated on-site by Landprobe personnel utilizing a vapor exhaust chiller and a granulated activated carbon (GAC) unit. Influent and effluent vapor concentrations were measured every 30 minutes throughout the event using a MiniRAE® 2000 Photo Ionization Detector (PID). The observed vapor concentrations are shown in **Table 1A**.

At the completion of the AFVR event, a total volume of 1,008-gallons of petroleum impacted groundwater was determined to have been recovered from the site. Eight gallons of free-phase petroleum product was measured in the holding tank at the end of the AFVR event. It should be noted that petroleum product losses may occur through emulsification with the groundwater and volatilization during the AFVR event. Additionally, the liquids may not have had sufficient time to separate in order to obtain an accurate free-product thickness. Waste transportation and disposal records for the petroleum impacted groundwater recovered during the AFVR event are provided in **Appendix A**.

A total of approximately 2.56 pounds of gasoline vapor which is equivalent to approximately 0.41 gallons of gasoline, were calculated to have been recovered during the AFVR event. The AFVR emissions calculations for this event are provided as **Table 1B**.

Monitoring wells 06588-MW06 and 06588-MW23 were gauged immediately following the conclusion of the AFVR event and no free-phase petroleum product was detected.

AGGRESSIVE FLUID VAPOR RECOVERY EVENT #2 – May 23, 2012

On May 23, 2012, an 8-hour AFVR event was conducted on monitoring well 06588-MW07. The AFVR event was performed by Landprobe and a geologist was on-site for observation and monitoring. Prior to initiating the event, BLE personnel gauged the monitoring well using a Solinst® Interface Meter Model 122. 0.41-feet of free-phase petroleum product was detected in monitoring well 06588-MW07 prior to the AFVR event.

The AFVR event was initiated at 0710 and concluded at 1510. The general weather conditions observed during this period of time were clear to mostly cloudy; winds varied between 0 and 9 mph with an ambient temperature between 59º and 82º Fahrenheit. Throughout the duration of the AFVR event, a continuous vacuum ranging from 21.5 to 23.0 inches of mercury was applied to monitoring well 06588-MW07. The vacuum was measured in adjacent monitoring wells 06588-MW17 and 06588-MW40 every 30 minutes to evaluate the radius of influence. Gauging data observed during the event is shown in **Table 2A**.

Due to the close proximity of the site to a public area, volatile air emissions were treated on site by Landprobe personnel utilizing a vapor exhaust chiller and a GAC unit. Influent and effluent vapor concentrations were measured every 30 minutes throughout the event using a MiniRAE® 2000 PID. The observed vapor concentrations are shown in **Table 2A**.

At the completion of the AFVR event, a total volume of 415-gallons of petroleum impacted groundwater was determined to have been recovered from the site. No free-phase petroleum product was measured in the holding tank at the end of the AFVR event; however, it should be noted that petroleum product losses may occur through emulsification with the groundwater and volatilization during the AFVR event. Additionally, the liquids may not have had sufficient time to separate in

order to obtain an accurate free-product thickness. Waste transportation and disposal records for the petroleum impacted groundwater recovered during the AFVR event are provided in **Appendix A**.

A total of approximately 1.97 pounds of gasoline vapor which is equivalent to approximately 0.31 gallons of gasoline, were calculated to have been recovered during the AFVR event. The AFVR emissions calculations for this event are provided as **Table 2B**.

Monitoring well 06588-MW07 was gauged immediately following the conclusion of the event and no free-phase petroleum product was detected.

AGGRESSIVE FLUID VAPOR RECOVERY EVENT #3 – June 19, 2012

On June 19, 2012, an 8-hour AFVR event was conducted on monitoring wells 06588-MW05, 06588-MW24, and 06588-MW25. The AFVR event was performed by Landprobe and a geologist was on-site for observation and monitoring. Prior to initiating the event, BLE personnel gauged the monitoring wells using a Solinst® Interface Meter Model 122. 1.64-feet, 1.62-feet, and 0.18-feet of free-phase petroleum product were detected in monitoring wells 06588-MW05, 06588-MW24, and 06588-MW25, respectively, prior to the AFVR event.

The AFVR event was initiated at 0745 and concluded at 1545. The general weather conditions observed during this period of time were mostly cloudy to cloudy with occasional rain showers; winds varied between 0 and 9 mph with an ambient temperature between 71° and 80° Fahrenheit. Throughout the duration of the AFVR event, a continuous vacuum ranging from 16.5 to 18.5 inches of mercury was applied to monitoring wells 06588-MW05, 06588-MW24, and 06588-MW25. The vacuum was measured in adjacent monitoring wells 06588-MW06 and 06588-MW40 every 30 minutes to evaluate the radius of influence. Gauging data observed during the event is shown in **Table 3A**.

Due to the close proximity of the site to a public area, volatile air emissions were treated on site by Landprobe personnel utilizing a vapor exhaust chiller and a GAC unit. Influent and effluent vapor

concentrations were measured every 30 minutes throughout the event using a MiniRAE® 2000 PID. The observed vapor concentrations are shown in **Table 3A**.

At the completion of the AFVR event, a total volume of 1,311 gallons of petroleum impacted groundwater was determined to have been recovered from the site. Six gallons of free-phase petroleum product were measured in the holding tank at the end of the AFVR event. It should be noted that petroleum product losses may occur through emulsification with the groundwater and volatilization during the AFVR event. Additionally, the liquids may not have had sufficient time to separate in order to obtain an accurate free-product thickness. Waste transportation and disposal records for the petroleum impacted groundwater recovered during the AFVR event are provided in **Appendix A**.

A total of approximately 1.67 pounds of gasoline vapor which is equivalent to approximately 0.27 gallons of gasoline, were calculated to have been recovered during the AFVR event. The AFVR emissions calculations for this event are provided as **Table 3B**.

Monitoring wells 06588-MW05, 06588-MW24, and 06588-MW25 were gauged immediately following the conclusion of the event and no free-phase petroleum product was detected in monitoring wells 06588-MW05 or 06588-MW24. However, 0.14-feet of free-phase petroleum product was detected in monitoring well 06588-MW25.

MONITORING WELL INSTALLATION

One shallow (Type II) groundwater monitoring well (06588-MW42) and two deep (Type III) groundwater monitoring wells (06588-MW42D and 06588-MW43D) were installed between July 3 and July 5, 2012.

Type II Well – (06588-MW42)

Monitoring well 06588-MW42 was installed as a Type II monitoring well and was drilled using a CME 550 drill utilizing 4¼-inch inside diameter (ID) hollow stem augers. The monitoring well construction consists of a 2-inch ID, schedule 40 PVC casing with flush-threaded joints. The bottom 10-foot section of the well is a manufactured well screen with 0.010-inch wide machined slots. The well screen was installed to the depth of the boring and bracketed the water table. Standard sand filter pack, bentonite seal and grout were installed to the ground surface. Drilling procedures for the Type II monitoring well are described in **Appendix B**.

Type III Wells – (06588-MW42D & 06588-MW43D)

Monitoring wells 06588-MW42D and 06588-MW43D were installed as Type III, vertical extent (telescoping) monitoring wells. The well boreholes were drilled using a CME 550 drill utilizing 9¼-inch ID hollow stem augers and a 4-inch diameter roller cone bit. The telescoping wells were constructed with a 6-inch ID schedule 40 PVC outer casing installed to approximate depths of 20.0-feet bgs (06588-MW42D) and 27.0-feet bgs (06588-MW43D). The casings were then pressure grouted to the ground surface using a grout shoe and allowed to cure for at least 24 hours. After curing, a 4-inch diameter roller cone bit was utilized to advance the boreholes through the outer casing to a termination depth of 32.75-feet bgs (06588-MW42D) and 33.03-feet bgs (06588-MW43D). The well screens for both 06588-MW42D and 06588-MW43D were installed in the partially weathered rock unit on top of bedrock. A 2-inch ID schedule 40 PVC casing with flush-threaded joints was installed in each borehole. The bottom 5-foot section of each well was a manufactured well screen with 0.010-inch machined slots. Standard filter sand pack, bentonite seal and grout were installed to the ground surface. Drilling procedures for the Type III monitoring wells are described in **Appendix B**.

General

At assigned intervals, drill cuttings were collected for soil classification. Representative portions of the test samples were visually examined and classified in the field. To help prevent cross-

contamination, downhole drilling equipment was steam cleaned between borings. Monitoring well construction diagrams and 1903 Water Well Records are included in **Appendix B**. Monitoring well construction data is provided in **Table 4.**

Drill cuttings generated during the installation of the monitoring wells were contained in 55-gallon drums on site. These 55-gallon drums of petroleum impacted soil were transported off-site for disposal. Waste transportation and disposal records are included in **Appendix C**.
Monitoring well installations were performed by a South Carolina licensed driller (Thomas Burnett #387-A) from AE Drilling Services, LLC of Greenville, South Carolina while being supervised by a BLE geologist. The monitoring well locations were surveyed by a licensed surveyor (Ben Souther PLS#21232) on July 12, 2012 to establish horizontal control and vertical elevations of the top of PVC casing and ground surface for the newly installed groundwater monitoring wells. The surveyed locations of the newly installed groundwater monitoring wells along with a groundwater potentiometric map has been included as **Figure 2**. **Figures 3a** and **3b** provide updated hydrogeologic cross-sections through the subsurface. The cross-sections depict the surveyed ground surface elevation, subsurface lithologies, monitoring wells and their respective screened intervals, and the static groundwater elevation.

GROUNDWATER SAMPLING

Twenty-one groundwater monitoring wells are located on site (06588-MW01 through 06588-MW07, 06588-MW07D, 06588-MW08D, 06588-MW09 through 06588-MW11, 06588-MW14, 06588-MW15, 06588-MW23, 06588-MW24, 06588-MW24D, 06588-MW25 through 06588-MW27, and 06588-MW40) and twenty-nine are present off-site (06588-MW12, 06588-MW13, 06588-MW16 through 06588-MW21, 06588-MW21D, 06588-MW22, 06588-MW22D, 06588-MW28 through 06588-MW30, 06588-MW30D, 06588-MW31 through 06588-MW33, 06588-MW33D, 06588-MW34 through 06588-MW39, 06588-MW41D, 06588-MW42, 06588-MW42D, and 06588-MW43D). Forty-two groundwater monitoring wells were sampled during the current groundwater sampling event. Monitoring well 06588-MW04 appeared to be damaged or obstructed at the time of the groundwater sampling event and could not be sampled. Additionally, free-phase

petroleum product was detected in monitoring wells 06588-MW05 (0.55-feet), 06588-MW06 (0.60-feet), 06588-MW07 (0.13-feet), 06588-MW19 (0.89-feet), 06588-MW23 (1.65-feet), 06588-MW24 (1.32-feet), and 06588-MW25 (0.31-feet), therefore, these wells were not sampled.

Groundwater samples were also collected from private water supply wells DW-1, DW-3, DW-5, DW-8, and DW-9 (Figure 4). Water supply wells DW-2, DW-4, DW-7, DW-9, and DW-10 did not have power or were inaccessible, and were therefore unable to be sampled during the groundwater sampling event. The owner of water supply well DW-6 could not be contacted, therefore this well was not sampled. Additionally, a surface water sample (SW-1) was collected from the creek (**Figure 4**).

Pursuant to the SCDHEC's directive, only newly installed wells and existing wells were the screened intervals do not bracket the water table at the time of sampling required purging. Therefore, only monitoring wells 06588-MW07D, 06588-MW08D, 06588-MW21D, 06588-MW22D, 06588-MW24D, 06588-MW30D, 06588-MW33D, 06588-MW36, 06588-MW37, 06588-MW41D, 06588-MW42, 06588-MW42D, and 06588-MW43D were developed prior to sampling. The monitoring wells were developed by purging until it was determined that groundwater flow through the well screen was not inhibited by silt or fine sand. Monitoring well purging and sampling field procedures and sampling logs are included in **Appendix D**. Purge-water generated during the monitoring well development and sampling was contained in sealed 55-gallon drums on-site. This waste was transported off-site for disposal. Waste transportation and disposal records are attached in **Appendix E**.

Sample containers were marked in the field with identifying numbers, properly preserved, placed into sample coolers, secured, and maintained at less than 4 degrees Celsius. The samples and chain-of-custody records were delivered to Shealy Environmental Services, Inc. in Columbia, South Carolina for analysis of BTEX, naphthalene, MTBE, 8-oxygenates, and 1,2-dichloroethane (1,2-DCA) by Environmental Protection Agency (EPA) Method 8260B, 1,2-dibromoethane (EDB) by EPA Method 8011, and total lead by EPA Method 6010. Additionally, one field blank for each day of sampling and one duplicate sample for every 20 wells sampled was submitted for laboratory analysis of

BTEX, naphthalene, MTBE, 8-oxygenates, and 1,2-DCA by EPA Method 8260B, EDB by EPA Method 8011, and total lead by EPA Method 6010. One trip blank for each sample cooler was submitted for laboratory analysis of analysis of BTEX, naphthalene, MTBE, 8-oxygenates, and 1,2-DCA by EPA Method 8260B and EDB by EPA Method 8011.

GROUNDWATER SAMPLING RESULTS

Of the forty-two groundwater monitoring wells, five private water supply wells, and one surface water location sampled during the current groundwater sampling event, 15 samples (06588-MW01, 06588-MW02, 06588-MW03, 06588-MW07D, 06588-MW08D, 06588-MW18, 06588-MW22, 06588-MW22D, 06588-MW24, 06588-MW24D, 06588-MW30, 06588-MW31, 06588-MW33D, 06588-MW40, and 06588-MW-41D) detected petroleum hydrocarbons above established South Carolina established RBSLs. Petroleum hydrocarbons detected above RBSLs include:

- **Benzene:** 06588-MW01, 06588-MW02, 06588-MW03, 06588-MW07D, 06588-MW08D, 06588-MW18, 06588-MW22, 06588-MW22D, 06588-MW24D, 06588-MW33D, 06588-MW40 and 06588-MW41D
- **Toluene:** 06588-MW01 and 06588-MW18
- **Ethylbenzene:** 06588-MW01
- **Naphthalene:** 06588-MW01, 06588-MW02, 06588-MW18, 06588-MW22, 06588-MW24D and 06588-MW40
- **MTBE:** 06588-MW01, 06588-MW22, 06588-MW30, 06588-MW31, 06588-MW33D, 06588-MW40 and 06588-MW41D
- **1,2-DCA:** 06588-MW30, 06588-MW33D and 06588-MW41D
- **EDB:** 06588-MW01, 06588-MW08D, 06588-MW22 and 06588-MW40
- **Tert-butyl alcohol (TBA):** 06588-MW33D and 06588-MW41D
- **Tert-amyl alcohol (TAA):** 06588-MW01, 06588-MW33D, and 06588-MW41D
- **Tert-amyl methyl ether (TAME):** 06588-MW33D
- **Di-isopropyl ether (DIPE):** 06588-MW41D

Additionally, free-phase petroleum product was detected in monitoring wells 06588-MW05 (0.55-feet), 06588-MW06 (0.60-feet), 06588-MW07 (0.13-feet), 06588-MW19 (0.89-feet), 06588-MW23 (1.65-feet), 06588-MW24 (1.32-feet), and 06588-MW25 (0.31-feet). Dissolved phase petroleum hydrocarbons were also detected in groundwater monitoring wells 06588-MW10, 06588-MW28, 06588-MW24D, and 06588-MW43D, but did not exceed South Carolina established RBSLs. CoC concentrations for each well are shown on **Figure 5** and a benzene isoconcentration map is included as **Figure 6**. Laboratory analytical results are summarized on **Table 5** and laboratory data sheets are provided in **Appendix F**.

CONCLUSIONS

- One shallow (Type II) groundwater monitoring well (06588-MW42) and two deep (Type III) groundwater monitoring wells (06588-MW42D and 06588-MW43D) were installed between July 3 and July 5, 2012 to assess the horizontal and vertical extent of petroleum contamination at the site.

- Forty-two groundwater monitoring wells, five private water supply wells, and one surface water location were sampled for laboratory analysis between July 16 and July 18, 2012. Fifteen groundwater samples (06588-MW01, 06588-MW02, 06588-MW03, 06588-MW07D, 06588-MW08D, 06588-MW18, 06588-MW22, 06588-MW22D, 06588-MW24, 06588-MW24D, 06588-MW30, 06588-MW31, 06588-MW33D, 06588-MW40, and 06588-MW-41D) detected petroleum CoCs above South Carolina established RBSLs. CoCs detected above RBSL concentrations include benzene, toluene, ethylbenzene, naphthalene, 1,2-DCA, MTBE, EDB, TBA, TAA, TAME, and DIPE. Petroleum CoCs were not detected above RBSLs in the water supply wells (DW-1, DW-3, DW-5, and DW-8) or in the surface water sample (SW-1).

- Free-phase petroleum product was detected in monitoring wells 06588-MW05 (0.55-feet), 06588-MW06 (0.60-feet), 06588-MW07 (0.13-feet), 06588-MW19 (0.89-feet), 06588-MW23 (1.65-feet), 06588-MW24 (1.32-feet), and 06588-MW25 (0.31-feet).

- Based on available data, the CoC plume associated with the site demonstrates a plunging flow characteristic and preferential flow through the partially weathered rock geologic zone (**Figure 3B**).

RECOMMENDATIONS

According to records, approximately 1,400-gallons of gasoline were released to the subsurface in November 1995. To date, approximately 74-gallons have been recovered as free-phase petroleum product and 0.99-gallons recovered as equivalent gas emissions; therefore, a considerable volume/mass remains in-situ. Free-phase petroleum product was detected in monitoring wells 06588-MW05 (0.55-feet), 06588-MW06 (0.60-feet), 06588-MW07 (0.13-feet), 06588-MW19 (0.89-feet), 06588-MW23 (1.65-feet), 06588-MW24 (1.32-feet), and 06588-MW25 (0.31-feet) during the current groundwater sampling event. BLE recommends that a series of four AFVR events be conducted at the site to: 1) remove residual free-phase petroleum product from the area around the extraction point, 2) remove petroleum hydrocarbon vapors from the unsaturated zone, and 3) remove petroleum impacted groundwater from the subsurface. The AFVR events should be spaced approximately 15 days apart.

Following the completion of the AFVR events, a comprehensive groundwater sampling event should be conducted on all monitoring wells associated with the site and potential receptors to monitor contaminant migration in the shallow and deep aquifers and to establish trends in contaminant concentrations.

TABLES

TABLE 1A

AFVR Gauging Data (06588-MW06 & 06588-MW23) - May 8, 2012
Spinx 258/Former Enmark 380
Newberry, Newberry County, South Carolina
SCDHEC UST Permit #06588; Cost Agreement #43532 & #43533
BLE Project Number J12-6859-04

	Monitoring Well Gauging Data				Air Emmissions	
	AFVR Well Vacuum (in.of Hg)		Monitoring Well Vacuum Measurements (in. of Hg)		Influent (ppm)	Effluent (ppm)
Time	06588-MW06	06588-MW23	06588-MW19	06588-MW40		
0915	19.5	20.0	0.07	0.07	463	0
0945	20.0	20.5	0.26	0.22	481	0
1015	20.0	20.5	0.51	0.44	508	104
1045	20.0	20.5	0.55	0.48	598	100
1115	20.0	20.5	0.59	0.51	674	107
1145	20.0	20.5	0.59	0.51	719	111
1215	20.0	20.5	0.59	0.51	721	136
1245	20.0	20.5	0.59	0.51	852	145
1315	20.0	20.5	0.59	0.51	951	139
1345	20.0	20.5	0.59	0.51	978	178
1415	20.0	20.5	0.59	0.51	1,052	184
1445	20.0	20.5	0.59	0.51	1,018	154
1515	20.0	20.5	0.59	0.51	946	163
1545	20.0	20.5	0.59	0.51	999	171
1615	20.0	20.5	0.59	0.51	956	187
1645	20.0	20.5	0.63	0.51	822	142
1715	20.0	20.5	0.66	0.44	867	170

NOTES:

AFVR event performed on May 8, 2012.

Vapor concentrations measured using a portable MiniRAE® 2000 Photo-Ionization Detector (PID).

1.63 feet and 1.74 feet of free-phase petroleum product was detected in monitoring wells 06588-MW06 and 06588-MW23, respectively, prior to initiating the AFVR event. No free-phase petroleum product was detected in monitoring wells 06588-MW19 or 06588-MW40.

inches of Hg - inches of mercury

BTOC - below top of casing

ppm - parts per million

Prepared By: TZS
Checked By: DRM

TABLE 1B

AFVR Emissions Field Data (06588-MW06 & 06588-MW23) - May 8, 2012
Spinx 258/Former Enmark 380
Newberry, Newberry County, South Carolina
SCDHEC UST Permit #06588; Cost Agreement #43532 & #43533
BLE Project Number J12-6859-04

WELL ID #: 06588-MW06 and 06588-MW23

AFVR FIELD MEASUREMENTS									EMISSION CALCULATIONS								
Date	Time	Vacuum (in. Hg)	Velocity (ft/min)	Pipe D (in)	Temp (F)	Rel. Humidity (%)	$PPM_{measured}$ (ppm)	Elapsed Time (hr:min)	Q_{std} (DSCFM)	PPM_d	PPM_c	K	C_{cm} (mg/dsm3)	C_c (lb/dscf)	PMR_c (lb/hr)	PMR_g (lb/hr)	PMR_g (gal/hr)
5/8/2012	0915	21.0	955	3	100.0	59	463	00:00	41.27	495.88	1,983.53	4	989.70	6.18E-05	0.15	0.18	0.03
5/8/2012	0945	21.5	1,092	3	111.0	57.0	481	00:30	46.28	515.16	2,060.64	4	1,028.18	6.42E-05	0.18	0.21	0.03
5/8/2012	1015	21.5	994	3	112.0	47.7	508	01:00	42.05	544.08	2,176.31	4	1,085.90	6.78E-05	0.17	0.20	0.03
5/8/2012	1045	21.5	1,013	3	112.0	55.9	598	01:30	42.86	640.47	2,561.88	4	1,278.28	7.98E-05	0.21	0.24	0.04
5/8/2012	1115	21.5	1,052	3	112.0	57.1	674	02:00	44.51	721.87	2,887.47	4	1,440.74	8.99E-05	0.24	0.28	0.04
5/8/2012	1145	21.5	1,111	3	108.0	69.4	719	02:30	47.33	770.06	3,080.26	4	1,536.93	9.60E-05	0.27	0.32	0.05
5/8/2012	1215	21.5	1,130	3	114.0	67.1	721	03:00	47.64	772.21	3,088.82	4	1,541.20	9.62E-05	0.28	0.32	0.05
5/8/2012	1245	21.5	1,130	3	115.0	62.2	852	03:30	47.56	912.51	3,650.04	4	1,821.23	1.14E-04	0.32	0.38	0.06
5/8/2012	1315	21.5	935	3	116.0	61.7	951	04:00	39.28	1,018.54	4,074.16	4	2,032.85	1.27E-04	0.30	0.35	0.06
5/8/2012	1345	21.5	1,072	3	114.0	74.5	978	04:30	45.19	1,047.46	4,189.83	4	2,090.56	1.31E-04	0.35	0.41	0.07
5/8/2012	1415	21.5	1,072	3	116.0	63.8	1,052	05:00	45.04	1,126.71	4,506.85	4	2,248.75	1.40E-04	0.38	0.44	0.07
5/8/2012	1445	21.5	1,013	3	119.0	62.4	1,018	05:30	42.34	1,090.30	4,361.20	4	2,176.07	1.36E-04	0.35	0.40	0.06
5/8/2012	1515	21.5	858	3	119.0	63.0	946	06:00	35.86	1,013.19	4,052.74	4	2,022.16	1.26E-04	0.27	0.31	0.05
5/8/2012	1545	21.5	1,072	3	119.0	56.9	999	06:30	44.80	1,069.95	4,279.80	4	2,135.45	1.33E-04	0.36	0.41	0.07
5/8/2012	1615	21.5	1,033	3	117.0	63.3	956	07:00	43.32	1,023.90	4,095.58	4	2,043.54	1.28E-04	0.33	0.38	0.06
5/8/2012	1645	21.5	955	3	114.0	64.5	822	07:30	40.26	880.38	3,521.52	4	1,757.10	1.10E-04	0.26	0.31	0.05
5/8/2012	1715	21.5	916	3	115.0	57.7	867	08:00	38.55	928.57	3,714.30	4	1,853.29	1.16E-04	0.27	0.31	0.05
Average Values		21.5	1,024	3	113.7	61.4	800		43.19	857.13	3,428.53	4	1710.70	1.07E-04	0.28	0.32	0.05

B_{ws}	0.066	B_{wsw}	0.04

Total Pounds of Carbon Recovered as Emissions:	**2.21**
Total Pounds of Gasoline Recovered as Emissions:	**2.56**
Total Gallons of Gasoline Recovered as Emissions:	**0.41**

NOTES:

AFVR Event performed on May 8, 2012.
Vacuum applied to monitoring wells MW-6 and MW-23.
1.63 feet and 1.74 feet of free-phase petroleum product was detected in monitoring wells 06588-MW06 and 06588-MW23, respectively, prior to initiating the AFVR event.
Vapor concentrations measured using a portable MiniRAE® 2000 Photo-Ionization Detector (PID).
inches of Hg - inches of mercury
ppm - parts per million
Q_{std} - flow at DSCFM
DSCFM - Dry Standard Cubic Feet per Minute

PPM_d - "dry" concentration
PPM_c - volumetric concentration of VOC emissions as carbon, dry basis, at STP
K - number of carbons in calibration gas
C_{cm} - mass concentration of VOC emissions as carbon
PMR_c - pollutant mass removal of VOCs as carbon
PMR_g - pollutant mass removal of VOCs as gasoline
B_{wsw} - lb of water per lb of dry air
B_{ws} - water vapor % by volume
Calculations have been derived from published guidance

Prepared By: TZS
Checked By: DRM

TABLE 2A

AFVR Gauging Data (06588-MW07) - May 23, 2012
Spinx 258/Former Enmark 380
Newberry, Newberry County, South Carolina
SCDHEC UST Permit #06588; Cost Agreement #43532 & #43533
BLE Project Number J12-6859-04

	Monitoring Well Gauging Data			Air Emmissions	
	AFVR Well Vacuum (in.of Hg)	Monitoring Well Vacuum Measurements (in. of Hg)		Influent (ppm)	Effluent (ppm)
Time	06588-MW07	06588-MW17	06588-MW40		
0710	22.5	0.04	0.07	758	0
0740	22.5	0.15	0.18	753	0
0810	22.5	0.37	0.37	774	1
0840	21.5	0.37	0.37	797	1
0910	21.5	0.37	0.37	871	1
0940	22.5	0.37	0.37	902	1
1010	22.5	0.37	0.37	868	1
1040	22.5	0.37	0.40	929	1
1110	22.5	0.37	0.44	770	1
1140	22.5	0.37	0.44	758	1
1210	22.5	0.37	0.44	860	1
1240	22.5	0.37	0.44	865	1
1310	22.5	0.37	0.44	878	2
1340	23.0	0.37	0.40	935	12
1410	23.0	0.37	0.37	869	15
1440	23.0	0.37	0.37	922	26
1510	23.0	0.37	0.37	915	25

NOTES:

AFVR event performed on May 23, 2012.

Vapor concentrations measured using a portable MiniRAE® 2000 Photo-Ionization Detector (PID).

0.41 feet of free-phase petroleum product was detected in monitoring well 06588-MW07 prior to initiating the AFVR event.

No free-phase petroleum product was detected in monitoring wells 06588-MW17 or 06588-MW40.

inches of Hg - inches of mercury

BTOC - below top of casing

ppm - parts per million

Prepared By: TZS
Checked By: DRM

TABLE 2B

AFVR Emissions Field Data (06588-MW07) - May 23, 2012
Spinx 258/Former Enmark 380
Newberry, Newberry County, South Carolina
SCDHEC UST Permit #06588; Cost Agreement #43532 & #43533
BLE Project Number J12-6859-04

WELL ID #: 06588-MW07

AFVR FIELD MEASUREMENTS									EMISSION CALCULATIONS								
Date	Time	Vacuum (in. Hg)	Velocity (ft/min)	Pipe D (in)	Temp (F)	Rel. Humidity (%)	$PPM_{measured}$ (ppm)	Elapsed Time (hr:min)	Q_{std} (DSCFM)	PPM_d	PPM_c	K	C_{cm} (mg/dsm3)	C_c (lb/dscf)	PMR_c (lb/hr)	PMR_g (lb/hr)	PMR_g (gal/hr)
5/23/2012	0710	23.5	701	3	67.0	57	758	00:00	32.19	811.83	3,247.33	4	1,620.29	1.01E-04	0.20	0.23	0.04
5/23/2012	0740	23.5	681	3	95.0	73.1	753	00:30	29.69	806.48	3,225.91	4	1,609.61	1.00E-04	0.18	0.21	0.03
5/23/2012	0810	23.5	663	3	97.0	69.4	774	01:00	28.80	828.97	3,315.88	4	1,654.50	1.03E-04	0.18	0.21	0.03
5/23/2012	0840	22.5	681	3	115.0	51.4	797	01:30	28.66	853.60	3,414.41	4	1,703.66	1.06E-04	0.18	0.21	0.03
5/23/2012	0910	22.5	779	3	124.0	42.1	871	02:00	32.28	932.86	3,731.44	4	1,861.84	1.16E-04	0.23	0.26	0.04
5/23/2012	0940	23.5	799	3	130.0	48.6	902	02:30	32.77	966.06	3,864.24	4	1,928.11	1.20E-04	0.24	0.27	0.04
5/23/2012	1010	23.5	818	3	134.0	43.7	868	03:00	33.33	929.65	3,718.58	4	1,855.43	1.16E-04	0.23	0.27	0.04
5/23/2012	1040	23.5	721	3	134.0	51.9	929	03:30	29.37	994.98	3,979.91	4	1,985.82	1.24E-04	0.22	0.25	0.04
5/23/2012	1110	23.5	838	3	134.0	58.0	770	04:00	34.14	824.69	3,298.74	4	1,645.95	1.03E-04	0.21	0.24	0.04
5/23/2012	1140	23.5	741	3	134.0	49.4	758	04:30	30.19	811.83	3,247.33	4	1,620.29	1.01E-04	0.18	0.21	0.03
5/23/2012	1210	24.0	818	3	120.0	58.7	860	05:00	34.13	921.08	3,684.31	4	1,838.33	1.15E-04	0.24	0.27	0.04
5/23/2012	1240	24.0	799	3	118.0	69.1	865	05:30	33.45	926.43	3,705.73	4	1,849.02	1.15E-04	0.23	0.27	0.04
5/23/2012	1310	24.0	838	3	120.0	51.4	878	06:00	34.96	940.36	3,761.42	4	1,876.81	1.17E-04	0.25	0.28	0.05
5/23/2012	1340	24.5	701	3	120.0	64.5	935	06:30	29.25	1,001.40	4,005.62	4	1,998.65	1.25E-04	0.22	0.25	0.04
5/23/2012	1410	24.5	643	3	116.0	64.2	869	07:00	27.01	930.72	3,722.87	4	1,857.57	1.16E-04	0.19	0.22	0.03
5/23/2012	1440	24.5	701	3	114.0	55.4	922	07:30	29.55	987.48	3,949.92	4	1,970.86	1.23E-04	0.22	0.25	0.04
5/23/2012	1510	24.5	760	3	115.0	55.8	915	08:00	31.99	979.98	3,919.94	4	1,955.90	1.22E-04	0.23	0.27	0.04
Average Values		23.7	746	3	116.9	56.7	848		31.28	908.73	3,634.92	4	1813.68	1.13E-04	0.21	0.25	0.04

B_{ws}	0.066	B_{wsw}	0.040

Total Pounds of Carbon Recovered as Emissions: 1.70

Total Pounds of Gasoline Recovered as Emissions: 1.97

Total Gallons of Gasoline Recovered as Emissions: 0.31

NOTES:

AFVR Event performed on May 23, 2012.
Vacuum applied to monitoring well MW-7.
0.41 feet of free-phase petroleum product was detected in monitoring well 06588-MW07 prior to initiating the AFVR event.
Vapor concentrations measured using a portable MiniRAE® 2000 Photo-Ionization Detector (PID).
inches of Hg - inches of mercury
ppm - parts per million
Q_{std} - flow at DSCFM
DSCFM - Dry Standard Cubic Feet per Minute
PPM_d - "dry" concentration

PPM_c - volumetric concentration of VOC emissions as carbon, dry basis, at STP
K - number of carbons in calibration gas
C_{cm} - mass concentration of VOC emissions as carbon
PMR_c - pollutant mass removal of VOCs as carbon
PMR_g - pollutant mass removal of VOCs as gasoline
B_{wsw} - lb of water per lb of dry air
B_{ws} - water vapor % by volume
Calculations have been derived from published guidance

Prepared By: TZS
Checked By: DRM

TABLE 3A

AFVR Gauging Data (06588-MW05, 06588-MW24, & 06588-MW25) - June 19, 2012
Spinx 258/Former Enmark 380
Newberry, Newberry County, South Carolina
SCDHEC UST Permit #06588; Cost Agreement #43532 & #43533
BLE Project Number J12-6859-04

	Monitoring Well Gauging Data					Air Emmissions	
	AFVR Well Vacuum (in.of Hg)			Monitoring Well Vacuum Measurements (in. of Hg)		Influent (ppm)	Effluent (ppm)
Time	06588-MW05	06588-MW24	06588-MW25	06588-MW06	06588-MW40		
0745	17.5	17.5	16.5	0.59	0.44	372	0
0815	17.5	18.0	17.5	0.70	0.51	433	0
0845	17.5	18.0	17.5	0.81	0.59	442	154
0915	17.0	18.5	18.0	0.85	0.63	421	148
0945	18.0	18.5	18.5	0.88	0.66	476	192
1015	18.0	18.5	18.5	0.92	0.66	444	176
1045	18.0	18.5	18.5	0.96	0.66	455	178
1115	18.0	18.5	18.5	0.96	0.66	449	162
1145	18.0	18.5	18.5	0.96	0.66	486	184
1215	18.0	18.5	18.5	0.96	0.66	479	161
1245	18.0	18.5	18.5	0.96	0.66	530	187
1315	18.0	18.5	18.5	0.96	0.66	478	183
1345	18.0	18.5	18.5	0.96	0.66	596	195
1415	18.0	18.5	18.5	0.92	0.66	503	181
1445	18.0	18.5	18.5	0.88	0.66	498	152
1515	18.0	18.5	18.5	0.92	0.66	502	179
1545	18.0	18.5	18.5	0.96	0.66	550	192

NOTES:

AFVR event performed on June 19, 2012.

Vapor concentrations measured using a portable MiniRAE® 2000 Photo-Ionization Detector (PID).

1.64 feet, 0.17 feet, 1.62 feet, and 0.18 feet of free-phase petroleum product were detected in monitoring wells 06588-MW05, 06588-MW06, 06588-MW24, and 06588-MW25, respectively, prior to initiating the AFVR event. No free-phase petroleum product was detected in monitoring well 06588-MW40.

inches of Hg - inches of mercury

BTOC - below top of casing

ppm - parts per million

Prepared By: TZS
Checked By: DRM

TABLE 3B

AFVR Emissions Field Data (06588-MW05, 06588-MW24, & 06588-MW25) - June 19, 2012
Spinx 258/Former Enmark 380
Newberry, Newberry County, South Carolina
SCDHEC UST Permit #06588; Cost Agreement #43532 & #43533
BLE Project Number J12-6859-04

WELL ID #: 06588-MW05, 06588-MW24, and 06588-MW25

AFVR FIELD MEASUREMENTS									EMISSION CALCULATIONS								
Date	Time	Vacuum (in. Hg)	Velocity (ft/min)	Pipe D (in)	Temp (F)	Rel. Humidity (%)	$PPM_{measured}$ (ppm)	Elapsed Time (hr:min)	Q_{std} (DSCFM)	PPM_d	PPM_c	K	C_{cm} (mg/dsm3)	C_c (lb/dscf)	PMR_c (lb/hr)	PMR_g (lb/hr)	PMR_g (gal/hr)
6/19/2012	0745	18.0	1,033	3	96.0	71.5	372	00:00	44.64	401.27	1,605.08	4	800.87	5.00E-05	0.13	0.15	0.02
6/19/2012	0815	19.0	1,092	3	113.0	66.5	433	00:30	45.79	467.07	1,868.28	4	932.20	5.82E-05	0.16	0.19	0.03
6/19/2012	0845	19.0	994	3	114.0	68.2	442	01:00	41.61	476.78	1,907.11	4	951.57	5.94E-05	0.15	0.17	0.03
6/19/2012	0915	20.0	1,111	3	114.0	65.2	421	01:30	46.51	454.12	1,816.50	4	906.36	5.66E-05	0.16	0.18	0.03
6/19/2012	0945	20.0	1,111	3	116.0	65.3	476	02:00	46.34	513.45	2,053.81	4	1,024.77	6.40E-05	0.18	0.21	0.03
6/19/2012	1015	20.0	1,130	3	116.0	66.7	444	02:30	47.14	478.93	1,915.74	4	955.88	5.97E-05	0.17	0.20	0.03
6/19/2012	1045	20.0	1,170	3	117.0	61.7	455	03:00	48.72	490.80	1,963.20	4	979.56	6.12E-05	0.18	0.21	0.03
6/19/2012	1115	20.0	1,247	3	119.0	63.0	449	03:30	51.75	484.33	1,937.31	4	966.64	6.03E-05	0.19	0.22	0.03
6/19/2012	1145	20.0	1,150	3	122.0	55.9	486	04:00	47.48	524.24	2,096.96	4	1,046.30	6.53E-05	0.19	0.22	0.03
6/19/2012	1215	20.0	1,070	3	124.0	40.9	479	04:30	44.02	516.69	2,066.75	4	1,031.23	6.44E-05	0.17	0.20	0.03
6/19/2012	1245	20.0	1,052	3	126.0	43.3	530	05:00	43.13	571.70	2,286.80	4	1,141.03	7.12E-05	0.18	0.21	0.03
6/19/2012	1315	20.0	1,150	3	127.0	38.0	478	05:30	47.07	515.61	2,062.44	4	1,029.08	6.42E-05	0.18	0.21	0.03
6/19/2012	1345	20.0	1,209	3	128.0	38.9	596	06:00	49.40	642.89	2,571.58	4	1,283.12	8.01E-05	0.24	0.27	0.04
6/19/2012	1415	20.0	1,247	3	129.0	35.1	503	06:30	50.87	542.58	2,170.31	4	1,082.90	6.76E-05	0.21	0.24	0.04
6/19/2012	1445	20.0	1,228	3	129.0	53.2	498	07:00	50.09	537.18	2,148.73	4	1,072.13	6.69E-05	0.20	0.23	0.04
6/19/2012	1515	20.0	1,052	3	131.0	58.2	502	07:30	42.77	541.50	2,165.99	4	1,080.75	6.75E-05	0.17	0.20	0.03
6/19/2012	1545	20.0	1,189	3	132.0	58.7	550	08:00	48.26	593.27	2,373.10	4	1,184.08	7.39E-05	0.21	0.25	0.04
Average Values		19.8	1,131	3	120.8	55.9	477		46.80	514.85	2,059.39	4	1027.56	6.42E-05	0.18	0.21	0.03

B_{ws}	0.073	B_{wsw}	0.044

Total Pounds of Carbon Recovered as Emissions: 1.44

Total Pounds of Gasoline Recovered as Emissions: 1.67

Total Gallons of Gasoline Recovered as Emissions: 0.27

NOTES:

AFVR Event performed on June 19, 2012.
Vacuum applied to monitoring wells 06588-MW05, 06588-MW24, and 06588-MW25.
1.64 feet, 1.62 feet, and 0.18 feet of free-phase petroleum product were detected in monitoring wells 06588-MW05, 06588-MW24, and 06588-MW25, respectively, prior to initiating the AFVR event.
Vapor concentrations measured using a portable MiniRAE® 2000 Photo-Ionization Detector (PID).
inches of Hg - inches of mercury
ppm - parts per million
Q_{std} - flow at DSCFM
DSCFM - Dry Standard Cubic Feet per Minute

PPM_d - "dry" concentration
PPM_c - volumetric concentration of VOC emissions as carbon, dry basis, at STP
K - number of carbons in calibration gas
C_{cm} - mass concentration of VOC emissions as carbon
PMR_c - pollutant mass removal of VOCs as carbon
PMR_g - pollutant mass removal of VOCs as gasoline
B_{wsw} - lb of water per lb of dry air
B_{ws} - water vapor % by volume
Calculations have been derived from published guidance

Prepared By: TZS
Checked By: DRM

TABLE 4

Monitoring Well and Groundwater Surface Elevation Data
Spinx 258/Former Enmark 380
Newberry, Newberry County, South Carolina
SCDHEC UST Permit #06588; Cost Agreement #43532 & #43533
BLE Project Number J12-6859-04

Monitoring Well	Ground Surface Elevation	Top-of-Casing Elevation	Groundwater Depth BTOC	Groundwater Elevation	Well Depth BGS	Screened Interval Depth BGS	Screened Interval Elevation
06588-MW01	542.43	542.17	22.27	519.90	28.30	13.05 - 28.05	529.38 - 514.38
06588-MW02	543.01	542.83	22.77	520.06	25.20	10.20 - 25.20	532.81 - 517.81
06588-MW03	543.98	543.63	23.54	520.09	25.00	10.00 - 25.00	533.98 - 518.98
06588-MW04*	543.58	542.96	Damaged	Damaged	25.00	10.00 - 25.00	533.58 - 518.58
06588-MW05	542.69	542.43	*22.57	519.86	25.00	15.00 - 25.00	527.69 - 517.69
06588-MW06	542.43	542.24	*22.52	519.72	25.00	15.00 - 25.00	527.43 - 517.43
06588-MW07	542.79	542.63	*22.62	520.01	25.00	15.00 - 25.00	527.79 - 517.79
06588-MW07D	542.25	541.75	21.89	519.86	46.04	40.84 - 45.84	501.41 - 496.41
06588-MW08D	542.76	542.54	25.39	517.15	45.00	40.00 - 45.00	502.76 - 497.76
06588-MW09	544.20	543.91	24.68	519.23	28.74	18.54 - 28.54	525.66 - 515.66
06588-MW10	543.29	542.98	23.02	519.96	28.00	17.80 - 27.80	525.49 - 515.49
06588-MW11	541.88	541.60	21.08	520.52	28.30	18.10 - 28.10	523.78 - 513.78
06588-MW12	541.90	541.67	21.17	520.50	27.61	17.41 - 27.41	524.49 - 514.49
06588-MW13	541.19	540.96	20.99	519.97	26.46	16.26 - 26.26	524.93 - 514.93
06588-MW14	545.14	544.81	24.48	520.33	29.32	19.12 - 29.12	526.02 - 516.02
06588-MW15	544.11	543.81	23.50	520.31	28.62	18.42 - 28.42	525.69 - 515.69
06588-MW16	539.55	539.35	19.79	519.56	26.02	15.82 - 25.82	523.73 - 513.73
06588-MW17	541.46	541.24	21.33	519.91	26.54	16.34 - 26.34	525.12 - 515.12
06588-MW18	541.42	541.24	21.54	519.70	26.28	16.08 - 26.08	525.34 - 515.34
06588-MW19	540.98	540.82	*21.23	519.59	25.52	15.32 - 25.32	525.66 - 515.66
06588-MW20	542.61	542.24	22.38	519.86	27.24	17.04 - 27.04	525.57 - 515.57
06588-MW21	541.95	541.73	21.86	519.87	27.16	16.96 - 26.96	524.99 - 514.99
06588-MW21D	542.43	542.23	22.34	519.89	46.75	41.55 - 46.55	500.88 495.88
06588-MW22	541.08	540.89	21.19	519.70	26.25	16.05 - 26.05	525.03 - 515.03
06588-MW22D	541.22	540.87	21.15	519.72	45.82	40.62 - 45.62	500.60 495.60
06588-MW23	541.44	541.19	*21.55	519.64	25.25	15.05 - 25.05	526.39 - 516.39
06588-MW24	542.50	542.17	*22.43	519.74	25.42	15.22 - 25.22	527.28 - 517.28
06588-MW24D	542.37	542.14	22.30	519.84	46.03	40.83 - 45.83	501.54 496.54
06588-MW25	542.98	542.72	*22.73	519.99	25.38	15.18 - 25.18	527.80 - 517.80
06588-MW26	543.01	542.87	22.69	520.18	27.00	16.80 - 26.80	526.21 - 516.21
06588-MW27	543.72	543.45	23.18	520.27	27.25	17.05 - 27.05	526.67 - 516.67
06588-MW28	540.32	540.03	20.28	519.75	25.50	15.30 - 25.30	525.02 - 515.02
06588-MW29	538.80	538.56	19.35	519.21	25.00	14.80 - 24.80	524.00 - 514.00
06588-MW30	537.42	537.15	18.36	518.79	24.00	13.80 - 23.80	523.62 - 513.62
06588-MW30D	537.60	537.24	18.29	518.95	46.30	36.10 46.10	501.50 491.50
06588-MW31	538.87	538.63	19.50	519.13	25.25	15.05 - 25.05	523.82 - 513.82
06588-MW32	539.18	538.94	19.50	519.44	25.25	15.05 - 25.05	524.13 - 514.13
06588-MW33	540.16	539.95	20.42	519.53	26.25	16.05 - 26.05	524.11 - 514.11
06588-MW33D	540.22	540.02	20.42	519.60	48.35	38.15 48.15	502.07 492.07
06588-MW34	533.67	533.42	14.97	518.45	18.25	8.05 - 18.05	525.62 - 515.62
06588-MW35	528.00	527.70	9.45	518.25	14.25	4.05 - 14.05	523.95 - 513.95
06588-MW36	525.24	528.05	13.19	514.86	31.00	20.80 - 30.80	504.44 - 494.44
06588-MW37	519.24	522.30	5.22	517.08	21.69	11.49 - 21.49	507.75 - 497.75
06588-MW38	536.16	535.96	17.18	518.78	25.00	14.80 - 24.80	521.36 - 511.36
06588-MW39	518.80	518.57	2.77	515.80	12.00	1.80 - 11.80	517.00 - 507.00
06588-MW40	542.66	542.05	22.50	519.55	28.30	18.10 - 28.10	524.56 - 514.56
06588-MW41D	540.98	540.78	21.19	519.59	48.00	37.80 - 47.80	503.18 - 493.18
06588-MW42	522.18	524.59	6.55	518.04	12.59	2.39 - 12.39	519.79 - 509.79
06588-MW42D	522.04	524.49	6.40	518.09	32.75	27.55 - 32.55	494.49 - 489.49
06588-MW43D	538.18	537.95	18.15	519.80	33.03	27.83 - 32.83	510.35 - 505.35

NOTES:

Groundwater levels were measured on July 16, 2012.

Well construction data for MW-1 obtained from *REMTECH Engineers Soil Boring & Well Installation Log* dated July 17, 1991.

Well construction data for MW-2 through MW-7 and MW-8D obtained from *Risk-Based Corrective Action Tier II Evaluation Report by Handex of the Carolinas, Inc.* dated May 27, 1999.

*A total well depth of 14.01 feet btoc for MW-4 was recorded during the groundwater sampling event. MW-4 is assumed to be damaged or obstructed.

0.55 feet, 0.60 feet, 0.13 feet, 0.89 feet, 1.65 feet, 1.32 feet, and 0.31 feet of free-phase petroleum product were detected in MW-5, MW-6, MW-7, MW-19, MW-23, MW-24, and MW-25, respectively on July 16, 2012. Depth-to-groundwater measurements for these wells have been corrected for the presence of free-product using a specific gravity value of 0.70 g/cc.

Measurements are in feet

BTOC - Below Top Of Casing

BGS - Below Ground Surface

Elevations are NAVD 88

Prepared By: RAD
Checked By: TZS

TABLE 5

Groundwater Analytical Data
Spinx 258/Former Enmark 380
Newberry, Newberry County, South Carolina
SCDHEC UST Permit #06588; Cost Agreement #43532 & #43533
BLE Project Number J12-6859-04

CoC	Method	RBSL (µg/L)	06588-MW01						06588-MW02				
Sampling Date	NA	NA	2/24/1992	6/11/1997	6/26/1998	11/2/2010	7/20/2011	7/17/2012	6/11/1997	6/26/1998	11/2/2010	7/20/2011	7/17/2012
Free-Product Thickness	Interface Probe	NA	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Benzene (µg/L)	8260B	5	**5,900**	**5,900**	**3,550**	**4,400**	**5,600**	**4,600**	**6,750**	**3,780**	**1.9**	**1.4J**	**25**
Toluene (µg/L)	8260B	1,000	**5,900**	**8,010**	**1,910**	**2,100**	**7,700**	**2,500**	**13,500**	**9,380**	**1.8**	**2.0**	**23**
Ethylbenzene (µg/L)	8260B	700	**1,800**	**1,530**	**674**	**1,600**	**1,800**	**1,800**	**900**	**896**	**11**	**52**	**160**
Xylenes (µg/L)	8260B	10,000	**7,200**	**7,420**	**3,150**	**7,200**	**8,300**	**6,800**	**5,180**	**3,340**	**39**	**270**	**910**
Methyl-tert-butyl ether (MTBE) (µg/L)	8260B	40	NT	**135**	**36**	<20	**110**	**110J**	**900**	**236**	<1.0	<2.0	<5.0
Naphthalene (µg/L)	8260B	25	NT	**108**	**35**	**170**	**91**	**550**	**254**	**885**	**15**	**27**	**83**
1,2-Dibromoethane (EDB) (µg/L)	8011	0.05	NT	NT	NT	**1.9**	**24**	**3.9**	NT	NT	<0.021	<0.019	<0.019
1,2-Dichloroethane (1.2 DCA) (µg/L)	8260B	5	NT	NT	NT	**160**	**160**	<250	NT	NT	<1.0	<2.0	<5.0
Acenaphthene (µg/L)	8270C	NE	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Acenaphthylene (µg/L)	8270C	NE	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Anthracene (µg/L)	8270C	NE	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Benzo (a) anthracene (µg/L)	8270C	10	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Benzo (a) pyrene (µg/L)	8270C	NE	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Benzo (b) fluoranthene (µg/L)	8270C	10	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Benzo (g,h,i) perylene (µg/L)	8270C	NE	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Benzo (k) fluoroanthene (µg/L)	8270C	10	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Chrysene (µg/L)	8270C	10	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Debenz (a,h) anthracene (µg/L)	8270C	10	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Fluoranthene (µg/L)	8270C	NE	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Fluorene (µg/L)	8270C	NE	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Indeno (1,2,3-cd) pyrene (µg/L)	8270C	NE	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
1-Methylnaphthalene (µg/L)	8270C	25	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
2-Methylnaphthalene (µg/L)	8270C	25	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Naphthalene (PAH range) (µg/L)	8270C	25	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Phenanthrene (µg/L)	8270C	NE	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Pyrene (µg/L)	8270C	NE	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Ethyl-tert-butyl ether (ETBE) (µg/L)	8260B	47	NT	NT	NT	<20	<50	<50	NT	NT	<1.0	<2.0	<1.0
Ethyl-tert-butyl alcohol (ETBA) (µg/L)	8260B	NE	NT	NT	NT	<400	<1,000	<1,000	NT	NT	<20	<40	<20
Tert-amyl methyl ether (TAME) (µg/L)	8260B	128	NT	NT	NT	<200	<500	<500	NT	NT	<10	<20	<10
Diisopropyl ether (DIPE) (µg/L)	8260B	150	NT	NT	NT	<100	**57J**	<250	NT	NT	<5.0	<10	<5.0
Ethanol (µg/L)	8260B	10,000	NT	NT	NT	<2,000	<5,000	<5,000	NT	NT	<100	<200	<100
Tert-butyl formate (TBF) (µg/L)	8260B	NE	NT	NT	NT	<100	<250	<250	NT	NT	<5.0	<10	<5.0
Tert-butyl alcohol (TBA) (µg/L)	8260B	1,400	NT	NT	NT	<400	<1,000	<1,000	NT	NT	**59**	**25J**	**110**
Tert-amyl alcohol (TAA) (µg/L)	8260B	240	NT	NT	NT	<400	**3,700**	**2,900**	NT	NT	<20	**15J**	**87**
Lead (µg/L)	6010B	15	NT	NT	NT	<10	NT	**7.7J**	NT	NT	**38**	NT	**9.9J**
Ferrous Iron (mg/L)	SM 3500-FeD	NE	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Nitrates (mg/L)	8094	NE	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Sulfates (mg/L)	SW9056A	NE	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT

NOTES:
CoC - Chemical of Concern
RBSL - Risk Based Screening Level
Bold values indicate concentrations detected above the laboratory method detection limit.
Shaded values indicate concentrations exceeding RBSLs.
NA - Not Applicable
ND - Not Detected
NE - Not Established
NT - Not Tested
* MW-4 was damaged (obstructed) and thus no groundwater sample collected.

Prepared By: TZS
Checked By: SJN

TABLE 5

Groundwater Analytical Data
Spinx 258/Former Enmark 380
Newberry, Newberry County, South Carolina
SCDHEC UST Permit #06588; Cost Agreement #43532 & #43533
BLE Project Number J12-6859-04

CoC	Method	RBSL (µg/L)	06588-MW03					06588-MW04		
Sampling Date	NA	NA	6/11/1997	6/26/1998	11/15/22010	7/22/2011	7/17/2012	6/11/1997	6/26/1998	11/2/2010
Free-Product Thickness	Interface Probe	NA	0.00	0.00	0.00	0.00	0.00	0.45	0.39	DAMAGED
Benzene (µg/L)	8260B	5	**675**	**411**	**68**	**31**	**43**	NS	**25,300**	
Toluene (µg/L)	8260B	1,000	**9,000**	**4,150**	**11**	**1.1**	**3.0J**	NS	**26,300**	
Ethylbenzene (µg/L)	8260B	700	**900**	**986**	**8.7**	<1.0	**1.8J**	NS	**4,290**	
Xylenes (µg/L)	8260B	10,000	**5,400**	**5,080**	**89**	**19**	**47**	NS	**24,900**	
Methyl-tert-butyl ether (MTBE) (µg/L)	8260B	40	**5.0**	**40**	<1.0	<1.0	<5.0	NS	**7,000**	
Naphthalene (µg/L)	8260B	25	**450**	**534**	**21**	**0.67J**	**6.2**	NS	**3,050**	
1,2-Dibromoethane (EDB) (µg/L)	8011	0.05	NT	NT	<0.020	<0.019	<0.021	NS	NT	
1,2-Dichloroethane (1,2 DCA) (µg/L)	8260B	5	NT	NT	<1.0	<1.0	<5.0	NS	NT	
Acenaphthene (µg/L)	8270C	NE	NT	NT	NT	NT	NT	NS	NT	
Acenaphthylene (µg/L)	8270C	NE	NT	NT	NT	NT	NT	NS	NT	
Anthracene (µg/L)	8270C	NE	NT	NT	NT	NT	NT	NS	NT	
Benzo (a) anthracene (µg/L)	8270C	10	NT	NT	NT	NT	NT	NS	NT	
Benzo (a) pyrene (µg/L)	8270C	NE	NT	NT	NT	NT	NT	NS	NT	
Benzo (b) fluoranthene (µg/L)	8270C	10	NT	NT	NT	NT	NT	NS	NT	
Benzo (g,h,i) perylene (µg/L)	8270C	NE	NT	NT	NT	NT	NT	NS	NT	
Benzo (k) fluoroanthene (µg/L)	8270C	10	NT	NT	NT	NT	NT	NS	NT	
Chrysene (µg/L)	8270C	10	NT	NT	NT	NT	NT	NS	NT	
Debenz (a,h) anthracene (µg/L)	8270C	10	NT	NT	NT	NT	NT	NS	NT	
Fluoranthene (µg/L)	8270C	NE	NT	NT	NT	NT	NT	NS	NT	
Fluorene (µg/L)	8270C	NE	NT	NT	NT	NT	NT	NS	NT	
Indeno (1,2,3-cd) pyrene (µg/L)	8270C	NE	NT	NT	NT	NT	NT	NS	NT	
1-Methylnaphthalene (µg/L)	8270C	25	NT	NT	NT	NT	NT	NS	NT	
2-Methylnaphthalene (µg/L)	8270C	25	NT	NT	NT	NT	NT	NS	NT	
Naphthalene (PAH range) (µg/L)	8270C	25	NT	NT	NT	NT	NT	NS	NT	
Phenanthrene (µg/L)	8270C	NE	NT	NT	NT	NT	NT	NS	NT	
Pyrene (µg/L)	8270C	NE	NT	NT	NT	NT	NT	NS	NT	
Ethyl-tert-butyl ether (ETBE) (µg/L)	8260B	47	NT	NT	<1.0	<1.0	<1.0	NS	NT	
Ethyl-tert-butyl alcohol (ETBA) (µg/L)	8260B	NE	NT	NT	<20	<20	<20	NS	NT	
Tert-amyl methyl ether (TAME) (µg/L)	8260B	128	NT	NT	<10	<10	<10	NS	NT	
Diisopropyl ether (DIPE) (µg/L)	8260B	150	NT	NT	<5.0	<5.0	<5.0	NS	NT	
Ethanol (µg/L)	8260B	10,000	NT	NT	<100	<100	<100	NS	NT	
Tert-butyl formate (TBF) (µg/L)	8260B	NE	NT	NT	<5.0	<5.0	<5.0	NS	NT	
Tert-butyl alcohol (TBA) (µg/L)	8260B	1,400	NT	NT	**58**	<20	**120**	NS	NT	
Tert-amyl alcohol (TAA) (µg/L)	8260B	240	NT	NT	**100**	**200**	**110**	NS	NT	
Lead (µg/L)	6010B	15	NT	NT	<10	NT	**270**	NS	NT	
Ferrous Iron (mg/L)	SM 3500-FeD	NE	NT	NT	NT	NT	NT	NS	NT	
Nitrates (mg/L)	8094	NE	NT	NT	NT	NT	NT	NS	NT	
Sulfates (mg/L)	SW9056A	NE	NT	NT	NT	NT	NT	NS	NT	

NOTES:
CoC - Chemical of Concern
RBSL - Risk Based Screening Level
Bold values indicate concentrations detected above the laboratory method detection limit.
Shaded values indicate concentrations exceeding RBSLs.
NA - Not Applicable
ND - Not Detected
NE - Not Established
NT - Not Tested

Prepared By: TZS
Checked By: SJN

TABLE 5

Groundwater Analytical Data
Spinx 258/Former Enmark 380
Newberry, Newberry County, South Carolina
SCDHEC UST Permit #06588; Cost Agreement #43532 & #43533
BLE Project Number J12-6859-04

CoC	Method	RBSL (µg/L)	06588-MW05				06588-MW06				06588-MW07			
Sampling Date	NA	NA	6/26/1998	11/2/2010	7/22/2011	7/16/2012	6/26/1998	11/15/2010	7/22/2011	7/16/2012	6/26/1998	11/15/2010	7/22/2011	7/16/2012
Free-Product Thickness	Interface Probe	NA	**0.02**	**0.02**	**0.02**	**0.55**	0.00	**0.06**	**1.20**	**0.60**	0.00	**0.39**	**0.20**	**0.13**
Benzene (µg/L)	8260B	5	**10,100**	NS	NS	NS	**12,800**	NS	NS	NS	**17,000**	NS	NS	NS
Toluene (µg/L)	8260B	1,000	**24,400**	NS	NS	NS	**20,400**	NS	NS	NS	**27,500**	NS	NS	NS
Ethylbenzene (µg/L)	8260B	700	**2,920**	NS	NS	NS	**3,980**	NS	NS	NS	**3,660**	NS	NS	NS
Xylenes (µg/L)	8260B	10,000	**8,480**	NS	NS	NS	**19,600**	NS	NS	NS	**12,800**	NS	NS	NS
Methyl-tert-butyl ether (MTBE) (µg/L)	8260B	40	**25,300**	NS	NS	NS	**410**	NS	NS	NS	**7,280**	NS	NS	NS
Naphthalene (µg/L)	8260B	25	**2,800**	NS	NS	NS	**2,760**	NS	NS	NS	**6,140**	NS	NS	NS
1,2-Dibromoethane (EDB) (µg/L)	8011	0.05	NT	NS	NS	NS	NT	NS	NS	NS	NT	NS	NS	NS
1,2-Dichloroethane (1,2 DCA) (µg/L)	8260B	5.0	NT	NS	NS	NS	NT	NS	NS	NS	NT	NS	NS	NS
Acenaphthene (µg/L)	8270C	NE	NT	NS	NS	NS	NT	NS	NS	NS	NT	NS	NS	NS
Acenaphthylene (µg/L)	8270C	NE	NT	NS	NS	NS	NT	NS	NS	NS	NT	NS	NS	NS
Anthracene (µg/L)	8270C	NE	NT	NS	NS	NS	NT	NS	NS	NS	NT	NS	NS	NS
Benzo (a) anthracene (µg/L)	8270C	10	NT	NS	NS	NS	NT	NS	NS	NS	NT	NS	NS	NS
Benzo (a) pyrene (µg/L)	8270C	NE	NT	NS	NS	NS	NT	NS	NS	NS	NT	NS	NS	NS
Benzo (b) fluoranthene (µg/L)	8270C	10	NT	NS	NS	NS	NT	NS	NS	NS	NT	NS	NS	NS
Benzo (g,h,i) perylene (µg/L)	8270C	NE	NT	NS	NS	NS	NT	NS	NS	NS	NT	NS	NS	NS
Benzo (k) fluoroanthene (µg/L)	8270C	10	NT	NS	NS	NS	NT	NS	NS	NS	NT	NS	NS	NS
Chrysene (µg/L)	8270C	10	NT	NS	NS	NS	NT	NS	NS	NS	NT	NS	NS	NS
Debenz (a,h) anthracene (µg/L)	8270C	10	NT	NS	NS	NS	NT	NS	NS	NS	NT	NS	NS	NS
Fluoranthene (µg/L)	8270C	NE	NT	NS	NS	NS	NT	NS	NS	NS	NT	NS	NS	NS
Fluorene (µg/L)	8270C	NE	NT	NS	NS	NS	NT	NS	NS	NS	NT	NS	NS	NS
Indeno (1,2,3-cd) pyrene (µg/L)	8270C	NE	NT	NS	NS	NS	NT	NS	NS	NS	NT	NS	NS	NS
1-Methylnaphthalene (µg/L)	8270C	25	NT	NS	NS	NS	NT	NS	NS	NS	NT	NS	NS	NS
2-Methylnaphthalene (µg/L)	8270C	25	NT	NS	NS	NS	NT	NS	NS	NS	NT	NS	NS	NS
Naphthalene (PAH range) (µg/L)	8270C	25	NT	NS	NS	NS	NT	NS	NS	NS	NT	NS	NS	NS
Phenanthrene (µg/L)	8270C	NE	NT	NS	NS	NS	NT	NS	NS	NS	NT	NS	NS	NS
Pyrene (µg/L)	8270C	NE	NT	NS	NS	NS	NT	NS	NS	NS	NT	NS	NS	NS
Ethyl-tert-butyl ether (ETBE) (µg/L)	8260B	47	NT	NS	NS	NS	NT	NS	NS	NS	NT	NS	NS	NS
Ethyl-tert-butyl alcohol (ETBA) (µg/L)	8260B	NE	NT	NS	NS	NS	NT	NS	NS	NS	NT	NS	NS	NS
Tert-amyl methyl ether (TAME) (µg/L)	8260B	128	NT	NS	NS	NS	NT	NS	NS	NS	NT	NS	NS	NS
Diisopropyl ether (DIPE) (µg/L)	8260B	150	NT	NS	NS	NS	NT	NS	NS	NS	NT	NS	NS	NS
Ethanol (µg/L)	8260B	10,000	NT	NS	NS	NS	NT	NS	NS	NS	NT	NS	NS	NS
Tert-butyl formate (TBF) (µg/L)	8260B	NE	NT	NS	NS	NS	NT	NS	NS	NS	NT	NS	NS	NS
Tert-butyl alcohol (TBA) (µg/L)	8260B	1,400	NT	NS	NS	NS	NT	NS	NS	NS	NT	NS	NS	NS
Tert-amyl alcohol (TAA) (µg/L)	8260B	240	NT	NS	NS	NS	NT	NS	NS	NS	NT	NS	NS	NS
Lead (µg/L)	6010B	15	NT	NS	NS	NS	NT	NS	NS	NS	NT	NS	NS	NS
Ferrous Iron (mg/L)	SM 3500-FeD	NE	NT	NS	NS	NS	NT	NS	NS	NS	NT	NS	NS	NS
Nitrates (mg/L)	8094	NE	NT	NS	NS	NS	NT	NS	NS	NS	NT	NS	NS	NS
Sulfates (mg/L)	SW9056A	NE	NT	NS	NS	NS	NT	NS	NS	NS	NT	NS	NS	NS

NOTES:
CoC - Chemical of Concern
RBSL - Risk Based Screening Level
Bold values indicate concentrations detected above the laboratory method detection limit.
Shaded values indicate concentrations exceeding RBSLs.
NA - Not Applicable
ND - Not Detected
NE - Not Established
NT - Not Tested

Prepared By: TZS
Checked By: SJN

TABLE 5

Groundwater Analytical Data
Spinx 258/Former Enmark 380
Newberry, Newberry County, South Carolina
SCDHEC UST Permit #06588; Cost Agreement #43532 & #43533
BLE Project Number J12-6859-04

CoC	Method	RBSL (µg/L)	06588-MW07D			06588-MW08D				06588-MW09		
Sampling Date	NA	NA	11/4/2010	7/19/2011	7/17/2012	6/26/1998	11/4/2010	7/19/2011	7/17/2012	11/2/2010	7/20/2011	7/16/2012
Free-Product Thickness	Interface Probe	NA	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Benzene (µg/L)	8260B	5	**19**	**2.6**	**7.6**	**47.6**	**13**	**75**	**89**	<1.0	<1.0	<5.0
Toluene (µg/L)	8260B	1,000	**3.4**	<1.0	<5.0	**3.0**	**12**	**0.98J**	**3.7J**	<1.0	<1.0	<5.0
Ethylbenzene (µg/L)	8260B	700	**2.3**	<1.0	<5.0	**1.3**	**4.7**	**0.36J**	<5.0	<1.0	<1.0	<5.0
Xylenes (µg/L)	8260B	10,000	**16**	<1.0	<5.0	**29.8**	**29**	**120**	**190**	<1.0	**0.64J**	<5.0
Methyl-tert-butyl ether (MTBE) (µg/L)	8260B	40	<1.0	<1.0	<5.0	**74.2**	**5.7**	**23**	**7.9**	<1.0	<1.0	<5.0
Naphthalene (µg/L)	8260B	25	**2.8**	<1.0	<5.0	**14.0**	**4.4**	**22**	**22**	<1.0	**1.0**	<5.0
1,2-Dibromoethane (EDB) (µg/L)	8011	0.05	<0.019	<0.020	<0.019	NT	<0.020	**0.056**	**0.078**	<0.022	<0.019	<0.019
1,2-Dichloroethane (1,2 DCA) (µg/L)	8260B	5.0	<1.0	<1.0	<5.0	NT	<1.0	<1.0	<5.0	<1.0	<1.0	<5.0
Acenaphthene (µg/L)	8270C	NE	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Acenaphthylene (µg/L)	8270C	NE	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Anthracene (µg/L)	8270C	NE	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Benzo (a) anthracene (µg/L)	8270C	10	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Benzo (a) pyrene (µg/L)	8270C	NE	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Benzo (b) fluoranthene (µg/L)	8270C	10	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Benzo (g,h,i) perylene (µg/L)	8270C	NE	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Benzo (k) fluoroanthene (µg/L)	8270C	10	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Chrysene (µg/L)	8270C	10	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Debenz (a,h) anthracene (µg/L)	8270C	10	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Fluoranthene (µg/L)	8270C	NE	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Fluorene (µg/L)	8270C	NE	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Indeno (1,2,3-cd) pyrene (µg/L)	8270C	NE	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
1-Methylnaphthalene (µg/L)	8270C	25	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
2-Methylnaphthalene (µg/L)	8270C	25	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Naphthalene (PAH range) (µg/L)	8270C	25	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Phenanthrene (µg/L)	8270C	NE	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Pyrene (µg/L)	8270C	NE	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Ethyl-tert-butyl ether (ETBE) (µg/L)	8260B	47	<1.0	<1.0	<1.0	NT	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Ethyl-tert-butyl alcohol (ETBA) (µg/L)	8260B	NE	<20	<20	<20	NT	<20	<20	<20	<20	<20	<20
Tert-amyl methyl ether (TAME) (µg/L)	8260B	128	<10	<10	<10	NT	<10	**8.5J**	**2.4J**	<10	<10	<10
Diisopropyl ether (DIPE) (µg/L)	8260B	150	<5.0	<5.0	<5.0	NT	<5.0	**0.44J**	<5.0	<5.0	<5.0	<5.0
Ethanol (µg/L)	8260B	10,000	<100	<100	<100	NT	**1,700**	<100	<100	**330**	<100	<100
Tert-butyl formate (TBF) (µg/L)	8260B	NE	<5.0	<5.0	<5.0	NT	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Tert-butyl alcohol (TBA) (µg/L)	8260B	1,400	<20	**33**	<20	NT	<20	<20	<20	<20	<20	<20
Tert-amyl alcohol (TAA) (µg/L)	8260B	240	<20	**51**	<20	NT	**37**	**400**	**150**	<20	**71**	<20
Lead (µg/L)	6010B	15	<10	NT	**10**	NT	**17**	NT	**6.2J**	**350**	NT	**9.8J**
Ferrous Iron (mg/L)	SM 3500-FeD	NE	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Nitrates (mg/L)	8094	NE	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Sulfates (mg/L)	SW9056A	NE	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT

NOTES:
CoC - Chemical of Concern
RBSL - Risk Based Screening Level
Bold values indicate concentrations detected above the laboratory method detection limit.
Shaded values indicate concentrations exceeding RBSLs.
NA - Not Applicable
ND - Not Detected
NE - Not Established
NT - Not Tested

Prepared By: TZS
Checked By: SJN

TABLE 5

Groundwater Analytical Data
Spinx 258/Former Enmark 380
Newberry, Newberry County, South Carolina
SCDHEC UST Permit #06588; Cost Agreement #43532 & #43533
BLE Project Number J12-6859-04

CoC	Method	RBSL (µg/L)	06588-MW10			06588-MW11			06588-MW12			06588-MW13		
Sampling Date	NA	NA	11/2/2010	7/20/2011	7/16/2012	11/2/2010	7/20/2011	7/1612	11/2/2010	7/20/2011	7/20/2011	11/2/2010	7/20/2011	7/17/2012
Free-Product Thickness	Interface Probe	NA	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Benzene (µg/L)	8260B	5	<1.0	<1.0	<5.0	<1.0	<1.0	<5.0	<1.0	<1.0	<5.0	<1.0	<1.0	<5.0
Toluene (µg/L)	8260B	1,000	<1.0	<1.0	<5.0	<1.0	<1.0	<5.0	<1.0	<1.0	<5.0	<1.0	<1.0	<5.0
Ethylbenzene (µg/L)	8260B	700	<1.0	<1.0	<5.0	<1.0	<1.0	<5.0	<1.0	<1.0	<5.0	<1.0	<1.0	<5.0
Xylenes (µg/L)	8260B	10,000	<1.0	<1.0	**7.0**	<1.0	<1.0	<5.0	<1.0	<1.0	<5.0	<1.0	<1.0	<5.0
Methyl-tert-butyl ether (MTBE) (µg/L)	8260B	40	<1.0	<1.0	<5.0	<1.0	<1.0	<5.0	<1.0	<1.0	<5.0	<1.0	<1.0	<5.0
Naphthalene (µg/L)	8260B	25	<1.0	<1.0	<5.0	<1.0	<1.0	<5.0	<1.0	<1.0	<5.0	<1.0	<1.0	<5.0
1,2-Dibromoethane (EDB) (µg/L)	8011	0.05	<0.020	<0.019	<0.019	<0.020	<0.019	<0.019	<0.021	<0.019	<0.020	<0.021	<0.019	<0.020
1,2-Dichloroethane (1,2 DCA) (µg/L)	8260B	5.0	<1.0	<1.0	<5.0	<1.0	<1.0	<5.0	<1.0	<1.0	<5.0	<1.0	<1.0	<5.0
Acenaphthene (µg/L)	8270C	NE	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Acenaphthylene (µg/L)	8270C	NE	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Anthracene (µg/L)	8270C	NE	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Benzo (a) anthracene (µg/L)	8270C	10	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Benzo (a) pyrene (µg/L)	8270C	NE	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Benzo (b) fluoranthene (µg/L)	8270C	10	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Benzo (g,h,i) perylene (µg/L)	8270C	NE	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Benzo (k) fluoroanthene (µg/L)	8270C	10	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Chrysene (µg/L)	8270C	10	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Debenz (a,h) anthracene (µg/L)	8270C	10	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Fluoranthene (µg/L)	8270C	NE	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Fluorene (µg/L)	8270C	NE	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Indeno (1,2,3-cd) pyrene (µg/L)	8270C	NE	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
1-Methylnaphthalene (µg/L)	8270C	25	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
2-Methylnaphthalene (µg/L)	8270C	25	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Naphthalene (PAH range) (µg/L)	8270C	25	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Phenanthrene (µg/L)	8270C	NE	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Pyrene (µg/L)	8270C	NE	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Ethyl-tert-butyl ether (ETBE) (µg/L)	8260B	47	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Ethyl-tert-butyl alcohol (ETBA) (µg/L)	8260B	NE	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20
Tert-amyl methyl ether (TAME) (µg/L)	8260B	128	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
Diisopropyl ether (DIPE) (µg/L)	8260B	150	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Ethanol (µg/L)	8260B	10,000	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100
Tert-butyl formate (TBF) (µg/L)	8260B	NE	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Tert-butyl alcohol (TBA) (µg/L)	8260B	1,400	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20
Tert-amyl alcohol (TAA) (µg/L)	8260B	240	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20
Lead (µg/L)	6010B	15	**480**	NT	**26**	**220**	NT	**4.2J**	**290**	NT	**45**	**420**	NT	**23**
Ferrous Iron (mg/L)	SM 3500-FeD	NE	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Nitrates (mg/L)	8094	NE	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Sulfates (mg/L)	SW9056A	NE	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT

NOTES:
CoC - Chemical of Concern
RBSL - Risk Based Screening Level
Bold values indicate concentrations detected above the laboratory method detecti
Shaded values indicate concentrations exceeding RBSLs.
NA - Not Applicable
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Prepared By: TZS
Checked By: SJN

TABLE 5

Groundwater Analytical Data
Spinx 258/Former Enmark 380
Newberry, Newberry County, South Carolina
SCDHEC UST Permit #06588; Cost Agreement #43532 & #43533
BLE Project Number J12-6859-04

CoC	Method	RBSL (µg/L)	06588-MW14			06588-MW15			06588-MW16			06588-MW17		
Sampling Date	NA	NA	11/3/2010	7/20/2011	7/16/2012	11/3/2010	7/20/2011	7/16/2012	11/2/2010	7/20/2011	7/17/2012	11/2/2010	7/20/2011	7/17/2012
Free-Product Thickness	Interface Probe	NA	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Benzene (µg/L)	8260B	5	<1.0	<1.0	<5.0	<1.0	<1.0	<5.0	<1.0	<1.0	<5.0	<1.0	<1.0	<5.0
Toluene (µg/L)	8260B	1,000	<1.0	<1.0	<5.0	<1.0	<1.0	<5.0	<1.0	<1.0	<5.0	<1.0	<1.0	<5.0
Ethylbenzene (µg/L)	8260B	700	<1.0	<1.0	<5.0	<1.0	<1.0	<5.0	<1.0	<1.0	<5.0	<1.0	<1.0	<5.0
Xylenes (µg/L)	8260B	10,000	<1.0	<1.0	<5.0	<1.0	<1.0	<5.0	<1.0	<1.0	<5.0	<1.0	<1.0	<5.0
Methyl-tert-butyl ether (MTBE) (µg/L)	8260B	40	<1.0	<1.0	<5.0	<1.0	<1.0	<5.0	<1.0	<1.0	<5.0	<1.0	<1.0	<5.0
Naphthalene (µg/L)	8260B	25	<1.0	<1.0	<5.0	<1.0	<1.0	<5.0	<1.0	<1.0	<5.0	<1.0	<1.0	<5.0
1,2-Dibromoethane (EDB) (µg/L)	8011	0.05	<0.020	<0.020	<0.019	<0.020	<0.019	<0.019	<0.020	<0.019	<0.020	<0.020	<0.019	<0.019
1,2-Dichloroethane (1,2 DCA) (µg/L)	8260B	5.0	<1.0	<1.0	<5.0	<1.0	<1.0	<5.0	<1.0	<1.0	<5.0	<1.0	<1.0	<5.0
Acenaphthene (µg/L)	8270C	NE	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Acenaphthylene (µg/L)	8270C	NE	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Anthracene (µg/L)	8270C	NE	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Benzo (a) anthracene (µg/L)	8270C	10	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Benzo (a) pyrene (µg/L)	8270C	NE	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Benzo (b) fluoranthene (µg/L)	8270C	10	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Benzo (g,h,i) perylene (µg/L)	8270C	NE	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Benzo (k) fluoroanthene (µg/L)	8270C	10	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Chrysene (µg/L)	8270C	10	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Debenz (a,h) anthracene (µg/L)	8270C	10	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Fluoranthene (µg/L)	8270C	NE	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Fluorene (µg/L)	8270C	NE	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Indeno (1,2,3-cd) pyrene (µg/L)	8270C	NE	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
1-Methylnaphthalene (µg/L)	8270C	25	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
2-Methylnaphthalene (µg/L)	8270C	25	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Naphthalene (PAH range) (µg/L)	8270C	25	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Phenanthrene (µg/L)	8270C	NE	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Pyrene (µg/L)	8270C	NE	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Ethyl-tert-butyl ether (ETBE) (µg/L)	8260B	47	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Ethyl-tert-butyl alcohol (ETBA) (µg/L)	8260B	NE	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20
Tert-amyl methyl ether (TAME) (µg/L)	8260B	128	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
Diisopropyl ether (DIPE) (µg/L)	8260B	150	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Ethanol (µg/L)	8260B	10,000	<100	<100	<100	<100	<100	<100	**220**	<100	<100	**260**	<100	<100
Tert-butyl formate (TBF) (µg/L)	8260B	NE	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Tert-butyl alcohol (TBA) (µg/L)	8260B	1,400	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20
Tert-amyl alcohol (TAA) (µg/L)	8260B	240	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20
Lead (µg/L)	6010B	15	**96**	NT	**46**	**70**	NT	**79**	**180**	NT	**59**	**31**	NT	**15**
Ferrous Iron (mg/L)	SM 3500-FeD	NE	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Nitrates (mg/L)	8094	NE	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Sulfates (mg/L)	SW9056A	NE	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT

NOTES:
CoC - Chemical of Concern
RBSL - Risk Based Screening Level
Bold values indicate concentrations detected above the laboratory method detecti
Shaded values indicate concentrations exceeding RBSLs.
NA - Not Applicable
ND - Not Detected
NE - Not Established
NT - Not Tested

Prepared By: TZS
Checked By: SJN

TABLE 5

Groundwater Analytical Data
Spinx 258/Former Enmark 380
Newberry, Newberry County, South Carolina
SCDHEC UST Permit #06588; Cost Agreement #43532 & #43533
BLE Project Number J12-6859-04

CoC	Method	RBSL (µg/L)	06588-MW18			06588-MW19			06588-MW20			06588-MW21		
Sampling Date	NA	NA	11/2/2010	7/20/2011	7/17/2012	11/2/2010	7/20/2011	7/16/2012	11/4/2010	7/21/2011	7/17/2012	11/4/2010	7/21/2011	7/17/2012
Free-Product Thickness	Interface Probe	NA	0.00	0.00	0.00	0.00	0.00	**0.89**	0.00	0.00	0.00	0.00	0.00	0.00
Benzene (µg/L)	8260B	5	**20**	**28J**	**25J**	**8,300**	**7,200**	NS	<1.0	<1.0	<5.0	<1.0	<1.0	<5.0
Toluene (µg/L)	8260B	1,000	**170**	**270**	**22J**	**29,000**	**27,000**	NS	<1.0	<1.0	<5.0	<1.0	<1.0	<5.0
Ethylbenzene (µg/L)	8260B	700	**1,700**	**2,600**	**1,600**	**3,100**	**4,000**	NS	<1.0	<1.0	<5.0	<1.0	<1.0	<5.0
Xylenes (µg/L)	8260B	10,000	**6,200**	**12,000**	**2,000**	**19,000**	**22,000**	NS	<1.0	<1.0	<5.0	<1.0	<1.0	<5.0
Methyl-tert-butyl ether (MTBE) (µg/L)	8260B	40	<20	<50	<50	**320**	**260**	NS	<1.0	<1.0	<5.0	<1.0	<1.0	<5.0
Naphthalene (µg/L)	8260B	25	**490**	**400**	**710**	**850**	<200	NS	<1.0	<1.0	<5.0	<1.0	<1.0	<5.0
1,2-Dibromoethane (EDB) (µg/L)	8011	0.05	<0.020	<0.020	<0.019	**28**	**24**	NS	<0.020	<0.019	<0.020	<0.019	<0.019	<0.020
1,2-Dichloroethane (1,2 DCA) (µg/L)	8260B	5.0	<20	<50	<50	<200	<200	NS	<1.0	<1.0	<5.0	<1.0	<1.0	<5.0
Acenaphthene (µg/L)	8270C	NE	NT	NT	NT	NT	NT	NS	NT	NT	NT	NT	NT	NT
Acenaphthylene (µg/L)	8270C	NE	NT	NT	NT	NT	NT	NS	NT	NT	NT	NT	NT	NT
Anthracene (µg/L)	8270C	NE	NT	NT	NT	NT	NT	NS	NT	NT	NT	NT	NT	NT
Benzo (a) anthracene (µg/L)	8270C	10	NT	NT	NT	NT	NT	NS	NT	NT	NT	NT	NT	NT
Benzo (a) pyrene (µg/L)	8270C	NE	NT	NT	NT	NT	NT	NS	NT	NT	NT	NT	NT	NT
Benzo (b) fluoranthene (µg/L)	8270C	10	NT	NT	NT	NT	NT	NS	NT	NT	NT	NT	NT	NT
Benzo (g,h,i) perylene (µg/L)	8270C	NE	NT	NT	NT	NT	NT	NS	NT	NT	NT	NT	NT	NT
Benzo (k) fluoroanthene (µg/L)	8270C	10	NT	NT	NT	NT	NT	NS	NT	NT	NT	NT	NT	NT
Chrysene (µg/L)	8270C	10	NT	NT	NT	NT	NT	NS	NT	NT	NT	NT	NT	NT
Debenz (a,h) anthracene (µg/L)	8270C	10	NT	NT	NT	NT	NT	NS	NT	NT	NT	NT	NT	NT
Fluoranthene (µg/L)	8270C	NE	NT	NT	NT	NT	NT	NS	NT	NT	NT	NT	NT	NT
Fluorene (µg/L)	8270C	NE	NT	NT	NT	NT	NT	NS	NT	NT	NT	NT	NT	NT
Indeno (1,2,3-cd) pyrene (µg/L)	8270C	NE	NT	NT	NT	NT	NT	NS	NT	NT	NT	NT	NT	NT
1-Methylnaphthalene (µg/L)	8270C	25	NT	NT	NT	NT	NT	NS	NT	NT	NT	NT	NT	NT
2-Methylnaphthalene (µg/L)	8270C	25	NT	NT	NT	NT	NT	NS	NT	NT	NT	NT	NT	NT
Naphthalene (PAH range) (µg/L)	8270C	25	NT	NT	NT	NT	NT	NS	NT	NT	NT	NT	NT	NT
Phenanthrene (µg/L)	8270C	NE	NT	NT	NT	NT	NT	NS	NT	NT	NT	NT	NT	NT
Pyrene (µg/L)	8270C	NE	NT	NT	NT	NT	NT	NS	NT	NT	NT	NT	NT	NT
Ethyl-tert-butyl ether (ETBE) (µg/L)	8260B	47	<20	<50	<10	<200	<200	NS	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Ethyl-tert-butyl alcohol (ETBA) (µg/L)	8260B	NE	<400	<1,000	<200	<4,000	<4,000	NS	<20	<20	<20	<20	<20	<20
Tert-amyl methyl ether (TAME) (µg/L)	8260B	128	<200	<500	<100	<2,000	<2,000	NS	<10	<10	<10	<10	<10	<10
Diisopropyl ether (DIPE) (µg/L)	8260B	150	<100	<250	<50	<1,000	<1,000	NS	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Ethanol (µg/L)	8260B	10,000	<2,000	<5,000	<1,000	<20,000	<20,000	NS	<100	<100	<100	<100	<100	<100
Tert-butyl formate (TBF) (µg/L)	8260B	NE	<100	<250	<50	<1,000	<1,000	NS	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Tert-butyl alcohol (TBA) (µg/L)	8260B	1,400	<400	<1,000	<200	<4,000	<4,000	NS	<20	<20	<20	<20	<20	<20
Tert-amyl alcohol (TAA) (µg/L)	8260B	240	<400	<1,000	<200	<4,000	**2,600J**	NS	<20	<20	<20	<20	<20	<20
Lead (µg/L)	6010B	15	**270**	NT	**19**	**480**	NT	NS	**10**	NT	**21**	**22**	NT	**8.6J**
Ferrous Iron (mg/L)	SM 3500-FeD	NE	NT	NT	NT	NT	NT	NS	NT	NT	NT	NT	NT	NT
Nitrates (mg/L)	8094	NE	NT	NT	NT	NT	NT	NS	NT	NT	NT	NT	NT	NT
Sulfates (mg/L)	SW9056A	NE	NT	NT	NT	NT	NT	NS	NT	NT	NT	NT	NT	NT

NOTES:
CoC - Chemical of Concern
RBSL - Risk Based Screening Level
Bold values indicate concentrations detected above the laboratory method detecti
Shaded values indicate concentrations exceeding RBSLs.
NA - Not Applicable
ND - Not Detected
NE - Not Established
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Prepared By: TZS
Checked By: SJN

TABLE 5

Groundwater Analytical Data
Spinx 258/Former Eamark 380
Newberry, Newberry County, South Carolina
SCDHEC UST Permit #06588; Cost Agreement #43532 & #43533
BLE Project Number J12-6859-04

CoC	Method	RBSL (µg/L)	06588-MW21D			06588-MW22				06588-MW22D			06588-MW23		
Sampling Date	NA	NA	11/4/2010	7/19/2011	7/17/2012	11/2/2010	7/20/2011	7/17/2012	7/17/2012 DUP	11/4/2010	7/19/2011	7/17/2012	11/3/2010	7/20/2011	7/16/2012
Free-Product Thickness	Interface Probe	NA	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**1.65**
Benzene (µg/L)	8260B	5	<1.0	<1.0	<5.0	**3,200**	**3,700**	**350**	**360**	**220**	**320**	**210**	**19,000**	**13,000**	NS
Toluene (µg/L)	8260B	1,000	<1.0	<1.0	<5.0	**1,000**	**230**	**380**	**380**	<1.0	<1.0	<5.0	**30,000**	**35,000**	NS
Ethylbenzene (µg/L)	8260B	700	<1.0	<1.0	<5.0	**2,400**	**2,900**	**130**	**140**	<1.0	<1.0	<5.0	**4,500**	**4,000**	NS
Xylenes (µg/L)	8260B	10,000	<1.0	<1.0	<5.0	**7,900**	**3,900**	**1,600**	**1,600**	**2.0**	**0.64J**	<5.0	**24,000**	**22,000**	NS
Methyl-tert-butyl ether (MTBE) (µg/L)	8260B	40	<1.0	<1.0	<5.0	**610**	**910**	**84**	**87**	**9.2**	**15**	**8.4**	**2,300**	**260J**	NS
Naphthalene (µg/L)	8260B	25	<1.0	<1.0	<5.0	**630**	**530**	**130**	**140**	**15**	**23**	**17**	**1,000**	<400	NS
1,2-Dibromoethane (EDB) (µg/L)	8011	0.05	<0.020	<0.019	<0.019	**0.28**	**0.17**	**0.26**	**0.26**	<0.019	<0.019	<0.020	**40**	**42**	NS
1,2-Dichloroethane (1,2 DCA) (µg/L)	8260B	5.0	<1.0	<1.0	<5.0	<20	**86**	<25	<25	<1.0	**6.6**	<5.0	**910**	<400	NS
Acenaphthene (µg/L)	8270C	NE	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NS
Acenaphthylene (µg/L)	8270C	NE	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NS
Anthracene (µg/L)	8270C	NE	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NS
Benzo (a) anthracene (µg/L)	8270C	10	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NS
Benzo (a) pyrene (µg/L)	8270C	NE	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NS
Benzo (b) fluoranthene (µg/L)	8270C	10	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NS
Benzo (g,h,i) perylene (µg/L)	8270C	NE	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NS
Benzo (k) fluoroanthene (µg/L)	8270C	10	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NS
Chrysene (µg/L)	8270C	10	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NS
Debenz (a,h) anthracene (µg/L)	8270C	10	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NS
Fluoranthene (µg/L)	8270C	NE	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NS
Fluorene (µg/L)	8270C	NE	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NS
Indeno (1,2,3-cd) pyrene (µg/L)	8270C	NE	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NS
1-Methylnaphthalene (µg/L)	8270C	25	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NS
2-Methylnaphthalene (µg/L)	8270C	25	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NS
Naphthalene (PAH range) (µg/L)	8270C	25	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NS
Phenanthrene (µg/L)	8270C	NE	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NS
Pyrene (µg/L)	8270C	NE	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NS
Ethyl-tert-butyl ether (ETBE) (µg/L)	8260B	47	<1.0	<1.0	<1.0	<20	<20	<5.0	<5.0	<1.0	<1.0	<1.0	<200	<400	NS
Ethyl-tert-butyl alcohol (ETBA) (µg/L)	8260B	NE	<20	<20	<20	<400	<400	<100	<100	<20	<20	<20	<4,000	<8,000	NS
Tert-amyl methyl ether (TAME) (µg/L)	8260B	128	<10	<10	<10	**360**	**420**	**36J**	**36J**	<10	**14**	**7.2J**	<2,000	<4,000	NS
Diisopropyl ether (DIPE) (µg/L)	8260B	150	<5.0	<5.0	<5.0	<100	**29J**	**4.7J**	**4.5J**	<5.0	**0.89J**	<5.0	<1,000	**260J**	NS
Ethanol (µg/L)	8260B	10,000	<100	<100	<100	<2,000	<2,000	<500	<500	<100	<100	<100	<20,000	<40,000	NS
Tert-butyl formate (TBF) (µg/L)	8260B	NE	<5.0	<5.0	<5.0	<100	<100	<25	<25	<5.0	<5.0	<5.0	<1,000	<2,000	NS
Tert-butyl alcohol (TBA) (µg/L)	8260B	1,400	<20	<20	<20	<400	**250J**	<100	<100	**24**	<20	<20	**14,000**	<8,000	NS
Tert-amyl alcohol (TAA) (µg/L)	8260B	240	<20	<20	<20	<400	**5,000**	**270**	**290**	<20	**160**	<20	<4,000	**18,000**	NS
Lead (µg/L)	6010B	15	**69**	NT	**18**	**520**	NT	**16**	**6.9J**	**15**	NT	**12**	**640**	NT	NS
Ferrous Iron (mg/L)	SM 3500-FeD	NE	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NS
Nitrates (mg/L)	8094	NE	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NS
Sulfates (mg/L)	SW9056A	NE	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NS

NOTES:
CoC - Chemical of Concern
RBSL - Risk Based Screening Level
Bold values indicate concentrations detected above the laboratory method detecti
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NA - Not Applicable
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Prepared By: TZS
Checked By: SJN

TABLE 5

Groundwater Analytical Data
Spinx 258/Former Enmark 380
Newberry, Newberry County, South Carolina
SCDHEC UST Permit #06588; Cost Agreement #43532 & #43533
BLE Project Number J12-6859-04

CoC	Method	RBSL (µg/L)	06588-MW-24			06588-MW-24D			06588-MW-25			06588-MW-26		
Sampling Date	NA	NA	11/3/2010	7/20/2011	7/16/2012	11/4/2010	7/19/2011	7/17/2012	11/3/2010	7/20/2011	7/16/2012	11/3/2010	7/21/2011	7/16/2012
Free-Product Thickness	Interface Probe	NA	0.00	0.00	**1.32**	0.00	0.00	0.00	0.00	0.00	**0.31**	0.00	0.00	0.00
Benzene (µg/L)	8260B	5	**17,000**	**16,000**	NS	**110**	**220**	**240**	**6,100**	**14,000**	NS	**27**	**13**	<5.0
Toluene (µg/L)	8260B	1,000	**23,000**	**4,500**	NS	**23**	<1.0	<5.0	**3,600**	**5,800**	NS	<1.0	<1.0	<5.0
Ethylbenzene (µg/L)	8260B	700	**5,100**	**3,500**	NS	**9.2**	<1.0	<5.0	**1,500**	**2,600**	NS	**2.2**	**1.3**	<5.0
Xylenes (µg/L)	8260B	10,000	**24,000**	**11,000**	NS	**33**	**1.2**	<5.0	**7,900**	**12,000**	NS	**8.5**	**4.3**	<5.0
Methyl-tert-butyl ether (MTBE) (µg/L)	8260B	40	**2,400**	**2,300**	NS	**10**	**39**	**30**	**1,000**	**1,700**	NS	<1.0	<1.0	<5.0
Naphthalene (µg/L)	8260B	25	**840**	**170**	NS	**14**	**23**	**30**	**520**	**94J**	NS	<1.0	**1.1**	<5.0
1,2-Dibromoethane (EDB) (µg/L)	8011	0.05	**55**	**37**	NS	**0.041**	**0.017**	<0.019	**3.5**	**4.9**	NS	<0.021	<0.020	<0.020
1,2-Dichloroethane (1,2 DCA) (µg/L)	8260B	5.0	**630**	**430**	NS	<1.0	**4.9**	<5.0	<20	**320**	NS	<1.0	**0.32J**	<5.0
Acenaphthene (µg/L)	8270C	NE	NT	NT	NS	NT	NT	NT	NT	NT	NS	NT	NT	NT
Acenaphthylene (µg/L)	8270C	NE	NT	NT	NS	NT	NT	NT	NT	NT	NS	NT	NT	NT
Anthracene (µg/L)	8270C	NE	NT	NT	NS	NT	NT	NT	NT	NT	NS	NT	NT	NT
Benzo (a) anthracene (µg/L)	8270C	10	NT	NT	NS	NT	NT	NT	NT	NT	NS	NT	NT	NT
Benzo (a) pyrene (µg/L)	8270C	NE	NT	NT	NS	NT	NT	NT	NT	NT	NS	NT	NT	NT
Benzo (b) fluoranthene (µg/L)	8270C	10	NT	NT	NS	NT	NT	NT	NT	NT	NS	NT	NT	NT
Benzo (g,h,i) perylene (µg/L)	8270C	NE	NT	NT	NS	NT	NT	NT	NT	NT	NS	NT	NT	NT
Benzo (k) fluoroanthene (µg/L)	8270C	10	NT	NT	NS	NT	NT	NT	NT	NT	NS	NT	NT	NT
Chrysene (µg/L)	8270C	10	NT	NT	NS	NT	NT	NT	NT	NT	NS	NT	NT	NT
Debenz (a,h) anthracene (µg/L)	8270C	10	NT	NT	NS	NT	NT	NT	NT	NT	NS	NT	NT	NT
Fluoranthene (µg/L)	8270C	NE	NT	NT	NS	NT	NT	NT	NT	NT	NS	NT	NT	NT
Fluorene (µg/L)	8270C	NE	NT	NT	NS	NT	NT	NT	NT	NT	NS	NT	NT	NT
Indeno (1,2,3-cd) pyrene (µg/L)	8270C	NE	NT	NT	NS	NT	NT	NT	NT	NT	NS	NT	NT	NT
1-Methylnaphthalene (µg/L)	8270C	25	NT	NT	NS	NT	NT	NT	NT	NT	NS	NT	NT	NT
2-Methylnaphthalene (µg/L)	8270C	25	NT	NT	NS	NT	NT	NT	NT	NT	NS	NT	NT	NT
Naphthalene (PAH range) (µg/L)	8270C	25	NT	NT	NS	NT	NT	NT	NT	NT	NS	NT	NT	NT
Phenanthrene (µg/L)	8270C	NE	NT	NT	NS	NT	NT	NT	NT	NT	NS	NT	NT	NT
Pyrene (µg/L)	8270C	NE	NT	NT	NS	NT	NT	NT	NT	NT	NS	NT	NT	NT
Ethyl-tert-butyl ether (ETBE) (µg/L)	8260B	47	<100	<100	NS	<1.0	<1.0	<1.0	<20	<100	NS	<1.0	<1.0	<1.0
Ethyl-tert-butyl alcohol (ETBA) (µg/L)	8260B	NE	<2,000	<2,000	NS	<20	<20	<20	<400	<2,000	NS	<20	<20	<20
Tert-amyl methyl ether (TAME) (µg/L)	8260B	128	<1,000	**330J**	NS	<10	**2.1J**	**0.86J**	<200	**220J**	NS	<10	<10	<10
Diisopropyl ether (DIPE) (µg/L)	8260B	150	<500	**230J**	NS	<5.0	**4.9J**	**3.7J**	<100	**54J**	NS	<5.0	<5.0	<5.0
Ethanol (µg/L)	8260B	10,000	<10,000	<10,000	NS	<100	<100	<100	<2,000	<10,000	NS	<100	<100	<100
Tert-butyl formate (TBF) (µg/L)	8260B	NE	<500	<500	NS	<5.0	<5.0	<5.0	<100	<500	NS	<5.0	<5.0	<5.0
Tert-butyl alcohol (TBA) (µg/L)	8260B	1,400	<2,000	**1,300J**	NS	<20	<20	**41**	<400	<2,000	NS	<20	<20	<20
Tert-amyl alcohol (TAA) (µg/L)	8260B	240	<2,000	**13,000**	NS	**55**	**170**	**120**	**2,800**	**3,900**	NS	**64**	**75**	**11J**
Lead (µg/L)	6010B	15	**120**	NT	NS	<10	NT	**5.9J**	**110**	NT	NS	<10	NT	<10
Ferrous Iron (mg/L)	SM 3500-FeD	NE	NT	NT	NS	NT	NT	NT	NT	NT	NS	NT	NT	NT
Nitrates (mg/L)	8094	NE	NT	NT	NS	NT	NT	NT	NT	NT	NS	NT	NT	NT
Sulfates (mg/L)	SW9056A	NE	NT	NT	NS	NT	NT	NT	NT	NT	NS	NT	NT	NT

NOTES:
CoC - Chemical of Concern
RBSL - Risk Based Screening Level
Bold values indicate concentrations detected above the laboratory method detecti
Shaded values indicate concentrations exceeding RBSLs.
NA - Not Applicable
ND - Not Detected
NE - Not Established
NT - Not Tested

Prepared By: TZS
Checked By: SJN

TABLE 5

Groundwater Analytical Data
Spinx 258/Former Enmark 380
Newberry, Newberry County, South Carolina
SCDHEC UST Permit #06588; Cost Agreement #43532 & #43533
BLE Project Number J12-6859-04

CoC	Method	RBSL (µg/L)	06588-MW27			06588-MW28			06588-MW29			06588-MW30		
Sampling Date	NA	NA	11/3/2010	7/21/2011	7/16/2012	11/4/2010	7/21/2011	7/16/2012	11/3/2010	7/21/2011	7/17/2012	11/3/2010	7/21/2011	7/17/2012
Free-Product Thickness	Interface Probe	NA	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Benzene (µg/L)	8260B	5	<1.0	<1.0	<5.0	<1.0	<1.0	<5.0	<1.0	**0.65J**	<5.0	**3.6**	<1.0	<5.0
Toluene (µg/L)	8260B	1,000	<1.0	<1.0	<5.0	<1.0	<1.0	<5.0	<1.0	**0.75J**	<5.0	**19**	<1.0	<5.0
Ethylbenzene (µg/L)	8260B	700	<1.0	<1.0	<5.0	<1.0	<1.0	<5.0	<1.0	**0.57J**	<5.0	**8.3**	<1.0	<5.0
Xylenes (µg/L)	8260B	10,000	<1.0	<1.0	<5.0	<1.0	<1.0	<5.0	<1.0	**6.9**	<5.0	**53**	<1.0	<5.0
Methyl-tert-butyl ether (MTBE) (µg/L)	8260B	40	<1.0	<1.0	<5.0	<1.0	<1.0	<5.0	<1.0	<1.0	<5.0	**350**	**250**	**88**
Naphthalene (µg/L)	8260B	25	<1.0	<1.0	<5.0	<1.0	<1.0	**1.7J**	<1.0	**0.93J**	<5.0	**9.0**	<1.0	<5.0
1,2-Dibromoethane (EDB) (µg/L)	8011	0.05	<0.021	<0.019	<0.019	<0.020	<0.019	<0.020	<0.021	<0.020	<0.020	<0.020	<0.019	<0.020
1,2-Dichloroethane (1,2 DCA) (µg/L)	8260B	5.0	<1.0	<1.0	<5.0	<1.0	<1.0	<5.0	<1.0	<1.0	<5.0	**11**	**5.7**	**2.8J**
Acenaphthene (µg/L)	8270C	NE	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Acenaphthylene (µg/L)	8270C	NE	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Anthracene (µg/L)	8270C	NE	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Benzo (a) anthracene (µg/L)	8270C	10	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Benzo (a) pyrene (µg/L)	8270C	NE	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Benzo (b) fluoranthene (µg/L)	8270C	10	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Benzo (g,h,i) perylene (µg/L)	8270C	NE	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Benzo (k) fluoroanthene (µg/L)	8270C	10	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Chrysene (µg/L)	8270C	10	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Debenz (a,h) anthracene (µg/L)	8270C	10	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Fluoranthene (µg/L)	8270C	NE	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Fluorene (µg/L)	8270C	NE	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Indeno (1,2,3-cd) pyrene (µg/L)	8270C	NE	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
1-Methylnaphthalene (µg/L)	8270C	25	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
2-Methylnaphthalene (µg/L)	8270C	25	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Naphthalene (PAH range) (µg/L)	8270C	25	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Phenanthrene (µg/L)	8270C	NE	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Pyrene (µg/L)	8270C	NE	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Ethyl-tert-butyl ether (ETBE) (µg/L)	8260B	47	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Ethyl-tert-butyl alcohol (ETBA) (µg/L)	8260B	NE	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20
Tert-amyl methyl ether (TAME) (µg/L)	8260B	128	<10	<10	<10	<10	<10	<10	<10	<10	<10	**13**	**10**	**2.7J**
Diisopropyl ether (DIPE) (µg/L)	8260B	150	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	**47**	**35**	**13**
Ethanol (µg/L)	8260B	10,000	**1,200**	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100
Tert-butyl formate (TBF) (µg/L)	8260B	NE	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Tert-butyl alcohol (TBA) (µg/L)	8260B	1,400	<20	<20	<20	<20	<20	<20	<20	<20	<20	**680**	**250**	**79**
Tert-amyl alcohol (TAA) (µg/L)	8260B	240	<20	<20	<20	<20	<20	<20	<20	**120**	<20	**1,000**	**360**	**66**
Lead (µg/L)	6010B	15	<10	NT	**6.7J**	<10	NT	**5.6J**	**720**	NT	**10**	**170**	NT	<10
Ferrous Iron (mg/L)	SM 3500-FeD	NE	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Nitrates (mg/L)	8094	NE	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Sulfates (mg/L)	SW9056A	NE	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT

NOTES:
CoC - Chemical of Concern
RBSL - Risk Based Screening Level
Bold values indicate concentrations detected above the laboratory method detecti
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NA - Not Applicable
ND - Not Detected
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Prepared By: TZS
Checked By: SJN

TABLE 5

Groundwater Analytical Data
Spinx 258/Former Enmark 380
Newberry, Newberry County, South Carolina
SCDHEC UST Permit #06588; Cost Agreement #43532 & #43533
BLE Project Number J12-6859-04

CoC	Method	RBSL (µg/L)	06588-MW30D		06588-MW31			06588-MW32			06588-MW33			
Sampling Date	NA	NA	7/19/2011	7/18/2012	11/3/2010	7/21/2011	7/17/2012	11/3/2010	7/21/2011	7/17/2012	11/4/2010	7/21/2011	7/17/2012	7/18/2012 DUP
Free-Product Thickness	Interface Probe	NA	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Benzene (µg/L)	8260B	5	**2.1**	**2.1J**	<1.0	**0.13J**	<5.0	<1.0	<1.0	<5.0	<1.0	**0.14J**	<5.0	<5.0
Toluene (µg/L)	8260B	1,000	<1.0	<5.0	<1.0	<1.0	<5.0	<1.0	<1.0	<5.0	<1.0	<1.0	<5.0	<5.0
Ethylbenzene (µg/L)	8260B	700	<1.0	<5.0	<1.0	<1.0	<5.0	<1.0	<1.0	<5.0	<1.0	<1.0	<5.0	<5.0
Xylenes (µg/L)	8260B	10,000	<1.0	<5.0	<1.0	<1.0	<5.0	<1.0	<1.0	<5.0	<1.0	<1.0	<5.0	<5.0
Methyl-tert-butyl ether (MTBE) (µg/L)	8260B	40	**45**	**15**	**12**	**3.7**	**100**	**15**	**85**	**0.52J**	**43**	**23**	**33**	**35**
Naphthalene (µg/L)	8260B	25	<1.0	<5.0	<1.0	<1.0	<5.0	<1.0	<1.0	<5.0	<1.0	<1.0	<5.0	<5.0
1,2-Dibromoethane (EDB) (µg/L)	8011	0.05	<0.020	<0.020	<0.020	<0.019	<0.020	<0.020	<0.019	<0.019	<0.020	<0.020	<0.019	<0.019
1,2-Dichloroethane (1,2 DCA) (µg/L)	8260B	5.0	**3.3**	<5.0	<1.0	<1.0	**0.89J**	<1.0	<1.0	<5.0	<1.0	<1.0	<5.0	<5.0
Acenaphthene (µg/L)	8270C	NE	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Acenaphthylene (µg/L)	8270C	NE	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Anthracene (µg/L)	8270C	NE	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Benzo (a) anthracene (µg/L)	8270C	10	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Benzo (a) pyrene (µg/L)	8270C	NE	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Benzo (b) fluoranthene (µg/L)	8270C	10	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Benzo (g,h,i) perylene (µg/L)	8270C	NE	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Benzo (k) fluoroanthene (µg/L)	8270C	10	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Chrysene (µg/L)	8270C	10	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Debenz (a,h) anthracene (µg/L)	8270C	10	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Fluoranthene (µg/L)	8270C	NE	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Fluorene (µg/L)	8270C	NE	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Indeno (1,2,3-cd) pyrene (µg/L)	8270C	NE	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
1-Methylnaphthalene (µg/L)	8270C	25	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
2-Methylnaphthalene (µg/L)	8270C	25	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Naphthalene (PAH range) (µg/L)	8270C	25	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Phenanthrene (µg/L)	8270C	NE	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Pyrene (µg/L)	8270C	NE	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Ethyl-tert-butyl ether (ETBE) (µg/L)	8260B	47	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Ethyl-tert-butyl alcohol (ETBA) (µg/L)	8260B	NE	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20
Tert-amyl methyl ether (TAME) (µg/L)	8260B	128	**0.98J**	<10	<10	**0.24J**	**6.4J**	<10	**6.0J**	<10	<10	**2.6J**	<10	**0.25J**
Diisopropyl ether (DIPE) (µg/L)	8260B	150	**8.1**	**2.3J**	<5.0	**0.42J**	**9.0**	<5.0	**4.1J**	<5.0	<5.0	**2.2J**	**1.8J**	**2.0J**
Ethanol (µg/L)	8260B	10,000	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100
Tert-butyl formate (TBF) (µg/L)	8260B	NE	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Tert-butyl alcohol (TBA) (µg/L)	8260B	1,400	**64**	**17J**	<20	<20	**130**	<20	<20	<20	**23**	<20	<20	<20
Tert-amyl alcohol (TAA) (µg/L)	8260B	240	**150**	**41**	**30**	<20	**240**	<20	<20	<20	**62**	**12J**	<20	<20
Lead (µg/L)	6010B	15	NT	**6.2J**	<10	NT	**8.4J**	**1,800**	NT	**110**	**11**	NT	**30**	**38**
Ferrous Iron (mg/L)	SM 3500-FeD	NE	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Nitrates (mg/L)	8094	NE	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Sulfates (mg/L)	SW9056A	NE	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT

NOTES:
CoC - Chemical of Concern
RBSL - Risk Based Screening Level
Bold values indicate concentrations detected above the laboratory method detecti
Shaded values indicate concentrations exceeding RBSLs.
NA - Not Applicable
ND - Not Detected
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Prepared By: TZS
Checked By: SJN

TABLE 5

Groundwater Analytical Data
Spinx 258/Former Enmark 380
Newberry, Newberry County, South Carolina
SCDHEC UST Permit #06588; Cost Agreement #43532 & #43533
BLE Project Number J12-6859-04

CoC	Method	RBSL (µg/L)	06588-MW33D		06588-MW34			06588-MW35			06588-MW36		
Sampling Date	NA	NA	7/19/2011	7/18/2012	11/4/2010	7/21/2011	7/17/2012	11/4/2010	7/21/2011	7/17/2012	11/4/2010	7/21/2011	7/18/2012
Free-Product Thickness	Interface Probe	NA	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Benzene (µg/L)	8260B	5	**700**	**18J**	<1.0	**0.38J**	<5.0	<1.0	<1.0	<5.0	<1.0	<1.0	<5.0
Toluene (µg/L)	8260B	1,000	**12**	<100	<1.0	<1.0	<5.0	<1.0	**1,100**	**270**	<1.0	<1.0	<5.0
Ethylbenzene (µg/L)	8260B	700	<1.0	<100	<1.0	<1.0	<5.0	<1.0	<1.0	<5.0	<1.0	<1.0	<5.0
Xylenes (µg/L)	8260B	10,000	**28**	<100	<1.0	<1.0	<5.0	<1.0	<1.0	<5.0	<1.0	<1.0	<5.0
Methyl-tert-butyl ether (MTBE) (µg/L)	8260B	40	**3,100**	**2,800**	<1.0	<1.0	<5.0	<1.0	<1.0	<5.0	<1.0	<1.0	<5.0
Naphthalene (µg/L)	8260B	25	**3.3**	<100	<1.0	<1.0	<5.0	<1.0	**0.90J**	<5.0	<1.0	<1.0	<5.0
1,2-Dibromoethane (EDB) (µg/L)	8011	0.05	<0.020	<0.020	<0.019	<0.019	<0.020	<0.020	<0.019	<0.019	<0.020	<0.021	<0.020
1,2-Dichloroethane (1,2 DCA) (µg/L)	8260B	5.0	**70**	**39J**	<1.0	<1.0	<5.0	<1.0	<1.0	<5.0	<1.0	<1.0	<5.0
Acenaphthene (µg/L)	8270C	NE	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Acenaphthylene (µg/L)	8270C	NE	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Anthracene (µg/L)	8270C	NE	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Benzo (a) anthracene (µg/L)	8270C	10	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Benzo (a) pyrene (µg/L)	8270C	NE	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Benzo (b) fluoranthene (µg/L)	8270C	10	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Benzo (g,h,i) perylene (µg/L)	8270C	NE	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Benzo (k) fluoroanthene (µg/L)	8270C	10	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Chrysene (µg/L)	8270C	10	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Debenz (a,h) anthracene (µg/L)	8270C	10	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Fluoranthene (µg/L)	8270C	NE	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Fluorene (µg/L)	8270C	NE	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Indeno (1,2,3-cd) pyrene (µg/L)	8270C	NE	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
1-Methylnaphthalene (µg/L)	8270C	25	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
2-Methylnaphthalene (µg/L)	8270C	25	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Naphthalene (PAH range) (µg/L)	8270C	25	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Phenanthrene (µg/L)	8270C	NE	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Pyrene (µg/L)	8270C	NE	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Ethyl-tert-butyl ether (ETBE) (µg/L)	8260B	47	**0.26J**	<20	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Ethyl-tert-butyl alcohol (ETBA) (µg/L)	8260B	NE	**78**	<400	<20	<20	<20	<20	<20	<20	<20	<20	<20
Tert-amyl methyl ether (TAME) (µg/L)	8260B	128	**250**	**270**	<10	<10	<10	<10	<10	<10	<10	<10	<10
Diisopropyl ether (DIPE) (µg/L)	8260B	150	**170**	**110**	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Ethanol (µg/L)	8260B	10,000	**270**	<2,000	<100	**130**	<100	<100	**110**	<100	<100	<100	<100
Tert-butyl formate (TBF) (µg/L)	8260B	NE	<5.0	<100	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Tert-butyl alcohol (TBA) (µg/L)	8260B	1,400	<20	**1,700**	<20	**200**	<20	<20	<20	<20	<20	<20	<20
Tert-amyl alcohol (TAA) (µg/L)	8260B	240	**6,500**	**5,200**	<20	**500**	<20	<20	<20	<20	<20	**57**	<20
Lead (µg/L)	6010B	15	NT	**7.8J**	<10	NT	**27**	<10	NT	**3.2J**	**310**	NT	<10
Ferrous Iron (mg/L)	SM 3500-FeD	NE	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Nitrates (mg/L)	8094	NE	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Sulfates (mg/L)	SW9056A	NE	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT

NOTES:
CoC - Chemical of Concern
RBSL - Risk Based Screening Level
Bold values indicate concentrations detected above the laboratory method detecti
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Prepared By: TZS
Checked By: SJN

TABLE 5

Groundwater Analytical Data
Spinx 258/Former Enmark 380
Newberry, Newberry County, South Carolina
SCDHEC UST Permit #06588; Cost Agreement #43532 & #43533
BLE Project Number J12-6859-04

CoC	Method	RBSL (µg/L)	06588-MW37			06588-MW38			06588-MW39			06588-MW40		
Sampling Date	NA	NA	11/4/2010	7/21/2011	7/18/2012	11/4/2010	7/21/2011	7/18/2012	11/12/2010	7/21/2011	7/18/2012	7/21/2011	7/17/2012	7/17/2012 DUP
Free-Product Thickness	Interface Probe	NA	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Benzene (µg/L)	8260B	5	<1.0	<1.0	<5.0	<1.0	<1.0	<5.0	<1.0	<1.0	<5.0	**2,700**	**830**	**790**
Toluene (µg/L)	8260B	1,000	<1.0	<1.0	<5.0	<1.0	<1.0	<5.0	<1.0	<1.0	<5.0	**150**	**30**	**29**
Ethylbenzene (µg/L)	8260B	700	<1.0	<1.0	<5.0	<1.0	<1.0	<5.0	<1.0	<1.0	<5.0	**86**	**48**	**46**
Xylenes (µg/L)	8260B	10,000	<1.0	<1.0	<5.0	<1.0	<1.0	<5.0	**1.2**	<1.0	<5.0	**1,300**	**310**	**310**
Methyl-tert-butyl ether (MTBE) (µg/L)	8260B	40	<1.0	<1.0	<5.0	<1.0	<1.0	<5.0	<1.0	<1.0	<5.0	**160**	**150**	**140**
Naphthalene (µg/L)	8260B	25	<1.0	<1.0	<5.0	<1.0	<1.0	<5.0	<1.0	<1.0	<5.0	**240**	**96**	**88**
1,2-Dibromoethane (EDB) (µg/L)	8011	0.05	<0.020	<0.019	<0.020	<0.020	<0.019	<0.020	<0.019	<0.019	<0.019	**0.65**	**0.15**	**0.18**
1,2-Dichloroethane (1,2 DCA) (µg/L)	8260B	5.0	<1.0	<1.0	<5.0	<1.0	<1.0	<5.0	<1.0	<1.0	<5.0	**55**	<25	<25
Acenaphthene (µg/L)	8270C	NE	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Acenaphthylene (µg/L)	8270C	NE	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Anthracene (µg/L)	8270C	NE	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Benzo (a) anthracene (µg/L)	8270C	10	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Benzo (a) pyrene (µg/L)	8270C	NE	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Benzo (b) fluoranthene (µg/L)	8270C	10	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Benzo (g,h,i) perylene (µg/L)	8270C	NE	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Benzo (k) fluoroanthene (µg/L)	8270C	10	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Chrysene (µg/L)	8270C	10	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Debenz (a,h) anthracene (µg/L)	8270C	10	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Fluoranthene (µg/L)	8270C	NE	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Fluorene (µg/L)	8270C	NE	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Indeno (1,2,3-cd) pyrene (µg/L)	8270C	NE	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
1-Methylnaphthalene (µg/L)	8270C	25	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
2-Methylnaphthalene (µg/L)	8270C	25	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Naphthalene (PAH range) (µg/L)	8270C	25	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Phenanthrene (µg/L)	8270C	NE	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Pyrene (µg/L)	8270C	NE	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Ethyl-tert-butyl ether (ETBE) (µg/L)	8260B	47	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<5.0
Ethyl-tert-butyl alcohol (ETBA) (µg/L)	8260B	NE	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<100	<100
Tert-amyl methyl ether (TAME) (µg/L)	8260B	128	<10	<10	<10	<10	<10	<10	<10	<10	<10	**82**	**50**	**48J**
Diisopropyl ether (DIPE) (µg/L)	8260B	150	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	**11**	**5.9J**	**6.1J**
Ethanol (µg/L)	8260B	10,000	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<500	<500
Tert-butyl formate (TBF) (µg/L)	8260B	NE	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<25	<25
Tert-butyl alcohol (TBA) (µg/L)	8260B	1,400	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<100	**39J**
Tert-amyl alcohol (TAA) (µg/L)	8260B	240	<20	<20	<20	<20	<20	<20	<20	<20	<20	**3500**	**740**	**670**
Lead (µg/L)	6010B	15	**10**	NT	**6.1J**	**35**	NT	**9.3J**	**150**	NT	**3.9J**	NT	<10	<10
Ferrous Iron (mg/L)	SM 3500-FeD	NE	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Nitrates (mg/L)	8094	NE	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Sulfates (mg/L)	SW9056A	NE	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT

NOTES:
CoC - Chemical of Concern
RBSL - Risk Based Screening Level
Bold values indicate concentrations detected above the laboratory method detecti
Shaded values indicate concentrations exceeding RBSLs.
NA - Not Applicable
ND - Not Detected
NE - Not Established
NT - Not Tested

Prepared By: TZS
Checked By: SJN

TABLE 5

Groundwater Analytical Data
Spinx 258/Former Enmark 380
Newberry, Newberry County, South Carolina
SCDHEC UST Permit #06588; Cost Agreement #43532 & #43533
BLE Project Number J12-6859-04

CoC	Method	RBSL (µg/L)	06588-MW41D		06588-MW42	06588-MW42D	06588-MW43D	SW-1			DW-1		
Sampling Date	NA	NA	7/19/2011	7/18/2012	7/18/2012	7/18/2012	7/18/2012	11/12/2010	7/22/2011	7/18/2012	11/5/2010	7/22/2011	7/18/2012
Free-Product Thickness	Interface Probe	NA	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Benzene (µg/L)	8260B	5	**8,000**	**3,600**	<5.0	**1.4J**	<5.0	<1.0	<1.0	<5.0	<1.0	<1.0	<5.0
Toluene (µg/L)	8260B	1,000	**52**	<100	<5.0	<5.0	<5.0	<1.0	<1.0	<5.0	<1.0	<1.0	<5.0
Ethylbenzene (µg/L)	8260B	700	**230**	**140**	<5.0	<5.0	<5.0	<1.0	<1.0	<5.0	<1.0	**0.81J**	<5.0
Xylenes (µg/L)	8260B	10,000	**170**	<100	<5.0	<5.0	<5.0	<1.0	<1.0	<5.0	<1.0	**27**	<5.0
Methyl-tert-butyl ether (MTBE) (µg/L)	8260B	40	**2,600**	**1,800**	<5.0	<5.0	**9.0**	<1.0	<1.0	<5.0	<1.0	**0.58J**	<5.0
Naphthalene (µg/L)	8260B	25	<50	<100	<5.0	<5.0	<5.0	<1.0	<1.0	<5.0	<1.0	**18**	<5.0
1,2-Dibromoethane (EDB) (µg/L)	8011	0.05	<0.020	<0.020	<0.020	<0.019	<0.020	<0.019	<0.020	<0.019	<0.020	<0.019	<0.019
1,2-Dichloroethane (1,2 DCA) (µg/L)	8260B	5.0	**320**	**190**	<5.0	<5.0	<5.0	<1.0	<1.0	<5.0	<1.0	<1.0	<5.0
Acenaphthene (µg/L)	8270C	NE	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Acenaphthylene (µg/L)	8270C	NE	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Anthracene (µg/L)	8270C	NE	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Benzo (a) anthracene (µg/L)	8270C	10	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Benzo (a) pyrene (µg/L)	8270C	NE	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Benzo (b) fluoranthene (µg/L)	8270C	10	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Benzo (g,h,i) perylene (µg/L)	8270C	NE	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Benzo (k) fluoroanthene (µg/L)	8270C	10	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Chrysene (µg/L)	8270C	10	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Debenz (a,h) anthracene (µg/L)	8270C	10	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Fluoranthene (µg/L)	8270C	NE	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Fluorene (µg/L)	8270C	NE	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Indeno (1,2,3-cd) pyrene (µg/L)	8270C	NE	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
1-Methylnaphthalene (µg/L)	8270C	25	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
2-Methylnaphthalene (µg/L)	8270C	25	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Naphthalene (PAH range) (µg/L)	8270C	25	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Phenanthrene (µg/L)	8270C	NE	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Pyrene (µg/L)	8270C	NE	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Ethyl-tert-butyl ether (ETBE) (µg/L)	8260B	47	<50	<20	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Ethyl-tert-butyl alcohol (ETBA) (µg/L)	8260B	NE	<1,000	<400	<20	<20	<20	<20	<20	<20	<20	<20	<20
Tert-amyl methyl ether (TAME) (µg/L)	8260B	128	**63J**	**62J**	<10	<10	<10	<10	<10	<10	<10	<10	<10
Diisopropyl ether (DIPE) (µg/L)	8260B	150	**340**	**230**	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Ethanol (µg/L)	8260B	10,000	<5,000	<2,000	<100	<100	<100	<100	<100	<100	<100	<100	<100
Tert-butyl formate (TBF) (µg/L)	8260B	NE	<250	<100	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Tert-butyl alcohol (TBA) (µg/L)	8260B	1,400	**6,200**	**3,600**	<20	<20	<20	<20	<20	<20	<20	**32**	<20
Tert-amyl alcohol (TAA) (µg/L)	8260B	240	**12,000**	**7,400**	<20	<20	<20	<20	<20	<20	<20	**230**	<20
Lead (µg/L)	6010B	15	NT	**3.3J**	**4.8J**	**17**	**11**	NT	NT	NT	NT	NT	NT
Ferrous Iron (mg/L)	SM 3500-FeD	NE	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Nitrates (mg/L)	8094	NE	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Sulfates (mg/L)	SW9056A	NE	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT

NOTES:
CoC - Chemical of Concern
RBSL - Risk Based Screening Level
Bold values indicate concentrations detected above the laboratory method detecti
Shaded values indicate concentrations exceeding RBSLs.
NA - Not Applicable
ND - Not Detected
NE - Not Established
NT - Not Tested

Prepared By: TZS
Checked By: SJN

TABLE 5

Groundwater Analytical Data
Spinx 258/Former Enmark 380
Newberry, Newberry County, South Carolina
SCDHEC UST Permit #06588; Cost Agreement #43532 & #43533
BLE Project Number J12-6859-04

CoC	Method	RBSL (µg/L)	DW-2			DW-3			DW-4			DW-5		
Sampling Date	NA	NA	11/5/2010	7/22/2011	7/18/2012	11/5/2010	7/22/2011	7/18/2012	11/5/2010	7/22/2011	7/18/2012	11/5/2010	7/22/2011	7/18/2012
Free-Product Thickness	Interface Probe	NA	0.00	NS	NS	0.00	0.00	0.00	0.00	NS	NS	0.00	NS	0.00
Benzene (µg/L)	8260B	5	<1.0	NS	NS	<1.0	<1.0	<5.0	<1.0	NS	NS	<1.0	NS	<5.0
Toluene (µg/L)	8260B	1,000	<1.0	NS	NS	<1.0	<1.0	<5.0	<1.0	NS	NS	<1.0	NS	<5.0
Ethylbenzene (µg/L)	8260B	700	<1.0	NS	NS	<1.0	<1.0	<5.0	<1.0	NS	NS	<1.0	NS	<5.0
Xylenes (µg/L)	8260B	10,000	<1.0	NS	NS	<1.0	<1.0	<5.0	<1.0	NS	NS	<1.0	NS	<5.0
Methyl-tert-butyl ether (MTBE) (µg/L)	8260B	40	<1.0	NS	NS	<1.0	<1.0	<5.0	<1.0	NS	NS	<1.0	NS	<5.0
Naphthalene (µg/L)	8260B	25	<1.0	NS	NS	<1.0	<1.0	<5.0	<1.0	NS	NS	<1.0	NS	<5.0
1,2-Dibromoethane (EDB) (µg/L)	8011	0.05	<0.019	NS	NS	<0.020	<0.019	<0.020	<0.020	NS	NS	<0.020	NS	<0.020
1,2-Dichloroethane (1,2 DCA) (µg/L)	8260B	5.0	<1.0	NS	NS	<1.0	<1.0	<5.0	<1.0	NS	NS	<1.0	NS	<5.0
Acenaphthene (µg/L)	8270C	NE	NT	NS	NS	NT	NT	NT	NT	NS	NS	NT	NS	NT
Acenaphthylene (µg/L)	8270C	NE	NT	NS	NS	NT	NT	NT	NT	NS	NS	NT	NS	NT
Anthracene (µg/L)	8270C	NE	NT	NS	NS	NT	NT	NT	NT	NS	NS	NT	NS	NT
Benzo (a) anthracene (µg/L)	8270C	10	NT	NS	NS	NT	NT	NT	NT	NS	NS	NT	NS	NT
Benzo (a) pyrene (µg/L)	8270C	NE	NT	NS	NS	NT	NT	NT	NT	NS	NS	NT	NS	NT
Benzo (b) fluoranthene (µg/L)	8270C	10	NT	NS	NS	NT	NT	NT	NT	NS	NS	NT	NS	NT
Benzo (g,h,i) perylene (µg/L)	8270C	NE	NT	NS	NS	NT	NT	NT	NT	NS	NS	NT	NS	NT
Benzo (k) fluoroanthene (µg/L)	8270C	10	NT	NS	NS	NT	NT	NT	NT	NS	NS	NT	NS	NT
Chrysene (µg/L)	8270C	10	NT	NS	NS	NT	NT	NT	NT	NS	NS	NT	NS	NT
Debenz (a,h) anthracene (µg/L)	8270C	10	NT	NS	NS	NT	NT	NT	NT	NS	NS	NT	NS	NT
Fluoranthene (µg/L)	8270C	NE	NT	NS	NS	NT	NT	NT	NT	NS	NS	NT	NS	NT
Fluorene (µg/L)	8270C	NE	NT	NS	NS	NT	NT	NT	NT	NS	NS	NT	NS	NT
Indeno (1,2,3-cd) pyrene (µg/L)	8270C	NE	NT	NS	NS	NT	NT	NT	NT	NS	NS	NT	NS	NT
1-Methylnaphthalene (µg/L)	8270C	25	NT	NS	NS	NT	NT	NT	NT	NS	NS	NT	NS	NT
2-Methylnaphthalene (µg/L)	8270C	25	NT	NS	NS	NT	NT	NT	NT	NS	NS	NT	NS	NT
Naphthalene (PAH range) (µg/L)	8270C	25	NT	NS	NS	NT	NT	NT	NT	NS	NS	NT	NS	NT
Phenanthrene (µg/L)	8270C	NE	NT	NS	NS	NT	NT	NT	NT	NS	NS	NT	NS	NT
Pyrene (µg/L)	8270C	NE	NT	NS	NS	NT	NT	NT	NT	NS	NS	NT	NS	NT
Ethyl-tert-butyl ether (ETBE) (µg/L)	8260B	47	<1.0	NS	NS	<1.0	<1.0	<1.0	<1.0	NS	NS	<1.0	NS	<1.0
Ethyl-tert-butyl alcohol (ETBA) (µg/L)	8260B	NE	<20	NS	NS	<20	<20	<20	<20	NS	NS	<20	NS	<20
Tert-amyl methyl ether (TAME) (µg/L)	8260B	128	<10	NS	NS	<10	<10	<10	<10	NS	NS	<10	NS	<10
Diisopropyl ether (DIPE) (µg/L)	8260B	150	<5.0	NS	NS	<5.0	<5.0	<5.0	<5.0	NS	NS	<5.0	NS	<5.0
Ethanol (µg/L)	8260B	10,000	<100	NS	NS	<100	<100	<100	<100	NS	NS	<100	NS	<100
Tert-butyl formate (TBF) (µg/L)	8260B	NE	<5.0	NS	NS	<5.0	<5.0	<5.0	<5.0	NS	NS	<5.0	NS	<5.0
Tert-butyl alcohol (TBA) (µg/L)	8260B	1,400	<20	NS	NS	<20	<20	<20	<20	NS	NS	<20	NS	<20
Tert-amyl alcohol (TAA) (µg/L)	8260B	240	<20	NS	NS	<20	<20	<20	<20	NS	NS	<20	NS	<20
Lead (µg/L)	6010B	15	NT	NS	NS	NT	NT	NT	NT	NS	NS	NT	NS	NT
Ferrous Iron (mg/L)	SM 3500-FeD	NE	NT	NS	NS	NT	NT	NT	NT	NS	NS	NT	NS	NT
Nitrates (mg/L)	8094	NE	NT	NS	NS	NT	NT	NT	NT	NS	NS	NT	NS	NT
Sulfates (mg/L)	SW9056A	NE	NT	NS	NS	NT	NT	NT	NT	NS	NS	NT	NS	NT

NOTES:
CoC - Chemical of Concern
RBSL - Risk Based Screening Level
Bold values indicate concentrations detected above the laboratory method detecti
Shaded values indicate concentrations exceeding RBSLs.
NA - Not Applicable
ND - Not Detected
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Prepared By: TZS
Checked By: SJN

TABLE 5

Groundwater Analytical Data
Spinx 258/Former Enmark 380
Newberry, Newberry County, South Carolina
SCDHEC UST Permit #06588; Cost Agreement #43532 & #43533
BLE Project Number J12-6859-04

CoC	Method	RBSL (µg/L)	DW-6			DW-7			DW-8		
Sampling Date	NA	NA	11/5/2010	7/22/2011	7/18/2012	11/5/2010	7/22/2011	7/18/2012	11/5/2010	7/22/2011	7/18/2012
Free-Product Thickness	Interface Probe	NA	NS	NS	NS	NS	NS	NS	NS	NS	0.00
Benzene (µg/L)	8260B	5	NS	NS	NS	NS	NS	NS	NS	NS	<5.0
Toluene (µg/L)	8260B	1,000	NS	NS	NS	NS	NS	NS	NS	NS	<5.0
Ethylbenzene (µg/L)	8260B	700	NS	NS	NS	NS	NS	NS	NS	NS	<5.0
Xylenes (µg/L)	8260B	10,000	NS	NS	NS	NS	NS	NS	NS	NS	<5.0
Methyl-tert-butyl ether (MTBE) (µg/L)	8260B	40	NS	NS	NS	NS	NS	NS	NS	NS	<5.0
Naphthalene (µg/L)	8260B	25	NS	NS	NS	NS	NS	NS	NS	NS	<5.0
1,2-Dibromoethane (EDB) (µg/L)	8011	0.05	NS	NS	NS	NS	NS	NS	NS	NS	<0.019
1,2-Dichloroethane (1,2 DCA) (µg/L)	8260B	5.0	NS	NS	NS	NS	NS	NS	NS	NS	<5.0
Acenaphthene (µg/L)	8270C	NE	NS	NS	NS	NS	NS	NS	NS	NS	NT
Acenaphthylene (µg/L)	8270C	NE	NS	NS	NS	NS	NS	NS	NS	NS	NT
Anthracene (µg/L)	8270C	NE	NS	NS	NS	NS	NS	NS	NS	NS	NT
Benzo (a) anthracene (µg/L)	8270C	10	NS	NS	NS	NS	NS	NS	NS	NS	NT
Benzo (a) pyrene (µg/L)	8270C	NE	NS	NS	NS	NS	NS	NS	NS	NS	NT
Benzo (b) fluoranthene (µg/L)	8270C	10	NS	NS	NS	NS	NS	NS	NS	NS	NT
Benzo (g,h,i) perylene (µg/L)	8270C	NE	NS	NS	NS	NS	NS	NS	NS	NS	NT
Benzo (k) fluoroanthene (µg/L)	8270C	10	NS	NS	NS	NS	NS	NS	NS	NS	NT
Chrysene (µg/L)	8270C	10	NS	NS	NS	NS	NS	NS	NS	NS	NT
Debenz (a,h) anthracene (µg/L)	8270C	10	NS	NS	NS	NS	NS	NS	NS	NS	NT
Fluoranthene (µg/L)	8270C	NE	NS	NS	NS	NS	NS	NS	NS	NS	NT
Fluorene (µg/L)	8270C	NE	NS	NS	NS	NS	NS	NS	NS	NS	NT
Indeno (1,2,3-cd) pyrene (µg/L)	8270C	NE	NS	NS	NS	NS	NS	NS	NS	NS	NT
1-Methylnaphthalene (µg/L)	8270C	25	NS	NS	NS	NS	NS	NS	NS	NS	NT
2-Methylnaphthalene (µg/L)	8270C	25	NS	NS	NS	NS	NS	NS	NS	NS	NT
Naphthalene (PAH range) (µg/L)	8270C	25	NS	NS	NS	NS	NS	NS	NS	NS	NT
Phenanthrene (µg/L)	8270C	NE	NS	NS	NS	NS	NS	NS	NS	NS	NT
Pyrene (µg/L)	8270C	NE	NS	NS	NS	NS	NS	NS	NS	NS	NT
Ethyl-tert-butyl ether (ETBE) (µg/L)	8260B	47	NS	NS	NS	NS	NS	NS	NS	NS	<1.0
Ethyl-tert-butyl alcohol (ETBA) (µg/L)	8260B	NE	NS	NS	NS	NS	NS	NS	NS	NS	<20
Tert-amyl methyl ether (TAME) (µg/L)	8260B	128	NS	NS	NS	NS	NS	NS	NS	NS	<10
Diisopropyl ether (DIPE) (µg/L)	8260B	150	NS	NS	NS	NS	NS	NS	NS	NS	<5.0
Ethanol (µg/L)	8260B	10,000	NS	NS	NS	NS	NS	NS	NS	NS	<100
Tert-butyl formate (TBF) (µg/L)	8260B	NE	NS	NS	NS	NS	NS	NS	NS	NS	<5.0
Tert-butyl alcohol (TBA) (µg/L)	8260B	1,400	NS	NS	NS	NS	NS	NS	NS	NS	<20
Tert-amyl alcohol (TAA) (µg/L)	8260B	240	NS	NS	NS	NS	NS	NS	NS	NS	<20
Lead (µg/L)	6010B	15	NS	NS	NS	NS	NS	NS	NS	NS	NT
Ferrous Iron (mg/L)	SM 3500-FeD	NE	NS	NS	NS	NS	NS	NS	NS	NS	NT
Nitrates (mg/L)	8094	NE	NS	NS	NS	NS	NS	NS	NS	NS	NT
Sulfates (mg/L)	SW9056A	NE	NS	NS	NS	NS	NS	NS	NS	NS	NT

NOTES:
CoC - Chemical of Concern
RBSL - Risk Based Screening Level
Bold values indicate concentrations detected above the laboratory method detecti
Shaded values indicate concentrations exceeding RBSLs.
NA - Not Applicable
ND - Not Detected
NE - Not Established
NT - Not Tested

Prepared By: TZS
Checked By: SJN

TABLE 5

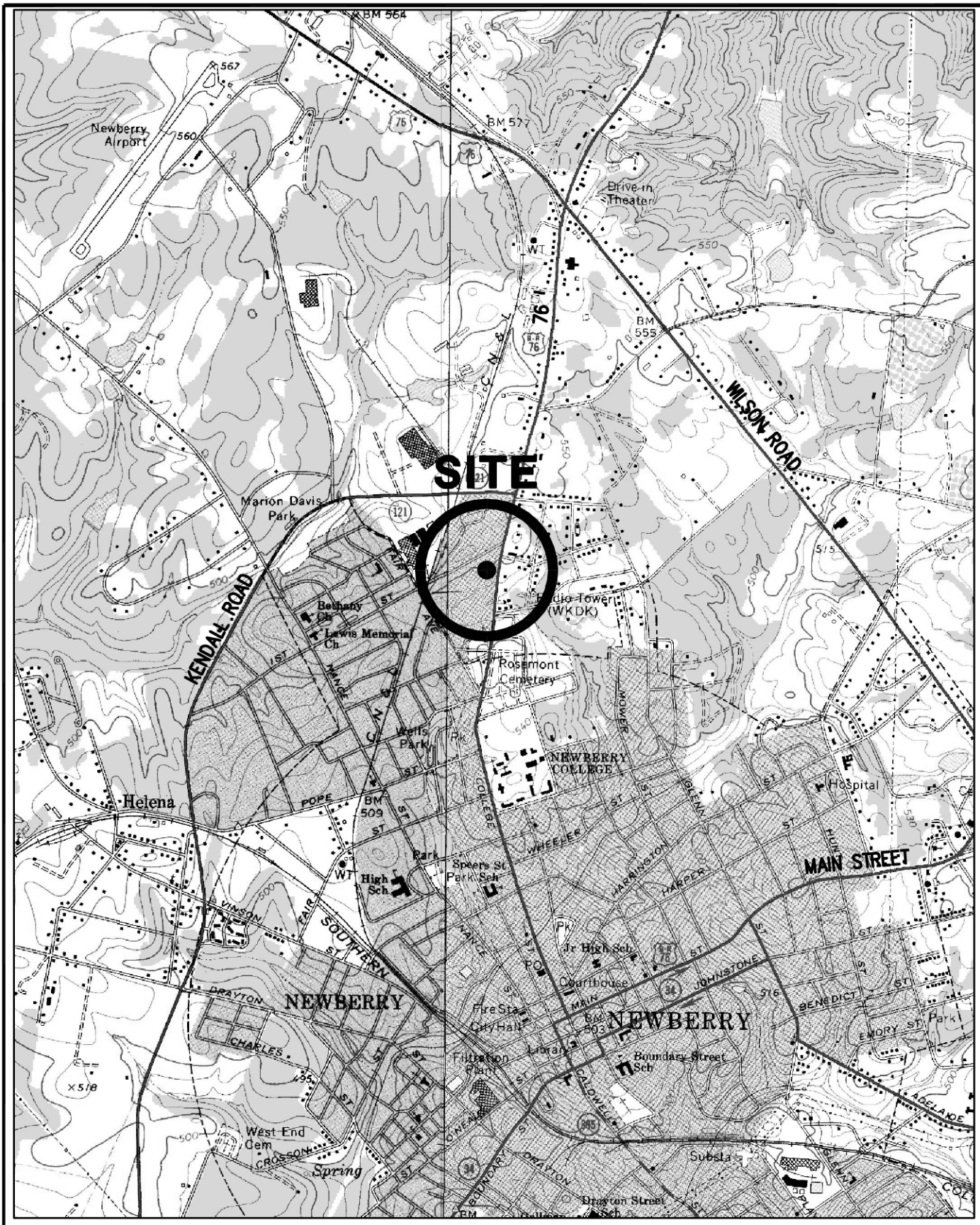
Groundwater Analytical Data
Spinx 258/Former Enmark 380
Newberry, Newberry County, South Carolina
SCDHEC UST Permit #06588; Cost Agreement #43532 & #43533
BLE Project Number J12-6859-04

CoC	Method	RBSL (µg/L)	DW-9			DW-10		
Sampling Date	NA	NA	11/5/2010	7/22/2011	7/18/2012	11/5/2010	7/22/2011	7/23/2011
Free-Product Thickness	Interface Probe	NA	0.00	NS	NS	NS	NS	NS
Benzene (µg/L)	8260B	5	NS	NS	NS	NS	NS	NS
Toluene (µg/L)	8260B	1,000	NS	NS	NS	NS	NS	NS
Ethylbenzene (µg/L)	8260B	700	NS	NS	NS	NS	NS	NS
Xylenes (µg/L)	8260B	10,000	NS	NS	NS	NS	NS	NS
Methyl-tert-butyl ether (MTBE) (µg/L)	8260B	40	NS	NS	NS	NS	NS	NS
Naphthalene (µg/L)	8260B	25	NS	NS	NS	NS	NS	NS
1,2-Dibromoethane (EDB) (µg/L)	8011	0.05	NS	NS	NS	NS	NS	NS
1,2-Dichloroethane (1,2 DCA) (µg/L)	8260B	5.0	NS	NS	NS	NS	NS	NS
Acenaphthene (µg/L)	8270C	NE	NS	NS	NS	NS	NS	NS
Acenaphthylene (µg/L)	8270C	NE	NS	NS	NS	NS	NS	NS
Anthracene (µg/L)	8270C	NE	NS	NS	NS	NS	NS	NS
Benzo (a) anthracene (µg/L)	8270C	10	NS	NS	NS	NS	NS	NS
Benzo (a) pyrene (µg/L)	8270C	NE	NS	NS	NS	NS	NS	NS
Benzo (b) fluoranthene (µg/L)	8270C	10	NS	NS	NS	NS	NS	NS
Benzo (g,h,i) perylene (µg/L)	8270C	NE	NS	NS	NS	NS	NS	NS
Benzo (k) fluoroanthene (µg/L)	8270C	10	NS	NS	NS	NS	NS	NS
Chrysene (µg/L)	8270C	10	NS	NS	NS	NS	NS	NS
Debenz (a,h) anthracene (µg/L)	8270C	10	NS	NS	NS	NS	NS	NS
Fluoranthene (µg/L)	8270C	NE	NS	NS	NS	NS	NS	NS
Fluorene (µg/L)	8270C	NE	NS	NS	NS	NS	NS	NS
Indeno (1,2,3-cd) pyrene (µg/L)	8270C	NE	NS	NS	NS	NS	NS	NS
1-Methylnaphthalene (µg/L)	8270C	25	NS	NS	NS	NS	NS	NS
2-Methylnaphthalene (µg/L)	8270C	25	NS	NS	NS	NS	NS	NS
Naphthalene (PAH range) (µg/L)	8270C	25	NS	NS	NS	NS	NS	NS
Phenanthrene (µg/L)	8270C	NE	NS	NS	NS	NS	NS	NS
Pyrene (µg/L)	8270C	NE	NS	NS	NS	NS	NS	NS
Ethyl-tert-butyl ether (ETBE) (µg/L)	8260B	47	NS	NS	NS	NS	NS	NS
Ethyl-tert-butyl alcohol (ETBA) (µg/L)	8260B	NE	NS	NS	NS	NS	NS	NS
Tert-amyl methyl ether (TAME) (µg/L)	8260B	128	NS	NS	NS	NS	NS	NS
Diisopropyl ether (DIPE) (µg/L)	8260B	150	NS	NS	NS	NS	NS	NS
Ethanol (µg/L)	8260B	10,000	NS	NS	NS	NS	NS	NS
Tert-butyl formate (TBF) (µg/L)	8260B	NE	NS	NS	NS	NS	NS	NS
Tert-butyl alcohol (TBA) (µg/L)	8260B	1,400	NS	NS	NS	NS	NS	NS
Tert-amyl alcohol (TAA) (µg/L)	8260B	240	NS	NS	NS	NS	NS	NS
Lead (µg/L)	6010B	15	NS	NS	NS	NS	NS	NS
Ferrous Iron (mg/L)	SM 3500-FeD	NE	NS	NS	NS	NS	NS	NS
Nitrates (mg/L)	8094	NE	NS	NS	NS	NS	NS	NS
Sulfates (mg/L)	SW9056A	NE	NS	NS	NS	NS	NS	NS

NOTES:
CoC - Chemical of Concern
RBSL - Risk Based Screening Level
Bold values indicate concentrations detected above the laboratory method detecti
Shaded values indicate concentrations exceeding RBSLs.
NA - Not Applicable
ND - Not Detected
NE - Not Established
NT - Not Tested

Prepared By: TZS
Checked By: DRM

FIGURES

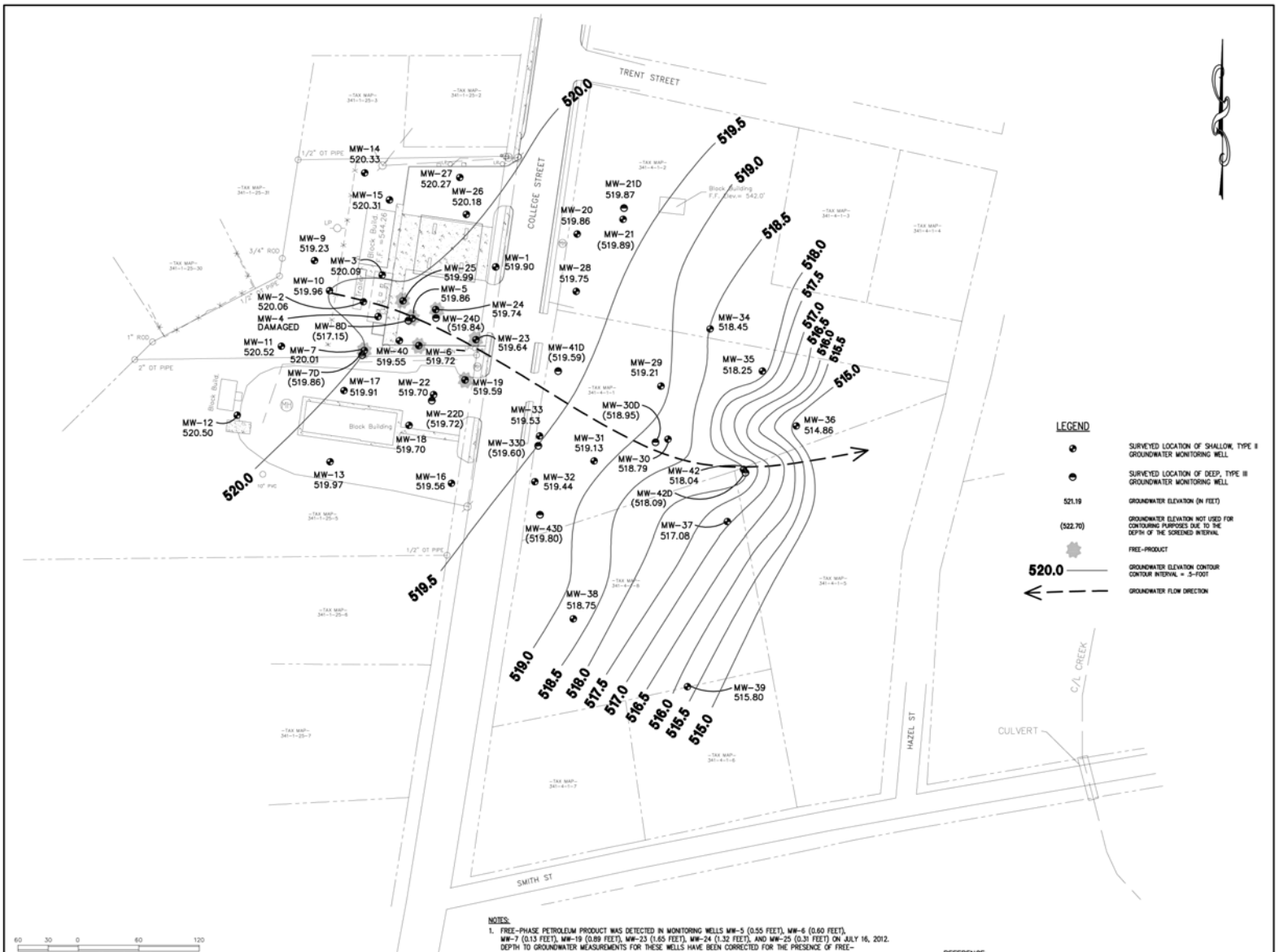


2000 1000 0 2000 4000

APPROXIMATE SCALE IN FEET

REFERENCE:
USGS TOPOGRAPHIC MAP, 7.5 MINUTE SERIES, NEWBERRY WEST AND NEWBERRY EAST, S.C. QUADRANGLES, 1969 AND 1968.

DRAWN: ACE	DATE: 02-03-12	BLE INC. BUNNELL-LAMMONS ENGINEERING, INC. 6004 PONDERS COURT GREENVILLE, SOUTH CAROLINA 29615 PHONE: (864)288-1265 FAX: (864)288-4430	SITE LOCATION MAP SPINX 258/FORMER ENMARK 380 UST PERMIT #06588 NEWBERRY, SOUTH CAROLINA
CHECKED: TZS	CAD: SPINX258-04SLM		FIGURE 1
APPROVED:	JOB NO: J12-6859-04		



NOTES:

1. FREE-PHASE PETROLEUM PRODUCT WAS DETECTED IN MONITORING WELLS MW-5 (0.55 FEET), MW-6 (0.60 FEET), MW-7 (0.13 FEET), MW-19 (0.89 FEET), MW-23 (1.65 FEET), MW-24 (1.32 FEET), AND MW-25 (0.31 FEET) ON JULY 16, 2012. DEPTH TO GROUNDWATER MEASUREMENTS FOR THESE WELLS HAVE BEEN CORRECTED FOR THE PRESENCE OF FREE-PRODUCT USING THE SPECIFIC GRAVITY VALUE OF 0.70.
2. GROUNDWATER LEVELS WERE MEASURED ON JULY 16, 2012.

REFERENCE:
DRAWING TITLED "SITE SURVEY" BY SOUTHER LAND SURVEYING DATED JULY 12, 2012.

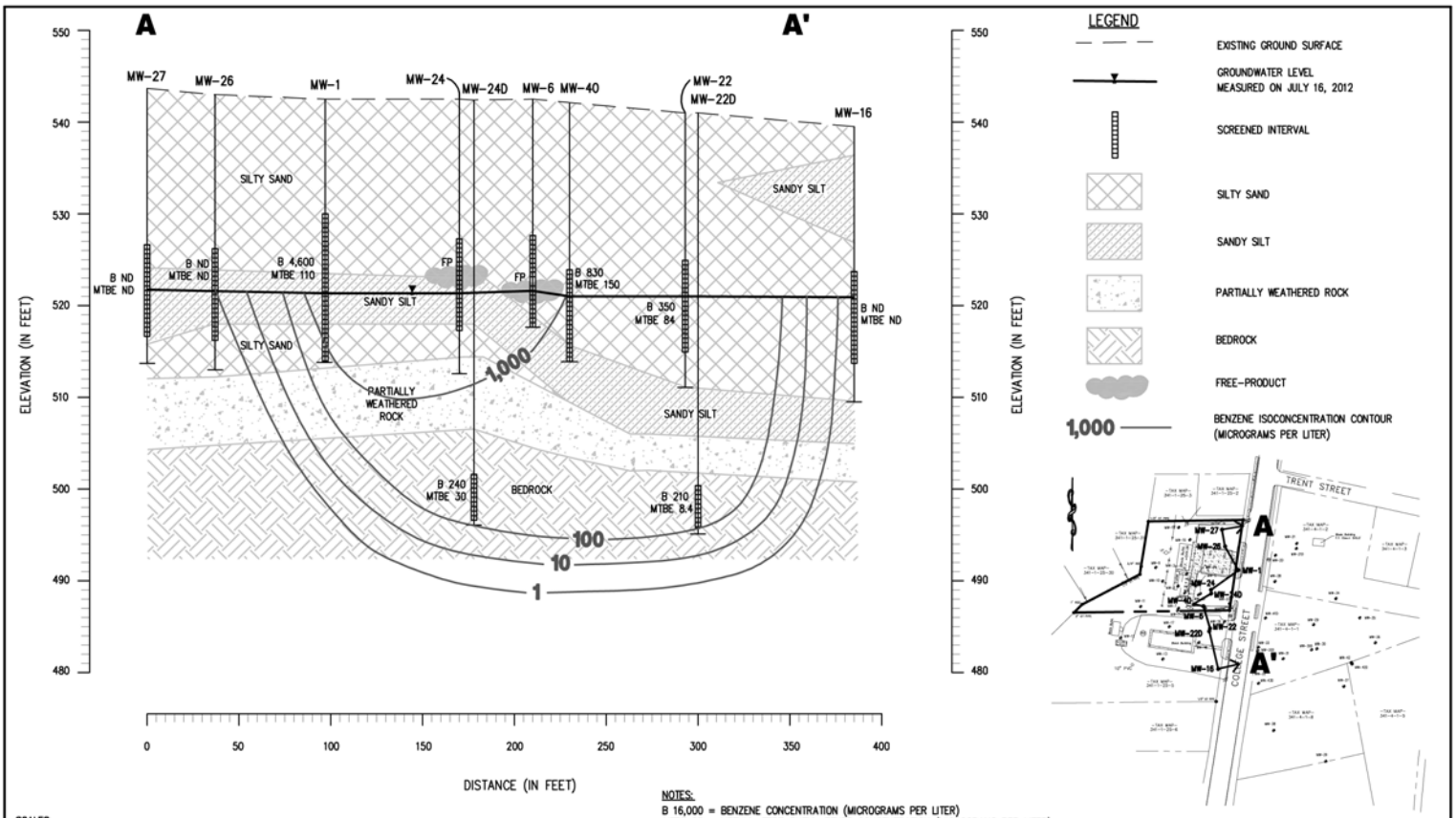
REVISIONS		
No.	DESCRIPTION	BY

DRAWN:	ACE	DATE:	08-13-12
CHECKED:	TZS	CAD FILE:	SPINX258-04WTM
APPROVED:	TLL	JOB NO:	J12-6859-04

BLE INC.
BUNNELL-LAMMONS ENGINEERING, INC.
6004 PONDERS COURT
GREENVILLE, SOUTH CAROLINA 29615
PHONE: (864)288-1265 FAX: (864)288-4430

SITE PLAN AND POTENTIOMETRIC MAP
SPINX 258/FORMER ENMARK 380
UST PERMIT #06588
NEWBERRY, SOUTH CAROLINA

FIGURE NO.
2



SCALES:
VERTICAL: 1" = 10'
HORIZONTAL: 1" = 50'

NOTES:
B 16,000 = BENZENE CONCENTRATION (MICROGRAMS PER LITER)
MTBE 23 = METHYL-TERT-BUTYL-ETHER CONCENTRATION (MICROGRAMS PER LITER)
ND = NOT DETECTED
FP = FREE-PHASE PETROLEUM PRODUCT

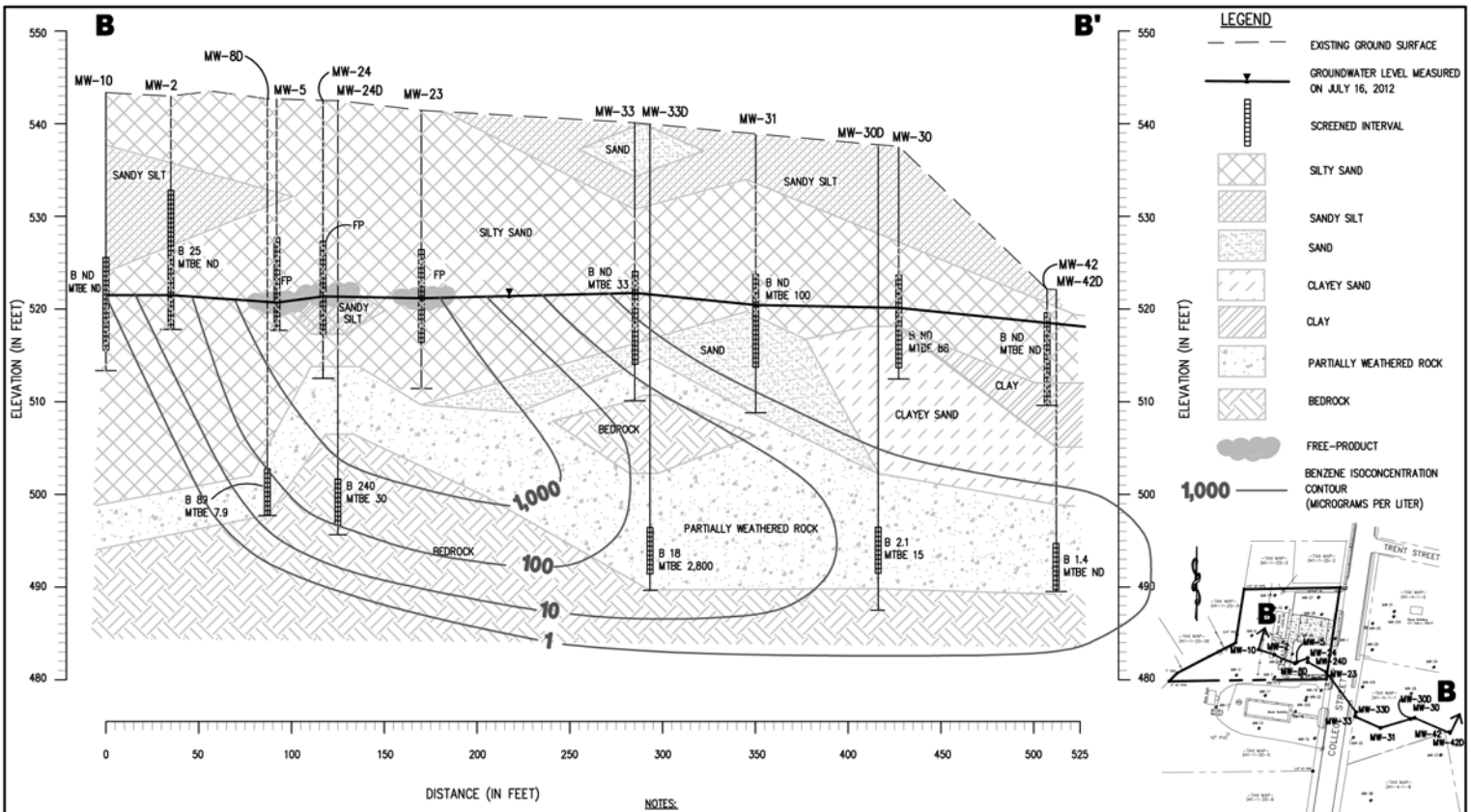
PROFILE LOCATION PLAN
SCALE: 1" = 200'

DRAWN BY: ACE	DATE: 08-13-12	REVISIONS	
CHECKED BY: TZS	FILE: SPINX258-04PRA	No. / DESCRIPTION / BY	
APPROVED BY:	JOB NO: J12-6859-04		

BLE INC.
BUNNELL-LAMMONS ENGINEERING, INC.
8004 PONDERS COURT
GREENVILLE, SOUTH CAROLINA 29615
PHONE: (864)288-1265 FAX: (864)288-4430

SUBSURFACE GEOLOGIC PROFILE A-A'
SPINX 258/FORMER ENMARK 380
UST PERMIT #06588
NEWBERRY, SOUTH CAROLINA

FIGURE
3A



SCALES:
VERTICAL: 1" = 10'
HORIZONTAL: 1" = 50'

NOTES:
B 16,000 = BENZENE CONCENTRATION (MICROGRAMS PER LITER)
MTBE 23 = METHYL-TERT-BUTYL-ETHER CONCENTRATION (MICROGRAMS PER LITER)
FP = FREE-PHASE PETROLEUM PRODUCT
ND = NOT DETECTED

DRAWN BY: ACE	DATE: 09-22-11	REVISIONS	
CHECKED BY: TZS	FILE: SPINX258-03PRB	No. / DESCRIPTION / BY	
APPROVED BY:	JOB NO: J11-6859-03		

BLE INC.
BUNNELL-LAMMONS ENGINEERING, INC.
6004 PONDERS COURT
GREENVILLE, SOUTH CAROLINA 29615
PHONE: (864)288-1265 FAX: (864)288-4430

SUBSURFACE GEOLOGIC PROFILE B-B'
SPINX 258/FORMER ENMARK 380
UST PERMIT #06588
NEWBERRY, SOUTH CAROLINA

FIGURE
3B

LEGEND

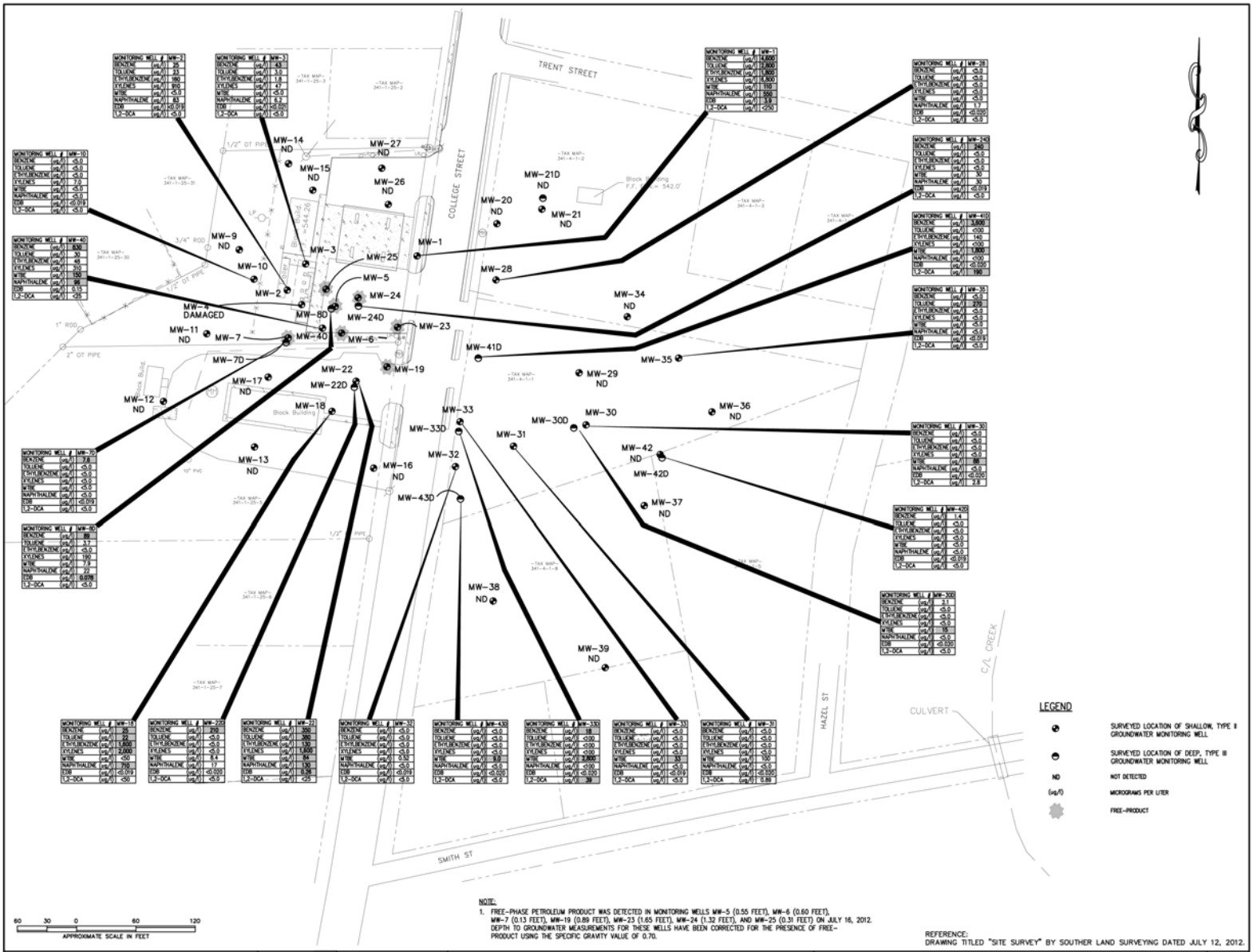
- ● APPROXIMATE LOCATION OF PRIVATE WATER SUPPLY WELL
- ⊠ APPROXIMATE LOCATION OF SURFACE WATER SAMPLING POINT
- APPROXIMATE LOCATION OF CREEK

400 200 0 400 800

APPROXIMATE SCALE IN FEET

REFERENCES:
1. NEWBERRY COUNTY GIS IMAGE DATED 2008.
2. BLE FIELD NOTES.

DRAWN: ACE	DATE: 08-30-12	BLE INC. BUNNELL-LAMMONS ENGINEERING, INC. 6004 PONDERS COURT GREENVILLE, SOUTH CAROLINA 29615 PHONE: (864)288-1265 FAX: (864)288-4430	RECEPTOR SURVEY MAP SPINX 258/FORMER ENMARK 380 UST PERMIT #06588 NEWBERRY, SOUTH CAROLINA	FIGURE 4
CHECKED: TZS	CAD: SPINX258-04RSM			
APPROVED:	JOB NO: J12-6859-04			



NOTE:

1. FREE-PHASE PETROLEUM PRODUCT WAS DETECTED IN MONITORING WELLS MW-5 (0.55 FEET), MW-6 (0.60 FEET), MW-7 (0.13 FEET), MW-19 (0.89 FEET), MW-23 (1.65 FEET), MW-24 (1.32 FEET), AND MW-25 (0.31 FEET) ON JULY 16, 2012. DEPTH TO GROUNDWATER MEASUREMENTS FOR THESE WELLS HAVE BEEN CORRECTED FOR THE PRESENCE OF FREE-PRODUCT USING THE SPECIFIC GRAVITY VALUE OF 0.70.

REFERENCE:
DRAWING TITLED "SITE SURVEY" BY SOUTHER LAND SURVEYING DATED JULY 12, 2012.

REVISIONS		
No.	DESCRIPTION	BY

DRAWN:	ACE	DATE:	08-13-12
CHECKED:	TZS	CAD FILE:	SPINX258-04GWCOC
APPROVED:	TLL	JOB NO:	J12-6859-04

BLE INC.

BUNNELL-LAMMONS ENGINEERING, INC.
6004 PONDERS COURT
GREENVILLE, SOUTH CAROLINA 29615
PHONE: (864)288-1265 FAX: (864)288-4430

GROUNDWATER COC MAP - JULY 2012
SPINX 258/FORMER ENMARK 380
UST PERMIT #06588
NEWBERRY, SOUTH CAROLINA

FIGURE NO.
5

NOTE:
FREE-PHASE PETROLEUM PRODUCT WAS DETECTED IN MONITORING WELLS MW-5 (0.55-FEET), MW-6 (0.60-FEET), MW-7 (0.15-FEET), MW-19 (0.80-FEET), MW-23 (1.65-FEET), MW-24 (1.32-FEET) AND MW-25 (0.31-FEET) ON JULY 16, 2012.

REFERENCE:
DRAWING TITLED "SITE SURVEY" BY SOUTHER LAND SURVEYING DATED JULY 12, 2012.

REVISIONS		
No.	DESCRIPTION	BY

DRAWN:	ACE	DATE:	08-14-12
CHECKED:	TZS	CAD FILE:	SPINX258-04BENZ
APPROVED:	TLL	JOB NO:	J12-6859-04

BLE INC.
BUNNELL-LAMMONS ENGINEERING, INC.
6004 PONDERS COURT
GREENVILLE, SOUTH CAROLINA 29615
PHONE: (864)288-1265 FAX: (864)288-4430

BENZENE ISOCONCENTRATION MAP - JULY 2012
SPINX 258/FORMER ENMARK 380
UST PERMIT #06588
NEWBERRY, SOUTH CAROLINA

FIGURE NO.
6

APPENDICES

APPENDIX A

AFVR WATER DISPOSAL MANIFESTS

VLS recovery services, llc

NON-HAZARDOUS WASTE MANIFEST

1. Generator ID Number
2. Page 1 of
3. Emergency Response Phone
4. Waste Tracking Number: 6859-04

GENERATOR

5. Generator's Name and Mailing Address
Bunnell-Lammons Eng, Inc
6004 Ponders Court
Greenville, SC 29615
Generator's Phone:

Generator's Site Address (if different than mailing address)
ENMark 380
2725 College St
Newberry, SC

6. Transporter 1 Company Name: BLE
U.S. EPA ID Number:

7. Transporter 2 Company Name:
U.S. EPA ID Number:

8. Designated Facility Name and Site Address
VLS Recovery Services Piedmont, LLC
305 South Main St.
Mauldin, SC 29662
Facility's Phone: 864-962-9953
U.S. EPA ID Number: SCR000762468

	9. Waste Shipping Name and Description	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	
	1. NON HAZ NON REG WELL WATER #11312 UST #06588			1008	G	
	2.					
	3.					
	4.					

13. Special Handling Instructions and Additional Information

14. GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations.

Generator's/Offeror's Printed/Typed Name: REGINA KOENIG
Signature: Regina Koenig
Month 5 Day 8 Year 12

INT'L

15. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter Signature (for exports only): Date leaving U.S.:

TRANSPORTER

16. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: REGINA KOENIG
Signature: Regina Koenig
Month 5 Day 8 Year 12

Transporter 2 Printed/Typed Name:
Signature:
Month Day Year

DESIGNATED FACILITY

17. Discrepancy

17a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

17b. Alternate Facility (or Generator)
U.S. EPA ID Number:
Facility's Phone:

17c. Signature of Alternate Facility (or Generator)
Month Day Year

18. Designated Facility Owner or Operator: Certification of receipt of materials covered by the manifest except as noted in Item 17a

Printed/Typed Name: Angela Talley
Signature: Angela Talley
Month 5 Day 9 Year 12

VLS recovery services, llc

NON-HAZARDOUS WASTE MANIFEST

1. Generator ID Number
2. Page 1 of
3. Emergency Response Phone
4. Waste Tracking Number: 6859-04

5. Generator's Name and Mailing Address
Bunnell-Lammons Eng, Inc
6004 Ponders Court
Greenville, SC 29615

Generator's Site Address (if different than mailing address)
Spinx 258
2725 College St N.
Newberry, SC

Generator's Phone:

6. Transporter 1 Company Name: BLE
U.S. EPA ID Number:

7. Transporter 2 Company Name:
U.S. EPA ID Number:

8. Designated Facility Name and Site Address
VLS Recovery Services Piedmont, LLC
305 South Main St.
Maudlin, SC 29662

U.S. EPA ID Number: SCR000762455

Facility's Phone: 864-952-9953

	9. Waste Shipping Name and Description	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	
	1. NON HAZ NON REG WELL WATER #11312 Spinx 258 UST #06588			415	G	
	2. #11312 HESS #40231 Columbia, SC UST #07633			43	G	
	3.					
	4.					

13. Special Handling Instructions and Additional Information

14. GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations.

Generator's/Offeror's Printed/Typed Name: Regina Koenig
Signature: Regina Koenig
Month: 5 Day: 23 Year: 12

INT'L

15. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter Signature (for exports only): Date leaving U.S.:

TRANSPORTER

16. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: Regina Koenig
Signature: Regina Koenig
Month: 5 Day: 23 Year: 12

Transporter 2 Printed/Typed Name:
Signature:
Month: Day: Year:

DESIGNATED FACILITY

17. Discrepancy

17a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

17b. Alternate Facility (or Generator)
U.S. EPA ID Number:
Facility's Phone:

17c. Signature of Alternate Facility (or Generator)
Month: Day: Year:

18. Designated Facility Owner or Operator: Certification of receipt of materials covered by the manifest except as noted in Item 17a

Printed/Typed Name: Jody Scott
Signature:
Month: 5 Day: 23 Year: 12

VLS recovery services, llc

NON-HAZARDOUS WASTE MANIFEST

1. Generator ID Number
2. Page 1 of
3. Emergency Response Phone
4. Waste Tracking Number: 0859-04

GENERATOR

5. Generator's Name and Mailing Address
Bunnell-Lammons Eng, Inc
6004 Ponders Court
Greenville, SC 29615
Generator's Phone:

Generator's Site Address (if different than mailing address)
SPINX 258
College St
Newberry, SC

6. Transporter 1 Company Name: BLE
U.S. EPA ID Number:

7. Transporter 2 Company Name:
U.S. EPA ID Number:

8. Designated Facility Name and Site Address
VLS Recovery Services Piedmont, LLC
305 South Main St.
Mauldin, SC 29662
Facility's Phone: 864-962-9953
U.S. EPA ID Number: SCR000762468

	9. Waste Shipping Name and Description	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	
1.	NON HAZ NON REG WELL WATER #11312 SPINX 258 UST #06588			1311	9	
2.	#11312 WALTER RAWL Gilbert, SC UST#06142			88	9	
3.						
4.						

13. Special Handling Instructions and Additional Information

14. GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations.

Generator's/Offeror's Printed/Typed Name: REGINA KOENIG
Signature: Regina Koenig
Month 6 Day 21 Year 12

INT'L

15. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter Signature (for exports only): Date leaving U.S.:

TRANSPORTER

16. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: REGINA KOENIG
Signature: Regina Koenig
Month 6 Day 21 Year 12
Transporter 2 Printed/Typed Name:
Signature:
Month Day Year

DESIGNATED FACILITY

17. Discrepancy
17a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
17b. Alternate Facility (or Generator)
U.S. EPA ID Number:
Facility's Phone:
17c. Signature of Alternate Facility (or Generator)
Month Day Year

18. Designated Facility Owner or Operator: Certification of receipt of materials covered by the manifest except as noted in Item 17a
Printed/Typed Name: Angelo Talley
Signature: Angelo Talley
Month 6 Day 21 Year 12

APPENDIX B

MONITORING WELL CONSTRUCTION PROCEDURES, MONITORING WELL CONSTRUCTION DIAGRAMS, AND 1903 WATER WELL RECORDS

APPENDIX B

MONITORING WELL CONSTRUCTION PROCEDURES

Type II Well

Type II groundwater monitoring wells consist of 2-inch diameter Schedule 40 polyvinyl chloride (PVC) casing with flush-threaded joints. The bottom 10-foot section of each well is a manufactured well screen with 0.010-inch wide machined slots. The well screen was installed to the depth of the boring and bracketed the water table.

Type III Well

Type III wells were constructed with a 6-inch diameter Schedule 40 PVC outer casing installed to the termination depth of each borehole. The annular space between the borehole and the 6-inch casing was pressure grouted with a cement/bentonite grout mixture to the ground surface using a grout shoe. After curing, a 6-inch diameter air hammer bit was utilized to advance the boreholes through the outer casing to the desired termination depth. A monitoring well was installed, constructed of 2-inch PVC Schedule 40 casing with flush-threaded joints and a manufactured well screen with 0.010-inch wide machined slots. The well screen was 5 feet in length.

A. General

In the Type II and Type III wells, a washed sand filter pack was emplaced around the outside of the pipe from the bottom of the well casing to approximately two feet above the top of the well screen. The sand filter pack was used to stabilize the formation and to help yield a less turbid groundwater sample.

An approximate two-foot thick bentonite seal was installed on top of the sand filter pack to seal the monitoring well at the desired level. The well annulus was then grouted to the surface with a cement/bentonite grout mixture. A PVC cap and flush mount steel, bolted manhole cover or standup steel protective cover was secured over each wellhead.

KEY TO SOIL CLASSIFICATIONS AND CONSISTENCY DESCRIPTIONS

BUNNELL-LAMMONS ENGINEERING, INC.
GREENVILLE, SOUTH CAROLINA

Penetration Resistance* Blows per Foot	Relative Density
SANDS	
0 to 4	Very Loose
5 to 10	Loose
11 to 20	Firm
21 to 30	Very Firm
31 to 50	Dense
over 50	Very Dense

Penetration Resistance* Blows per Foot	Consistency
SILTS and CLAYS	
0 to 2	Very Soft
3 to 4	Soft
5 to 8	Firm
9 to 15	Stiff
16 to 30	Very Stiff
31 to 50	Hard
over 50	Very Hard

*ASTM D 1586

Particle Size Identification

Boulder: Greater than 300 mm
Cobble: 75 to 300 mm
Gravel:
Coarse - 19 to 75 mm
Fine - 4.75 to 19 mm
Sand:
Coarse - 2 to 4.75 mm
Medium - 0.425 to 2 mm
Fine - 0.075 to 0.425 mm
Silt & Clay: Less than 0.075 mm

KEY TO DRILLING SYMBOLS

Grab Sample

Split Spoon Sample

Undisturbed Sample

NR = No reaction to HCL

NA = Not applicable

NS = No sample

Groundwater Table at Time of Drilling

Groundwater Table 24 Hours after Completion of Drilling

KEY TO SOIL CLASSIFICATIONS

Well-graded Gravel
GW

Poorly-graded Gravel
GP

Partially Weathered Rock
BLDRCBBL

High Plasticity Clay
CH

Poorly Graded Sand
SP

Low Plasticity Clay
CL

Sandy Clay
CLS

Silty Clay
CL-ML

Silt
ML

Bedrock
BEDROCK

Clayey Silt
MH

Sandy Silt
MLS

Sand
SW

Clayey Sand
SC

Limestone
LIMESTONE

Silty Sand
SM

Topsoil
TOPSOIL

Trash
MUCKPEAT

Fill
FILL

BLE INC.

BUNNELL-LAMMONS ENGINEERING, INC.

GEOTECHNICAL AND ENVIRONMENTAL CONSULTANTS

GROUNDWATER MONITORING WELL NO. 06588-MW42

PROJECT: Spinx 258/Former Enmark 380 | PROJECT NO.: J12-6859-04

CLIENT: Enmark Stations, Inc. | START: 7-3-12 END: 7-5-12

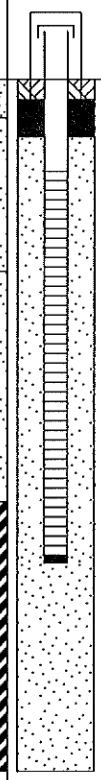
LOCATION: Newberry, South Carolina | ELEVATION: 522.18

DRILLER: AE Drilling, T. Burnette | LOGGED BY: D. Matz

DRILLING METHOD: CME 750X; 4-1/4 inch ID hollow stem auger

DEPTH TO - WATER> INITIAL: ▽ ____ AFTER 24 HOURS: ▼ 4.34 CAVING> ____

ELEVATION/ DEPTH (FT)	DESCRIPTION	SOIL TYPE	MONITOR WELL INSTALLATION DETAILS
	GRASS/organic TOPSOIL		Grout, 0 to 0.5 feet Bentonite seal, 0.5 to 1.5 feet
520	Light gray and light brown, dry, silty, fine to medium SAND		Filter pack, #2 sand 1.5 to 18.0 feet
5	Light gray, slightly moist, fine silty SAND		
515			2-inch diameter, 0.010-inch slotted Schedule 40 PVC well screen, 2.39 to 12.39 feet
10			
510	Light brown, moist CLAY		Pipe cap Total well depth, 12.59 feet
15			
505			
20	Boring terminated at 18.0 feet below ground surface. No groundwater encountered at time of drilling but was encountered at 4.34 feet below ground surface after 24 hours.		SURFACE COMPLETION 4" x 4" stand-up locking steel protective cover with 3' x 3' concrete pad
500			Ground surface elev. = 522.18 feet
25			Top of PVC casing elev. = 524.59 feet
495			Northing = 895,147.075' Easting = 1,812,273.569' Elevations are NAVD 88
30			
490			
35			
485			



GEOT_WELLNB 6859-04.GPJ 8/30/12

DHEC
PROMOTE PROTECT PROSPER

Water Well Record
Bureau of Water
2600 Bull Street, Columbia, SC 29201-1708; (803) 898-4300

1. WELL OWNER INFORMATION:
Name: Enmark Stations, Inc (last) (first)
Address: P.O. Box 728
City: Savannah State: GA Zip: 31402
Telephone: Work: Home:

2. LOCATION OF WELL: COUNTY:
Name: Spinx 258 / Former Enmark 380
Street Address: 2725 College St.
City: Newberry SC Zip:
Latitude: Longitude:

3. PUBLIC SYSTEM NAME: PUBLIC SYSTEM NUMBER:
06588-MW42

4. ABANDONMENT: ☐ Yes ☐ No
Grouted Depth: from _____ ft. to _____ ft.

Formation Description	*Thickness of Stratum	Depth to Bottom of Stratum
B.R.F. Sandy Silt		12
*Indicate Water Bearing Zones (Use a 2nd sheet if needed)		

5. REMARKS:
Bent Seal 0.5-1.5

6. TYPE: ☐ Mud Rotary ☐ Jetted ☐ Bored ☐ Dug ☐ Air Rotary ☐ Driven ☐ Cable tool ☐ Other

7. PERMIT NUMBER:
UST Permit #06588

8. USE:
☐ Residential ☐ Public Supply ☐ Process
☐ Irrigation ☐ Air Conditioning ☐ Emergency
☑ Test Well ☐ Monitor Well ☐ Replacement

9. WELL DEPTH (completed) Date Started: 7-3-12
12 ft. Date Completed: 7-3-12

10. CASING: ☑ Threaded ☐ Welded
Diam.: 2"
Type: ☑ PVC ☐ Galvanized ☐ Steel ☐ Other
_____ in. to _____ ft. depth
_____ in. to _____ ft. depth
Height: Above ☐ Below ☑
Surface _____ ft.
Weight _____ lb./ft.
Drive Shoe? ☐ Yes ☑ No

11. SCREEN:
Type: PVC Diam.: 2"
Slot/Gauge: 10 Length: 10
Set Between: 12 ft. and 1 ft.
_____ ft. and _____ ft.
NOTE: MULTIPLE SCREENS USE SECOND SHEET
Sieve Analysis ☐ Yes (please enclose) ☑ No

12. STATIC WATER LEVEL _____ ft. below land surface after 24 hours

13. PUMPING LEVEL Below Land Surface.
_____ ft. after _____ hrs. Pumping _____ G.P.M.
Pumping Test: ☐ Yes (please enclose) ☐ No
Yield: _____

14. WATER QUALITY
Chemical Analysis ☐ Yes ☑ No Bacterial Analysis ☐ Yes ☐ No
Please enclose lab results.

15. ARTIFICIAL FILTER (filter pack) ☑ Yes ☐ No
Installed from 1.5 ft. to 12 ft.
Effective size _____ Uniformity Coefficient _____

16. WELL GROUTED? ☐ Yes ☐ No
☑ Neat Cement ☐ Bentonite ☐ Bentonite/Cement ☐ Other _____
Depth: From 0 ft. to 1.5 ft.

17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: ____ ft. ____ direction
Type _____
Well Disinfected ☐ Yes ☐ No Type: _____ Amount: _____

18. PUMP: Date Installed: _____ Not installed ☐
Mfr. Name: _____ Model No.: _____
H.P. _____ Volts _____ Length of drop pipe ____ ft. Capacity ____ gpm
TYPE: ☐ Submersible ☐ Jet (shallow) ☐ Turbine ☐ Jet (deep) ☐ Reciprocating ☐ Centrifugal

19. WELL DRILLER: CERT. NO.:
Address: (Print) Two United Way
Greenville, SC 29607
Level: A ☑ B ☐ C ☐ D ☐ (circle one)
Telephone No.: 864-288-1986 Fax No.: 864-288-2272

20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief.

Signed: Thomas Bowell Date: 7-9-12
Well Driller

If D Level Driller, provide supervising driller's name: Bill Barnes; 562A

DHEC 1903 (07/2003) COPY 1 MAIL TO: S.C. DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL (ADDRESS ABOVE)

BLE INC.

BUNNELL-LAMMONS ENGINEERING, INC.

GEOTECHNICAL AND ENVIRONMENTAL CONSULTANTS

GROUNDWATER MONITORING WELL NO. 06588-MW42D

PROJECT: Spinx 258/Former Enmark 380 — PROJECT NO.: J12-6859-04

CLIENT: Enmark Stations, Inc. — START: 7-2-12 END: 7-5-12

LOCATION: Newberry, South Carolina — ELEVATION: 537.95

DRILLER: AE Drilling, T. Burnette — LOGGED BY: D. Matz

DRILLING METHOD: CME 750X; 9-1/4 inch ID hollow stem auger and 4-inch roller cone

DEPTH TO - WATER> INITIAL: ▽ _____ AFTER 24 HOURS: ▼ 2.80 CAVING> _____

ELEVATION/ DEPTH (FT)	DESCRIPTION	SOIL TYPE	MONITOR WELL INSTALLATION DETAILS
	GRASS/organic TOPSOIL		SURFACE COMPLETION 4" x 4" stand-up locking steel protective cover with 3' x 3' concrete pad
	Light brown and gray, dry, silty, fine to medium SAND		
535			Ground surface elev. = 522.04 feet
5	Light gray, slightly moist, silty, fine SAND		Top of PVC casing elev. = 524.49 feet
530			Northing = 895,143.072' Easting = 1,812,275.501' Elevations are NAVD 88
10			
	Light brown, moist CLAY		Grout, 0 to 24.0 feet
525			
15			6-inch outer casing set to 20.0 feet
	Light brown, moist to wet, clayey SAND		
520			
20			
	Light brown, wet, clayey SAND		
515			
	PARTIALLY WEATHERED ROCK which sampled as light brown, clayey, silty, medium to coarse SAND		Bentonite seal, 24.0 to 26.0 feet
25			Filter pack, #2 sand 26.0 to 33.0 feet
510			
30			2-inch diameter, 0.010-inch slotted Schedule 40 PVC well screen, 27.55 to 32.55 feet
505			Pipe cap
	Boring terminated at 33.0 feet below ground surface. No groundwater encountered at time of drilling but was encountered at 2.80 feet below ground surface after 24 hours.		Total well depth, 32.75 feet
35			
500			

GEOT_WELLNB 6859-04.GPJ 8/30/12

DHEC
PROMOTE PROTECT PROSPER

Water Well Record
Bureau of Water
2600 Bull Street, Columbia, SC 29201-1708; (803) 898-4300

1. WELL OWNER INFORMATION:
Name: Enmark Stations, Inc (last) (first)
Address: P.O. Box 728
City: Savannah State: GA Zip: 31402
Telephone: Work: Home:

2. LOCATION OF WELL: **COUNTY:**
Name: Spinx 258 / Former Enmark 380
Street Address: 2725 College St.
City: Newberry SC Zip:
Latitude: Longitude:

3. PUBLIC SYSTEM NAME: **PUBLIC SYSTEM NUMBER:**
06588-MW-4212

4. ABANDONMENT: ☐ Yes ☐ No
Grouted Depth: from ______ ft. to ______ ft.

Formation Description	*Thickness of Stratum	Depth to Bottom of Stratum
BR F. Sandy Silty		32
Clay		

*Indicate Water Bearing Zones
(Use a 2nd sheet if needed)

5. REMARKS:
Bentseal 24-26

6. TYPE: ☐ Mud Rotary ☐ Jetted ☐ Bored ☐ Dug ☐ Air Rotary ☐ Driven ☐ Cable tool ☑ Other

7. PERMIT NUMBER:
UST Permit #66588

8. USE: ☐ Residential ☐ Public Supply ☐ Process ☐ Irrigation ☐ Air Conditioning ☐ Emergency ☑ Test Well ☐ Monitor Well ☐ Replacement

9. WELL DEPTH (completed) 32 ft.
Date Started: 7-2-12
Date Completed: 7-2-12

10. CASING: ☑ Threaded ☐ Welded
Diam.: 2"
Type: ☑ PVC ☐ Galvanized ☐ Steel ☐ Other
______ in. to ______ ft. depth
______ in. to ______ ft. depth
Height: Above ☑ Below ☐
Surface ______ ft.
Weight ______ lb./ft.
Drive Shoe? ☐ Yes ☑ No

11. SCREEN:
Type: PVC Diam.: 2"
Slot/Gauge: 10 Length: 5
Set Between: 32 ft. and 27 ft.
______ ft. and ______ ft.
NOTE: MULTIPLE SCREENS USE SECOND SHEET
Sieve Analysis ☐ Yes (please enclose) ☑ No

12. STATIC WATER LEVEL N/A ft. below land surface after 24 hours

13. PUMPING LEVEL Below Land Surface.
______ ft. after ______ hrs. Pumping ______ G.P.M.
Pumping Test: ☐ Yes (please enclose) ☐ No
Yield:

14. WATER QUALITY
Chemical Analysis ☐ Yes ☐ No Bacterial Analysis ☐ Yes ☐ No
Please enclose lab results.

15. ARTIFICIAL FILTER (filter pack) ☑ Yes ☐ No
Installed from 32 ft. to 26 ft.
Effective size ______ Uniformity Coefficient ______

16. WELL GROUTED? ☑ Yes ☐ No
☑ Neat Cement ☐ Bentonite ☐ Bentonite/Cement ☐ Other ______
Depth: From 24 ft. to 0 ft.

17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: ______ ft. ______ direction
Type ______
Well Disinfected ☐ Yes ☐ No Type: ______ Amount: ______

18. PUMP: Date installed: ______ Not installed ☐
Mfr. Name: ______ Model No.: ______
H.P. ______ Volts ______ Length of drop pipe ______ ft. Capacity ______ gpm
TYPE: ☐ Submersible ☐ Jet (shallow) ☐ Turbine ☐ Jet (deep) ☐ Reciprocating ☐ Centrifugal

19. WELL DRILLER:
CERT. NO.:
Level: A B C D (circle one) ☑ ☐ ☐ ☐
Address: (Print) Two United Way
Greenville, SC 29607
Telephone No.: 864-288-1986 Fax No.: 864-288-2272

20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief.

Signed: Thomas [signature] Well Driller Date: 7-9-12

If D Level Driller, provide supervising driller's name: Bill Barnes; 562A

DHEC 1903 (07/2003)

COPY 1 MAIL TO: S.C. DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL (ADDRESS ABOVE)

BLE INC.

BUNNELL-LAMMONS ENGINEERING, INC.

GEOTECHNICAL AND ENVIRONMENTAL CONSULTANTS

GROUNDWATER MONITORING WELL NO. 06588-MW43D

PROJECT: Spinx 258/Former Enmark 380 — PROJECT NO.: J12-6859-04

CLIENT: Enmark Stations, Inc. — START: 7-3-12 END: 7-5-12

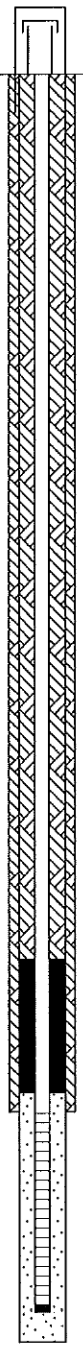
LOCATION: Newberry, South Carolina — ELEVATION: 538.18

DRILLER: AE Drilling, T. Burnette — LOGGED BY: D. Matz

DRILLING METHOD: CME 750X; 9-1/4 inch ID hollow stem auger and 4-inch roller cone

DEPTH TO - WATER> INITIAL: 21.0 AFTER 24 HOURS: CAVING>

ELEVATION/ DEPTH (FT)	DESCRIPTION	SOIL TYPE
	BROKEN ASPHALT, FILL SOIL and GRAVEL	
	Reddish-brown, dry, sandy SILT - (fill)	
535	Brown, dry, silty CLAY	
5		
	Light reddish-brown, dry, fine to medium sandy CLAY	
530		
10		
525		
	Light brown and gray, fine to medium sandy CLAY	
15		
	Gray, dry to slightly moist, slightly micaceous, silty CLAY	
520		
20		
	Grayish-brown, moist to wet, silty CLAY	
515		
25		
	PARTIALLY WEATHERED ROCK which sampled as grayish-brown, clayey, silty, medium to coarse SAND	
510		
30		
505		
	Boring terminated at 33.0 feet below ground surface. Groundwater encountered at 21.0 feet below ground surface at time of drilling.	
35		
500		



MONITOR WELL INSTALLATION DETAILS

SURFACE COMPLETION
4" x 4" stand-up locking steel protective cover with 3' x 3' concrete pad

Ground surface elev. = 538.18 feet

Top of PVC casing elev. = 537.95 feet

Northing = 895,101.990'

Easting = 1,812,071.552'

Elevations are NAVD 88

Grout, 0 to 23.0 feet

6-inch outer casing set to 27.0 feet

Bentonite seal, 23.0 to 26.5 feet

Filter pack, #2 sand 26.5 to 33.0 feet

2-inch diameter, 0.010-inch slotted Schedule 40 PVC well screen, 27.03 to 32.03 feet

Pipe cap

Total well depth, 32.23 feet

GEOT_WELLNB 6859-04.GPJ 8/30/12

DHEC
PROMOTE PROTECT PROSPER

Water Well Record
Bureau of Water
2600 Bull Street, Columbia, SC 29201-1708; (803) 898-4300

1. WELL OWNER INFORMATION:
Name: Enmark Stations, Inc (last) (first)
Address: P.O. Box 728
City: Savannah State: GA Zip: 31402
Telephone: Work: Home:

2. LOCATION OF WELL: **COUNTY:**
Name: Spinx 258 / Former Enmark 380
Street Address:
City: 2725 College St. Zip:
Newberry SC
Latitude: Longitude:

3. PUBLIC SYSTEM NAME: **PUBLIC SYSTEM NUMBER:**
06588-MW43D

4. ABANDONMENT: ☐ Yes ☐ No
Grouted Depth: from _____ ft. to _____ ft.

Formation Description	*Thickness of Stratum	Depth to Bottom of Stratum
B.R.F. Sand & Gr		
*Indicate Water Bearing Zones (Use a 2nd sheet if needed)		

5. REMARKS:
Bent Seal 23-26.5

6. TYPE: ☐ Mud Rotary ☐ Jetted ☐ Bored ☐ Dug ☐ Air Rotary ☐ Driven ☐ Cable tool ☑ Other

7. PERMIT NUMBER:
UST Permit # 66588

8. USE:
☐ Residential ☐ Public Supply ☐ Process
☐ Irrigation ☐ Air Conditioning ☐ Emergency
☑ Test Well ☐ Monitor Well ☐ Replacement

9. WELL DEPTH (completed) Date Started: 7/3/12
32 ft. Date Completed: 7/3/12

10. CASING: ☑ Threaded ☐ Welded
Diam.: 2"
Type: ☑ PVC ☐ Galvanized ☐ Steel ☐ Other
_____ in. to _____ ft. depth
_____ in. to _____ ft. depth
Height: Above ☐ Below ☑
Surface _____ ft.
Weight _____ lb./ft.
Drive Shoe? ☐ Yes ☐ No

11. SCREEN:
Type: PVC Diam.: 2"
Slot/Gauge: 10 Length: 5
Set Between: 32 ft. and 27 ft.
_____ ft. and _____ ft.
NOTE: MULTIPLE SCREENS USE SECOND SHEET
Sieve Analysis ☐ Yes (please enclose) ☐ No

12. STATIC WATER LEVEL _____ ft. below land surface after 24 hours

13. PUMPING LEVEL Below Land Surface.
_____ ft. after _____ hrs. Pumping _____ G.P.M.
Pumping Test: ☐ Yes (please enclose) ☐ No
Yield: _____

14. WATER QUALITY
Chemical Analysis ☐ Yes ☐ No Bacterial Analysis ☐ Yes ☐ No
Please enclose lab results.

15. ARTIFICIAL FILTER (filter pack) ☑ Yes ☐ No
Installed from 32 ft. to 25 ft.
Effective size _____ Uniformity Coefficient _____

16. WELL GROUTED? ☑ Yes ☐ No
☑ Neat Cement ☐ Bentonite ☐ Bentonite/Cement ☐ Other _____
Depth: From 0 ft. to 23 ft.

17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: ____ ft. ____ direction
Type _____
Well Disinfected ☐ Yes ☐ No Type: _____ Amount: _____

18. PUMP: Date Installed: _____ Not Installed ☐
Mfr. Name: _____ Model No.: _____
H.P. _____ Volts _____ Length of drop pipe ____ ft. Capacity ____ gpm
TYPE: ☐ Submersible ☐ Jet (shallow) ☐ Turbine ☐ Jet (deep) ☐ Reciprocating ☐ Centrifugal

19. WELL DRILLER: CERT. NO.:
Level: A ☑ B ☐ C ☐ D ☐ (circle one)
Address: (Print) Two United Way
Greenville, SC 29607
Telephone No.: 864-288-1986 Fax No.: 864-288-2272

20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief.

Signed: Thomas Blevins Date: 7-9-12
Well Driller

If D Level Driller, provide supervising driller's name: Bill Barnes; 562A

DHEC 1903 (07/2003) COPY 1 MAIL TO: S.C. DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL (ADDRESS ABOVE)

APPENDIX C

SOIL CUTTINGS DISPOSAL MANIFEST

NON-HAZARDOUS WASTE MANIFEST

1. Generator ID Number: Enmark Stations, Inc
2. Page 1 of
3. Emergency Response Phone: 803-957-9175
4. Waste Tracking Number: 32751

5. Generator's Name and Mailing Address: PO Box 728, Savannah, GA
Generator's Site Address (if different than mailing address): Former Enmark #380, College Street, Newberry, SC
Generator's Phone: 864-288-1265 Ivan Irizarry - acting as agent for Enmark Stations, Inc.

6. Transporter 1 Company Name: A&D Environmental Services (SC), LLC
U.S. EPA ID Number: SCD987598331

7. Transporter 2 Company Name:
U.S. EPA ID Number:

8. Designated Facility Name and Site Address: A&D Environmental Services (NC), Inc, 2718 Uhwarrie Road, Archdale, NC 27263
U.S. EPA ID Number: NCD986232221
Facility's Phone: 336-434-7750

	9. Waste Shipping Name and Description	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	
1.	NON-HAZARDOUS NON-REGULATED MATERIAL Soil Cuttings Profile #ENS-SF	5 (5)	DM	1800	P	(1) 552 (2) 618
2.						(3) 249 (4) 554
3.						(5) 627
4.						

13. Special Handling Instructions and Additional Information

A&D (SC) Job #12343

14. GENERATOR'S CERTIFICATION: I certify the materials described above on this manifest are not subject to federal regulations for reporting proper disposal of Hazardous Waste.
Generator's/Offeror's Printed/Typed Name: Trevor Z. Sluck acting as agent for Enmark Stations, Inc
Signature
Month 7 Day 30 Year 12

15. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter Signature (for exports only): Date leaving U.S.:

16. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Jimmy Hanna
Signature
Month 7 Day 30 Year 12
Transporter 2 Printed/Typed Name
Signature
Month Day Year

17. Discrepancy
17a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
17b. Alternate Facility (or Generator)
U.S. EPA ID Number
Facility's Phone:
17c. Signature of Alternate Facility (or Generator)
Month Day Year

18. Designated Facility Owner or Operator: Certification of receipt of materials covered by the manifest except as noted in Item 17a
Printed/Typed Name
Signature
Month Day Year

GENERATOR — TRANSPORTER (INT'L) — DESIGNATED FACILITY

GC Labels - Printed in the USA 1-800-887-9166

DESIGNATED FACILITY TO GENERATOR

Regular Part# MANIFEST-GENERAL 8.5 x 5.5

APPENDIX D

MONITORING WELL PURGING AND SAMPLING PROCEDURES, MONITORING WELL PURGING AND SAMPLING LOGS

APPENDIX D

MONITORING WELL PURGING AND SAMPLING PROCEDURES

The monitoring wells were purged prior to sample collection to remove any stagnant water from the well so that the samples collected were representative of the groundwater quality in the vicinity of each well. For wells that recovered quickly, a minimum of three volumes of water were evacuated. Specific conductance, pH, and water temperature were measured periodically during well evacuation using instruments which were calibrated daily. Wells that were evacuated to dryness with less than three well volumes being removed were sampled as soon as the well had recovered enough to yield sufficient volume for a sample.

The monitoring wells were purged using a 4-foot long by 1.6-inch diameter disposable polyethylene bailer attached to an unused polypropylene cord. The wells were also sampled using a bailer as described above. To minimize the potential for cross-contamination between wells, a new clean bailer was used at each well.

Samples were placed in the appropriate laboratory supplied containers and marked with identifying numbers. Samples were maintained at 4°Celsius in a refrigerated sample cooler and shipped to Shealy Environmental Services, Inc. in Columbia, South Carolina via courier service for analysis.

BLE

BUNNELL-LAMMONS ENGINEERING, INC.

Field Data Information Sheet for Ground Water Sampling
Division of Underground Storage Tank Management

Date	07/17/12
Field Personnel	Reid A. Doherty, Regina Koenig
General Weather Conditions	Clear to Partly Cloudy
Ambient Air Temperature (°C)	29.44
Facility Name:	Former Enmark #380
Site ID #	06588

Quality Assurance

pH Sensor:	Oakton 35630-62	**Conductivity Sensor:**	35630-32
serial no.	324976	serial no.	324976
pH =4.0	4.0	Standard	15,000
pH = 7.0	7.0	Standard	1,413
pH = 10.0	10.0	Standard	447
DO Meter	YSI 60	Standard	84
Standard	0% cal	**Turbidity:**	1.0-10.0 NTU

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time
Reid A. Doherty	7/20/12 : 1148	Shealy	7/20/12 : 1148

Well #	06588-MW01				
Well Diameter (D)	2	inch of		28.30	feet(ft) bgs
conversion factor (C): 3.143*(D/2)^2					
for a 2 inch well C = 0.163					
for a 4 inch well C = 0.652					
*Free Product Thickness				---	ft
Total Well Depth (TWD)				28.04	ft btoc
Depth to Groundwater (DGW)				22.27	ft btoc
Length of Water Colum (LWC = TWD-DGW)				5.77	ft
1 Casing Volume (LWC*C) =	5.77	X .17	=	0.98	gals
3 Casing Volumes = 3 X	0.98	=		2.94	gals
	(Standard Purge Volume)				
Total Volume of Water Purged Before Sampling				---	gals

*If free product is present over 1/8 inch, sampling will not be required.

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	6th Vol.	7th Vol.	8th Vol.	Post
Volume Purged (gallons)	---									
Time (military)	1010									
pH (s.u)	6.16									
Specific Conductivity (❍S)	311									
Water Temperature (°C)	23.7									
Turbidity (NTU)	56.9									
Dissolved Oxygen (mg/l)	2.6									

Remarks: Strong petroleum odor noted at time of sampling. Well sampled at 1010 on July 17, 2012.

BLE

BUNNELL-LAMMONS ENGINEERING, INC.

Field Data Information Sheet for Ground Water Sampling
Division of Underground Storage Tank Management

Date	07/17/12
Field Personnel	Reid A. Doherty, Regina Koenig
General Weather Conditions	Clear to Partly Cloudy
Ambient Air Temperature (°C)	29.44
Facility Name:	Former Enmark #380
Site ID #	06588

Quality Assurance

pH Sensor:	Oakton 35630-62	**Conductivity Sensor:**	35630-32
serial no.	324976	serial no.	324976
pH =4.0	4.0	Standard	15,000
pH = 7.0	7.0	Standard	1,413
pH = 10.0	10.0	Standard	447
DO Meter	YSI 60	Standard	84
Standard	0% cal	**Turbidity:**	1.0-10.0 NTU

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time
Reid A. Doherty	7/20/12 : 1148	Shealy	7/20/12 : 1148

Well #	06588-MW02				
Well Diameter (D)	2	inch of	25.20	feet(ft) bgs	
conversion factor (C): 3.143*(D/2)^2					
for a 2 inch well C = 0.163					
for a 4 inch well C = 0.652					
*Free Product Thickness	---	ft			
Total Well Depth (TWD)	25.02	ft btoc			
Depth to Groundwater (DGW)	22.77	ft btoc			
Length of Water Colum (LWC = TWD-DGW)			2.25	ft	
1 Casing Volume (LWC*C) =	2.25	X .17	=	0.38	gals
3 Casing Volumes = 3 X	0.38	=		1.15	gals
	(Standard Purge Volume)				
Total Volume of Water Purged Before Sampling			---	gals	

*If free product is present over 1/8 inch, sampling will not be required.

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	6th Vol.	7th Vol.	8th Vol.	Post
Volume Purged (gallons)	---									
Time (military)	1055									
pH (s.u)	5.23									
Specific Conductivity (❍S)	237									
Water Temperature (°C)	21.4									
Turbidity (NTU)	71.6									
Dissolved Oxygen (mg/l)	3.4									

Remarks: Well sampled at 1055 on July 17, 2012.

BLE

BUNNELL-LAMMONS ENGINEERING, INC.

Field Data Information Sheet for Ground Water Sampling
Division of Underground Storage Tank Management

Date	07/17/12
Field Personnel	Reid A. Doherty, Regina Koenig
General Weather Conditions	Clear to Partly Cloudy
Ambient Air Temperature (°C)	29.44

Facility Name: Former Enmark #380 Site ID # 06588

Quality Assurance

pH Sensor:	Oakton 35630-62	**Conductivity Sensor:**	35630-32
serial no.	324976	serial no.	324976
pH =4.0	4.0	Standard	15,000
pH = 7.0	7.0	Standard	1,413
pH = 10.0	10.0	Standard	447
DO Meter	YSI 60	Standard	84
Standard	0% cal	**Turbidity:**	1.0-10.0 NTU

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time
Reid A. Doherty	7/20/12 : 1148	Shealy	7/20/12 : 1148

Well # 06588-MW03

Well Diameter (D) 2 inch of 25.00 feet(ft) bgs

conversion factor (C): 3.143*(D/2)^2

for a 2 inch well C = 0.163

for a 4 inch well C = 0.652

*Free Product Thickness				---	ft
Total Well Depth (TWD)				24.65	ft btoc
Depth to Groundwater (DGW)				23.54	ft btoc
Length of Water Colum (LWC = TWD-DGW)				1.11	ft
1 Casing Volume (LWC*C) =	1.11	X .17	=	0.19	gals
3 Casing Volumes = 3 X	0.19	=		0.57	gals
	(Standard Purge Volume)				

Total Volume of Water Purged Before Sampling --- gals

*If free product is present over 1/8 inch, sampling will not be required.

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	6th Vol.	7th Vol.	8th Vol.	Post
Volume Purged (gallons)	---									
Time (military)	1035									
pH (s.u)	5.77									
Specific Conductivity (❍S)	340									
Water Temperature (°C)	23.7									
Turbidity (NTU)	456									
Dissolved Oxygen (mg/l)	2.8									

Remarks: Well sampled at 1035 on July 17, 2012.

BLE

BUNNELL-LAMMONS ENGINEERING, INC.

Field Data Information Sheet for Ground Water Sampling
Division of Underground Storage Tank Management

Date 07/17/12

Field Personnel Reid A. Doherty, Regina Koenig

General Weather Conditions Clear to Partly Cloudy

Ambient Air Temperature (°C) 29.44

Facility Name: Former Enmark #380 Site ID # 06588

Quality Assurance

pH Sensor:		**Conductivity Sensor:**	
serial no.		serial no.	
pH =4.0		Standard	
pH = 7.0		Standard	
pH = 10.0		Standard	
DO Meter		Standard	
Standard		**Turbidity:**	

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time

Well # 06588-MW04

Well Diameter (D) 2 inch of 25.00 feet(ft) bgs

conversion factor (C): 3.143*(D/2)^2

for a 2 inch well C = 0.163

for a 4 inch well C = 0.652

*Free Product Thickness --- ft

Total Well Depth (TWD) 24.38 ft btoc

Depth to Groundwater (DGW) ft btoc

Length of Water Colum (LWC = TWD-DGW) ft

1 Casing Volume (LWC*C) = X .17 = gals

3 Casing Volumes = 3 X = gals

(Standard Purge Volume)

Total Volume of Water Purged Before Sampling --- gals

*If free product is present over 1/8 inch, sampling will not be required.

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	6th Vol.	7th Vol.	8th Vol.	Post
Volume Purged (gallons)										
Time (military)										
pH (s.u)										
Specific Conductivity (❍S)										
Water Temperature (°C)										
Turbidity (NTU)										
Dissolved Oxygen (mg/l)										

Remarks: Not Sampled. Blockage in well.

BLE

BUNNELL-LAMMONS ENGINEERING, INC.

Field Data Information Sheet for Ground Water Sampling
Division of Underground Storage Tank Management

Date 07/16/12

Field Personnel Reid A. Doherty

General Weather Conditions Clear to Partly Cloudy

Ambient Air Temperature (°C) 32.22

Facility Name: Former Enmark #380 Site ID # 06588

Quality Assurance

pH Sensor:		**Conductivity Sensor:**	
serial no.		serial no.	
pH =4.0		Standard	
pH = 7.0		Standard	
pH = 10.0		Standard	
DO Meter		Standard	
Standard		**Turbidity:**	

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time

Well # 06588-MW05

Well Diameter (D) 2 inch of 25.00 feet(ft) bgs

conversion factor (C): 3.143*(D/2)^2

for a 2 inch well C = 0.163

for a 4 inch well C = 0.652

*Free Product Thickness 0.55 ft

Total Well Depth (TWD) 24.74 ft btoc

Depth to Groundwater (DGW) 22.95 ft btoc

Length of Water Colum (LWC = TWD-DGW) NA ft

1 Casing Volume (LWC*C) = NA X .17 = NA gals

3 Casing Volumes = 3 X NA = NA gals

(Standard Purge Volume)

Total Volume of Water Purged Before Sampling NA gals

*If free product is present over 1/8 inch, sampling will not be required.

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	6th Vol.	7th Vol.	8th Vol.	Post
Volume Purged (gallons)										
Time (military)										
pH (s.u)										
Specific Conductivity (❍S)										
Water Temperature (°C)										
Turbidity (NTU)										
Dissolved Oxygen (mg/l)										

Remarks: Well not sampled due to the presence of 0.55-feet of free-phase petroleum product.

BLE

BUNNELL-LAMMONS ENGINEERING, INC.

Field Data Information Sheet for Ground Water Sampling
Division of Underground Storage Tank Management

Date 07/16/12

Field Personnel Reid A. Doherty

General Weather Conditions Clear to Partly Cloudy

Ambient Air Temperature (°C) 32.22

Facility Name: Former Enmark #380 Site ID # 06588

Quality Assurance

pH Sensor:		**Conductivity Sensor:**	
serial no.		serial no.	
pH =4.0		Standard	
pH = 7.0		Standard	
pH = 10.0		Standard	
DO Meter		Standard	
Standard		**Turbidity:**	

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time

Well # 06588-MW06

Well Diameter (D) 2 inch of 25.00 feet(ft) bgs

conversion factor (C): 3.143*(D/2)^2

for a 2 inch well C = 0.163

for a 4 inch well C = 0.652

*Free Product Thickness 0.60 ft

Total Well Depth (TWD) 24.81 ft btoc

Depth to Groundwater (DGW) 22.94 ft btoc

Length of Water Colum (LWC = TWD-DGW) NA ft

1 Casing Volume (LWC*C) = NA X .17 = NA gals

3 Casing Volumes = 3 X NA = NA gals

(Standard Purge Volume)

Total Volume of Water Purged Before Sampling NA gals

*If free product is present over 1/8 inch, sampling will not be required.

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	6th Vol.	7th Vol.	8th Vol.	Post
Volume Purged (gallons)										
Time (military)										
pH (s.u)										
Specific Conductivity (❍S)										
Water Temperature (°C)										
Turbidity (NTU)										
Dissolved Oxygen (mg/l)										

Remarks: Well not sampled due to the presence of 0.60-feet of free-phase petroleum product.

BLE

BUNNELL-LAMMONS ENGINEERING, INC.

Field Data Information Sheet for Ground Water Sampling
Division of Underground Storage Tank Management

Date 07/16/12

Field Personnel Reid A. Doherty

General Weather Conditions Clear to Partly Cloudy

Ambient Air Temperature (°C) 32.22

Facility Name: Former Enmark #380 Site ID # 06588

Quality Assurance

pH Sensor:		**Conductivity Sensor:**	
serial no.		serial no.	
pH =4.0		Standard	
pH = 7.0		Standard	
pH = 10.0		Standard	
DO Meter		Standard	
Standard		**Turbidity:**	

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time

Well # 06588-MW07

Well Diameter (D) 2 inch of 25.00 feet(ft) bgs

conversion factor (C): 3.143*(D/2)^2

for a 2 inch well C = 0.163

for a 4 inch well C = 0.652

*Free Product Thickness 0.13 ft

Total Well Depth (TWD) 24.84 ft btoc

Depth to Groundwater (DGW) 22.71 ft btoc

Length of Water Colum (LWC = TWD-DGW) NA ft

1 Casing Volume (LWC*C) = NA X .17 = NA gals

3 Casing Volumes = 3 X NA = NA gals

(Standard Purge Volume)

Total Volume of Water Purged Before Sampling NA gals

*If free product is present over 1/8 inch, sampling will not be required.

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	6th Vol.	7th Vol.	8th Vol.	Post
Volume Purged (gallons)										
Time (military)										
pH (s.u)										
Specific Conductivity (❍S)										
Water Temperature (°C)										
Turbidity (NTU)										
Dissolved Oxygen (mg/l)										

Remarks: Well not sampled due to the presence of 0.13-feet of free-phase petroleum product.

BLE

BUNNELL-LAMMONS ENGINEERING, INC.

Field Data Information Sheet for Ground Water Sampling
Division of Underground Storage Tank Management

Date	07/17/12
Field Personnel	Reid A. Doherty, Regina Koenig
General Weather Conditions	Clear to Partly Cloudy
Ambient Air Temperature (°C)	29.44
Facility Name:	Former Enmark #380
Site ID #	06588

Quality Assurance

pH Sensor:	Oakton 35630-62	**Conductivity Sensor:**	35630-32
serial no.	324976	serial no.	324976
pH =4.0	4.0	Standard	15,000
pH = 7.0	7.0	Standard	1,413
pH = 10.0	10.0	Standard	447
DO Meter	YSI 60	Standard	84
Standard	0% cal	**Turbidity:**	1.0-10.0 NTU

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time
Reid A. Doherty	7/20/12 : 1148	Shealy	7/20/12 : 1148

Well #	06588-MW07D				
Well Diameter (D)	2	inch of	46.04	feet(ft) bgs	
conversion factor (C): 3.143*(D/2)^2					
for a 2 inch well C = 0.163					
for a 4 inch well C = 0.652					
*Free Product Thickness	---	ft			
Total Well Depth (TWD)	45.54	ft btoc			
Depth to Groundwater (DGW)	21.89	ft btoc			
Length of Water Colum (LWC = TWD-DGW)			23.65	ft	
1 Casing Volume (LWC*C) =	23.65	X .17	=	4.02	gals
3 Casing Volumes = 3 X	4.02	=		12.06	gals
	(Standard Purge Volume)				
Total Volume of Water Purged Before Sampling				13.5	gals

*If free product is present over 1/8 inch, sampling will not be required.

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	6th Vol.	7th Vol.	8th Vol.	Post
Volume Purged (gallons)	---	4.5	9.0	13.5						
Time (military)	1112	1117	1122	1128						
pH (s.u)	5.85	5.22	5.20	5.27						
Specific Conductivity	368	189	198	173						
Water Temperature (°C)	22.3	20.5	20.6	20.4						
Turbidity (NTU)	187	135	76.5	48.4						
Dissolved Oxygen (mg/l)	2.5									

Remarks: Well sampled at 1128 on July 17, 2012.

BLE

BUNNELL-LAMMONS ENGINEERING, INC.

Field Data Information Sheet for Ground Water Sampling
Division of Underground Storage Tank Management

Date	07/17/12
Field Personnel	Reid A. Doherty, Regina Koenig
General Weather Conditions	Clear to Partly Cloudy
Ambient Air Temperature (°C)	29.44
Facility Name:	Former Enmark #380
Site ID #	06588

Quality Assurance

pH Sensor:	Oakton 35630-62	**Conductivity Sensor:**	35630-32
serial no.	324976	serial no.	324976
pH =4.0	4.0	Standard	15,000
pH = 7.0	7.0	Standard	1,413
pH = 10.0	10.0	Standard	447
DO Meter	YSI 60	Standard	84
Standard	0% cal	**Turbidity:**	1.0-10.0 NTU

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time
Reid A. Doherty	7/20/12 : 1148	Shealy	7/20/12 : 1148

Well #	06588-MW08D				
Well Diameter (D)	2	inch of		45.00	feet(ft) bgs
conversion factor (C): 3.143*(D/2)^2					
for a 2 inch well C = 0.163					
for a 4 inch well C = 0.652					
*Free Product Thickness				---	ft
Total Well Depth (TWD)				44.78	ft btoc
Depth to Groundwater (DGW)				25.39	ft btoc
Length of Water Colum (LWC = TWD-DGW)				19.39	ft
1 Casing Volume (LWC*C) =	19.39	X .17	=	3.30	gals
3 Casing Volumes = 3 X	3.30	=		9.90	gals
	(Standard Purge Volume)				
Total Volume of Water Purged Before Sampling				4.0	gals

*If free product is present over 1/8 inch, sampling will not be required.

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	6th Vol.	7th Vol.	8th Vol.	Post
Volume Purged (gallons)	---	3.5								
Time (military)	1002	1007								
pH (s.u)	7.46	6.70								
Specific Conductivity (❍S)	946	419								
Water Temperature (°C)	24.0	24.1								
Turbidity (NTU)	6.4	8.4								
Dissolved Oxygen (mg/l)	4.3									

Remarks: Well purged dry after 4.0 gallons removed. Well sampled at 1020 on July 17, 2012.

BLE

BUNNELL-LAMMONS ENGINEERING, INC.

Field Data Information Sheet for Ground Water Sampling
Division of Underground Storage Tank Management

Date	07/16/12
Field Personnel	Reid A. Doherty
General Weather Conditions	Clear to Partly Cloudy
Ambient Air Temperature (°C)	32.22
Facility Name:	Former Enmark #380
Site ID #	06588

Quality Assurance

pH Sensor:	Oakton 35630-62	**Conductivity Sensor:**	35630-32
serial no.	324976	serial no.	324976
pH =4.0	4.0	Standard	15,000
pH = 7.0	7.0	Standard	1,413
pH = 10.0	10.0	Standard	447
DO Meter	YSI 60	Standard	84
Standard	0% cal	**Turbidity:**	1.0-10.0 NTU

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time
Reid A. Doherty	7/20/12 : 1148	Shealy	7/20/12 : 1148

Well #	06588-MW09				
Well Diameter (D)	2	inch of		28.74	feet(ft) bgs
conversion factor (C): 3.143*(D/2)^2					
for a 2 inch well C = 0.163					
for a 4 inch well C = 0.652					
*Free Product Thickness		0.01	ft		
Total Well Depth (TWD)		28.45	ft btoc		
Depth to Groundwater (DGW)		24.68	ft btoc		
Length of Water Colum (LWC = TWD-DGW)				3.77	ft
1 Casing Volume (LWC*C) =	3.77	X .17	=	0.64	gals
3 Casing Volumes = 3 X	0.64	=		1.92	gals
	(Standard Purge Volume)				
Total Volume of Water Purged Before Sampling				---	gals

*If free product is present over 1/8 inch, sampling will not be required.

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	6th Vol.	7th Vol.	8th Vol.	Post
Volume Purged (gallons)	---									
Time (military)	1615									
pH (s.u)	3.70									
Specific Conductivity (❍S)	60									
Water Temperature (°C)	20.2									
Turbidity (NTU)	34.5									
Dissolved Oxygen (mg/l)	1.8									

Remarks: Well sampled at 1615 on July 16, 2012.

BLE

BUNNELL-LAMMONS ENGINEERING, INC.

Field Data Information Sheet for Ground Water Sampling
Division of Underground Storage Tank Management

Date	07/16/12
Field Personnel	Reid A. Doherty
General Weather Conditions	Clear to Partly Cloudy
Ambient Air Temperature (°C)	32.22
Facility Name:	Former Enmark #380
Site ID #	06588

Quality Assurance

pH Sensor:	Oakton 35630-62	**Conductivity Sensor:**	35630-32
serial no.	324976	serial no.	324976
pH =4.0	4.0	Standard	15,000
pH = 7.0	7.0	Standard	1,413
pH = 10.0	10.0	Standard	447
DO Meter	YSI 60	Standard	84
Standard	0% cal	**Turbidity:**	1.0-10.0 NTU

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time
Reid A. Doherty	7/20/12 : 1148	Shealy	7/20/12 : 1148

Well #	06588-MW10				
Well Diameter (D)	2	inch of		28.00	feet(ft) bgs
conversion factor (C): 3.143*(D/2)^2					
for a 2 inch well C = 0.163					
for a 4 inch well C = 0.652					
*Free Product Thickness				---	ft
Total Well Depth (TWD)				27.69	ft btoc
Depth to Groundwater (DGW)				23.02	ft btoc
Length of Water Colum (LWC = TWD-DGW)				4.67	ft
1 Casing Volume (LWC*C) =	4.67	X .17	=	0.79	gals
3 Casing Volumes = 3 X	0.79	=		2.37	gals
	(Standard Purge Volume)				
Total Volume of Water Purged Before Sampling				---	gals

*If free product is present over 1/8 inch, sampling will not be required.

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	6th Vol.	7th Vol.	8th Vol.	Post
Volume Purged (gallons)	---									
Time (military)	1630									
pH (s.u)	3.52									
Specific Conductivity (❍S)	171									
Water Temperature (°C)	20.1									
Turbidity (NTU)	84.9									
Dissolved Oxygen (mg/l)	1.7									

Remarks: Well sampled at 1630 on July 16, 2012.

BLE

BUNNELL-LAMMONS ENGINEERING, INC.

Field Data Information Sheet for Ground Water Sampling
Division of Underground Storage Tank Management

Date	07/16/12
Field Personnel	Reid A. Doherty
General Weather Conditions	Clear to Partly Cloudy
Ambient Air Temperature (°C)	32.22
Facility Name:	Former Enmark #380
Site ID #	06588

Quality Assurance

pH Sensor:	Oakton 35630-62	**Conductivity Sensor:**	35630-32
serial no.	324976	serial no.	324976
pH =4.0	4.0	Standard	15,000
pH = 7.0	7.0	Standard	1,413
pH = 10.0	10.0	Standard	447
DO Meter	YSI 60	Standard	84
Standard	0% cal	**Turbidity:**	1.0-10.0 NTU

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time
Reid A. Doherty	7/20/12 : 1148	Shealy	7/20/12 : 1148

Well #	06588-MW11				
Well Diameter (D)	2	inch of		28.30	feet(ft) bgs
conversion factor (C): 3.143*(D/2)^2					
for a 2 inch well C = 0.163					
for a 4 inch well C = 0.652					
*Free Product Thickness				---	ft
Total Well Depth (TWD)				28.02	ft btoc
Depth to Groundwater (DGW)				21.08	ft btoc
Length of Water Colum (LWC = TWD-DGW)				6.94	ft
1 Casing Volume (LWC*C) =	6.94	X .17	=	1.18	gals
3 Casing Volumes = 3 X	1.18	=		3.54	gals
	(Standard Purge Volume)				
Total Volume of Water Purged Before Sampling				---	gals

*If free product is present over 1/8 inch, sampling will not be required.

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	6th Vol.	7th Vol.	8th Vol.	Post
Volume Purged (gallons)	---									
Time (military)	1645									
pH (s.u)	3.79									
Specific Conductivity (❍S)	224									
Water Temperature (°C)	20.1									
Turbidity (NTU)	41.2									
Dissolved Oxygen (mg/l)	2.8									

Remarks: Well sampled at 1645 on July 16, 2012.

BLE

BUNNELL-LAMMONS ENGINEERING, INC.

Field Data Information Sheet for Ground Water Sampling
Division of Underground Storage Tank Management

Date	07/17/12
Field Personnel	Reid A. Doherty, Regina Koenig
General Weather Conditions	Clear to Partly Cloudy
Ambient Air Temperature (°C)	29.44
Facility Name:	Former Enmark #380
Site ID #	06588

Quality Assurance

pH Sensor:	Oakton 35630-62	**Conductivity Sensor:**	35630-32
serial no.	324976	serial no.	324976
pH =4.0	4.0	Standard	15,000
pH = 7.0	7.0	Standard	1,413
pH = 10.0	10.0	Standard	447
DO Meter	YSI 60	Standard	84
Standard	0% cal	**Turbidity:**	1.0-10.0 NTU

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time
Reid A. Doherty	7/20/12 : 1148	Shealy	7/20/12 : 1148

Well #	06588-MW12				
Well Diameter (D)	2	inch of	27.61	feet(ft) bgs	
conversion factor (C): 3.143*(D/2)^2					
for a 2 inch well C = 0.163					
for a 4 inch well C = 0.652					
*Free Product Thickness	---	ft			
Total Well Depth (TWD)	27.38	ft btoc			
Depth to Groundwater (DGW)	21.17	ft btoc			
Length of Water Colum (LWC = TWD-DGW)			6.21	ft	
1 Casing Volume (LWC*C) =	6.21	X .17	=	1.06	gals
3 Casing Volumes = 3 X	1.06	=		3.18	gals
	(Standard Purge Volume)				
Total Volume of Water Purged Before Sampling			---	gals	

*If free product is present over 1/8 inch, sampling will not be required.

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	6th Vol.	7th Vol.	8th Vol.	Post
Volume Purged (gallons)	---									
Time (military)	1110									
pH (s.u)	5.14									
Specific Conductivity (❍S)	136									
Water Temperature (°C)	22.1									
Turbidity (NTU)	357									
Dissolved Oxygen (mg/l)	4.7									

Remarks: Well sampled at 1110 on July 17, 2012.

BLE

BUNNELL-LAMMONS ENGINEERING, INC.

Field Data Information Sheet for Ground Water Sampling
Division of Underground Storage Tank Management

Date	07/17/12
Field Personnel	Reid A. Doherty, Regina Koenig
General Weather Conditions	Clear to Partly Cloudy
Ambient Air Temperature (°C)	29.44

Facility Name: Former Enmark #380 Site ID # 06588

Quality Assurance

pH Sensor:	Oakton 35630-62	**Conductivity Sensor:**	35630-32
serial no.	324976	serial no.	324976
pH =4.0	4.0	Standard	15,000
pH = 7.0	7.0	Standard	1,413
pH = 10.0	10.0	Standard	447
DO Meter	YSI 60	Standard	84
Standard	0% cal	**Turbidity:**	1.0-10.0 NTU

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time
Reid A. Doherty	7/20/12 : 1148	Shealy	7/20/12 : 1148

Well # 06588-MW013

Well Diameter (D) 2 inch of 26.46 feet(ft) bgs

conversion factor (C): 3.143*(D/2)^2

for a 2 inch well C = 0.163

for a 4 inch well C = 0.652

*Free Product Thickness		---	ft		
Total Well Depth (TWD)		26.23	ft btoc		
Depth to Groundwater (DGW)		20.99	ft btoc		
Length of Water Colum (LWC = TWD-DGW)				5.24	ft
1 Casing Volume (LWC*C) =	5.24	X .17	=	0.89	gals
3 Casing Volumes = 3 X	0.89	=		2.67	gals
	(Standard Purge Volume)				

Total Volume of Water Purged Before Sampling --- gals

*If free product is present over 1/8 inch, sampling will not be required.

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	6th Vol.	7th Vol.	8th Vol.	Post
Volume Purged (gallons)	---									
Time (military)	1142									
pH (s.u)	4.31									
Specific Conductivity (❍S)	177									
Water Temperature (°C)	23.0									
Turbidity (NTU)	24.8									
Dissolved Oxygen (mg/l)	2.1									

Remarks: Well sampled at 1142 on July 17, 2012.

BLE

BUNNELL-LAMMONS ENGINEERING, INC.

Field Data Information Sheet for Ground Water Sampling
Division of Underground Storage Tank Management

Date	07/16/12
Field Personnel	Reid A. Doherty
General Weather Conditions	Clear to Partly Cloudy
Ambient Air Temperature (°C)	32.22
Facility Name:	Former Enmark #380
Site ID #	06588

Quality Assurance

pH Sensor:	Oakton 35630-62	**Conductivity Sensor:**	35630-32
serial no.	324976	serial no.	324976
pH =4.0	4.0	Standard	15,000
pH = 7.0	7.0	Standard	1,413
pH = 10.0	10.0	Standard	447
DO Meter	YSI 60	Standard	84
Standard	0% cal	**Turbidity:**	1.0-10.0 NTU

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time
Reid A. Doherty	7/20/12 : 1148	Shealy	7/20/12 : 1148

Well #	06588-MW14				
Well Diameter (D)	2	inch of		29.32	feet(ft) bgs
conversion factor (C): 3.143*(D/2)^2					
for a 2 inch well C = 0.163					
for a 4 inch well C = 0.652					
*Free Product Thickness				---	ft
Total Well Depth (TWD)				28.99	ft btoc
Depth to Groundwater (DGW)				24.48	ft btoc
Length of Water Colum (LWC = TWD-DGW)				4.51	ft
1 Casing Volume (LWC*C) =	4.51	X .17	=	0.77	gals
3 Casing Volumes = 3 X	0.77	=		2.31	gals
	(Standard Purge Volume)				
Total Volume of Water Purged Before Sampling				---	gals

*If free product is present over 1/8 inch, sampling will not be required.

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	6th Vol.	7th Vol.	8th Vol.	Post
Volume Purged (gallons)	---									
Time (military)	1515									
pH (s.u)	4.13									
Specific Conductivity (❍S)	209									
Water Temperature (°C)	24.3									
Turbidity (NTU)	25.8									
Dissolved Oxygen (mg/l)	5.5									

Remarks: Well sampled at 1515 on July 16, 2012.

BLE

BUNNELL-LAMMONS ENGINEERING, INC.

Field Data Information Sheet for Ground Water Sampling
Division of Underground Storage Tank Management

Date	07/16/12
Field Personnel	Reid A. Doherty
General Weather Conditions	Clear to Partly Cloudy
Ambient Air Temperature (°C)	32.22
Facility Name:	Former Enmark #380
Site ID #	06588

Quality Assurance

pH Sensor:	Oakton 35630-62	**Conductivity Sensor:**	35630-32
serial no.	324976	serial no.	324976
pH =4.0	4.0	Standard	15,000
pH = 7.0	7.0	Standard	1,413
pH = 10.0	10.0	Standard	447
DO Meter	YSI 60	Standard	84
Standard	0% cal	**Turbidity:**	1.0-10.0 NTU

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time
Reid A. Doherty	7/20/12 : 1148	Shealy	7/20/12 : 1148

Well #	06588-MW15				
Well Diameter (D)	2	inch of		28.62	feet(ft) bgs
conversion factor (C): 3.143*(D/2)^2					
for a 2 inch well C = 0.163					
for a 4 inch well C = 0.652					
*Free Product Thickness				---	ft
Total Well Depth (TWD)				28.32	ft btoc
Depth to Groundwater (DGW)				23.50	ft btoc
Length of Water Colum (LWC = TWD-DGW)				4.82	ft
1 Casing Volume (LWC*C) =	4.82	X .17	=	0.82	gals
3 Casing Volumes = 3 X	0.82	=		2.46	gals
	(Standard Purge Volume)				
Total Volume of Water Purged Before Sampling				---	gals

*If free product is present over 1/8 inch, sampling will not be required.

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	6th Vol.	7th Vol.	8th Vol.	Post
Volume Purged (gallons)	---									
Time (military)	1535									
pH (s.u)	4.00									
Specific Conductivity (❍S)	140									
Water Temperature (°C)	21.9									
Turbidity (NTU)	246									
Dissolved Oxygen (mg/l)	4.4									

Remarks: Well sampled at 1535 on July 16, 2012.

BLE

BUNNELL-LAMMONS ENGINEERING, INC.

Field Data Information Sheet for Ground Water Sampling
Division of Underground Storage Tank Management

Date	07/17/12
Field Personnel	Reid A. Doherty, Regina Koenig
General Weather Conditions	Clear to Partly Cloudy
Ambient Air Temperature (°C)	29.44
Facility Name:	Former Enmark #380
Site ID #	06588

Quality Assurance

pH Sensor:	Oakton 35630-62	**Conductivity Sensor:**	35630-32
serial no.	324976	serial no.	324976
pH =4.0	4.0	Standard	15,000
pH = 7.0	7.0	Standard	1,413
pH = 10.0	10.0	Standard	447
DO Meter	YSI 60	Standard	84
Standard	0% cal	**Turbidity:**	1.0-10.0 NTU

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time
Reid A. Doherty	7/20/12 : 1148	Shealy	7/20/12 : 1148

Well #	06588-MW16				
Well Diameter (D)	2	inch of		26.02	feet(ft) bgs
conversion factor (C): 3.143*(D/2)^2					
for a 2 inch well C = 0.163					
for a 4 inch well C = 0.652					
*Free Product Thickness				---	ft
Total Well Depth (TWD)				25.82	ft btoc
Depth to Groundwater (DGW)				19.79	ft btoc
Length of Water Colum (LWC = TWD-DGW)				6.03	ft
1 Casing Volume (LWC*C) =	6.03	X .17	=	1.03	gals
3 Casing Volumes = 3 X	1.03	=		3.08	gals
	(Standard Purge Volume)				
Total Volume of Water Purged Before Sampling				---	gals

*If free product is present over 1/8 inch, sampling will not be required.

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	6th Vol.	7th Vol.	8th Vol.	Post
Volume Purged (gallons)	---									
Time (military)	1320									
pH (s.u)	4.49									
Specific Conductivity (❍S)	173									
Water Temperature (°C)	23.9									
Turbidity (NTU)	52.4									
Dissolved Oxygen (mg/l)	3.5									

Remarks: Well sampled at 1320 on July 17, 2012.

BLE

BUNNELL-LAMMONS ENGINEERING, INC.

Field Data Information Sheet for Ground Water Sampling
Division of Underground Storage Tank Management

Date	07/17/12
Field Personnel	Reid A. Doherty, Regina Koenig
General Weather Conditions	Clear to Partly Cloudy
Ambient Air Temperature (°C)	29.44
Facility Name:	Former Enmark #380
Site ID #	06588

Quality Assurance

pH Sensor:	Oakton 35630-62	**Conductivity Sensor:**	35630-32
serial no.	324976	serial no.	324976
pH =4.0	4.0	Standard	15,000
pH = 7.0	7.0	Standard	1,413
pH = 10.0	10.0	Standard	447
DO Meter	YSI 60	Standard	84
Standard	0% cal	**Turbidity:**	1.0-10.0 NTU

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time
Reid A. Doherty	7/20/12 : 1148	Shealy	7/20/12 : 1148

Well #	06588-MW17				
Well Diameter (D)	2	inch of		26.54	feet(ft) bgs
conversion factor (C): 3.143*(D/2)^2					
for a 2 inch well C = 0.163					
for a 4 inch well C = 0.652					
*Free Product Thickness				---	ft
Total Well Depth (TWD)				26.32	ft btoc
Depth to Groundwater (DGW)				21.33	ft btoc
Length of Water Colum (LWC = TWD-DGW)				4.99	ft
1 Casing Volume (LWC*C) =	4.99	X .17	=	0.85	gals
3 Casing Volumes = 3 X	0.85	=		2.55	gals
	(Standard Purge Volume)				
Total Volume of Water Purged Before Sampling				---	gals

*If free product is present over 1/8 inch, sampling will not be required.

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	6th Vol.	7th Vol.	8th Vol.	Post
Volume Purged (gallons)	---									
Time (military)	1125									
pH (s.u)	5.86									
Specific Conductivity (❍S)	178									
Water Temperature (°C)	21.2									
Turbidity (NTU)	64.2									
Dissolved Oxygen (mg/l)	2.2									

Remarks: Well sampled at 1125 on July 17, 2012.

BLE

BUNNELL-LAMMONS ENGINEERING, INC.

Field Data Information Sheet for Ground Water Sampling
Division of Underground Storage Tank Management

Date	07/17/12
Field Personnel	Reid A. Doherty, Regina Koenig
General Weather Conditions	Clear to Partly Cloudy
Ambient Air Temperature (°C)	29.44
Facility Name:	Former Enmark #380
Site ID #	06588

Quality Assurance

pH Sensor:	Oakton 35630-62	**Conductivity Sensor:**	35630-32
serial no.	324976	serial no.	324976
pH =4.0	4.0	Standard	15,000
pH = 7.0	7.0	Standard	1,413
pH = 10.0	10.0	Standard	447
DO Meter	YSI 60	Standard	84
Standard	0% cal	**Turbidity:**	1.0-10.0 NTU

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time
Reid A. Doherty	7/20/12 : 1148	Shealy	7/20/12 : 1148

Well #	06588-MW18				
Well Diameter (D)	2	inch of		26.28	feet(ft) bgs
conversion factor (C): 3.143*(D/2)^2					
for a 2 inch well C = 0.163					
for a 4 inch well C = 0.652					
*Free Product Thickness				---	ft
Total Well Depth (TWD)				26.10	ft btoc
Depth to Groundwater (DGW)				21.54	ft btoc
Length of Water Colum (LWC = TWD-DGW)				4.56	ft
1 Casing Volume (LWC*C) =	4.56	X .17	=	0.78	gals
3 Casing Volumes = 3 X	0.78	=		2.34	gals
	(Standard Purge Volume)				
Total Volume of Water Purged Before Sampling				---	gals

*If free product is present over 1/8 inch, sampling will not be required.

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	6th Vol.	7th Vol.	8th Vol.	Post
Volume Purged (gallons)	---									
Time (military)	1340									
pH (s.u)	5.70									
Specific Conductivity (❍S)	245									
Water Temperature (°C)	23.7									
Turbidity (NTU)	64.5									
Dissolved Oxygen (mg/l)	2.9									

Remarks: Slight petroleum odor noted at time of sampling event. Well sampled at 1340 on July 17, 2012.

BLE

BUNNELL-LAMMONS ENGINEERING, INC.

Field Data Information Sheet for Ground Water Sampling
Division of Underground Storage Tank Management

Date 07/16/12

Field Personnel Reid A. Doherty

General Weather Conditions Clear to Partly Cloudy

Ambient Air Temperature (°C) 32.22

Facility Name: Former Enmark #380 Site ID # 06588

Quality Assurance

pH Sensor:		**Conductivity Sensor:**	
serial no.		serial no.	
pH =4.0		Standard	
pH = 7.0		Standard	
pH = 10.0		Standard	
DO Meter		Standard	
Standard		**Turbidity:**	

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time

Well # 06588-MW19

Well Diameter (D) 2 inch of 25.52 feet(ft) bgs

conversion factor (C): 3.143*(D/2)^2

for a 2 inch well C = 0.163

for a 4 inch well C = 0.652

*Free Product Thickness 0.89 ft

Total Well Depth (TWD) 25.36 ft btoc

Depth to Groundwater (DGW) 21.85 ft btoc

Length of Water Colum (LWC = TWD-DGW) NA ft

1 Casing Volume (LWC*C) = NA X .17 = NA gals

3 Casing Volumes = 3 X NA = NA gals

(Standard Purge Volume)

Total Volume of Water Purged Before Sampling NA gals

*If free product is present over 1/8 inch, sampling will not be required.

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	6th Vol.	7th Vol.	8th Vol.	Post
Volume Purged (gallons)										
Time (military)										
pH (s.u)										
Specific Conductivity (❍S)										
Water Temperature (°C)										
Turbidity (NTU)										
Dissolved Oxygen (mg/l)										

Remarks: Well not sampled due to the presence of 0.89-feet of free-phase petroleum product.

BLE

BUNNELL-LAMMONS ENGINEERING, INC.

Field Data Information Sheet for Ground Water Sampling
Division of Underground Storage Tank Management

Date	07/17/12
Field Personnel	Reid A. Doherty, Regina Koenig
General Weather Conditions	Clear to Partly Cloudy
Ambient Air Temperature (°C)	29.44
Facility Name:	Former Enmark #380
Site ID #	06588

Quality Assurance

pH Sensor:	Oakton 35630-62	**Conductivity Sensor:**	35630-32
serial no.	324976	serial no.	324976
pH =4.0	4.0	Standard	15,000
pH = 7.0	7.0	Standard	1,413
pH = 10.0	10.0	Standard	447
DO Meter	YSI 60	Standard	84
Standard	0% cal	**Turbidity:**	1.0-10.0 NTU

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time
Reid A. Doherty	7/20/12 : 1148	Shealy	7/20/12 : 1148

Well #	06588-MW20				
Well Diameter (D)	2	inch of		27.24	feet(ft) bgs
conversion factor (C): 3.143*(D/2)^2					
for a 2 inch well C = 0.163					
for a 4 inch well C = 0.652					
*Free Product Thickness				---	ft
Total Well Depth (TWD)				26.87	ft btoc
Depth to Groundwater (DGW)				22.38	ft btoc
Length of Water Colum (LWC = TWD-DGW)				4.49	ft
1 Casing Volume (LWC*C) =	4.49	X .17	=	0.76	gals
3 Casing Volumes = 3 X	0.76	=		2.28	gals
	(Standard Purge Volume)				
Total Volume of Water Purged Before Sampling				---	gals

*If free product is present over 1/8 inch, sampling will not be required.

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	6th Vol.	7th Vol.	8th Vol.	Post
Volume Purged (gallons)	---									
Time (military)	1420									
pH (s.u)	4.96									
Specific Conductivity (❍S)	69									
Water Temperature (°C)	22.7									
Turbidity (NTU)	73.4									
Dissolved Oxygen (mg/l)	1.9									

Remarks: Well sampled at 1420 on July 17, 2012.

BLE

BUNNELL-LAMMONS ENGINEERING, INC.

Field Data Information Sheet for Ground Water Sampling
Division of Underground Storage Tank Management

Date	07/17/12
Field Personnel	Reid A. Doherty, Regina Koenig
General Weather Conditions	Clear to Partly Cloudy
Ambient Air Temperature (°C)	29.44
Facility Name:	Former Enmark #380
Site ID #	06588

Quality Assurance

pH Sensor:	Oakton 35630-62	**Conductivity Sensor:**	35630-32
serial no.	324976	serial no.	324976
pH =4.0	4.0	Standard	15,000
pH = 7.0	7.0	Standard	1,413
pH = 10.0	10.0	Standard	447
DO Meter	YSI 60	Standard	84
Standard	0% cal	**Turbidity:**	1.0-10.0 NTU

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time
Reid A. Doherty	7/20/12 : 1148	Shealy	7/20/12 : 1148

Well #	06588-MW21				
Well Diameter (D)	2	inch of		27.16	feet(ft) bgs
conversion factor (C): 3.143*(D/2)^2					
for a 2 inch well C = 0.163					
for a 4 inch well C = 0.652					
*Free Product Thickness				---	ft
Total Well Depth (TWD)				26.94	ft btoc
Depth to Groundwater (DGW)				21.86	ft btoc
Length of Water Colum (LWC = TWD-DGW)				5.08	ft
1 Casing Volume (LWC*C) =	5.08	X .17	=	0.86	gals
3 Casing Volumes = 3 X	0.86	=		2.58	gals
	(Standard Purge Volume)				
Total Volume of Water Purged Before Sampling				---	gals

*If free product is present over 1/8 inch, sampling will not be required.

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	6th Vol.	7th Vol.	8th Vol.	Post
Volume Purged (gallons)	---									
Time (military)	1436									
pH (s.u)	4.11									
Specific Conductivity (❍S)	56									
Water Temperature (°C)	21.3									
Turbidity (NTU)	35.7									
Dissolved Oxygen (mg/l)	1.7									

Remarks: Well sampled at 1436 on July 17, 2012.

BLE

BUNNELL-LAMMONS ENGINEERING, INC.

Field Data Information Sheet for Ground Water Sampling
Division of Underground Storage Tank Management

Date	07/17/12
Field Personnel	Reid A. Doherty, Regina Koenig
General Weather Conditions	Clear to Partly Cloudy
Ambient Air Temperature (°C)	29.44

Facility Name: Former Enmark #380 Site ID # 06588

Quality Assurance

pH Sensor:	Oakton 35630-62	**Conductivity Sensor:**	35630-32
serial no.	324976	serial no.	324976
pH =4.0	4.0	Standard	15,000
pH = 7.0	7.0	Standard	1,413
pH = 10.0	10.0	Standard	447
DO Meter	YSI 60	Standard	84
Standard	0% cal	**Turbidity:**	1.0-10.0 NTU

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time
Reid A. Doherty	7/20/12 : 1148	Shealy	7/20/12 : 1148

Well # 06588-MW21D

Well Diameter (D) 2 inch of 46.75 feet(ft) bgs

conversion factor (C): 3.143*(D/2)^2

for a 2 inch well C = 0.163

for a 4 inch well C = 0.652

*Free Product Thickness		---	ft		
Total Well Depth (TWD)		46.55	ft btoc		
Depth to Groundwater (DGW)		22.34	ft btoc		
Length of Water Colum (LWC = TWD-DGW)				24.21	ft
1 Casing Volume (LWC*C) =	24.21	X .17	=	4.12	gals
3 Casing Volumes = 3 X	4.12	=		12.36	gals
	(Standard Purge Volume)				

Total Volume of Water Purged Before Sampling 13.5 gals

*If free product is present over 1/8 inch, sampling will not be required.

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	6th Vol.	7th Vol.	8th Vol.	Post
Volume Purged (gallons)	---	4.5	9.0	13.5						
Time (military)	1415	1421	1427	1432						
pH (s.u)	4.46	4.07	4.00	4.20						
Specific Conductivity	117	116	110	110						
Water Temperature (°C)	22.5	21.1	21.2	21.0						
Turbidity (NTU)	194.2	121.1	46.5	21.4						
Dissolved Oxygen (mg/l)	1.6									

Remarks: Well sampled at 1432 on July 17, 2012.

BLE

BUNNELL-LAMMONS ENGINEERING, INC.

Field Data Information Sheet for Ground Water Sampling
Division of Underground Storage Tank Management

Date	07/17/12
Field Personnel	Reid A. Doherty, Regina Koenig
General Weather Conditions	Clear to Partly Cloudy
Ambient Air Temperature (°C)	29.44
Facility Name:	Former Enmark #380
Site ID #	06588

Quality Assurance

pH Sensor:	Oakton 35630-62	**Conductivity Sensor:**	35630-32
serial no.	324976	serial no.	324976
pH =4.0	4.0	Standard	15,000
pH = 7.0	7.0	Standard	1,413
pH = 10.0	10.0	Standard	447
DO Meter	YSI 60	Standard	84
Standard	0% cal	**Turbidity:**	1.0-10.0 NTU

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time
Reid A. Doherty	7/20/12 : 1148	Shealy	7/20/12 : 1148

Well #	06588-MW22				
Well Diameter (D)	2	inch of		26.25	feet(ft) bgs
conversion factor (C): 3.143*(D/2)^2					
for a 2 inch well C = 0.163					
for a 4 inch well C = 0.652					
*Free Product Thickness				---	ft
Total Well Depth (TWD)				26.06	ft btoc
Depth to Groundwater (DGW)				21.19	ft btoc
Length of Water Colum (LWC = TWD-DGW)				4.87	ft
1 Casing Volume (LWC*C) =	4.87	X .17	=	0.83	gals
3 Casing Volumes = 3 X	0.83	=		2.49	gals
	(Standard Purge Volume)				
Total Volume of Water Purged Before Sampling				---	gals

*If free product is present over 1/8 inch, sampling will not be required.

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	6th Vol.	7th Vol.	8th Vol.	Post
Volume Purged (gallons)	---									
Time (military)	1350									
pH (s.u)	4.75									
Specific Conductivity	130									
Water Temperature (°C)	25.0									
Turbidity (NTU)	106.7									
Dissolved Oxygen (mg/l)	2.5									

Remarks: Well sampled at 1350 on July 17, 2012. Duplicate (06588-MW-22 DUP) sampled at 1345 on July 17, 2012.

BLE

BUNNELL-LAMMONS ENGINEERING, INC.

Field Data Information Sheet for Ground Water Sampling
Division of Underground Storage Tank Management

Date	07/17/12
Field Personnel	Reid A. Doherty, Regina Koenig
General Weather Conditions	Clear to Partly Cloudy
Ambient Air Temperature (°C)	29.44

Facility Name: Former Enmark #380 Site ID # 06588

Quality Assurance

pH Sensor:	Oakton 35630-62	**Conductivity Sensor:**	35630-32
serial no.	324976	serial no.	324976
pH =4.0	4.0	Standard	15,000
pH = 7.0	7.0	Standard	1,413
pH = 10.0	10.0	Standard	447
DO Meter	YSI 60	Standard	84
Standard	0% cal	**Turbidity:**	1.0-10.0 NTU

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time
Reid A. Doherty	7/20/12 : 1148	Shealy	7/20/12 : 1148

Well # 06588-MW22D

Well Diameter (D) 2 inch of 45.82 feet(ft) bgs

conversion factor (C): 3.143*(D/2)^2

for a 2 inch well C = 0.163

for a 4 inch well C = 0.652

*Free Product Thickness		---	ft		
Total Well Depth (TWD)		45.47	ft btoc		
Depth to Groundwater (DGW)		21.15	ft btoc		
Length of Water Colum (LWC = TWD-DGW)				24.32	ft
1 Casing Volume (LWC*C) =	24.32	X .17	=	4.13	gals
3 Casing Volumes = 3 X	4.13	=		12.39	gals
	(Standard Purge Volume)				

Total Volume of Water Purged Before Sampling 13.5 gals

*If free product is present over 1/8 inch, sampling will not be required.

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	6th Vol.	7th Vol.	8th Vol.	Post
Volume Purged (gallons)	---	4.5	9.0	13.5						
Time (military)	1315	1322	1328	1334						
pH (s.u)	5.06	5.25	5.10	4.85						
Specific Conductivity	222	221	218	216						
Water Temperature (°C)	23.9	21.8	21.6	21.9						
Turbidity (NTU)	983	215	164	137						
Dissolved Oxygen (mg/l)	2.8									

Remarks: Well sampled at 1334 on July 17, 2012.

BLE

BUNNELL-LAMMONS ENGINEERING, INC.

Field Data Information Sheet for Ground Water Sampling
Division of Underground Storage Tank Management

Date 07/16/12

Field Personnel Reid A. Doherty

General Weather Conditions Clear to Partly Cloudy

Ambient Air Temperature (°C) 32.22

Facility Name: Former Enmark #380 Site ID # 06588

Quality Assurance

pH Sensor:		**Conductivity Sensor:**	
serial no.		serial no.	
pH =4.0		Standard	
pH = 7.0		Standard	
pH = 10.0		Standard	
DO Meter		Standard	
Standard		**Turbidity:**	

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time

Well # 06588-MW23

Well Diameter (D) 2 inch of 25.25 feet(ft) bgs

conversion factor (C): 3.143*(D/2)^2

for a 2 inch well C = 0.163

for a 4 inch well C = 0.652

*Free Product Thickness 1.65 ft

Total Well Depth (TWD) 25.00 ft btoc

Depth to Groundwater (DGW) 22.70 ft btoc

Length of Water Colum (LWC = TWD-DGW) NA ft

1 Casing Volume (LWC*C) = NA X .17 = NA gals

3 Casing Volumes = 3 X NA = NA gals

(Standard Purge Volume)

Total Volume of Water Purged Before Sampling NA gals

*If free product is present over 1/8 inch, sampling will not be required.

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	6th Vol.	7th Vol.	8th Vol.	Post
Volume Purged (gallons)										
Time (military)										
pH (s.u)										
Specific Conductivity										
Water Temperature (°C)										
Turbidity (NTU)										
Dissolved Oxygen (mg/l)										

Remarks: Well not sampled due to the presence of 1.65-feet of free-phase petroleum product.

BLE

BUNNELL-LAMMONS ENGINEERING, INC.

Field Data Information Sheet for Ground Water Sampling
Division of Underground Storage Tank Management

Date 07/16/12

Field Personnel Reid A. Doherty

General Weather Conditions Clear to Partly Cloudy

Ambient Air Temperature (°C) 32.22

Facility Name: Former Enmark #380 Site ID # 06588

Quality Assurance

pH Sensor:		**Conductivity Sensor:**	
serial no.		serial no.	
pH =4.0		Standard	
pH = 7.0		Standard	
pH = 10.0		Standard	
DO Meter		Standard	
Standard		**Turbidity:**	

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time

Well # 06588-MW24

Well Diameter (D) 2 inch of 25.42 feet(ft) bgs

conversion factor (C): 3.143*(D/2)^2

for a 2 inch well C = 0.163

for a 4 inch well C = 0.652

*Free Product Thickness 1.32 ft

Total Well Depth (TWD) 25.09 ft btoc

Depth to Groundwater (DGW) 23.35 ft btoc

Length of Water Colum (LWC = TWD-DGW) NA ft

1 Casing Volume (LWC*C) = NA X .17 = NA gals

3 Casing Volumes = 3 X NA = NA gals

(Standard Purge Volume)

Total Volume of Water Purged Before Sampling NA gals

*If free product is present over 1/8 inch, sampling will not be required.

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	6th Vol.	7th Vol.	8th Vol.	Post
Volume Purged (gallons)										
Time (military)										
pH (s.u)										
Specific Conductivity										
Water Temperature (°C)										
Turbidity (NTU)										
Dissolved Oxygen (mg/l)										

Remarks: Well not sampled due to the presence of 1.32-feet of free-phase petroleum product.

BLE

BUNNELL-LAMMONS ENGINEERING, INC.

Field Data Information Sheet for Ground Water Sampling
Division of Underground Storage Tank Management

Date	07/17/12
Field Personnel	Reid A. Doherty, Regina Koenig
General Weather Conditions	Clear to Partly Cloudy
Ambient Air Temperature (°C)	29.44
Facility Name:	Former Enmark #380
Site ID #	06588

Quality Assurance

pH Sensor:	Oakton 35630-62	**Conductivity Sensor:**	35630-32
serial no.	324976	serial no.	324976
pH =4.0	4.0	Standard	15,000
pH = 7.0	7.0	Standard	1,413
pH = 10.0	10.0	Standard	447
DO Meter	YSI 60	Standard	84
Standard	0% cal	**Turbidity:**	1.0-10.0 NTU

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time
Reid A. Doherty	7/20/12 : 1148	Shealy	7/20/12 : 1148

Well #	06588-MW24D				
Well Diameter (D)	2	inch of	46.03	feet(ft) bgs	
conversion factor (C): 3.143*(D/2)^2					
for a 2 inch well C = 0.163					
for a 4 inch well C = 0.652					
*Free Product Thickness	---	ft			
Total Well Depth (TWD)	45.80	ft btoc			
Depth to Groundwater (DGW)	22.30	ft btoc			
Length of Water Colum (LWC = TWD-DGW)			23.50	ft	
1 Casing Volume (LWC*C) =	23.50	X .17	=	4.00	gals
3 Casing Volumes = 3 X	4.00	=		12.00	gals
	(Standard Purge Volume)				
Total Volume of Water Purged Before Sampling				12.0	gals

*If free product is present over 1/8 inch, sampling will not be required.

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	6th Vol.	7th Vol.	8th Vol.	Post
Volume Purged (gallons)	---	4.0	8.0	12.0						
Time (military)	0932	0938	0944	0950						
pH (s.u)	4.74	5.15	5.77	4.81						
Specific Conductivity	308	185	184	177						
Water Temperature (°C)	23.0	22.4	22.0	21.7						
Turbidity (NTU)	114	110	30.0	28.1						
Dissolved Oxygen (mg/l)	5.3									

Remarks: Well sampled at 0950 on July 17, 2012.

BLE

BUNNELL-LAMMONS ENGINEERING, INC.

Field Data Information Sheet for Ground Water Sampling
Division of Underground Storage Tank Management

Date 07/16/12

Field Personnel Reid A. Doherty

General Weather Conditions Clear to Partly Cloudy

Ambient Air Temperature (°C) 32.22

Facility Name: Former Enmark #380 Site ID # 06588

Quality Assurance

pH Sensor:		**Conductivity Sensor:**	
serial no.		serial no.	
pH =4.0		Standard	
pH = 7.0		Standard	
pH = 10.0		Standard	
DO Meter		Standard	
Standard		**Turbidity:**	

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time

Well # 06588-MW25

Well Diameter (D) 2 inch of 25.38 feet(ft) bgs

conversion factor (C): 3.143*(D/2)^2

for a 2 inch well C = 0.163

for a 4 inch well C = 0.652

*Free Product Thickness 0.31 ft

Total Well Depth (TWD) 25.12 ft btoc

Depth to Groundwater (DGW) 22.95 ft btoc

Length of Water Colum (LWC = TWD-DGW) NA ft

1 Casing Volume (LWC*C) = NA X .17 = NA gals

3 Casing Volumes = 3 X NA = NA gals

(Standard Purge Volume)

Total Volume of Water Purged Before Sampling NA gals

*If free product is present over 1/8 inch, sampling will not be required.

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	6th Vol.	7th Vol.	8th Vol.	Post
Volume Purged (gallons)										
Time (military)										
pH (s.u)										
Specific Conductivity										
Water Temperature (°C)										
Turbidity (NTU)										
Dissolved Oxygen (mg/l)										

Remarks: Well not sampled due to the presence of 0.31-feet of free-phase petroleum product.

BLE

BUNNELL-LAMMONS ENGINEERING, INC.

Field Data Information Sheet for Ground Water Sampling
Division of Underground Storage Tank Management

Date	07/16/12
Field Personnel	Reid A. Doherty
General Weather Conditions	Clear to Partly Cloudy
Ambient Air Temperature (°C)	32.22
Facility Name:	Former Enmark #380
Site ID #	06588

Quality Assurance

pH Sensor:	Oakton 35630-62	**Conductivity Sensor:**	35630-32
serial no.	324976	serial no.	324976
pH =4.0	4.0	Standard	15,000
pH = 7.0	7.0	Standard	1,413
pH = 10.0	10.0	Standard	447
DO Meter	YSI 60	Standard	84
Standard	0% cal	**Turbidity:**	1.0-10.0 NTU

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time
Reid A. Doherty	7/20/12 : 1148	Shealy	7/20/12 : 1148

Well #	06588-MW026				
Well Diameter (D)	2	inch of	27.00	feet(ft) bgs	
conversion factor (C): 3.143*(D/2)^2					
for a 2 inch well C = 0.163					
for a 4 inch well C = 0.652					
*Free Product Thickness	---	ft			
Total Well Depth (TWD)	26.86	ft btoc			
Depth to Groundwater (DGW)	22.69	ft btoc			
Length of Water Colum (LWC = TWD-DGW)			4.17	ft	
1 Casing Volume (LWC*C) =	4.17	X .17	=	0.71	gals
3 Casing Volumes = 3 X	0.71	=		2.13	gals
	(Standard Purge Volume)				
Total Volume of Water Purged Before Sampling			---	gals	

*If free product is present over 1/8 inch, sampling will not be required.

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	6th Vol.	7th Vol.	8th Vol.	Post
Volume Purged (gallons)	---									
Time (military)	1600									
pH (s.u)	3.67									
Specific Conductivity	48									
Water Temperature (°C)	22.5									
Turbidity (NTU)	81.6									
Dissolved Oxygen (mg/l)	2.7									

Remarks: Well sampled at 1600 on July 16, 2012.

BLE

BUNNELL-LAMMONS ENGINEERING, INC.

Field Data Information Sheet for Ground Water Sampling
Division of Underground Storage Tank Management

Date	07/16/12
Field Personnel	Reid A. Doherty
General Weather Conditions	Clear to Partly Cloudy
Ambient Air Temperature (°C)	32.22
Facility Name:	Former Enmark #380
Site ID #	06588

Quality Assurance

pH Sensor:	Oakton 35630-62	**Conductivity Sensor:**	35630-32
serial no.	324976	serial no.	324976
pH =4.0	4.0	Standard	15,000
pH = 7.0	7.0	Standard	1,413
pH = 10.0	10.0	Standard	447
DO Meter	YSI 60	Standard	84
Standard	0% cal	**Turbidity:**	1.0-10.0 NTU

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time
Reid A. Doherty	7/20/12 : 1148	Shealy	7/20/12 : 1148

Well #	06588-MW27				
Well Diameter (D)	2	inch of		27.25	feet(ft) bgs
conversion factor (C): 3.143*(D/2)^2					
for a 2 inch well C = 0.163					
for a 4 inch well C = 0.652					
*Free Product Thickness				---	ft
Total Well Depth (TWD)				26.98	ft btoc
Depth to Groundwater (DGW)				23.18	ft btoc
Length of Water Colum (LWC = TWD-DGW)				3.80	ft
1 Casing Volume (LWC*C) =	3.80	X .17	=	0.65	gals
3 Casing Volumes = 3 X	0.65	=		1.95	gals
	(Standard Purge Volume)				
Total Volume of Water Purged Before Sampling				---	gals

*If free product is present over 1/8 inch, sampling will not be required.

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	6th Vol.	7th Vol.	8th Vol.	Post
Volume Purged (gallons)	---									
Time (military)	1545									
pH (s.u)	3.45									
Specific Conductivity	146									
Water Temperature (°C)	22.7									
Turbidity (NTU)	Clear									
Dissolved Oxygen (mg/l)	64.8									

Remarks: Well sampled at 1545 on July 16, 2012.

BLE

BUNNELL-LAMMONS ENGINEERING, INC.

Field Data Information Sheet for Ground Water Sampling
Division of Underground Storage Tank Management

Date	07/17/12
Field Personnel	Reid A. Doherty, Regina Koenig
General Weather Conditions	Clear to Partly Cloudy
Ambient Air Temperature (°C)	29.44

Facility Name: Former Enmark #380 Site ID # 06588

Quality Assurance

pH Sensor:	Oakton 35630-62	**Conductivity Sensor:**	35630-32
serial no.	324976	serial no.	324976
pH =4.0	4.0	Standard	15,000
pH = 7.0	7.0	Standard	1,413
pH = 10.0	10.0	Standard	447
DO Meter	YSI 60	Standard	84
Standard	0% cal	**Turbidity:**	1.0-10.0 NTU

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time
Reid A. Doherty	7/20/12 : 1148	Shealy	7/20/12 : 1148

Well # 06588-MW28

Well Diameter (D) 2 inch of 25.50 feet(ft) bgs

conversion factor (C): 3.143*(D/2)^2

for a 2 inch well C = 0.163

for a 4 inch well C = 0.652

*Free Product Thickness				---	ft
Total Well Depth (TWD)				25.21	ft btoc
Depth to Groundwater (DGW)				20.28	ft btoc
Length of Water Colum (LWC = TWD-DGW)				4.93	ft
1 Casing Volume (LWC*C) =	4.93	X .17	=	0.84	gals
3 Casing Volumes = 3 X	0.84	=		2.52	gals
	(Standard Purge Volume)				

Total Volume of Water Purged Before Sampling --- gals

*If free product is present over 1/8 inch, sampling will not be required.

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	6th Vol.	7th Vol.	8th Vol.	Post
Volume Purged (gallons)	---									
Time (military)	1440									
pH (s.u)	3.92									
Specific Conductivity	69									
Water Temperature (°C)	22.3									
Turbidity (NTU)	34.8									
Dissolved Oxygen (mg/l)	5.7									

Remarks: Well sampled at 1440 on July 17, 2012.

BLE

BUNNELL-LAMMONS ENGINEERING, INC.

Field Data Information Sheet for Ground Water Sampling
Division of Underground Storage Tank Management

Date	07/17/12
Field Personnel	Reid A. Doherty, Regina Koenig
General Weather Conditions	Clear to Partly Cloudy
Ambient Air Temperature (°C)	29.44

Facility Name: Former Enmark #380 Site ID # 06588

Quality Assurance

pH Sensor:	Oakton 35630-62	**Conductivity Sensor:**	35630-32
serial no.	324976	serial no.	324976
pH =4.0	4.0	Standard	15,000
pH = 7.0	7.0	Standard	1,413
pH = 10.0	10.0	Standard	447
DO Meter	YSI 60	Standard	84
Standard	0% cal	**Turbidity:**	1.0-10.0 NTU

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time
Reid A. Doherty	7/20/12 : 1148	Shealy	7/20/12 : 1148

Well # 06588-MW29

Well Diameter (D) 2 inch of 25.00 feet(ft) bgs

conversion factor (C): 3.143*(D/2)^2

for a 2 inch well C = 0.163

for a 4 inch well C = 0.652

*Free Product Thickness				---	ft
Total Well Depth (TWD)				24.76	ft btoc
Depth to Groundwater (DGW)				19.35	ft btoc
Length of Water Colum (LWC = TWD-DGW)				5.41	ft
1 Casing Volume (LWC*C) =	5.41	X .17	=	0.92	gals
3 Casing Volumes = 3 X	0.92	=		2.76	gals
	(Standard Purge Volume)				

Total Volume of Water Purged Before Sampling --- gals

*If free product is present over 1/8 inch, sampling will not be required.

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	6th Vol.	7th Vol.	8th Vol.	Post
Volume Purged (gallons)	---									
Time (military)	1459									
pH (s.u)	4.00									
Specific Conductivity	66									
Water Temperature (°C)	21.0									
Turbidity (NTU)	216									
Dissolved Oxygen (mg/l)	1.6									

Remarks: Well sampled at 1459 on July 17, 2012.

BLE

BUNNELL-LAMMONS ENGINEERING, INC.

Field Data Information Sheet for Ground Water Sampling
Division of Underground Storage Tank Management

Date	07/17/12
Field Personnel	Reid A. Doherty, Regina Koenig
General Weather Conditions	Clear to Partly Cloudy
Ambient Air Temperature (°C)	29.44
Facility Name:	Former Enmark #380
Site ID #	06588

Quality Assurance

pH Sensor:	Oakton 35630-62	**Conductivity Sensor:**	35630-32
serial no.	324976	serial no.	324976
pH =4.0	4.0	Standard	15,000
pH = 7.0	7.0	Standard	1,413
pH = 10.0	10.0	Standard	447
DO Meter	YSI 60	Standard	84
Standard	0% cal	**Turbidity:**	1.0-10.0 NTU

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time
Reid A. Doherty	7/20/12 : 1148	Shealy	7/20/12 : 1148

Well #	06588-MW30				
Well Diameter (D)	2	inch of		24.00	feet(ft) bgs
conversion factor (C): 3.143*(D/2)^2					
for a 2 inch well C = 0.163					
for a 4 inch well C = 0.652					
*Free Product Thickness				---	ft
Total Well Depth (TWD)				23.73	ft btoc
Depth to Groundwater (DGW)				18.36	ft btoc
Length of Water Colum (LWC = TWD-DGW)				5.37	ft
1 Casing Volume (LWC*C) =	5.37	X .17	=	0.91	gals
3 Casing Volumes = 3 X	0.91	=		2.73	gals
	(Standard Purge Volume)				
Total Volume of Water Purged Before Sampling				---	gals

*If free product is present over 1/8 inch, sampling will not be required.

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	6th Vol.	7th Vol.	8th Vol.	Post
Volume Purged (gallons)	---									
Time (military)	1522									
pH (s.u)	4.39									
Specific Conductivity	276									
Water Temperature (°C)	20.3									
Turbidity (NTU)	57.1									
Dissolved Oxygen (mg/l)	1.9									

Remarks: Well sampled at 1522 on July 17, 2012.

BLE

BUNNELL-LAMMONS ENGINEERING, INC.

Field Data Information Sheet for Ground Water Sampling
Division of Underground Storage Tank Management

Date	07/18/12
Field Personnel	Reid A. Doherty, Regina Koenig
General Weather Conditions	Clear to Partly Cloudy
Ambient Air Temperature (°C)	30.56

Facility Name: Former Enmark #380 Site ID # 06588

Quality Assurance

pH Sensor:	Oakton 35630-62	**Conductivity Sensor:**	35630-32
serial no.	324976	serial no.	324976
pH =4.0	4.0	Standard	15,000
pH = 7.0	7.0	Standard	1,413
pH = 10.0	10.0	Standard	447
DO Meter	YSI 60	Standard	84
Standard	0% cal	**Turbidity:**	1.0-10.0 NTU

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time
Reid A. Doherty	7/20/12 : 1148	Shealy	7/20/12 : 1148

Well # 06588-MW30D

Well Diameter (D) 2 inch of 46.30 feet(ft) bgs

conversion factor (C): 3.143*(D/2)^2

for a 2 inch well C = 0.163

for a 4 inch well C = 0.652

*Free Product Thickness		---	ft		
Total Well Depth (TWD)		45.94	ft btoc		
Depth to Groundwater (DGW)		18.29	ft btoc		
Length of Water Colum (LWC = TWD-DGW)				27.65	ft
1 Casing Volume (LWC*C) =	27.65	X .17	=	4.70	gals
3 Casing Volumes = 3 X	4.70	=		14.10	gals
	(Standard Purge Volume)				

Total Volume of Water Purged Before Sampling 15.0 gals

*If free product is present over 1/8 inch, sampling will not be required.

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	6th Vol.	7th Vol.	8th Vol.	Post
Volume Purged (gallons)	---	5.0	10.0	15.0						
Time (military)	1038	1045	1052	1059						
pH (s.u)	10.82	8.23	7.99	7.04						
Specific Conductivity	953	417	333	308						
Water Temperature (°C)	20.4	19.8	19.6	19.7						
Turbidity (NTU)	34.8	681	164	64.8						
Dissolved Oxygen (mg/l)	1.4									

Remarks: Well sampled at 1059 on July 18, 2012.

BLE

BUNNELL-LAMMONS ENGINEERING, INC.

Field Data Information Sheet for Ground Water Sampling
Division of Underground Storage Tank Management

Date	07/17/12
Field Personnel	Reid A. Doherty, Regina Koenig
General Weather Conditions	Clear to Partly Cloudy
Ambient Air Temperature (°C)	29.44
Facility Name:	Former Enmark #380
Site ID #	06588

Quality Assurance

pH Sensor:	Oakton 35630-62	**Conductivity Sensor:**	35630-32
serial no.	324976	serial no.	324976
pH =4.0	4.0	Standard	15,000
pH = 7.0	7.0	Standard	1,413
pH = 10.0	10.0	Standard	447
DO Meter	YSI 60	Standard	84
Standard	0% cal	**Turbidity:**	1.0-10.0 NTU

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time
Reid A. Doherty	7/20/12 : 1148	Shealy	7/20/12 : 1148

Well #	06588-MW-31				
Well Diameter (D)	2	inch of		25.25	feet(ft) bgs
conversion factor (C): 3.143*(D/2)^2					
for a 2 inch well C = 0.163					
for a 4 inch well C = 0.652					
*Free Product Thickness				---	ft
Total Well Depth (TWD)				25.01	ft btoc
Depth to Groundwater (DGW)				19.50	ft btoc
Length of Water Colum (LWC = TWD-DGW)				5.51	ft
1 Casing Volume (LWC*C) =	5.51	X .17	=	0.94	gals
3 Casing Volumes = 3 X	0.94	=		2.82	gals
	(Standard Purge Volume)				
Total Volume of Water Purged Before Sampling				---	gals

*If free product is present over 1/8 inch, sampling will not be required.

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	6th Vol.	7th Vol.	8th Vol.	Post
Volume Purged (gallons)	---									
Time (military)	1537									
pH (s.u)	4.73									
Specific Conductivity	453									
Water Temperature (°C)	22.9									
Turbidity (NTU)	44.2									
Dissolved Oxygen (mg/l)	1.7									

Remarks: Well sampled at 1537 on July 17, 2012.

BLE

BUNNELL-LAMMONS ENGINEERING, INC.

Field Data Information Sheet for Ground Water Sampling
Division of Underground Storage Tank Management

Date	07/17/12
Field Personnel	Reid A. Doherty, Regina Koenig
General Weather Conditions	Clear to Partly Cloudy
Ambient Air Temperature (°C)	29.44

Facility Name: Former Enmark #380 Site ID # 06588

Quality Assurance

pH Sensor:	Oakton 35630-62	**Conductivity Sensor:**	35630-32
serial no.	324976	serial no.	324976
pH =4.0	4.0	Standard	15,000
pH = 7.0	7.0	Standard	1,413
pH = 10.0	10.0	Standard	447
DO Meter	YSI 60	Standard	84
Standard	0% cal	**Turbidity:**	1.0-10.0 NTU

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time
Reid A. Doherty	7/20/12 : 1148	Shealy	7/20/12 : 1148

Well # 06588-MW32

Well Diameter (D) 2 inch of 25.25 feet(ft) bgs

conversion factor (C): 3.143*(D/2)^2

for a 2 inch well C = 0.163

for a 4 inch well C = 0.652

*Free Product Thickness				---	ft
Total Well Depth (TWD)				25.01	ft btoc
Depth to Groundwater (DGW)				19.50	ft btoc
Length of Water Colum (LWC = TWD-DGW)				5.51	ft
1 Casing Volume (LWC*C) =	5.51	X .17	=	0.94	gals
3 Casing Volumes = 3 X	0.94	=		2.81	gals
	(Standard Purge Volume)				

Total Volume of Water Purged Before Sampling --- gals

*If free product is present over 1/8 inch, sampling will not be required.

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	6th Vol.	7th Vol.	8th Vol.	Post
Volume Purged (gallons)	---									
Time (military)	1545									
pH (s.u)	4.70									
Specific Conductivity	194									
Water Temperature (°C)	22.7									
Turbidity (NTU)	94.3									
Dissolved Oxygen (mg/l)	2.6									

Remarks: Well sampled at 1545 on July 17, 2012.

BLE

BUNNELL-LAMMONS ENGINEERING, INC.

Field Data Information Sheet for Ground Water Sampling
Division of Underground Storage Tank Management

Date	07/17/12
Field Personnel	Reid A. Doherty, Regina Koenig
General Weather Conditions	Clear to Partly Cloudy
Ambient Air Temperature (°C)	29.44
Facility Name:	Former Enmark #380
Site ID #	06588

Quality Assurance

pH Sensor:	Oakton 35630-62	**Conductivity Sensor:**	35630-32
serial no.	324976	serial no.	324976
pH =4.0	4.0	Standard	15,000
pH = 7.0	7.0	Standard	1,413
pH = 10.0	10.0	Standard	447
DO Meter	YSI 60	Standard	84
Standard	0% cal	**Turbidity:**	1.0-10.0 NTU

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time
Reid A. Doherty	7/20/12 : 1148	Shealy	7/20/12 : 1148

Well #	06588-MW33				
Well Diameter (D)	2	inch of		26.25	feet(ft) bgs
conversion factor (C): 3.143*(D/2)^2					
for a 2 inch well C = 0.163					
for a 4 inch well C = 0.652					
*Free Product Thickness				---	ft
Total Well Depth (TWD)				26.04	ft btoc
Depth to Groundwater (DGW)				20.42	ft btoc
Length of Water Colum (LWC = TWD-DGW)				5.62	ft
1 Casing Volume (LWC*C) =	5.62	X .17	=	0.96	gals
3 Casing Volumes = 3 X	0.96	=		2.88	gals
	(Standard Purge Volume)				
Total Volume of Water Purged Before Sampling				---	gals

*If free product is present over 1/8 inch, sampling will not be required.

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	6th Vol.	7th Vol.	8th Vol.	Post
Volume Purged (gallons)	---									
Time (military)	1515									
pH (s.u)	4.13									
Specific Conductivity	107									
Water Temperature (°C)	23.7									
Turbidity (NTU)	34.2									
Dissolved Oxygen (mg/l)	2.9									

Remarks: Well sampled at 1515 on July 17, 2012. Duplicate (06588-MW-33 DUP) sampled at 1517 on July 17, 2012.

BLE

BUNNELL-LAMMONS ENGINEERING, INC.

Field Data Information Sheet for Ground Water Sampling
Division of Underground Storage Tank Management

Date	07/18/12
Field Personnel	Reid A. Doherty, Regina Koenig
General Weather Conditions	Clear to Partly Cloudy
Ambient Air Temperature (°C)	30.56

Facility Name: Former Enmark #380 Site ID # 06588

Quality Assurance

pH Sensor:	Oakton 35630-62	**Conductivity Sensor:**	35630-32
serial no.	324976	serial no.	324976
pH =4.0	4.0	Standard	15,000
pH = 7.0	7.0	Standard	1,413
pH = 10.0	10.0	Standard	447
DO Meter	YSI 60	Standard	84
Standard	0% cal	**Turbidity:**	1.0-10.0 NTU

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time
Reid A. Doherty	7/20/12 : 1148	Shealy	7/20/12 : 1148

Well # 06588-MW33D

Well Diameter (D) 2 inch of 48.35 feet(ft) bgs

conversion factor (C): 3.143*(D/2)^2

for a 2 inch well C = 0.163

for a 4 inch well C = 0.652

*Free Product Thickness		---	ft		
Total Well Depth (TWD)		48.15	ft btoc		
Depth to Groundwater (DGW)		20.42	ft btoc		
Length of Water Colum (LWC = TWD-DGW)				27.73	ft
1 Casing Volume (LWC*C) =	27.73	X .17	=	4.71	gals
3 Casing Volumes = 3 X	4.71	=		14.13	gals
	(Standard Purge Volume)				

Total Volume of Water Purged Before Sampling 15.0 gals

*If free product is present over 1/8 inch, sampling will not be required.

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	6th Vol.	7th Vol.	8th Vol.	Post
Volume Purged (gallons)	---	5.0	10.0	15.0						
Time (military)	1001	1008	1014	1020						
pH (s.u)	6.54	6.48	6.46	6.16						
Specific Conductivity	165	287	394	443						
Water Temperature (°C)	23.0	22.5	22.9	23.0						
Turbidity (NTU)	34.5	173	194	34.9						
Dissolved Oxygen (mg/l)	4.3									

Remarks: Well sampled at 1020 on July 18, 2012.

BLE

BUNNELL-LAMMONS ENGINEERING, INC.

Field Data Information Sheet for Ground Water Sampling
Division of Underground Storage Tank Management

Date	07/17/12
Field Personnel	Reid A. Doherty, Regina Koenig
General Weather Conditions	Clear to Partly Cloudy
Ambient Air Temperature (°C)	29.44
Facility Name:	Former Enmark #380
Site ID #	06588

Quality Assurance

pH Sensor:	Oakton 35630-62	**Conductivity Sensor:**	35630-32
serial no.	324976	serial no.	324976
pH =4.0	4.0	Standard	15,000
pH = 7.0	7.0	Standard	1,413
pH = 10.0	10.0	Standard	447
DO Meter	YSI 60	Standard	84
Standard	0% cal	**Turbidity:**	1.0-10.0 NTU

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time
Reid A. Doherty	7/20/12 : 1148	Shealy	7/20/12 : 1148

Well #	06588-MW34				
Well Diameter (D)	2	inch of	18.25	feet(ft) bgs	
conversion factor (C): 3.143*(D/2)^2					
for a 2 inch well C = 0.163					
for a 4 inch well C = 0.652					
*Free Product Thickness	---	ft			
Total Well Depth (TWD)	18.00	ft btoc			
Depth to Groundwater (DGW)	14.97	ft btoc			
Length of Water Colum (LWC = TWD-DGW)			3.03	ft	
1 Casing Volume (LWC*C) =	3.03	X .17	=	0.52	gals
3 Casing Volumes = 3 X	0.52	=		1.56	gals
	(Standard Purge Volume)				
Total Volume of Water Purged Before Sampling			---	gals	

*If free product is present over 1/8 inch, sampling will not be required.

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	6th Vol.	7th Vol.	8th Vol.	Post
Volume Purged (gallons)	---									
Time (military)	1455									
pH (s.u)	5.59									
Specific Conductivity	39									
Water Temperature (°C)	21.6									
Turbidity (NTU)	73.8									
Dissolved Oxygen (mg/l)	1.8									

Remarks: Well sampled at 1455 on July 17, 2012.

BLE

BUNNELL-LAMMONS ENGINEERING, INC.

Field Data Information Sheet for Ground Water Sampling
Division of Underground Storage Tank Management

Date	07/17/12
Field Personnel	Reid A. Doherty, Regina Koenig
General Weather Conditions	Clear to Partly Cloudy
Ambient Air Temperature (°C)	29.44
Facility Name:	Former Enmark #380
Site ID #	06588

Quality Assurance

pH Sensor:	Oakton 35630-62	**Conductivity Sensor:**	35630-32
serial no.	324976	serial no.	324976
pH =4.0	4.0	Standard	15,000
pH = 7.0	7.0	Standard	1,413
pH = 10.0	10.0	Standard	447
DO Meter	YSI 60	Standard	84
Standard	0% cal	**Turbidity:**	1.0-10.0 NTU

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time
Reid A. Doherty	7/20/12 : 1148	Shealy	7/20/12 : 1148

Well #	06588-MW35				
Well Diameter (D)	2	inch of		14.25	feet(ft) bgs
conversion factor (C): 3.143*(D/2)^2					
for a 2 inch well C = 0.163					
for a 4 inch well C = 0.652					
*Free Product Thickness				---	ft
Total Well Depth (TWD)				13.95	ft btoc
Depth to Groundwater (DGW)				9.45	ft btoc
Length of Water Colum (LWC = TWD-DGW)				4.50	ft
1 Casing Volume (LWC*C) =	4.50	X .17	=	0.77	gals
3 Casing Volumes = 3 X	0.77	=		2.31	gals
	(Standard Purge Volume)				
Total Volume of Water Purged Before Sampling				---	gals

*If free product is present over 1/8 inch, sampling will not be required.

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	6th Vol.	7th Vol.	8th Vol.	Post
Volume Purged (gallons)	---									
Time (military)	1555									
pH (s.u)	4.25									
Specific Conductivity	568									
Water Temperature (°C)	21.8									
Turbidity (NTU)	31.7									
Dissolved Oxygen (mg/l)	1.6									

Remarks: Well sampled at 1555 on July 17, 2012.

BLE

BUNNELL-LAMMONS ENGINEERING, INC.

Field Data Information Sheet for Ground Water Sampling
Division of Underground Storage Tank Management

Date	07/18/12
Field Personnel	Reid A. Doherty, Regina Koenig
General Weather Conditions	Clear to Partly Cloudy
Ambient Air Temperature (°C)	30.56

Facility Name: Former Enmark #380 Site ID # 06588

Quality Assurance

pH Sensor:	Oakton 35630-62	**Conductivity Sensor:**	35630-32
serial no.	324976	serial no.	324976
pH =4.0	4.0	Standard	15,000
pH = 7.0	7.0	Standard	1,413
pH = 10.0	10.0	Standard	447
DO Meter	YSI 60	Standard	84
Standard	0% cal	**Turbidity:**	1.0-10.0 NTU

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time
Reid A. Doherty	7/20/12 : 1148	Shealy	7/20/12 : 1148

Well # 06588-MW36

Well Diameter (D) 2 inch of 31.00 feet(ft) bgs

conversion factor (C): 3.143*(D/2)^2

for a 2 inch well C = 0.163

for a 4 inch well C = 0.652

*Free Product Thickness				---	ft
Total Well Depth (TWD)				33.81	ft btoc
Depth to Groundwater (DGW)				13.19	ft btoc
Length of Water Colum (LWC = TWD-DGW)				20.62	ft
1 Casing Volume (LWC*C) =	20.62	X .17	=	3.51	gals
3 Casing Volumes = 3 X	3.51	=		10.53	gals
	(Standard Purge Volume)				

Total Volume of Water Purged Before Sampling 11.0 gals

*If free product is present over 1/8 inch, sampling will not be required.

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	6th Vol.	7th Vol.	8th Vol.	Post
Volume Purged (gallons)	---	3.5	7.0	11.0						
Time (military)	1222	1229	1234	1240						
pH (s.u)	4.67	3.87	4.32	4.56						
Specific Conductivity	347	371	276	237						
Water Temperature (°C)	22.0	18.9	18.0	17.9						
Turbidity (NTU)	43.8	61.8	861	634						
Dissolved Oxygen (mg/l)	3.8									

Remarks: Well sampled at 1240 on July 18, 2012.

BLE

BUNNELL-LAMMONS ENGINEERING, INC.

Field Data Information Sheet for Ground Water Sampling
Division of Underground Storage Tank Management

Date	07/18/12
Field Personnel	Reid A. Doherty, Regina Koenig
General Weather Conditions	Clear to Partly Cloudy
Ambient Air Temperature (°C)	30.56

Facility Name: Former Enmark #380 Site ID # 06588

Quality Assurance

pH Sensor:	Oakton 35630-62	**Conductivity Sensor:**	35630-32
serial no.	324976	serial no.	324976
pH =4.0	4.0	Standard	15,000
pH = 7.0	7.0	Standard	1,413
pH = 10.0	10.0	Standard	447
DO Meter	YSI 60	Standard	84
Standard	0% cal	**Turbidity:**	1.0-10.0 NTU

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time
Reid A. Doherty	7/20/12 : 1148	Shealy	7/20/12 : 1148

Well # 06588-MW37

Well Diameter (D) 2 inch of 21.69 feet(ft) bgs

conversion factor (C): 3.143*(D/2)^2

for a 2 inch well C = 0.163

for a 4 inch well C = 0.652

*Free Product Thickness		---	ft		
Total Well Depth (TWD)		24.75	ft btoc		
Depth to Groundwater (DGW)		5.22	ft btoc		
Length of Water Colum (LWC = TWD-DGW)				19.53	ft
1 Casing Volume (LWC*C) =	19.53	X .17	=	3.32	gals
3 Casing Volumes = 3 X	3.32	=		9.96	gals
	(Standard Purge Volume)				

Total Volume of Water Purged Before Sampling 10.0 gals

*If free product is present over 1/8 inch, sampling will not be required.

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	6th Vol.	7th Vol.	8th Vol.	Post
Volume Purged (gallons)	---	3.0	7.0	10.0						
Time (military)	1140	1150	1200	1210						
pH (s.u)	8.68	6.23	7.59	7.16						
Specific Conductivity	181	166	182	161						
Water Temperature (°C)	23.4	20.2	18.6	18.5						
Turbidity (NTU)	72.5	169	274	101						
Dissolved Oxygen (mg/l)	4.6									

Remarks: Well sampled at 1210 on July 18, 2012.

BLE

BUNNELL-LAMMONS ENGINEERING, INC.

Field Data Information Sheet for Ground Water Sampling
Division of Underground Storage Tank Management

Date	07/18/12
Field Personnel	Reid A. Doherty, Regina Koenig
General Weather Conditions	Clear to Partly Cloudy
Ambient Air Temperature (°C)	30.56

Facility Name: Former Enmark #380 Site ID # 06588

Quality Assurance

pH Sensor:	Oakton 35630-62	**Conductivity Sensor:**	35630-32
serial no.	324976	serial no.	324976
pH =4.0	4.0	Standard	15,000
pH = 7.0	7.0	Standard	1,413
pH = 10.0	10.0	Standard	447
DO Meter	YSI 60	Standard	84
Standard	0% cal	**Turbidity:**	1.0-10.0 NTU

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time
Reid A. Doherty	7/20/12 : 1148	Shealy	7/20/12 : 1148

Well # 06588-MW38

Well Diameter (D) 2 inch of 25.00 feet(ft) bgs

conversion factor (C): 3.143*(D/2)^2

for a 2 inch well C = 0.163

for a 4 inch well C = 0.652

*Free Product Thickness				---	ft
Total Well Depth (TWD)				24.80	ft btoc
Depth to Groundwater (DGW)				17.18	ft btoc
Length of Water Colum (LWC = TWD-DGW)				7.62	ft
1 Casing Volume (LWC*C) =	7.62	X .17	=	1.30	gals
3 Casing Volumes = 3 X	1.30	=		3.90	gals

(Standard Purge Volume)

Total Volume of Water Purged Before Sampling --- gals

*If free product is present over 1/8 inch, sampling will not be required.

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	6th Vol.	7th Vol.	8th Vol.	Post
Volume Purged (gallons)	---									
Time (military)	1015									
pH (s.u)	4.98									
Specific Conductivity	592									
Water Temperature (°C)	22.5									
Turbidity (NTU)	64.7									
Dissolved Oxygen (mg/l)	2.2									

Remarks: Well sampled at 1015 on July 18, 2012.

BLE

BUNNELL-LAMMONS ENGINEERING, INC.

Field Data Information Sheet for Ground Water Sampling
Division of Underground Storage Tank Management

Date	07/18/12
Field Personnel	Reid A. Doherty, Regina Koenig
General Weather Conditions	Clear to Partly Cloudy
Ambient Air Temperature (°C)	30.56

Facility Name: Former Enmark #380 Site ID # 06588

Quality Assurance

pH Sensor:	Oakton 35630-62	**Conductivity Sensor:**	35630-32
serial no.	324976	serial no.	324976
pH =4.0	4.0	Standard	15,000
pH = 7.0	7.0	Standard	1,413
pH = 10.0	10.0	Standard	447
DO Meter	YSI 60	Standard	84
Standard	0% cal	**Turbidity:**	1.0-10.0 NTU

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time
Reid A. Doherty	7/20/12 : 1148	Shealy	7/20/12 : 1148

Well # 06588-MW39

Well Diameter (D) 2 inch of 12.00 feet(ft) bgs

conversion factor (C): 3.143*(D/2)^2

for a 2 inch well C = 0.163

for a 4 inch well C = 0.652

*Free Product Thickness				---	ft
Total Well Depth (TWD)				11.77	ft btoc
Depth to Groundwater (DGW)				2.77	ft btoc
Length of Water Colum (LWC = TWD-DGW)				9.00	ft
1 Casing Volume (LWC*C) =	9.00	X .17	=	1.53	gals
3 Casing Volumes = 3 X	1.53	=		4.59	gals
	(Standard Purge Volume)				

Total Volume of Water Purged Before Sampling --- gals

*If free product is present over 1/8 inch, sampling will not be required.

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	6th Vol.	7th Vol.	8th Vol.	Post
Volume Purged (gallons)	---									
Time (military)	1030									
pH (s.u)	6.63									
Specific Conductivity	590									
Water Temperature (°C)	24.2									
Turbidity (NTU)	64.1									
Dissolved Oxygen (mg/l)	3.2									

Remarks: Well sampled ate 1030 on July 18, 2012.

BLE

BUNNELL-LAMMONS ENGINEERING, INC.

Field Data Information Sheet for Ground Water Sampling
Division of Underground Storage Tank Management

Date	07/17/12
Field Personnel	Reid A. Doherty, Regina Koenig
General Weather Conditions	Clear to Partly Cloudy
Ambient Air Temperature (°C)	29.44
Facility Name:	Former Enmark #380
Site ID #	06588

Quality Assurance

pH Sensor:	Oakton 35630-62	**Conductivity Sensor:**	35630-32
serial no.	324976	serial no.	324976
pH =4.0	4.0	Standard	15,000
pH = 7.0	7.0	Standard	1,413
pH = 10.0	10.0	Standard	447
DO Meter	YSI 60	Standard	84
Standard	0% cal	**Turbidity:**	1.0-10.0 NTU

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time
Reid A. Doherty	7/20/12 : 1148	Shealy	7/20/12 : 1148

Well #	06588-MW40				
Well Diameter (D)	2	inch of		28.30	feet(ft) bgs
conversion factor (C): 3.143*(D/2)^2					
for a 2 inch well C = 0.163					
for a 4 inch well C = 0.652					
*Free Product Thickness				---	ft
Total Well Depth (TWD)				27.69	ft btoc
Depth to Groundwater (DGW)				22.50	ft btoc
Length of Water Colum (LWC = TWD-DGW)				5.19	ft
1 Casing Volume (LWC*C) =	5.19	X .17	=	0.88	gals
3 Casing Volumes = 3 X	0.88	=		2.64	gals
	(Standard Purge Volume)				
Total Volume of Water Purged Before Sampling				---	gals

*If free product is present over 1/8 inch, sampling will not be required.

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	6th Vol.	7th Vol.	8th Vol.	Post
Volume Purged (gallons)	---									
Time (military)	0945									
pH (s.u)	4.91									
Specific Conductivity	184									
Water Temperature (°C)	22.8									
Turbidity (NTU)	14.9									
Dissolved Oxygen (mg/l)	2.8									

Remarks: Well sampled at 0945 on July 17, 2012. Duplicate (06588-MW-40 DUP) sampled at 0947 on July 17, 2012.

BLE

BUNNELL-LAMMONS ENGINEERING, INC.

Field Data Information Sheet for Ground Water Sampling
Division of Underground Storage Tank Management

Date	07/18/12
Field Personnel	Reid A. Doherty, Regina Koenig
General Weather Conditions	Clear to Partly Cloudy
Ambient Air Temperature (°C)	30.56

Facility Name: Former Enmark #380 Site ID # 06588

Quality Assurance

pH Sensor:	Oakton 35630-62	**Conductivity Sensor:**	35630-32
serial no.	324976	serial no.	324976
pH =4.0	4.0	Standard	15,000
pH = 7.0	7.0	Standard	1,413
pH = 10.0	10.0	Standard	447
DO Meter	YSI 60	Standard	84
Standard	0% cal	**Turbidity:**	1.0-10.0 NTU

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time
Reid A. Doherty	7/20/12 : 1148	Shealy	7/20/12 : 1148

Well # 06588-MW41D

Well Diameter (D) 2 inch of 48.00 feet(ft) bgs

conversion factor (C): 3.143*(D/2)^2

for a 2 inch well C = 0.163

for a 4 inch well C = 0.652

*Free Product Thickness		---	ft		
Total Well Depth (TWD)		47.80	ft btoc		
Depth to Groundwater (DGW)		21.19	ft btoc		
Length of Water Colum (LWC = TWD-DGW)				26.61	ft
1 Casing Volume (LWC*C) =	26.61	X .17	=	4.52	gals
3 Casing Volumes = 3 X	4.52	=		13.56	gals
	(Standard Purge Volume)				

Total Volume of Water Purged Before Sampling 15.0 gals

*If free product is present over 1/8 inch, sampling will not be required.

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	6th Vol.	7th Vol.	8th Vol.	Post
Volume Purged (gallons)	---	5.0	10.0	15.0						
Time (military)	0856	0904	0911	0917						
pH (s.u)	7.33	7.07	6.88	6.36						
Specific Conductivity	636	519	474	443						
Water Temperature (°C)	23.3	22.6	22.8	23.1						
Turbidity (NTU)	764	643	98.4	52.7						
Dissolved Oxygen (mg/l)	2.6									

Remarks: Well sampled at 0917 on July 18, 2012.

BLE

BUNNELL-LAMMONS ENGINEERING, INC.

Field Data Information Sheet for Ground Water Sampling
Division of Underground Storage Tank Management

Date	07/18/12
Field Personnel	Reid A. Doherty, Regina Koenig
General Weather Conditions	Clear to Partly Cloudy
Ambient Air Temperature (°C)	30.56

Facility Name: Former Enmark #380 Site ID # 06588

Quality Assurance

pH Sensor:	Oakton 35630-62	**Conductivity Sensor:**	35630-32
serial no.	324976	serial no.	324976
pH =4.0	4.0	Standard	15,000
pH = 7.0	7.0	Standard	1,413
pH = 10.0	10.0	Standard	447
DO Meter	YSI 60	Standard	84
Standard	0% cal	**Turbidity:**	1.0-10.0 NTU

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time
Reid A. Doherty	7/20/12 : 1148	Shealy	7/20/12 : 1148

Well # 06588-MW42

Well Diameter (D) 2 inch of 12.60 feet(ft) bgs

conversion factor (C): 3.143*(D/2)^2

for a 2 inch well C = 0.163

for a 4 inch well C = 0.652

*Free Product Thickness				---	ft
Total Well Depth (TWD)				15.00	ft btoc
Depth to Groundwater (DGW)				6.55	ft btoc
Length of Water Colum (LWC = TWD-DGW)				8.45	ft
1 Casing Volume (LWC*C) =	8.45	X .17	=	1.44	gals
3 Casing Volumes = 3 X	1.44	=		4.32	gals
	(Standard Purge Volume)				

Total Volume of Water Purged Before Sampling 4.5 gals

*If free product is present over 1/8 inch, sampling will not be required.

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	6th Vol.	7th Vol.	8th Vol.	Post
Volume Purged (gallons)	---	1.5	3.0	4.5						
Time (military)	1215	1218	1221	1225						
pH (s.u)	6.83	6.03	5.98	5.89						
Specific Conductivity	296	256	269	250						
Water Temperature (°C)	22.8	21.8	21.4	20.2						
Turbidity (NTU)	64.3	187	946	437						
Dissolved Oxygen (mg/l)	5.1									

Remarks: Well sampled at 1225 on July 18, 2012.

BLE

BUNNELL-LAMMONS ENGINEERING, INC.

Field Data Information Sheet for Ground Water Sampling
Division of Underground Storage Tank Management

Date	07/18/12
Field Personnel	Reid A. Doherty, Regina Koenig
General Weather Conditions	Clear to Partly Cloudy
Ambient Air Temperature (°C)	30.56

Facility Name: Former Enmark #380 Site ID # 06588

Quality Assurance

pH Sensor:	Oakton 35630-62	**Conductivity Sensor:**	35630-32
serial no.	324976	serial no.	324976
pH =4.0	4.0	Standard	15,000
pH = 7.0	7.0	Standard	1,413
pH = 10.0	10.0	Standard	447
DO Meter	YSI 60	Standard	84
Standard	0% cal	**Turbidity:**	1.0-10.0 NTU

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time
Reid A. Doherty	7/20/12 : 1148	Shealy	7/20/12 : 1148

Well # 06588-MW42D

Well Diameter (D) 2 inch of 31.80 feet(ft) bgs

conversion factor (C): 3.143*(D/2)^2

for a 2 inch well C = 0.163

for a 4 inch well C = 0.652

*Free Product Thickness				---	ft
Total Well Depth (TWD)				35.20	ft btoc
Depth to Groundwater (DGW)				6.40	ft btoc
Length of Water Colum (LWC = TWD-DGW)				28.80	ft
1 Casing Volume (LWC*C) =	28.80	X .17	=	4.90	gals
3 Casing Volumes = 3 X	4.90	=		14.70	gals
	(Standard Purge Volume)				

Total Volume of Water Purged Before Sampling 15.0 gals

*If free product is present over 1/8 inch, sampling will not be required.

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	6th Vol.	7th Vol.	8th Vol.	Post
Volume Purged (gallons)	---	5.0	10.0	15.0						
Time (military)	1130	1137	1144	1151						
pH (s.u)	7.26	7.98	7.99	8.20						
Specific Conductivity	273	383	378	311						
Water Temperature (°C)	20.2	20.8	18.5	18.6						
Turbidity (NTU)	94.5	486	238	167						
Dissolved Oxygen (mg/l)	4.2									

Remarks: Well sampled at 1151 on July 18, 2012.

BLE

BUNNELL-LAMMONS ENGINEERING, INC.

Field Data Information Sheet for Ground Water Sampling
Division of Underground Storage Tank Management

Date	07/18/12
Field Personnel	Reid A. Doherty, Regina Koenig
General Weather Conditions	Clear to Partly Cloudy
Ambient Air Temperature (°C)	30.56
Facility Name:	Former Enmark #380
Site ID #	06588

Quality Assurance

pH Sensor:	Oakton 35630-62	**Conductivity Sensor:**	35630-32
serial no.	324976	serial no.	324976
pH =4.0	4.0	Standard	15,000
pH = 7.0	7.0	Standard	1,413
pH = 10.0	10.0	Standard	447
DO Meter	YSI 60	Standard	84
Standard	0% cal	**Turbidity:**	1.0-10.0 NTU

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time
Reid A. Doherty	7/20/12 : 1148	Shealy	7/20/12 : 1148

Well #	06588-MW-43D				
Well Diameter (D)	2	inch of	30.40	feet(ft) bgs	
conversion factor (C): 3.143*(D/2)^2					
for a 2 inch well C = 0.163					
for a 4 inch well C = 0.652					
*Free Product Thickness	---	ft			
Total Well Depth (TWD)	32.80	ft btoc			
Depth to Groundwater (DGW)	18.15	ft btoc			
Length of Water Colum (LWC = TWD-DGW)			14.65	ft	
1 Casing Volume (LWC*C) =	14.65	X .17	=	2.49	gals
3 Casing Volumes = 3 X	2.49	=		7.47	gals
	(Standard Purge Volume)				
Total Volume of Water Purged Before Sampling			7.5	gals	

*If free product is present over 1/8 inch, sampling will not be required.

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	6th Vol.	7th Vol.	8th Vol.	Post
Volume Purged (gallons)	---	2.5	5.0	7.5						
Time (military)	1045	1052	1059	1106						
pH (s.u)	10.87	9.36	8.07	7.36						
Specific Conductivity	1738	562	428	384						
Water Temperature (°C)	24.0	23.2	21.4	22.5						
Turbidity (NTU)	46.7	368	874	276						
Dissolved Oxygen (mg/l)	4.3									

Remarks: Well sampled at 1106 on July 18, 2012.

APPENDIX E

PURGE-WATER DISPOSAL MANIFESTS

VLS recovery services, llc

NON-HAZARDOUS WASTE MANIFEST	1. Generator ID Number	2. Page 1 of	3. Emergency Response Phone	4. Waste Tracking Number

GENERATOR

5. Generator's Name and Mailing Address
Purnell-Lammons Eng, Inc
6004 Pendas Court
Greenville, SC 29615
Generator's Phone:

Generator's Site Address (if different than mailing address)
Colbert 323
4997 Dunnow Rd
Columbia, SC

6. Transporter 1 Company Name: BLE
U.S. EPA ID Number:

7. Transporter 2 Company Name:
U.S. EPA ID Number:

8. Designated Facility Name and Site Address: VLS Recovery Services Piedmont, LLC
305 South Main St.
Moultrie, GA 31768
U.S. EPA ID Number: GAR000082460
Facility's Phone: 251-391-0000

	9. Waste Shipping Name and Description	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	
1.	NON HAZ NON REG WELL WATER #11312 Ad Cricket 322 List # 07624			624	9	
2.	#11312 Sweet Grocery Greer, SC List # 03885			119	9	
3.	#11312 Spirit 258 / Former Gunnech 383 List # 06358			150	9	
4.						

13. Special Handling Instructions and Additional Information

14. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable International and national governmental regulations.

Generator's/Offeror's Printed/Typed Name: Joshua Lodenia
Signature: [signature]
Month 7 Day 23 Year 12

INT'L

15. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter Signature (for exports only): Date leaving U.S.:

TRANSPORTER

16. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: Joshua Lodenia
Signature: [signature]
Month 7 Day 23 Year 12

Transporter 2 Printed/Typed Name:
Signature:
Month Day Year

DESIGNATED FACILITY

17. Discrepancy

17a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

17b. Alternate Facility (or Generator)
U.S. EPA ID Number
Facility's Phone:

17c. Signature of Alternate Facility (or Generator)
Month Day Year

18. Designated Facility Owner or Operator: Certification of receipt of materials covered by the manifest except as noted in Item 17a

Printed/Typed Name: Angelo Tolley
Signature: [signature]
Month 7 Day 23 Year 12

APPENDIX F

GROUNDWATER AND SURFACE WATER LABORATORY DATA SHEETS

SHEALY ENVIRONMENTAL SERVICES, INC.

Report of Analysis

Bunnell-Lammons Engineering, Inc.
6004 Ponders Court
Greenville, SC 29615
Attention: Trever Slack

Project Name: **Spinx #258/Former Enmark #380**

Project Number: **J12-6859-04**

Lot Number: **NG21001**

Date Completed: **07/31/2012**

Lucas Odom
Project Manager

This report shall not be reproduced, except in its entirety, without the written approval of Shealy Environmental Services, Inc.

The following non-paginated documents are considered part of this report: Chain of Custody Record and Sample Receipt Checklist.

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Case Narrative
Bunnell-Lammons Engineering, Inc.
Lot Number: NG21001

This Report of Analysis contains the analytical result(s) for the sample(s) listed on the Sample Summary following this Case Narrative. The sample receiving date is documented in the header information associated with each sample.

All results listed in this report relate only to the samples that are contained within this report.

Sample receipt, sample analysis, and data review have been performed in accordance with the most current approved NELAC standards, the Shealy Environmental Services, Inc. ("Shealy") Quality Assurance Management Plan (QAMP), standard operating procedures (SOPs), and Shealy policies. Any exceptions to the NELAC standards, the QAMP, SOPs or policies are qualified on the results page or discussed below.

If you have any questions regarding this report please contact the Shealy Project Manager listed on the cover page.

EDB by Microextraction

Samples -020 and -021 were qualified with a "P" as the relative percent difference (RPD) between the two columns was above method criteria. Per the method, the highest of the two values have been reported. Because of this, the reported result is possibly biased high.

GC/MS VOC

The Method Blank associated with batch 90189 recovered Ethanol above the PQL. No corrective action was required as the associated samples were non-detect for this compound.

The LCS/LCSD associated with batches 90189, 90190, and 90234 recovered some oxygenates above method criteria. No corrective action was required as all associated samples were non-detect for these select oxygenates.

Sample Summary
Bunnell-Lammons Engineering, Inc.
Lot Number: NG21001

Sample Number	Sample ID	Matrix	Date Sampled	Date Received
001	06588-MW-1	Aqueous	07/17/2012 1010	07/20/2012
002	06588-MW-2	Aqueous	07/17/2012 1055	07/20/2012
003	06588-MW-3	Aqueous	07/17/2012 1035	07/20/2012
004	06588-MW-4	Aqueous	07/17/2012 1038	07/20/2012
005	06588-MW-7D	Aqueous	07/17/2012 1128	07/20/2012
006	06588-MW-8D	Aqueous	07/17/2012 1020	07/20/2012
007	06588-MW-9	Aqueous	07/16/2012 1615	07/20/2012
008	06588-MW-10	Aqueous	07/16/2012 1630	07/20/2012
009	06588-MW-11	Aqueous	07/16/2012 1645	07/20/2012
010	06588-MW-12	Aqueous	07/17/2012 1110	07/20/2012
011	06588-MW-13	Aqueous	07/17/2012 1142	07/20/2012
012	06588-MW-14	Aqueous	07/16/2012 1515	07/20/2012
013	06588-MW-15	Aqueous	07/16/2012 1535	07/20/2012
014	06588-MW-16	Aqueous	07/17/2012 1320	07/20/2012
015	06588-MW-17	Aqueous	07/17/2012 1125	07/20/2012
016	06588-MW-18	Aqueous	07/17/2012 1340	07/20/2012
017	06588-MW-20	Aqueous	07/17/2012 1420	07/20/2012
018	06588-MW-21	Aqueous	07/17/2012 1436	07/20/2012
019	06588-MW-21D	Aqueous	07/17/2012 1432	07/20/2012
020	06588-MW-22	Aqueous	07/17/2012 1350	07/20/2012
021	06588-MW-22 DUP	Aqueous	07/17/2012 1348	07/20/2012
022	06588-MW-22D	Aqueous	07/17/2012 1334	07/20/2012
023	06588-MW-24D	Aqueous	07/17/2012 0950	07/20/2012
024	06588-MW-26	Aqueous	07/16/2012 1600	07/20/2012
025	06588-MW-27	Aqueous	07/16/2012 1545	07/20/2012
026	06588-MW-28	Aqueous	07/17/2012 1440	07/20/2012
027	06588-MW-29	Aqueous	07/17/2012 1459	07/20/2012
028	06588-MW-30	Aqueous	07/17/2012 1522	07/20/2012
029	06588-MW-30D	Aqueous	07/18/2012 1059	07/20/2012
030	06588-MW-31	Aqueous	07/17/2012 1537	07/20/2012
031	06588-MW-32	Aqueous	07/17/2012 1545	07/20/2012
032	06588-MW-33	Aqueous	07/17/2012 1515	07/20/2012
033	06588-MW-33 DUP	Aqueous	07/17/2012 1517	07/20/2012
034	06588-MW-33D	Aqueous	07/18/2012 1020	07/20/2012
035	06588-MW-34	Aqueous	07/17/2012 1455	07/20/2012
036	06588-MW-35	Aqueous	07/17/2012 1555	07/20/2012
037	06588-MW-36	Aqueous	07/18/2012 1240	07/20/2012
038	06588-MW-37	Aqueous	07/18/2012 1210	07/20/2012
039	06588-MW-38	Aqueous	07/18/2012 1015	07/20/2012
040	06588-MW-39	Aqueous	07/18/2012 1030	07/20/2012
041	06588-MW-40	Aqueous	07/17/2012 0945	07/20/2012
042	06588-MW-40 DUP	Aqueous	07/17/2012 0947	07/20/2012
043	06588-MW-41D	Aqueous	07/18/2012 0917	07/20/2012
044	06588-MW-42	Aqueous	07/18/2012 1225	07/20/2012
045	06588-MW-42D	Aqueous	07/18/2012 1151	07/20/2012

Sample Summary (Continued)

Lot Number: NG21001

Sample Number	Sample ID	Matrix	Date Sampled	Date Received
046	06588-MW-43D	Aqueous	07/18/2012 1106	07/20/2012
047	DW-1	Aqueous	07/18/2012 1530	07/20/2012
048	DW-3	Aqueous	07/18/2012 1615	07/20/2012
049	DW-5	Aqueous	07/18/2012 1415	07/20/2012
050	DW-8	Aqueous	07/18/2012 1500	07/20/2012
051	DW-9	Aqueous	07/18/2012 1630	
052	SW-1	Aqueous	07/18/2012 1245	07/20/2012
053	FIELD BLANK 1	Aqueous	07/16/2012 1430	07/20/2012
054	FIELD BLANK 2	Aqueous	07/17/2012 0930	07/20/2012
055	FIELD BLANK 3	Aqueous	07/18/2012 0845	07/20/2012
056	TRIP BLANK	Aqueous	07/20/2012 1610	07/20/2012
057	CREEK	Aqueous	07/18/2012 1600	07/20/2012

(57 samples)

Executive Summary
Bunnell-Lammons Engineering, Inc.
Lot Number: NG21001

Sample	Sample ID	Matrix	Parameter	Method	Result	Q	Units	Page
001	06588-MW-1	Aqueous	Benzene	8260B	4600		ug/L	9
001	06588-MW-1	Aqueous	Ethylbenzene	8260B	1800		ug/L	9
001	06588-MW-1	Aqueous	Methyl tertiary butyl ether (MTBE)	8260B	110	J	ug/L	9
001	06588-MW-1	Aqueous	Naphthalene	8260B	550		ug/L	9
001	06588-MW-1	Aqueous	Toluene	8260B	2500		ug/L	9
001	06588-MW-1	Aqueous	Xylenes (total)	8260B	6800		ug/L	9
001	06588-MW-1	Aqueous	tert-Amyl alcohol (TAA)	8260B	2900		ug/L	9
001	06588-MW-1	Aqueous	1,2-Dibromoethane (EDB)	8011	3.9		ug/L	10
001	06588-MW-1	Aqueous	Lead	6010C	0.0077	J	mg/L	10
002	06588-MW-2	Aqueous	Benzene	8260B	25		ug/L	11
002	06588-MW-2	Aqueous	Ethylbenzene	8260B	160		ug/L	11
002	06588-MW-2	Aqueous	Naphthalene	8260B	83		ug/L	11
002	06588-MW-2	Aqueous	Toluene	8260B	23		ug/L	11
002	06588-MW-2	Aqueous	Xylenes (total)	8260B	910		ug/L	11
002	06588-MW-2	Aqueous	tert-Amyl alcohol (TAA)	8260B	87		ug/L	11
002	06588-MW-2	Aqueous	tert-butyl alcohol (TBA)	8260B	110		ug/L	11
002	06588-MW-2	Aqueous	Lead	6010C	0.0099	J	mg/L	12
003	06588-MW-3	Aqueous	Benzene	8260B	43		ug/L	13
003	06588-MW-3	Aqueous	Ethylbenzene	8260B	1.8	J	ug/L	13
003	06588-MW-3	Aqueous	Naphthalene	8260B	6.2		ug/L	13
003	06588-MW-3	Aqueous	Toluene	8260B	3.0	J	ug/L	13
003	06588-MW-3	Aqueous	Xylenes (total)	8260B	47		ug/L	13
003	06588-MW-3	Aqueous	tert-Amyl alcohol (TAA)	8260B	110		ug/L	13
003	06588-MW-3	Aqueous	tert-butyl alcohol (TBA)	8260B	120		ug/L	13
003	06588-MW-3	Aqueous	Lead	6010C	0.27		mg/L	14
005	06588-MW-7D	Aqueous	Benzene	8260B	7.6		ug/L	15
005	06588-MW-7D	Aqueous	Lead	6010C	0.010		mg/L	16
006	06588-MW-8D	Aqueous	Benzene	8260B	89		ug/L	17
006	06588-MW-8D	Aqueous	Methyl tertiary butyl ether (MTBE)	8260B	7.9		ug/L	17
006	06588-MW-8D	Aqueous	Naphthalene	8260B	22		ug/L	17
006	06588-MW-8D	Aqueous	Toluene	8260B	3.7	J	ug/L	17
006	06588-MW-8D	Aqueous	Xylenes (total)	8260B	190		ug/L	17
006	06588-MW-8D	Aqueous	tert-Amyl alcohol (TAA)	8260B	150		ug/L	17
006	06588-MW-8D	Aqueous	tert-Amyl methyl ether (TAME)	8260B	2.4	BJ	ug/L	17
006	06588-MW-8D	Aqueous	1,2-Dibromoethane (EDB)	8011	0.078		ug/L	18
006	06588-MW-8D	Aqueous	Lead	6010C	0.0062	J	mg/L	18
007	06588-MW-9	Aqueous	Lead	6010C	0.0098	J	mg/L	20
008	06588-MW-10	Aqueous	Xylenes (total)	8260B	7.0		ug/L	21
008	06588-MW-10	Aqueous	Lead	6010C	0.026		mg/L	22
009	06588-MW-11	Aqueous	Lead	6010C	0.0042	J	mg/L	24
010	06588-MW-12	Aqueous	Lead	6010C	0.045		mg/L	26
011	06588-MW-13	Aqueous	Lead	6010C	0.023		mg/L	28
012	06588-MW-14	Aqueous	Lead	6010C	0.046		mg/L	30
013	06588-MW-15	Aqueous	Lead	6010C	0.079		mg/L	32
014	06588-MW-16	Aqueous	Lead	6010C	0.059		mg/L	34

Executive Summary (Continued)

Lot Number: NG21001

Sample	Sample ID	Matrix	Parameter	Method	Result	Q	Units	Page
015	06588-MW-17	Aqueous	Lead	6010C	0.015		mg/L	36
016	06588-MW-18	Aqueous	Benzene	8260B	25	J	ug/L	37
016	06588-MW-18	Aqueous	Ethylbenzene	8260B	1600		ug/L	37
016	06588-MW-18	Aqueous	Naphthalene	8260B	710		ug/L	37
016	06588-MW-18	Aqueous	Toluene	8260B	22	J	ug/L	37
016	06588-MW-18	Aqueous	Xylenes (total)	8260B	2000		ug/L	37
016	06588-MW-18	Aqueous	Lead	6010C	0.019		mg/L	38
017	06588-MW-20	Aqueous	Lead	6010C	0.021		mg/L	40
018	06588-MW-21	Aqueous	Lead	6010C	0.0086	J	mg/L	42
019	06588-MW-21D	Aqueous	Lead	6010C	0.018		mg/L	44
020	06588-MW-22	Aqueous	Benzene	8260B	350		ug/L	45
020	06588-MW-22	Aqueous	Ethylbenzene	8260B	130		ug/L	45
020	06588-MW-22	Aqueous	Methyl tertiary butyl ether (MTBE)	8260B	84		ug/L	45
020	06588-MW-22	Aqueous	Naphthalene	8260B	130		ug/L	45
020	06588-MW-22	Aqueous	Toluene	8260B	380		ug/L	45
020	06588-MW-22	Aqueous	Xylenes (total)	8260B	1600		ug/L	45
020	06588-MW-22	Aqueous	Diisopropyl ether (IPE)	8260B	4.7	J	ug/L	45
020	06588-MW-22	Aqueous	tert-Amyl alcohol (TAA)	8260B	270		ug/L	45
020	06588-MW-22	Aqueous	tert-Amyl methyl ether (TAME)	8260B	36	J	ug/L	45
020	06588-MW-22	Aqueous	1,2-Dibromoethane (EDB)	8011	0.26	P	ug/L	46
020	06588-MW-22	Aqueous	Lead	6010C	0.016		mg/L	46
021	06588-MW-22 DUP	Aqueous	Benzene	8260B	360		ug/L	47
021	06588-MW-22 DUP	Aqueous	Ethylbenzene	8260B	140		ug/L	47
021	06588-MW-22 DUP	Aqueous	Methyl tertiary butyl ether (MTBE)	8260B	87		ug/L	47
021	06588-MW-22 DUP	Aqueous	Naphthalene	8260B	140		ug/L	47
021	06588-MW-22 DUP	Aqueous	Toluene	8260B	380		ug/L	47
021	06588-MW-22 DUP	Aqueous	Xylenes (total)	8260B	1600		ug/L	47
021	06588-MW-22 DUP	Aqueous	Diisopropyl ether (IPE)	8260B	4.5	J	ug/L	47
021	06588-MW-22 DUP	Aqueous	tert-Amyl alcohol (TAA)	8260B	290		ug/L	47
021	06588-MW-22 DUP	Aqueous	tert-Amyl methyl ether (TAME)	8260B	36	J	ug/L	47
021	06588-MW-22 DUP	Aqueous	1,2-Dibromoethane (EDB)	8011	0.26	P	ug/L	48
021	06588-MW-22 DUP	Aqueous	Lead	6010C	0.0069	J	mg/L	48
022	06588-MW-22D	Aqueous	Benzene	8260B	210		ug/L	49
022	06588-MW-22D	Aqueous	Methyl tertiary butyl ether (MTBE)	8260B	8.4		ug/L	49
022	06588-MW-22D	Aqueous	Naphthalene	8260B	17		ug/L	49
022	06588-MW-22D	Aqueous	tert-Amyl methyl ether (TAME)	8260B	7.2	J	ug/L	49
022	06588-MW-22D	Aqueous	Lead	6010C	0.012		mg/L	50
023	06588-MW-24D	Aqueous	Benzene	8260B	240		ug/L	51
023	06588-MW-24D	Aqueous	Methyl tertiary butyl ether (MTBE)	8260B	30		ug/L	51
023	06588-MW-24D	Aqueous	Naphthalene	8260B	30		ug/L	51
023	06588-MW-24D	Aqueous	Diisopropyl ether (IPE)	8260B	3.7	J	ug/L	51
023	06588-MW-24D	Aqueous	tert-Amyl alcohol (TAA)	8260B	120		ug/L	51
023	06588-MW-24D	Aqueous	tert-Amyl methyl ether (TAME)	8260B	0.86	J	ug/L	51
023	06588-MW-24D	Aqueous	tert-butyl alcohol (TBA)	8260B	41		ug/L	51
023	06588-MW-24D	Aqueous	Lead	6010C	0.0059	J	mg/L	52
024	06588-MW-26	Aqueous	tert-Amyl alcohol (TAA)	8260B	11	J	ug/L	53
025	06588-MW-27	Aqueous	Lead	6010C	0.0067	J	mg/L	56
026	06588-MW-28	Aqueous	Naphthalene	8260B	1.7	J	ug/L	57

Executive Summary (Continued)

Lot Number: NG21001

Sample	Sample ID	Matrix	Parameter	Method	Result	Q	Units	Page
026	06588-MW-28	Aqueous	Lead	6010C	0.0056	J	mg/L	58
027	06588-MW-29	Aqueous	Lead	6010C	0.010		mg/L	60
028	06588-MW-30	Aqueous	1,2-Dichloroethane	8260B	2.8	J	ug/L	61
028	06588-MW-30	Aqueous	Methyl tertiary butyl ether (MTBE)	8260B	88		ug/L	61
028	06588-MW-30	Aqueous	Diisopropyl ether (IPE)	8260B	13		ug/L	61
028	06588-MW-30	Aqueous	tert-Amyl alcohol (TAA)	8260B	66		ug/L	61
028	06588-MW-30	Aqueous	tert-Amyl methyl ether (TAME)	8260B	2.7	J	ug/L	61
028	06588-MW-30	Aqueous	tert-butyl alcohol (TBA)	8260B	79		ug/L	61
029	06588-MW-30D	Aqueous	Benzene	8260B	2.1	J	ug/L	63
029	06588-MW-30D	Aqueous	Methyl tertiary butyl ether (MTBE)	8260B	15		ug/L	63
029	06588-MW-30D	Aqueous	Diisopropyl ether (IPE)	8260B	2.3	J	ug/L	63
029	06588-MW-30D	Aqueous	tert-Amyl alcohol (TAA)	8260B	41		ug/L	63
029	06588-MW-30D	Aqueous	tert-butyl alcohol (TBA)	8260B	17	J	ug/L	63
029	06588-MW-30D	Aqueous	Lead	6010C	0.0062	J	mg/L	64
030	06588-MW-31	Aqueous	1,2-Dichloroethane	8260B	0.89	J	ug/L	65
030	06588-MW-31	Aqueous	Methyl tertiary butyl ether (MTBE)	8260B	100		ug/L	65
030	06588-MW-31	Aqueous	Diisopropyl ether (IPE)	8260B	9.0		ug/L	65
030	06588-MW-31	Aqueous	tert-Amyl alcohol (TAA)	8260B	240		ug/L	65
030	06588-MW-31	Aqueous	tert-Amyl methyl ether (TAME)	8260B	6.4	J	ug/L	65
030	06588-MW-31	Aqueous	tert-butyl alcohol (TBA)	8260B	130		ug/L	65
030	06588-MW-31	Aqueous	Lead	6010C	0.0084	J	mg/L	66
031	06588-MW-32	Aqueous	Methyl tertiary butyl ether (MTBE)	8260B	0.52	J	ug/L	67
031	06588-MW-32	Aqueous	Lead	6010C	0.11		mg/L	68
032	06588-MW-33	Aqueous	Methyl tertiary butyl ether (MTBE)	8260B	33		ug/L	69
032	06588-MW-33	Aqueous	Diisopropyl ether (IPE)	8260B	1.8	J	ug/L	69
032	06588-MW-33	Aqueous	Lead	6010C	0.030		mg/L	70
033	06588-MW-33 DUP	Aqueous	Methyl tertiary butyl ether (MTBE)	8260B	35		ug/L	71
033	06588-MW-33 DUP	Aqueous	Diisopropyl ether (IPE)	8260B	2.0	J	ug/L	71
033	06588-MW-33 DUP	Aqueous	tert-Amyl methyl ether (TAME)	8260B	0.25	J	ug/L	71
033	06588-MW-33 DUP	Aqueous	Lead	6010C	0.038		mg/L	72
034	06588-MW-33D	Aqueous	Benzene	8260B	18	J	ug/L	73
034	06588-MW-33D	Aqueous	1,2-Dichloroethane	8260B	39	J	ug/L	73
034	06588-MW-33D	Aqueous	Methyl tertiary butyl ether (MTBE)	8260B	2800		ug/L	73
034	06588-MW-33D	Aqueous	Diisopropyl ether (IPE)	8260B	110		ug/L	73
034	06588-MW-33D	Aqueous	tert-Amyl alcohol (TAA)	8260B	5200		ug/L	73
034	06588-MW-33D	Aqueous	tert-Amyl methyl ether (TAME)	8260B	270		ug/L	73
034	06588-MW-33D	Aqueous	tert-butyl alcohol (TBA)	8260B	1700		ug/L	73
034	06588-MW-33D	Aqueous	Lead	6010C	0.0078	J	mg/L	74
035	06588-MW-34	Aqueous	Lead	6010C	0.027		mg/L	76
036	06588-MW-35	Aqueous	Toluene	8260B	270		ug/L	77
036	06588-MW-35	Aqueous	Lead	6010C	0.0032	J	mg/L	78
038	06588-MW-37	Aqueous	Lead	6010C	0.0061	J	mg/L	82
039	06588-MW-38	Aqueous	Lead	6010C	0.0093	J	mg/L	84
040	06588-MW-39	Aqueous	Lead	6010C	0.0039	J	mg/L	86
041	06588-MW-40	Aqueous	Benzene	8260B	830		ug/L	87
041	06588-MW-40	Aqueous	Ethylbenzene	8260B	48		ug/L	87
041	06588-MW-40	Aqueous	Methyl tertiary butyl ether (MTBE)	8260B	150		ug/L	87
041	06588-MW-40	Aqueous	Naphthalene	8260B	96		ug/L	87

Executive Summary (Continued)

Lot Number: NG21001

Sample	Sample ID	Matrix	Parameter	Method	Result	Q	Units	Page
041	06588-MW-40	Aqueous	Toluene	8260B	30		ug/L	87
041	06588-MW-40	Aqueous	Xylenes (total)	8260B	310		ug/L	87
041	06588-MW-40	Aqueous	Diisopropyl ether (IPE)	8260B	5.9	J	ug/L	87
041	06588-MW-40	Aqueous	tert-Amyl alcohol (TAA)	8260B	740		ug/L	87
041	06588-MW-40	Aqueous	tert-Amyl methyl ether (TAME)	8260B	50		ug/L	87
041	06588-MW-40	Aqueous	1,2-Dibromoethane (EDB)	8011	0.15		ug/L	88
042	06588-MW-40 DUP	Aqueous	Benzene	8260B	790		ug/L	89
042	06588-MW-40 DUP	Aqueous	Ethylbenzene	8260B	46		ug/L	89
042	06588-MW-40 DUP	Aqueous	Methyl tertiary butyl ether (MTBE)	8260B	140		ug/L	89
042	06588-MW-40 DUP	Aqueous	Naphthalene	8260B	88		ug/L	89
042	06588-MW-40 DUP	Aqueous	Toluene	8260B	29		ug/L	89
042	06588-MW-40 DUP	Aqueous	Xylenes (total)	8260B	310		ug/L	89
042	06588-MW-40 DUP	Aqueous	Diisopropyl ether (IPE)	8260B	6.1	J	ug/L	89
042	06588-MW-40 DUP	Aqueous	tert-Amyl alcohol (TAA)	8260B	670		ug/L	89
042	06588-MW-40 DUP	Aqueous	tert-Amyl methyl ether (TAME)	8260B	48	J	ug/L	89
042	06588-MW-40 DUP	Aqueous	tert-butyl alcohol (TBA)	8260B	39	J	ug/L	89
042	06588-MW-40 DUP	Aqueous	1,2-Dibromoethane (EDB)	8011	0.18		ug/L	90
043	06588-MW-41D	Aqueous	Benzene	8260B	3600		ug/L	91
043	06588-MW-41D	Aqueous	1,2-Dichloroethane	8260B	190		ug/L	91
043	06588-MW-41D	Aqueous	Ethylbenzene	8260B	140		ug/L	91
043	06588-MW-41D	Aqueous	Methyl tertiary butyl ether (MTBE)	8260B	1800		ug/L	91
043	06588-MW-41D	Aqueous	Diisopropyl ether (IPE)	8260B	230		ug/L	91
043	06588-MW-41D	Aqueous	tert-Amyl alcohol (TAA)	8260B	7400		ug/L	91
043	06588-MW-41D	Aqueous	tert-Amyl methyl ether (TAME)	8260B	62	J	ug/L	91
043	06588-MW-41D	Aqueous	tert-butyl alcohol (TBA)	8260B	3600		ug/L	91
043	06588-MW-41D	Aqueous	Lead	6010C	0.0033	J	mg/L	92
044	06588-MW-42	Aqueous	Lead	6010C	0.0048	J	mg/L	94
045	06588-MW-42D	Aqueous	Benzene	8260B	1.4	J	ug/L	95
045	06588-MW-42D	Aqueous	Lead	6010C	0.017		mg/L	96
046	06588-MW-43D	Aqueous	Methyl tertiary butyl ether (MTBE)	8260B	9.0		ug/L	97
046	06588-MW-43D	Aqueous	Lead	6010C	0.011		mg/L	98

(172 detections)

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **06588-MW-1**
Date Sampled: **07/17/2012 1010**
Date Received: **07/20/2012**

Laboratory ID: **NG21001-001**
Matrix: **Aqueous**

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	50	07/28/2012 2113	DD		90179

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Benzene	**71-43-2**	**8260B**	**4600**		**250**	**10**	**ug/L**	**1**
1,2-Dichloroethane	107-06-2	8260B	ND		250	15	ug/L	1
Ethylbenzene	**100-41-4**	**8260B**	**1800**		**250**	**85**	**ug/L**	**1**
Methyl tertiary butyl ether (MTBE)	**1634-04-4**	**8260B**	**110**	**J**	**250**	**20**	**ug/L**	**1**
Naphthalene	**91-20-3**	**8260B**	**550**		**250**	**85**	**ug/L**	**1**
Toluene	**108-88-3**	**8260B**	**2500**		**250**	**85**	**ug/L**	**1**
Xylenes (total)	**1330-20-7**	**8260B**	**6800**		**250**	**85**	**ug/L**	**1**

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		98	70-130
Bromofluorobenzene		101	70-130
Toluene-d8		97	70-130

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	50	07/28/2012 2113	DD		90179

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Diisopropyl ether (IPE)	108-20-3	8260B	ND		250	20	ug/L	1
Ethanol	64-17-5	8260B	ND		5000	1700	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		1000	50	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		50	10	ug/L	1
tert-Amyl alcohol (TAA)	**75-85-4**	**8260B**	**2900**		**1000**	**340**	**ug/L**	**1**
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		500	10	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		1000	340	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260B	ND		250	50	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
Bromofluorobenzene		101	70-130
1,2-Dichloroethane-d4		98	70-130
Toluene-d8		97	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
2	8011	8011	5	07/24/2012 1138	AMB	07/23/2012 1100	89713

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
H = Out of holding time
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
* = Reportable result (only when report all runs)

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **06588-MW-1**
Date Sampled: **07/17/2012 1010**
Date Received: **07/20/2012**

Laboratory ID: **NG21001-001**
Matrix: **Aqueous**

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
2	8011	8011	5	07/24/2012 1138	AMB	07/23/2012 1100	89713

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,2-Dibromoethane (EDB)	**106-93-4**	**8011**	**3.9**		**0.099**	**0.031**	**ug/L**	**2**

Surrogate	Q	Run 2 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		107	57-137

ICP-AES

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	3005A	6010C	1	07/24/2012 0112	CDF	07/23/2012 1401	89666

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Lead	**7439-92-1**	**6010C**	**0.0077**	**J**	**0.010**	**0.0019**	**mg/L**	**1**

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
H = Out of holding time
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
* = Reportable result (only when report all runs)

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **06588-MW-2**
Date Sampled: **07/17/2012 1055**
Date Received: **07/20/2012**

Laboratory ID: **NG21001-002**
Matrix: **Aqueous**

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	07/28/2012 2200	DD		90179
2	5030B	8260B	5	07/30/2012 1246	AAC		90236

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Benzene	**71-43-2**	**8260B**	**25**		**5.0**	**0.20**	**ug/L**	**1**
1,2-Dichloroethane	107-06-2	8260B	ND		5.0	0.30	ug/L	1
Ethylbenzene	**100-41-4**	**8260B**	**160**		**5.0**	**1.7**	**ug/L**	**1**
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		5.0	0.40	ug/L	1
Naphthalene	**91-20-3**	**8260B**	**83**		**5.0**	**1.7**	**ug/L**	**1**
Toluene	**108-88-3**	**8260B**	**23**		**5.0**	**1.7**	**ug/L**	**1**
Xylenes (total)	**1330-20-7**	**8260B**	**910**		**25**	**8.5**	**ug/L**	**2**

Surrogate	Q	Run 1 % Recovery	Acceptance Limits	Q	Run 2 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		87	70-130		104	70-130
Bromofluorobenzene		95	70-130		100	70-130
Toluene-d8		101	70-130		97	70-130

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	07/28/2012 2200	DD		90179

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Diisopropyl ether (IPE)	108-20-3	8260B	ND		5.0	0.40	ug/L	1
Ethanol	64-17-5	8260B	ND		100	33	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		20	1.0	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		1.0	0.20	ug/L	1
tert-Amyl alcohol (TAA)	**75-85-4**	**8260B**	**87**		**20**	**6.7**	**ug/L**	**1**
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		10	0.20	ug/L	1
tert-butyl alcohol (TBA)	**75-65-0**	**8260B**	**110**		**20**	**6.7**	**ug/L**	**1**
tert-Butyl formate (TBF)	762-75-4	8260B	ND		5.0	1.0	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
Bromofluorobenzene		95	70-130
1,2-Dichloroethane-d4		87	70-130
Toluene-d8		101	70-130

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
H = Out of holding time
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
* = Reportable result (only when report all runs)

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **06588-MW-2**
Date Sampled: **07/17/2012 1055**
Date Received: **07/20/2012**

Laboratory ID: **NG21001-002**
Matrix: **Aqueous**

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	07/24/2012 0650	AMB	07/23/2012 1100	89713

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0.019	0.0060	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		131	57-137

ICP-AES

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	3005A	6010C	1	07/24/2012 0116	CDF	07/23/2012 1401	89666

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Lead	**7439-92-1**	**6010C**	**0.0099**	**J**	**0.010**	**0.0019**	**mg/L**	**1**

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
H = Out of holding time
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
* = Reportable result (only when report all runs)

Client: **Bunnell-Lammons Engineering, Inc.** Laboratory ID: **NG21001-003**
Description: **06588-MW-3** Matrix: **Aqueous**
Date Sampled: **07/17/2012 1035**
Date Received: **07/20/2012**

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	07/28/2012 2136	DD		90179

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Benzene	**71-43-2**	**8260B**	**43**		**5.0**	**0.20**	**ug/L**	**1**
1,2-Dichloroethane	107-06-2	8260B	ND		5.0	0.30	ug/L	1
Ethylbenzene	**100-41-4**	**8260B**	**1.8**	**J**	**5.0**	**1.7**	**ug/L**	**1**
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		5.0	0.40	ug/L	1
Naphthalene	**91-20-3**	**8260B**	**6.2**		**5.0**	**1.7**	**ug/L**	**1**
Toluene	**108-88-3**	**8260B**	**3.0**	**J**	**5.0**	**1.7**	**ug/L**	**1**
Xylenes (total)	**1330-20-7**	**8260B**	**47**		**5.0**	**1.7**	**ug/L**	**1**

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		95	70-130
Bromofluorobenzene		103	70-130
Toluene-d8		98	70-130

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	07/28/2012 2136	DD		90179

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Diisopropyl ether (IPE)	108-20-3	8260B	ND		5.0	0.40	ug/L	1
Ethanol	64-17-5	8260B	ND		100	33	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		20	1.0	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		1.0	0.20	ug/L	1
tert-Amyl alcohol (TAA)	**75-85-4**	**8260B**	**110**		**20**	**6.7**	**ug/L**	**1**
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		10	0.20	ug/L	1
tert-butyl alcohol (TBA)	**75-65-0**	**8260B**	**120**		**20**	**6.7**	**ug/L**	**1**
tert-Butyl formate (TBF)	762-75-4	8260B	ND		5.0	1.0	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
Bromofluorobenzene		103	70-130
1,2-Dichloroethane-d4		95	70-130
Toluene-d8		98	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	07/24/2012 0711	AMB	07/23/2012 1100	89713

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
H = Out of holding time
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
* = Reportable result (only when report all runs)

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **06588-MW-3**
Date Sampled: **07/17/2012 1035**
Date Received: **07/20/2012**

Laboratory ID: **NG21001-003**
Matrix: **Aqueous**

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	07/24/2012 0711	AMB	07/23/2012 1100	89713

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0.021	0.0066	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		97	57-137

ICP-AES

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	3005A	6010C	1	07/24/2012 0120	CDF	07/23/2012 1401	89666

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Lead	**7439-92-1**	**6010C**	**0.27**		**0.010**	**0.0019**	**mg/L**	**1**

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
H = Out of holding time
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
* = Reportable result (only when report all runs)

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **06588-MW-7D**
Date Sampled: **07/17/2012 1128**
Date Received: **07/20/2012**

Laboratory ID: **NG21001-005**
Matrix: **Aqueous**

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	07/29/2012 1520	AAC		90189

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Benzene	**71-43-2**	**8260B**	**7.6**		**5.0**	**0.20**	**ug/L**	**1**
1,2-Dichloroethane	107-06-2	8260B	ND		5.0	0.30	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		5.0	1.7	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		5.0	0.40	ug/L	1
Naphthalene	91-20-3	8260B	ND		5.0	1.7	ug/L	1
Toluene	108-88-3	8260B	ND		5.0	1.7	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		5.0	1.7	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		113	70-130
Bromofluorobenzene		94	70-130
Toluene-d8		99	70-130

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	07/29/2012 1520	AAC		90189

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Diisopropyl ether (IPE)	108-20-3	8260B	ND		5.0	0.40	ug/L	1
Ethanol	64-17-5	8260B	ND		100	33	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		20	1.0	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		1.0	0.20	ug/L	1
tert-Amyl alcohol (TAA)	75-85-4	8260B	ND		20	6.7	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		10	0.20	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		20	6.7	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260B	ND		5.0	1.0	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
Bromofluorobenzene		94	70-130
1,2-Dichloroethane-d4		113	70-130
Toluene-d8		99	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	07/24/2012 0753	AMB	07/23/2012 1100	89713

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
H = Out of holding time
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
* = Reportable result (only when report all runs)

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **06588-MW-7D**
Date Sampled: **07/17/2012 1128**
Date Received: **07/20/2012**

Laboratory ID: **NG21001-005**
Matrix: **Aqueous**

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	07/24/2012 0753	AMB	07/23/2012 1100	89713

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0.019	0.0060	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		107	57-137

ICP-AES

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	3005A	6010C	1	07/24/2012 0142	CDF	07/23/2012 1401	89666

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Lead	**7439-92-1**	**6010C**	**0.010**		**0.010**	**0.0019**	**mg/L**	**1**

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
H = Out of holding time
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
* = Reportable result (only when report all runs)

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **06588-MW-8D**
Date Sampled: **07/17/2012 1020**
Date Received: **07/20/2012**

Laboratory ID: **NG21001-006**
Matrix: **Aqueous**

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	07/29/2012 1545	AAC		90189

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Benzene	**71-43-2**	**8260B**	**89**		**5.0**	**0.20**	**ug/L**	**1**
1,2-Dichloroethane	107-06-2	8260B	ND		5.0	0.30	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		5.0	1.7	ug/L	1
Methyl tertiary butyl ether (MTBE)	**1634-04-4**	**8260B**	**7.9**		**5.0**	**0.40**	**ug/L**	**1**
Naphthalene	**91-20-3**	**8260B**	**22**		**5.0**	**1.7**	**ug/L**	**1**
Toluene	**108-88-3**	**8260B**	**3.7**	**J**	**5.0**	**1.7**	**ug/L**	**1**
Xylenes (total)	**1330-20-7**	**8260B**	**190**		**5.0**	**1.7**	**ug/L**	**1**

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		116	70-130
Bromofluorobenzene		98	70-130
Toluene-d8		101	70-130

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	07/29/2012 1545	AAC		90189
2	5030B	8260B	1	07/31/2012 0003	DD		90265

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Diisopropyl ether (IPE)	108-20-3	8260B	ND		5.0	0.40	ug/L	1
Ethanol	64-17-5	8260B	ND		100	33	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		20	1.0	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		1.0	0.20	ug/L	1
tert-Amyl alcohol (TAA)	**75-85-4**	**8260B**	**150**		**20**	**6.7**	**ug/L**	**2**
tert-Amyl methyl ether (TAME)	**994-05-8**	**8260B**	**2.4**	**BJ**	**10**	**0.20**	**ug/L**	**1**
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		20	6.7	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260B	ND		5.0	1.0	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits	Q	Run 2 % Recovery	Acceptance Limits
Bromofluorobenzene		98	70-130		100	70-130
1,2-Dichloroethane-d4		116	70-130		113	70-130
Toluene-d8		101	70-130		96	70-130

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
H = Out of holding time
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
* = Reportable result (only when report all runs)

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **06588-MW-8D**
Date Sampled: **07/17/2012 1020**
Date Received: **07/20/2012**

Laboratory ID: **NG21001-006**
Matrix: **Aqueous**

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	07/24/2012 0815	AMB	07/23/2012 1100	89713

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,2-Dibromoethane (EDB)	**106-93-4**	**8011**	**0.078**		**0.019**	**0.0060**	**ug/L**	**1**

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		104	57-137

ICP-AES

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	3005A	6010C	1	07/24/2012 0146	CDF	07/23/2012 1401	89666

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Lead	**7439-92-1**	**6010C**	**0.0062**	**J**	**0.010**	**0.0019**	**mg/L**	**1**

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
H = Out of holding time
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
* = Reportable result (only when report all runs)

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **06588-MW-9**
Date Sampled: **07/16/2012 1615**
Date Received: **07/20/2012**

Laboratory ID: **NG21001-007**
Matrix: **Aqueous**

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	07/28/2012 1513	DD		90178

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Benzene	71-43-2	8260B	ND		5.0	0.20	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		5.0	0.30	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		5.0	1.7	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		5.0	0.40	ug/L	1
Naphthalene	91-20-3	8260B	ND		5.0	1.7	ug/L	1
Toluene	108-88-3	8260B	ND		5.0	1.7	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		5.0	1.7	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		107	70-130
Bromofluorobenzene		97	70-130
Toluene-d8		100	70-130

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	07/28/2012 1513	DD		90178

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Diisopropyl ether (IPE)	108-20-3	8260B	ND		5.0	0.40	ug/L	1
Ethanol	64-17-5	8260B	ND		100	33	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		20	1.0	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		1.0	0.20	ug/L	1
tert-Amyl alcohol (TAA)	75-85-4	8260B	ND		20	6.7	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		10	0.20	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		20	6.7	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260B	ND		5.0	1.0	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
Bromofluorobenzene		97	70-130
1,2-Dichloroethane-d4		107	70-130
Toluene-d8		100	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	07/24/2012 0836	AMB	07/23/2012 1100	89713

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
H = Out of holding time
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
* = Reportable result (only when report all runs)

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **06588-MW-9**
Date Sampled: **07/16/2012 1615**
Date Received: **07/20/2012**

Laboratory ID: **NG21001-007**
Matrix: **Aqueous**

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	07/24/2012 0836	AMB	07/23/2012 1100	89713

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0.019	0.0059	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		95	57-137

ICP-AES

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	3005A	6010C	1	07/24/2012 0150	CDF	07/23/2012 1401	89666

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Lead	**7439-92-1**	**6010C**	**0.0098**	**J**	**0.010**	**0.0019**	**mg/L**	**1**

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
H = Out of holding time
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
* = Reportable result (only when report all runs)

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **06588-MW-10**
Date Sampled: **07/16/2012 1630**
Date Received: **07/20/2012**

Laboratory ID: **NG21001-008**
Matrix: **Aqueous**

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	07/28/2012 1538	DD		90178

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Benzene	71-43-2	8260B	ND		5.0	0.20	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		5.0	0.30	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		5.0	1.7	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		5.0	0.40	ug/L	1
Naphthalene	91-20-3	8260B	ND		5.0	1.7	ug/L	1
Toluene	108-88-3	8260B	ND		5.0	1.7	ug/L	1
Xylenes (total)	**1330-20-7**	**8260B**	**7.0**		**5.0**	**1.7**	**ug/L**	**1**

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		107	70-130
Bromofluorobenzene		94	70-130
Toluene-d8		100	70-130

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	07/28/2012 1538	DD		90178

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Diisopropyl ether (IPE)	108-20-3	8260B	ND		5.0	0.40	ug/L	1
Ethanol	64-17-5	8260B	ND		100	33	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		20	1.0	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		1.0	0.20	ug/L	1
tert-Amyl alcohol (TAA)	75-85-4	8260B	ND		20	6.7	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		10	0.20	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		20	6.7	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260B	ND		5.0	1.0	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
Bromofluorobenzene		94	70-130
1,2-Dichloroethane-d4		107	70-130
Toluene-d8		100	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	07/24/2012 0858	AMB	07/23/2012 1100	89713

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
H = Out of holding time
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
* = Reportable result (only when report all runs)

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **06588-MW-10**
Date Sampled: **07/16/2012 1630**
Date Received: **07/20/2012**

Laboratory ID: **NG21001-008**
Matrix: **Aqueous**

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	07/24/2012 0858	AMB	07/23/2012 1100	89713

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0.019	0.0060	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		95	57-137

ICP-AES

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	3005A	6010C	1	07/24/2012 0154	CDF	07/23/2012 1401	89666

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Lead	**7439-92-1**	**6010C**	**0.026**		**0.010**	**0.0019**	**mg/L**	**1**

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
* = Reportable result (only when report all runs)
H = Out of holding time
N = Recovery is out of criteria

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **06588-MW-11**
Date Sampled: **07/16/2012 1645**
Date Received: **07/20/2012**

Laboratory ID: **NG21001-009**
Matrix: **Aqueous**

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	07/28/2012 1602	DD		90178

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Benzene	71-43-2	8260B	ND		5.0	0.20	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		5.0	0.30	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		5.0	1.7	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		5.0	0.40	ug/L	1
Naphthalene	91-20-3	8260B	ND		5.0	1.7	ug/L	1
Toluene	108-88-3	8260B	ND		5.0	1.7	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		5.0	1.7	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		106	70-130
Bromofluorobenzene		97	70-130
Toluene-d8		95	70-130

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	07/28/2012 1602	DD		90178

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Diisopropyl ether (IPE)	108-20-3	8260B	ND		5.0	0.40	ug/L	1
Ethanol	64-17-5	8260B	ND		100	33	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		20	1.0	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		1.0	0.20	ug/L	1
tert-Amyl alcohol (TAA)	75-85-4	8260B	ND		20	6.7	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		10	0.20	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		20	6.7	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260B	ND		5.0	1.0	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
Bromofluorobenzene		97	70-130
1,2-Dichloroethane-d4		106	70-130
Toluene-d8		95	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	07/24/2012 0919	AMB	07/23/2012 1100	89713

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
H = Out of holding time
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
* = Reportable result (only when report all runs)

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **06588-MW-11**
Date Sampled: **07/16/2012 1645**
Date Received: **07/20/2012**

Laboratory ID: **NG21001-009**
Matrix: **Aqueous**

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	07/24/2012 0919	AMB	07/23/2012 1100	89713

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0.019	0.0060	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		95	57-137

ICP-AES

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	3005A	6010C	1	07/24/2012 0158	CDF	07/23/2012 1401	89666

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Lead	**7439-92-1**	**6010C**	**0.0042**	**J**	**0.010**	**0.0019**	**mg/L**	**1**

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
H = Out of holding time
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
* = Reportable result (only when report all runs)

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **06588-MW-12**
Date Sampled: **07/17/2012 1110**
Date Received: **07/20/2012**

Laboratory ID: **NG21001-010**
Matrix: **Aqueous**

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	07/29/2012 1354	AAC		90190

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Benzene	71-43-2	8260B	ND		5.0	0.20	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		5.0	0.30	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		5.0	1.7	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		5.0	0.40	ug/L	1
Naphthalene	91-20-3	8260B	ND		5.0	1.7	ug/L	1
Toluene	108-88-3	8260B	ND		5.0	1.7	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		5.0	1.7	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		114	70-130
Bromofluorobenzene		98	70-130
Toluene-d8		96	70-130

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	07/29/2012 1354	AAC		90190

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Diisopropyl ether (IPE)	108-20-3	8260B	ND		5.0	0.40	ug/L	1
Ethanol	64-17-5	8260B	ND		100	33	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		20	1.0	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		1.0	0.20	ug/L	1
tert-Amyl alcohol (TAA)	75-85-4	8260B	ND		20	6.7	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		10	0.20	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		20	6.7	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260B	ND		5.0	1.0	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
Bromofluorobenzene		98	70-130
1,2-Dichloroethane-d4		114	70-130
Toluene-d8		96	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	07/24/2012 0940	AMB	07/23/2012 1100	89713

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
H = Out of holding time
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
* = Reportable result (only when report all runs)

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **06588-MW-12**
Date Sampled: **07/17/2012 1110**
Date Received: **07/20/2012**

Laboratory ID: **NG21001-010**
Matrix: **Aqueous**

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	07/24/2012 0940	AMB	07/23/2012 1100	89713

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0.020	0.0061	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		98	57-137

ICP-AES

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	3005A	6010C	1	07/24/2012 0201	CDF	07/23/2012 1401	89666

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Lead	**7439-92-1**	**6010C**	**0.045**		**0.010**	**0.0019**	**mg/L**	**1**

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
H = Out of holding time
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
* = Reportable result (only when report all runs)

Client: **Bunnell-Lammons Engineering, Inc.** Laboratory ID: **NG21001-011**
Description: **06588-MW-13** Matrix: **Aqueous**
Date Sampled: **07/17/2012 1142**
Date Received: **07/20/2012**

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	07/29/2012 1418	AAC		90190

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Benzene	71-43-2	8260B	ND		5.0	0.20	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		5.0	0.30	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		5.0	1.7	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		5.0	0.40	ug/L	1
Naphthalene	91-20-3	8260B	ND		5.0	1.7	ug/L	1
Toluene	108-88-3	8260B	ND		5.0	1.7	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		5.0	1.7	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		110	70-130
Bromofluorobenzene		94	70-130
Toluene-d8		102	70-130

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	07/29/2012 1418	AAC		90190

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Diisopropyl ether (IPE)	108-20-3	8260B	ND		5.0	0.40	ug/L	1
Ethanol	64-17-5	8260B	ND		100	33	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		20	1.0	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		1.0	0.20	ug/L	1
tert-Amyl alcohol (TAA)	75-85-4	8260B	ND		20	6.7	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		10	0.20	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		20	6.7	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260B	ND		5.0	1.0	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
Bromofluorobenzene		94	70-130
1,2-Dichloroethane-d4		110	70-130
Toluene-d8		102	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	07/24/2012 1002	AMB	07/23/2012 1100	89713

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
H = Out of holding time
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
* = Reportable result (only when report all runs)

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **06588-MW-13**
Date Sampled: **07/17/2012 1142**
Date Received: **07/20/2012**

Laboratory ID: **NG21001-011**
Matrix: **Aqueous**

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	07/24/2012 1002	AMB	07/23/2012 1100	89713

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0.020	0.0061	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		100	57-137

ICP-AES

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	3005A	6010C	1	07/24/2012 0205	CDF	07/23/2012 1401	89666

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Lead	**7439-92-1**	**6010C**	**0.023**		**0.010**	**0.0019**	**mg/L**	**1**

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
H = Out of holding time
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
* = Reportable result (only when report all runs)

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **06588-MW-14**
Date Sampled: **07/16/2012 1515**
Date Received: **07/20/2012**

Laboratory ID: **NG21001-012**
Matrix: **Aqueous**

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	07/28/2012 1626	DD		90178

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Benzene	71-43-2	8260B	ND		5.0	0.20	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		5.0	0.30	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		5.0	1.7	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		5.0	0.40	ug/L	1
Naphthalene	91-20-3	8260B	ND		5.0	1.7	ug/L	1
Toluene	108-88-3	8260B	ND		5.0	1.7	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		5.0	1.7	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		106	70-130
Bromofluorobenzene		96	70-130
Toluene-d8		100	70-130

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	07/28/2012 1626	DD		90178

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Diisopropyl ether (IPE)	108-20-3	8260B	ND		5.0	0.40	ug/L	1
Ethanol	64-17-5	8260B	ND		100	33	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		20	1.0	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		1.0	0.20	ug/L	1
tert-Amyl alcohol (TAA)	75-85-4	8260B	ND		20	6.7	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		10	0.20	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		20	6.7	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260B	ND		5.0	1.0	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
Bromofluorobenzene		96	70-130
1,2-Dichloroethane-d4		106	70-130
Toluene-d8		100	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	07/26/2012 1639	AMB	07/25/2012 2030	89952

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
* = Reportable result (only when report all runs)
H = Out of holding time
N = Recovery is out of criteria

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **06588-MW-14**
Date Sampled: **07/16/2012 1515**
Date Received: **07/20/2012**

Laboratory ID: **NG21001-012**
Matrix: **Aqueous**

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	07/26/2012 1639	AMB	07/25/2012 2030	89952

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0.019	0.0060	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		91	57-137

ICP-AES

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	3005A	6010C	1	07/24/2012 0209	CDF	07/23/2012 1401	89666

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Lead	**7439-92-1**	**6010C**	**0.046**		**0.010**	**0.0019**	**mg/L**	**1**

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
* = Reportable result (only when report all runs)
H = Out of holding time
N = Recovery is out of criteria

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **06588-MW-15**
Date Sampled: **07/16/2012 1535**
Date Received: **07/20/2012**

Laboratory ID: **NG21001-013**
Matrix: **Aqueous**

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	07/28/2012 1650	DD		90178

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Benzene	71-43-2	8260B	ND		5.0	0.20	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		5.0	0.30	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		5.0	1.7	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		5.0	0.40	ug/L	1
Naphthalene	91-20-3	8260B	ND		5.0	1.7	ug/L	1
Toluene	108-88-3	8260B	ND		5.0	1.7	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		5.0	1.7	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		107	70-130
Bromofluorobenzene		94	70-130
Toluene-d8		101	70-130

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	07/28/2012 1650	DD		90178

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Diisopropyl ether (IPE)	108-20-3	8260B	ND		5.0	0.40	ug/L	1
Ethanol	64-17-5	8260B	ND		100	33	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		20	1.0	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		1.0	0.20	ug/L	1
tert-Amyl alcohol (TAA)	75-85-4	8260B	ND		20	6.7	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		10	0.20	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		20	6.7	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260B	ND		5.0	1.0	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
Bromofluorobenzene		94	70-130
1,2-Dichloroethane-d4		107	70-130
Toluene-d8		101	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	07/26/2012 1700	AMB	07/25/2012 2030	89952

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
H = Out of holding time
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
* = Reportable result (only when report all runs)

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **06588-MW-15**
Date Sampled: **07/16/2012 1535**
Date Received: **07/20/2012**

Laboratory ID: **NG21001-013**
Matrix: **Aqueous**

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	07/26/2012 1700	AMB	07/25/2012 2030	89952

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0.019	0.0060	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		84	57-137

ICP-AES

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	3005A	6010C	1	07/24/2012 0213	CDF	07/23/2012 1401	89666

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Lead	**7439-92-1**	**6010C**	**0.079**		**0.010**	**0.0019**	**mg/L**	**1**

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
* = Reportable result (only when report all runs)
H = Out of holding time
N = Recovery is out of criteria

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **06588-MW-16**
Date Sampled: **07/17/2012 1320**
Date Received: **07/20/2012**

Laboratory ID: **NG21001-014**
Matrix: **Aqueous**

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	07/29/2012 1442	AAC		90190

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Benzene	71-43-2	8260B	ND		5.0	0.20	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		5.0	0.30	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		5.0	1.7	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		5.0	0.40	ug/L	1
Naphthalene	91-20-3	8260B	ND		5.0	1.7	ug/L	1
Toluene	108-88-3	8260B	ND		5.0	1.7	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		5.0	1.7	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		111	70-130
Bromofluorobenzene		95	70-130
Toluene-d8		101	70-130

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	07/29/2012 1442	AAC		90190

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Diisopropyl ether (IPE)	108-20-3	8260B	ND		5.0	0.40	ug/L	1
Ethanol	64-17-5	8260B	ND		100	33	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		20	1.0	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		1.0	0.20	ug/L	1
tert-Amyl alcohol (TAA)	75-85-4	8260B	ND		20	6.7	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		10	0.20	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		20	6.7	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260B	ND		5.0	1.0	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
Bromofluorobenzene		95	70-130
1,2-Dichloroethane-d4		111	70-130
Toluene-d8		101	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	07/26/2012 1722	AMB	07/25/2012 2030	89952

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
* = Reportable result (only when report all runs)
H = Out of holding time
N = Recovery is out of criteria

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **06588-MW-16**
Date Sampled: **07/17/2012 1320**
Date Received: **07/20/2012**

Laboratory ID: **NG21001-014**
Matrix: **Aqueous**

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	07/26/2012 1722	AMB	07/25/2012 2030	89952

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0.020	0.0061	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		85	57-137

ICP-AES

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	3005A	6010C	1	07/24/2012 0217	CDF	07/23/2012 1401	89666

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Lead	**7439-92-1**	**6010C**	**0.059**		**0.010**	**0.0019**	**mg/L**	**1**

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
* = Reportable result (only when report all runs)
H = Out of holding time
N = Recovery is out of criteria

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **06588-MW-17**
Date Sampled: **07/17/2012 1125**
Date Received: **07/20/2012**

Laboratory ID: **NG21001-015**
Matrix: **Aqueous**

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	07/29/2012 1507	AAC		90190

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Benzene	71-43-2	8260B	ND		5.0	0.20	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		5.0	0.30	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		5.0	1.7	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		5.0	0.40	ug/L	1
Naphthalene	91-20-3	8260B	ND		5.0	1.7	ug/L	1
Toluene	108-88-3	8260B	ND		5.0	1.7	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		5.0	1.7	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		113	70-130
Bromofluorobenzene		98	70-130
Toluene-d8		105	70-130

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	07/29/2012 1507	AAC		90190

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Diisopropyl ether (IPE)	108-20-3	8260B	ND		5.0	0.40	ug/L	1
Ethanol	64-17-5	8260B	ND		100	33	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		20	1.0	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		1.0	0.20	ug/L	1
tert-Amyl alcohol (TAA)	75-85-4	8260B	ND		20	6.7	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		10	0.20	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		20	6.7	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260B	ND		5.0	1.0	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
Bromofluorobenzene		98	70-130
1,2-Dichloroethane-d4		113	70-130
Toluene-d8		105	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	07/26/2012 1743	AMB	07/25/2012 2030	89952

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
H = Out of holding time
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
* = Reportable result (only when report all runs)

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **06588-MW-17**
Date Sampled: **07/17/2012 1125**
Date Received: **07/20/2012**

Laboratory ID: **NG21001-015**
Matrix: **Aqueous**

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	07/26/2012 1743	AMB	07/25/2012 2030	89952

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0.019	0.0060	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		91	57-137

ICP-AES

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	3005A	6010C	1	07/24/2012 0228	CDF	07/23/2012 1401	89666

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Lead	**7439-92-1**	**6010C**	**0.015**		**0.010**	**0.0019**	**mg/L**	**1**

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
H = Out of holding time
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
* = Reportable result (only when report all runs)

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **06588-MW-18**
Date Sampled: **07/17/2012 1340**
Date Received: **07/20/2012**

Laboratory ID: **NG21001-016**
Matrix: **Aqueous**

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	10	07/30/2012 1627	BDC		90234

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Benzene	**71-43-2**	**8260B**	**25**	**J**	**50**	**2.0**	**ug/L**	**1**
1,2-Dichloroethane	107-06-2	8260B	ND		50	3.0	ug/L	1
Ethylbenzene	**100-41-4**	**8260B**	**1600**		**50**	**17**	**ug/L**	**1**
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		50	4.0	ug/L	1
Naphthalene	**91-20-3**	**8260B**	**710**		**50**	**17**	**ug/L**	**1**
Toluene	**108-88-3**	**8260B**	**22**	**J**	**50**	**17**	**ug/L**	**1**
Xylenes (total)	**1330-20-7**	**8260B**	**2000**		**50**	**17**	**ug/L**	**1**

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		111	70-130
Bromofluorobenzene		94	70-130
Toluene-d8		103	70-130

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	10	07/30/2012 1627	BDC		90234

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Diisopropyl ether (IPE)	108-20-3	8260B	ND		50	4.0	ug/L	1
Ethanol	64-17-5	8260B	ND		1000	330	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		200	10	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		10	2.0	ug/L	1
tert-Amyl alcohol (TAA)	75-85-4	8260B	ND		200	67	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		100	2.0	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		200	67	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260B	ND		50	10	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
Bromofluorobenzene		94	70-130
1,2-Dichloroethane-d4		111	70-130
Toluene-d8		103	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	07/26/2012 1848	AMB	07/25/2012 2030	89952

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
H = Out of holding time
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
* = Reportable result (only when report all runs)

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **06588-MW-18**
Date Sampled: **07/17/2012 1340**
Date Received: **07/20/2012**

Laboratory ID: **NG21001-016**
Matrix: **Aqueous**

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	07/26/2012 1848	AMB	07/25/2012 2030	89952

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0.019	0.0060	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		112	57-137

ICP-AES

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	3005A	6010C	1	07/24/2012 0232	CDF	07/23/2012 1401	89666

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Lead	**7439-92-1**	**6010C**	**0.019**		**0.010**	**0.0019**	**mg/L**	**1**

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
* = Reportable result (only when report all runs)
H = Out of holding time
N = Recovery is out of criteria

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **06588-MW-20**
Date Sampled: **07/17/2012 1420**
Date Received: **07/20/2012**

Laboratory ID: **NG21001-017**
Matrix: **Aqueous**

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	07/29/2012 1531	AAC		90190

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Benzene	71-43-2	8260B	ND		5.0	0.20	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		5.0	0.30	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		5.0	1.7	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		5.0	0.40	ug/L	1
Naphthalene	91-20-3	8260B	ND		5.0	1.7	ug/L	1
Toluene	108-88-3	8260B	ND		5.0	1.7	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		5.0	1.7	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		111	70-130
Bromofluorobenzene		97	70-130
Toluene-d8		104	70-130

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	07/29/2012 1531	AAC		90190

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Diisopropyl ether (IPE)	108-20-3	8260B	ND		5.0	0.40	ug/L	1
Ethanol	64-17-5	8260B	ND		100	33	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		20	1.0	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		1.0	0.20	ug/L	1
tert-Amyl alcohol (TAA)	75-85-4	8260B	ND		20	6.7	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		10	0.20	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		20	6.7	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260B	ND		5.0	1.0	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
Bromofluorobenzene		97	70-130
1,2-Dichloroethane-d4		111	70-130
Toluene-d8		104	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	07/26/2012 1909	AMB	07/25/2012 2030	89952

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
H = Out of holding time
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
* = Reportable result (only when report all runs)

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **06588-MW-20**
Date Sampled: **07/17/2012 1420**
Date Received: **07/20/2012**

Laboratory ID: **NG21001-017**
Matrix: **Aqueous**

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	07/26/2012 1909	AMB	07/25/2012 2030	89952

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0.020	0.0061	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		90	57-137

ICP-AES

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	3005A	6010C	1	07/24/2012 0236	CDF	07/23/2012 1401	89666

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Lead	**7439-92-1**	**6010C**	**0.021**		**0.010**	**0.0019**	**mg/L**	**1**

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
* = Reportable result (only when report all runs)
H = Out of holding time
N = Recovery is out of criteria

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **06588-MW-21**
Date Sampled: **07/17/2012 1436**
Date Received: **07/20/2012**

Laboratory ID: **NG21001-018**
Matrix: **Aqueous**

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	07/29/2012 1555	AAC		90190

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Benzene	71-43-2	8260B	ND		5.0	0.20	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		5.0	0.30	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		5.0	1.7	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		5.0	0.40	ug/L	1
Naphthalene	91-20-3	8260B	ND		5.0	1.7	ug/L	1
Toluene	108-88-3	8260B	ND		5.0	1.7	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		5.0	1.7	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		115	70-130
Bromofluorobenzene		97	70-130
Toluene-d8		107	70-130

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	07/29/2012 1555	AAC		90190

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Diisopropyl ether (IPE)	108-20-3	8260B	ND		5.0	0.40	ug/L	1
Ethanol	64-17-5	8260B	ND		100	33	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		20	1.0	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		1.0	0.20	ug/L	1
tert-Amyl alcohol (TAA)	75-85-4	8260B	ND		20	6.7	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		10	0.20	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		20	6.7	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260B	ND		5.0	1.0	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
Bromofluorobenzene		97	70-130
1,2-Dichloroethane-d4		115	70-130
Toluene-d8		107	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	07/26/2012 1930	AMB	07/25/2012 2030	89952

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
H = Out of holding time
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
* = Reportable result (only when report all runs)

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **06588-MW-21**
Date Sampled: **07/17/2012 1436**
Date Received: **07/20/2012**

Laboratory ID: **NG21001-018**
Matrix: **Aqueous**

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	07/26/2012 1930	AMB	07/25/2012 2030	89952

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0.020	0.0061	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		90	57-137

ICP-AES

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	3005A	6010C	1	07/24/2012 0240	CDF	07/23/2012 1401	89666

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Lead	**7439-92-1**	**6010C**	**0.0086**	**J**	**0.010**	**0.0019**	**mg/L**	**1**

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
H = Out of holding time
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
* = Reportable result (only when report all runs)

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **06588-MW-21D**
Date Sampled: **07/17/2012 1432**
Date Received: **07/20/2012**

Laboratory ID: **NG21001-019**
Matrix: **Aqueous**

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	07/29/2012 1619	AAC		90190

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Benzene	71-43-2	8260B	ND		5.0	0.20	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		5.0	0.30	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		5.0	1.7	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		5.0	0.40	ug/L	1
Naphthalene	91-20-3	8260B	ND		5.0	1.7	ug/L	1
Toluene	108-88-3	8260B	ND		5.0	1.7	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		5.0	1.7	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		110	70-130
Bromofluorobenzene		97	70-130
Toluene-d8		104	70-130

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	07/29/2012 1619	AAC		90190

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Diisopropyl ether (IPE)	108-20-3	8260B	ND		5.0	0.40	ug/L	1
Ethanol	64-17-5	8260B	ND		100	33	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		20	1.0	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		1.0	0.20	ug/L	1
tert-Amyl alcohol (TAA)	75-85-4	8260B	ND		20	6.7	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		10	0.20	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		20	6.7	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260B	ND		5.0	1.0	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
Bromofluorobenzene		97	70-130
1,2-Dichloroethane-d4		110	70-130
Toluene-d8		104	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	07/26/2012 1952	AMB	07/25/2012 2030	89952

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
H = Out of holding time
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
* = Reportable result (only when report all runs)

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **06588-MW-21D**
Date Sampled: **07/17/2012 1432**
Date Received: **07/20/2012**

Laboratory ID: **NG21001-019**
Matrix: **Aqueous**

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	07/26/2012 1952	AMB	07/25/2012 2030	89952

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0.019	0.0060	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		100	57-137

ICP-AES

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	3005A	6010C	1	07/24/2012 0244	CDF	07/23/2012 1401	89666

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Lead	**7439-92-1**	**6010C**	**0.018**		**0.010**	**0.0019**	**mg/L**	**1**

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
H = Out of holding time
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
* = Reportable result (only when report all runs)

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **06588-MW-22**
Date Sampled: **07/17/2012 1350**
Date Received: **07/20/2012**

Laboratory ID: **NG21001-020**
Matrix: **Aqueous**

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	5	07/30/2012 1515	BDC		90234

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Benzene	**71-43-2**	**8260B**	**350**		**25**	**1.0**	**ug/L**	**1**
1,2-Dichloroethane	107-06-2	8260B	ND		25	1.5	ug/L	1
Ethylbenzene	**100-41-4**	**8260B**	**130**		**25**	**8.5**	**ug/L**	**1**
Methyl tertiary butyl ether (MTBE)	**1634-04-4**	**8260B**	**84**		**25**	**2.0**	**ug/L**	**1**
Naphthalene	**91-20-3**	**8260B**	**130**		**25**	**8.5**	**ug/L**	**1**
Toluene	**108-88-3**	**8260B**	**380**		**25**	**8.5**	**ug/L**	**1**
Xylenes (total)	**1330-20-7**	**8260B**	**1600**		**25**	**8.5**	**ug/L**	**1**

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		111	70-130
Bromofluorobenzene		99	70-130
Toluene-d8		101	70-130

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	5	07/30/2012 1515	BDC		90234

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Diisopropyl ether (IPE)	**108-20-3**	**8260B**	**4.7**	**J**	**25**	**2.0**	**ug/L**	**1**
Ethanol	64-17-5	8260B	ND		500	170	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		100	5.0	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		5.0	1.0	ug/L	1
tert-Amyl alcohol (TAA)	**75-85-4**	**8260B**	**270**		**100**	**34**	**ug/L**	**1**
tert-Amyl methyl ether (TAME)	**994-05-8**	**8260B**	**36**	**J**	**50**	**1.0**	**ug/L**	**1**
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		100	34	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260B	ND		25	5.0	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
Bromofluorobenzene		99	70-130
1,2-Dichloroethane-d4		111	70-130
Toluene-d8		101	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	07/26/2012 2013	AMB	07/25/2012 2030	89952

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
* = Reportable result (only when report all runs)
H = Out of holding time
N = Recovery is out of criteria

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **06588-MW-22**
Date Sampled: **07/17/2012 1350**
Date Received: **07/20/2012**

Laboratory ID: **NG21001-020**
Matrix: **Aqueous**

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	07/26/2012 2013	AMB	07/25/2012 2030	89952

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,2-Dibromoethane (EDB)	**106-93-4**	**8011**	**0.26**	**P**	**0.019**	**0.0060**	**ug/L**	**1**

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		118	57-137

ICP-AES

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	3005A	6010C	1	07/24/2012 0247	CDF	07/23/2012 1401	89666

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Lead	**7439-92-1**	**6010C**	**0.016**		**0.010**	**0.0019**	**mg/L**	**1**

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
H = Out of holding time
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
* = Reportable result (only when report all runs)

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **06588-MW-22 DUP**
Date Sampled: **07/17/2012 1348**
Date Received: **07/20/2012**

Laboratory ID: **NG21001-021**
Matrix: **Aqueous**

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	5	07/30/2012 1539	BDC		90234

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Benzene	**71-43-2**	**8260B**	**360**		**25**	**1.0**	**ug/L**	**1**
1,2-Dichloroethane	107-06-2	8260B	ND		25	1.5	ug/L	1
Ethylbenzene	**100-41-4**	**8260B**	**140**		**25**	**8.5**	**ug/L**	**1**
Methyl tertiary butyl ether (MTBE)	**1634-04-4**	**8260B**	**87**		**25**	**2.0**	**ug/L**	**1**
Naphthalene	**91-20-3**	**8260B**	**140**		**25**	**8.5**	**ug/L**	**1**
Toluene	**108-88-3**	**8260B**	**380**		**25**	**8.5**	**ug/L**	**1**
Xylenes (total)	**1330-20-7**	**8260B**	**1600**		**25**	**8.5**	**ug/L**	**1**

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		112	70-130
Bromofluorobenzene		98	70-130
Toluene-d8		99	70-130

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	5	07/30/2012 1539	BDC		90234

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Diisopropyl ether (IPE)	**108-20-3**	**8260B**	**4.5**	**J**	**25**	**2.0**	**ug/L**	**1**
Ethanol	64-17-5	8260B	ND		500	170	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		100	5.0	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		5.0	1.0	ug/L	1
tert-Amyl alcohol (TAA)	**75-85-4**	**8260B**	**290**		**100**	**34**	**ug/L**	**1**
tert-Amyl methyl ether (TAME)	**994-05-8**	**8260B**	**36**	**J**	**50**	**1.0**	**ug/L**	**1**
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		100	34	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260B	ND		25	5.0	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
Bromofluorobenzene		98	70-130
1,2-Dichloroethane-d4		112	70-130
Toluene-d8		99	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	07/26/2012 2034	AMB	07/25/2012 2030	89952

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
H = Out of holding time
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
* = Reportable result (only when report all runs)

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **06588-MW-22 DUP**
Date Sampled: **07/17/2012 1348**
Date Received: **07/20/2012**

Laboratory ID: **NG21001-021**
Matrix: **Aqueous**

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	07/26/2012 2034	AMB	07/25/2012 2030	89952

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,2-Dibromoethane (EDB)	**106-93-4**	**8011**	**0.26**	**P**	**0.019**	**0.0060**	**ug/L**	**1**

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		122	57-137

ICP-AES

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	3005A	6010C	1	07/24/2012 1347	CDF	07/23/2012 2009	89741

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Lead	**7439-92-1**	**6010C**	**0.0069**	**J**	**0.010**	**0.0019**	**mg/L**	**1**

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
* = Reportable result (only when report all runs)
H = Out of holding time
N = Recovery is out of criteria

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **06588-MW-22D**
Date Sampled: **07/17/2012 1334**
Date Received: **07/20/2012**

Laboratory ID: **NG21001-022**
Matrix: **Aqueous**

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	07/29/2012 1643	AAC		90190

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Benzene	**71-43-2**	**8260B**	**210**		**5.0**	**0.20**	**ug/L**	**1**
1,2-Dichloroethane	107-06-2	8260B	ND		5.0	0.30	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		5.0	1.7	ug/L	1
Methyl tertiary butyl ether (MTBE)	**1634-04-4**	**8260B**	**8.4**		**5.0**	**0.40**	**ug/L**	**1**
Naphthalene	**91-20-3**	**8260B**	**17**		**5.0**	**1.7**	**ug/L**	**1**
Toluene	108-88-3	8260B	ND		5.0	1.7	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		5.0	1.7	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		110	70-130
Bromofluorobenzene		94	70-130
Toluene-d8		103	70-130

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	07/29/2012 1643	AAC		90190

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Diisopropyl ether (IPE)	108-20-3	8260B	ND		5.0	0.40	ug/L	1
Ethanol	64-17-5	8260B	ND		100	33	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		20	1.0	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		1.0	0.20	ug/L	1
tert-Amyl alcohol (TAA)	75-85-4	8260B	ND		20	6.7	ug/L	1
tert-Amyl methyl ether (TAME)	**994-05-8**	**8260B**	**7.2**	**J**	**10**	**0.20**	**ug/L**	**1**
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		20	6.7	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260B	ND		5.0	1.0	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
Bromofluorobenzene		94	70-130
1,2-Dichloroethane-d4		110	70-130
Toluene-d8		103	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	07/26/2012 2056	AMB	07/25/2012 2030	89952

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
* = Reportable result (only when report all runs)
H = Out of holding time
N = Recovery is out of criteria

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **06588-MW-22D**
Date Sampled: **07/17/2012 1334**
Date Received: **07/20/2012**

Laboratory ID: **NG21001-022**
Matrix: **Aqueous**

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	07/26/2012 2056	AMB	07/25/2012 2030	89952

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0.020	0.0061	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		94	57-137

ICP-AES

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	3005A	6010C	1	07/24/2012 1402	CDF	07/23/2012 2009	89741

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Lead	**7439-92-1**	**6010C**	**0.012**		**0.010**	**0.0019**	**mg/L**	**1**

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
* = Reportable result (only when report all runs)
H = Out of holding time
N = Recovery is out of criteria

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **06588-MW-24D**
Date Sampled: **07/17/2012 0950**
Date Received: **07/20/2012**

Laboratory ID: **NG21001-023**
Matrix: **Aqueous**

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	07/29/2012 1708	AAC		90190

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Benzene	**71-43-2**	**8260B**	**240**		**5.0**	**0.20**	**ug/L**	**1**
1,2-Dichloroethane	107-06-2	8260B	ND		5.0	0.30	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		5.0	1.7	ug/L	1
Methyl tertiary butyl ether (MTBE)	**1634-04-4**	**8260B**	**30**		**5.0**	**0.40**	**ug/L**	**1**
Naphthalene	**91-20-3**	**8260B**	**30**		**5.0**	**1.7**	**ug/L**	**1**
Toluene	108-88-3	8260B	ND		5.0	1.7	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		5.0	1.7	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		110	70-130
Bromofluorobenzene		96	70-130
Toluene-d8		104	70-130

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	07/29/2012 1708	AAC		90190

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Diisopropyl ether (IPE)	**108-20-3**	**8260B**	**3.7**	**J**	**5.0**	**0.40**	**ug/L**	**1**
Ethanol	64-17-5	8260B	ND		100	33	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		20	1.0	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		1.0	0.20	ug/L	1
tert-Amyl alcohol (TAA)	**75-85-4**	**8260B**	**120**		**20**	**6.7**	**ug/L**	**1**
tert-Amyl methyl ether (TAME)	**994-05-8**	**8260B**	**0.86**	**J**	**10**	**0.20**	**ug/L**	**1**
tert-butyl alcohol (TBA)	**75-65-0**	**8260B**	**41**		**20**	**6.7**	**ug/L**	**1**
tert-Butyl formate (TBF)	762-75-4	8260B	ND		5.0	1.0	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
Bromofluorobenzene		96	70-130
1,2-Dichloroethane-d4		110	70-130
Toluene-d8		104	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	07/26/2012 2117	AMB	07/25/2012 2030	89952

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
H = Out of holding time
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
* = Reportable result (only when report all runs)

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **06588-MW-24D**
Date Sampled: **07/17/2012 0950**
Date Received: **07/20/2012**

Laboratory ID: **NG21001-023**
Matrix: **Aqueous**

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	07/26/2012 2117	AMB	07/25/2012 2030	89952

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0.019	0.0060	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		100	57-137

ICP-AES

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	3005A	6010C	1	07/24/2012 1410	CDF	07/23/2012 2009	89741

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Lead	**7439-92-1**	**6010C**	**0.0059**	**J**	**0.010**	**0.0019**	**mg/L**	**1**

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
H = Out of holding time
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
* = Reportable result (only when report all runs)

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **06588-MW-26**
Date Sampled: **07/16/2012 1600**
Date Received: **07/20/2012**

Laboratory ID: **NG21001-024**
Matrix: **Aqueous**

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	07/28/2012 1714	DD		90178

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Benzene	71-43-2	8260B	ND		5.0	0.20	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		5.0	0.30	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		5.0	1.7	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		5.0	0.40	ug/L	1
Naphthalene	91-20-3	8260B	ND		5.0	1.7	ug/L	1
Toluene	108-88-3	8260B	ND		5.0	1.7	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		5.0	1.7	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		107	70-130
Bromofluorobenzene		97	70-130
Toluene-d8		101	70-130

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	07/28/2012 1714	DD		90178

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Diisopropyl ether (IPE)	108-20-3	8260B	ND		5.0	0.40	ug/L	1
Ethanol	64-17-5	8260B	ND		100	33	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		20	1.0	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		1.0	0.20	ug/L	1
tert-Amyl alcohol (TAA)	**75-85-4**	**8260B**	**11**	**J**	**20**	**6.7**	**ug/L**	**1**
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		10	0.20	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		20	6.7	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260B	ND		5.0	1.0	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
Bromofluorobenzene		97	70-130
1,2-Dichloroethane-d4		107	70-130
Toluene-d8		101	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	07/26/2012 2138	AMB	07/25/2012 2030	89952

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
H = Out of holding time
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
* = Reportable result (only when report all runs)

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **06588-MW-26**
Date Sampled: **07/16/2012 1600**
Date Received: **07/20/2012**

Laboratory ID: **NG21001-024**
Matrix: **Aqueous**

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	07/26/2012 2138	AMB	07/25/2012 2030	89952

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0.020	0.0061	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		91	57-137

ICP-AES

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	3005A	6010C	1	07/24/2012 1421	CDF	07/23/2012 2009	89741

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Lead	7439-92-1	6010C	ND		0.010	0.0019	mg/L	1

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
H = Out of holding time
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
* = Reportable result (only when report all runs)

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **06588-MW-27**
Date Sampled: **07/16/2012 1545**
Date Received: **07/20/2012**

Laboratory ID: **NG21001-025**
Matrix: **Aqueous**

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	07/28/2012 1738	DD		90178

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Benzene	71-43-2	8260B	ND		5.0	0.20	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		5.0	0.30	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		5.0	1.7	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		5.0	0.40	ug/L	1
Naphthalene	91-20-3	8260B	ND		5.0	1.7	ug/L	1
Toluene	108-88-3	8260B	ND		5.0	1.7	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		5.0	1.7	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		110	70-130
Bromofluorobenzene		96	70-130
Toluene-d8		104	70-130

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	07/28/2012 1738	DD		90178

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Diisopropyl ether (IPE)	108-20-3	8260B	ND		5.0	0.40	ug/L	1
Ethanol	64-17-5	8260B	ND		100	33	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		20	1.0	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		1.0	0.20	ug/L	1
tert-Amyl alcohol (TAA)	75-85-4	8260B	ND		20	6.7	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		10	0.20	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		20	6.7	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260B	ND		5.0	1.0	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
Bromofluorobenzene		96	70-130
1,2-Dichloroethane-d4		110	70-130
Toluene-d8		104	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	07/26/2012 2200	AMB	07/25/2012 2030	89952

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
H = Out of holding time
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
* = Reportable result (only when report all runs)

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **06588-MW-27**
Date Sampled: **07/16/2012 1545**
Date Received: **07/20/2012**

Laboratory ID: **NG21001-025**
Matrix: **Aqueous**

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	07/26/2012 2200	AMB	07/25/2012 2030	89952

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0.019	0.0060	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		94	57-137

ICP-AES

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	3005A	6010C	1	07/24/2012 1425	CDF	07/23/2012 2009	89741

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Lead	**7439-92-1**	**6010C**	**0.0067**	**J**	**0.010**	**0.0019**	**mg/L**	**1**

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
H = Out of holding time
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
* = Reportable result (only when report all runs)

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **06588-MW-28**
Date Sampled: **07/17/2012 1440**
Date Received: **07/20/2012**

Laboratory ID: **NG21001-026**
Matrix: **Aqueous**

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	07/29/2012 1325	BDC		90187

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Benzene	71-43-2	8260B	ND		5.0	0.20	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		5.0	0.30	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		5.0	1.7	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		5.0	0.40	ug/L	1
Naphthalene	**91-20-3**	**8260B**	**1.7**	**J**	**5.0**	**1.7**	**ug/L**	**1**
Toluene	108-88-3	8260B	ND		5.0	1.7	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		5.0	1.7	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		96	70-130
Bromofluorobenzene		102	70-130
Toluene-d8		94	70-130

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	07/29/2012 1325	BDC		90187

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Diisopropyl ether (IPE)	108-20-3	8260B	ND		5.0	0.40	ug/L	1
Ethanol	64-17-5	8260B	ND		100	33	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		20	1.0	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		1.0	0.20	ug/L	1
tert-Amyl alcohol (TAA)	75-85-4	8260B	ND		20	6.7	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		10	0.20	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		20	6.7	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260B	ND		5.0	1.0	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
Bromofluorobenzene		102	70-130
1,2-Dichloroethane-d4		96	70-130
Toluene-d8		94	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	07/26/2012 2221	AMB	07/25/2012 2030	89952

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
H = Out of holding time
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
* = Reportable result (only when report all runs)

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **06588-MW-28**
Date Sampled: **07/17/2012 1440**
Date Received: **07/20/2012**

Laboratory ID: **NG21001-026**
Matrix: **Aqueous**

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	07/26/2012 2221	AMB	07/25/2012 2030	89952

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0.020	0.0061	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		100	57-137

ICP-AES

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	3005A	6010C	1	07/24/2012 1429	CDF	07/23/2012 2009	89741

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Lead	**7439-92-1**	**6010C**	**0.0056**	**J**	**0.010**	**0.0019**	**mg/L**	**1**

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
H = Out of holding time
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
* = Reportable result (only when report all runs)

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **06588-MW-29**
Date Sampled: **07/17/2012 1459**
Date Received: **07/20/2012**

Laboratory ID: **NG21001-027**
Matrix: **Aqueous**

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	07/29/2012 1349	BDC		90187

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Benzene	71-43-2	8260B	ND		5.0	0.20	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		5.0	0.30	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		5.0	1.7	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		5.0	0.40	ug/L	1
Naphthalene	91-20-3	8260B	ND		5.0	1.7	ug/L	1
Toluene	108-88-3	8260B	ND		5.0	1.7	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		5.0	1.7	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		101	70-130
Bromofluorobenzene		105	70-130
Toluene-d8		95	70-130

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	07/29/2012 1349	BDC		90187

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Diisopropyl ether (IPE)	108-20-3	8260B	ND		5.0	0.40	ug/L	1
Ethanol	64-17-5	8260B	ND		100	33	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		20	1.0	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		1.0	0.20	ug/L	1
tert-Amyl alcohol (TAA)	75-85-4	8260B	ND		20	6.7	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		10	0.20	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		20	6.7	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260B	ND		5.0	1.0	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
Bromofluorobenzene		105	70-130
1,2-Dichloroethane-d4		101	70-130
Toluene-d8		95	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	07/26/2012 2242	AMB	07/25/2012 2030	89952

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
H = Out of holding time
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
* = Reportable result (only when report all runs)

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **06588-MW-29**
Date Sampled: **07/17/2012 1459**
Date Received: **07/20/2012**

Laboratory ID: **NG21001-027**
Matrix: **Aqueous**

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	07/26/2012 2242	AMB	07/25/2012 2030	89952

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0.020	0.0061	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		98	57-137

ICP-AES

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	3005A	6010C	1	07/24/2012 1433	CDF	07/23/2012 2009	89741

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Lead	**7439-92-1**	**6010C**	**0.010**		**0.010**	**0.0019**	**mg/L**	**1**

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
H = Out of holding time
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
* = Reportable result (only when report all runs)

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **06588-MW-30**
Date Sampled: **07/17/2012 1522**
Date Received: **07/20/2012**

Laboratory ID: **NG21001-028**
Matrix: **Aqueous**

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	07/29/2012 1756	AAC		90190

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Benzene	71-43-2	8260B	ND		5.0	0.20	ug/L	1
1,2-Dichloroethane	**107-06-2**	**8260B**	**2.8**	**J**	**5.0**	**0.30**	**ug/L**	**1**
Ethylbenzene	100-41-4	8260B	ND		5.0	1.7	ug/L	1
Methyl tertiary butyl ether (MTBE)	**1634-04-4**	**8260B**	**88**		**5.0**	**0.40**	**ug/L**	**1**
Naphthalene	91-20-3	8260B	ND		5.0	1.7	ug/L	1
Toluene	108-88-3	8260B	ND		5.0	1.7	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		5.0	1.7	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		111	70-130
Bromofluorobenzene		97	70-130
Toluene-d8		102	70-130

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	07/29/2012 1756	AAC		90190

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Diisopropyl ether (IPE)	**108-20-3**	**8260B**	**13**		**5.0**	**0.40**	**ug/L**	**1**
Ethanol	64-17-5	8260B	ND		100	33	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		20	1.0	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		1.0	0.20	ug/L	1
tert-Amyl alcohol (TAA)	**75-85-4**	**8260B**	**66**		**20**	**6.7**	**ug/L**	**1**
tert-Amyl methyl ether (TAME)	**994-05-8**	**8260B**	**2.7**	**J**	**10**	**0.20**	**ug/L**	**1**
tert-butyl alcohol (TBA)	**75-65-0**	**8260B**	**79**		**20**	**6.7**	**ug/L**	**1**
tert-Butyl formate (TBF)	762-75-4	8260B	ND		5.0	1.0	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
Bromofluorobenzene		97	70-130
1,2-Dichloroethane-d4		111	70-130
Toluene-d8		102	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	07/26/2012 2304	AMB	07/25/2012 2030	89952

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
H = Out of holding time
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
* = Reportable result (only when report all runs)

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **06588-MW-30**
Date Sampled: **07/17/2012 1522**
Date Received: **07/20/2012**

Laboratory ID: **NG21001-028**
Matrix: **Aqueous**

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	07/26/2012 2304	AMB	07/25/2012 2030	89952

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0.020	0.0061	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		93	57-137

ICP-AES

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	3005A	6010C	1	07/24/2012 1437	CDF	07/23/2012 2009	89741

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Lead	7439-92-1	6010C	ND		0.010	0.0019	mg/L	1

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
H = Out of holding time
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
* = Reportable result (only when report all runs)

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **06588-MW-30D**
Date Sampled: **07/18/2012 1059**
Date Received: **07/20/2012**

Laboratory ID: **NG21001-029**
Matrix: **Aqueous**

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	07/29/2012 1413	BDC		90187

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Benzene	**71-43-2**	**8260B**	**2.1**	**J**	**5.0**	**0.20**	**ug/L**	**1**
1,2-Dichloroethane	107-06-2	8260B	ND		5.0	0.30	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		5.0	1.7	ug/L	1
Methyl tertiary butyl ether (MTBE)	**1634-04-4**	**8260B**	**15**		**5.0**	**0.40**	**ug/L**	**1**
Naphthalene	91-20-3	8260B	ND		5.0	1.7	ug/L	1
Toluene	108-88-3	8260B	ND		5.0	1.7	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		5.0	1.7	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		103	70-130
Bromofluorobenzene		106	70-130
Toluene-d8		95	70-130

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	07/29/2012 1413	BDC		90187

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Diisopropyl ether (IPE)	**108-20-3**	**8260B**	**2.3**	**J**	**5.0**	**0.40**	**ug/L**	**1**
Ethanol	64-17-5	8260B	ND		100	33	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		20	1.0	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		1.0	0.20	ug/L	1
tert-Amyl alcohol (TAA)	**75-85-4**	**8260B**	**41**		**20**	**6.7**	**ug/L**	**1**
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		10	0.20	ug/L	1
tert-butyl alcohol (TBA)	**75-65-0**	**8260B**	**17**	**J**	**20**	**6.7**	**ug/L**	**1**
tert-Butyl formate (TBF)	762-75-4	8260B	ND		5.0	1.0	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
Bromofluorobenzene		106	70-130
1,2-Dichloroethane-d4		103	70-130
Toluene-d8		95	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	07/26/2012 2325	AMB	07/25/2012 2030	89952

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
H = Out of holding time
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
* = Reportable result (only when report all runs)

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **06588-MW-30D**
Date Sampled: **07/18/2012 1059**
Date Received: **07/20/2012**

Laboratory ID: **NG21001-029**
Matrix: **Aqueous**

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	07/26/2012 2325	AMB	07/25/2012 2030	89952

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0.020	0.0061	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		93	57-137

ICP-AES

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	3005A	6010C	1	07/24/2012 1440	CDF	07/23/2012 2009	89741

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Lead	**7439-92-1**	**6010C**	**0.0062**	**J**	**0.010**	**0.0019**	**mg/L**	**1**

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
H = Out of holding time
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
* = Reportable result (only when report all runs)

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **06588-MW-31**
Date Sampled: **07/17/2012 1537**
Date Received: **07/20/2012**

Laboratory ID: **NG21001-030**
Matrix: **Aqueous**

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	07/29/2012 1732	AAC		90190

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Benzene	71-43-2	8260B	ND		5.0	0.20	ug/L	1
1,2-Dichloroethane	**107-06-2**	**8260B**	**0.89**	**J**	**5.0**	**0.30**	**ug/L**	**1**
Ethylbenzene	100-41-4	8260B	ND		5.0	1.7	ug/L	1
Methyl tertiary butyl ether (MTBE)	**1634-04-4**	**8260B**	**100**		**5.0**	**0.40**	**ug/L**	**1**
Naphthalene	91-20-3	8260B	ND		5.0	1.7	ug/L	1
Toluene	108-88-3	8260B	ND		5.0	1.7	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		5.0	1.7	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		111	70-130
Bromofluorobenzene		97	70-130
Toluene-d8		101	70-130

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	07/29/2012 1732	AAC		90190

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Diisopropyl ether (IPE)	**108-20-3**	**8260B**	**9.0**		**5.0**	**0.40**	**ug/L**	**1**
Ethanol	64-17-5	8260B	ND		100	33	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		20	1.0	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		1.0	0.20	ug/L	1
tert-Amyl alcohol (TAA)	**75-85-4**	**8260B**	**240**		**20**	**6.7**	**ug/L**	**1**
tert-Amyl methyl ether (TAME)	**994-05-8**	**8260B**	**6.4**	**J**	**10**	**0.20**	**ug/L**	**1**
tert-butyl alcohol (TBA)	**75-65-0**	**8260B**	**130**		**20**	**6.7**	**ug/L**	**1**
tert-Butyl formate (TBF)	762-75-4	8260B	ND		5.0	1.0	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
Bromofluorobenzene		97	70-130
1,2-Dichloroethane-d4		111	70-130
Toluene-d8		101	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	07/26/2012 2346	AMB	07/25/2012 2030	89952

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
H = Out of holding time
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
* = Reportable result (only when report all runs)

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **06588-MW-31**
Date Sampled: **07/17/2012 1537**
Date Received: **07/20/2012**

Laboratory ID: **NG21001-030**
Matrix: **Aqueous**

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	07/26/2012 2346	AMB	07/25/2012 2030	89952

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0.020	0.0061	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		97	57-137

ICP-AES

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	3005A	6010C	1	07/24/2012 1444	CDF	07/23/2012 2009	89741

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Lead	**7439-92-1**	**6010C**	**0.0084**	**J**	**0.010**	**0.0019**	**mg/L**	**1**

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
H = Out of holding time
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
* = Reportable result (only when report all runs)

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **06588-MW-32**
Date Sampled: **07/17/2012 1545**
Date Received: **07/20/2012**

Laboratory ID: **NG21001-031**
Matrix: **Aqueous**

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	07/29/2012 1436	BDC		90187

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Benzene	71-43-2	8260B	ND		5.0	0.20	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		5.0	0.30	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		5.0	1.7	ug/L	1
Methyl tertiary butyl ether (MTBE)	**1634-04-4**	**8260B**	**0.52**	**J**	**5.0**	**0.40**	**ug/L**	**1**
Naphthalene	91-20-3	8260B	ND		5.0	1.7	ug/L	1
Toluene	108-88-3	8260B	ND		5.0	1.7	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		5.0	1.7	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		104	70-130
Bromofluorobenzene		106	70-130
Toluene-d8		96	70-130

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	07/29/2012 1436	BDC		90187

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Diisopropyl ether (IPE)	108-20-3	8260B	ND		5.0	0.40	ug/L	1
Ethanol	64-17-5	8260B	ND		100	33	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		20	1.0	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		1.0	0.20	ug/L	1
tert-Amyl alcohol (TAA)	75-85-4	8260B	ND		20	6.7	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		10	0.20	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		20	6.7	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260B	ND		5.0	1.0	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
Bromofluorobenzene		106	70-130
1,2-Dichloroethane-d4		104	70-130
Toluene-d8		96	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	07/27/2012 0007	AMB	07/25/2012 2030	89952

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
* = Reportable result (only when report all runs)
H = Out of holding time
N = Recovery is out of criteria

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **06588-MW-32**
Date Sampled: **07/17/2012 1545**
Date Received: **07/20/2012**

Laboratory ID: **NG21001-031**
Matrix: **Aqueous**

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	07/27/2012 0007	AMB	07/25/2012 2030	89952

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0.019	0.0060	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		90	57-137

ICP-AES

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	3005A	6010C	1	07/24/2012 1448	CDF	07/23/2012 2009	89741

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Lead	**7439-92-1**	**6010C**	**0.11**		**0.010**	**0.0019**	**mg/L**	**1**

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
H = Out of holding time
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
* = Reportable result (only when report all runs)

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **06588-MW-33**
Date Sampled: **07/17/2012 1515**
Date Received: **07/20/2012**

Laboratory ID: **NG21001-032**
Matrix: **Aqueous**

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	07/29/2012 1500	BDC		90187

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Benzene	71-43-2	8260B	ND		5.0	0.20	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		5.0	0.30	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		5.0	1.7	ug/L	1
Methyl tertiary butyl ether (MTBE)	**1634-04-4**	**8260B**	**33**		**5.0**	**0.40**	**ug/L**	**1**
Naphthalene	91-20-3	8260B	ND		5.0	1.7	ug/L	1
Toluene	108-88-3	8260B	ND		5.0	1.7	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		5.0	1.7	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		101	70-130
Bromofluorobenzene		105	70-130
Toluene-d8		96	70-130

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	07/29/2012 1500	BDC		90187

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Diisopropyl ether (IPE)	**108-20-3**	**8260B**	**1.8**	**J**	**5.0**	**0.40**	**ug/L**	**1**
Ethanol	64-17-5	8260B	ND		100	33	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		20	1.0	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		1.0	0.20	ug/L	1
tert-Amyl alcohol (TAA)	75-85-4	8260B	ND		20	6.7	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		10	0.20	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		20	6.7	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260B	ND		5.0	1.0	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
Bromofluorobenzene		105	70-130
1,2-Dichloroethane-d4		101	70-130
Toluene-d8		96	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	07/24/2012 2240	AMB	07/24/2012 0851	89769

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
H = Out of holding time
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
* = Reportable result (only when report all runs)

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **06588-MW-33**
Date Sampled: **07/17/2012 1515**
Date Received: **07/20/2012**

Laboratory ID: **NG21001-032**
Matrix: **Aqueous**

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	07/24/2012 2240	AMB	07/24/2012 0851	89769

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0.019	0.0060	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		78	57-137

ICP-AES

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	3005A	6010C	1	07/24/2012 1452	CDF	07/23/2012 2009	89741

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Lead	**7439-92-1**	**6010C**	**0.030**		**0.010**	**0.0019**	**mg/L**	**1**

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
* = Reportable result (only when report all runs)
H = Out of holding time
N = Recovery is out of criteria

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **06588-MW-33 DUP**
Date Sampled: **07/17/2012 1517**
Date Received: **07/20/2012**

Laboratory ID: **NG21001-033**
Matrix: **Aqueous**

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	07/29/2012 1524	BDC		90187

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Benzene	71-43-2	8260B	ND		5.0	0.20	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		5.0	0.30	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		5.0	1.7	ug/L	1
Methyl tertiary butyl ether (MTBE)	**1634-04-4**	**8260B**	**35**		**5.0**	**0.40**	**ug/L**	**1**
Naphthalene	91-20-3	8260B	ND		5.0	1.7	ug/L	1
Toluene	108-88-3	8260B	ND		5.0	1.7	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		5.0	1.7	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		109	70-130
Bromofluorobenzene		107	70-130
Toluene-d8		96	70-130

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	07/29/2012 1524	BDC		90187

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Diisopropyl ether (IPE)	**108-20-3**	**8260B**	**2.0**	**J**	**5.0**	**0.40**	**ug/L**	**1**
Ethanol	64-17-5	8260B	ND		100	33	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		20	1.0	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		1.0	0.20	ug/L	1
tert-Amyl alcohol (TAA)	75-85-4	8260B	ND		20	6.7	ug/L	1
tert-Amyl methyl ether (TAME)	**994-05-8**	**8260B**	**0.25**	**J**	**10**	**0.20**	**ug/L**	**1**
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		20	6.7	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260B	ND		5.0	1.0	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
Bromofluorobenzene		107	70-130
1,2-Dichloroethane-d4		109	70-130
Toluene-d8		96	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	07/24/2012 2344	AMB	07/24/2012 0851	89769

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
* = Reportable result (only when report all runs)
H = Out of holding time
N = Recovery is out of criteria

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **06588-MW-33 DUP**
Date Sampled: **07/17/2012 1517**
Date Received: **07/20/2012**

Laboratory ID: **NG21001-033**
Matrix: **Aqueous**

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	07/24/2012 2344	AMB	07/24/2012 0851	89769

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0.019	0.0060	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		74	57-137

ICP-AES

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	3005A	6010C	1	07/24/2012 1455	CDF	07/23/2012 2009	89741

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Lead	**7439-92-1**	**6010C**	**0.038**		**0.010**	**0.0019**	**mg/L**	**1**

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
* = Reportable result (only when report all runs)
H = Out of holding time
N = Recovery is out of criteria

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **06588-MW-33D**
Date Sampled: **07/18/2012 1020**
Date Received: **07/20/2012**

Laboratory ID: **NG21001-034**
Matrix: **Aqueous**

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	20	07/29/2012 1956	AAC		90190

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Benzene	**71-43-2**	**8260B**	**18**	**J**	**100**	**4.0**	**ug/L**	**1**
1,2-Dichloroethane	**107-06-2**	**8260B**	**39**	**J**	**100**	**6.0**	**ug/L**	**1**
Ethylbenzene	100-41-4	8260B	ND		100	34	ug/L	1
Methyl tertiary butyl ether (MTBE)	**1634-04-4**	**8260B**	**2800**		**100**	**8.0**	**ug/L**	**1**
Naphthalene	91-20-3	8260B	ND		100	34	ug/L	1
Toluene	108-88-3	8260B	ND		100	34	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		100	34	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		108	70-130
Bromofluorobenzene		96	70-130
Toluene-d8		103	70-130

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	20	07/29/2012 1956	AAC		90190

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Diisopropyl ether (IPE)	**108-20-3**	**8260B**	**110**		**100**	**8.0**	**ug/L**	**1**
Ethanol	64-17-5	8260B	ND		2000	660	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		400	20	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		20	4.0	ug/L	1
tert-Amyl alcohol (TAA)	**75-85-4**	**8260B**	**5200**		**400**	**130**	**ug/L**	**1**
tert-Amyl methyl ether (TAME)	**994-05-8**	**8260B**	**270**		**200**	**4.0**	**ug/L**	**1**
tert-butyl alcohol (TBA)	**75-65-0**	**8260B**	**1700**		**400**	**130**	**ug/L**	**1**
tert-Butyl formate (TBF)	762-75-4	8260B	ND		100	20	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
Bromofluorobenzene		96	70-130
1,2-Dichloroethane-d4		108	70-130
Toluene-d8		103	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	07/25/2012 0006	AMB	07/24/2012 0851	89769

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
* = Reportable result (only when report all runs)
H = Out of holding time
N = Recovery is out of criteria

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **06588-MW-33D**
Date Sampled: **07/18/2012 1020**
Date Received: **07/20/2012**

Laboratory ID: **NG21001-034**
Matrix: **Aqueous**

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	07/25/2012 0006	AMB	07/24/2012 0851	89769

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0.020	0.0061	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		81	57-137

ICP-AES

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	3005A	6010C	1	07/24/2012 1507	CDF	07/23/2012 2009	89741

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Lead	**7439-92-1**	**6010C**	**0.0078**	**J**	**0.010**	**0.0019**	**mg/L**	**1**

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
H = Out of holding time
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
* = Reportable result (only when report all runs)

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **06588-MW-34**
Date Sampled: **07/17/2012 1455**
Date Received: **07/20/2012**

Laboratory ID: **NG21001-035**
Matrix: **Aqueous**

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
2	5030B	8260B	1	07/31/2012 0028	DD		90265

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Benzene	71-43-2	8260B	ND		5.0	0.20	ug/L	2
1,2-Dichloroethane	107-06-2	8260B	ND		5.0	0.30	ug/L	2
Ethylbenzene	100-41-4	8260B	ND		5.0	1.7	ug/L	2
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		5.0	0.40	ug/L	2
Naphthalene	91-20-3	8260B	ND		5.0	1.7	ug/L	2
Toluene	108-88-3	8260B	ND		5.0	1.7	ug/L	2
Xylenes (total)	1330-20-7	8260B	ND		5.0	1.7	ug/L	2

Surrogate	Q	Run 2 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		112	70-130
Bromofluorobenzene		100	70-130
Toluene-d8		97	70-130

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
2	5030B	8260B	1	07/31/2012 0028	DD		90265

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Diisopropyl ether (IPE)	108-20-3	8260B	ND		5.0	0.40	ug/L	2
Ethanol	64-17-5	8260B	ND		100	33	ug/L	2
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		20	1.0	ug/L	2
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		1.0	0.20	ug/L	2
tert-Amyl alcohol (TAA)	75-85-4	8260B	ND		20	6.7	ug/L	2
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		10	0.20	ug/L	2
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		20	6.7	ug/L	2
tert-Butyl formate (TBF)	762-75-4	8260B	ND		5.0	1.0	ug/L	2

Surrogate	Q	Run 2 % Recovery	Acceptance Limits
Bromofluorobenzene		100	70-130
1,2-Dichloroethane-d4		112	70-130
Toluene-d8		97	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	07/25/2012 0027	AMB	07/24/2012 0851	89769

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
* = Reportable result (only when report all runs)
H = Out of holding time
N = Recovery is out of criteria

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **06588-MW-34**
Date Sampled: **07/17/2012 1455**
Date Received: **07/20/2012**

Laboratory ID: **NG21001-035**
Matrix: **Aqueous**

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	07/25/2012 0027	AMB	07/24/2012 0851	89769

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0.020	0.0061	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		84	57-137

ICP-AES

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	3005A	6010C	1	07/24/2012 1511	CDF	07/23/2012 2009	89741

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Lead	**7439-92-1**	**6010C**	**0.027**		**0.010**	**0.0019**	**mg/L**	**1**

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
H = Out of holding time
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
* = Reportable result (only when report all runs)

Client: **Bunnell-Lammons Engineering, Inc.** Laboratory ID: **NG21001-036**
Description: **06588-MW-35** Matrix: **Aqueous**
Date Sampled: **07/17/2012 1555**
Date Received: **07/20/2012**

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	07/29/2012 1547	BDC		90187

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Benzene	71-43-2	8260B	ND		5.0	0.20	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		5.0	0.30	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		5.0	1.7	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		5.0	0.40	ug/L	1
Naphthalene	91-20-3	8260B	ND		5.0	1.7	ug/L	1
Toluene	**108-88-3**	**8260B**	**270**		**5.0**	**1.7**	**ug/L**	**1**
Xylenes (total)	1330-20-7	8260B	ND		5.0	1.7	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		113	70-130
Bromofluorobenzene		109	70-130
Toluene-d8		97	70-130

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	07/29/2012 1547	BDC		90187

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Diisopropyl ether (IPE)	108-20-3	8260B	ND		5.0	0.40	ug/L	1
Ethanol	64-17-5	8260B	ND		100	33	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		20	1.0	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		1.0	0.20	ug/L	1
tert-Amyl alcohol (TAA)	75-85-4	8260B	ND		20	6.7	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		10	0.20	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		20	6.7	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260B	ND		5.0	1.0	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
Bromofluorobenzene		109	70-130
1,2-Dichloroethane-d4		113	70-130
Toluene-d8		97	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	07/25/2012 0048	AMB	07/24/2012 0851	89769

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
* = Reportable result (only when report all runs)
H = Out of holding time
N = Recovery is out of criteria

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **06588-MW-35**
Date Sampled: **07/17/2012 1555**
Date Received: **07/20/2012**

Laboratory ID: **NG21001-036**
Matrix: **Aqueous**

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	07/25/2012 0048	AMB	07/24/2012 0851	89769

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0.019	0.0060	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		93	57-137

ICP-AES

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	3005A	6010C	1	07/24/2012 1515	CDF	07/23/2012 2009	89741

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Lead	**7439-92-1**	**6010C**	**0.0032**	**J**	**0.010**	**0.0019**	**mg/L**	**1**

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
* = Reportable result (only when report all runs)
H = Out of holding time
N = Recovery is out of criteria

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **06588-MW-36**
Date Sampled: **07/18/2012 1240**
Date Received: **07/20/2012**

Laboratory ID: **NG21001-037**
Matrix: **Aqueous**

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
2	5030B	8260B	1	07/31/2012 0052	DD		90265

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Benzene	71-43-2	8260B	ND		5.0	0.20	ug/L	2
1,2-Dichloroethane	107-06-2	8260B	ND		5.0	0.30	ug/L	2
Ethylbenzene	100-41-4	8260B	ND		5.0	1.7	ug/L	2
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		5.0	0.40	ug/L	2
Naphthalene	91-20-3	8260B	ND		5.0	1.7	ug/L	2
Toluene	108-88-3	8260B	ND		5.0	1.7	ug/L	2
Xylenes (total)	1330-20-7	8260B	ND		5.0	1.7	ug/L	2

Surrogate	Q	Run 2 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		114	70-130
Bromofluorobenzene		99	70-130
Toluene-d8		95	70-130

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
2	5030B	8260B	1	07/31/2012 0052	DD		90265

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Diisopropyl ether (IPE)	108-20-3	8260B	ND		5.0	0.40	ug/L	2
Ethanol	64-17-5	8260B	ND		100	33	ug/L	2
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		20	1.0	ug/L	2
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		1.0	0.20	ug/L	2
tert-Amyl alcohol (TAA)	75-85-4	8260B	ND		20	6.7	ug/L	2
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		10	0.20	ug/L	2
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		20	6.7	ug/L	2
tert-Butyl formate (TBF)	762-75-4	8260B	ND		5.0	1.0	ug/L	2

Surrogate	Q	Run 2 % Recovery	Acceptance Limits
Bromofluorobenzene		99	70-130
1,2-Dichloroethane-d4		114	70-130
Toluene-d8		95	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	07/25/2012 0110	AMB	07/24/2012 0851	89769

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
* = Reportable result (only when report all runs)
H = Out of holding time
N = Recovery is out of criteria

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **06588-MW-36**
Date Sampled: **07/18/2012 1240**
Date Received: **07/20/2012**

Laboratory ID: **NG21001-037**
Matrix: **Aqueous**

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	07/25/2012 0110	AMB	07/24/2012 0851	89769

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0.020	0.0061	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		88	57-137

ICP-AES

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	3005A	6010C	1	07/24/2012 1518	CDF	07/23/2012 2009	89741

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Lead	7439-92-1	6010C	ND		0.010	0.0019	mg/L	1

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
* = Reportable result (only when report all runs)
H = Out of holding time
N = Recovery is out of criteria

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **06588-MW-37**
Date Sampled: **07/18/2012 1210**
Date Received: **07/20/2012**

Laboratory ID: **NG21001-038**
Matrix: **Aqueous**

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
2	5030B	8260B	1	07/31/2012 0116	DD		90265

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Benzene	71-43-2	8260B	ND		5.0	0.20	ug/L	2
1,2-Dichloroethane	107-06-2	8260B	ND		5.0	0.30	ug/L	2
Ethylbenzene	100-41-4	8260B	ND		5.0	1.7	ug/L	2
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		5.0	0.40	ug/L	2
Naphthalene	91-20-3	8260B	ND		5.0	1.7	ug/L	2
Toluene	108-88-3	8260B	ND		5.0	1.7	ug/L	2
Xylenes (total)	1330-20-7	8260B	ND		5.0	1.7	ug/L	2

Surrogate	Q	Run 2 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		115	70-130
Bromofluorobenzene		99	70-130
Toluene-d8		95	70-130

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
2	5030B	8260B	1	07/31/2012 0116	DD		90265

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Diisopropyl ether (IPE)	108-20-3	8260B	ND		5.0	0.40	ug/L	2
Ethanol	64-17-5	8260B	ND		100	33	ug/L	2
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		20	1.0	ug/L	2
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		1.0	0.20	ug/L	2
tert-Amyl alcohol (TAA)	75-85-4	8260B	ND		20	6.7	ug/L	2
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		10	0.20	ug/L	2
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		20	6.7	ug/L	2
tert-Butyl formate (TBF)	762-75-4	8260B	ND		5.0	1.0	ug/L	2

Surrogate	Q	Run 2 % Recovery	Acceptance Limits
Bromofluorobenzene		99	70-130
1,2-Dichloroethane-d4		115	70-130
Toluene-d8		95	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	07/25/2012 0131	AMB	07/24/2012 0851	89769

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
H = Out of holding time
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
* = Reportable result (only when report all runs)

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **06588-MW-37**
Date Sampled: **07/18/2012 1210**
Date Received: **07/20/2012**

Laboratory ID: **NG21001-038**
Matrix: **Aqueous**

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	07/25/2012 0131	AMB	07/24/2012 0851	89769

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0.020	0.0062	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		90	57-137

ICP-AES

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	3005A	6010C	1	07/24/2012 1522	CDF	07/23/2012 2009	89741

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Lead	**7439-92-1**	**6010C**	**0.0061**	**J**	**0.010**	**0.0019**	**mg/L**	**1**

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
H = Out of holding time
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
* = Reportable result (only when report all runs)

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **06588-MW-38**
Date Sampled: **07/18/2012 1015**
Date Received: **07/20/2012**

Laboratory ID: **NG21001-039**
Matrix: **Aqueous**

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
2	5030B	8260B	1	07/31/2012 0140	DD		90265

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Benzene	71-43-2	8260B	ND		5.0	0.20	ug/L	2
1,2-Dichloroethane	107-06-2	8260B	ND		5.0	0.30	ug/L	2
Ethylbenzene	100-41-4	8260B	ND		5.0	1.7	ug/L	2
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		5.0	0.40	ug/L	2
Naphthalene	91-20-3	8260B	ND		5.0	1.7	ug/L	2
Toluene	108-88-3	8260B	ND		5.0	1.7	ug/L	2
Xylenes (total)	1330-20-7	8260B	ND		5.0	1.7	ug/L	2

Surrogate	Q	Run 2 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		115	70-130
Bromofluorobenzene		98	70-130
Toluene-d8		96	70-130

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
2	5030B	8260B	1	07/31/2012 0140	DD		90265

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Diisopropyl ether (IPE)	108-20-3	8260B	ND		5.0	0.40	ug/L	2
Ethanol	64-17-5	8260B	ND		100	33	ug/L	2
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		20	1.0	ug/L	2
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		1.0	0.20	ug/L	2
tert-Amyl alcohol (TAA)	75-85-4	8260B	ND		20	6.7	ug/L	2
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		10	0.20	ug/L	2
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		20	6.7	ug/L	2
tert-Butyl formate (TBF)	762-75-4	8260B	ND		5.0	1.0	ug/L	2

Surrogate	Q	Run 2 % Recovery	Acceptance Limits
Bromofluorobenzene		98	70-130
1,2-Dichloroethane-d4		115	70-130
Toluene-d8		96	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	07/25/2012 0152	AMB	07/24/2012 0851	89769

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
H = Out of holding time
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
* = Reportable result (only when report all runs)

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **06588-MW-38**
Date Sampled: **07/18/2012 1015**
Date Received: **07/20/2012**

Laboratory ID: **NG21001-039**
Matrix: **Aqueous**

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	07/25/2012 0152	AMB	07/24/2012 0851	89769

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0.020	0.0061	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		92	57-137

ICP-AES

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	3005A	6010C	1	07/24/2012 1526	CDF	07/23/2012 2009	89741

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Lead	**7439-92-1**	**6010C**	**0.0093**	**J**	**0.010**	**0.0019**	**mg/L**	**1**

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
H = Out of holding time
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
* = Reportable result (only when report all runs)

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **06588-MW-39**
Date Sampled: **07/18/2012 1030**
Date Received: **07/20/2012**

Laboratory ID: **NG21001-040**
Matrix: **Aqueous**

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
2	5030B	8260B	1	07/31/2012 0204	DD		90265

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Benzene	71-43-2	8260B	ND		5.0	0.20	ug/L	2
1,2-Dichloroethane	107-06-2	8260B	ND		5.0	0.30	ug/L	2
Ethylbenzene	100-41-4	8260B	ND		5.0	1.7	ug/L	2
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		5.0	0.40	ug/L	2
Naphthalene	91-20-3	8260B	ND		5.0	1.7	ug/L	2
Toluene	108-88-3	8260B	ND		5.0	1.7	ug/L	2
Xylenes (total)	1330-20-7	8260B	ND		5.0	1.7	ug/L	2

Surrogate	Q	Run 2 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		115	70-130
Bromofluorobenzene		100	70-130
Toluene-d8		97	70-130

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
2	5030B	8260B	1	07/31/2012 0204	DD		90265

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Diisopropyl ether (IPE)	108-20-3	8260B	ND		5.0	0.40	ug/L	2
Ethanol	64-17-5	8260B	ND		100	33	ug/L	2
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		20	1.0	ug/L	2
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		1.0	0.20	ug/L	2
tert-Amyl alcohol (TAA)	75-85-4	8260B	ND		20	6.7	ug/L	2
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		10	0.20	ug/L	2
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		20	6.7	ug/L	2
tert-Butyl formate (TBF)	762-75-4	8260B	ND		5.0	1.0	ug/L	2

Surrogate	Q	Run 2 % Recovery	Acceptance Limits
Bromofluorobenzene		100	70-130
1,2-Dichloroethane-d4		115	70-130
Toluene-d8		97	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	07/25/2012 0213	AMB	07/24/2012 0851	89769

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
H = Out of holding time
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
* = Reportable result (only when report all runs)

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **06588-MW-39**
Date Sampled: **07/18/2012 1030**
Date Received: **07/20/2012**

Laboratory ID: **NG21001-040**
Matrix: **Aqueous**

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	07/25/2012 0213	AMB	07/24/2012 0851	89769

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0.019	0.0060	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		80	57-137

ICP-AES

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	3005A	6010C	1	07/24/2012 1530	CDF	07/23/2012 2009	89741

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Lead	**7439-92-1**	**6010C**	**0.0039**	**J**	**0.010**	**0.0019**	**mg/L**	**1**

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
H = Out of holding time
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
* = Reportable result (only when report all runs)

Client: **Bunnell-Lammons Engineering, Inc.**	Laboratory ID: **NG21001-041**
Description: **06588-MW-40**	Matrix: **Aqueous**
Date Sampled: **07/17/2012 0945**	
Date Received: **07/20/2012**	

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	5	07/30/2012 1603	BDC		90234

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Benzene	**71-43-2**	**8260B**	**830**		**25**	**1.0**	**ug/L**	**1**
1,2-Dichloroethane	107-06-2	8260B	ND		25	1.5	ug/L	1
Ethylbenzene	**100-41-4**	**8260B**	**48**		**25**	**8.5**	**ug/L**	**1**
Methyl tertiary butyl ether (MTBE)	**1634-04-4**	**8260B**	**150**		**25**	**2.0**	**ug/L**	**1**
Naphthalene	**91-20-3**	**8260B**	**96**		**25**	**8.5**	**ug/L**	**1**
Toluene	**108-88-3**	**8260B**	**30**		**25**	**8.5**	**ug/L**	**1**
Xylenes (total)	**1330-20-7**	**8260B**	**310**		**25**	**8.5**	**ug/L**	**1**

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		111	70-130
Bromofluorobenzene		97	70-130
Toluene-d8		96	70-130

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	5	07/30/2012 1603	BDC		90234

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Diisopropyl ether (IPE)	**108-20-3**	**8260B**	**5.9**	**J**	**25**	**2.0**	**ug/L**	**1**
Ethanol	64-17-5	8260B	ND		500	170	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		100	5.0	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		5.0	1.0	ug/L	1
tert-Amyl alcohol (TAA)	**75-85-4**	**8260B**	**740**		**100**	**34**	**ug/L**	**1**
tert-Amyl methyl ether (TAME)	**994-05-8**	**8260B**	**50**		**50**	**1.0**	**ug/L**	**1**
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		100	34	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260B	ND		25	5.0	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
Bromofluorobenzene		97	70-130
1,2-Dichloroethane-d4		111	70-130
Toluene-d8		96	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	07/25/2012 0234	AMB	07/24/2012 0851	89769

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
H = Out of holding time
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
* = Reportable result (only when report all runs)

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **06588-MW-40**
Date Sampled: **07/17/2012 0945**
Date Received: **07/20/2012**

Laboratory ID: **NG21001-041**
Matrix: **Aqueous**

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	07/25/2012 0234	AMB	07/24/2012 0851	89769

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,2-Dibromoethane (EDB)	**106-93-4**	**8011**	**0.15**		**0.020**	**0.0061**	**ug/L**	**1**

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		110	57-137

ICP-AES

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	3005A	6010C	1	07/24/2012 1553	CDF	07/23/2012 2009	89742

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Lead	7439-92-1	6010C	ND		0.010	0.0019	mg/L	1

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
* = Reportable result (only when report all runs)
H = Out of holding time
N = Recovery is out of criteria

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **06588-MW-40 DUP**
Date Sampled: **07/17/2012 0947**
Date Received: **07/20/2012**

Laboratory ID: **NG21001-042**
Matrix: **Aqueous**

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
2	5030B	8260B	5	07/31/2012 0228	DD		90265

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Benzene	**71-43-2**	**8260B**	**790**		**25**	**1.0**	**ug/L**	**2**
1,2-Dichloroethane	107-06-2	8260B	ND		25	1.5	ug/L	2
Ethylbenzene	**100-41-4**	**8260B**	**46**		**25**	**8.5**	**ug/L**	**2**
Methyl tertiary butyl ether (MTBE)	**1634-04-4**	**8260B**	**140**		**25**	**2.0**	**ug/L**	**2**
Naphthalene	**91-20-3**	**8260B**	**88**		**25**	**8.5**	**ug/L**	**2**
Toluene	**108-88-3**	**8260B**	**29**		**25**	**8.5**	**ug/L**	**2**
Xylenes (total)	**1330-20-7**	**8260B**	**310**		**25**	**8.5**	**ug/L**	**2**

Surrogate	Q	Run 2 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		113	70-130
Bromofluorobenzene		100	70-130
Toluene-d8		98	70-130

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
2	5030B	8260B	5	07/31/2012 0228	DD		90265

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Diisopropyl ether (IPE)	**108-20-3**	**8260B**	**6.1**	**J**	**25**	**2.0**	**ug/L**	**2**
Ethanol	64-17-5	8260B	ND		500	170	ug/L	2
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		100	5.0	ug/L	2
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		5.0	1.0	ug/L	2
tert-Amyl alcohol (TAA)	**75-85-4**	**8260B**	**670**		**100**	**34**	**ug/L**	**2**
tert-Amyl methyl ether (TAME)	**994-05-8**	**8260B**	**48**	**J**	**50**	**1.0**	**ug/L**	**2**
tert-butyl alcohol (TBA)	**75-65-0**	**8260B**	**39**	**J**	**100**	**34**	**ug/L**	**2**
tert-Butyl formate (TBF)	762-75-4	8260B	ND		25	5.0	ug/L	2

Surrogate	Q	Run 2 % Recovery	Acceptance Limits
Bromofluorobenzene		100	70-130
1,2-Dichloroethane-d4		113	70-130
Toluene-d8		98	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	07/25/2012 0256	AMB	07/24/2012 0851	89769

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
H = Out of holding time
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
* = Reportable result (only when report all runs)

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **06588-MW-40 DUP**
Date Sampled: **07/17/2012 0947**
Date Received: **07/20/2012**

Laboratory ID: **NG21001-042**
Matrix: **Aqueous**

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	07/25/2012 0256	AMB	07/24/2012 0851	89769

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,2-Dibromoethane (EDB)	**106-93-4**	**8011**	**0.18**		**0.020**	**0.0062**	**ug/L**	**1**

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		120	57-137

ICP-AES

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	3005A	6010C	1	07/24/2012 1608	CDF	07/23/2012 2009	89742

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Lead	7439-92-1	6010C	ND		0.010	0.0019	mg/L	1

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
* = Reportable result (only when report all runs)
H = Out of holding time
N = Recovery is out of criteria

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **06588-MW-41D**
Date Sampled: **07/18/2012 0917**
Date Received: **07/20/2012**

Laboratory ID: **NG21001-043**
Matrix: **Aqueous**

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
2	5030B	8260B	20	07/31/2012 0253	DD		90265

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Benzene	**71-43-2**	**8260B**	**3600**		**100**	**4.0**	**ug/L**	**2**
1,2-Dichloroethane	**107-06-2**	**8260B**	**190**		**100**	**6.0**	**ug/L**	**2**
Ethylbenzene	**100-41-4**	**8260B**	**140**		**100**	**34**	**ug/L**	**2**
Methyl tertiary butyl ether (MTBE)	**1634-04-4**	**8260B**	**1800**		**100**	**8.0**	**ug/L**	**2**
Naphthalene	91-20-3	8260B	ND		100	34	ug/L	2
Toluene	108-88-3	8260B	ND		100	34	ug/L	2
Xylenes (total)	1330-20-7	8260B	ND		100	34	ug/L	2

Surrogate	Q	Run 2 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		114	70-130
Bromofluorobenzene		100	70-130
Toluene-d8		95	70-130

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
2	5030B	8260B	20	07/31/2012 0253	DD		90265

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Diisopropyl ether (IPE)	**108-20-3**	**8260B**	**230**		**100**	**8.0**	**ug/L**	**2**
Ethanol	64-17-5	8260B	ND		2000	660	ug/L	2
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		400	20	ug/L	2
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		20	4.0	ug/L	2
tert-Amyl alcohol (TAA)	**75-85-4**	**8260B**	**7400**		**400**	**130**	**ug/L**	**2**
tert-Amyl methyl ether (TAME)	**994-05-8**	**8260B**	**62**	**J**	**200**	**4.0**	**ug/L**	**2**
tert-butyl alcohol (TBA)	**75-65-0**	**8260B**	**3600**		**400**	**130**	**ug/L**	**2**
tert-Butyl formate (TBF)	762-75-4	8260B	ND		100	20	ug/L	2

Surrogate	Q	Run 2 % Recovery	Acceptance Limits
Bromofluorobenzene		100	70-130
1,2-Dichloroethane-d4		114	70-130
Toluene-d8		95	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	07/25/2012 0317	AMB	07/24/2012 0851	89769

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
H = Out of holding time
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
* = Reportable result (only when report all runs)

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **06588-MW-41D**
Date Sampled: **07/18/2012 0917**
Date Received: **07/20/2012**

Laboratory ID: **NG21001-043**
Matrix: **Aqueous**

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	07/25/2012 0317	AMB	07/24/2012 0851	89769

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0.020	0.0061	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		129	57-137

ICP-AES

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	3005A	6010C	1	07/24/2012 1616	CDF	07/23/2012 2009	89742

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Lead	**7439-92-1**	**6010C**	**0.0033**	**J**	**0.010**	**0.0019**	**mg/L**	**1**

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
* = Reportable result (only when report all runs)
H = Out of holding time
N = Recovery is out of criteria

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **06588-MW-42**
Date Sampled: **07/18/2012 1225**
Date Received: **07/20/2012**

Laboratory ID: **NG21001-044**
Matrix: **Aqueous**

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	07/29/2012 1610	AAC		90189

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Benzene	71-43-2	8260B	ND		5.0	0.20	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		5.0	0.30	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		5.0	1.7	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		5.0	0.40	ug/L	1
Naphthalene	91-20-3	8260B	ND		5.0	1.7	ug/L	1
Toluene	108-88-3	8260B	ND		5.0	1.7	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		5.0	1.7	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		113	70-130
Bromofluorobenzene		96	70-130
Toluene-d8		98	70-130

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	07/29/2012 1610	AAC		90189

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Diisopropyl ether (IPE)	108-20-3	8260B	ND		5.0	0.40	ug/L	1
Ethanol	64-17-5	8260B	ND		100	33	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		20	1.0	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		1.0	0.20	ug/L	1
tert-Amyl alcohol (TAA)	75-85-4	8260B	ND		20	6.7	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		10	0.20	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		20	6.7	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260B	ND		5.0	1.0	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
Bromofluorobenzene		96	70-130
1,2-Dichloroethane-d4		113	70-130
Toluene-d8		98	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	07/25/2012 0338	AMB	07/24/2012 0851	89769

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
* = Reportable result (only when report all runs)
H = Out of holding time
N = Recovery is out of criteria

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **06588-MW-42**
Date Sampled: **07/18/2012 1225**
Date Received: **07/20/2012**

Laboratory ID: **NG21001-044**
Matrix: **Aqueous**

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	07/25/2012 0338	AMB	07/24/2012 0851	89769

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0.020	0.0062	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		99	57-137

ICP-AES

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	3005A	6010C	1	07/24/2012 1627	CDF	07/23/2012 2009	89742

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Lead	**7439-92-1**	**6010C**	**0.0048**	**J**	**0.010**	**0.0019**	**mg/L**	**1**

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
* = Reportable result (only when report all runs)
H = Out of holding time
N = Recovery is out of criteria

Client: **Bunnell-Lammons Engineering, Inc.** Laboratory ID: **NG21001-045**
Description: **06588-MW-42D** Matrix: **Aqueous**
Date Sampled: **07/18/2012 1151**
Date Received: **07/20/2012**

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	07/29/2012 1634	AAC		90189

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Benzene	**71-43-2**	**8260B**	**1.4**	**J**	**5.0**	**0.20**	**ug/L**	**1**
1,2-Dichloroethane	107-06-2	8260B	ND		5.0	0.30	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		5.0	1.7	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		5.0	0.40	ug/L	1
Naphthalene	91-20-3	8260B	ND		5.0	1.7	ug/L	1
Toluene	108-88-3	8260B	ND		5.0	1.7	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		5.0	1.7	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		114	70-130
Bromofluorobenzene		96	70-130
Toluene-d8		99	70-130

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	07/29/2012 1634	AAC		90189

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Diisopropyl ether (IPE)	108-20-3	8260B	ND		5.0	0.40	ug/L	1
Ethanol	64-17-5	8260B	ND		100	33	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		20	1.0	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		1.0	0.20	ug/L	1
tert-Amyl alcohol (TAA)	75-85-4	8260B	ND		20	6.7	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		10	0.20	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		20	6.7	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260B	ND		5.0	1.0	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
Bromofluorobenzene		96	70-130
1,2-Dichloroethane-d4		114	70-130
Toluene-d8		99	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	07/25/2012 0359	AMB	07/24/2012 0851	89769

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
* = Reportable result (only when report all runs)
H = Out of holding time
N = Recovery is out of criteria

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **06588-MW-42D**
Date Sampled: **07/18/2012 1151**
Date Received: **07/20/2012**

Laboratory ID: **NG21001-045**
Matrix: **Aqueous**

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	07/25/2012 0359	AMB	07/24/2012 0851	89769

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0.019	0.0060	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		95	57-137

ICP-AES

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	3005A	6010C	1	07/24/2012 1631	CDF	07/23/2012 2009	89742

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Lead	**7439-92-1**	**6010C**	**0.017**		**0.010**	**0.0019**	**mg/L**	**1**

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
* = Reportable result (only when report all runs)
H = Out of holding time
N = Recovery is out of criteria

Client: **Bunnell-Lammons Engineering, Inc.**	Laboratory ID: **NG21001-046**
Description: **06588-MW-43D**	Matrix: **Aqueous**
Date Sampled: **07/18/2012 1106**	
Date Received: **07/20/2012**	

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	07/29/2012 1659	AAC		90189

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Benzene	71-43-2	8260B	ND		5.0	0.20	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		5.0	0.30	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		5.0	1.7	ug/L	1
Methyl tertiary butyl ether (MTBE)	**1634-04-4**	**8260B**	**9.0**		**5.0**	**0.40**	**ug/L**	**1**
Naphthalene	91-20-3	8260B	ND		5.0	1.7	ug/L	1
Toluene	108-88-3	8260B	ND		5.0	1.7	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		5.0	1.7	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		114	70-130
Bromofluorobenzene		96	70-130
Toluene-d8		98	70-130

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	07/29/2012 1659	AAC		90189

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Diisopropyl ether (IPE)	108-20-3	8260B	ND		5.0	0.40	ug/L	1
Ethanol	64-17-5	8260B	ND		100	33	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		20	1.0	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		1.0	0.20	ug/L	1
tert-Amyl alcohol (TAA)	75-85-4	8260B	ND		20	6.7	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		10	0.20	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		20	6.7	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260B	ND		5.0	1.0	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
Bromofluorobenzene		96	70-130
1,2-Dichloroethane-d4		114	70-130
Toluene-d8		98	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	07/25/2012 0420	AMB	07/24/2012 0851	89769

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
* = Reportable result (only when report all runs)
H = Out of holding time
N = Recovery is out of criteria

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **06588-MW-43D**
Date Sampled: **07/18/2012 1106**
Date Received: **07/20/2012**

Laboratory ID: **NG21001-046**
Matrix: **Aqueous**

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	07/25/2012 0420	AMB	07/24/2012 0851	89769

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0.020	0.0063	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		81	57-137

ICP-AES

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	3005A	6010C	1	07/24/2012 1635	CDF	07/23/2012 2009	89742

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Lead	**7439-92-1**	**6010C**	**0.011**		**0.010**	**0.0019**	**mg/L**	**1**

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
* = Reportable result (only when report all runs)
H = Out of holding time
N = Recovery is out of criteria

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **DW-1**
Date Sampled: **07/18/2012 1530**
Date Received: **07/20/2012**

Laboratory ID: **NG21001-047**
Matrix: **Aqueous**

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	07/31/2012 0317	DD		90265

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Benzene	71-43-2	8260B	ND		5.0	0.20	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		5.0	0.30	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		5.0	1.7	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		5.0	0.40	ug/L	1
Naphthalene	91-20-3	8260B	ND		5.0	1.7	ug/L	1
Toluene	108-88-3	8260B	ND		5.0	1.7	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		5.0	1.7	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		119	70-130
Bromofluorobenzene		105	70-130
Toluene-d8		98	70-130

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	07/31/2012 0317	DD		90265

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Diisopropyl ether (IPE)	108-20-3	8260B	ND		5.0	0.40	ug/L	1
Ethanol	64-17-5	8260B	ND		100	33	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		20	1.0	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		1.0	0.20	ug/L	1
tert-Amyl alcohol (TAA)	75-85-4	8260B	ND		20	6.7	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		10	0.20	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		20	6.7	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260B	ND		5.0	1.0	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
Bromofluorobenzene		105	70-130
1,2-Dichloroethane-d4		119	70-130
Toluene-d8		98	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	07/25/2012 0442	AMB	07/24/2012 0851	89769

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
H = Out of holding time
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
* = Reportable result (only when report all runs)

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **DW-1**
Date Sampled: **07/18/2012 1530**
Date Received: **07/20/2012**

Laboratory ID: **NG21001-047**
Matrix: **Aqueous**

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	07/25/2012 0442	AMB	07/24/2012 0851	89769

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0.019	0.0060	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		98	57-137

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
* = Reportable result (only when report all runs)
H = Out of holding time
N = Recovery is out of criteria

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **DW-3**
Date Sampled: **07/18/2012 1615**
Date Received: **07/20/2012**

Laboratory ID: **NG21001-048**
Matrix: **Aqueous**

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	07/31/2012 0341	DD		90265

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Benzene	71-43-2	8260B	ND		5.0	0.20	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		5.0	0.30	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		5.0	1.7	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		5.0	0.40	ug/L	1
Naphthalene	91-20-3	8260B	ND		5.0	1.7	ug/L	1
Toluene	108-88-3	8260B	ND		5.0	1.7	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		5.0	1.7	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		113	70-130
Bromofluorobenzene		97	70-130
Toluene-d8		96	70-130

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	07/31/2012 0341	DD		90265

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Diisopropyl ether (IPE)	108-20-3	8260B	ND		5.0	0.40	ug/L	1
Ethanol	64-17-5	8260B	ND		100	33	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		20	1.0	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		1.0	0.20	ug/L	1
tert-Amyl alcohol (TAA)	75-85-4	8260B	ND		20	6.7	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		10	0.20	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		20	6.7	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260B	ND		5.0	1.0	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
Bromofluorobenzene		97	70-130
1,2-Dichloroethane-d4		113	70-130
Toluene-d8		96	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	07/25/2012 0503	AMB	07/24/2012 0851	89769

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
H = Out of holding time
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
* = Reportable result (only when report all runs)

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **DW-3**
Date Sampled: **07/18/2012 1615**
Date Received: **07/20/2012**

Laboratory ID: **NG21001-048**
Matrix: **Aqueous**

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	07/25/2012 0503	AMB	07/24/2012 0851	89769

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0.020	0.0061	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		99	57-137

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
H = Out of holding time
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
* = Reportable result (only when report all runs)

Client: **Bunnell-Lammons Engineering, Inc.** Laboratory ID: **NG21001-049**
Description: **DW-5** Matrix: **Aqueous**
Date Sampled: **07/18/2012 1415**
Date Received: **07/20/2012**

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	07/29/2012 1723	AAC		90189

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Benzene	71-43-2	8260B	ND		5.0	0.20	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		5.0	0.30	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		5.0	1.7	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		5.0	0.40	ug/L	1
Naphthalene	91-20-3	8260B	ND		5.0	1.7	ug/L	1
Toluene	108-88-3	8260B	ND		5.0	1.7	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		5.0	1.7	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		114	70-130
Bromofluorobenzene		96	70-130
Toluene-d8		98	70-130

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	07/29/2012 1723	AAC		90189

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Diisopropyl ether (IPE)	108-20-3	8260B	ND		5.0	0.40	ug/L	1
Ethanol	64-17-5	8260B	ND		100	33	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		20	1.0	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		1.0	0.20	ug/L	1
tert-Amyl alcohol (TAA)	75-85-4	8260B	ND		20	6.7	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		10	0.20	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		20	6.7	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260B	ND		5.0	1.0	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
Bromofluorobenzene		96	70-130
1,2-Dichloroethane-d4		114	70-130
Toluene-d8		98	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	07/25/2012 0524	AMB	07/24/2012 0851	89769

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
H = Out of holding time
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
* = Reportable result (only when report all runs)

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **DW-5**
Date Sampled: **07/18/2012 1415**
Date Received: **07/20/2012**

Laboratory ID: **NG21001-049**
Matrix: **Aqueous**

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	07/25/2012 0524	AMB	07/24/2012 0851	89769

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0.020	0.0061	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		98	57-137

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
H = Out of holding time
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
* = Reportable result (only when report all runs)

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **DW-8**
Date Sampled: **07/18/2012 1500**
Date Received: **07/20/2012**

Laboratory ID: **NG21001-050**
Matrix: **Aqueous**

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	07/29/2012 1748	AAC		90189

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Benzene	71-43-2	8260B	ND		5.0	0.20	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		5.0	0.30	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		5.0	1.7	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		5.0	0.40	ug/L	1
Naphthalene	91-20-3	8260B	ND		5.0	1.7	ug/L	1
Toluene	108-88-3	8260B	ND		5.0	1.7	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		5.0	1.7	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		117	70-130
Bromofluorobenzene		96	70-130
Toluene-d8		98	70-130

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	07/29/2012 1748	AAC		90189

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Diisopropyl ether (IPE)	108-20-3	8260B	ND		5.0	0.40	ug/L	1
Ethanol	64-17-5	8260B	ND		100	33	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		20	1.0	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		1.0	0.20	ug/L	1
tert-Amyl alcohol (TAA)	75-85-4	8260B	ND		20	6.7	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		10	0.20	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		20	6.7	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260B	ND		5.0	1.0	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
Bromofluorobenzene		96	70-130
1,2-Dichloroethane-d4		117	70-130
Toluene-d8		98	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	07/25/2012 0546	AMB	07/24/2012 0851	89769

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
H = Out of holding time
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
* = Reportable result (only when report all runs)

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **DW-8**
Date Sampled: **07/18/2012 1500**
Date Received: **07/20/2012**

Laboratory ID: **NG21001-050**
Matrix: **Aqueous**

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	07/25/2012 0546	AMB	07/24/2012 0851	89769

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0.019	0.0060	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		100	57-137

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
* = Reportable result (only when report all runs)
H = Out of holding time
N = Recovery is out of criteria

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **SW-1**
Date Sampled: **07/18/2012 1245**
Date Received: **07/20/2012**

Laboratory ID: **NG21001-052**
Matrix: **Aqueous**

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	07/29/2012 1812	AAC		90189

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Benzene	71-43-2	8260B	ND		5.0	0.20	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		5.0	0.30	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		5.0	1.7	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		5.0	0.40	ug/L	1
Naphthalene	91-20-3	8260B	ND		5.0	1.7	ug/L	1
Toluene	108-88-3	8260B	ND		5.0	1.7	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		5.0	1.7	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		115	70-130
Bromofluorobenzene		97	70-130
Toluene-d8		98	70-130

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	07/29/2012 1812	AAC		90189

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Diisopropyl ether (IPE)	108-20-3	8260B	ND		5.0	0.40	ug/L	1
Ethanol	64-17-5	8260B	ND		100	33	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		20	1.0	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		1.0	0.20	ug/L	1
tert-Amyl alcohol (TAA)	75-85-4	8260B	ND		20	6.7	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		10	0.20	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		20	6.7	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260B	ND		5.0	1.0	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
Bromofluorobenzene		97	70-130
1,2-Dichloroethane-d4		115	70-130
Toluene-d8		98	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	07/25/2012 0607	AMB	07/24/2012 0851	89769

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
H = Out of holding time
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
* = Reportable result (only when report all runs)

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **SW-1**
Date Sampled: **07/18/2012 1245**
Date Received: **07/20/2012**

Laboratory ID: **NG21001-052**
Matrix: **Aqueous**

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	07/25/2012 0607	AMB	07/24/2012 0851	89769

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0.019	0.0060	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		97	57-137

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
* = Reportable result (only when report all runs)
H = Out of holding time
N = Recovery is out of criteria

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **FIELD BLANK 1**
Date Sampled: **07/16/2012 1430**
Date Received: **07/20/2012**

Laboratory ID: **NG21001-053**
Matrix: **Aqueous**

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	07/29/2012 1837	AAC		90189

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Benzene	71-43-2	8260B	ND		5.0	0.20	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		5.0	0.30	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		5.0	1.7	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		5.0	0.40	ug/L	1
Naphthalene	91-20-3	8260B	ND		5.0	1.7	ug/L	1
Toluene	108-88-3	8260B	ND		5.0	1.7	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		5.0	1.7	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		114	70-130
Bromofluorobenzene		97	70-130
Toluene-d8		99	70-130

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	07/29/2012 1837	AAC		90189

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Diisopropyl ether (IPE)	108-20-3	8260B	ND		5.0	0.40	ug/L	1
Ethanol	64-17-5	8260B	ND		100	33	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		20	1.0	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		1.0	0.20	ug/L	1
tert-Amyl alcohol (TAA)	75-85-4	8260B	ND		20	6.7	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		10	0.20	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		20	6.7	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260B	ND		5.0	1.0	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
Bromofluorobenzene		97	70-130
1,2-Dichloroethane-d4		114	70-130
Toluene-d8		99	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	07/30/2012 1825	AMB	07/25/2012 2030	89954

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
H = Out of holding time
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
* = Reportable result (only when report all runs)

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **FIELD BLANK 1**
Date Sampled: **07/16/2012 1430**
Date Received: **07/20/2012**

Laboratory ID: **NG21001-053**
Matrix: **Aqueous**

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	07/30/2012 1825	AMB	07/25/2012 2030	89954

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0.020	0.0061	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		101	57-137

ICP-AES

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	3005A	6010C	1	07/24/2012 1639	CDF	07/23/2012 2009	89742

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Lead	7439-92-1	6010C	ND		0.010	0.0019	mg/L	1

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
H = Out of holding time
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
* = Reportable result (only when report all runs)

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **FIELD BLANK 2**
Date Sampled: **07/17/2012 0930**
Date Received: **07/20/2012**

Laboratory ID: **NG21001-054**
Matrix: **Aqueous**

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	07/29/2012 1901	AAC		90189

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Benzene	71-43-2	8260B	ND		5.0	0.20	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		5.0	0.30	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		5.0	1.7	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		5.0	0.40	ug/L	1
Naphthalene	91-20-3	8260B	ND		5.0	1.7	ug/L	1
Toluene	108-88-3	8260B	ND		5.0	1.7	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		5.0	1.7	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		116	70-130
Bromofluorobenzene		97	70-130
Toluene-d8		99	70-130

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	07/29/2012 1901	AAC		90189

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Diisopropyl ether (IPE)	108-20-3	8260B	ND		5.0	0.40	ug/L	1
Ethanol	64-17-5	8260B	ND		100	33	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		20	1.0	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		1.0	0.20	ug/L	1
tert-Amyl alcohol (TAA)	75-85-4	8260B	ND		20	6.7	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		10	0.20	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		20	6.7	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260B	ND		5.0	1.0	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
Bromofluorobenzene		97	70-130
1,2-Dichloroethane-d4		116	70-130
Toluene-d8		99	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	07/30/2012 1846	AMB	07/25/2012 2030	89954

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
H = Out of holding time
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
* = Reportable result (only when report all runs)

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **FIELD BLANK 2**
Date Sampled: **07/17/2012 0930**
Date Received: **07/20/2012**

Laboratory ID: **NG21001-054**
Matrix: **Aqueous**

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	07/30/2012 1846	AMB	07/25/2012 2030	89954

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0.020	0.0061	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		102	57-137

ICP-AES

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	3005A	6010C	1	07/24/2012 1643	CDF	07/23/2012 2009	89742

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Lead	7439-92-1	6010C	ND		0.010	0.0019	mg/L	1

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
H = Out of holding time
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
* = Reportable result (only when report all runs)

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **FIELD BLANK 3**
Date Sampled: **07/18/2012 0845**
Date Received: **07/20/2012**

Laboratory ID: **NG21001-055**
Matrix: **Aqueous**

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	07/29/2012 1925	AAC		90189

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Benzene	71-43-2	8260B	ND		5.0	0.20	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		5.0	0.30	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		5.0	1.7	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		5.0	0.40	ug/L	1
Naphthalene	91-20-3	8260B	ND		5.0	1.7	ug/L	1
Toluene	108-88-3	8260B	ND		5.0	1.7	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		5.0	1.7	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		115	70-130
Bromofluorobenzene		98	70-130
Toluene-d8		99	70-130

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	07/29/2012 1925	AAC		90189

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Diisopropyl ether (IPE)	108-20-3	8260B	ND		5.0	0.40	ug/L	1
Ethanol	64-17-5	8260B	ND		100	33	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		20	1.0	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		1.0	0.20	ug/L	1
tert-Amyl alcohol (TAA)	75-85-4	8260B	ND		20	6.7	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		10	0.20	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		20	6.7	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260B	ND		5.0	1.0	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
Bromofluorobenzene		98	70-130
1,2-Dichloroethane-d4		115	70-130
Toluene-d8		99	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	07/30/2012 1908	AMB	07/25/2012 2030	89954

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
H = Out of holding time
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
* = Reportable result (only when report all runs)

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **FIELD BLANK 3**
Date Sampled: **07/18/2012 0845**
Date Received: **07/20/2012**

Laboratory ID: **NG21001-055**
Matrix: **Aqueous**

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	07/30/2012 1908	AMB	07/25/2012 2030	89954

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0.020	0.0061	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		106	57-137

ICP-AES

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	3005A	6010C	1	07/24/2012 1646	CDF	07/23/2012 2009	89742

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Lead	7439-92-1	6010C	ND		0.010	0.0019	mg/L	1

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
H = Out of holding time
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
* = Reportable result (only when report all runs)

Client: **Bunnell-Lammons Engineering, Inc.** Laboratory ID: **NG21001-056**
Description: **TRIP BLANK** Matrix: **Aqueous**
Date Sampled: **07/20/2012 1610**
Date Received: **07/20/2012**

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	07/29/2012 1948	AAC		90189

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Benzene	71-43-2	8260B	ND		5.0	0.20	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		5.0	0.30	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		5.0	1.7	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		5.0	0.40	ug/L	1
Naphthalene	91-20-3	8260B	ND		5.0	1.7	ug/L	1
Toluene	108-88-3	8260B	ND		5.0	1.7	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		5.0	1.7	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		117	70-130
Bromofluorobenzene		98	70-130
Toluene-d8		98	70-130

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	07/29/2012 1948	AAC		90189

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Diisopropyl ether (IPE)	108-20-3	8260B	ND		5.0	0.40	ug/L	1
Ethanol	64-17-5	8260B	ND		100	33	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		20	1.0	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		1.0	0.20	ug/L	1
tert-Amyl alcohol (TAA)	75-85-4	8260B	ND		20	6.7	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		10	0.20	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		20	6.7	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260B	ND		5.0	1.0	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
Bromofluorobenzene		98	70-130
1,2-Dichloroethane-d4		117	70-130
Toluene-d8		98	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	07/30/2012 1929	AMB	07/25/2012 2030	89954

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
H = Out of holding time
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
* = Reportable result (only when report all runs)

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **TRIP BLANK**
Date Sampled: **07/20/2012 1610**
Date Received: **07/20/2012**

Laboratory ID: **NG21001-056**
Matrix: **Aqueous**

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	07/30/2012 1929	AMB	07/25/2012 2030	89954

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0.019	0.0060	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		106	57-137

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
H = Out of holding time
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
* = Reportable result (only when report all runs)

QC Summary

Volatile Organic Compounds by GC/MS - MB

Sample ID: NQ90178-001
Batch: 90178
Analytical Method: 8260B

Matrix: Aqueous
Prep Method: 5030B

Parameter	Result	Q	Dil	PQL	MDL	Units	Analysis Date
tert-Amyl alcohol (TAA)	ND		1	20	6.7	ug/L	07/28/2012 1449
tert-Amyl methyl ether (TAME)	ND		1	10	0.20	ug/L	07/28/2012 1449
tert-Butyl formate (TBF)	ND		1	5.0	1.0	ug/L	07/28/2012 1449
Diisopropyl ether (IPE)	ND		1	5.0	0.40	ug/L	07/28/2012 1449
3,3-Dimethyl-1-butanol	ND		1	20	1.0	ug/L	07/28/2012 1449
Ethanol	ND		1	100	33	ug/L	07/28/2012 1449
Ethyl-tert-butyl ether (ETBE)	ND		1	1.0	0.20	ug/L	07/28/2012 1449
tert-butyl alcohol (TBA)	ND		1	20	6.7	ug/L	07/28/2012 1449

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		97	70-130
1,2-Dichloroethane-d4		104	70-130
Toluene-d8		100	70-130

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N - Recovery is out of criteria
+ - RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

Volatile Organic Compounds by GC/MS - LCS

Sample ID: NQ90178-002
Batch: 90178
Analytical Method: 8260B

Matrix: Aqueous
Prep Method: 5030B

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
tert-Amyl alcohol (TAA)	1000	990		1	99	70-130	07/28/2012 1249
tert-Amyl methyl ether (TAME)	50	52		1	104	70-130	07/28/2012 1249
tert-Butyl formate (TBF)	250	310		1	125	70-130	07/28/2012 1249
Diisopropyl ether (IPE)	50	48		1	96	70-130	07/28/2012 1249
3,3-Dimethyl-1-butanol	1000	980		1	98	70-130	07/28/2012 1249
Ethanol	5000	5000		1	99	70-130	07/28/2012 1249
Ethyl-tert-butyl ether (ETBE)	50	50		1	100	70-130	07/28/2012 1249
tert-butyl alcohol (TBA)	1000	940		1	94	70-130	07/28/2012 1249

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		91	70-130
1,2-Dichloroethane-d4		97	70-130
Toluene-d8		104	70-130

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N - Recovery is out of criteria
+ - RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

Volatile Organic Compounds by GC/MS - LCSD

Sample ID: NQ90178-003
Batch: 90178
Analytical Method: 8260B

Matrix: Aqueous
Prep Method: 5030B

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% RPD	% Rec Limit	% RPD Limit	Analysis Date
tert-Amyl alcohol (TAA)	1000	870		1	87	13	70-130	20	07/28/2012 1337
tert-Amyl methyl ether (TAME)	50	46		1	91	13	70-130	20	07/28/2012 1337
tert-Butyl formate (TBF)	250	280		1	113	9.6	70-130	20	07/28/2012 1337
Diisopropyl ether (IPE)	50	47		1	94	1.6	70-130	20	07/28/2012 1337
3,3-Dimethyl-1-butanol	1000	890		1	89	10	70-130	20	07/28/2012 1337
Ethanol	5000	4600		1	92	8.2	70-130	20	07/28/2012 1337
Ethyl-tert-butyl ether (ETBE)	50	46		1	91	9.6	70-130	20	07/28/2012 1337
tert-butyl alcohol (TBA)	1000	830		1	83	13	70-130	20	07/28/2012 1337

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		91	70-130
1,2-Dichloroethane-d4		95	70-130
Toluene-d8		103	70-130

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N - Recovery is out of criteria
+ - RPD is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

Volatile Organic Compounds by GC/MS - MB

Sample ID: NQ90178-001
Batch: 90178
Analytical Method: 8260B

Matrix: Aqueous
Prep Method: 5030B

Parameter	Result	Q	Dil	PQL	MDL	Units	Analysis Date
Benzene	ND		1	5.0	0.20	ug/L	07/28/2012 1449
1,2-Dichloroethane	ND		1	5.0	0.30	ug/L	07/28/2012 1449
Ethylbenzene	ND		1	5.0	1.7	ug/L	07/28/2012 1449
Methyl tertiary butyl ether (MTBE)	ND		1	5.0	0.40	ug/L	07/28/2012 1449
Naphthalene	ND		1	5.0	1.7	ug/L	07/28/2012 1449
Toluene	ND		1	5.0	1.7	ug/L	07/28/2012 1449
Xylenes (total)	ND		1	5.0	1.7	ug/L	07/28/2012 1449

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		97	70-130
1,2-Dichloroethane-d4		104	70-130
Toluene-d8		100	70-130

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N - Recovery is out of criteria
+ - RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

Volatile Organic Compounds by GC/MS - LCS

Sample ID: NQ90178-002
Batch: 90178
Analytical Method: 8260B

Matrix: Aqueous
Prep Method: 5030B

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
Benzene	50	51		1	102	70-130	07/28/2012 1249
1,2-Dichloroethane	50	48		1	97	70-130	07/28/2012 1249
Ethylbenzene	50	57		1	115	70-130	07/28/2012 1249
Methyl tertiary butyl ether (MTBE)	50	48		1	95	70-130	07/28/2012 1249
Naphthalene	50	50		1	100	70-130	07/28/2012 1249
Toluene	50	57		1	114	70-130	07/28/2012 1249
Xylenes (total)	100	110		1	114	70-130	07/28/2012 1249

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		91	70-130
1,2-Dichloroethane-d4		97	70-130
Toluene-d8		104	70-130

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N - Recovery is out of criteria
+ - RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

Volatile Organic Compounds by GC/MS - LCSD

Sample ID: NQ90178-003
Batch: 90178
Analytical Method: 8260B

Matrix: Aqueous
Prep Method: 5030B

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% RPD	% Rec Limit	% RPD Limit	Analysis Date
Benzene	50	48		1	96	6.0	70-130	20	07/28/2012 1337
1,2-Dichloroethane	50	46		1	92	4.5	70-130	20	07/28/2012 1337
Ethylbenzene	50	52		1	104	9.2	70-130	20	07/28/2012 1337
Methyl tertiary butyl ether (MTBE)	50	47		1	93	1.9	70-130	20	07/28/2012 1337
Naphthalene	50	43		1	85	16	70-130	20	07/28/2012 1337
Toluene	50	52		1	103	9.3	70-130	20	07/28/2012 1337
Xylenes (total)	100	100		1	103	9.9	70-130	20	07/28/2012 1337

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		91	70-130
1,2-Dichloroethane-d4		95	70-130
Toluene-d8		103	70-130

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N - Recovery is out of criteria
+ - RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

Volatile Organic Compounds by GC/MS - MB

Sample ID: NQ90179-001
Batch: 90179
Analytical Method: 8260B
Matrix: Aqueous
Prep Method: 5030B

Parameter	Result	Q	Dil	PQL	MDL	Units	Analysis Date
tert-Amyl alcohol (TAA)	ND		1	20	6.7	ug/L	07/28/2012 1451
tert-Amyl methyl ether (TAME)	ND		1	10	0.20	ug/L	07/28/2012 1451
tert-Butyl formate (TBF)	ND		1	5.0	1.0	ug/L	07/28/2012 1451
Diisopropyl ether (IPE)	ND		1	5.0	0.40	ug/L	07/28/2012 1451
3,3-Dimethyl-1-butanol	ND		1	20	1.0	ug/L	07/28/2012 1451
Ethanol	ND		1	100	33	ug/L	07/28/2012 1451
Ethyl-tert-butyl ether (ETBE)	ND		1	1.0	0.20	ug/L	07/28/2012 1451
tert-butyl alcohol (TBA)	ND		1	20	6.7	ug/L	07/28/2012 1451

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		96	70-130
1,2-Dichloroethane-d4		85	70-130
Toluene-d8		96	70-130

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N - Recovery is out of criteria
+ - RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

Volatile Organic Compounds by GC/MS - LCS

Sample ID: NQ90179-002
Batch: 90179
Analytical Method: 8260B

Matrix: Aqueous
Prep Method: 5030B

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
tert-Amyl alcohol (TAA)	1000	970		1	97	70-130	07/28/2012 1255
tert-Amyl methyl ether (TAME)	50	48		1	95	70-130	07/28/2012 1255
tert-Butyl formate (TBF)	250	240		1	97	70-130	07/28/2012 1255
Diisopropyl ether (IPE)	50	48		1	96	70-130	07/28/2012 1255
3,3-Dimethyl-1-butanol	1000	980		1	98	70-130	07/28/2012 1255
Ethanol	5000	6100		1	121	70-130	07/28/2012 1255
Ethyl-tert-butyl ether (ETBE)	50	49		1	97	70-130	07/28/2012 1255
tert-butyl alcohol (TBA)	1000	980		1	98	70-130	07/28/2012 1255

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		94	70-130
1,2-Dichloroethane-d4		79	70-130
Toluene-d8		97	70-130

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N - Recovery is out of criteria
+ - RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

Volatile Organic Compounds by GC/MS - LCSD

Sample ID: NQ90179-003
Batch: 90179
Analytical Method: 8260B

Matrix: Aqueous
Prep Method: 5030B

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% RPD	% Rec Limit	% RPD Limit	Analysis Date
tert-Amyl alcohol (TAA)	1000	910		1	91	6.2	70-130	20	07/28/2012 1335
tert-Amyl methyl ether (TAME)	50	47		1	95	0.45	70-130	20	07/28/2012 1335
tert-Butyl formate (TBF)	250	240		1	98	0.77	70-130	20	07/28/2012 1335
Diisopropyl ether (IPE)	50	53		1	107	10	70-130	20	07/28/2012 1335
3,3-Dimethyl-1-butanol	1000	920		1	92	7.0	70-130	20	07/28/2012 1335
Ethanol	5000	5800		1	116	4.1	70-130	20	07/28/2012 1335
Ethyl-tert-butyl ether (ETBE)	50	50		1	99	2.3	70-130	20	07/28/2012 1335
tert-butyl alcohol (TBA)	1000	930		1	93	5.8	70-130	20	07/28/2012 1335

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		92	70-130
1,2-Dichloroethane-d4		79	70-130
Toluene-d8		97	70-130

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N - Recovery is out of criteria
+ - RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

Volatile Organic Compounds by GC/MS - MB

Sample ID: NQ90179-001
Batch: 90179
Analytical Method: 8260B

Matrix: Aqueous
Prep Method: 5030B

Parameter	Result	Q	Dil	PQL	MDL	Units	Analysis Date
Benzene	ND		1	5.0	0.20	ug/L	07/28/2012 1451
1,2-Dichloroethane	ND		1	5.0	0.30	ug/L	07/28/2012 1451
Ethylbenzene	ND		1	5.0	1.7	ug/L	07/28/2012 1451
Methyl tertiary butyl ether (MTBE)	ND		1	5.0	0.40	ug/L	07/28/2012 1451
Naphthalene	ND		1	5.0	1.7	ug/L	07/28/2012 1451
Toluene	ND		1	5.0	1.7	ug/L	07/28/2012 1451
Xylenes (total)	ND		1	5.0	1.7	ug/L	07/28/2012 1451

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		96	70-130
1,2-Dichloroethane-d4		85	70-130
Toluene-d8		96	70-130

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N - Recovery is out of criteria
+ - RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

Volatile Organic Compounds by GC/MS - LCS

Sample ID: NQ90179-002
Batch: 90179
Analytical Method: 8260B

Matrix: Aqueous
Prep Method: 5030B

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
Benzene	50	47		1	94	70-130	07/28/2012 1255
1,2-Dichloroethane	50	38		1	76	70-130	07/28/2012 1255
Ethylbenzene	50	53		1	106	70-130	07/28/2012 1255
Methyl tertiary butyl ether (MTBE)	50	43		1	87	70-130	07/28/2012 1255
Naphthalene	50	47		1	95	70-130	07/28/2012 1255
Toluene	50	49		1	97	70-130	07/28/2012 1255
Xylenes (total)	100	100		1	104	70-130	07/28/2012 1255

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		94	70-130
1,2-Dichloroethane-d4		79	70-130
Toluene-d8		97	70-130

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N - Recovery is out of criteria
+ - RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

Volatile Organic Compounds by GC/MS - LCSD

Sample ID: NQ90179-003
Batch: 90179
Analytical Method: 8260B

Matrix: Aqueous
Prep Method: 5030B

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% RPD	% Rec Limit	% RPD Limit	Analysis Date
Benzene	50	53		1	106	12	70-130	20	07/28/2012 1335
1,2-Dichloroethane	50	41		1	82	6.8	70-130	20	07/28/2012 1335
Ethylbenzene	50	56		1	111	4.5	70-130	20	07/28/2012 1335
Methyl tertiary butyl ether (MTBE)	50	49		1	97	12	70-130	20	07/28/2012 1335
Naphthalene	50	49		1	98	3.7	70-130	20	07/28/2012 1335
Toluene	50	52		1	105	7.2	70-130	20	07/28/2012 1335
Xylenes (total)	100	110		1	107	3.5	70-130	20	07/28/2012 1335

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		92	70-130
1,2-Dichloroethane-d4		79	70-130
Toluene-d8		97	70-130

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N - Recovery is out of criteria
+ - RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

Volatile Organic Compounds by GC/MS - MB

Sample ID: NQ90187-001
Batch: 90187
Analytical Method: 8260B

Matrix: Aqueous
Prep Method: 5030B

Parameter	Result	Q	Dil	PQL	MDL	Units	Analysis Date
tert-Amyl alcohol (TAA)	ND		1	20	6.7	ug/L	07/29/2012 1127
tert-Amyl methyl ether (TAME)	ND		1	10	0.20	ug/L	07/29/2012 1127
tert-Butyl formate (TBF)	ND		1	5.0	1.0	ug/L	07/29/2012 1127
Diisopropyl ether (IPE)	ND		1	5.0	0.40	ug/L	07/29/2012 1127
3,3-Dimethyl-1-butanol	ND		1	20	1.0	ug/L	07/29/2012 1127
Ethanol	ND		1	100	33	ug/L	07/29/2012 1127
Ethyl-tert-butyl ether (ETBE)	ND		1	1.0	0.20	ug/L	07/29/2012 1127
tert-butyl alcohol (TBA)	ND		1	20	6.7	ug/L	07/29/2012 1127

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		99	70-130
1,2-Dichloroethane-d4		90	70-130
Toluene-d8		95	70-130

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N - Recovery is out of criteria
+ - RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

Volatile Organic Compounds by GC/MS - LCS

Sample ID: NQ90187-002
Batch: 90187
Analytical Method: 8260B

Matrix: Aqueous
Prep Method: 5030B

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
tert-Amyl alcohol (TAA)	1000	890		1	89	70-130	07/29/2012 0952
tert-Amyl methyl ether (TAME)	50	50		1	100	70-130	07/29/2012 0952
tert-Butyl formate (TBF)	250	250		1	101	70-130	07/29/2012 0952
Diisopropyl ether (IPE)	50	54		1	107	70-130	07/29/2012 0952
3,3-Dimethyl-1-butanol	1000	890		1	89	70-130	07/29/2012 0952
Ethanol	5000	5600		1	111	70-130	07/29/2012 0952
Ethyl-tert-butyl ether (ETBE)	50	51		1	102	70-130	07/29/2012 0952
tert-butyl alcohol (TBA)	1000	920		1	92	70-130	07/29/2012 0952

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		96	70-130
1,2-Dichloroethane-d4		82	70-130
Toluene-d8		96	70-130

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N - Recovery is out of criteria
+ - RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

Volatile Organic Compounds by GC/MS - LCSD

Sample ID: NQ90187-003
Batch: 90187
Analytical Method: 8260B

Matrix: Aqueous
Prep Method: 5030B

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% RPD	% Rec Limit	% RPD Limit	Analysis Date
tert-Amyl alcohol (TAA)	1000	880		1	88	1.9	70-130	20	07/29/2012 1017
tert-Amyl methyl ether (TAME)	50	50		1	99	0.39	70-130	20	07/29/2012 1017
tert-Butyl formate (TBF)	250	250		1	100	0.42	70-130	20	07/29/2012 1017
Diisopropyl ether (IPE)	50	52		1	104	3.5	70-130	20	07/29/2012 1017
3,3-Dimethyl-1-butanol	1000	890		1	89	0.66	70-130	20	07/29/2012 1017
Ethanol	5000	5500		1	109	1.8	70-130	20	07/29/2012 1017
Ethyl-tert-butyl ether (ETBE)	50	50		1	101	1.5	70-130	20	07/29/2012 1017
tert-butyl alcohol (TBA)	1000	900		1	90	2.2	70-130	20	07/29/2012 1017

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		97	70-130
1,2-Dichloroethane-d4		84	70-130
Toluene-d8		98	70-130

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N - Recovery is out of criteria
+ - RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

Volatile Organic Compounds by GC/MS - MB

Sample ID: NQ90187-001
Batch: 90187
Analytical Method: 8260B

Matrix: Aqueous
Prep Method: 5030B

Parameter	Result	Q	Dil	PQL	MDL	Units	Analysis Date
Benzene	ND		1	5.0	0.20	ug/L	07/29/2012 1127
1,2-Dichloroethane	ND		1	5.0	0.30	ug/L	07/29/2012 1127
Ethylbenzene	ND		1	5.0	1.7	ug/L	07/29/2012 1127
Methyl tertiary butyl ether (MTBE)	ND		1	5.0	0.40	ug/L	07/29/2012 1127
Naphthalene	ND		1	5.0	1.7	ug/L	07/29/2012 1127
Toluene	ND		1	5.0	1.7	ug/L	07/29/2012 1127
Xylenes (total)	ND		1	5.0	1.7	ug/L	07/29/2012 1127

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		99	70-130
1,2-Dichloroethane-d4		90	70-130
Toluene-d8		95	70-130

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N - Recovery is out of criteria
+ - RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

Volatile Organic Compounds by GC/MS - LCS

Sample ID: NQ90187-002
Batch: 90187
Analytical Method: 8260B

Matrix: Aqueous
Prep Method: 5030B

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
Benzene	50	52		1	104	70-130	07/29/2012 0952
1,2-Dichloroethane	50	43		1	86	70-130	07/29/2012 0952
Ethylbenzene	50	53		1	107	70-130	07/29/2012 0952
Methyl tertiary butyl ether (MTBE)	50	50		1	101	70-130	07/29/2012 0952
Naphthalene	50	46		1	92	70-130	07/29/2012 0952
Toluene	50	50		1	100	70-130	07/29/2012 0952
Xylenes (total)	100	110		1	106	70-130	07/29/2012 0952

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		96	70-130
1,2-Dichloroethane-d4		82	70-130
Toluene-d8		96	70-130

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N - Recovery is out of criteria
+ - RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

Volatile Organic Compounds by GC/MS - LCSD

Sample ID: NQ90187-003
Batch: 90187
Analytical Method: 8260B

Matrix: Aqueous
Prep Method: 5030B

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% RPD	% Rec Limit	% RPD Limit	Analysis Date
Benzene	50	51		1	102	1.4	70-130	20	07/29/2012 1017
1,2-Dichloroethane	50	43		1	86	0.24	70-130	20	07/29/2012 1017
Ethylbenzene	50	53		1	105	1.3	70-130	20	07/29/2012 1017
Methyl tertiary butyl ether (MTBE)	50	49		1	99	2.3	70-130	20	07/29/2012 1017
Naphthalene	50	49		1	98	6.3	70-130	20	07/29/2012 1017
Toluene	50	50		1	101	0.41	70-130	20	07/29/2012 1017
Xylenes (total)	100	110		1	106	0.46	70-130	20	07/29/2012 1017

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		97	70-130
1,2-Dichloroethane-d4		84	70-130
Toluene-d8		98	70-130

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N - Recovery is out of criteria
+ - RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

Volatile Organic Compounds by GC/MS - MB

Sample ID: NQ90189-001
Batch: 90189
Analytical Method: 8260B

Matrix: Aqueous
Prep Method: 5030B

Parameter	Result	Q	Dil	PQL	MDL	Units	Analysis Date
tert-Amyl alcohol (TAA)	ND		1	20	6.7	ug/L	07/29/2012 1231
tert-Amyl methyl ether (TAME)	**1.8**	**J**	**1**	**10**	**0.20**	**ug/L**	**07/29/2012 1231**
tert-Butyl formate (TBF)	ND		1	5.0	1.0	ug/L	07/29/2012 1231
Diisopropyl ether (IPE)	ND		1	5.0	0.40	ug/L	07/29/2012 1231
3,3-Dimethyl-1-butanol	ND		1	20	1.0	ug/L	07/29/2012 1231
Ethanol	**160**		**1**	**100**	**33**	**ug/L**	**07/29/2012 1231**
Ethyl-tert-butyl ether (ETBE)	ND		1	1.0	0.20	ug/L	07/29/2012 1231
tert-butyl alcohol (TBA)	ND		1	20	6.7	ug/L	07/29/2012 1231

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		94	70-130
1,2-Dichloroethane-d4		113	70-130
Toluene-d8		99	70-130

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N - Recovery is out of criteria
+ - RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

Volatile Organic Compounds by GC/MS - LCS

Sample ID: NQ90189-002
Batch: 90189
Analytical Method: 8260B

Matrix: Aqueous
Prep Method: 5030B

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
tert-Amyl alcohol (TAA)	1000	1400	N	1	136	70-130	07/29/2012 1057
tert-Amyl methyl ether (TAME)	50	53		1	106	70-130	07/29/2012 1057
tert-Butyl formate (TBF)	250	260		1	103	70-130	07/29/2012 1057
Diisopropyl ether (IPE)	50	51		1	102	70-130	07/29/2012 1057
3,3-Dimethyl-1-butanol	1000	1300	N	1	132	70-130	07/29/2012 1057
Ethanol	5000	10000	N	1	205	70-130	07/29/2012 1057
Ethyl-tert-butyl ether (ETBE)	50	51		1	102	70-130	07/29/2012 1057
tert-butyl alcohol (TBA)	1000	1500	N	1	150	70-130	07/29/2012 1057

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		98	70-130
1,2-Dichloroethane-d4		109	70-130
Toluene-d8		103	70-130

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N - Recovery is out of criteria
+ - RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

Volatile Organic Compounds by GC/MS - LCSD

Sample ID: NQ90189-003
Batch: 90189
Analytical Method: 8260B

Matrix: Aqueous
Prep Method: 5030B

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% RPD	% Rec Limit	% RPD Limit	Analysis Date
tert-Amyl alcohol (TAA)	1000	1300	N	1	132	2.8	70-130	20	07/29/2012 1120
tert-Amyl methyl ether (TAME)	50	52		1	103	2.6	70-130	20	07/29/2012 1120
tert-Butyl formate (TBF)	250	260		1	103	0.26	70-130	20	07/29/2012 1120
Diisopropyl ether (IPE)	50	50		1	100	2.5	70-130	20	07/29/2012 1120
3,3-Dimethyl-1-butanol	1000	1200		1	124	5.9	70-130	20	07/29/2012 1120
Ethanol	5000	11000	N	1	226	9.9	70-130	20	07/29/2012 1120
Ethyl-tert-butyl ether (ETBE)	50	51		1	101	0.37	70-130	20	07/29/2012 1120
tert-butyl alcohol (TBA)	1000	1500	N	1	151	0.72	70-130	20	07/29/2012 1120

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		95	70-130
1,2-Dichloroethane-d4		110	70-130
Toluene-d8		103	70-130

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N - Recovery is out of criteria
+ - RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

Volatile Organic Compounds by GC/MS - MB

Sample ID: NQ90189-001
Batch: 90189
Analytical Method: 8260B

Matrix: Aqueous
Prep Method: 5030B

Parameter	Result	Q	Dil	PQL	MDL	Units	Analysis Date
Benzene	ND		1	5.0	0.20	ug/L	07/29/2012 1231
1,2-Dichloroethane	ND		1	5.0	0.30	ug/L	07/29/2012 1231
Ethylbenzene	ND		1	5.0	1.7	ug/L	07/29/2012 1231
Methyl tertiary butyl ether (MTBE)	ND		1	5.0	0.40	ug/L	07/29/2012 1231
Naphthalene	ND		1	5.0	1.7	ug/L	07/29/2012 1231
Toluene	ND		1	5.0	1.7	ug/L	07/29/2012 1231
Xylenes (total)	ND		1	5.0	1.7	ug/L	07/29/2012 1231

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		94	70-130
1,2-Dichloroethane-d4		113	70-130
Toluene-d8		99	70-130

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N - Recovery is out of criteria
+ - RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

Volatile Organic Compounds by GC/MS - LCS

Sample ID: NQ90189-002
Batch: 90189
Analytical Method: 8260B

Matrix: Aqueous
Prep Method: 5030B

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
Benzene	50	47		1	95	70-130	07/29/2012 1057
1,2-Dichloroethane	50	54		1	107	70-130	07/29/2012 1057
Ethylbenzene	50	51		1	101	70-130	07/29/2012 1057
Methyl tertiary butyl ether (MTBE)	50	55		1	109	70-130	07/29/2012 1057
Naphthalene	50	47		1	94	70-130	07/29/2012 1057
Toluene	50	49		1	98	70-130	07/29/2012 1057
Xylenes (total)	100	100		1	105	70-130	07/29/2012 1057

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		98	70-130
1,2-Dichloroethane-d4		109	70-130
Toluene-d8		103	70-130

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N - Recovery is out of criteria
+ - RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

Volatile Organic Compounds by GC/MS - LCSD

Sample ID: NQ90189-003
Batch: 90189
Analytical Method: 8260B

Matrix: Aqueous
Prep Method: 5030B

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% RPD	% Rec Limit	% RPD Limit	Analysis Date
Benzene	50	46		1	92	3.0	70-130	20	07/29/2012 1120
1,2-Dichloroethane	50	53		1	106	0.82	70-130	20	07/29/2012 1120
Ethylbenzene	50	49		1	98	2.8	70-130	20	07/29/2012 1120
Methyl tertiary butyl ether (MTBE)	50	55		1	109	0.066	70-130	20	07/29/2012 1120
Naphthalene	50	39		1	79	18	70-130	20	07/29/2012 1120
Toluene	50	47		1	95	2.7	70-130	20	07/29/2012 1120
Xylenes (total)	100	100		1	100	4.3	70-130	20	07/29/2012 1120

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		95	70-130
1,2-Dichloroethane-d4		110	70-130
Toluene-d8		103	70-130

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N - Recovery is out of criteria
+ - RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

Volatile Organic Compounds by GC/MS - MB

Sample ID: NQ90190-001
Batch: 90190
Analytical Method: 8260B

Matrix: Aqueous
Prep Method: 5030B

Parameter	Result	Q	Dil	PQL	MDL	Units	Analysis Date
tert-Amyl alcohol (TAA)	ND		1	20	6.7	ug/L	07/29/2012 1329
tert-Amyl methyl ether (TAME)	ND		1	10	0.20	ug/L	07/29/2012 1329
tert-Butyl formate (TBF)	ND		1	5.0	1.0	ug/L	07/29/2012 1329
Diisopropyl ether (IPE)	ND		1	5.0	0.40	ug/L	07/29/2012 1329
3,3-Dimethyl-1-butanol	ND		1	20	1.0	ug/L	07/29/2012 1329
Ethanol	ND		1	100	33	ug/L	07/29/2012 1329
Ethyl-tert-butyl ether (ETBE)	ND		1	1.0	0.20	ug/L	07/29/2012 1329
tert-butyl alcohol (TBA)	ND		1	20	6.7	ug/L	07/29/2012 1329

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		98	70-130
1,2-Dichloroethane-d4		110	70-130
Toluene-d8		103	70-130

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N - Recovery is out of criteria
+ - RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

Volatile Organic Compounds by GC/MS - LCS

Sample ID: NQ90190-002
Batch: 90190
Analytical Method: 8260B

Matrix: Aqueous
Prep Method: 5030B

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
tert-Amyl alcohol (TAA)	1000	1000		1	102	70-130	07/29/2012 1016
tert-Amyl methyl ether (TAME)	50	50		1	100	70-130	07/29/2012 1016
tert-Butyl formate (TBF)	250	310		1	123	70-130	07/29/2012 1016
Diisopropyl ether (IPE)	50	50		1	101	70-130	07/29/2012 1016
3,3-Dimethyl-1-butanol	1000	990		1	99	70-130	07/29/2012 1016
Ethanol	5000	3700		1	74	70-130	07/29/2012 1016
Ethyl-tert-butyl ether (ETBE)	50	51		1	102	70-130	07/29/2012 1016
tert-butyl alcohol (TBA)	1000	960		1	96	70-130	07/29/2012 1016

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		97	70-130
1,2-Dichloroethane-d4		109	70-130
Toluene-d8		101	70-130

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N - Recovery is out of criteria
+ - RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

Volatile Organic Compounds by GC/MS - LCSD

Sample ID: NQ90190-003
Batch: 90190
Analytical Method: 8260B

Matrix: Aqueous
Prep Method: 5030B

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% RPD	% Rec Limit	% RPD Limit	Analysis Date
tert-Amyl alcohol (TAA)	1000	1100		1	108	5.7	70-130	20	07/29/2012 1217
tert-Amyl methyl ether (TAME)	50	55		1	110	9.0	70-130	20	07/29/2012 1217
tert-Butyl formate (TBF)	250	340	N	1	136	10	70-130	20	07/29/2012 1217
Diisopropyl ether (IPE)	50	57		1	114	12	70-130	20	07/29/2012 1217
3,3-Dimethyl-1-butanol	1000	1100		1	106	6.1	70-130	20	07/29/2012 1217
Ethanol	5000	3700		1	74	0.13	70-130	20	07/29/2012 1217
Ethyl-tert-butyl ether (ETBE)	50	55		1	110	8.3	70-130	20	07/29/2012 1217
tert-butyl alcohol (TBA)	1000	1000		1	105	8.2	70-130	20	07/29/2012 1217

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		95	70-130
1,2-Dichloroethane-d4		110	70-130
Toluene-d8		101	70-130

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N - Recovery is out of criteria
+ - RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

Volatile Organic Compounds by GC/MS - Duplicate

Sample ID: NG21001-034DU
Batch: 90190
Analytical Method: 8260B

Matrix: Aqueous
Prep Method: 5030B

Parameter	Sample Amount (ug/L)	Result (ug/L)	Q	Dil	% RPD	% RPD Limit	Analysis Date
Diisopropyl ether (IPE)	110	100		20	6.4	20	07/29/2012 2021
Ethanol	ND	ND		20	0.00	20	07/29/2012 2021
3,3-Dimethyl-1-butanol	ND	ND		20	0.00	20	07/29/2012 2021
Ethyl-tert-butyl ether (ETBE)	ND	ND		20	0.00	20	07/29/2012 2021
tert-Amyl alcohol (TAA)	5200	5100		20	0.83	20	07/29/2012 2021
tert-Amyl methyl ether (TAME)	270	260		20	5.3	20	07/29/2012 2021
tert-butyl alcohol (TBA)	1700	1700		20	3.0	20	07/29/2012 2021
tert-Butyl formate (TBF)	ND	ND		20	0.00	20	07/29/2012 2021

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		95	70-130
1,2-Dichloroethane-d4		109	70-130
Toluene-d8		103	70-130

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N - Recovery is out of criteria
+ - RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

Volatile Organic Compounds by GC/MS - MB

Sample ID: NQ90190-001
Batch: 90190
Analytical Method: 8260B

Matrix: Aqueous
Prep Method: 5030B

Parameter	Result	Q	Dil	PQL	MDL	Units	Analysis Date
Benzene	ND		1	5.0	0.20	ug/L	07/29/2012 1329
1,2-Dichloroethane	ND		1	5.0	0.30	ug/L	07/29/2012 1329
Ethylbenzene	ND		1	5.0	1.7	ug/L	07/29/2012 1329
Methyl tertiary butyl ether (MTBE)	ND		1	5.0	0.40	ug/L	07/29/2012 1329
Naphthalene	ND		1	5.0	1.7	ug/L	07/29/2012 1329
Toluene	ND		1	5.0	1.7	ug/L	07/29/2012 1329
Xylenes (total)	ND		1	5.0	1.7	ug/L	07/29/2012 1329

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		98	70-130
1,2-Dichloroethane-d4		110	70-130
Toluene-d8		103	70-130

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N - Recovery is out of criteria
+ - RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

Volatile Organic Compounds by GC/MS - LCS

Sample ID: NQ90190-002
Batch: 90190
Analytical Method: 8260B

Matrix: Aqueous
Prep Method: 5030B

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
Benzene	50	51		1	102	70-130	07/29/2012 1016
1,2-Dichloroethane	50	52		1	105	70-130	07/29/2012 1016
Ethylbenzene	50	52		1	104	70-130	07/29/2012 1016
Methyl tertiary butyl ether (MTBE)	50	51		1	103	70-130	07/29/2012 1016
Naphthalene	50	46		1	93	70-130	07/29/2012 1016
Toluene	50	51		1	102	70-130	07/29/2012 1016
Xylenes (total)	100	100		1	104	70-130	07/29/2012 1016

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		97	70-130
1,2-Dichloroethane-d4		109	70-130
Toluene-d8		101	70-130

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N - Recovery is out of criteria
+ - RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

Volatile Organic Compounds by GC/MS - LCSD

Sample ID: NQ90190-003
Batch: 90190
Analytical Method: 8260B

Matrix: Aqueous
Prep Method: 5030B

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% RPD	% Rec Limit	% RPD Limit	Analysis Date
Benzene	50	58		1	116	14	70-130	20	07/29/2012 1217
1,2-Dichloroethane	50	61		1	122	16	70-130	20	07/29/2012 1217
Ethylbenzene	50	61		1	122	16	70-130	20	07/29/2012 1217
Methyl tertiary butyl ether (MTBE)	50	58		1	116	12	70-130	20	07/29/2012 1217
Naphthalene	50	55		1	109	16	70-130	20	07/29/2012 1217
Toluene	50	60		1	120	16	70-130	20	07/29/2012 1217
Xylenes (total)	100	120		1	124	18	70-130	20	07/29/2012 1217

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		95	70-130
1,2-Dichloroethane-d4		110	70-130
Toluene-d8		101	70-130

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N - Recovery is out of criteria
+ - RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

Volatile Organic Compounds by GC/MS - Duplicate

Sample ID: NG21001-034DU
Batch: 90190
Analytical Method: 8260B

Matrix: Aqueous
Prep Method: 5030B

Parameter	Sample Amount (ug/L)	Result (ug/L)	Q	Dil	% RPD	% RPD Limit	Analysis Date
Benzene	18	17	J	20	2.5	20	07/29/2012 2021
1,2-Dichloroethane	39	40	J	20	2.9	20	07/29/2012 2021
Ethylbenzene	ND	ND		20	0.00	20	07/29/2012 2021
Methyl tertiary butyl ether (MTBE)	2800	2700		20	4.5	20	07/29/2012 2021
Naphthalene	ND	ND		20	0.00	20	07/29/2012 2021
Toluene	ND	ND		20	0.00	20	07/29/2012 2021
Xylenes (total)	ND	ND		20	0.00	20	07/29/2012 2021

Surrogate	Q	% Rec	Acceptance Limit
1,2-Dichloroethane-d4		109	70-130
Bromofluorobenzene		95	70-130
Toluene-d8		103	70-130

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N - Recovery is out of criteria
+ - RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

Volatile Organic Compounds by GC/MS - MB

Sample ID: NQ90234-001
Batch: 90234
Analytical Method: 8260B

Matrix: Aqueous
Prep Method: 5030B

Parameter	Result	Q	Dil	PQL	MDL	Units	Analysis Date
tert-Amyl alcohol (TAA)	ND		1	20	6.7	ug/L	07/30/2012 0812
tert-Amyl methyl ether (TAME)	ND		1	10	0.20	ug/L	07/30/2012 0812
tert-Butyl formate (TBF)	ND		1	5.0	1.0	ug/L	07/30/2012 0812
Diisopropyl ether (IPE)	ND		1	5.0	0.40	ug/L	07/30/2012 0812
3,3-Dimethyl-1-butanol	ND		1	20	1.0	ug/L	07/30/2012 0812
Ethanol	ND		1	100	33	ug/L	07/30/2012 0812
Ethyl-tert-butyl ether (ETBE)	ND		1	1.0	0.20	ug/L	07/30/2012 0812
tert-butyl alcohol (TBA)	ND		1	20	6.7	ug/L	07/30/2012 0812

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		98	70-130
1,2-Dichloroethane-d4		115	70-130
Toluene-d8		94	70-130

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N - Recovery is out of criteria
+ - RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

Volatile Organic Compounds by GC/MS - LCS

Sample ID: NQ90234-002
Batch: 90234
Analytical Method: 8260B

Matrix: Aqueous
Prep Method: 5030B

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
tert-Amyl alcohol (TAA)	1000	1100		1	107	70-130	07/30/2012 0635
tert-Amyl methyl ether (TAME)	50	50		1	101	70-130	07/30/2012 0635
tert-Butyl formate (TBF)	250	330	N	1	131	70-130	07/30/2012 0635
Diisopropyl ether (IPE)	50	50		1	99	70-130	07/30/2012 0635
3,3-Dimethyl-1-butanol	1000	1100		1	106	70-130	07/30/2012 0635
Ethanol	5000	5500		1	110	70-130	07/30/2012 0635
Ethyl-tert-butyl ether (ETBE)	50	52		1	103	70-130	07/30/2012 0635
tert-butyl alcohol (TBA)	1000	1100		1	106	70-130	07/30/2012 0635

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		98	70-130
1,2-Dichloroethane-d4		113	70-130
Toluene-d8		101	70-130

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N - Recovery is out of criteria
+ - RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

Volatile Organic Compounds by GC/MS - LCSD

Sample ID: NQ90234-003
Batch: 90234
Analytical Method: 8260B

Matrix: Aqueous
Prep Method: 5030B

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% RPD	% Rec Limit	% RPD Limit	Analysis Date
tert-Amyl alcohol (TAA)	1000	1100		1	105	1.3	70-130	20	07/30/2012 0659
tert-Amyl methyl ether (TAME)	50	52		1	105	4.1	70-130	20	07/30/2012 0659
tert-Butyl formate (TBF)	250	330	N	1	131	0.18	70-130	20	07/30/2012 0659
Diisopropyl ether (IPE)	50	50		1	100	0.60	70-130	20	07/30/2012 0659
3,3-Dimethyl-1-butanol	1000	1100		1	105	0.50	70-130	20	07/30/2012 0659
Ethanol	5000	4800		1	97	12	70-130	20	07/30/2012 0659
Ethyl-tert-butyl ether (ETBE)	50	52		1	104	0.30	70-130	20	07/30/2012 0659
tert-butyl alcohol (TBA)	1000	1000		1	104	1.2	70-130	20	07/30/2012 0659

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		96	70-130
1,2-Dichloroethane-d4		113	70-130
Toluene-d8		97	70-130

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N - Recovery is out of criteria
+ - RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

Volatile Organic Compounds by GC/MS - MB

Sample ID: NQ90234-001
Batch: 90234
Analytical Method: 8260B

Matrix: Aqueous
Prep Method: 5030B

Parameter	Result	Q	Dil	PQL	MDL	Units	Analysis Date
Benzene	ND		1	5.0	0.20	ug/L	07/30/2012 0812
1,2-Dichloroethane	ND		1	5.0	0.30	ug/L	07/30/2012 0812
Ethylbenzene	ND		1	5.0	1.7	ug/L	07/30/2012 0812
Methyl tertiary butyl ether (MTBE)	ND		1	5.0	0.40	ug/L	07/30/2012 0812
Naphthalene	ND		1	5.0	1.7	ug/L	07/30/2012 0812
Toluene	ND		1	5.0	1.7	ug/L	07/30/2012 0812
Xylenes (total)	ND		1	5.0	1.7	ug/L	07/30/2012 0812

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		98	70-130
1,2-Dichloroethane-d4		115	70-130
Toluene-d8		94	70-130

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N - Recovery is out of criteria
+ - RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

Volatile Organic Compounds by GC/MS - LCS

Sample ID: NQ90234-002
Batch: 90234
Analytical Method: 8260B

Matrix: Aqueous
Prep Method: 5030B

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
Benzene	50	48		1	97	70-130	07/30/2012 0635
1,2-Dichloroethane	50	54		1	109	70-130	07/30/2012 0635
Ethylbenzene	50	53		1	107	70-130	07/30/2012 0635
Methyl tertiary butyl ether (MTBE)	50	54		1	108	70-130	07/30/2012 0635
Naphthalene	50	46		1	92	70-130	07/30/2012 0635
Toluene	50	50		1	101	70-130	07/30/2012 0635
Xylenes (total)	100	110		1	107	70-130	07/30/2012 0635

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		98	70-130
1,2-Dichloroethane-d4		113	70-130
Toluene-d8		101	70-130

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N - Recovery is out of criteria
+ - RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

Volatile Organic Compounds by GC/MS - LCSD

Sample ID: NQ90234-003
Batch: 90234
Analytical Method: 8260B

Matrix: Aqueous
Prep Method: 5030B

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% RPD	% Rec Limit	% RPD Limit	Analysis Date
Benzene	50	50		1	100	3.0	70-130	20	07/30/2012 0659
1,2-Dichloroethane	50	54		1	108	0.62	70-130	20	07/30/2012 0659
Ethylbenzene	50	53		1	105	1.5	70-130	20	07/30/2012 0659
Methyl tertiary butyl ether (MTBE)	50	53		1	106	2.2	70-130	20	07/30/2012 0659
Naphthalene	50	49		1	98	6.4	70-130	20	07/30/2012 0659
Toluene	50	49		1	97	3.5	70-130	20	07/30/2012 0659
Xylenes (total)	100	110		1	107	0.56	70-130	20	07/30/2012 0659

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		96	70-130
1,2-Dichloroethane-d4		113	70-130
Toluene-d8		97	70-130

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N - Recovery is out of criteria
+ - RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

Volatile Organic Compounds by GC/MS - MB

Sample ID: NQ90236-001
Batch: 90236
Analytical Method: 8260B
Matrix: Aqueous
Prep Method: 5030B

Parameter	Result	Q	Dil	PQL	MDL	Units	Analysis Date
Xylenes (total)	ND		1	5.0	1.7	ug/L	07/30/2012 0805

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		103	70-130
1,2-Dichloroethane-d4		111	70-130
Toluene-d8		97	70-130

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N - Recovery is out of criteria
+ - RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

Volatile Organic Compounds by GC/MS - LCS

Sample ID: NQ90236-002
Batch: 90236
Analytical Method: 8260B

Matrix: Aqueous
Prep Method: 5030B

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
Xylenes (total)	100	110		1	105	70-130	07/30/2012 0638

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		106	70-130
1,2-Dichloroethane-d4		111	70-130
Toluene-d8		98	70-130

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N - Recovery is out of criteria
+ - RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

Volatile Organic Compounds by GC/MS - LCSD

Sample ID: NQ90236-003
Batch: 90236
Analytical Method: 8260B

Matrix: Aqueous
Prep Method: 5030B

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% RPD	% Rec Limit	% RPD Limit	Analysis Date
Xylenes (total)	100	110		1	107	1.7	70-130	20	07/30/2012 0700

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		102	70-130
1,2-Dichloroethane-d4		111	70-130
Toluene-d8		97	70-130

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N - Recovery is out of criteria
+ - RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

Volatile Organic Compounds by GC/MS - MB

Sample ID: NQ90265-001
Batch: 90265
Analytical Method: 8260B

Matrix: Aqueous
Prep Method: 5030B

Parameter	Result	Q	Dil	PQL	MDL	Units	Analysis Date
tert-Amyl alcohol (TAA)	ND		1	20	6.7	ug/L	07/30/2012 2118
tert-Amyl methyl ether (TAME)	ND		1	10	0.20	ug/L	07/30/2012 2118
tert-Butyl formate (TBF)	ND		1	5.0	1.0	ug/L	07/30/2012 2118
Diisopropyl ether (IPE)	ND		1	5.0	0.40	ug/L	07/30/2012 2118
3,3-Dimethyl-1-butanol	ND		1	20	1.0	ug/L	07/30/2012 2118
Ethanol	ND		1	100	33	ug/L	07/30/2012 2118
Ethyl-tert-butyl ether (ETBE)	ND		1	1.0	0.20	ug/L	07/30/2012 2118
tert-butyl alcohol (TBA)	ND		1	20	6.7	ug/L	07/30/2012 2118

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		98	70-130
1,2-Dichloroethane-d4		107	70-130
Toluene-d8		95	70-130

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N - Recovery is out of criteria
+ - RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

Volatile Organic Compounds by GC/MS - LCS

Sample ID: NQ90265-002
Batch: 90265
Analytical Method: 8260B

Matrix: Aqueous
Prep Method: 5030B

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
tert-Amyl alcohol (TAA)	1000	980		1	98	70-130	07/30/2012 1941
tert-Amyl methyl ether (TAME)	50	51		1	101	70-130	07/30/2012 1941
tert-Butyl formate (TBF)	250	310		1	123	70-130	07/30/2012 1941
Diisopropyl ether (IPE)	50	50		1	99	70-130	07/30/2012 1941
3,3-Dimethyl-1-butanol	1000	1000		1	100	70-130	07/30/2012 1941
Ethanol	5000	3500		1	70	70-130	07/30/2012 1941
Ethyl-tert-butyl ether (ETBE)	50	49		1	97	70-130	07/30/2012 1941
tert-butyl alcohol (TBA)	1000	950		1	95	70-130	07/30/2012 1941

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		94	70-130
1,2-Dichloroethane-d4		102	70-130
Toluene-d8		97	70-130

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N - Recovery is out of criteria
+ - RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

Volatile Organic Compounds by GC/MS - LCSD

Sample ID: NQ90265-003
Batch: 90265
Analytical Method: 8260B

Matrix: Aqueous
Prep Method: 5030B

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% RPD	% Rec Limit	% RPD Limit	Analysis Date
tert-Amyl alcohol (TAA)	1000	1000		1	101	2.5	70-130	20	07/30/2012 2005
tert-Amyl methyl ether (TAME)	50	49		1	98	3.2	70-130	20	07/30/2012 2005
tert-Butyl formate (TBF)	250	300		1	120	2.2	70-130	20	07/30/2012 2005
Diisopropyl ether (IPE)	50	48		1	96	3.6	70-130	20	07/30/2012 2005
3,3-Dimethyl-1-butanol	1000	1000		1	100	0.45	70-130	20	07/30/2012 2005
Ethanol	5000	3600		1	72	3.2	70-130	20	07/30/2012 2005
Ethyl-tert-butyl ether (ETBE)	50	47		1	94	3.0	70-130	20	07/30/2012 2005
tert-butyl alcohol (TBA)	1000	960		1	96	0.096	70-130	20	07/30/2012 2005

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		93	70-130
1,2-Dichloroethane-d4		101	70-130
Toluene-d8		97	70-130

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N - Recovery is out of criteria
+ - RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

Volatile Organic Compounds by GC/MS - MB

Sample ID: NQ90265-001
Batch: 90265
Analytical Method: 8260B

Matrix: Aqueous
Prep Method: 5030B

Parameter	Result	Q	Dil	PQL	MDL	Units	Analysis Date
Benzene	ND		1	5.0	0.20	ug/L	07/30/2012 2118
1,2-Dichloroethane	ND		1	5.0	0.30	ug/L	07/30/2012 2118
Ethylbenzene	ND		1	5.0	1.7	ug/L	07/30/2012 2118
Methyl tertiary butyl ether (MTBE)	ND		1	5.0	0.40	ug/L	07/30/2012 2118
Naphthalene	ND		1	5.0	1.7	ug/L	07/30/2012 2118
Toluene	ND		1	5.0	1.7	ug/L	07/30/2012 2118
Xylenes (total)	ND		1	5.0	1.7	ug/L	07/30/2012 2118

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		98	70-130
1,2-Dichloroethane-d4		107	70-130
Toluene-d8		95	70-130

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N - Recovery is out of criteria
+ - RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

Volatile Organic Compounds by GC/MS - LCS

Sample ID: NQ90265-002
Batch: 90265
Analytical Method: 8260B

Matrix: Aqueous
Prep Method: 5030B

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
Benzene	50	50		1	99	70-130	07/30/2012 1941
1,2-Dichloroethane	50	50		1	100	70-130	07/30/2012 1941
Ethylbenzene	50	54		1	107	70-130	07/30/2012 1941
Methyl tertiary butyl ether (MTBE)	50	50		1	100	70-130	07/30/2012 1941
Naphthalene	50	47		1	94	70-130	07/30/2012 1941
Toluene	50	50		1	100	70-130	07/30/2012 1941
Xylenes (total)	100	110		1	109	70-130	07/30/2012 1941

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		94	70-130
1,2-Dichloroethane-d4		102	70-130
Toluene-d8		97	70-130

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N - Recovery is out of criteria
+ - RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

Volatile Organic Compounds by GC/MS - LCSD

Sample ID: NQ90265-003
Batch: 90265
Analytical Method: 8260B

Matrix: Aqueous
Prep Method: 5030B

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% RPD	% Rec Limit	% RPD Limit	Analysis Date
Benzene	50	50		1	100	1.1	70-130	20	07/30/2012 2005
1,2-Dichloroethane	50	48		1	97	3.3	70-130	20	07/30/2012 2005
Ethylbenzene	50	52		1	105	2.3	70-130	20	07/30/2012 2005
Methyl tertiary butyl ether (MTBE)	50	49		1	97	3.4	70-130	20	07/30/2012 2005
Naphthalene	50	48		1	96	1.7	70-130	20	07/30/2012 2005
Toluene	50	49		1	98	1.7	70-130	20	07/30/2012 2005
Xylenes (total)	100	100		1	105	4.0	70-130	20	07/30/2012 2005

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		93	70-130
1,2-Dichloroethane-d4		101	70-130
Toluene-d8		97	70-130

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N - Recovery is out of criteria
+ - RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

EDB & DBCP by Microextraction - MB

Sample ID: NQ89713-001
Batch: 89713
Analytical Method: 8011

Matrix: Aqueous
Prep Method: 8011
Prep Date: 07/23/2012 1100

Parameter	Result	Q	Dil	PQL	MDL	Units	Analysis Date
1,2-Dibromoethane (EDB)	ND		1	0.020	0.0062	ug/L	07/24/2012 0151

Surrogate	Q	% Rec	Acceptance Limit
1,1,1,2-Tetrachloroethane		97	57-137

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N - Recovery is out of criteria
+ - RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

EDB & DBCP by Microextraction - LCS

Sample ID: NQ89713-002
Batch: 89713
Analytical Method: 8011

Matrix: Aqueous
Prep Method: 8011
Prep Date: 07/23/2012 1100

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
1,2-Dibromoethane (EDB)	0.25	0.26		1	103	60-140	07/24/2012 0213

Surrogate	Q	% Rec	Acceptance Limit
1,1,1,2-Tetrachloroethane		103	57-137

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N - Recovery is out of criteria
+ - RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

EDB & DBCP by Microextraction - MS

Sample ID: NG21001-001MS
Batch: 89713
Analytical Method: 8011

Matrix: Aqueous
Prep Method: 8011
Prep Date: 07/23/2012 1100

Parameter	Sample Amount (ug/L)	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
1,2-Dibromoethane (EDB)	3.9	0.24	3.7	N	1	152	60-140	07/24/2012 0607

Surrogate	Q	% Rec	Acceptance Limit
1,1,1,2-Tetrachloroethane		127	57-137

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N - Recovery is out of criteria
+ - RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

EDB & DBCP by Microextraction - MSD

Sample ID: NG21001-001MD
Batch: 89713
Analytical Method: 8011

Matrix: Aqueous
Prep Method: 8011
Prep Date: 07/23/2012 1100

Parameter	Sample Amount (ug/L)	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% RPD	% Rec Limit	% RPD Limit	Analysis Date
1,2-Dibromoethane (EDB)	3.9	0.24	3.5		1	79	4.9	60-140	20	07/24/2012 0628

Surrogate	Q	% Rec	Acceptance Limit
1,1,1,2-Tetrachloroethane		120	57-137

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N - Recovery is out of criteria
+ - RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

EDB & DBCP by Microextraction - MB

Sample ID: NQ89769-001
Batch: 89769
Analytical Method: 8011

Matrix: Aqueous
Prep Method: 8011
Prep Date: 07/24/2012 851

Parameter	Result	Q	Dil	PQL	MDL	Units	Analysis Date
1,2-Dibromoethane (EDB)	ND		1	0.020	0.0062	ug/L	07/24/2012 2157

Surrogate	Q	% Rec	Acceptance Limit
1,1,1,2-Tetrachloroethane		106	57-137

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N - Recovery is out of criteria
+ - RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

EDB & DBCP by Microextraction - LCS

Sample ID: NQ89769-002
Batch: 89769
Analytical Method: 8011

Matrix: Aqueous
Prep Method: 8011
Prep Date: 07/24/2012 851

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
1,2-Dibromoethane (EDB)	0.25	0.26		1	104	60-140	07/24/2012 2219

Surrogate	Q	% Rec	Acceptance Limit
1,1,1,2-Tetrachloroethane		107	57-137

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N - Recovery is out of criteria
+ - RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

EDB & DBCP by Microextraction - MS

Sample ID: NG21001-032MS
Batch: 89769
Analytical Method: 8011

Matrix: Aqueous
Prep Method: 8011
Prep Date: 07/24/2012 851

Parameter	Sample Amount (ug/L)	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
1,2-Dibromoethane (EDB)	ND	0.26	0.20		1	79	60-140	07/24/2012 2301

Surrogate	Q	% Rec	Acceptance Limit
1,1,1,2-Tetrachloroethane		86	57-137

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N - Recovery is out of criteria
+ - RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

EDB & DBCP by Microextraction - MSD

Sample ID: NG21001-032MD
Batch: 89769
Analytical Method: 8011

Matrix: Aqueous
Prep Method: 8011
Prep Date: 07/24/2012 851

Parameter	Sample Amount (ug/L)	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% RPD	% Rec Limit	% RPD Limit	Analysis Date
1,2-Dibromoethane (EDB)	ND	0.25	0.18		1	74	9.1	60-140	20	07/24/2012 2323

Surrogate	Q	% Rec	Acceptance Limit
1,1,1,2-Tetrachloroethane		79	57-137

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N - Recovery is out of criteria
+ - RPD is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

EDB & DBCP by Microextraction - MB

Sample ID: NQ89952-001
Batch: 89952
Analytical Method: 8011

Matrix: Aqueous
Prep Method: 8011
Prep Date: 07/25/2012 2030

Parameter	Result	Q	Dil	PQL	MDL	Units	Analysis Date
1,2-Dibromoethane (EDB)	ND		1	0.020	0.0062	ug/L	07/26/2012 1556

Surrogate	Q	% Rec	Acceptance Limit
1,1,1,2-Tetrachloroethane		93	57-137

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N - Recovery is out of criteria
+ - RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

EDB & DBCP by Microextraction - LCS

Sample ID: NQ89952-002
Batch: 89952
Analytical Method: 8011

Matrix: Aqueous
Prep Method: 8011
Prep Date: 07/25/2012 2030

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
1,2-Dibromoethane (EDB)	0.25	0.22		1	88	60-140	07/26/2012 1617

Surrogate	Q	% Rec	Acceptance Limit
1,1,1,2-Tetrachloroethane		97	57-137

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N - Recovery is out of criteria
+ - RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

EDB & DBCP by Microextraction - MS

Sample ID: NG21001-015MS
Batch: 89952
Analytical Method: 8011

Matrix: Aqueous
Prep Method: 8011
Prep Date: 07/25/2012 2030

Parameter	Sample Amount (ug/L)	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
1,2-Dibromoethane (EDB)	ND	0.24	0.20		1	83	60-140	07/26/2012 1805

Surrogate	Q	% Rec	Acceptance Limit
1,1,1,2-Tetrachloroethane		89	57-137

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N - Recovery is out of criteria
+ - RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

EDB & DBCP by Microextraction - MSD

Sample ID: NG21001-015MD
Batch: 89952
Analytical Method: 8011

Matrix: Aqueous
Prep Method: 8011
Prep Date: 07/25/2012 2030

Parameter	Sample Amount (ug/L)	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% RPD	% Rec Limit	% RPD Limit	Analysis Date
1,2-Dibromoethane (EDB)	ND	0.24	0.24		1	98	16	60-140	20	07/26/2012 1826

Surrogate	Q	% Rec	Acceptance Limit
1,1,1,2-Tetrachloroethane		101	57-137

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N - Recovery is out of criteria
+ - RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

EDB & DBCP by Microextraction - MB

Sample ID: NQ89954-001
Batch: 89954
Analytical Method: 8011

Matrix: Aqueous
Prep Method: 8011
Prep Date: 07/25/2012 2030

Parameter	Result	Q	Dil	PQL	MDL	Units	Analysis Date
1,2-Dibromoethane (EDB)	ND		1	0.020	0.0062	ug/L	07/30/2012 1743

Surrogate	Q	% Rec	Acceptance Limit
1,1,1,2-Tetrachloroethane		109	57-137

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N - Recovery is out of criteria
+ - RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

EDB & DBCP by Microextraction - LCS

Sample ID: NQ89954-002
Batch: 89954
Analytical Method: 8011

Matrix: Aqueous
Prep Method: 8011
Prep Date: 07/25/2012 2030

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
1,2-Dibromoethane (EDB)	0.25	0.26		1	103	60-140	07/30/2012 1804

Surrogate	Q	% Rec	Acceptance Limit
1,1,1,2-Tetrachloroethane		108	57-137

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N - Recovery is out of criteria
+ - RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

ICP-AES - MB

Sample ID: NQ89666-001
Batch: 89666
Analytical Method: 6010C

Matrix: Aqueous
Prep Method: 3005A
Prep Date: 07/23/2012 1401

Parameter	Result	Q	Dil	PQL	MDL	Units	Analysis Date
Lead	ND		1	0.010	0.0019	mg/L	07/24/2012 0100

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N - Recovery is out of criteria
+ - RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

ICP-AES - LCS

Sample ID: NQ89666-002
Batch: 89666
Analytical Method: 6010C

Matrix: Aqueous
Prep Method: 3005A
Prep Date: 07/23/2012 1401

Parameter	Spike Amount (mg/L)	Result (mg/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
Lead	0.40	0.44		1	111	80-120	07/24/2012 0104

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N - Recovery is out of criteria
+ - RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

ICP-AES - LCSD

Sample ID: NQ89666-003
Batch: 89666
Analytical Method: 6010C

Matrix: Aqueous
Prep Method: 3005A
Prep Date: 07/23/2012 1401

Parameter	Spike Amount (mg/L)	Result (mg/L)	Q	Dil	% Rec	% RPD	% Rec Limit	% RPD Limit	Analysis Date
Lead	0.40	0.45		1	111	0.29	80-120	20	07/24/2012 0108

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N - Recovery is out of criteria
+ - RPD is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

ICP-AES - MS

Sample ID: NG21001-003MS
Batch: 89666
Analytical Method: 6010C

Matrix: Aqueous
Prep Method: 3005A
Prep Date: 07/23/2012 1401

Parameter	Sample Amount (mg/L)	Spike Amount (mg/L)	Result (mg/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
Lead	0.27	0.40	0.59		1	79	75-125	07/24/2012 0123

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N - Recovery is out of criteria
+ - RPD is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

ICP-AES - MSD

Sample ID: NG21001-003MD
Batch: 89666
Analytical Method: 6010C

Matrix: Aqueous
Prep Method: 3005A
Prep Date: 07/23/2012 1401

Parameter	Sample Amount (mg/L)	Spike Amount (mg/L)	Result (mg/L)	Q	Dil	% Rec	% RPD	% Rec Limit	% RPD Limit	Analysis Date
Lead	0.27	0.40	0.60		1	83	2.6	75-125	20	07/24/2012 0127

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N - Recovery is out of criteria
+ - RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

ICP-AES - MB

Sample ID: NQ89741-001
Batch: 89741
Analytical Method: 6010C

Matrix: Aqueous
Prep Method: 3005A
Prep Date: 07/23/2012 2009

Parameter	Result	Q	Dil	PQL	MDL	Units	Analysis Date
Lead	ND		1	0.010	0.0019	mg/L	07/24/2012 1335

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N - Recovery is out of criteria
+ - RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

ICP-AES - LCS

Sample ID: NQ89741-002
Batch: 89741
Analytical Method: 6010C

Matrix: Aqueous
Prep Method: 3005A
Prep Date: 07/23/2012 2009

Parameter	Spike Amount (mg/L)	Result (mg/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
Lead	0.40	0.45		1	112	80-120	07/24/2012 1339

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N - Recovery is out of criteria
+ - RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

ICP-AES - LCSD

Sample ID: NQ89741-003
Batch: 89741
Analytical Method: 6010C

Matrix: Aqueous
Prep Method: 3005A
Prep Date: 07/23/2012 2009

Parameter	Spike Amount (mg/L)	Result (mg/L)	Q	Dil	% Rec	% RPD	% Rec Limit	% RPD Limit	Analysis Date
Lead	0.40	0.45		1	112	0.094	80-120	20	07/24/2012 1343

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N - Recovery is out of criteria
+ - RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

ICP-AES - MS

Sample ID: NG21001-021MS
Batch: 89741
Analytical Method: 6010C

Matrix: Aqueous
Prep Method: 3005A
Prep Date: 07/23/2012 2009

Parameter	Sample Amount (mg/L)	Spike Amount (mg/L)	Result (mg/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
Lead	0.0069	0.40	0.45		1	111	75-125	07/24/2012 1351

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N - Recovery is out of criteria
+ - RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

ICP-AES - MSD

Sample ID: NG21001-021MD
Batch: 89741
Analytical Method: 6010C

Matrix: Aqueous
Prep Method: 3005A
Prep Date: 07/23/2012 2009

Parameter	Sample Amount (mg/L)	Spike Amount (mg/L)	Result (mg/L)	Q	Dil	% Rec	% RPD	% Rec Limit	% RPD Limit	Analysis Date
Lead	0.0069	0.40	0.46		1	112	0.75	75-125	20	07/24/2012 1354

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N - Recovery is out of criteria
+ - RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

ICP-AES - MS

Sample ID: NG21001-022MS
Batch: 89741
Analytical Method: 6010C

Matrix: Aqueous
Prep Method: 3005A
Prep Date: 07/23/2012 2009

Parameter	Sample Amount (mg/L)	Spike Amount (mg/L)	Result (mg/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
Lead	0.012	0.40	0.44		1	107	75-125	07/24/2012 1406

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N - Recovery is out of criteria
+ - RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

ICP-AES - MB

Sample ID: NQ89742-001
Batch: 89742
Analytical Method: 6010C

Matrix: Aqueous
Prep Method: 3005A
Prep Date: 07/23/2012 2009

Parameter	Result	Q	Dil	PQL	MDL	Units	Analysis Date
Lead	ND		1	0.010	0.0019	mg/L	07/24/2012 1541

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N - Recovery is out of criteria
+ - RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

ICP-AES - LCS

Sample ID: NQ89742-002
Batch: 89742
Analytical Method: 6010C

Matrix: Aqueous
Prep Method: 3005A
Prep Date: 07/23/2012 2009

Parameter	Spike Amount (mg/L)	Result (mg/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
Lead	0.40	0.44		1	111	80-120	07/24/2012 1545

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N - Recovery is out of criteria
+ - RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

ICP-AES - LCSD

Sample ID: NQ89742-003
Batch: 89742
Analytical Method: 6010C

Matrix: Aqueous
Prep Method: 3005A
Prep Date: 07/23/2012 2009

Parameter	Spike Amount (mg/L)	Result (mg/L)	Q	Dil	% Rec	% RPD	% Rec Limit	% RPD Limit	Analysis Date
Lead	0.40	0.43		1	107	3.7	80-120	20	07/24/2012 1549

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N - Recovery is out of criteria
+ - RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

ICP-AES - MS

Sample ID: NG21001-041MS
Batch: 89742
Analytical Method: 6010C

Matrix: Aqueous
Prep Method: 3005A
Prep Date: 07/23/2012 2009

Parameter	Sample Amount (mg/L)	Spike Amount (mg/L)	Result (mg/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
Lead	ND	0.40	0.42		1	105	75-125	07/24/2012 1557

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N - Recovery is out of criteria
+ - RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

ICP-AES - MSD

Sample ID: NG21001-041MD
Batch: 89742
Analytical Method: 6010C

Matrix: Aqueous
Prep Method: 3005A
Prep Date: 07/23/2012 2009

Parameter	Sample Amount (mg/L)	Spike Amount (mg/L)	Result (mg/L)	Q	Dil	% Rec	% RPD	% Rec Limit	% RPD Limit	Analysis Date
Lead	ND	0.40	0.43		1	108	2.5	75-125	20	07/24/2012 1601

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N - Recovery is out of criteria
+ - RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

ICP-AES - MS

Sample ID: NG21001-042MS
Batch: 89742
Analytical Method: 6010C

Matrix: Aqueous
Prep Method: 3005A
Prep Date: 07/23/2012 2009

Parameter	Sample Amount (mg/L)	Spike Amount (mg/L)	Result (mg/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
Lead	ND	0.40	0.42		1	105	75-125	07/24/2012 1612

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N - Recovery is out of criteria
+ - RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

Chain of Custody Record

Shealy Environmental Services, Inc.
106 Vantage Point Drive
West Columbia, South Carolina 29172
Telephone No. (803) 791-9700 Fax No. (803) 791-9111
www.shealylab.com

Number 15352

Client: 3LE	Report to Contact: Trevor Slack	Sampler (Printed Name): Reid A. Doherty, Regina Koenig	Quote No.
Address: 6004 Ponders Court	Telephone No. / Fax No. / Email: tslack@blecorp.com	Waybill No.	Page 1 of 6
City: Greenville; State: SC; Zip Code: 29615	Preservative: 1. Unpres. 2. NaOH/ZnA 3. H2SO4 4. HNO3 5. HCL 6. Na Thio. 7. NaOH		Number of Containers
Project Name: Spur#258 / Former Emmett #380			Bottle (See instructions on back)
Project Number: J12-46859-04	P.O Number		Preservative
			Lot No. NG21001

Sample ID / Description (Containers for each sample may be combined on one line)	Date	Time	G=Grab C=Composite	Matrix: GW	DW	WW	S	Other	Analysis	BOD (BTEX+MTBE+1,2-DCA+1,3-DCA)	BOD (EDB)	GOD (PG)	Remarks / Cooler ID
										3	3	1	
										A	A	D	
										5	5	4	
06588-MW-1	7/17/12	1010	G	X						X	X	X	
06588-MW-2	7/17/12	1055											
06588-MW-3	7/17/12	1035											
06588-MW-4	7/17/12	1038											
06588-MW-7D	7/17/12	1128											
06588-MW-8D	7/17/12	1020											
06588-MW-9	7/16/12	1615											
06588-MW-10	7/16/12	1630											
06588-MW-11	7/16/12	1645											
06588-MW-12	7/17/12	1110											

Turn Around Time Required (Prior lab approval required for expedited TAT): ☑ Standard ☐ Rush (Please Specify)

Sample Disposal: ☐ Return to Client ☑ Disposal by Lab

QC Requirements (Specify)

Possible Hazard Identification: ☑ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison ☐ Unknown

	Date	Time		Date	Time
1. Relinquished by / Sampler: [signature]	7/20/12	1148	1. Received by: [signature]	7/20/12	1148
2. Relinquished by			2. Received by		
3. Relinquished by			3. Received by		
4. Relinquished by: [signature]	7/20/12	1610	4. Laboratory Received by: [signature]	7/20/12	1610

Note: All samples are retained for six weeks from receipt unless other arrangements are made.

LAB USE ONLY: Received on Ice (Check) ☐ Yes ☐ No ☐ Ice Pack — Receipt Temp. 15 27 1.2 °C — Temp. Blank ☐ Y / ☐ N

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SHEALY **Chain of Custody Record**

Number 15351

Client: BLE	Report to Contact: Trevor Slack	Sampler (Printed Name): Reid A. Doherty, Regina Keeling	Cooler No.
Address: 6604 Pinebrook Court	Telephone No. / Fax No. / Email: tslack@blecorp.com	Waybill No.	Page 2 of 6
City: Greenville; State: SC; Zip Code: 29615	Preservative: 1. Unpres. 2. NaOH/ZnA 3. H_2SO_4 4. HNO3 5. HCL 6. Na Thio 7. NaOH		Number of Containers / Bottle (See Instructions on back) / Preservative
Project Name: Simpsonville Power Equipment #380			Lot No. NG21101
Project Number: J12-6859-04	P.O Number		

Sample ID / Description (Containers for each sample may be combined on one line)	Date	Time	G-Grab C-Composite	Matrix GW	DW	WW	S	Other	Analysis: Benzene/Toluene/Xylene/Naphthalene (EPA 8260B)	Soil (EPA 8)	Lead (Pb)									Remarks / Cooler ID
06588-MW-13	7/17/12	1142	G	X					X	X	X									
06588-MW-14	7/17/12	1515																		
06588-MW-15	7/17/12	1535																		
06588-MW-16	7/17/12	1320																		
06588-MW-17	7/17/12	1125																		
06588-MW-18	7/17/12	1340																		
06588-MW-20	7/17/12	1420																		
06588-MW-21	7/17/12	1436																		
06588-MW-21D	7/17/12	1432																		
06588-MW-22	7/17/12	1350																		

Turn Around Time Required (Prior lab approval required for expedited TAT): ☑ Standard ☐ Rush (Please Specify)

Sample Disposal: ☐ Return to Client ☑ Disposal by Lab

QC Requirements (Specify):

Possible Hazard Identification: ☑ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison ☐ Unknown

	Date	Time		Date	Time
1. Relinquished by: Sampler	7/20/12	1148	1. Received by	7/20/12	1148
2. Relinquished by			2. Received by		
3. Relinquished by			3. Received by		
4. Relinquished by	7/20/12	1610	4. Laboratory Received by	7/20/12	1610

Note: All samples are retained for six weeks from receipt unless other arrangements are made.

LAB USE ONLY: Received on Ice (Circle) ☐ Yes ☐ No ☐ Ice Pack; Receipt Temp: 1.5 2.7 1.2 °C; Temp Blank ☐ Y / ☐ N

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Chain of Custody Record

Number 15350

Client: BLE	Report to Contact: Trevor Slack	Sampler (Printed Name): Rick A. Doherty, Regina Kovacs	Quote No.
Address: 6204 Pendere Court	Telephone No. / Fax No. / Email: tslack@blegroup.com	Waybill No.	Page 3 of 6
City: Greenville; State: SC; Zip Code: 29615	Preservative: 1. Unpres. 2. NaOH/ZnA 3. H2SO4 4. HNO3 5. HCl 6. Na Thio. 7. NaOH		
Project Name: Spinx #258/Former Emerald #380			
Project Number: J12-6859-04	P.O Number		

Sample ID / Description (Containers for each sample may be combined on one line)	Date	Time	G=Grab C=Composite	Matrix: GW	DW	WW	S	Other	Analysis: 8260B/8260B MS-M / 8260B+8260B MS-M	8011 (EDB)	6010 (Pb)									Number of Containers	Bottle (See instructions on back)	Preservative	Lot No.	Remarks / Cooler ID
									3	3	1														
									4	4	D														
									5	5	4														
06588-MW-22DUP	7/17/12	1348	G	X					X	X	X													N621081	
06588-MW-22D	7/17/12	1334																							
06588-MW-24D	7/17/12	0950																							
06588-MW-26	7/16/12	1600																							
06588-MW-27	7/16/12	1545																							
06588-MW-28	7/17/12	1440																							
06588-MW-29	7/17/12	1459																							
06588-MW-30	7/17/12	1522																							
06588-MW-30D	7/18/12	1059																							
06588-MW-31	7/17/12	1537																							

Turn Around Time Required (Prior lab approval required for expedited TAT): ☑ Standard ☐ Rush (Please Specify)

Sample Disposal: ☐ Return to Client ☑ Disposal by Lab

QC Requirements (Specify):

Possible Hazard Identification: ☑ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison ☐ Unknown

	Date	Time		Date	Time
1. Relinquished by / Sampler	7/20/12	1144	1. Received By	7/20/12	1144
2. Relinquished by	Date	Time	2. Received by	Date	Time
3. Relinquished by	Date	Time	3. Received by	Date	Time
4. Relinquished by	7/20/12	1600	4. Laboratory Received by	7/20/12	1600

Note: All samples are retained for six weeks from receipt unless other arrangements are made.

LAB USE ONLY
Received on Ice (Check): ☐ Yes ☐ No ☐ Ice Pack
Receipt Temp. 1.5 27 1-2 °C
Temp. Blank ☐ Y / ☐ N

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Chain of Custody Record

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Number 15349

Client: BLE	Report to Contact: Trevor Stack	Sampler (Printed Name): Reid A. Doherty, Regina Koenig	Quote No.
Address: 6004 Ponders Court	Telephone No. / Fax No. / Email: TStack@blecorp.com	Waybill No.	Page 4 of 6
City: Greenville; State: SC; Zip Code: 29615	Preservative: 1. Unpres. 2. NaOH/ZnA 3. H2SO4 4. HNO3 5. HCl 6. No Thio. 7. NaOH		Number of Containers
Project Name: Spine #258/Former Emmett #380			Bottle (See instructions on back)
Project Number: J72-6855-04	P.O Number		Preservative
			Lot No. N421401

Sample ID / Description (Containers for each sample may be combined on one line)	Date	Time	B=Brush C=Composite	Matrix: SW	DW	WW	S	Other	Analysis	8260B/8260 + 8260 (B, 8260)	8011 (EDB)	6010 (Pb)	Remarks / Cooler ID
										3	3	1	
										A	A	D	
										5	5	4	
06588-MW-32	7/17/12	1545	X	X						X	X	X	
06588-MW-33	7/17/12	1515											
06588-MW-33 DUP	7/17/12	1517											
06588-MW-33D	7/18/12	1020											
06588-MW-34	7/17/12	1455											
06588-MW-35	7/17/12	1555											
06588-MW-36	7/18/12	1240											
06588-MW-37	7/18/12	1210											
06588-MW-38	7/18/12	1015											
06588-MW-39	7/18/12	1030											

Turn Around Time Required (Prior lab approval required for expedited TAT): ☑ Standard ☐ Rush (Please Specify)

Sample Disposal: ☐ Return to Client ☑ Disposal by Lab

QC Requirements (Specify)

Possible Hazard Identification: ☑ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison ☐ Unknown

	Date	Time		Date	Time
1. Relinquished by / Sampler: [signature]	7/20/12	1148	1. Received by: [signature]	7/20/12	1148
2. Relinquished by			2. Received by		
3. Relinquished by			3. Received by		
4. Relinquished by: [signature]	7/20/12	1610	4. Laboratory Received by: [signature]	7/20/12	1610

Note: All samples are retained for six weeks from receipt unless other arrangements are made.

LAB USE ONLY: Received on Ice (Check) ☐ Yes ☐ No ☐ Ice Pack; Receipt Temp 1.5 2.7 1.2 °C; Temp Blank ☐ Y / ☐ N

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Chain of Custody Record

Number 15348

Client: BLE	Report to Contact: Trevor Stone	Sampler (Printed Name): Paul A. Doherty, Regina Koenig	Quote No.
Address: 6904 Fondren Court	Telephone No. / Fax No. / Email: tstone@blesc.com	Waybill No.	Page 5 of 6
City: Lexington; State: SC; Zip Code: 29215	Preservative: 1. Coolers; 2. NaOH/ZnA; 3. H2SO4; 4. HNO3; 5. HCL; 6. Na Thio; 7. NaOH		
Project Name: Sonoco 2753 / Former Eureka = 380			
Project Number: 112-2858-04	P.O. Number		Lot No. NG21601

Sample ID / Description (Containers for each sample may be combined on one line)	Date	Time	G=Grab C=Composite	Matrix: GW	WW	S	Other	Analysis: 2-Butanone (MEK)	Vinyl Acetate (Bottle)	8260 (3 bottles)	Lead (Pb)									Number of Containers	Bottle (See instructions on back)	Preservative	Remarks / Cooler ID
								3	3	1													
								A	A	D													
								5	5	4													
06588 - MW-40	7/17/12	0945	G	X				X	X	X													
06588 - MW-40 DUP	7/17/12	0947						X	X	X													
06588 MW-41D	7/18/12	0917						X	X	X													
06588 - MW-42	7/18/12	1225						X	X	X													
06588 - MW-42D	7/18/12	1151						X	X	X													
06588 MW-43D	7/18/12	1106						X	X	X													
DW-1	7/18/12	1530						X	X														
DW-3	7/18/12	1615						X	X														
DW-5	7/18/12	1415						X	X														
DW-8	7/18/12	1500						X	X														

Turn Around Time Required (Prior lab approval required for expedited TAT): ☒ Standard ☐ Rush (Please Specify)

Sample Disposal: ☐ Return to Client ☒ Disposal by Lab

QC Requirements (Specify):

Possible Hazard Identification: ☒ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison ☐ Unknown

1. Relinquished by / Sampler: [signature]	Date: 7/20/12	Time: 1148	1. Received by: [signature]	Date: 7/20/12	Time: 1148
2. Relinquished by	Date	Time	2. Received by	Date	Time
3. Relinquished by	Date	Time	3. Received by	Date	Time
4. Relinquished by: [signature]	Date: 7/20/12	Time: 1640	4. Laboratory Received by: [signature]	Date: 7/20/12	Time: 1610

Note: All samples are retained for six weeks from receipt unless other arrangements are made.

LAB USE ONLY: Received on Ice (Circle): ☐ Yes ☐ No ☐ Ice Pack; Receipt Temp: 15.2 / 1.2 °C; Temp. Blank: ☐ Y / ☐ N

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Chain of Custody Record

Number 15347

Client: BLE	Report to Contact: Trevor Stein	Sampler (Printed Name): Reid A. Doherty, Regina Koenig	Quote No.
Address: 6004 Fairbanks Court	Telephone No. / Fax No. / Email: tstein@cubicorp.com	Waybill No.	Page: 1 of 1
City: Greenville; State: SC; Zip Code: 29615	Preservative: 1. Chlorine 2. NaCH2O2 3. H2SO4 4. HNO3 5. HCL 6. Na Thio 7. NaOH		Number of Containers
Project Name: Spring #256 / Fern Branch 380			Bottle (See Instructions on back)
			Preservative
Project Number: TIZ - 6858 - 04	P.O Number:		Lot No.: NG21071

Sample ID / Description (Containers for each sample may be combined on one line)	Date	Time	G=Grab C=Composite	Matrix: GW	DW	WW	S	Other	Analysis: 624 (Per EPA 624)	624 (Per EPA 624)	8015 (Gas/Diesel)										Remarks / Cooler ID
									3	3	1										
									X	X	D										
									S	S	H										
DW-9	7/18/12	1630	G	X					X	X											
SW-1	7/18/12	1245							X	X											
Field Blank 1	7/16/12	1430							X	X	X										
Field Blank 2	7/17/12	0930							X	X	X										
Field Blank 3	7/18/12	0845							X	X	X										
Trip Blank 1	—	—							X	X											

Turn Around Time Required (Prior lab approval required for expedited TAT)	Sample Disposal	QC Requirements (Specify)	Possible Hazard Identification
☑ Standard ☐ Rush (Please Specify)	☐ Return to Client ☑ Disposal by Lab		☑ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison ☐ Unknown

	Date	Time		Date	Time
1. Relinquished by / Sampler	7/20/12	1148	1. Received by	7/20/12	1148
2. Relinquished by			2. Received by		
3. Relinquished by			3. Received by		
4. Relinquished by	7/20/12	1600	4. Laboratory Received by	7/20/12	1610

Note: All samples are retained for six weeks from receipt unless other arrangements are made.

LAB USE ONLY
Received on Ice (Check) ☐ Yes ☐ No ☐ Ice Pack
Receipt Temp. 1.5 2.7 1.2 °C
Temp. Blank ☐ Y / ☐ N

Shealy Environmental Services, Inc.
Document Number: F-A18-016
Revision Number: 9

Page 1 of 1
Replaces Date: 05/26/11
Effective Date: 10/11/11

Sample Receipt Checklist (SRC)

Client: BLR Cooler Inspected by/date: [illegible] 7/21/[illegible] Lot #: [illegible]

Means of receipt: ☑ SESI ☐ Client ☐ UPS ☐ FedEx ☐ Airborne Exp ☐ Other			
Yes ☐	No ☑		1. Were custody seals present on the cooler?
Yes ☐	No ☑		2. If custody seals were present, were they intact and unbroken?
Cooler ID/temperature upon receipt 1.5 °C 2.2 °C 1.2 °C °C °C Method: ☐ Temperature Blank ☑ Against Bottles Method of cooling: ☑ Wet Ice ☐ Blue Ice ☐ Dry Ice ☐ None			
If response is No for Yes for 14, 15, 16), an explanation/resolution must be provided			
Yes ☐	No ☐	NA ☑	3. If temperature of any cooler exceeded 6.0°C, was Project Manager notified? PM notified by SRC, phone, note (circle one), other_____ (For coolers received via commercial courier, PMs are to be notified immediately
Yes ☐	No ☐	NA ☑	4. Is the commercial courier's packing slip attached to this form?
Yes ☑	No ☐		5. Were proper custody procedures (relinquished/received) followed?
Yes ☐	No ☐	NA ☑	5a. Were samples relinquished by client(to commercial courier?
Yes ☑	No ☐		6. Were sample IDs listed?
Yes ☑	No ☐		7. Was collection date & time listed?
Yes ☑	No ☐		8. Were tests to be performed listed on the COC?
Yes ☑	No ☐		9. Did all samples arrive in the proper containers for each test?
Yes ☑	No ☐		10. Did all container label information (ID, date, time) agree with COC?
Yes ☑	No ☐		11. Did all containers arrive in good condition (unbroken, lids on, etc.)?
Yes ☑	No ☐		12. Was adequate sample volume available?
Yes ☐	No ☑		13. Were all samples received within ½ the holding time or 48 hours, whichever comes first?
Yes ☑	No ☐		14. Were any samples containers missing? - 057 pH Sample (DW-4)
Yes ☑	No ☐		15. Were there any excess samples not listed on COC? - 057 (circle) (6)
Yes ☑	No ☐	NA ☐	16. Were bubbles present >"pea-size" (~6mm in diameter) in any VOA vials?
Yes ☑	No ☐	NA ☐	17. Were all metals/O&G/HBM/nutrient samples received at a pH of <2?
Yes ☐	No ☐	NA ☑	18. Were all cyanide and/or sulfide samples received at a pH >12?
Yes ☐	No ☐	NA ☑	19. Were all applicable NH3/TKN/cyanide/phenol/BNA/pest/PCB/herb (<0.2mg/L) samples free of residual chlorine?
Yes ☐	No ☐	NA ☑	20. Were collection temperatures documented on the COC for NC samples?
Yes ☐	No ☐	NA ☑	21. Were client remarks/requests (i.e. requested dilutions, MS/MSD designations, etc.) correctly transcribed from the COC into the comment section in LIMS?

Sample Preservation (Must be completed for any sample(s) incorrectly preserved or with headspace.)

Sample(s) _____ were received incorrectly preserved and were adjusted accordingly in sample receiving with: _____ (H_2SO_4, HNO_3, HCL, NaOH) with the SR # (number)

Sample(s) - 056 (2) were received with bubbles > 6 mm in diameter.

Sample(s) _____ were received with TRC >0.2 mg/L for NH3, TKN/cyanide/BNA/pest/PCB/herb.

Corrective Action taken, if necessary:

Was client notified: Yes ☐ No ☐ Did client respond: Yes ☐ No ☐

SESI employee: _____ Date of response: _____

Comments: _____

D H E C
PROMOTE PROTECT PROSPER
Catherine B. Templeton, Director
Promoting and protecting the health of the public and the environment

MR TOM DOLAN
INTERSTATE STATIONS INC
PO BOX 728
SAVANNAH GA 31402-0728

AUG 19 2013

UST DOCKETING

Re: QAPP Contractor Addendum Directive for Groundwater Sampling Event
Spinx 258, 2725 College St., Newberry, SC
UST Permit #06588
Release #1 reported December 29, 1989; Release #2 reported November 21, 1995
Assessment report received September 4, 2012
Newberry County

Dear Mr. Dolan:

The Underground Storage Tank (UST) Management Division of the South Carolina Department of Health and Environmental Control (Agency) has reviewed the referenced report. The report indicates the presence of petroleum chemicals of concern in the groundwater above Risk Based Screening Levels (RBSLs).

To determine what risk the referenced release may pose to human health and the environment, and in accordance with Section 280.65 of the South Carolina Underground Storage Tank Control Regulations, repair or reinstallation of the reportedly damaged groundwater monitoring well, MW-4, and sampling of all existing monitoring wells plus all water supply wells and surface water bodies within 1,000 feet of this facility as outlined in the UST Quality Assurance Program Plan (QAPP) Revision 2.0 is necessary. The groundwater sampling event must be conducted in accordance with the UST QAPP and in compliance with all applicable regulations once the site specific QAPP Contractor Addendum is approved. The QAPP Contractor Addendum must be prepared using the format as outlined in the QAPP Revision 2.0, available on-line at http://www.scdhec.gov/environment/lwm/usthome/Qapp.htm. **Your contractor must complete and submit the QAPP Contractor Addendum within thirty (30) days of the date of this letter. Please note that approval from the Agency must be issued before work begins.**

On all correspondence regarding this site, please reference UST Permit #06588. If you have questions or need additional information, feel free to call me at (803) 898-0599.

Sincerely,

James Ford

James Ford, Hydrogeologist
Assessment Section
Underground Storage Tank Management Division
Bureau of Land and Waste Management

cc: Bunnell-Lammons Engineering, Inc., 6004 Ponders Court, Greenville, SC 29615
Technical File

BUNNELL-LAMMONS ENGINEERING, INC.

GEOTECHNICAL, ENVIRONMENTAL AND CONSTRUCTION MATERIALS CONSULTANTS

QUALITY ASSURANCE PROGRAM PLAN (QAPP) ADDENDUM REVISION 0

Spinx 258 / Former Enmark 380
2725 College Street
Newberry, Newberry County, South Carolina
SCDHEC UST Permit #06588

Prepared For

South Carolina Department of Health and Environmental Control
Bureau of Underground Storage Tank Management
2600 Bull Street
Columbia, South Carolina 29201-1708

Prepared By

Bunnell-Lammons Engineering, Inc.
6004 Ponders Court
Greenville, South Carolina 29615
SCDHEC Certified Contractor No. UCC-010

September 10, 2013

BLE Project Number J13-6859-05

BUNNELL-LAMMONS ENGINEERING, INC.
GEOTECHNICAL, ENVIRONMENTAL AND CONSTRUCTION MATERIALS CONSULTANTS

September 10, 2013

South Carolina Department of Health and Environmental Control
Bureau of Underground Storage Tank Management
2600 Bull Street
Columbia, South Carolina 29201-1708

Attention: Mr. James Ford, Hydrogeologist

Subject: **QAPP Addendum – Monitoring Well Repair and Comprehensive Groundwater Sampling Event**
Spinx 258 / Former Enmark 380
2725 College Street
Newberry, Newberry County, South Carolina
SCDHEC UST Permit #06588
BLE Project No. J13-6859-05

Dear Mr. Ford:

On behalf of Enmark Stations, Inc., Bunnell-Lammons Engineering, Inc. (BLE) submits herein the completed Quality Assurance Program Plan (QAPP) addendum for the subject site. This submittal is in response to the South Carolina Department of Health and Environmental Control's (SCDHEC) QAPP addendum request dated August 19, 2013 for the repair of groundwater monitoring well MW-4 and the implementation of a groundwater sampling event at the subject site. Upon approval from the SCDHEC, additional copies of the QAPP addendum will be distributed to the parties listed in section A3.

Please do not hesitate to contact us if you have any questions concerning this submittal.

Sincerely,

BUNNELL-LAMMONS ENGINEERING, INC.

Daniel P. Osbourne, P.G.
Senior Hydrogeologist
Registered, South Carolina #2376

Thomas L. Lammons, P.G., CPHM
Principal Hydrogeologist
Registered, South Carolina #893

6004 PONDERS COURT
GREENVILLE, SOUTH CAROLINA 29615

PHONE (864) 288-1265
FAX (864) 288-4430

Section A: Project Management

A1 Title and Approval Page

Quality Assurance Project Plan
Addendum to the SCDHEC UST Programmatic QAPP
For
Spinx 258 / Former Enmark 380, UST Permit #06588

2725 College Street, Newberry, South Carolina

Prepared by: Daniel P. Osbourne, P.G. – Bunnell-Lammons Engineering, Inc.

Date: September 10, 2013

Bunnell-Lammons Engineering, Inc. – SCDHEC Certified Contractor No. UCC-0010

Approvals

Mr. James Ford SCDHEC Project Manager	_____ Signature	Date _____
Mr. Trevor J. Benton, P.G. Contractor QA Manager	_____ Signature	Date 9/10/13
Thomas L. Lammons, P.G. Site Rehabilitation Contractor	_____ Signature	Date 9/10/13
Dan Wright Laboratory Director	_____ Signature	Date 9/10/13

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STANDARD OPERATING PROCEDURES AND FORMS

Attachment A – Monitoring Well Construction Procedures
Attachment B – Monitoring Well Purging and Sampling Procedures
Standard Shealy Environmental Services, Inc. Chain of Custody
Attachment C – Oakton pH/Conductivity Series 10 Multi-Parameter Tester Calibration and Operation Procedures
Attachment D – YSI 550A Dissolved Oxygen Instrument Calibration, Maintenance, and Operation Procedures
Attachment E – LaMotte 2020 Turbidimeter Calibration and Operation Procedures

A3 Distribution and Project Organization List

Name	Title/Role from UST Master QAPP	License/ Number/ Exp. date	Organization / Address	Telephone Number	Fax Number	Email Address
James Ford	SCDHEC Technical Project Manager	NA	SCDHEC, UST Management Division, 2600 Bull Street Columbia, SC 29201	803-898-0599	803-898-0673	fordrj@ dhec.sc.gov
Thomas Lammons, P.G.	Contractor Project Manager	SC Professional Geologist #893 6/30/2015	Bunnell-Lammons Engineering, Inc. 6004 Ponders Court, Greenville, SC 29615	864-288-1265	864-288-4430	tom@ blecorp.com
Daniel Osbourne, P.G.	Contractor Field Manager	SC Professional Geologist #2376 6/30/2015	Bunnell-Lammons Engineering, Inc. 6004 Ponders Court, Greenville, SC 29615	864-288-1265	864-288-4430	dan.osbourne@ blecorp.com
Trevor Benton, P.G.	Contractor Project Verifier	SC Professional Geologist #2395 6/30/2015	Bunnell-Lammons Engineering, Inc. 6004 Ponders Court Greenville, SC 29615	864-288-1265	864-288-4430	trevor@ blecorp.com
Marty King	Well Services/ Driller	SC Well Driller #1089 6/30/2014	Landprobe Drilling 6004 Ponders Court Greenville, SC 29615	864-527-9324	864-288-4430	marty@ landprobe.com
Brandon Souther	Surveyor	SC Surveyor PLS 22365	Souther Land Surveying 10253 Asheville Highway Inman, SC 29349	864-473-1240	864-473-1241	southerbrandon@ windstream.net
Dan Wright	Laboratory Director	NA	Shealy Environmental Services, Inc. 106 Vantage Point Dr. West Columbia, SC 29172	803-791-9700	803-791-9111	dwright@ shealylab.com

Table 1A Addendum Distribution and Project Organization List

It is understood that certification records must be produced if requested by SCDHEC.

A4 Problem Definition/Background

Discuss the background (as much as is known) of the site and appropriate historical information, and why this site is being assessed.

The subject property is located at 2725 College Street in Newberry, Newberry County, South Carolina (**Figure 1**). The site is currently utilized as an automobile fueling station and retail convenience store and is bordered by commercial properties to the east and south and residential properties to the north and west.

According to the SCDHEC Underground Storage Tank (UST) Registry, four USTs (one 6,000-gallon diesel, one 6,000-gallon regular gasoline, one 8,000-gallon premium gasoline, and one 8,000-gallon regular gasoline) are present on-site. Two petroleum hydrocarbon releases have been reported at the facility in December 1989 and November 1995.

Various environmental assessments have been conducted at the site since 1989, including the installation (by BLE and others) of fifty (50) groundwater monitoring wells (21 onsite wells and 29 offsite wells) to assess groundwater quality. In addition, there are ten (10) water supply wells and one (1) surface water body located within 1,000-feet of the subject site. The most recent environmental assessment at the subject site occurred between May and August 2012. These assessment activities included three (3) aggressive fluid vapor recovery (AFVR) events, the installation of three (3) groundwater monitoring wells and a comprehensive groundwater sampling event. The results of the groundwater sampling event identified free-phase petroleum product in seven (7) monitoring wells and dissolved petroleum concentrations exceeding South Carolina established Risk-Based Screening Levels (RBSLs) [1] in fifteen (15) of the groundwater monitoring wells associated with the site. Additionally, one (1) groundwater monitoring well, MW-4, was unable to be sampled due to an obstruction at depth and is believed to be damaged. In a letter dated August 19, 2013, SCDHEC has required the damaged monitoring well, MW-4, be either repaired or replaced and a comprehensive sampling event of all existing groundwater monitoring wells, water supply wells and surface water bodies be performed.

Please answer the following: Does this project fall under UST or Brownfields area?

UST Division (UST Permit #06588)

A5 Project/Task Description

1. ***Summarize what is known about the work to be done. This can be a short sentence indicating what the Scope of this project is (see Master QAPP Section A6).***

   Repair or reinstall the damaged monitoring well, MW-4, and sample existing monitoring wells associated with the site plus water supply wells and surface water bodies located within 1,000-feet of the subject site pursuant to SCDHEC's Master QAPP Revision Number 2.0 - Section A6 and B1.

2. ***The work will begin within <u>two weeks</u> after cost approval and sampling should be complete <u>within 60 days</u>.***

3. ***Are there are time or resource constraints? Include those factors that may interfere with the tentative schedule.***

   Off-site property access, weather, utility clearance, and drill rig availability are possible time and resource constraints.

[1] *South Carolina Risk-Based Corrective Action for Petroleum Releases*, Bureau of Land and Waste Management, Underground Storage Tank Program, May 15, 2001.

A6 Data Quality Objectives (DQOs) and Data Quality Indicators (DQIs)

Detail the geographical area that is to be part of the project. Maps should be included to show not only the topography and the geographical area of the State, but also to show more detail of the site itself including property lines.

See attached Figures 1 and 2.

A7 Certification

The Following Laboratory(ies) will be used for this Project:

Commercial Lab(s)

Full Name of the Laboratory: Shealy Environmental Services, Inc.
Name of Lab Director: Dan Wright
SC DHEC Certification Number: 32010

Parameters this Lab will analyze for this project:

Groundwater

- BTEX, Naphthalene, MTBE, 1,2-DCA, ethanol, and 8-Oxygenates by EPA Method 8260B
- EDB by EPA Method 8011
- Total Lead by EPA Method 6010C

Please note: SCDHEC may require that the contractor submit some or all of the Laboratory's SOPs as part of this QAPP.

A8 Documents and Records

Personnel will receive the most current version of the QAPP Addendum via:
(Check all that apply)

XXX US Mail ____ Courier **XXX** Hand delivered

Other (please specify): _____

Record	Produced By	Hardcopy/ Electronic	Storage Location For How Long?	Archival
Project Field Notes	BLE personnel	Hardcopy	BLE file library. Hard copy storage for a minimum of 5 years.	After 5 years, the project data may be scanned and transferred to CD. CDs and/or reports will be archived in BLEs file library for a minimum of 5 years.
Boring Logs	Landprobe Personnel	Hardcopy	BLE file library. Hard copy storage for a minimum of 3 years.	After 3 years, the project data may be scanned and transferred to CD. CDs and/or reports will be archived in BLEs file library for a minimum of 5 years.
Instrument Raw Data	Shealy Environmental Services, Inc.	Hardcopy and Electronic	Hardcopy: Offsite 7 years Electronic: External hard drive 10 years	Yes
Laboratory Analytical Data	Shealy Environmental Services, Inc.	Hardcopy & Electronic	Shealy will retain data on an external hard drive for 10 years. Data stored in BLE file library and electronic data storage backup. BLE hard copy storage for a minimum of 5 years.	After 5 years, the project data may be scanned and transferred to CD. CDs and/or reports will be archived in BLEs file library for a minimum of 5 years.
Final Report	BLE personnel	Hardcopy & Electronic	BLE file library and electronic data storage backup. Hard copy storage for a minimum of 5 years.	After 5 years, the project data may be scanned and transferred to CD. CDs and/or reports will be archived in BLEs file library for a minimum of 5 years.

Table 2A Record Identification, Storage, and Disposal

Section B Measurement/Data Acquisition

B1 Sampling Process/Experimental Design

Item	Start Date	End Date	Comments
QAPP Addendum Preparation/Approval	September 10, 2013	September 24, 2013	Date assumes two weeks for SCDHEC QAPP review.
Off-Site Property	September 25, 2013	October 1, 2013	On-site and off-site property access will be required for groundwater screening and sampling on all properties.
Well Drilling / Abandonment	October 2, 2013	October 3, 2013	Abandoned damaged monitoring well MW-4, total depth of 25-feet below ground surface. Replace damaged well with monitoring well MW-4R. MW-4R will be installed to 25-feet below ground surface with a ten foot screen. See SOP Attachment A for procedures for installing monitoring wells.
Well Development	October 3, 2013	October 3, 2013	Purge a minimum of three well volumes to remove fine-grained sediments from the well screen and filter pack
Monitoring Well Sampling	October 7, 2013	October 11, 2013	Sample 50 groundwater monitoring wells, 10 water supply wells and one surface water body associated with the site. See SOP Attachment B for groundwater sampling procedures.
Investigation Derived Waste Disposal	October 15, 2013	October 15, 2013	Investigation derived soil and water will be properly contained, transported off-site, and disposed of by permitted disposal contractors.
Subsequent Well Survey	October 16, 2013	October 16, 2013	Perform subsequent site survey to incorporate the replacement monitoring well with the existing monitoring wells on one site map. Survey results will be tied into the State Plane Coordinate System.
Report Preparation, Review, and Submittal	October 17, 2013	November 7, 2013	Report preparation, review, and submittal dates are contingent on completion of all required project activities. Date may be subject to change.

Table 3A Sampling Activities

B2 Sampling Methods

Please note: The contractor must follow sampling protocols as given in the UST QAPP.

<u>Estimate</u> the number of samples of each matrix that are expected to be collected:

Soil 0

Groundwater from Monitoring Wells 50

From Drinking/Irrigation Water Wells 10

From Surface Water Features 1

Duplicate Samples 4 (one duplicate sample per 20 monitoring wells)

Field Blanks 3 (one per day)

Trip Blanks 3 (one trip blank per sample cooler)

Total Number of Water Samples 71

The samples will be (check as many as apply): __XX__ Grab ____Homogenized ____Split

If homogenized or split are checked please indicate how will it be done and the equipment needed.

Not applicable.

If decontamination procedures differ from Appendix H, please provide details.

Decontamination will be in accordance with Appendix H.

Identify any equipment and support facilities needed. This may include such things as Fed-ex® to ship the samples, a Geoprobe®, field analysis done by another contractor (who must be certified), or electricity to run sampling equipment.

Equipment: CME 750 drill rig

Soil/Water Disposal Contractor: A&D Environmental – 1741 Calks Ferry Road, Lexington, SC
VLS Recovery Services, LLC – 305 S. Main Street, Mauldin, SC 29662

Surveyor: Souther Land Surveying – 10253 Asheville Highway, Inman, SC (SC PLS #21232)

Laboratory Courier: Shealy Environmental – 106 Vantage Point Drive, West Columbia, SC 29172

Address the actions to be taken when problems occur in the field, and the person responsible for taking corrective action and how the corrective action will be documented.

Failure	Response	Documentation	Individual Responsible
Property Access	Notify SCDHEC project manager of failure to receive property access.	Telephone record/ email correspondence to the SCDHEC placed in project file.	Field Manager: Dan Osbourne, P.G.

Failure	Response	Documentation	Individual Responsible
Drill Rig Breakdown	Make repairs in the field or get replacement drilling equipment	Field notes placed in project file	Driller: Marty King
Well location inaccessibility – power lines or other utilities	Move well within 5 feet of proposed boring location. Notify SCDHEC PM if location is still not accessible.	Field notes placed in project file. Telephone record/email (if applicable) to SCDHEC placed in project file.	Field Manager: Dan Osbourne, P.G.
Monitoring Well Not Located or Well is Dry	Field personnel notify field manager of issue(s). Field manager will notify SCDHEC project manager of issue(s).	Field notes placed in project file. Telephone record/email (if applicable) to SCDHEC placed in project file.	Field Manager: Dan Osbourne, P.G.
Heron Little Dipper Water Level Indicator Failure	Notify field manager of equipment failure. Clean indicator probe and replace batteries in the field. If problem persists, use backup water level indicator and send failed equipment to Field Environmental Instruments, Inc. in Pittsburgh, Pennsylvania for repair.	Telephone record/email correspondence to field manager.	Field Staff: Ivan A. Irizarry, Reid A. Doherty Field Manager: Dan Osbourne, P.G.
Solinst Interface Meter – Model 122 Failure	Notify field manager of equipment failure. Clean indicator probe and replace batteries in the field. If problem persists, use backup interface meter and send failed equipment to Field Environmental Instruments, Inc. in Pittsburgh, Pennsylvania for repair.	Telephone record/email correspondence to field manager.	*Field Staff:* Ivan A. Irizarry, Reid A. Doherty *Field Manager:* Dan Osbourne, P.G.
Oakton Model 35630-62 Multi-Parameter Meter Failure	Notify field manager of equipment failure. Clean probe and replace batteries in the field, then recalibrate according to manufacturer's standards. If problem persists, use backup meter and send failed equipment to Field Environmental Instruments, Inc. in Pittsburgh, Pennsylvania for repair.	Telephone record/email correspondence to field manager.	Field Staff: Ivan A. Irizarry, Reid A. Doherty Field Manager: Dan Osbourne, P.G.
YSI 550A Dissolved Oxygen Meter	Notify field manager of equipment failure. Replace membrane with spare, clean probe, and replace batteries in the field, then recalibrate according to manufacturer's standards. If problem persists, use backup meter and send failed equipment to Pine Environmental Services in Lilburn, Georgia for repair.	Telephone record/email correspondence to field manager.	Field Staff: Ivan A. Irizarry, Reid A. Doherty Field Manager: Dan Osbourne, P.G.

Failure	Response	Documentation	Individual Responsible
LaMotte Model 2020 Turbidimeter Failure	Notify field manager of equipment failure. Replace batteries in the field, then recalibrate according to manufacturer's standards. If problem persists, use backup turbidimeter and send failed equipment to Pine Environmental Services in Lilburn, Georgia for repair.	Telephone record/email correspondence to field manager.	Field Staff: Ivan A. Irizarry, Reid A. Doherty Field Manager: Dan Osbourne, P.G.

Table 4A Field Corrective Action

B3 Sample Handling and Custody

1. ***How will the samples get from the Site to the Lab to ensure holding requirements are met?***

   By vehicle to BLE office; then vehicle pick-up by laboratory courier who delivers to lab location.

2. ***If sample preservation procedures differ from the UST Programmatic QAPP, please provide details.***

   Sample preservation procedures will be in accordance with the UST Programmatic QAPP.

3. ***If chain of custody procedures differ from the UST Programmatic QAPP, please provide details.***

   Chain of Custody procedures will be in accordance with the UST Programmatic QAPP.

B4 Analytical Methods

1. ***Identify the SOPs which will be used to analyze the samples, the method which the SOP references and the equipment or instrumentation that is needed:***

Parameter	SOP ID*	Method Referenced	Equipment	Comments
Specific Conductivity	See Standard Operating Procedures Attachment C for Oakton pH/Conductivity Series 10 Multi-Parameter Tester Calibration and Operation Procedures	Manufacturer Product Manual/Specifications	Oakton Model 35630-62 Multi-Parameter Meter	None
pH	See Standard Operating Procedures Attachment C for Oakton pH/Conductivity Series 10 Multi-Parameter Tester Calibration and Operation Procedures	Manufacturer Product Manual/Specifications	Oakton Model 35630-62 Multi-Parameter Meter	None

Parameter	SOP ID*	Method Referenced	Equipment	Comments
Temperature	See Standard Operating Procedures Attachment C for Oakton pH/Conductivity Series 10 Multi-Parameter Tester Calibration and Operation Procedures	Manufacturer Product Manual/Specifications	Oakton Model 35630-62 Multi-Parameter Meter	None
Dissolved Oxygen	See Standard Operating Procedures Attachment D for YSI 550A Dissolved Oxygen Instrument Calibration, Maintenance, and Operation Procedures	Manufacturer Product Manual/Specifications	YSI 550A Dissolved Oxygen Meter	None
Turbidity	See Attachment E Standard Operating Procedures for LaMotte Model 2020 Turbidimeter Instrument Analysis	Manufacturer Product Manual/Specifications	LaMotte Model 2020 Turbidimeter	None
BTEX+Naphthalene +MTBE+1,2-DCA + 8 Oxygenates	S-VO-002	8260B	GC/MS	None
EDB	S-SV-012	8011	GC	None
Total Lead	S-IM-022	6010C	ICP	None

Table 5A Analytical SOPs and Referenced Methods

- **This can be a full name of a SOP, an abbreviation, or a number. In the latter two cases, the abbreviation or number must be associated with the full name of the SOP. See also Table 6A SOP Abbreviation Key.**

2. ***Provide SOPs for the Kerr Method or the Ferrous Iron Method if these are parameters for this study. This can be attached or written here. If attached please note that it is an attachment and where it is located (if applicable).***

   Not applicable for this scope of work.

B5 Quality Control Requirements

All QC will follow the requirements laid out in Section B5 of the UST Programmatic QAPP.

B6 Field Instrument and Equipment Testing, Inspection, and Maintenance

1. ***Identify all field equipment needing periodic maintenance, the schedule for this, and the person responsible. Not the availability and location of spare parts.***

Instrument	Serial Number	Type of Maintenance	Frequency	Person Responsible
Heron Little Dipper Water Level Indicator	18816	Indicator probe cleaning (in accordance with Section B2) and battery monitoring	Daily	Ivan Irizarry
Solinst Interface Meter – Model 122	122 007909-1	Indicator probe cleaning (in accordance with Section B2) and battery monitoring	Daily	Ivan Irizarry
Oakton 35630-62 Multi-Parameter Meter (pH, specific conductivity, and temperature)	324976	Probe cleaning and calibration in accordance with SOP Attachment C	Weekly	Ivan Irizarry
YSI 550A Dissolved Oxygen Meter	06A1121AC	Probe cleaning and membrane replacement in accordance with SOP Attachment D	Cleaning – daily Membrane replacement - monthly	Ivan Irizarry
LaMotte Model 2020 Turbidimeter	3164-1602	Cleaning and calibration	Daily	Ivan Irizarry
Volatiles Mass Spec	ALL	Change traps, clean ion source, replace filaments	Periodic	MSV Analyst
ECD GC	ALL	Injection port maintenance, column replacement	Periodic	GC Analyst
ICP	ALL	Clean sample introduction system, auto sampler, and torch. Change spray chamber, torch tubing, tubing as needed	Periodic	ICP Analyst

Table 6A Instrument and Equipment Maintenance

B7 Instrument Calibration and Frequency

1. ***Identify equipment, tools, and instruments for field or lab work that should be calibrated and the frequency.***

2. ***Describe how the calibrations should be performed and documented, indicating test criteria and standards or certified equipment.***

3. ***Identify how deficiencies should be resolved and documented. Identify the person responsible for corrective action.***

Instrument	Serial Number	Calibration Procedure	Frequency of Calibration	Acceptance Criteria	Corrective Action (CA)	Person Responsible for CA
Oakton 35630-62 Multi-Parameter Meter	324976	Four point conductivity calibration; three point pH calibration; temperature verification	Daily	pH: Output value within ±1.00 pH unit of buffer Conductivity: Output value with 20% of calibration range at standard temperature.	Recalibrate equipment. If calibrations will not hold then replace unit.	Ivan Irizarry
YSI 55 Dissolved Oxygen Meter	06A1121AC	% Saturation	Daily	Output value within 1 mg/L of calibration solution.	Recalibrate equipment or replace membrane.	Ivan Irizarry
LaMotte Model 2020 Turbidimeter	3164-1602	AMCO Turbidity Standard (1.0 NTU, 10 NTU, 100 NTU, or 250 NTU) in the expected turbidity range of the samples to be tested	Daily	Output value within 0.1 NTU for measured turbidity values less than 10 NTU, and 1 NTU for measured turbidity values greater than 10 NTU.	Recalibrate equipment. If calibration will not hold then replace unit.	Ivan Irizarry
Heron little dipper water level indicator	18816	Calibrate against an invar steel surveyor's chain or steel tape	Monthly	Within 0.01 foot per 10 feet length	Replace water level meter tape	Ivan Irizarry
Solinst Interface Meter - Model 122	122 007909-1	Calibrate against an invar steel surveyor's chain or steel tape	Monthly	Within 0.01 foot per 10 feet length	Replace water level meter tape	Ivan Irizarry
Volatiles Mass Spec	ALL	Minimum of 5 calibration standards for all compounds	When indicated by continuous calibration verification standard	Method Criteria	Detailed in Laboratory SOP	MSV Analyst
GC ECD	ALL	Minimum of 5 calibration standards for all compounds	When indicated by calibration verification standard	Method Criteria	Detailed in Laboratory SOP	GC Analyst

Instrument	Serial Number	Calibration Procedure	Frequency of Calibration	Acceptance Criteria	Corrective Action (CA)	Person Responsible for CA
ICP	ALL	Minimum of 3 calibration standards for all compounds	When indicated by calibration verification standard	Method Criteria	Detailed in Laboratory SOP	ICP Analyst

Table 7A Instrument Calibration Criteria and Corrective Action

*** This can be a full name of a SOP, an abbreviation, or a number. In the latter two cases, the abbreviation or number must be associated with the full name of the SOP.**

B8 Inspection/Acceptance Requirements for Supplies and Consumables

1. ***If procedures for storage, handling or transport of supplies/consumables differ from the UST Programmatic QAPP, please provide details.***

   The procedures for storage, handling or transport of supplies/consumables will be in accordance with the UST Programmatic QAPP.

B9 Data Acquisition Requirements (Non-Direct Measurements)

1. ***Identify data sources, for example, computer databases or literature files, or models that should be accessed or used.***

2. ***Describe the intended use of this information and the rationale for their selection, i.e.,***

3. ***Provide its relevance to project.***

4. ***Indicate the acceptance criteria for these data sources and/or models.***

Data Source	Used for	Justification for use in this project	Comments
Revised of Aggressive Fluid Vapor Recovery, Monitoring Well Installation, & Groundwater Sampling, Spinx 258 / Former Enmark 380, prepared by BLE, dated August 30, 2012	Identifying locations of the existing groundwater monitoring wells at the site and obtaining historical analytical results.	Site plan and data tables utilized for determining location of wells, well depths, and historical analytical results.	None

Table 8A Non-Direct Measurements

5. *Identify key resources/support facilities needed.*

Not applicable to this scope of work.

B10 Data Management

1. *Describe the data management scheme from field to final use and storage.*

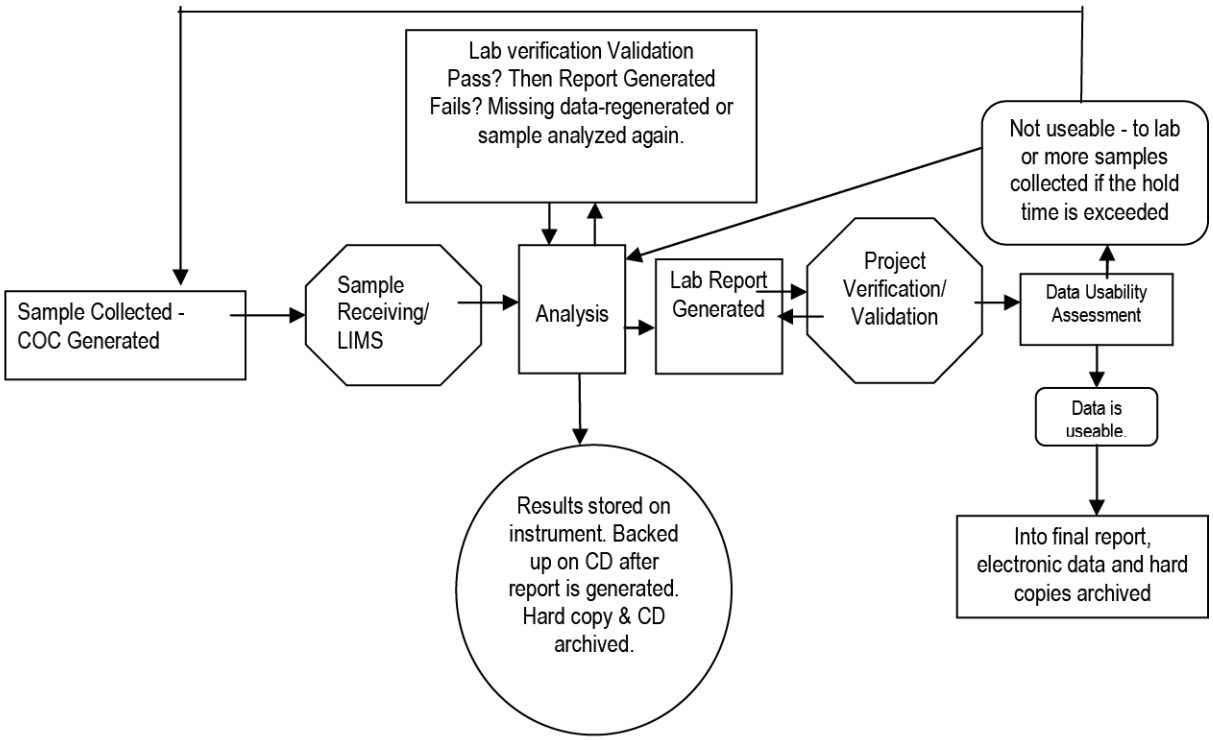


Figure 1 Example of a Data Management Scheme

2. *How does the lab and field staff ensure that no unauthorized changes are made to the chain of custody, sampling notebooks, laboratory notebooks and computer records?*

The chain of custody has an attached carbon copy, in which the field staff keeps one copy after the laboratory picks up samples. This original is used to determine if any changes are made to the COC after laboratory receipt. All COCs are reviewed by the laboratory during receipt of samples and submittal of final report. Looking for inappropriate changes to the COC is in the scope of both laboratory reviews. The Quality Assurance/Quality Control Department oversees adherence to and review of these programs.

Field notes and logs will be stored in hardback bound field books and/or on standard 8 ½" x 11" field data sheets. Field data sheets are signed by field staff upon completion of daily work.

Copies of field notes and sampling logs are reviewed by the Field Manager and placed in the project file. Additionally, field notes/logs are scanned, password secured, and placed into the digital project file. Original data sheets will also be kept by the field staff in field notebooks/folders for a minimum of three years.

3. ***How does the lab ensure that there are no errors in samples records including times when sample information is compiled, data calculated and/or transmitted?***

The use of a Laboratory Information Management System (LIMS) is employed. The LIMS database is reviewed daily by laboratory management. Furthermore, the database is backed up daily to prevent the loss of data in the event of a system malfunction. Documentation of these procedures is provided in laboratory SOP S-AD-003, LIMS.

4. ***How will the data be archived once the report is produced? How can it be retrieved? (This applies to both electronic and hard copies).***

The laboratory QA/QC department maintains and archives hardcopy data offsite. Electronic data is maintained and archived by the laboratory IT systems manager.

The final analytical data from Shealy Environmental Services, Inc. will be kept by the laboratory for a minimum of seven years. A hard copy of the data will be stored at an off-site facility and a digital copy will be saved on a backed-up computer server.

Hard copies of BLE's final reports are contained in the specific project folder in BLE's file library. Additionally, each report is converted to digital format and stored in its applicable digital file folder. Hard copy storage will be for a minimum of three years. Digital storage will be for a minimum of five years. Digital data is backed-up on a weekly basis on a four month rolling schedule. For security purposes, current week's data is stored at an off-site location. Additionally, data is backed-up and stored for a minimum of five years at an off-site location on a biannual basis.

Section C Assessment and Oversight

C1 Assessment and Response Actions

1. ***The Contractor is supposed to observe field personnel daily during sampling activities to ensure samples are collected and handled properly and report problems to DHEC within 24 hours. Please state who is responsible for doing this and what observations will be made. Will this person have the authority to stop work if severe problems are seen?***

   Internal field audits will be performed on a daily basis by Dan Osbourne, P.G. of Bunnell-Lammons Engineering, Inc. If any significant problems or deviations from the QAPP are noted, work may be stopped to resolve the issues. The SCDHEC project manager will be notified of the issues within 24 hours of the occurrence.

2. ***The SCDHEC UST QAPP states that the Laboratory will receive an Offsite Technical System Audit. For this project, what assessments will be done by the Contractor on the Commercial Lab(s) that are being used—other than their certification audit? When or how often are these done? Who will the results be given to and who has the ability to stop work if problems are severe?***

   In addition to the South Carolina Laboratory Certification, the Laboratory is certified by the National Environmental Laboratory Accreditation Program (NELCA), the Department of Defense (DOD), and Department of Energy (DOE). The NELCA, DOD and DOE perform yearly audits of the Laboratory, and the Contractor Field Manager will review these audits to ensure appropriate QA/QC standards are met. Furthermore, the Laboratory performs routine scheduled and un-scheduled audits. These audits will also be provided to the Contractor Field Manager to ensure appropriate QA/QC. If any significant problems or deviation from the Laboratory are noted, work may be stopped by the Contractor and/or the Laboratory Director.

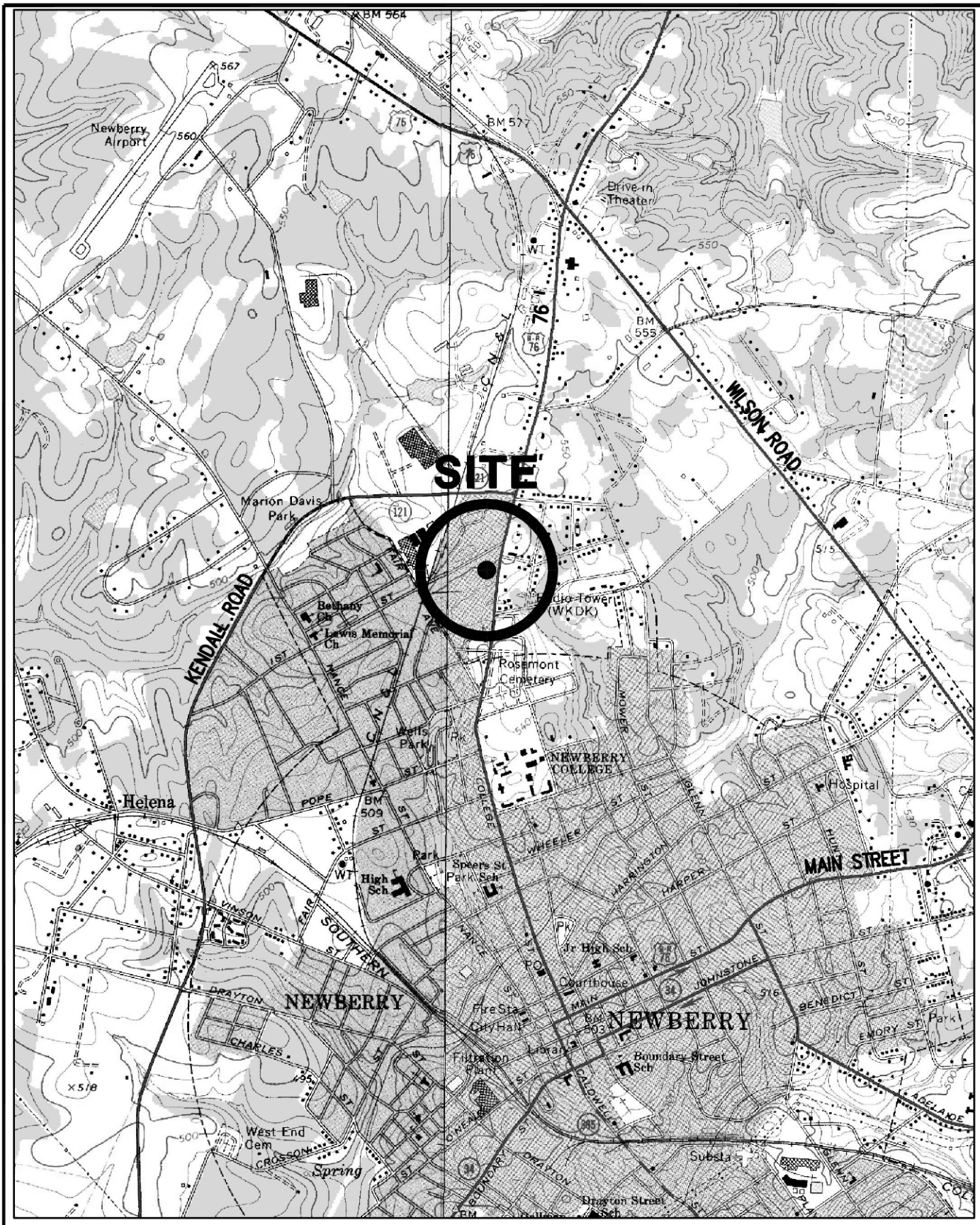
C2 Reports to Management

See the SCDHEC UST Programmatic QAPP Revision 2.0 (UST Master QAPP).

Section D Data Validation and Usability

See the SCDHEC UST Programmatic QAPP Revision 2.0 (UST Master QAPP).

FIGURES



2000 1000 0 2000 4000

APPROXIMATE SCALE IN FEET

REFERENCE:
USGS TOPOGRAPHIC MAP, 7.5 MINUTE SERIES, NEWBERRY WEST AND NEWBERRY EAST, S.C. QUADRANGLES, 1969 AND 1968.

DRAWN: ACE	DATE: 09-03-13	BLE INC. BUNNELL-LAMMONS ENGINEERING, INC. 6004 PONDERS COURT GREENVILLE, SOUTH CAROLINA 29615 PHONE: (864)288-1265 FAX: (864)288-4430	SITE LOCATION MAP SPINX 258/FORMER ENMARK 380 UST PERMIT #06588 NEWBERRY, SOUTH CAROLINA	FIGURE 1
CHECKED: DPO	CAD: SPINX258-05SLM			
APPROVED: TLL	JOB NO: J13-6859-05			

REFERENCE:
DRAWING TITLED "SITE SURVEY" BY SOUTHER LAND SURVEYING DATED JULY 12, 2012.

REVISIONS		
No.	DESCRIPTION	BY

DRAWN:	ACE	DATE:	09-03-13
CHECKED:	DPO	CAD FILE:	SPINX258-05SIPL
APPROVED:	TLL	JOB NO:	J13-6859-05

BLE INC.
BUNNELL-LAMMONS ENGINEERING, INC.
6004 PONDERS COURT
GREENVILLE, SOUTH CAROLINA 29615
PHONE: (864)288-1265 FAX: (864)288-4430

SITE PLAN
SPINX 258/FORMER ENMARK 380
UST PERMIT #06588
NEWBERRY, SOUTH CAROLINA

FIGURE NO.
2

STANDARD OPERATING PROCEDURES AND FORMS

ATTACHMENT A

MONITORING WELL CONSTRUCTION PROCEDURES

Shallow Type II Well

Type II groundwater monitoring wells consist of 2-inch polyvinyl chloride (PVC) Schedule 40 casing with flush-threaded joints installed in an 8 ½-inch nominal diameter augered borehole or 6-inch nominal diameter air rotary borehole. The bottom 10-foot section of each well is a manufactured well screen with 0.010-inch wide machined slots. The well screen is installed to the depth of the boring and brackets the water table.

Deep Type III Well

In the Type III well installation, a 10 ½-inch nominal diameter boring is advanced through the overburden soils using 6.25-inch inside diameter (ID) hollow stem augers. A 6-inch diameter PVC casing is installed to the termination depth of the borehole. The annular space between the borehole and the 6-inch casing is pressure grouted with a cement/bentonite grout mixture to the ground surface. After curing, a 5 7/8-inch nominal diameter mud rotary bit or 5 ¾-inch nominal diameter air rotary bit is utilized to advance the borehole through the outer casing to the desired termination depth. A monitoring well is installed, constructed of 2-inch PVC Schedule 40 casing with flush-threaded joints and a 5-foot long manufactured well screen with 0.010-inch wide machined slots.

A. General

In the Type II and Type III wells, a washed sand filter pack is emplaced around the outside of the pipe from the bottom of the well casing to approximately two feet above the top of the well screen. The sand filter pack is used to stabilize the formation and to help yield a less turbid groundwater sample.

An approximate two-foot thick bentonite seal is installed on top of the sand filter pack to seal the monitoring well at the desired level. The well annulus is then grouted to the surface with a cement/bentonite grout mixture. A PVC cap and flush mount steel, bolted manhole cover is secured over each wellhead.

ATTACHMENT B

MONITORING WELL PURGING AND SAMPLING PROCEDURES

The monitoring wells are purged prior to sample collection to remove any stagnant water from the well so that the samples collected are representative of the groundwater quality in the vicinity of each well. For wells that recovered quickly, a minimum of three volumes of water were evacuated. Specific conductance, pH, and water temperature are measured periodically during well evacuation using instruments which were calibrated accordingly. Wells that are evacuated to dryness with less than three well volumes being removed are sampled as soon as the well has recovered enough to yield sufficient volume for a sample.

The monitoring wells are purged using a 3-foot long by 1.6-inch diameter disposable polyethylene bailer attached to an unused nylon cord. The wells are also sampled using a bailer as described above. To minimize the potential for cross-contamination between wells, a new clean bailer is used at each well.

Samples are placed in the appropriate laboratory supplied containers and marked with identifying numbers. Samples are maintained at 4°Celsius in a refrigerated sample cooler and shipped to Shealy Environmental Services, Inc. in West Columbia, South Carolina via courier service for analysis.

Chain of Custody Record

Shealy Environmental Services, Inc.
106 Vantage Point Drive
West Columbia, South Carolina 29172
Telephone No. (803) 791-9700 Fax No. (803) 791-9111
www.shealylab.com

Number 02112

Client	Report to Contact	Sampler (Printed Name)	Quote No.
Address	Telephone No. / Fax No. / Email	Waybill No.	Page ___ of ___
City / State / Zip Code	Preservative 1. Unpres. 4. HNO3 7. NaOH 2. NaOH/ZnA 5. HCL 3. H2SO4 6. Na Thio.		Number of Containers Bottle (See Instructions on back) Preservative
Project Name			Lot No.
Project Number	P.O Number		

Sample ID / Description (Containers for each sample may be combined on one line)	Date	Time	G=Grab C=Composite	Matrix: GW	DW	WW	S	Other	Analysis												Remarks / Cooler ID

Turn Around Time Required (Prior lab approval required for expedited TAT)	Sample Disposal	QC Requirements (Specify)	Possible Hazard Identification
☐ Standard ☐ Rush (Please Specify)	☐ Return to Client ☐ Disposal by Lab		☐Non-Hazard ☐Flammable ☐Skin Irritant ☐Poison ☐Unknown

1. Relinquished by / Sampler	Date	Time	1. Received by	Date	Time
2. Relinquished by	Date	Time	2. Received by	Date	Time
3. Relinquished by	Date	Time	3. Received by	Date	Time
4. Relinquished by	Date	Time	4. Laboratory Received by	Date	Time

Note: All samples are retained for six weeks from receipt unless other arrangements are made.

LAB USE ONLY
Received on Ice (Check) ☐ Yes ☐ No ☐ Ice Pack
Receipt Temp. _____ °C
Temp. Blank ☐ Y / ☐ N

ATTACHMENT C

OAKTON PH/CONDUCTIVITY SERIES 10 MULTI-PARAMETER TESTER CALIBRATION AND OPERATION PROCEDURES

The Oakton pH/conductivity multi-parameter series 10 tester requires a set of three calibrations for each of its output components. The three calibrations required for the meter are temperature, pH, and specific conductivity. The temperature calibration is based on comparing the meter based temperature reading to an appropriately calibrated thermometer. The pH calibration is based on a multi-point calibration utilizing three different buffers (pH 4, pH 7, and pH 10). The conductivity calibration is based on a four point calibration setup utilizing a set of predefined conductivity range solutions. The procedures to perform the three different calibrations are as follow.

Temperature Calibration

The built-in temperature sensor included in the probe is factory calibrated. The temperature sensor is calibrated only if temperature errors are suspected or if the probe is replaced. Temperature calibration procedures are as follows:

1. Power on the meter and select the pH mode.

2. Pres the Cal/measure key to enter calibration monde, the CAL indicator will appear above the primary display.

3. While in pH calibration mode, press the MODE key to enter temperature calibration mode. The primary display shows the temperature reading with zero offset and the secondary display shows you what the temperature value was initially.

4. The probe is dipped into a temperature bath and its allowed sufficient time for the meter's temperature reading to stabilize.

5. Once stabilized the temperature is set in to the meter using the up and down keys to match the temperature bath. The word Con appears on the screen indicating that calibration is complete.

Note:
Since temperature readings affect the accuracy of the pH and conductivity measurements, pH and conductivity calibration are performed following the completion of the temperature calibration is.

pH Calibration

The instrument is capable of performing three point calibrations for pH. Though the three points are not essential for calibration, for our purposes we shall perform a three point pH calibration. The calibrations are performed by using standard pH buffers of 4.00, 7.00 and 10.00.

1. Select pH mode

2. Rinse the probe with DI water or rinse solution.

OAKTON PH/CONDUCTIVITY SERIES 10 MULTI-PARAMETER TESTER CALIBRATION AND OPERATION PROCEDURES - CONTINUED

3. Dip the probe into the calibration buffer and stir the buffer. Press CAL/MEAS to enter the pH calibration mode. The primary display will show the measured reading while the smaller secondary display will indicate the pH standard buffer solution.

4. Wait for the measured pH value to stabilize. The READY indicator will display when the reading stabilizes.

5. After the reading has stabilized and the READY indicator is displayed, press ENTER to confirm the calibration. A confirming indicator (CON) flashes and disappears. The meter is now calibrated to the buffer indicated in the secondary display.

The secondary display automatically scrolls to the next buffer calibration option if you are performing multi-point calibration, go to

6. Press the up or down keys to select the next buffer value you want to calibrate (pH 4.00, 7.00 or 10.00).

7. Repeat steps 1 through 6.

8. When calibration is complete, press CAL/MEAS to return to pH measurement mode.

NOTE:
If the selected buffer value is not within ±1.00 pH from the measured pH value: The electrode and buffer icon blink and the ERR enunciator appears in the lower left corner of the display. These indicators also flash if the buffer used is not the same as the buffer value on the secondary display.

Conductivity Calibration

The series 10 pH/conductivity meter has four different conductivity measuring ranges. You can calibrate one point in each of the measuring ranges (up to four points). If you are measuring values in more than one range, each of the ranges must be calibrated. The following table lists the corresponding conductivity range. You should calibrate each range using a solution that falls between the values in the "recommended calibration solution range" column.

Conductivity Range Calibration Solution Range:

0.00 µS	19.99 µS	6.00 µS	17.0 µS
0.00 µS	199.9 µS	60.0 µS	170 µS
0.00 µS	1999 µS	600 µS	1700 µS
0.00 mS	19.99 mS	6.00 mS	17.00 mS

Note: Minimum calibration value should be 20% of full scale for the specific range (e.g.: the **LOWEST** calibration value for the range of 0.00 to 19.99 µS is 4.00 µS). When the meter is recalibrated, old calibrations are replaced on a range basis.

OAKTON PH/CONDUCTIVITY SERIES 10 MULTI-PARAMETER TESTER CALIBRATION AND OPERATION PROCEDURES - CONTINUED

Conductivity calibration procedures are as follows:

1. Pour out two separate portions of the selected calibration standard and one of DI water into separate clean containers.

2. Select the conductivity mode on the meter.

3. Rinse the probe with DI water, and then rinse the probe in one portion of the calibration standard. Submerge the probe into the second portion of the calibration standard. The meter auto ranging function selects the appropriate conductivity range (four ranges are possible). Be sure the probe is free from air bubbles and sufficient calibration standard is used to cover the conductivity sensor. Wait for the reading to stabilize. Once the readings have stabilized, the READY indicator should appear in the upper left hand corner.

4. Press the CAL/MEAS key. The CAL indicator appears above the primary display. The primary display shows the measured reading and the secondary display shows the temperature.

5. Use the up and down keys to match the reading to the solution standard.

6. Press the ENTER key to confirm calibration. Upon confirmation, the CON indicator appears briefly. The meter automatically switches back into Measurement mode. The display now shows the calibrated, temperature compensated conductivity value.

7. For calibration in other ranges (maximum: four ranges) repeat steps 1 through 6 with the appropriate calibration standards.

Meter Operation

The READY indicator appears on the display when the meter has stabilized. It will turn off if the readings start to fluctuate.

To take measurements:

1. Rinse the probe with DI water before use to remove any impurities adhering to the probebody. If the pH electrode has dehydrated, soak it for 30 minutes in tap water.

2. Switch on the meter. The MEAS annunciator appears on the top center of the LCD. The ATC indicator appears in the lower right hand corner to indicate Automatic Temperature Compensation.

3. Dip the probe into the sample. Allow time for the readings to stabilize. Note the readings on the display. When the readings are stable, the READY annunciator appears.

   NOTE: Conductivity readings are auto-ranging and will automatically move to the correct range (four ranges possible).

OAKTON PH/CONDUCTIVITY SERIES 10 MULTI-PARAMETER TESTER CALIBRATION AND OPERATION PROCEDURES - CONTINUED

4. To toggle between pH and conductivity readings, press the MODE key.

   NOTE: When measuring a sample, make sure that the probe is immersed beyond the electrode band. Stir the sample using the probe gently to create a homogenous sample.

ATTACHMENT D

YSI 550A DISSOLVED OXYGEN INSTRUMENT CALIBRATION, MAINTENANCE, AND OPERATION PROCEDURES

INSTRUMENT CALIBRATION

Dissolved oxygen calibration must be done in an environment with known oxygen content. The YSI 550A DO Instrument can be calibrated in either mg/L or % saturation. BLE's preference is utilizing the % saturation method. Calibration instructions are described below:

1. Ensure that the sponge inside the instrument's calibration chamber is moist. Insert the probe into the calibration chamber.

2. Power the instrument on and allow readings to stabilize. This may take 5 to 15 minutes, depending on the age of the instrument and condition of the probe.

3. Press and release both the **UP ARROW** and **DOWN ARROW** keys at the same time to enter the calibration menu.

4. Press the **Mode** key until "%" is displayed on the right side of the screen for oxygen units. Press **ENTER**.

5. The LCD will prompt you to enter the local altitude in hundreds of feet. Use the arrow keys to increase or decrease the altitude. When the proper altitude appears on the LCD, press the **ENTER** key.

6. **CAL** will now display in the lower left corner of the screen, the calibration value in the lower right corner and the current DO reading (before calibration) will be the main display. Once the current DO reading is stable, press the **ENTER** button.

7. The LCD will prompt you to enter the approximate salinity of the water you are about to analyze. You can enter any number from 0 to 70 parts per thousand (PPT) of salinity. Use the arrow keys to increase or decrease the salinity setting. When the correct salinity appears on the LCD, press the **ENTER** key. The instrument will return to normal operation.

Upon completion of % saturation calibration, dissolved oxygen values can be compared to a known oxygen content for verification. Typically a 0.0 mg/L dissolved oxygen solution is utilized for this verification step.

MEMBRANE MAINTENANCE

A thin semi-permeable membrane, stretched over the sensor, isolates the electrodes from the environment, while allowing gases to enter. When a polarizing voltage is applied to the sensor electrodes oxygen that has passed through the membrane reacts at the cathode causing a current to flow. The membrane passes oxygen at a rate proportional to the pressure difference across it. Since oxygen is rapidly consumed at the cathode, it can be assumed that the oxygen pressure inside the membrane is zero. Hence, the force causing the oxygen to diffuse through the membrane is proportional to the partial pressure of oxygen outside the membrane. As the oxygen partial pressure varies, so does the oxygen diffusion through the membrane. This causes the probe current to change proportionally. Additional membrane changes will be required

YSI 550A DISSOLVED OXYGEN INSTRUMENT CALIBRATION, MAINTENANCE, AND OPERATION PROCEDURES - CONTINUED

over time. The average replacement interval is 4 to 8 weeks, although they may last longer if kept clean. To clean the membrane, a Kimwipe, and rubbing alcohol will be used to gently remove the contamination. Membranes will be replaced as necessary. Membrane replacement procedures are described below:

1. Remove the probe sensor guard to access the probe tip.

2. Unscrew and remove the old membrane cap and discard.

3. Thoroughly rinse the sensor tip with distilled or DI water.

4. Fill a new membrane cap with O2 probe solution that has been prepared according to the directions on the bottle. Be very careful not to touch the membrane surface. Lightly tap the side of the membrane cap to release bubbles that may be trapped.

5. Thread the membrane cap onto the probe. It is normal for a small amount of electrolyte to overflow.

6. Replace the probe sensor guard.

METER OPERATION

It is important to recognize that a very small amount of oxygen dissolved in the sample is consumed during probe operation. It is therefore essential that the sample be continuously stirred at the sensor tip. If stagnation occurs, measurements will appear artificially low. Stirring may be accomplished by mechanically moving the sample around the probe tip, or by moving the probe through the sample. The YSI Model 550A has a flow dependence of <25%. The rate of stirring required is 1/2 foot per second (16cm per second). Measurement procedures are as follows:

1. Insert the probe into the sample to be measured.

2. Continuously stir or move the probe through the sample.

3. Allow temperature and dissolved oxygen readings to stabilize.

4. Observe/Record readings.

5. Rinse the probe with clean water after each use and return probe to the calibration/storage chamber.

6. If unstable readings or membrane damage occurs, replace both the membrane cap and electrolyte solution.

ATTACHMENT E

LAMOTTE MODEL 2020 TURBIDIMETER CALIBRATION AND OPERATION PROCEDURES

The LaMotte Model 2020 Turbidimeter is a portable, microprocessor controlled nephelometer (suspended colloid meter). The LaMotte Model 2020 measures the scattering of a beam of light as it passes through a water sample in order to produce an average reading of nephelometric turbidity units (NTU). All readings are determined by the process of signal averaging over a 5 second period, minimizing fluctuations in readings attributed to large particles and enabling rapid, repeatable measurements. The microprocessor enables auto-ranging over the full range of 0 to 1,100 NTU and provides direct digital readout with a resolution of 0.01 NTU for the lowest range.

INSTRUMENT CALIBRATION

- Select a LaMotte AMCO 2020 Turbidity Standard (1.0 NTU, 10 NTU, 100 NTU, or 250 NTU) in the expected turbidity range of the samples to be tested. Wipe the outside of the standard tube with a clean, lint-free cloth.

- Open the lid of the meter. Align the indexing arrow mark on the tube with the indexing arrow mark on the meter, and insert the tube into the analysis chamber. Close the lid.

- Push the CAL button. While the display is flashing, adjust the display up or down using the arrow buttons until the value of the standard is displayed.

- Push the CAL button again to memorize the calibration. The display will stop flashing when the calibration is complete.

INSTRUMENT OPERATION

- Fill a clean sample tube with 50 ml of sample water and replace cap. Set sample aside to equilibrate with the air temperature and allow gases to escape.

- Rinse and empty a sample tube with a portion of the water sample and shake out excess water.

- Fill the sample tube to the neck by carefully pouring the temperature equilibrated sample down the side of the tube to avoid creating bubbles.

- Cap the tube and wipe dry with a clean, lint-free cloth.

- Open the meter lid, align the indexing arrow on the tube with the indexing arrow on the meter. Insert the tube into the meter chamber.

- Close the lid to the meter. Push READ button. The turbidity in NTU units will be displayed within 5 seconds.

- The meter will automatically turn off after 2 minutes after the last button is pressed. To turn off the meter manually, hold the READ button down for more than 1 second. Release the button when OFF is displayed.

ASSESSMENT COMPONENT COST AGREEMENT

D H E C

PROMOTE PROTECT PROSPER

ASSESSMENT COMPONENT COST AGREEMENT
SOUTH CAROLINA
Department of Health and Environmental Control
Underground Storage Tank Management Division
State Underground Petroleum Environmental Response Bank Account

Facility Name: Spinx 258/former Enmark 380

UST Permit #: 06588 **Cost Agreement #** _____

ITEM	QUANTITY	UNIT	UNIT PRICE		TOTAL
1. **Plan***					
B. Tax Map		x	$50.00		$0.00
C. Tier II or Comp. Plan /QAPP Appendix B	1	x	$525.00		$525.00
2. **Receptor Survey ***		x	$500.00		$0.00
3. **Survey (500 x 500 feet)**					
A. Comprehensive Survey		x	$1,000.00		$0.00
B. Subsurface Geophysical Survey					
1. < 10 meters below grade		x	$2,750.00		$0.00
2. > 10 meters below grade		x	$3,250.00		$0.00
C. Geophysical UST or Drum Survey		x	$1,125.00		$0.00
4. **Mob/Demob (Each)**					
A. Equipment	2	x	$575.00		$1,150.00
B. Personnel	4	x	$290.00		$1,160.00
C. Adverse Terrain Vehicle to install wells		x	$575.00		$0.00
5. **Soil Borings (hand auger)* (Feet)**		feet x	$14.00		$0.00
6. **Soil Borings (drilled) & Field Screening ***					
Rate includes collection of water sample or soil sample, and lab or other analyses					
A. Standard		feet x	$17.00		$0.00
C. Fractured Rock		feet x	$27.50		$0.00
7. **Soil Leachability Model (Each)**		each x	$200.00		$0.00
8. **Abandonment* (per foot)**					
A. 2" diameter or less	25	feet x	$5.00		$125.00
B. Greater than 2" to 6" diameter		feet x	$5.50		$0.00
C. Dug/Bored well (up to 6 foot diameter)		feet x	$18.00		$0.00
9. **Well Installation* (per foot)**					
A. Water Table (hand augered)		feet x	$20.00		$0.00
B. Water Table (drill rig)	25	feet x	$38.00		$950.00
C. Telescoping/ Pit Cased		feet x	$58.00		$0.00
D. Rock Drilling		feet x	$58.00		$0.00
E. 2" Rock Coring		feet x	$45.00		$0.00
G. Rock Multi-sampling ports/screens		feet x	$47.20		$0.00
H. Recovery Well (4 inch diameter)		each x	$45.00		$0.00
I. Pushed Pre-packed screen (1.25 diameter)		each x	$18.50		$0.00
J. Rotosonic (2 inch diameter)		each x	$45.00		$0.00
10. **Groundwater Sample Collection / Gauge Depth to Water or Product (Each)**					
A. Groundwater Purge	50	wells x	$55.00		$2,750.00
B. Air or Vapors		samples x	$90.00		$0.00
C. Water Supply	11	samples x	$30.00		$330.00
D. Groundwater No Purge or Duplicate	4	samples x	$35.00		$140.00
E. Gauge Well only		per well x	$20.00		$0.00
F. Sample Below Product		wells x	$50.00		$0.00
G. Pasive Diffusion Bag		each x	$40.00		$0.00
H. Field Blank	6	each x	$5.00		$30.00

ITEM	QUANTITY	UNIT	UNIT PRICE		TOTAL
11. Laboratory Analyses-Groundwater (Each Sample)					
A1. BTEX+Naphth.+ Oxyg's+ 1,2 DCA + Ethanol	71	samples x	$100.00		$7,100.00
AA. Lead, Filtered		samples x	$46.00		$0.00
B1. Rush EPA Method 8260B (All of item A.)		samples x	$143.00		$0.00
C1. Trimethal, Butyl, and Isopropyl Benzenes		samples x	$40.00		$0.00
D. PAH's		samples x	$120.00		$0.00
E. Lead, Unfiltered	65	samples x	$20.00		$1,300.00
F. EDB by EPA 8011	71	samples x	$55.00		$3,905.00
FF. EDB by EPA Method 8011 Rush		samples x	$75.00		$0.00
G. 8 RCRA Metals		samples x	$140.00		$0.00
H. TPH (9070)		samples x	$55.00		$0.00
I. pH		samples x	$10.00		$0.00
J. BOD		samples x	$40.00		$0.00
P1. Ethanol		samples x	$21.50		$0.00
11. **Analyses-Soil (Each Sample)**					
Q. BTEX + Naphth.		samples x	$100.00		$0.00
R. PAH's		samples x	$120.00		$0.00
S. 8 RCRA Metals		samples x	$150.00		$0.00
T. Oil & Grease (9071)		samples x	$60.00		$0.00
U. TPH-DRO (3550B/8015B)		samples x	$65.00		$0.00
V. TPH- GRO (5030B/8015B)		samples x	$65.00		$0.00
W. Grain size/hydrometer		samples x	$99.00		$0.00
X. Total Organic Carbon		samples x	$35.00		$0.00
11. **Analyses-Air (Each Sample)**					
Y. BTEX + Naphthalene		samples x	$247.50		$0.00
11. **Analyses-Free Phase Product (Each Sample)**					
Z. Hydrocarbon Fuel Identification		samples x	$620.00		$0.00
12. **Aquifer Characterization***					
A. Pumping Test		hours x	$120.00		$0.00
B. Slug Test*		tests x	$150.00		$0.00
C. Fractured Rock		tests x	$500.00		$0.00
13. **Free Product Recovery Rate Test* (Each)**		tests x	$120.00		$0.00
14. **Fate/Transport Modeling**					
A. Mathematical Model		each x	$300.00		$0.00
B. Computer Model		each x	$500.00		$0.00
15. **Risk Evaluation**					
A. Tier I Risk Evaluation		x	$300.00		$0.00
B. Tier II Risk Evaluation		x	$500.00		$0.00
16. **Subsequent Survey***	1	x	$300.00		$300.00
17. **Disposal* (gallons or tons)**					
A. Wastewater	300	gallons x	$0.80		$240.00
B1. Free Product		gallons x	$0.85		$0.00
C. Soil Treatment/Disposal	1	tons x	$72.50		$72.50
D. Drilling fluids Decon water	25	gallons x	$0.80		$20.00
18. **Miscellaneous (attach receipts)**					
		x			$0.00
		x			$0.00
		x			$0.00
20. **Tier I Assessment (Use DHEC 3665 form)**		x			$0.00
21. **IGWA (Use DHEC 3666 form)**		x			$0.00
22. **Corrective Action (Use DHEC 3667 form)**		x			$0.00
23. **Aggressive Fluid & Vapor Recovery (AFVR)**					
A. 8-hour Event*		each x	$3,000.00		$0.00
B. AFVR per-hour Continuance		per hour x	$204.00		$0.00
C. Off-gas treatment per-hour Continuance		per hour x	$35.00		$0.00

ITEM	QUANTITY	UNIT	UNIT PRICE		TOTAL
24. **Granulated Activated Carbon (GAC) filter system installation & service:**					
A. New GAC System Installation*		each x	$2,500.00		$0.00
B1. Refurbished GAC Sys. Install*		each x	$1,180.00		$0.00
C. Filter replacement/removal*		each x	$450.00		$0.00
D1. GAC System removal, cleaning, & refurbishment*		each x	$720.00		$0.00
E. GAC System housing		each x	$450.00		$0.00
F. In-line particulate filter		each x	$150.00		$0.00
G. Additional piping & fittings		feet x	$4.00		$0.00
25. **Well Repair**					
A. Additional Copies of the Report Delivered		each x	$32.50		$0.00
B. Repair 2x2 MW pad		each x	$100.00		$0.00
C. Repair 4x4 MW pad		each x	$150.00		$0.00
D. Repair well vault		each x	$225.00		$0.00
F. Replace well cover bolts		each x	$10.00		$0.00
G. Replace locking well cap & lock		each x	$15.00		$0.00
H. Replace/Repair stick-up		each x	$137.50		$0.00
I. Convert Flush-mount to Stick-up		each x	$175.00		$0.00
J. Convert Stick-up to Flush-mount		each x	$125.00		$0.00
K. Replace missing/illegible well ID plate		each x	$22.50		$0.00
Report Prep & Project Management	15%	x	$20,097.50		$3,014.63
TOTAL					$23,112.13

*The appropriate mobilization cost can be added to complete these tasks, as necessary

D H E C

PROMOTE PROTECT PROSPER

Catherine B. Templeton, Director

Promoting and protecting the health of the public and the environment

UST 19tch DOCKETING

MR TOM DOLAN
INTERSTATE STATIONS INC
PO BOX 728
SAVANNAH GA 31402-0728

SEP 2 6 2013

Re: Groundwater Sampling Directive
Spinx 258, 2725 College St., Newberry, SC
UST Permit #06588; CA #s 46531 & 46532
Release #1 reported December 29, 1989; Release #2 reported November 21, 1995
Site Specific QAPP Contractor Addendum received September 11, 2013
Newberry County

Dear Mr. Dolan:

The Underground Storage Tank (UST) Management Division of the South Carolina Department of Health and Environmental Control (Agency) recognizes your commitment to continue work at this site using Bunnell-Lammons Engineering, Inc., as your contractor. As the UST Programmatic Quality Assurance Program Plan was approved by the USEPA on June 10, 2013, implementation of Revision 2.0 commenced on July 1, 2013. All work requested on or after July 1, 2013 must be conducted in accordance with QAPP Revision 2.0. An approved and signed copy of site specific Quality Assurance Program Plan (QAPP) Contractor Addendum is enclosed for your files. A copy has been provided to your site rehabilitation contractor.

A groundwater sample should be collected from all water supply wells within 1,000 feet of the referenced facility. The sample should be analyzed for BTEX, naphthalene, MtBE, 8 oxygenates, 1,2-DCA, and EDB. An attempt should be made to repair monitoring well MW-4. If the well cannot be repaired, then MW-4 should be replaced during this scope of work. All monitoring wells should be purged before a groundwater sample is collected. The groundwater samples from all monitoring wells should be analyzed for BTEX, naphthalene, MtBE, 8 oxygenates, 1,2-DCA, lead, and EDB. The groundwater sampling event must be conducted in accordance with the UST QAPP Revision 2.0, all applicable regulations, and the submitted site specific QAPP Contractor Addendum. The groundwater samples should be analyzed in accordance with Appendix E, Analytical Parameters and Methods of the UST QAPP Revision 2.0 to include duplicate samples, field and trip blanks. A copy of UST QAPP Revision 2.0 is available at http://www.scdhec.gov/environment/lwm/usthome/Qapp.htm.

The monitoring report and invoice are due within sixty (60) days from the date of this letter. Please have your contractor submit the sampling results to the Division in a monitoring report containing the following:

- A narrative portion documenting current site conditions and noting the names of field personnel, date, time, ambient air temperature, and general weather conditions during the sampling event. The report shall also contain well purging data, pH, specific conductivity, dissolved oxygen, water temperature, PID readings (where applicable) and turbidity measurement.

- Groundwater elevations, top of casing elevation, depth to groundwater, measurable free product thickness (where applicable), total well depth and screened interval for all monitoring wells associated with the site, unless otherwise directed by the Division, shall be presented in tabular form. Groundwater laboratory analytical data for this and all previous sampling events for all monitoring wells shall be presented in tabular format.
- A groundwater elevation contour map of the site based on current groundwater potentiometric data.
- A CoC map based on current groundwater laboratory analytical data. The groundwater data should be adjacent to the relevant monitoring well.
- Manifests for any contaminated soil and/or groundwater removed from the site for treatment and/or disposal.
- Signature and seal by a professional geologist or engineer registered in the State of South Carolina.
- According to R.61-98 Section IV.C.1 all plans, reports, invoices, and other documents relating to site rehabilitation activities which have been prepared or approved by a certified contractor shall be signed by the certified contractor and bear his certification number.

Bunnell-Lammons Engineering, Inc., can submit an invoice for direct payment from the State Underground Petroleum Environmental Response Bank (SUPERB) Account for preapproved costs. By law, the SUPERB Account cannot compensate any costs that are not pre-approved. Please note that applicable South Carolina certification requirements regarding laboratory services, well installation, and report preparation must be satisfied. If the invoice is not submitted within 120 days from the date of this letter, monies allocated to pay this invoice will be uncommitted. This means that the invoice will not be processed for payment until all other committed funds are paid or monies become available. The UST Management Division, because of unnecessary dilution, cannot make decisions if the reporting limit of individual petroleum CoC exceeds Risk-Based Screening Levels (RBSLs). The UST Management Division encourages the use of 'J' values as necessary so the appropriate action can be determined for a release. Note that the Division may deny payment for any non-detect analysis where the reporting limit exceeds the RBSL. The Division cannot make closure decisions based on elevated reporting limits and the SUPERB Account will not reimburse for erroneously elevated detection limits.

Please note that Sections 44-2-110(4) and 44-2-130 of the SUPERB Statute state that no costs will be allowed unless prior approval from the Division is obtained. If for any reason additional tasks will be completed, these additional tasks and the associated costs must be pre-approved by the Division for the costs to be paid. The Agency reserves the authority to pay only for work properly performed and/or technically justified and will only pay rates in accordance with established criteria. Further, the Agency reserves the right to question and/or reject costs if deemed unreasonable and to audit project records at any time during the project or after completion of work.

The Agency grants pre-approval for transportation of virgin petroleum impacted soil and groundwater from the referenced site to a permitted treatment facility. There can be no spillage or leakage in transport. All investigation-derived waste (IDW) must be properly contained and labeled prior to disposal. IDW should not be stored on-site longer than ninety (90) days. A copy of the disposal manifest and/or acceptance letter from the receiving facility that clearly designates the

quantity received must be included as an appendix to the report. If the CoC concentrations, based on laboratory analysis, are below Risk Based Screening Levels (RBSLs), please contact the project manager for approval to dispose of soil and/or groundwater on-site. The SUPERB Account will not reimburse for transportation or treatment of soil and/or groundwater with concentrations below RBSLs.

On all correspondence concerning this site, please reference UST Permit #06588. If there are any questions concerning this project, please contact me at (803) 898-0599. I can also be reached by email at fordrj@dhec.sc.gov or by fax at (803) 898-0673.

Sincerely,

James Ford, Hydrogeologist
Assessment Section
Underground Storage Tank Management Division
Bureau of Land and Waste Management

enc: Approved Cost Agreement
Signed Site Specific QAPP Contractor Addendum

cc: Bunnell-Lammons Engineering, Inc., 6004 Ponders Court, Greenville, SC 29615 (w/enc.)
Technical file (w/enc.)

Section A: Project Management

A1 Title and Approval Page

Quality Assurance Project Plan
Addendum to the SCDHEC UST Programmatic QAPP
For
Spinx 258 / Former Enmark 380, UST Permit #06588

2725 College Street, Newberry, South Carolina

Prepared by: Daniel P. Osbourne, P.G. – Bunnell-Lammons Engineering, Inc.

Date: September 10, 2013

Bunnell-Lammons Engineering, Inc. – SCDHEC Certified Contractor No. UCC-0010

Approvals

Mr. James Ford SCDHEC Project Manager	Signature	Date 9/18/13
Mr. Trevor J. Benton, P.G. Contractor QA Manager	Signature	Date 9/10/13
Thomas L. Lammons, P.G. Site Rehabilitation Contractor	Signature	Date 9/10/13
Dan Wright Laboratory Director	Signature	Date 9/10/13

Approved Cost Agreement 46531

Facility: 06588 SPINX 258

FORDRJ

PO Number:

Task / Description	Categories	Item	Description	Qty / Pct	Unit Price	Amount
01 PLAN						
		C	TIER II/COMP. PLAN/QAPP APP B	0.5000	525.00	262.50
04 MOB/DEMOB						
		A	EQUIPMENT	1.0000	575.00	575.00
		B	PERSONNEL	2.0000	290.00	580.00
08 ABANDONMENT						
		A	ABANDONMENT 2" DIA OR LESS	25.0000	5.00	125.00
09 WELL INSTALLATION						
		B	WATER TABLE (DRILLED)	25.0000	38.00	950.00
10 SAMPLE COLLECTION						
		A	GROUND WATER	25.0000	55.00	1,375.00
		C	WATER SUPPLY	5.0000	30.00	150.00
		D	GROUNDWATER NO-PURGE	2.0000	35.00	70.00
		H	FIELD BLANK	2.0000	5.00	10.00
11 ANALYSES						
	GW GROUNDWATER	A1	BTEXNM+OXYGS+1,2-DCA+ETH-8260B	35.0000	100.00	3,500.00
		E	LEAD	27.0000	20.00	540.00
		F	EDB	34.0000	55.00	1,870.00
16 SUBSEQUENT SURVEY						
		A	SUBSEQUENT SURVEY	1.0000	300.00	300.00
17 DISPOSAL						
		A	WASTEWATER	150.0000	0.80	120.00
		C	SOIL (TREATMENT/DISPOSAL)	1.0000	72.50	72.50
		D	DRILLING FLUIDS	25.0000	0.80	20.00
19 RPT/PROJECT MNGT & COORDINATIO						
		PCT	PERCENT	0.1500	10,520.00	1,578.00
				Total Amount		12,098.00

Approved Cost Agreement 46532

Facility: 06588 SPINX 258

FORDRJ

PO Number:

Task / Description	Categories	Item Description	Qty / Pct	Unit Price	Amount
01 PLAN					
		C TIER II/COMP. PLAN/QAPP APP B	0.5000	525.00	262.50
04 MOB/DEMOB					
		B PERSONNEL	2.0000	290.00	580.00
10 SAMPLE COLLECTION					
		A GROUND WATER	25.0000	55.00	1,375.00
		C WATER SUPPLY	5.0000	30.00	150.00
		D GROUNDWATER NO-PURGE	3.0000	35.00	105.00
		H FIELD BLANK	1.0000	5.00	5.00
11 ANALYSES					
	GW GROUNDWATER	A1 BTEXNM+OXYGS+1,2-DCA+ETH-8260B	36.0000	100.00	3,600.00
		E LEAD	27.0000	20.00	540.00
		F EDB	34.0000	55.00	1,870.00
17 DISPOSAL					
		A WASTEWATER	150.0000	0.80	120.00
19 RPT/PROJECT MNGT & COORDINATIO					
		PCT PERCENT	0.1500	8,607.50	1,291.13
			Total Amount		9,898.63

UST
FEB 26 2010
PROGRAM

UNDERGROUND STORAGE TANK (UST)
OWNER/OPERATOR LEAD INFORMATION SHEET

1. CONTRACTOR OF CHOICE

As the UST Owner/Operator of UST Permit # 06588, I would like to use the contractor or person(s)* listed below and request that they represent me for:

☐ Current Work Scope Only
☑ All future assessment scopes **

Name of Contractor/Person(s) BUNNELL-LAMMONS ENGINEERING

Address 6004 PONDERS COURT
GREENVILLE, SC
29615

Telephone Number (864) 288-1265

Note: After September 20, 1997, rehabilitation activities must be performed by a SC Certified Site Rehabilitation Contractor.

*Indicate if the person listed is your own employee

**** If you would like the contractor to perform all future assessment activities at this and/or other UST sites that have confirmed releases, please provide a list of all sites on your letterhead and provide the information requested in items 2 and 3 below within the context of the letter.**

2. FINANCIAL OR FAMILIAL RELATIONSHIP

Does a financial or familial relationship, as defined below, exist between you and the contractor/person that you listed above?
_____ Yes ✓ No (please initial)

Financial Relationship: A connection or association through a material interest of sources of income, which exceed five percent of annual gross income from a business entity.

Familial Relationship: A connection or association by family or relatives, in which a family member or relative has a material interest. Family or relatives include: father, mother, son, daughter, brother, sister, uncle, aunt, first cousin, nephew, niece, husband, wife, father-in-law, mother-in-law, son-in-law, daughter-in-law, stepfather, stepmother, stepson, stepdaughter, stepbrother, stepsister, half brother, half sister, grandparent, grandchild, great grandchild, step grandparent, step great grandparent, step grandchild, step great grandchild, or fiancé.

3. PAYMENT

You can pay the contractor and, upon the submittal of the canceled check (front and back) or a notarized statement from the contractor verifying payment, be compensated from the SUPERB Account, or have payment issued directly from the SUPERB Account to the contractor. (Check one)

_____ I request that payment be made to me after I have paid the contractor.

✓ I request that payment be made directly to the contractor.

(Note: all costs must receive prior financial approval from the Department regardless of payment option.)

Underground Storage Tank Owner/Operator Signature [signature]

Date 02/23/10

UST DOCKET
2 Tee

D H E C
PROMOTE PROTECT PROSPER
Catherine B. Templeton, Director
Promoting and protecting the health of the public and the environment

CERTIFIED MAIL
91 7108 2133 3939 6143 2847

JAN 13 2014

MR TOM DOLAN
INTERSTATE STATIONS INC
PO BOX 728
SAVANNAH GA 31402-0728

UST DOCKETING 20 tech

Re: **Notice of Alleged Violation**
Spinx 258, 2725 College St., Newberry, SC
UST Permit # 06588
Release #1 reported December 29, 1989; Release #2 reported November 21, 1995
Monitoring Report Directive dated September 26, 2013
Newberry County

Dear Mr. Dolan:

The Underground Storage Tank (UST) Management Division of the South Carolina Department of Health and Environmental Control (Agency) directed you in September 2013 to complete a Monitoring Report due on November 26, 2013. To date the required report has not been received. In accordance with Section 280.65 of the South Carolina Underground Storage Tank Regulations, the assessment must be conducted as chemicals of concern are above the Risk-Based Screening Levels.

Implementation of this scope of work should proceed upon receipt of this correspondence. **Please submit the report on or before March 11, 2014. Should you not submit the report on or before this date, this office will initiate further enforcement action.**

On all correspondence regarding this site, please reference UST Permit # 06588. If you have any questions concerning this correspondence, please call me at (803) 898-0599, e-mail me at fordrj@dhec.sc.gov, or fax me at (803) 898-0673.

Sincerely,

James Ford

James Ford, Hydrogeologist
Assessment Section
Underground Storage Tank Management Division
Bureau of Land and Waste Management

cc: Bunnell-Lammons Engineering, Inc., 6004 Ponders Court, Greenville, SC 29615
Technical File

Document Receipt Information

☐ Hard Copy ☒ CD ☐ Email

Date Received 1-17-14

Permit Number 06588

Project Manager Jamie Ford

Name of Contractor BLE

UST Certification Number

Docket Number 21deb

Scanned

MW Install / GWS

BUNNELL-LAMMONS ENGINEERING, INC.

GEOTECHNICAL, ENVIRONMENTAL AND CONSTRUCTION MATERIALS CONSULTANTS

REPORT OF MONITORING WELL INSTALLATION & GROUNDWATER SAMPLING EVENT November 2013

SPINX 258/FORMER ENMARK 380
2725 COLLEGE STREET
NEWBERRY, NEWBERRY COUNTY, SOUTH CAROLINA
UST PERMIT #06588; COST AGREEMENT #46531 & #46532

Prepared For

Enmark Stations, Inc.
Post Office Box 728
Savannah, Georgia 31402

Prepared By

Bunnell-Lammons Engineering, Inc.
6004 Ponders Court
Greenville, South Carolina 29615
SCDHEC Certified Contractor No. UCC-010

January 16, 2014

BLE Project Number J13-6859-05

BUNNELL-LAMMONS ENGINEERING, INC.
GEOTECHNICAL, ENVIRONMENTAL AND CONSTRUCTION MATERIALS CONSULTANTS

January 16, 2014

South Carolina Department of Health and Environmental Control
Bureau of Land and Waste Management
Underground Storage Tank Program
2600 Bull Street
Columbia, South Carolina 29201-1708

Attention: Mr. James Ford
Hydrogeologist

Subject: **Report of Monitoring Well Installation & Groundwater Sampling Event – November 2013**
Spinx 258/Former Enmark 380
Newberry, Newberry County, South Carolina
UST Permit #06588; CA #46531 & #46532
BLE Project No. J13-6859-05

Dear Mr. Ford:

On behalf of Enmark Stations, Inc. (Enmark), Bunnell-Lammons Engineering, Inc. (BLE) has completed the replacement of one groundwater monitoring well and groundwater sampling event at the subject site. This scope of work was performed in response to a South Carolina Department of Health and Environmental Control (SCDHEC) directive dated September 26, 2013. This report describes the work performed and presents the results obtained, along with our comments and recommendations. Please do not hesitate to contact us if you have any questions concerning this report.

Sincerely,

BUNNELL-LAMMONS ENGINEERING, INC.

Daniel P. Osbourne, P.G.
Senior Hydrogeologist
Registered, South Carolina No. 2376

Thomas L. Lammons, P.G., CHMM
Principal Hydrogeologist
Registered, South Carolina No. 893

6004 PONDERS COURT
GREENVILLE, SOUTH CAROLINA 29615

PHONE (864) 288-1265
FAX (864) 288-4430

BACKGROUND INFORMATION

The subject property is located at 42725 College Street in Newberry, Newberry County, South Carolina (**Figure 1**). The site is currently utilized as an automobile fueling station and retail convenience store and is bordered by commercial properties to the east and south and residential properties to the north and west.

According to a review of files available through a freedom of information request, the following environmental activities have been completed at the subject site to date:

- *Soil Sampling Program* December 1989
- *Site Assessment* October 1991
- *Petroleum Recovery activities* March 1996
- *Risk-Based Corrective Action Tier II Evaluation Report* May 1997
- *Tier II Assessment Report* February 2011
- *Report of Monitoring Well Installation and Groundwater Sampling Event* August 2011
- *Report of Aggressive Fluid Vapor Recovery, Monitoring Well Installation and Groundwater Sampling* August 2012

In August 2013, the SCDHEC issued a Quality Assurance Program Plan (QAPP) Contractor Addendum Directive. BLE was retained as the contractor of choice to continue work on the site, and submitted the requested QAPP on September 10, 2013. The QAPP contractor addendum was approved by the SCDHEC, and the assessment directive was dated September 26, 2013. Details of the monitoring well installations and groundwater sampling event are provided herein.

MONITORING WELL INSTALLATION	
Installation Dates:	October 7 and 8, 2013
Well Driller:	Landprobe Drilling Services (Brunson King, SC Driller License #1089)
Wells Installed (Type II):	MW-4R

Monitoring Well Construction Data:	See Table 1
Surveyed Location of New Well:	See Figure 2
Monitoring Well Construction Diagrams:	See Appendix A
1903 Water Well Records:	See Appendix A
Drill Cuttings Disposal Manifest:	See Appendix B

GROUNDWATER SAMPLING		
Date Sampled:	November 12 through November 14, 2013	
Total Number of Wells Associated with Site:	62	MW-1, MW-2, MW-3, MW-4, MW-4R, MW-5, MW-6, MW-7, MW-7D, MW-8D, MW-9, through MW-21, MW-21D, MW-22, MW-22D, MW-23, MW-24, MW-24D, MW-25, MW-26, through MW-30, MW-30D, MW-31, MW-32, MW-33, MW-33D, MW-34, MW-35, MW-36, MW-37, MW-38, MW-39, MW-40, MW-41D, MW-42, MW-42D, MW-43D, DW-1 through DW-10.
Total Number of Wells Sampled:	46 (41 MWs and 5 water supply) plus 1 surface water location.	MW-1, MW-2, MW-3, MW-4R, MW-7D, MW-8D, MW-9, through MW-18, MW-20, MW-21, MW-21D, MW-22D, MW-24D, MW-26, through MW-30, MW-30D, MW-32, MW-33, MW-33D, MW-34, MW-36, MW-37, MW-38, MW-39, MW-40, MW-41D, MW-42, MW-42D, MW-43D, DW-1, DW-2, DW-3, DW-5, DW-8 and SW-1.

Total Number of Wells NOT Sampled:	16	MW-4 (Dry), MW-5, MW-6, MW-7, MW-19, MW-22, MW-23 MW-24, MW-25, (Free Product), MW-31 (Not located), MW-35, DW-4, DW-6, DW-7, DW-9, and DW-10 (Could not be accessed).
QA / QC Samples	8	3 Duplicate Samples (MW-04R DUP), (MW-18 DUP), (MW-40 DUP), 3 Field Blanks, 2 Trip Blanks
Total Purge Volume (gallons)	285	Disposal Manifest Included in Appendix B
Analytical Laboratory	Shealy Environmental Services, Inc.	
Analytical Methods	EPA Method 8260B, EPA Method 8011, EPA Method 6010	
Free-Phase Petroleum Product	MW-5 (1.17 feet), MW-6 (0.26 feet), MW-7 (0.10 feet), MW-19 (1.35 feet), MW-22 (0.51 feet), MW-23 (1.17 feet), MW-24 (0.58 feet), and MW-25 (0.04 feet).	
Contaminants Exceeding Risk Based Screening Level (RBSL) Concentrations	Benzene, Toluene, Ethylbenzene, Xylenes, Methyl-Tert-Butyl-Ether (MTBE), Naphthalene, 1,2-Dibromoehtane (EDB), 1,2-Dichloroethane (1,2-DCA), lead, Tert-Amyl Methyl Ether (TAME), Diisopropyl Ether (DIPE), Tert-Butyl Alcohol (TBA), Tert-Amyl Alcohol (TAA)	
Water Supply Wells with Contaminants Exceeding RBSLs	DW-1 (lead), DW-5 (benzene), DW-8 (benzene and lead)	
Well Locations	See Figure 2 and Figure 3	
Field Sampling Logs	See Appendix C	
Groundwater Level Measurements	See Table 1	
Laboratory Analytical Summary	See Table 2	
Laboratory Analytical Results	See Appendix D	
Potentiometric Map	See Figure 4	
CoC Map	See Figure 5	

RECOMMENDATIONS

BLE recommends a series of 96-hour AFVR events should be conducted on monitoring wells MW-5, MW-6, MW-7, MW-19, MW-22, MW-23 MW-24, and MW-25 to 1) remove residual free-phase petroleum product from the area around the extraction point, 2) remove petroleum hydrocarbon vapors from the unsaturated zone, and 3) remove petroleum impacted groundwater from the subsurface. Following the performance of the AFVR events a comprehensive groundwater sampling event should be performed in order to assess current geochemical conditions.

QUALIFICATION OF REPORT

The activities and evaluative approaches used in this assessment are consistent with those normally employed in hydrogeological assessments of this type. Our evaluation of site conditions has been based on our understanding of the site and project information and the data obtained in our exploration.

This report has been prepared on behalf of and exclusively for the use of Enmark. This report and the findings contained herein shall not, in whole or in part, be used or relied upon by any other party without BLE's prior written consent. Any unauthorized use or distribution of BLE's work shall be at third parties risk and without liability to BLE.

TABLES

TABLE 1

Monitoring Well and Groundwater Surface Elevation Data
Spinx 258/Former Enmark 380
Newberry, Newberry County, South Carolina
SCDHEC UST Permit #06588; Cost Agreement #46531 & #46532
BLE Project Number J13-6859-05

Monitoring Well	Ground Elevation	Top-Of-Casing Elevation	Date Sampled	Groundwater Depth BTOC	Groundwater Elevation	Well Depth feet BGS	Screened Interval Depth BGS	Screened Interval Elevation
06588-MW01	542.43	542.17	12/22/10	20.35	521.82	28.30	13.05 - 28.05	529.12 - 514.12
			7/19/11	20.85	521.32			
			7/16/12	22.27	519.90			
			11/12/13	20.30	521.87			
06588-MW02	543.01	542.83	12/22/10	20.82	522.01	25.20	10.20 - 25.20	532.63 - 517.63
			7/19/11	21.32	521.51			
			7/16/12	22.77	520.06			
			11/12/13	20.81	522.02			
06588-MW03	543.98	543.63	12/22/10	21.25	522.38	25.00	10.00 - 25.00	533.63 - 518.63
			7/19/11	22.14	521.49			
			7/16/12	23.54	520.09			
			11/12/13	21.60	522.03			
06588-MW04	543.58	542.96	12/22/10	Damaged	NA	25.00	10.00 - 25.00	532.96 - 517.96
			7/19/11	Damaged	NA			
			7/16/12	Damaged	NA			
			11/12/13	Dry	NA			
06588-MW04R	542.34	542.14	11/12/13	20.95	521.19	27.60	17.40 - 27.40	524.74 - 514.74
06588-MW05*	542.69	542.43	12/22/10	21.10	521.33	25.00	15.00 - 25.00	527.43 - 517.43
			7/19/11	21.65	520.78			
			7/16/12	22.57	519.86			
			11/12/13	20.70	521.73			
06588-MW06*	542.43	542.24	12/22/10	20.85	521.39	25.00	15.00 - 25.00	527.24 - 517.24
			7/19/11	20.76	521.48			
			7/16/12	22.52	519.72			
			11/12/13	20.35	521.89			
06588-MW07*	542.79	542.63	12/22/10	20.90	521.73	25.00	15.00 - 25.00	527.63 - 517.63
			7/19/11	21.26	521.37			
			7/16/12	22.62	520.01			
			11/12/13	20.73	521.90			
06588-MW07D	542.25	541.75	12/22/10	19.80	521.95	46.04	40.84 - 45.84	500.91 - 495.91
			7/19/11	20.35	521.40			
			7/16/12	21.89	519.86			
			11/12/13	19.71	522.04			
06588-MW08D	542.76	542.54	12/22/10	21.80	520.74	45.00	40.00 - 45.00	502.54 - 497.54
			7/19/11	19.84	522.70			
			7/16/12	25.39	517.15			
			11/12/13	23.30	519.24			
06588-MW09	544.20	543.91	12/22/10	21.70	522.21	28.74	18.54 - 28.54	525.37 - 515.37
			7/19/11	22.25	521.66			
			7/16/12	24.68	519.23			
			11/12/13	21.70	522.21			
06588-MW10	543.29	542.98	12/22/10	20.91	522.07	28.00	17.80 - 27.80	525.18 - 515.18
			7/19/11	21.58	521.40			
			7/16/12	23.02	519.96			
			11/12/13	21.01	521.97			
06588-MW11	541.88	541.60	12/22/10	19.15	522.45	28.30	18.10 - 28.10	523.50 - 513.50
			7/19/11	19.72	521.88			
			7/16/12	21.08	520.52			
			11/12/13	18.95	522.65			
06588-MW12	541.90	541.67	12/22/10	19.10	522.57	27.61	17.41 - 27.41	524.26 - 514.26
			7/19/11	19.74	521.93			
			7/16/12	21.17	520.50			
			11/12/13	19.05	522.62			
06588-MW13	541.19	540.96	12/22/10	19.00	521.96	26.46	16.26 - 26.26	524.70 - 514.70
			7/19/11	19.56	521.40			
			7/16/12	20.99	519.97			
			11/12/13	19.00	521.96			
06588-MW14	545.14	544.81	12/22/10	22.40	522.41	29.32	19.12 - 29.12	525.69 - 515.69
			7/19/11	22.95	521.86			
			7/16/12	24.48	520.33			
			11/12/13	22.35	522.46			
06588-MW15	544.11	543.81	12/22/10	21.45	522.36	28.62	18.42 - 28.42	525.39 - 515.39
			7/19/11	21.96	521.85			
			7/16/12	23.50	520.31			
			11/12/13	21.45	522.36			
06588-MW16	539.55	539.35	12/22/10	17.96	521.39	26.02	15.82 - 25.82	523.53 - 513.53
			7/19/11	18.45	520.90			
			7/16/12	19.79	519.56			
			11/12/13	17.90	521.45			
06588-MW17	541.46	541.24	12/22/10	19.40	521.84	26.54	16.34 - 26.34	524.90 - 514.90
			7/19/11	19.90	521.34			
			7/16/12	21.33	519.91			
			11/12/13	19.36	521.88			
06588-MW18	541.42	541.24	12/22/10	19.60	521.64	26.28	16.08 - 26.08	525.16 - 515.16
			7/19/11	20.15	521.09			
			7/16/12	21.54	519.70			
			11/12/13	19.60	521.64			
06588-MW19*	540.98	540.82	12/22/10	19.26	521.56	25.52	15.32 - 25.32	525.50 - 515.50
			7/19/11	19.80	521.02			
			7/16/12	21.23	519.59			
			11/12/13	19.37	521.45			
06588-MW20	542.61	542.24	12/22/10	20.52	521.72	27.24	17.04 - 27.04	525.20 - 515.20
			7/19/11	21.05	521.19			
			7/16/12	22.38	519.86			
			11/12/13	20.43	521.81			
06588-MW21	541.95	541.73	12/22/10	20.50	521.23	27.16	16.96 - 26.96	524.77 - 514.77
			7/19/11	20.98	520.75			
			7/16/12	21.86	519.87			
			11/12/13	19.92	521.81			
06588-MW21D	542.43	542.23	12/22/10	20.00	522.23	46.75	41.55 - 46.55	500.68 - 495.68
			7/19/11	20.46	521.77			
			7/16/12	22.34	519.89			
			11/12/13	20.42	521.81			
06588-MW22*	541.08	540.89	12/22/10	19.30	521.59	26.25	16.05 - 26.05	524.84 - 514.84
			7/19/11	19.84	521.05			
			7/16/12	21.19	519.70			
			11/12/13	19.35	521.54			

Prepared By: IAI
Checked By:PJVH

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Spinx 258/Former Enmark 380
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BLE Project Number J13-6859-05

Monitoring Well	Ground Elevation	Top-Of-Casing Elevation	Date Sampled	Groundwater Depth BTOC	Groundwater Elevation	Well Depth feet BGS	Screened Interval Depth BGS	Screened Interval Elevation
06588-MW22D	541.22	540.87	12/22/10	19.30	521.57	45.82	40.62 - 45.62	500.25 - 495.25
			7/19/11	19.80	521.07			
			7/16/12	21.15	519.72			
			11/12/13	19.50	521.37			
06588-MW23*	541.44	541.19	12/22/10	19.60	521.59	25.25	15.05 - 25.05	526.14 - 516.14
			7/19/11	20.06	521.13			
			7/16/12	21.55	519.64			
			11/12/13	19.68	521.51			
06588-MW24*	542.50	542.17	12/22/10	20.42	521.75	25.42	15.22 - 25.22	526.95 - 516.95
			7/19/11	20.94	521.23			
			7/16/12	22.43	519.74			
			11/12/13	20.41	521.76			
06588-MW24D	542.37	542.14	12/22/10	20.40	521.74	46.03	40.83 - 45.83	501.31 - 496.31
			7/19/11	20.90	521.24			
			7/16/12	22.30	519.84			
			11/12/13	19.26	522.88			
06588-MW25*	542.98	542.72	12/22/10	20.76	521.96	25.38	15.18 - 25.18	527.54 - 517.54
			7/19/11	21.30	521.42			
			7/16/12	22.73	519.99			
			11/12/13	20.77	521.95			
06588-MW26	543.01	542.87	12/22/10	20.72	522.15	27.00	16.80 - 26.80	526.07 - 516.07
			7/19/11	21.20	521.67			
			7/16/12	22.69	520.18			
			11/12/13	20.68	522.19			
06588-MW27	543.72	543.45	12/22/10	21.20	522.25	27.25	17.05 - 27.05	526.40 - 516.40
			7/19/11	21.66	521.79			
			7/16/12	23.18	520.27			
			11/12/13	20.14	523.31			
06588-MW28	540.32	540.03	12/22/10	18.44	521.59	25.50	15.30 - 25.30	524.73 - 514.73
			7/19/11	18.90	521.13			
			7/16/12	20.28	519.75			
			11/12/13	18.38	521.65			
06588-MW29	538.80	538.56	12/22/10	17.60	520.96	25.00	14.80 - 24.80	523.76 - 513.76
			7/19/11	18.12	520.44			
			7/16/12	19.35	519.21			
			11/12/13	17.63	520.93			
06588-MW30	537.42	537.15	12/22/10	16.54	520.61	24.00	13.80 - 23.80	523.35 - 513.35
			7/19/11	17.20	519.95			
			7/16/12	18.36	518.79			
			11/12/13	16.80	520.35			
06588-MW30D	537.60	537.24	7/19/11	17.10	520.14	46.30	36.10 - 46.10	501.14 - 491.14
			7/16/12	18.29	518.95			
			11/12/13	16.64	520.60			
06588-MW31	538.87	538.63	12/22/10	17.68	520.95	25.25	15.05 - 25.05	523.58 - 513.58
			7/19/11	18.25	520.38			
			7/16/12	19.50	519.13			
			11/12/13	Not located	NA			
06588-MW32	539.18	538.94	12/22/10	17.70	521.24	25.25	15.05 - 25.05	523.89 - 513.89
			7/19/11	18.24	520.70			
			7/16/12	19.50	519.44			
			11/12/13	17.69	521.25			
06588-MW33	540.16	539.95	12/22/10	18.66	521.29	26.25	16.05 - 26.05	523.90 - 513.90
			7/19/11	19.15	520.80			
			7/16/12	20.42	519.53			
			11/12/13	18.58	521.37			
06588-MW33D	540.22	540.02	7/19/11	19.20	520.82	48.35	38.15 - 48.15	501.87 - 491.87
			7/16/12	20.42	519.60			
			11/12/13	18.67	521.35			
06588-MW34	533.67	533.42	12/22/10	12.30	521.12	18.25	8.05 - 18.05	525.37 - 515.37
			7/19/11	12.80	520.62			
			7/16/12	14.97	518.45			
			11/12/13	12.25	521.17			
06588-MW35	528.00	527.70	12/22/10	6.88	520.82	14.25	4.05 - 14.05	523.65 - 513.65
			7/19/11	7.36	520.34			
			7/16/12	9.45	518.25			
			11/12/13	Not Accesible	NA			
06588-MW36	525.24	528.05	12/22/10	12.65	515.40	31.00	20.80 - 30.80	507.25 - 497.25
			7/19/11	13.10	514.95			
			7/16/12	13.19	514.86			
			11/12/13	12.86	515.19			
06588-MW37	519.24	522.30	12/22/10	3.70	518.60	21.69	11.49 - 21.49	510.81 - 500.81
			7/19/11	4.22	518.08			
			7/16/12	5.22	517.08			
			11/12/13	4.00	518.30			
06588-MW38	536.16	535.96	12/22/10	15.55	520.41	25.00	14.80 - 24.80	521.16 - 511.16
			7/19/11	16.06	519.90			
			7/16/12	17.18	518.78			
			11/12/13	15.61	520.35			
06588-MW39	518.80	518.57	12/22/10	1.52	517.05	12.00	1.80 - 11.80	516.77 - 506.77
			7/19/11	2.46	516.11			
			7/16/12	2.77	515.80			
			11/12/13	2.30	516.27			
06588-MW40	542.66	542.05	7/19/11	21.05	521.00	28.30	18.10 - 28.10	523.95 - 513.95
			7/16/12	22.50	519.55			
			11/12/13	20.56	521.49			
06588-MW41D	540.98	540.78	7/19/11	19.80	520.98	48.00	37.80 - 47.80	503.18 - 493.18
			7/16/12	21.19	519.59			
			11/12/13	19.30	521.48			
06588-MW42	522.18	524.59	7/16/12	6.55	518.04	12.59	2.39 - 12.39	522.20 - 512.20
			11/12/13	5.16	519.43			
06588-MW42D	522.04	524.49	7/16/12	6.40	518.09	32.75	27.55 - 32.55	496.94 - 491.94
			11/12/13	5.38	519.11			
06588-MW43D	538.18	537.95	7/16/12	18.15	519.80	33.03	27.83 - 32.83	510.12 - 505.12
			11/12/13	16.72	521.23			

NOTES:
Groundwater levels were measured on November 18, 2013.
Measurements are in feet; elevations are relative to an arbitrary site datum.
BTOC - Below Top Of Casing
BGS - Below Ground Surface
* - The depth-to-groundwater measurements for these wells have been corrected for the presence of free-product using a specific gravity value of 0.70 g/cc.

Prepared By: IAI
Checked By:PJVH

TABLE 2

Historical Laboratory Analytical Results

Spinx 258/Former Enmark 380
Newberry, Newberry County, South Carolina
SCDHEC UST Permit #06588; Cost Agreement #46531 & #46532
BLE Project Number J13-6859-05

Well	Date Sampled	Free-Product Thickness (ft)	Benzene (µg/l)	Toluene (µg/l)	Ethylbenzene (µg/l)	Xylenes (µg/l)	MTBE (µg/l)	Naphthalene (µg/l)	EDB (µg/l)	1,2-Dichloroethane (µg/l)	Lead (µg/l)
SCDHEC RBSL		None	5	1,000	700	10,000	40	25	0.05	5	15
06588-MW01	2/24/92	0.00	5,900	5,900	1,800	7,200	NT	NT	NT	NT	NT
	6/11/97	0.00	5,900	8,010	1,530	7,420	135	108	NT	NT	NT
	6/26/98	0.00	3,550	1,910	674	3,150	36	35	NT	NT	NT
	11/2/10	0.00	4,400	2,100	1,600	7,200	<20	170	1.9	160	<10
	7/20/11	0.00	5,600	7,700	1,800	8,300	110	91	24.0	160	NT
	7/17/12	0.00	4,600	2,500	1,800	6,800	110J	550	3.9	<250	7.7J
	11/14/13	0.00	5,500	6,100	1,600	6,700	57J	270	7.5	160J	10
06588-MW01 (DUP)	11/14/13	0.00	5,300	5,500	1,500	6,100	58J	240J	7.0	<250	54.0
06588-MW02	6/11/97	0.00	6,750	13,500	900	5,180	900	254	NT	NT	NT
	6/26/98	0.00	3,780	9,380	896	3,340	236	885	NT	NT	NT
	11/2/10	0.00	1.90	1.8	11	39	<1.0	15	<0.021	<1.0	38
	7/20/11	0.00	1.4J	2.0	52	270	<2.0	27	<0.019	<2.0	NT
	7/17/12	0.00	25	23	160	910	<5.0	83	<0.019	<5.0	9.9J
	11/14/13	0.00	45	19	3.0J	49	<5.0	8.1	<0.019	<5.0	<10
06588-MW03	6/11/97	0.00	675	9,000	900	5,400	5.0	450	NT	NT	NT
	6/26/98	0.00	411	Dry	986	5,080	40	534	NT	NT	NT
	11/15/22010	0.00	68	11.0	8.7	89	<1.0	21	<0.020	<1.0	<10
	7/22/11	0.00	31	1.1	<1.0	19	<1.0	0.67J	<0.019	<1.0	NT
	7/17/12	0.00	43	3.0J	1.8J	47	<5.0	6.2	<0.021	<5.0	270
	11/14/13	0.00	21	4.0J	<5.0	9.5	0.63J	2.0J	<0.019	<5.0	85
06588-MW04	6/11/97	0.45	NS	NS	NS	NS	NS	NS	NS	NS	NS
	6/26/98	0.39	25,300	26,300	4,290	24,900	7,000	3,050	NT	NT	NT
	11/2/10	Well Damaged									
06588-MW04R	11/14/13	0.00	2,300	22,000	3,000	16,000	<1,000	760J	0.37	<1,000	850
06588-MW05	6/26/98	0.02	10,100	24,400	2,920	8,480	25,300	2,800	NT	NT	NT
	11/2/10	0.02	NS	NS	NS	NS	NS	NS	NS	NS	NS
	7/22/11	0.02	NS	NS	NS	NS	NS	NS	NS	NS	NS
	7/16/12	0.55	NS	NS	NS	NS	NS	NS	NS	NS	NS
	11/12/13	1.17	NS	NS	NS	NS	NS	NS	NS	NS	NS
06588-MW06	6/26/98	0.00	12,800	20,400	3,980	19,600	410	2,760	NT	NT	NT
	11/15/10	0.06	NS	NS	NS	NS	NS	NS	NS	NS	NS
	7/22/11	1.20	NS	NS	NS	NS	NS	NS	NS	NS	NS
	7/16/12	0.60	NS	NS	NS	NS	NS	NS	NS	NS	NS
	11/12/13	0.26	NS	NS	NS	NS	NS	NS	NS	NS	NS
06588-MW07	6/26/98	0.00	17,000	27,500	3,660	12,800	7,280	6,140	NT	NT	NT
	11/15/10	0.39	NS	NS	NS	NS	NS	NS	NS	NS	NS
	7/22/11	0.20	NS	NS	NS	NS	NS	NS	NS	NS	NS
	7/16/12	0.13	NS	NS	NS	NS	NS	NS	NS	NS	NS
	11/12/13	0.10	NS	NS	NS	NS	NS	NS	NS	NS	NS
06588-MW07D	11/4/10	0.00	19	3.4	2.3	16	<1.0	2.8	<0.019	<1.0	<10
	7/19/11	0.00	2.6	<1.0	<1.0	<1.0	<1.0	<1.0	<0.020	<1.0	NT
	7/17/12	0.00	7.6	<5.0	<5.0	<5.0	<5.0	<5.0	<0.019	<5.0	10
	11/14/13	0.00	2.5J	<5.0	<5.0	3.3J	<5.0	<5.0	<0.020	<5.0	<10
06588-MW08D	6/26/98	0.00	47.6	3	1.3	30	74	14	NT	NT	NT
	11/4/10	0.00	13	12	4.7	29	6	4.4	<0.020	<1.0	17.0
	7/19/11	0.00	75	0.98J	0.36J	120	23	22	0.06	<1.0	NT
	7/17/12	0.00	89	3.7J	<5.0	190	8	22	0.08	<5.0	6.2J
	11/14/13	0.00	81	7.1	2.9J	140	4.2J	24	<0.019	<5.0	7.5J
06588-MW09	11/2/10	0.00	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.022	<1.0	350
	7/20/11	0.00	<1.0	<1.0	<1.0	0.64J	<1.0	1	<0.019	<1.0	NT
	7/16/12	0.00	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<0.019	<5.0	9.8J
	11/13/13	0.00	0.42J	<5.0	<5.0	<5.0	<5.0	<5.0	<0.021	<5.0	75
06588-MW10	11/2/10	0.00	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.020	<1.0	480
	7/20/11	0.00	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.019	<1.0	NT
	7/16/12	0.00	<5.0	<5.0	<5.0	7.0	<5.0	<5.0	<0.019	<5.0	26
	7/13/13	0.00	2.9J	<5.0	<5.0	2.9J	<5.0	<5.0	<0.021	<5.0	360
06588-MW11	11/2/10	0.00	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.020	<1.0	220
	7/20/11	0.00	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.019	<1.0	NT
	7/16/12	0.00	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<0.019	<5.0	4.2J
	11/13/13	0.00	0.35J	<5.0	<5.0	<5.0	<5.0	<5.0	<0.021	<5.0	150
06588-MW12	11/2/10	0.00	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.021	<1.0	290
	7/20/11	0.00	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.019	<1.0	NT
	7/20/11	0.00	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<0.020	<5.0	45.0
	11/13/13	0.00	0.57J	<5.0	<5.0	<5.0	<5.0	<5.0	<0.020	<5.0	42.0
06588-MW13	11/2/10	0.00	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.021	<1.0	420
	7/20/11	0.00	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.019	<1.0	NT
	7/17/12	0.00	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<0.020	<5.0	23
	11/13/13	0.00	0.33J	<5.0	<5.0	<5.0	<5.0	<5.0	<0.020	<5.0	10
06588-MW14	11/3/10	0.00	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.020	<1.0	96
	7/20/11	0.00	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.020	<1.0	NT
	7/16/12	0.00	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<0.019	<5.0	46
	11/13/13	0.00	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<0.019	<5.0	14
06588-MW15	11/3/10	0.00	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.020	<1.0	70
	7/20/11	0.00	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.019	<1.0	NT
	7/16/12	0.00	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<0.019	<5.0	79
	11/13/13	0.00	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<0.020	<5.0	10
06588-MW16	11/2/10	0.00	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.020	<1.0	180
	7/20/11	0.00	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.019	<1.0	NT
	7/17/12	0.00	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<0.020	<5.0	59
	11/14/13	0.00	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<0.020	<5.0	240
06588-MW17	11/2/10	0.00	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.020	<1.0	31
	7/20/11	0.00	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.019	<1.0	NT
	7/17/12	0.00	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<0.019	<5.0	15
	11/14/13	0.00	11	19	14	54	<5.0	2.9J	<0.020	<5.0	5.8J
06588-MW18	11/2/10	0.00	20	170	1,700	6,200	<20	490	<0.020	<20	270
	7/20/11	0.00	28J	270	2,600	12,000	<50	400	<0.020	<50	NT
	7/17/12	0.00	25J	22J	1,600	2,000	<50	710	<0.019	<50	19
	11/14/13	0.00	120	130	1,300	1,100	<50	480	0.029	<50	360
06588-MW18 (DUP)	11/14/13	0.00	120	130	1,100	1,200	<25	490	0.026	<25	160
06588-MW19	11/2/10	0.00	8,300	29,000	3,100	19,000	320	850	28	<200	480
	7/20/11	0.00	7,200	27,000	4,000	22,000	260	<200	24	<200	NT
	7/16/12	0.89	NS	NS	NS	NS	NS	NS	NS	NS	NS
	11/12/13	1.35	NS	NS	NS	NS	NS	NS	NS	NS	NS
06588-MW20	11/4/10	0.00	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.020	<1.0	10
	7/21/11	0.00	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.019	<1.0	NT
	7/17/12	0.00	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<0.020	<5.0	21
	11/12/13	0.00	1.0J	<5.0	<5.0	2.5J	<5.0	<5.0	<0.019	<5.0	14
06588-MW21	11/4/10	0.00	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.019	<1.0	22
	7/21/11	0.00	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.019	<1.0	NT
	7/17/12	0.00	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<0.020	<5.0	8.6J
	11/12/13	0.00	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<0.020	<5.0	84

Prepared By: IAI
Checked By:PJVH

TABLE 2

Historical Laboratory Analytical Results

Spinx 258/Former Enmark 380
Newberry, Newberry County, South Carolina
SCDHEC UST Permit #06588; Cost Agreement #46531 & #46532
BLE Project Number J13-6859-05

Well	Date Sampled	Free-Product Thickness (ft)	Benzene (µg/l)	Toluene (µg/l)	Ethylbenzene (µg/l)	Xylenes (µg/l)	MTBE (µg/l)	Naphthalene (µg/l)	EDB (µg/l)	1,2-Dichloroethane (µg/l)	Lead (µg/l)
SCDHEC RBSL		None	5	1,000	700	10,000	40	25	0.05	5	15
06588-MW21D	11/4/10	0.00	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.020	<1.0	69
	7/21/11	0.00	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.019	<1.0	NT
	7/17/12	0.00	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<0.019	<5.0	18.0
	11/12/13	0.00	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<0.020	<5.0	9.8J
06588-MW22	11/2/10	0.00	3,200	1,000	2,400	7,900	610	630	0.28	<20	520
	7/20/11	0.00	3,700	230	2,900	3,900	910	530	0.17	86	NT
	7/17/12	0.00	350	380	130	1,600	84	130	0.26	<25	16
	11/12/13	0.51	NS	NS	NS	NS	NS	NS	NS	NS	NS
06588-MW22D	11/4/10	0.00	220	<1.0	<1.0	2	9.2	15	<0.019	<1.0	15
	7/19/11	0.00	320	<1.0	<1.0	0.64J	15.0	23	<0.019	6.6	NT
	7/17/12	0.00	210	<5.0	<5.0	<5.0	8.4	17.0	<0.020	<5.0	12
	11/14/13	0.00	190	<5.0	<5.0	2.3J	6.2	10	<0.019	<5.0	11
06588-MW23	11/3/10	0.00	19,000	30,000	4,500	24,000	2,300	1,000	40	910	640
	7/20/11	0.00	13,000	35,000	4,000	22,000	260J	<400	42	<400	NT
	7/16/12	1.65	NS	NS	NS	NS	NS	NS	NS	NS	NS
	11/12/13	1.17	NS	NS	NS	NS	NS	NS	NS	NS	NS
06588-MW24	11/3/10	0.00	17,000	23,000	5,100	24,000	2,400	840	55.000	630	120
	7/20/11	0.00	16,000	4,500	3,500	11,000	2,300	170	37	430	NT
	7/16/12	1.32	NS	NS	NS	NS	NS	NS	NS	NS	NS
	11/12/13	0.58	NS	NS	NS	NS	NS	NS	NS	NS	NS
06588-MW24D	11/4/10	0.00	110	23	9.2	33	10	14	0.041	<1.0	<10
	7/19/11	0.00	220.0	<1.0	<1.0	1.2	39	23.0	0.017	4.9	NT
	7/17/12	0.00	240	<5.0	<5.0	<5.0	30	30	<0.019	<5.0	5.9J
	11/14/13	0.00	83	4.1J	2.5J	15	22	4.1J	<0.020	<5.0	2.6J
06588-MW25	11/3/10	0.00	6,100	3,600	1,500	7,900	1,000	520	3.5	<20	110
	7/20/11	0.00	14,000	5,800	2,600	12,000	1,700	94J	4.9	320	NT
	7/16/12	0.31	NS	NS	NS	NS	NS	NS	NS	NS	NS
	7/16/12	0.04	NS	NS	NS	NS	NS	NS	NS	NS	NS
06588-MW26	11/3/10	0.00	27	<1.0	2.2	8.5	<1.0	<1.0	<0.021	<1.0	<10
	7/21/11	0.00	13	<1.0	1.3	4.3	<1.0	1.1	<0.020	0.32J	NT
	7/16/12	0.00	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<0.020	<5.0	<10
	11/12/13	0.00	140	<25	<25	29	<25.0	<25.0	<0.020	<25	5.9J
06588-MW27	11/3/10	0.00	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.021	<1.0	<10
	7/21/11	0.00	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.019	<1.0	NT
	7/16/12	0.00	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<0.019	<5.0	6.7J
	11/12/13	0.00	<5.0	<5.0	<5.0	4.9J	<5.0	<5.0	<0.020	<5.0	14
06588-MW28	11/4/10	0.00	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.020	<1.0	<10
	7/21/11	0.00	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.019	<1.0	NT
	7/16/12	0.00	<5.0	<5.0	<5.0	<5.0	<5.0	1.7J	<0.020	<5.0	5.6J
	11/13/13	0.00	1.9J	<5.0	<5.0	3.3J	<5.0	<5.0	<0.020	<5.0	65
06588-MW29	11/3/10	0.00	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.021	<1.0	720
	7/21/11	0.00	0.65J	0.75J	0.57J	6.9	<1.0	0.93J	<0.020	<1.0	NT
	7/17/12	0.00	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<0.020	<5.0	10
	11/13/13	0.00	0.38J	<5.0	<5.0	<5.0	<5.0	<5.0	<0.019	<5.0	230
06588-MW30	11/3/10	0.00	3.6	19	8.3	53	350	9.0	<0.020	11	170
	7/21/11	0.00	<1.0	<1.0	<1.0	<1.0	250	<1.0	<0.019	5.7	NT
	7/17/12	0.00	<5.0	<5.0	<5.0	<5.0	88	<5.0	<0.020	2.8J	<10
	11/13/13	0.00	1.2J	<5.0	<5.0	<5.0	9.5	<5.0	<0.021	0.68J	55
06588-MW30D	7/19/11	0.00	2.1	<1.0	<1.0	<1.0	45	<1.0	<0.020	3.3	NT
	7/18/12	0.00	2.1J	<5.0	<5.0	<5.0	15	<5.0	<0.020	<5.0	6.2J
	11/13/13	0.00	0.29J	<5.0	<5.0	<5.0	6.3	<5.0	<0.020	<5.0	4.8J
06588-MW31	11/3/10	0.00	<1.0	<1.0	<1.0	<1.0	12	<1.0	<0.020	<1.0	<10
	7/21/11	0.00	0.13J	<1.0	<1.0	<1.0	3.7	<1.0	<0.019	<1.0	NT
	7/17/12	0.00	<5.0	<5.0	<5.0	<5.0	100	<5.0	<0.020	0.89J	8.4J
	11/12/13	Well destroyed									
06588-MW32	11/3/10	0.00	<1.0	<1.0	<1.0	<1.0	15	<1.0	<0.020	<1.0	1,800
	7/21/11	0.00	<1.0	<1.0	<1.0	<1.0	85	<1.0	<0.019	<1.0	NT
	7/17/12	0.00	<5.0	<5.0	<5.0	<5.0	0.52J	<5.0	<0.019	<5.0	110
	11/13/13	0.00	1.1J	<5.0	<5.0	<5.0	120	<5.0	<0.021	<5.0	550
06588-MW33	11/4/10	0.00	<1.0	<1.0	<1.0	<1.0	43	<1.0	<0.020	<1.0	11
	7/21/11	0.00	0.14J	<1.0	<1.0	<1.0	23	<1.0	<0.020	<1.0	NT
	7/17/12	0.00	<5.0	<5.0	<5.0	<5.0	33	<5.0	<0.019	<5.0	30
	11/14/13	0.00	1.5J	<5.0	<5.0	5.0	7.1	<5.0	<0.020	<5.0	110
06588-MW33D	7/19/11	0.00	700	12	<1.0	28	3,100	3.3	<0.020	70	NT
	7/18/12	0.00	18J	<100	<100	<100	2,800	<100	<0.020	39J	7.8J
	11/13/13	0.00	16J	<50	<50	<50	2,600	<50	<0.020	30J	20
06588-MW34	11/4/10	0.00	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.019	<1.0	<10
	7/21/11	0.00	0.38J	<1.0	<1.0	<1.0	<1.0	<1.0	<0.019	<1.0	NT
	7/17/12	0.00	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<0.020	<5.0	27
	11/12/13	0.00	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<0.020	<5.0	78
06588-MW35	11/4/10	0.00	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.020	<1.0	<10
	7/21/11	0.00	<1.0	1,100	<1.0	<1.0	<1.0	0.90J	<0.019	<1.0	NT
	7/17/12	0.00	<5.0	270	<5.0	<5.0	<5.0	<5.0	<0.019	<5.0	3.2J
	11/12/13	Well could not be accesed									
06588-MW36	11/4/10	0.00	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.020	<1.0	310
	7/21/11	0.00	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.021	<1.0	NT
	7/18/12	0.00	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<0.020	<5.0	<10
	11/12/13	0.00	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<0.019	<5.0	26
06588-MW37	11/4/10	0.00	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.020	<1.0	10
	7/21/11	0.00	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.019	<1.0	NT
	7/18/12	0.00	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<0.020	<5.0	6.1J
	11/13/13	0.00	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<0.020	<5.0	13
06588-MW38	11/4/10	0.00	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.020	<1.0	35
	7/21/11	0.00	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.019	<1.0	NT
	7/18/12	0.00	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<0.020	<5.0	9.3J
	11/13/13	0.00	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<0.020	<5.0	12
06588-MW39	11/12/10	0.00	<1.0	<1.0	<1.0	1.2	<1.0	<1.0	<0.019	<1.0	150
	7/21/11	0.00	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.019	<1.0	NT
	7/18/12	0.00	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<0.019	<5.0	3.9J
	11/13/13	0.00	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<0.020	<5.0	55
06588-MW40	7/21/11	0.00	2,700	150	86	1,300	160.0	240	0.65	55	NT
	7/17/12	0.00	830	30	48	310	150.0	96	0.15	<25	<10
	11/14/13	0.00	2,800	170	490	990	320.0	280	0.069	<100	66
06588-MW40 (DUP)	11/14/13	0.00	2,900	170	510	1,000	340.0	300	0.069	<100	150
06588-MW41D	7/19/11	0.00	8,000	52	230	170	2,600	<50	<0.020	320	NT
	7/18/12	0.00	3,600	<100	140	<100	1,800	<100	<0.020	190	3.3J
	11/14/13	0.00	4,500	<250	270	<250	2,300	100J	<0.020	<250	5.4J
06588-MW42	7/18/2012	0.00	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<0.020	<5.0	4.8J
	11/12/13	0.00	0.21J	<5.0	<5.0	2.2J	<5.0	<5.0	<0.020	<5.0	110
06588-MW42D	7/18/2012	0.00	1.4J	<5.0	<5.0	<5.0	<5.0	<5.0	<0.019	<5.0	17
	11/12/13	0.00	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<0.019	<5.0	11
06588-MW43D	7/18/2012	0.00	<5.0	<5.0	<5.0	<5.0	9.0	<5.0	<0.020	<5.0	11
	7/13/13	0.00	<5.0	<5.0	<5.0	<5.0	5.3	<5.0	<0.020	<5.0	16
SW-1	11/12/10	0.00	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.019	<1.0	NT
	7/22/11	0.00	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.020	<1.0	NT
	7/18/12	0.00	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<0.019	<5.0	NT
	7/14/13	0.00	0.72J	<5.0	<5.0	<5.0	<5.0	<5.0	<0.019	<5.0	12
DW-1	11/5/10	0.00	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.020	<1.0	NT
	7/22/11	0.00	<1.0	<1.0	0.81J	27	0.58J	18	<0.019	<1.0	NT
	7/18/12	0.00	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<0.019	<5.0	NT
	11/14/13	0.00	4.2J	<5.0	<5.0	<5.0	<5.0	<5.0	<0.020	<5.0	240
DW-2	11/5/10	0.00	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.019	<1.0	NT
	7/22/11	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	7/18/12	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	11/14/13	0.00	1.2J	<5.0	<5.0	<5.0	<5.0	<5.0	<0.019	<5.0	10

Prepared By: IAI
Checked By:PJVH

TABLE 2

Historical Laboratory Analytical Results
Spinx 258/Former Enmark 380
Newberry, Newberry County, South Carolina
SCDHEC UST Permit #06588; Cost Agreement #46531 & #46532
BLE Project Number J13-6859-05

Well	Date Sampled	Free-Product Thickness (ft)	Benzene (µg/l)	Toluene (µg/l)	Ethylbenzene (µg/l)	Xylenes (µg/l)	MTBE (µg/l)	Naphthalene (µg/l)	EDB (µg/l)	1,2-Dichloroethane (µg/l)	Lead (µg/l)
SCDHEC RBSL		None	5	1,000	700	10,000	40	25	0.05	5	15
DW-3	11/5/10	0.00	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.020	<1.0	NT
	7/22/11	0.00	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.019	<1.0	NT
	7/18/12	0.00	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<0.020	<5.0	NT
	11/14/13	0.00	**1.3J**	<5.0	<5.0	<5.0	<5.0	<5.0	<0.019	<5.0	**2.8J**
DW-4	11/5/10	0.00	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.020	<1.0	NT
	7/22/11	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	7/18/12	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	11/14/13	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
DW-5	11/5/10	0.00	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.020	<1.0	NT
	7/22/11	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	7/18/12	0.00	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<0.020	<5.0	NT
	11/14/13	0.00	**6.5**	**2.6J**	**1.8J**	**12**	<5.0	**1.8J**	<0.019	<5.0	**5.4J**
DW-6	11/5/10	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	7/22/11	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	7/18/12	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	11/14/13	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
DW-7	11/5/10	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	7/22/11	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	7/18/12	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	11/14/13	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
DW-8	11/5/10	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	7/22/11	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	7/18/12	0.00	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<0.019	<5.0	NT
	11/14/13	0.00	**8.4**	<5.0	<5.0	**5.0**	<5.0	<5.0	<0.020	<5.0	**16**
DW-9	11/5/10	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	7/22/11	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	7/18/12	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	11/14/13	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
DW-10	11/5/10	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	7/22/11	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	7/23/11	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	11/14/13	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Field Blank-1	11/12/13	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<0.020	<5.0	NT
Field Blank-2	11/13/12	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<0.020	<5.0	NT
Field Blank-3	11/14/13	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<0.019	<5.0	NT
Trip Blank-1	11/14/13	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	NT	<5.0	NT
Trip Blank-2	11/14/13	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	NT	<5.0	NT

Notes:
µg/liter = micrograms/liter = approximate Parts Per Billion (ppb)
Bold and shaded cells indicate concentrations above RBSLs
NA = Not Available
NS = Not Sampled
ND = Not Detected at the Method Detection Limit
J = estimated value between practical quantitative limit and method detection limit.
NE = RBSL has not been established
RBSL = Risk Based Screening Level

Prepared By: IAI
Checked By:PJVH

TABLE 3

Laboratory Analytical Results
8-Oxygenates
Spinx 258/Former Enmark 380
Newberry, Newberry County, South Carolina
SCDHEC UST Permit #06588; Cost Agreement #46531 & #46532
BLE Project Number J13-6859-05

Well	Date Sampled	Ethyl-Tert-ButylEther (ETBE) (µg/L)	Ethyl-Tert-Butyl Alcohol (ETBA) (µg/L)	Tert-Amyl methyl Ether (TAME) (µg/L)	Diisopropyl Ether (IPE) (µg/L)	Ethanol (µg/L)	Tert-Amyl Alcohol (TAA) (µg/L)	Tert-Butyl Formate (TBF) (µg/L)	Tert-Butyl Alcohol (TBA) (µg/L)
SC DHEC RBSL		47	NA	128	150	10,000	240	NA	1,400
06588-MW01	2/24/92	NT	NT	NT	NT	NT	NT	NT	NT
	6/11/97	NT	NT	NT	NT	NT	NT	NT	NT
	6/26/98	NT	NT	NT	NT	NT	NT	NT	NT
	11/2/10	<20	<400	<200	<100	<2,000	<100	<400	<400
	7/20/11	<50	<1,000	<500	**57J**	<5,000	<250	<1,000	**3,700**
	7/17/12	<50	<1,000	<500	<250	<5,000	<250	<1,000	**2,900**
	11/14/13	<50	<1,000	<500	**40J**	<5,000	**2,500**	<250	**670J**
06588-MW01 (DUP)	11/14/13	<50	<1,000	<500	**38J**	<5,000	**2,400**	<250	**660J**
06588-MW02	6/11/97	NT	NT	NT	NT	NT	NT	NT	NT
	6/26/98	NT	NT	NT	NT	NT	NT	NT	NT
	11/2/10	<1.0	<20	<10	<5.0	<100	<5.0	**59**	<20
	7/20/11	<2.0	<40	<20	<10	<200	<10	**25J**	**15J**
	7/17/12	<1.0	<20	<10	<5.0	<100	<5.0	**110**	**87**
	11/14/13	<1.0	<20	<10	<5.0	<100	**110**	<5.0	**280**
06588-MW03	6/11/97	NT	NT	NT	NT	NT	NT	NT	NT
	6/26/98	NT	NT	Dry	NT	NT	NT	NT	NT
	11/15/22010	<1.0	<20	<10	<5.0	<100	<5.0	**58**	**100**
	7/22/11	<1.0	<20	<10	<5.0	<100	<5.0	<20	**200**
	7/17/12	<1.0	<20	<10	<5.0	<100	<5.0	**120**	**110**
	11/14/13	<1.0	<20	<10	<5.0	<100	**140**	<5.0	**330**
06588-MW04	6/11/97	NS	NS	NS	NS	NS	NS	NS	NS
	6/26/98	NT	NT	NT	NT	NT	NT	NT	NT
	11/2/10	Well damaged							
06588-MW04R	11/14/13	<200	<4,000	<2,000	<1,000	<20,000	**4,800**	<1,000	**2,500J**
06588-MW05	6/26/98	NT	NT	NT	NT	NT	NT	NT	NT
	11/2/10	NS	NS	NS	NS	NS	NS	NS	NS
	7/22/11	NS	NS	NS	NS	NS	NS	NS	NS
	7/16/12	NS	NS	NS	NS	NS	NS	NS	NS
	11/12/13	NS	NS	NS	NS	NS	NS	NS	NS
06588-MW06	6/26/98	NT	NT	NT	NT	NT	NT	NT	NT
	11/15/10	NS	NS	NS	NS	NS	NS	NS	NS
	7/22/11	NS	NS	NS	NS	NS	NS	NS	NS
	7/16/12	NS	NS	NS	NS	NS	NS	NS	NS
	11/12/13	NS	NS	NS	NS	NS	NS	NS	NS
06588-MW07	6/26/98	NT	NT	NT	NT	NT	NT	NT	NT
	11/15/10	NS	NS	NS	NS	NS	NS	NS	NS
	7/22/11	NS	NS	NS	NS	NS	NS	NS	NS
	7/16/12	NS	NS	NS	NS	NS	NS	NS	NS
	11/12/13	NS	NS	NS	NS	NS	NS	NS	NS
06588-MW07D	11/4/10	<1.0	<20	<10	<5.0	<100	<5.0	<20	<20
	7/19/11	<1.0	<20	<10	<5.0	<100	<5.0	**33**	**51**
	7/17/12	<1.0	<20	<10	<5.0	<100	<5.0	<20	<20
	11/14/13	<1.0	<20	<10	<5.0	<100	<20	<5.0	<20
06588-MW08D	6/26/98	NT	NT	NT	NT	NT	NT	NT	NT
	11/4/10	<1.0	<20	<10	<5.0	**1,700**	<5.0	<20	**37**
	7/19/11	<1.0	<20	**8.5J**	**0.44J**	<100	<5.0	<20	**400**
	7/17/12	<1.0	<20	**2.4J**	<5.0	<100	<5.0	<20	**150**
	11/14/13	<1.0	<20	**1.6J**	<5.0	<100	**110**	<5.0	**19J**
06588-MW09	11/2/10	<1.0	<20	<10	<5.0	330	<5.0	<20	<20
	7/20/11	<1.0	<20	<10	<5.0	<100	<5.0	<20	71
	7/16/12	<1.0	<20	<10	<5.0	<100	<5.0	<20	<20
	11/13/13	<1.0	<20	<10	<5.0	<100	<20	<5.0	<20
06588-MW10	11/2/10	<1.0	<20	<10	<5.0	<100	<5.0	<20	<20
	7/20/11	<1.0	<20	<10	<5.0	<100	<5.0	<20	<20
	7/16/12	<1.0	<20	<10	<5.0	<100	<5.0	<20	<20
	7/13/13	<1.0	<20	<10	<5.0	<100	<20	<5.0	<20
06588-MW11	11/2/10	<1.0	<20	<10	<5.0	<100	<5.0	<20	<20
	7/20/11	<1.0	<20	<10	<5.0	<100	<5.0	<20	<20
	7/16/12	<1.0	<20	<10	<5.0	<100	<5.0	<20	<20
	11/13/13	<1.0	<20	<10	<5.0	<100	<20	<5.0	<20
06588-MW12	11/2/10	<1.0	<20	<10	<5.0	<100	<5.0	<20	<20
	7/20/11	<1.0	<20	<10	<5.0	<100	<5.0	<20	<20
	7/20/11	<1.0	<20	<10	<5.0	<100	<5.0	<20	<20
	11/13/13	<1.0	<20	<10	<5.0	<100	<20	<5.0	<20
06588-MW13	11/2/10	<1.0	<20	<10	<5.0	<100	<5.0	<20	<20
	7/20/11	<1.0	<20	<10	<5.0	<100	<5.0	<20	<20
	7/17/12	<1.0	<20	<10	<5.0	<100	<5.0	<20	<20
	11/13/13	<1.0	<20	<10	<5.0	<100	<20	<5.0	<20
06588-MW14	11/3/10	<1.0	<20	<10	<5.0	<100	<5.0	<20	<20
	7/20/11	<1.0	<20	<10	<5.0	<100	<5.0	<20	<20
	7/16/12	<1.0	<20	<10	<5.0	<100	<5.0	<20	<20
	11/13/13	<1.0	<20	<10	<5.0	<100	<20	<5.0	<20
06588-MW15	11/3/10	<1.0	<20	<10	<5.0	<100	<5.0	<20	<20
	7/20/11	<1.0	<20	<10	<5.0	<100	<5.0	<20	<20
	7/16/12	<1.0	<20	<10	<5.0	<100	<5.0	<20	<20
	11/13/13	<1.0	<20	<10	<5.0	<100	<20	<5.0	<20
06588-MW16	11/2/10	<1.0	<20	<10	<5.0	**220**	<5.0	<20	<20
	7/20/11	<1.0	<20	<10	<5.0	<100	<5.0	<20	<20
	7/17/12	<1.0	<20	<10	<5.0	<100	<5.0	<20	<20
	11/14/13	<1.0	<20	<10	<5.0	<100	<20	<5.0	<20
06588-MW17	11/2/10	<1.0	<20	<10	<5.0	**260**	<5.0	<20	<20
	7/20/11	<1.0	<20	<10	<5.0	<100	<5.0	<20	<20
	7/17/12	<1.0	<20	<10	<5.0	<100	<5.0	<20	<20
	11/14/13	<1.0	<20	<10	<5.0	<100	<20	<5.0	<20
06588-MW18	11/2/10	<20	<400	<200	<100	<2,000	<100	<400	<400
	7/20/11	<50	<1,000	<500	<250	<5,000	<250	<1,000	<1,000
	7/17/12	<10	<200	<100	<50	<1,000	<50	<200	<200
	11/14/13	<10	<200	<100	<50	<1,000	**200**	<50	**150J**
06588-MW18 (DUP)	11/14/13	<5.0	<100	**5.2J**	<25	<500	**110**	<25	**91J**
06588-MW19	11/2/10	<200	<4,000	<2,000	<1,000	<20,000	<1,000	<4,000	<4,000
	7/20/11	<200	<4,000	<2,000	<1,000	<20,000	<1,000	<4,000	**2,600J**
	7/16/12	NS	NS	NS	NS	NS	NS	NS	NS
	11/12/13	NS	NS	NS	NS	NS	NS	NS	NS

Prepared By: IAI
Checked By:PJVH

TABLE 3

Laboratory Analytical Results
8-Oxygenates
Spinx 258/Former Enmark 380
Newberry, Newberry County, South Carolina
SCDHEC UST Permit #06588; Cost Agreement #46531 & #46532
BLE Project Number J13-6859-05

Well	Date Sampled	Ethyl-Tert-ButylEther (ETBE) (µg/L)	Ethyl-Tert-Butyl Alcohol (ETBA) (µg/L)	Tert-Amyl methyl Ether (TAME) (µg/L)	Diisopropyl Ether (IPE) (µg/L)	Ethanol (µg/L)	Tert-Amyl Alcohol (TAA) (µg/L)	Tert-Butyl Formate (TBF) (µg/L)	Tert-Butyl Alcohol (TBA) (µg/L)
SC DHEC RBSL		47	NA	128	150	10,000	240	NA	1,400
06588-MW20	11/4/10	<1.0	<20	<10	<5.0	<100	<5.0	<20	<20
	7/21/11	<1.0	<20	<10	<5.0	<100	<5.0	<20	<20
	7/17/12	<1.0	<20	<10	<5.0	<100	<5.0	<20	<20
	11/12/13	<1.0	<20	<10	<5.0	<100	<20	<5.0	<20
06588-MW21	11/4/10	<1.0	<20	<10	<5.0	<100	<5.0	<20	<20
	7/21/11	<1.0	<20	<10	<5.0	<100	<5.0	<20	<20
	7/17/12	<1.0	<20	<10	<5.0	<100	<5.0	<20	<20
	11/12/13	<1.0	<20	<10	<5.0	<100	<20	<5.0	<20
06588-MW21D	11/4/10	<1.0	<20	<10	<5.0	<100	<5.0	<20	<20
	7/21/11	<1.0	<20	<10	<5.0	<100	<5.0	<20	<20
	7/17/12	<1.0	<20	<10	<5.0	<100	<5.0	<20	<20
	11/12/13	<1.0	<20	<10	<5.0	<100	<20	<5.0	<20
06588-MW22	11/2/10	<20	<400	**360**	<100	<2,000	<100	<400	<400
	7/20/11	<20	<400	**420**	**29J**	<2,000	<100	**250J**	**5,000**
	7/17/12	<5.0	<100	**36J**	**4.7J**	<500	<25	<100	**270**
	11/12/13	NS	NS	NS	NS	NS	NS	NS	NS
06588-MW22D	11/4/10	<1.0	<20	<10	<5.0	<100	<5.0	**24**	<20
	7/19/11	<1.0	<20	**14**	**0.89J**	<100	<5.0	<20	**160**
	7/17/12	<1.0	<20	**7.2J**	<5.0	<100	<5.0	<20	<20
	11/14/13	<1.0	<20	**4.7J**	<5.0	<100	**81**	<5.0	**14J**
06588-MW23	11/3/10	<200	<4,000	<2,000	<1,000	<20,000	<1,000	**14,000**	<4,000
	7/20/11	<400	<8,000	<4,000	**260J**	<40,000	<2,000	<8,000	**18,000**
	7/16/12	NS	NS	NS	NS	NS	NS	NS	NS
	11/12//13	NS	NS	NS	NS	NS	NS	NS	NS
06588-MW24	11/3/10	<100	<2,000	<1,000	<500	<10,000	<500	<2,000	<2,000
	7/20/11	<100	<2,000	**330J**	**230J**	<10,000	<500	**1,300J**	**13,000**
	7/16/12	NS	NS	NS	NS	NS	NS	NS	NS
	11/12/13	NS	NS	NS	NS	NS	NS	NS	NS
06588-MW24D	11/4/10	<1.0	<20	<10	<5.0	<100	<5.0	<20	**55**
	7/19/11	<1.0	<20	**2.1J**	**4.9J**	<100	<5.0	<20	**170**
	7/17/12	<1.0	<20	**0.86J**	**3.7J**	<100	<5.0	**41**	**120**
	11/14/13	<1.0	<20	<10	**2.5J**	<100	**65**	<5.0	**42**
06588-MW25	11/3/10	<20	<400	<200	<100	<2,000	<100	<400	**2,800**
	7/20/11	<100	<2,000	**220J**	**54J**	<10,000	<500	<2,000	**3,900**
	7/16/12	NS	NS	NS	NS	NS	NS	NS	NS
	7/16/12	NS	NS	NS	NS	NS	NS	NS	NS
06588-MW26	11/3/10	<1.0	<20	<10	<5.0	<100	<5.0	<20	**64**
	7/21/11	<1.0	<20	<10	<5.0	<100	<5.0	<20	**75**
	7/16/12	<1.0	<20	<10	<5.0	<100	<5.0	<20	**11J**
	11/12/13	<5.0	<100	<50	<25	<500	**280**	<25	**71J**
06588-MW27	11/3/10	<1.0	<20	<10	<5.0	**1,200**	<5.0	<20	<20
	7/21/11	<1.0	<20	<10	<5.0	<100	<5.0	<20	<20
	7/16/12	<1.0	<20	<10	<5.0	<100	<5.0	<20	<20
	11/12/13	<1.0	<20	<10	<5.0	<100	<20	<5.0	**12J**
06588-MW28	11/4/10	<1.0	<20	<10	<5.0	<100	<5.0	<20	<20
	7/21/11	<1.0	<20	<10	<5.0	<100	<5.0	<20	<20
	7/16/12	<1.0	<20	<10	<5.0	<100	<5.0	<20	<20
	11/13/13	<1.0	<20	<10	<5.0	<100	<20	<5.0	<20
06588-MW29	11/3/10	<1.0	<20	<10	<5.0	<100	<5.0	<20	<20
	7/21/11	<1.0	<20	<10	<5.0	<100	<5.0	<20	**120**
	7/17/12	<1.0	<20	<10	<5.0	<100	<5.0	<20	<20
	11/13/13	<1.0	<20	<10	<5.0	<100	<20	<5.0	<20
06588-MW30	11/3/10	<1.0	<20	**13**	**47.0**	<100	<5.0	**680**	**1,000**
	7/21/11	<1.0	<20	**10**	**35**	<100	<5.0	250	**360**
	7/17/12	<1.0	<20	**2.7J**	**13**	<100	<5.0	79	**66**
	11/13/13	<1.0	<20	<10	**1.6J**	<100	<20	<5.0	**12J**
06588-MW30D	7/19/11	<1.0	<20	**0.98J**	**8.1**	<100	<5.0	**64**	**150**
	7/18/12	<1.0	<20	<10	**2.3J**	<100	<5.0	**17J**	**41**
	11/13/13	<1.0	<20	<10	**0.97J**	<100	**28**	<20	**18J**
06588-MW31	11/3/10	<1.0	<20	<10	<5.0	<100	<5.0	<20	**30**
	7/21/11	<1.0	<20	**0.24J**	**0.42J**	<100	<5.0	<20	<20
	7/17/12	<1.0	<20	**6.4J**	**9**	<100	<5.0	**130**	**240**
	11/12/13	NS	NS	NS	NS	NS	NS	NS	NS
06588-MW32	11/3/10	<1.0	<20	<10	<5.0	<100	<5.0	<20	<20
	7/21/11	<1.0	<20	**6.0J**	**4.1J**	<100	<5.0	<20	<20
	7/17/12	<1.0	<20	<10	<5.0	<100	<5.0	<20	<20
	11/13/13	<1.0	<20	**7.8J**	**5.1**	<100	**87**	<5.0	**49**
06588-MW33	11/4/10	<1.0	<20	<10	<5.0	<100	<5.0	**23**	**62**
	7/21/11	<1.0	<20	**2.6J**	**2.2J**	<100	<5.0	<20	**12J**
	7/17/12	<1.0	<20	<10	**1.8J**	<100	<5.0	<20	<20
	11/14/13	<1.0	<20	<10	<5.0	**35J**	<20	<5.0	**12J**
06588-MW33D	7/19/11	**0.26J**	**78**	**250**	**170**	**270**	<5.0	<20	**6,500**
	7/18/12	<20	<400	**270**	**110**	<2,000	<100	**1,700**	**5,200**
	11/13/13	<10	<200	**200**	**89**	<1,000	**3,100**	<50	**1,200**
06588-MW34	11/4/10	<1.0	<20	<10	<5.0	<100	<5.0	<20	<20
	7/21/11	<1.0	<20	<10	<5.0	**130**	<5.0	**200**	**500**
	7/17/12	<1.0	<20	<10	<5.0	<100	<5.0	<20	<20
	11/12/13	<1.0	<20	<10	<5.0	<100	<20	<5.0	**12J**
06588-MW35	11/4/10	<1.0	<20	<10	<5.0	<100	<5.0	<20	**<20**
	7/21/11	<1.0	<20	<10	<5.0	**110**	<5.0	<20	<20
	7/17/12	<1.0	<20	<10	<5.0	<100	<5.0	<20	<20
	11/12/13	Well was not accesible							
06588-MW36	11/4/10	<1.0	<20	<10	<5.0	<100	<5.0	<20	<20
	7/21/11	<1.0	<20	<10	<5.0	<100	<5.0	<20	**57**
	7/18/12	<1.0	<20	<10	<5.0	<100	<5.0	<20	<20
	11/12/13	<1.0	<20	<10	<5.0	<100	<20	<5.0	<20
06588-MW37	11/4/10	<1.0	<20	<10	<5.0	<100	<5.0	<20	<20
	7/21/11	<1.0	<20	<10	<5.0	<100	<5.0	<20	<20
	7/18/12	<1.0	<20	<10	<5.0	<100	<5.0	<20	<20
	11/13/13	<1.0	<20	<10	<5.0	<100	<20	<5.0	<20
06588-MW38	11/4/10	<1.0	<20	<10	<5.0	<100	<5.0	<20	<20
	7/21/11	<1.0	<20	<10	<5.0	<100	<5.0	<20	<20
	7/18/12	<1.0	<20	<10	<5.0	<100	<5.0	<20	<20
	11/13/13	<1.0	<20	<10	<5.0	<100	<20	<5.0	<20
06588-MW39	11/12/10	<1.0	<20	<10	<5.0	<100	<5.0	<20	<20
	7/21/11	<1.0	<20	<10	<5.0	<100	<5.0	<20	<20
	7/18/12	<1.0	<20	<10	<5.0	<100	<5.0	<20	<20
	11/13/13	<1.0	<20	<10	<5.0	<100	<20	<5.0	<20
06588-MW40	7/21/11	<1.0	<20	**82**	**11**	<100	<5.0	<20	**3,500**
	7/17/12	<5.0	<100	**50**	**5.9J**	<500	<25	<100	**740**
	11/14/13	<20	<400	**110J**	**19J**	<2,000	**3,600**	<100	**350J**
06588-MW40 (DUP)	11/14/13	<20	<400	**120J**	**19J**	<2,000	**3,800**	<100	**350J**
06588-MW41D	7/19/11	<50	<1,000	**63J**	**340**	<5,000	<250	**6,200**	**12,000**
	7/18/12	<20	<400	**62J**	**230**	<2,000	<100	**3,600**	**7,400**
	11/14/13	<50	<1,000	**89J**	**290**	<5,000	**8,300**	<250	**4,500**
06588-MW42	7/18/2012	<1.0	<20	<10	<5.0	<100	<5.0	<20	<20
	11/12/13	<1.0	<20	<10	<5.0	<100	<20	<5.0	<20

Prepared By: IAI
Checked By:PJVH

TABLE 3

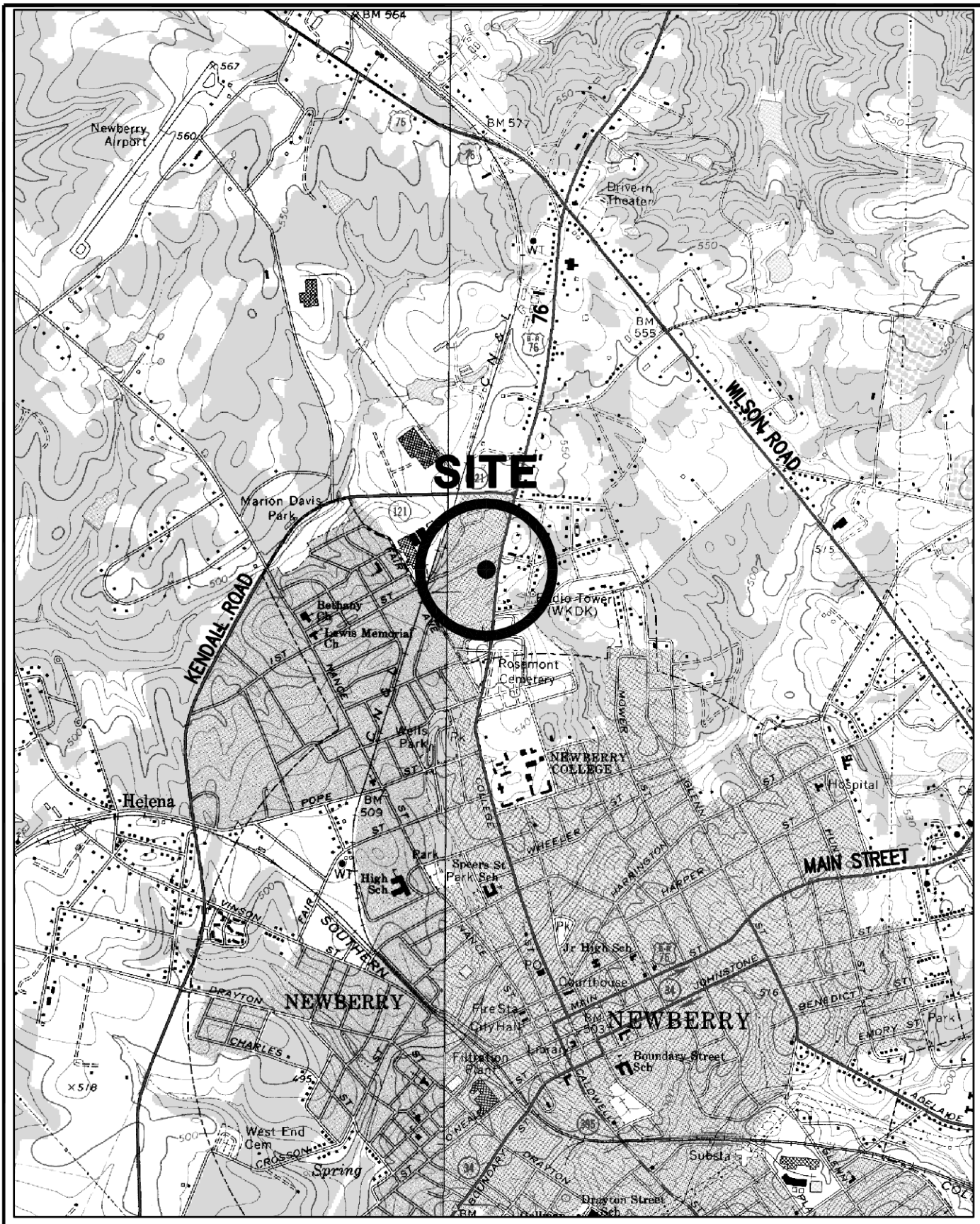
Laboratory Analytical Results
8-Oxygenates
Spinx 258/Former Enmark 380
Newberry, Newberry County, South Carolina
SCDHEC UST Permit #06588; Cost Agreement #46531 & #46532
BLE Project Number J13-6859-05

Well	Date Sampled	Ethyl-Tert-ButylEther (ETBE) (µg/L)	Ethyl-Tert-Butyl Alcohol (ETBA) (µg/L)	Tert-Amyl methyl Ether (TAME) (µg/L)	Diisopropyl Ether (IPE) (µg/L)	Ethanol (µg/L)	Tert-Amyl Alcohol (TAA) (µg/L)	Tert-Butyl Formate (TBF) (µg/L)	Tert-Butyl Alcohol (TBA) (µg/L)
SC DHEC RBSL		47	NA	128	150	10,000	240	NA	1,400
06588-MW42D	7/18/2012	<1.0	<20	<10	<5.0	<100	<5.0	<20	<20
	11/12/13	<1.0	<20	<10	<5.0	<100	<20	<5.0	<20
06588-MW43D	7/18/2012	<1.0	<20	<10	<5.0	<100	<5.0	<20	<20
	7/13/13	<1.0	<20	<10	<5.0	<100	<20	<5.0	<20
SW-1	11/12/10	<1.0	<20	<10	<5.0	<100	<5.0	<20	<20
	7/22/11	<1.0	<20	<10	<5.0	<100	<5.0	<20	<20
	7/18/12	<1.0	<20	<10	<5.0	<100	<5.0	<20	<20
	7/14/13	<1.0	<20	<10	<5.0	<100	<20	<5.0	<20
DW-1	11/5/10	<1.0	<20	<10	<5.0	<100	<5.0	<20	<20
	7/22/11	<1.0	<20	<10	<5.0	<100	<5.0	**32**	**230**
	7/18/12	<1.0	<20	<10	<5.0	<100	<5.0	<20	<20
	11/14/13	<1.0	<20	<10	<5.0	<100	<20	<5.0	<20
DW-2	11/5/10	<1.0	<20	<10	<5.0	<100	<5.0	<20	<20
	7/22/11	NS	NS	NS	NS	NS	NS	NS	NS
	7/18/12	NS	NS	NS	NS	NS	NS	NS	NS
	11/14/13	<1.0	<20	<10	<5.0	<100	<20	<5.0	<20
DW-3	11/5/10	<1.0	<20	<10	<5.0	<100	<5.0	<20	<20
	7/22/11	<1.0	<20	<10	<5.0	<100	<5.0	<20	<20
	7/18/12	<1.0	<20	<10	<5.0	<100	<5.0	<20	<20
	11/14/13	<1.0	<20	<10	<5.0	<100	<20	<5.0	<20
DW-4	11/5/10	<1.0	<20	<10	<5.0	<100	<5.0	<20	<20
	7/22/11	NS	NS	NS	NS	NS	NS	NS	NS
	7/18/12	NS	NS	NS	NS	NS	NS	NS	NS
	11/14/13	NS	NS	NS	NS	NS	NS	NS	NS
DW-5	11/5/10	<1.0	<20	<10	<5.0	<100	<5.0	<20	<20
	7/22/11	NS	NS	NS	NS	NS	NS	NS	NS
	7/18/12	<1.0	<20	<10	<5.0	<100	<5.0	<20	<20
	11/14/13	<1.0	<20	<10	<5.0	<100	<20	<5.0	<20
DW-6	11/5/10	NS	NS	NS	NS	NS	NS	NS	NS
	7/22/11	NS	NS	NS	NS	NS	NS	NS	NS
	7/18/12	NS	NS	NS	NS	NS	NS	NS	NS
	11/14/13	NS	NS	NS	NS	NS	NS	NS	NS
DW-7	11/5/10	NS	NS	NS	NS	NS	NS	NS	NS
	7/22/11	NS	NS	NS	NS	NS	NS	NS	NS
	7/18/12	NS	NS	NS	NS	NS	NS	NS	NS
	11/14/13	NS	NS	**NS**	NS	NS	NS	NS	NS
DW-8	11/5/10	NS	NS	NS	NS	NS	NS	NS	NS
	7/22/11	NS	NS	NS	NS	NS	NS	NS	NS
	7/18/12	<1.0	<20	<10	<5.0	<100	<5.0	<20	<20
	11/14/13	<1.0	**4.4J**	<10	<5.0	<100	<5.0	<20	<20
DW-9	11/5/10	NS	NS	NS	NS	NS	NS	NS	NS
	7/22/11	NS	NS	NS	NS	NS	NS	NS	NS
	7/18/12	NS	NS	NS	NS	NS	NS	NS	NS
	11/14/13	NS	NS	NS	NS	NS	NS	NS	NS
DW-10	11/5/10	NS	NS	NS	NS	NS	NS	NS	NS
	7/22/11	NS	NS	NS	NS	NS	NS	NS	NS
	7/23/11	NS	NS	NS	NS	NS	NS	NS	NS
	11/14/13	NS	NS	NS	NS	NS	NS	NS	NS
Field Blank-1	11/12/13	<1.0	<20	<10	<5.0	<100	<20	<5.0	<20
Field Blank-2	11/13/12	<1.0	<20	<10	<5.0	<100	<20	<5.0	<20
Field Blank-3	11/14/13	<1.0	<20	<10	<5.0	<100	<20	<5.0	<20
Trip Blank-1	11/14/13	<1.0	<20	<10	<5.0	<100	<20	<5.0	<20
Trip Blank-2	11/14/13	<1.0	<20	<10	<5.0	<100	<20	<5.0	<20

Notes:
Bold and shaded cells indicate concentrations above RBSLs
µg/liter = micrograms/liter = approximate Parts Per Billion (ppb)
RBSL = Risk Based Screening Level
NS = Not Sampled
NE = RBSL has not been established
J = estimated value between practical quantitative limit and method detection limit.

Prepared By: IAI
Checked By:PJVH

FIGURES



2000 1000 0 2000 4000

APPROXIMATE SCALE IN FEET

REFERENCE:
USGS TOPOGRAPHIC MAP, 7.5 MINUTE SERIES, NEWBERRY WEST AND NEWBERRY EAST, S.C. QUADRANGLES, 1969 AND 1968.

DRAWN: ACE	DATE: 09-03-13	BLE INC. BUNNELL-LAMMONS ENGINEERING, INC. 6004 PONDERS COURT GREENVILLE, SOUTH CAROLINA 29615 PHONE: (864)288-1265 FAX: (864)288-4430	SITE LOCATION MAP SPINX 258/FORMER ENMARK 380 UST PERMIT #06588 NEWBERRY, SOUTH CAROLINA	FIGURE
CHECKED: DPO	CAD: SPINX258-05SLM			1
APPROVED: TLL	JOB NO: J13-6859-05			

REFERENCE:
DRAWING TITLED "SITE SURVEY" BY SOUTHER LAND SURVEYING DATED JULY 12, 2012.

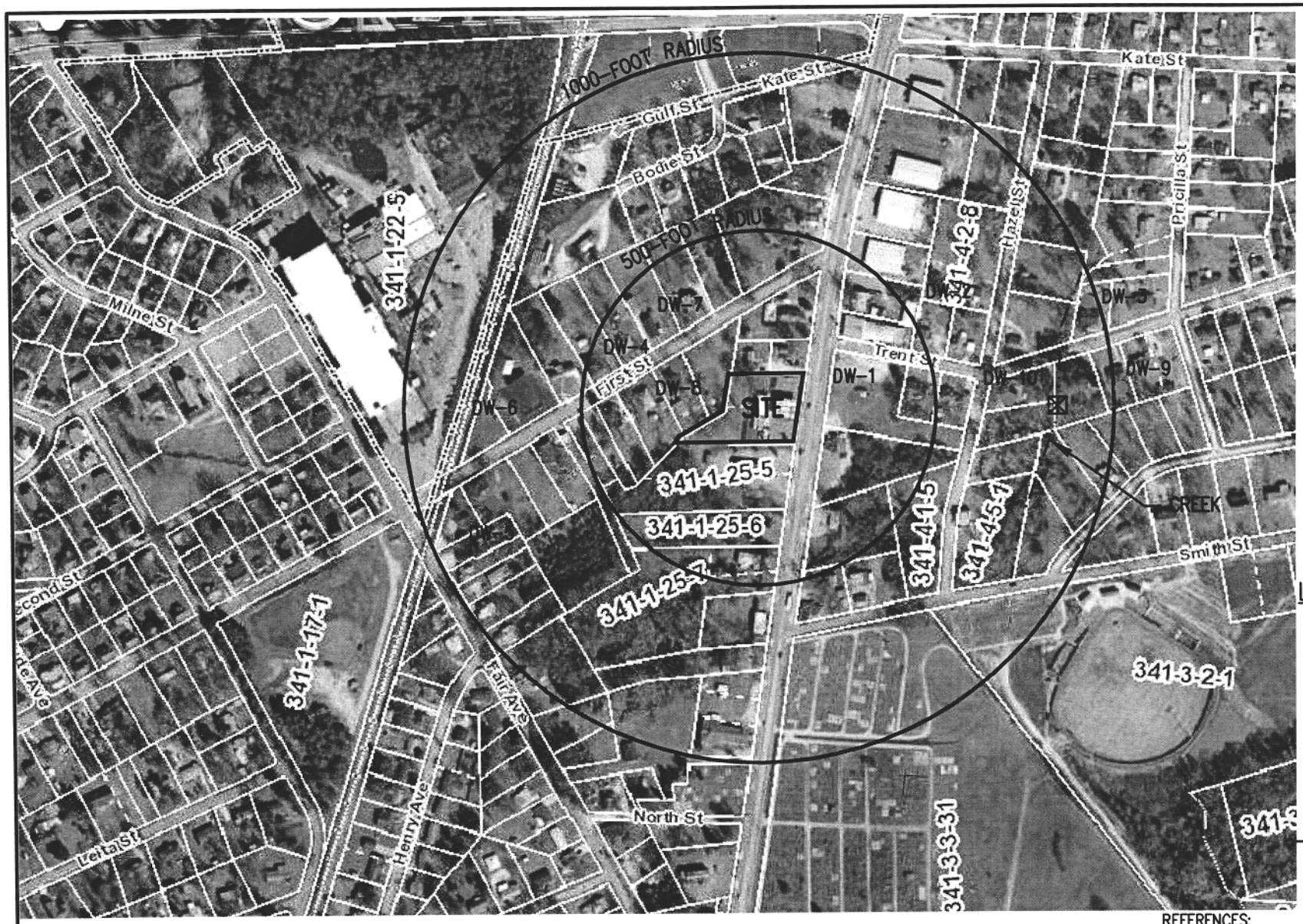
REVISIONS		
No.	DESCRIPTION	BY

DRAWN:	ACE	DATE:	01-13-14
CHECKED:	IAI	CAD FILE:	SPINX258-05SIPL
APPROVED:	TLL	JOB NO:	J13-6859-05

BLE INC.
BUNNELL-LAMMONS ENGINEERING, INC.
6004 PONDERS COURT
GREENVILLE, SOUTH CAROLINA 29615
PHONE: (864)288-1265 FAX: (864)288-4430

SITE PLAN
SPINX 258/FORMER ENMARK 380
UST PERMIT #06588
NEWBERRY, SOUTH CAROLINA

FIGURE NO.
2



LEGEND

- APPROXIMATE LOCATION OF PRIVATE WATER SUPPLY WELL
- ⊠ APPROXIMATE LOCATION OF SURFACE WATER SAMPLING POINT
- APPROXIMATE LOCATION OF CREEK

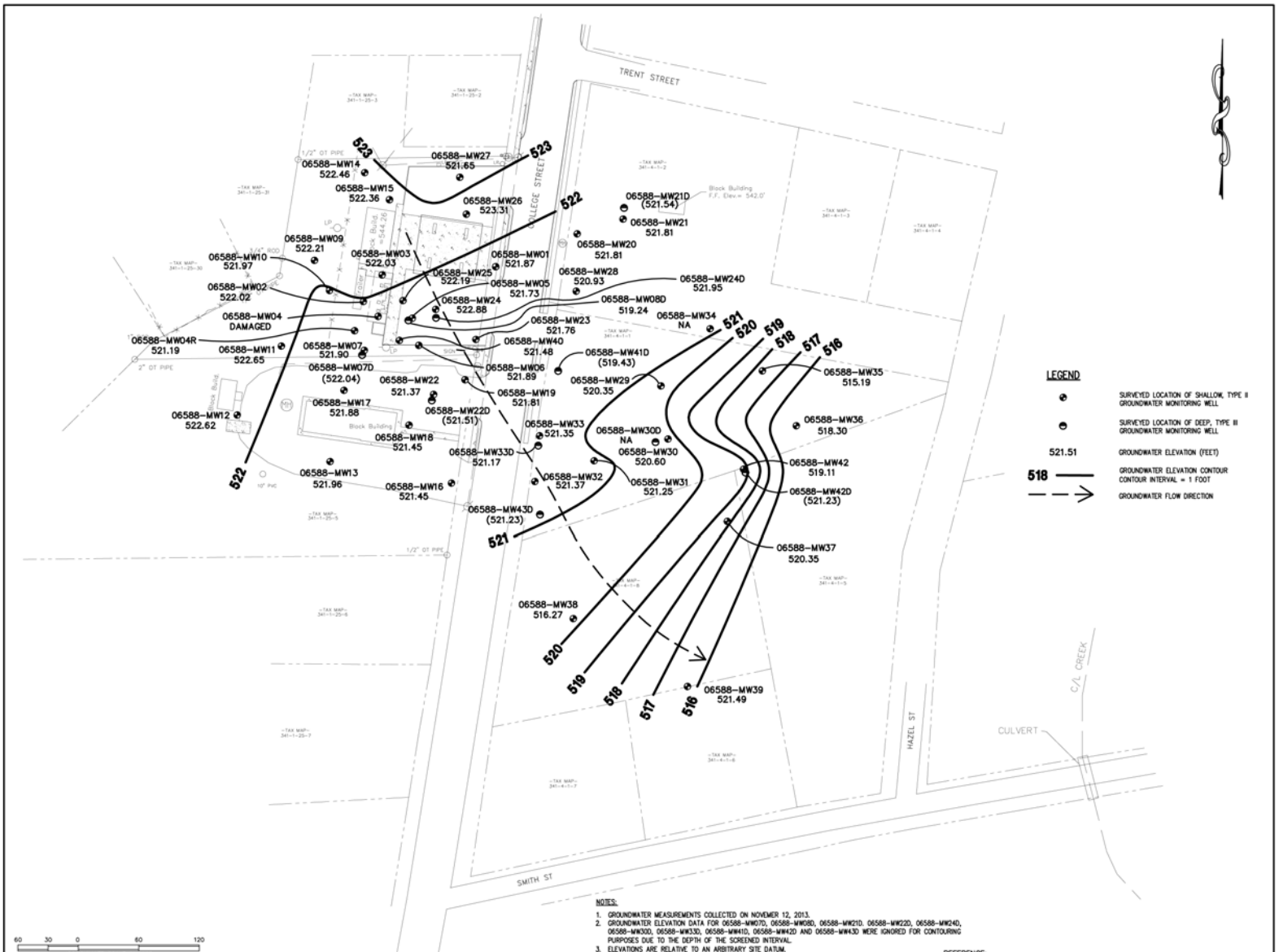
400 200 0 400 800

APPROXIMATE SCALE IN FEET

REFERENCES:
1. NEWBERRY COUNTY GIS IMAGE DATED 2008.
2. BLE FIELD NOTES.

DRAWN: ACE	DATE: 01-13-14	BLE INC. BUNNELL-LAMMONS ENGINEERING, INC. 6004 PONDERS COURT GREENVILLE, SOUTH CAROLINA 29615 PHONE: (864)288-1265 FAX: (864)288-4430	RECEPTOR SURVEY MAP SPINX 258/FORMER ENMARK 380 UST PERMIT #06588 NEWBERRY, SOUTH CAROLINA
CHECKED: DPO	CAD: SPINX258-04RSM		
APPROVED:	JOB NO: J12-6859-		

FIGURE 3



NOTES:

1. GROUNDWATER MEASUREMENTS COLLECTED ON NOVEMBER 12, 2013.
2. GROUNDWATER ELEVATION DATA FOR 06588-MW07D, 06588-MW08D, 06588-MW21D, 06588-MW22D, 06588-MW24D, 06588-MW30D, 06588-MW33D, 06588-MW41D, 06588-MW42D AND 06588-MW43D WERE IGNORED FOR CONTOURING PURPOSES DUE TO THE DEPTH OF THE SCREENED INTERVAL.
3. ELEVATIONS ARE RELATIVE TO AN ARBITRARY SITE DATUM.

REFERENCE:
DRAWING TITLED "SITE SURVEY" BY SOUTHER LAND SURVEYING DATED JULY 12, 2012.

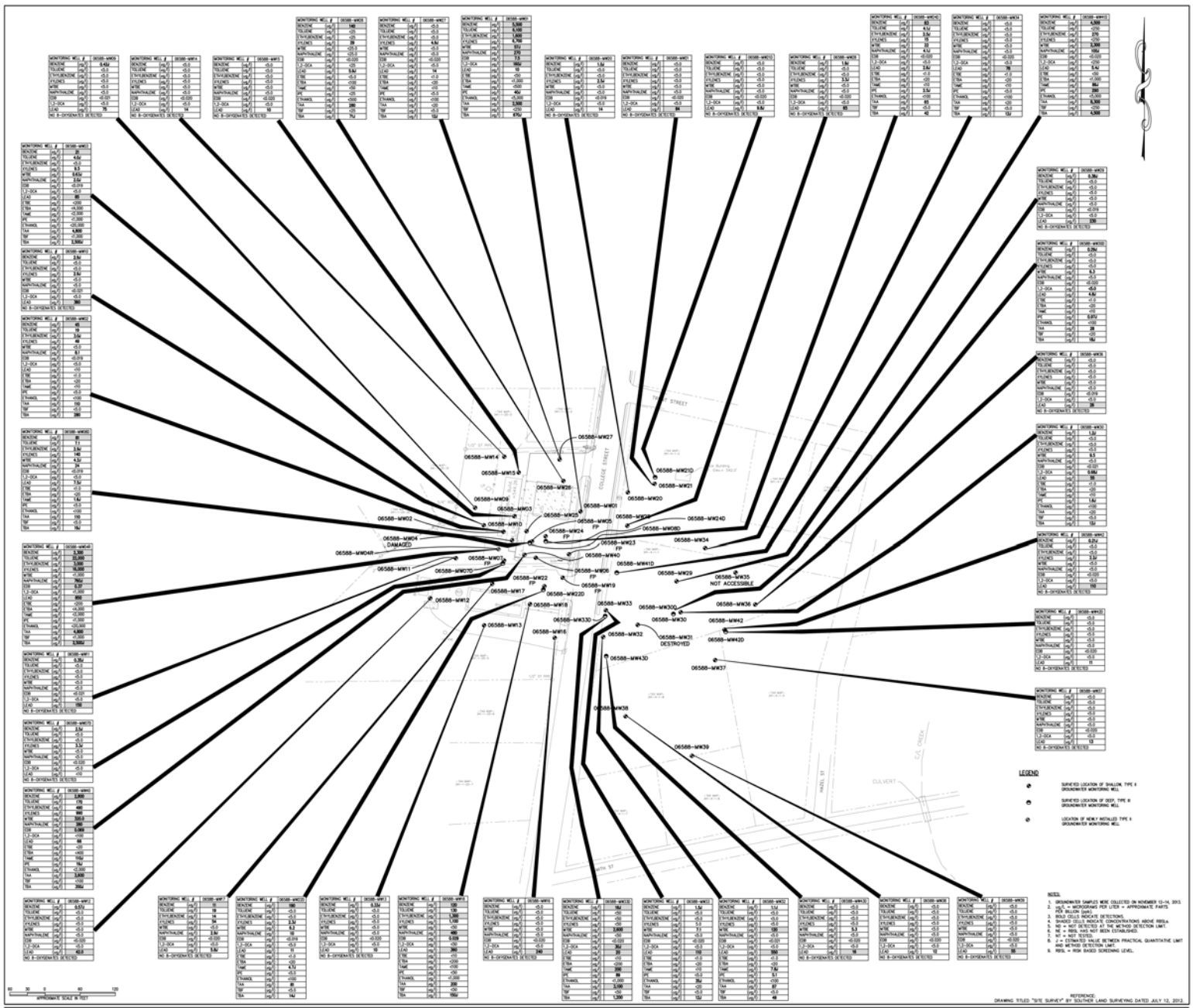
REVISIONS		
No.	DESCRIPTION	BY

DRAWN:	ACE	DATE:	12-27-13
CHECKED:	IAI	CAD FILE:	SPINX258-05WTM
APPROVED:	TLL	JOB NO:	J13-6859-05

BLE INC.
BUNNELL-LAMMONS ENGINEERING, INC.
6004 PONDERS COURT
GREENVILLE, SOUTH CAROLINA 29615
PHONE: (864)288-1265 FAX: (864)288-4430

GROUNDWATER ELEVATION CONTOUR MAP
SPINX 258/FORMER ENMARK 380
UST PERMIT #06588
NEWBERRY, SOUTH CAROLINA

FIGURE NO. **3**



REVISIONS		
No.	DESCRIPTION	BY

DRAWN: ACE
CHECKED: IAI
APPROVED: TLL

DATE: 01-13-14
CAD FILE: SPINX258-05GWCOC
JOB NO: J13-6859-05

BLE INC.

BUNNELL-LAMMONS ENGINEERING, INC.
1004 PINEWOOD STREET
GREENVILLE, SOUTH CAROLINA 29615
PHONE: 864-288-1265 FAX: 864-288-4430

GROUNDWATER COC MAP - NOVEMBER 2013
SPINX 258/FORMER EMMARK 260
UST PERMIT #06588
NEWBERRY, SOUTH CAROLINA

FIGURE NO.
4

APPENDICES

APPENDIX A

DRILLING PROCEDURES, MONITORING WELL CONSTRUCTION DIAGRAMS, 1903 WATER WELL RECORDS AND WELL DEVELOPMENT RECORDS

APPENDIX A

MONITORING WELL CONSTRUCTION PROCEDURES

Type II Well

Type II groundwater monitoring wells consist of 2-inch diameter Schedule 40 polyvinyl chloride (PVC) casing with flush-threaded joints. The bottom 10-foot section of each well is a manufactured well screen with 0.010-inch wide machined slots. The well screen was installed to the depth of the boring and bracketed the water table.

A. General

In the Type II and Type III wells, a washed sand filter pack was emplaced around the outside of the pipe from the bottom of the well casing to approximately two feet above the top of the well screen. The sand filter pack was used to stabilize the formation and to help yield a less turbid groundwater sample.

An approximate two-foot thick bentonite seal was installed on top of the sand filter pack to seal the monitoring well at the desired level. The well annulus was then grouted to the surface with a cement/bentonite grout mixture. A PVC cap and flush mount steel, bolted manhole cover or standup steel protective cover was secured over each wellhead.

BLE INC.

BUNNELL-LAMMONS ENGINEERING, INC.

GEOTECHNICAL AND ENVIRONMENTAL CONSULTANTS

GROUNDWATER MONITORING WELL NO. 06588-MW04R

PROJECT: Spinx 258/Former Enmark 380 | PROJECT NO.: J13-6859-05

CLIENT: Enmark Stations, Inc. | START: 10-7-13 END: 10-8-13

LOCATION: Newberry, South Carolina | ELEVATION: 542.34

DRILLER: Landprobe, M. King | LOGGED BY: S. Click

DRILLING METHOD: CME 75 Morooka; 4-1/4 inch hollow stem auger

DEPTH TO - WATER> INITIAL: 20.0 AFTER 24 HOURS: 19.90 CAVING>

ELEVATION/ DEPTH (FT)	DESCRIPTION	SOIL TYPE	MONITOR WELL INSTALLATION DETAILS
	TOPSOIL and ORGANICS		SURFACE COMPLETION
	Brown, dry, clayey, silty, medium to fine SAND		Flush-mount secured with an 8-inch diameter steel bolted manhole cover in a 2' x 2' concrete pad
540			Ground surface elev. = 542.34 feet
5	Orangish-brown, dry, clayey, silty, medium to fine SAND		
535			
10	Light orangish-brown, slightly moist, clayey, silty, medium to fine SAND		
530			Bentonite seal, 12.4 to 14.4 feet
15	Tannish-brown, moist, clayey, silty, medium to fine SAND (petroleum odor)		Filter pack, #2 sand 14.4 to 28.0 feet
525			
20			
520			2-inch diameter, 0.010-inch slotted Schedule 40 PVC well screen, 17.4 to 27.4 feet
25			
515			Pipe cap
	Boring terminated at 28.0 feet. Groundwater encountered at 20.0 feet attime of drilling and at 19.90 feet after 24 hours.		Total well depth, 27.60 feet
30			
510			
35			
505			

GEOT_WELLNB 6859-05.GPJ 1/13/14

DHEC
PROMOTE PROTECT PROSPER

Water Well Record
Bureau of Water
2600 Bull Street, Columbia, SC 29201-1708; (803) 898-4300

1. WELL OWNER INFORMATION:
Name: Interstate Station (last) (first)
Address: Po Box 728
City: Savannah State: Ga Zip:
Telephone: Work: Home:

2. LOCATION OF WELL: COUNTY:
Name: Spirx 258
Street Address: college st
City: Newberry Zip: S.C
Latitude: Longitude:

3. PUBLIC SYSTEM NAME: PUBLIC SYSTEM NUMBER:

4. ABANDONMENT: ☐ Yes ☑ No
Grouted Depth: from _____ ft. to _____ ft.

Formation Description	*Thickness of Stratum	Depth to Bottom of Stratum
*Indicate Water Bearing Zones (Use a 2nd sheet if needed)		

5. REMARKS:
Ralphy 14.4-12.4

6. TYPE: ☐ Mud Rotary ☐ Jetted ☑ Bored ☐ Dug ☐ Air Rotary ☐ Driven ☐ Cable tool ☐ Other

7. PERMIT NUMBER: 06588

8. USE: ☐ Residential ☐ Public Supply ☐ Process ☐ Irrigation ☐ Air Conditioning ☐ Emergency ☐ Test Well ☑ Monitor Well ☐ Replacement

9. WELL DEPTH (completed) Date Started: 10-
27.6 ft. MW4R Date Completed:

10. CASING: ☑ Threaded ☐ Welded
Diam.: 2
Type: ☑ PVC ☐ Galvanized ☐ Steel ☐ Other
2 in. to 12.6 ft. depth
_____ in. to _____ ft. depth
Height: Above /Below Surface _____ ft.
Weight _____ lb./ft.
Drive Shoe? ☐ Yes ☑ No

11. SCREEN:
Type: PVC Diam.: 2
Slot/Gauge: .010 Length: 10
Set Between: 12.6 ft. and 22.6 ft.
_____ ft. and _____ ft.
NOTE: MULTIPLE SCREENS USE SECOND SHEET
Sieve Analysis ☐ Yes (please enclose) ☑ No

12. STATIC WATER LEVEL NA ft. below land surface after 24 hours

13. PUMPING LEVEL Below Land Surface.
_____ ft. after _____ hrs. Pumping _____ G.P.M.
Pumping Test: ☐ Yes (please enclose) ☑ No
Yield: _____

14. WATER QUALITY
Chemical Analysis ☐ Yes ☑ No Bacterial Analysis ☐ Yes ☑ No
Please enclose lab results.

15. ARTIFICIAL FILTER (filter pack) ☑ Yes ☐ No
Installed from 27.6 ft. to 14.4 ft.
Effective size #2 Uniformity Coefficient Sand

16. WELL GROUTED? ☑ Yes ☐ No
☐ Neat Cement ☐ Bentonite ☑ Bentonite/Cement ☐ Other _____
Depth: From 12.4 ft. to 0 ft.

17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: NA ft. _____ direction
Type _____
Well Disinfected ☐ Yes ☐ No Type: _____ Amount: _____

18. PUMP: Date Installed: _____ Not Installed ☑
Mfr. Name: _____ Model No.: _____
H.P. _____ Volts _____ Length of drop pipe ___ ft. Capacity ___ gpm
TYPE: ☐ Submersible ☐ Jet (shallow) ☐ Turbine ☐ Jet (deep) ☐ Reciprocating ☐ Centrifugal

19. WELL DRILLER: Landprobe CERT. NO.: 1089
Address: (Print) Level: A (B) C D (circle one)
6064 Ponders ct Greenville S.C 29615
Telephone No.: (864) 288-1265 Fax No.:

20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief.

Signed: Brian S Ry Date: 10-21-13
Well Driller

If D Level Driller, provide supervising driller's name:

DHEC 1903 (07/2003) COPY 1 MAIL TO: S.C. DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL (ADDRESS ABOVE)

MONITORING WELL DEVELOPMENT LOG

DATE 10/8/2013

PERSONNEL Ivan A. Irizarry

SITE Enmark #380/Spinx #258

JOB # J13-6859-05

EQUIPMENT USED Bailer and Submersible Pump

WELL ID	TIME STARTED	TIME COMPLETED	VOLUME PURGED total (gallons)	STABILIZED READINGS pH (units)	WATER TEMP (C)	SPECIF. COND. (µmho/cm)	TURBIDITY NTU	PURGING METHOD
065588-MW04R	10/8/2013 12:00	10/8/2013 17:00	10	6.8	17.9	315.0	10	Bailer/pump

Notes:

APPENDIX B

DISPOSAL MANIFESTS

NON-HAZARDOUS WASTE MANIFEST	1. Generator ID Number	2. Page 1 of 1	3. Emergency Response Phone 803-957-9175	4. Waste Tracking Number 33908

5. Generator's Name and Mailing Address
Enmark Stations
P.O. Box 728
Savannah, GA 31402-0728
Generator's Phone: Ivan Irizarry 864-288-1265

Generator's Site Address (if different than mailing address)
Spinx 258/Former Enmark 390
2725 College St.
Newberry, SC

6. Transporter 1 Company Name: A&D Environmental Services (SC) LLC — U.S. EPA ID Number: SCD987598331

7. Transporter 2 Company Name — U.S. EPA ID Number:

8. Designated Facility Name and Site Address
A&D Environmental Services, Inc
2718 Ulmarrie Road
Archdale, NC 27263
Facility's Phone: 336-434-7750
U.S. EPA ID Number: NCD986232221

	9. Waste Shipping Name and Description	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt/Vol.	
1.	NON-HAZARDOUS NON-REGULATED MATERIAL Soil	2	DM	900	P	
2.	NON-HAZARDOUS NON-REGULATED MATERIAL Water					
3.						
4.						

13. Special Handling Instructions and Additional Information

In Case of Emergency Call: 803-957-9175 A&D (SC) Job # 14[illegible]273 Work Orde
UST Permit# 06588 PO #

14. GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations.

Generator's/Offeror's Printed/Typed Name: Ivan Irizarry Agent for Enmark — Signature: [signature] — Month 11 Day 12 Year 13

15. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter Signature (for exports only): Date leaving U.S.:

16. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Chris Peter — Signature: [signature] — Month 11 Day 13 Year 13
Transporter 2 Printed/Typed Name — Signature — Month Day Year

17. Discrepancy
17a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:

17b. Alternate Facility (or Generator) — U.S. EPA ID Number
Facility's Phone:

17c. Signature of Alternate Facility (or Generator) — Month Day Year

18. Designated Facility Owner or Operator: Certification of receipt of materials covered by the manifest except as noted in Item 17a
Printed/Typed Name — Signature — Month Day Year

GENERATOR | INT'L | TRANSPORTER | DESIGNATED FACILITY

DESIGNATED FACILITY TO GENERATOR

VLS recovery services, llc

NON-HAZARDOUS WASTE MANIFEST	1. Generator ID Number	2. Page 1 of	3. Emergency Response Phone	4. Waste Tracking Number J13-6859-05

GENERATOR

5. Generator's Name and Mailing Address

BURNELL-LAMMON ENG, INC
6004 PONDERS COURT
GREENVILLE, SC 29615

Generator's Phone: 864-268-1755

Generator's Site Address (if different than mailing address)

6. Transporter 1 Company Name: BLE — U.S. EPA ID Number:

7. Transporter 2 Company Name — U.S. EPA ID Number:

8. Designated Facility Name and Site Address

VLS RECOVERY SERVICES, LLC
305 S. MAIN STREET
MAULDIN, SC 29652

Facility's Phone: 864-962-9953

U.S. EPA ID Number: SCR000762468

	9. Waste Shipping Name and Description	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	
1.	NON HAZ NON REG WELL WATER #11312 — Spint 258 Newberry SC UST 06588			275	G	
2.	non haz non reg well water #11312 — Beck Exton Greenville SC UST 46459			156.3	G	
3.	non haz non reg well water #11312					
4.	non haz non reg well water #11312					

13. Special Handling Instructions and Additional Information

14. GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations.

Generator's/Offeror's Printed/Typed Name: Brian K White — Signature: Brian K. White — Month 12 Day 6 Year 15

INT'L

15. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:

Transporter Signature (for exports only): Date leaving U.S.:

TRANSPORTER

16. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name — Signature — Month Day Year

Transporter 2 Printed/Typed Name — Signature — Month Day Year

DESIGNATED FACILITY

17. Discrepancy

17a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

17b. Alternate Facility (or Generator) — U.S. EPA ID Number

Facility's Phone:

17c. Signature of Alternate Facility (or Generator) — Month Day Year

18. Designated Facility Owner or Operator: Certification of receipt of materials covered by the manifest except as noted in Item 17a

Printed/Typed Name: Steven Urban — Signature: [illegible] — Month 12 Day 6 Year 13

VLS recovery services, llc

NON-HAZARDOUS WASTE MANIFEST	1. Generator ID Number	2. Page 1 of	3. Emergency Response Phone	4. Waste Tracking Number J13-6578-05

GENERATOR

5. Generator's Name and Mailing Address

BUNNELL-LAMMON ENG, INC
6004 PONDERS COURT
GREENVILLE, SC 29615

Generator's Phone: [illegible]

Generator's Site Address (if different than mailing address)

6. Transporter 1 Company Name: BLE — U.S. EPA ID Number:

7. Transporter 2 Company Name — U.S. EPA ID Number:

8. Designated Facility Name and Site Address

VLS RECOVERY SERVICES, LLC
305 S. MAIN STREET
MAULDIN, SC 29662

U.S. EPA ID Number: SCR000762468

Facility's Phone: 864-962-3953

	9. Waste Shipping Name and Description		10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	
1.	NON HAZ NON REG WELL WATER #11312	Simmons U.1 Greenville SC UST 04179			79.5	G	
2.	non haz non reg well water #11312	MLPG Mauldin, SC UST 05607			183	G	
3.	non haz non reg well water #11312	Corner Stop 53 Clinton SC UST 10223			328	G	
4.	non haz non reg well water #11312	Spirit 238 - Dev Newberry, SC UST 06588			10	G	

13. Special Handling Instructions and Additional Information

14. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations.

Generator's/Offeror's Printed/Typed Name: Brian K White — Signature: [signature] — Month 12 Day 6 Year 13

INT'L

15. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:

Transporter Signature (for exports only): Date leaving U.S.:

TRANSPORTER

16. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name — Signature — Month — Day — Year

Transporter 2 Printed/Typed Name — Signature — Month — Day — Year

DESIGNATED FACILITY

17. Discrepancy

17a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

17b. Alternate Facility (or Generator) — U.S. EPA ID Number

Facility's Phone:

17c. Signature of Alternate Facility (or Generator) — Month — Day — Year

18. Designated Facility Owner or Operator: Certification of receipt of materials covered by the manifest except as noted in Item 17a

Printed/Typed Name: Brian Tipp II — Signature: [signature] II — Month 12 Day 6 Year 13

APPENDIX C

GROUNDWATER SAMPLING PROCEDURES AND FIELD SAMPLING LOGS

APPENDIX C

MONITORING WELL SAMPLING PROCEDURES

The monitoring wells were sampled using a 4-foot long by 1.6-inch diameter disposable polyethylene bailer attached to an unused polypropylene cord. To minimize the potential for cross-contamination between wells, a new clean bailer was used at each well.

Samples were placed in glass vials or polypropylene containers with Teflon® lined lids and marked with identifying numbers. VOCs were preserved using hydrochloric acid (HCl) to achieve a pH of ≤ 2. Samples were maintained at less than 4°Celsius in a refrigerated sample cooler and shipped to Shealy Environmental Services, Inc. (SC#32010) in Columbia, South Carolina via courier service for analysis.

APPENDIX C - CONTINUED

STREAM (SURFACE WATER) SAMPLING PROCEDURES

Surface water samples were collected using the following field procedure.

1. The sample handler donned a new pair of latex gloves prior to collection of each sample.

2. With the appropriate sample caps unscrewed the sample container was carefully lowered below the water level upstream from the sampler and without touching any floating material or dislodging Teflon® discs inside the caps.

3. The samples were collected into 40-ml VOC vials without bubbles, and were filled to the top without headspace. The vials were recapped without touching the interior of the cap, and screwed down tightly. Samples were moved to an ice chest where they were labeled, placed in bubble pack bags, and iced down immediately upon collection.

4. The sample containers were filled so that the vial had a meniscus. The cap was placed over the vial and closed so that no bubble was seen when the closed sample was upended. The volatile samples were collected in triplicate. Care was taken so that the acids (HCl) in the bottles did not contact the sampler's gloves and thus pass to other caps and bottles.

5. Samples were maintained at 4°Celsius in a refrigerated sample cooler and shipped to Shealy Analytical Services in West Columbia, South Carolina via courier service for analysis.

BLE

BUNNELL-LAMMONS ENGINEERING, INC.

Field Data Information Sheet for Ground Water Sampling
Division of Underground Storage Tank Management

Date 11/14/13
Field Personnel W. Sloan Click
General weather Conditions Overcast, ptly. C/dry
Ambient Air Temperature (°C) 5.5

Facility Name: Former Enmark 380 Site ID #: 06588

Quality Assurance

pH Sensor:	Oakton 35630-62	Conductivity Sensor:	35630-32
Serial No.	324976	Serial No.	324976
pH =4.0	4.0	Standard	
pH = 7.0	7.0	Standard	
pH = 7.0		Standard	
pH = 10.0		Standard	

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time
W. Snck	11/15/13:	Shealy	11/15/13:

Well # MW-1

Well Diameter (D) 2 inch of 28.30 feet(ft) bgs
Conversion Factor (C): 3.143*(D/2)^2
for a 2 inch well C = 0.163
for a 4 inch well C = 0.652
*Free Product Thickness --- ft
Total Well Depth (TWD) 28.30 ft bgs
Depth to Groundwater (DGW) 20.30 ft bgs
Length of Water Colum (LWC = TWD-DGW) 8.00 ft
1 Casing Volume (LWC*C) = 0.00 X .17 = 1.36 gals
3 Casing Volumes = 3 X 0.00 = 4.08 gals
(Standard Purge Volume)

Total Volume of Water Purged Before Sampling 4.5 gals

*If free product is present over 1/8 inch, sampling wiil not be required.

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post	Sample
Volume Purged (gallons)	–	1.5	3.0	4.5				
Time (military)	1021	1025	1029	1033				
pH (s.u)	5.91	5.98	6.01	6.02				
Specific Conductivity	239	225	218	220				
Water Temperature (°C)	21.0	21.2	21.2	21.3				
Turbidity (NTU)	>1,100	>1,100	550	300				
Dissolved Oxygen (mg/l)	1.6							

Remarks: Replaced 1 missing bolt. Well sampled @ 1033 Duplicated @ 1034 on 11/14/13

BUNNELL-LAMMONS ENGINEERING, INC.

Field Data Information Sheet for Ground Water Sampling
Division of Underground Storage Tank Management

Date 11/14/13
Field Personnel W. Sa-Chick
General weather Conditions
Ambient Air Temperature (°C)

Facility Name: Former Enmark 380 Site ID #: 06588

Quality Assurance

pH Sensor:	Oakton 35630-62	Conductivity Sensor:	35630-32
Serial No.	324976	Serial No.	324976
pH =4.0	4.0	Standard	
pH = 7.0	7.0	Standard	
pH = 7.0		Standard	
pH = 10.0		Standard	

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time

Well # MW-2

Well Diameter (D) 4 inch of 25.20 feet(ft) bgs
Conversion Factor (C): 3.143*(D/2)^2
for a 2 inch well C = 0.163
for a 4 inch well C = 0.652
*Free Product Thickness --- ft
Total Well Depth (TWD) 25.20 ft bgs
Depth to Groundwater (DGW) 20.81 ft bgs
Length of Water Colum (LWC = TWD-DGW) 4.39 ft
1 Casing Volume (LWC*C) = 0.00 X .17 = 2.90 gals
3 Casing Volumes = 3 X 0.00 = 8.70 gals
(Standard Purge Volume)

Total Volume of Water Purged Before Sampling 7.0 gals

*If free product is present over 1/8 inch, sampling will not be required.

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post	Sample
Volume Purged (gallons)	–	3.0	6.0	7.0				
Time (military)	1445	1450	1455	1500				
pH (s.u)	5.98	5.86	5.77	5.75				
Specific Conductivity	177.1	180.3	180.2	180.4				
Water Temperature (°C)	19.4	19.7	19.8	20.1				
Turbidity (subjective: clear, slightly cloudy, cloudy)	>1,100	560	700	250				
Dissolved Oxygen (mg/l)	2.6							

Remarks: Well purged dry after 7.0 gallons Removed
Well sampled @ 1500 on 11/14/13

BLE

BUNNELL-LAMMONS ENGINEERING, INC.

Field Data Information Sheet for Ground Water Sampling
Division of Underground Storage Tank Management

Date 11/14/13

Field Personnel W. Sam Clift

General weather Conditions

Ambient Air Temperature (°C)

Facility Name: Former Enmark 380 Site ID #: 06588

Quality Assurance

pH Sensor:	Oakton 35630-62	Conductivity Sensor:	35630-32
Serial No.	324976	Serial No.	324976
pH =4.0	4.0	Standard	
pH = 7.0	7.0	Standard	
pH = 7.0		Standard	
pH = 10.0		Standard	

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time

Well # MW-3

Well Diameter (D) 2 inch of 25.00 feet(ft) bgs

Conversion Factor (C): 3.143*(D/2)^2

for a 2 inch well C = 0.163

for a 4 inch well C = 0.652

*Free Product Thickness --- ft

Total Well Depth (TWD) 25.00 ft bgs

Depth to Groundwater (DGW) 21.60 ft bgs

Length of Water Colum (LWC = TWD-DGW) 3.40 ft

1 Casing Volume (LWC*C) = 0.00 X .17 = 2.24 gals

3 Casing Volumes = 3 X 0.00 = 6.72 gals

(Standard Purge Volume)

Total Volume of Water Purged Before Sampling 6.0 gals

*If free product is present over 1/8 inch, sampling will not be required.

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post	Sample
Volume Purged (gallons)	–	2.5	5.0	6.0				
Time (military)	1510	1515	1520	1525				
pH (s.u)	5.54	5.50	5.53	5.57				
Specific Conductivity	183.4	180.3	184.3	185.6				
Water Temperature (°C)	20.7	20.5	20.6	20.4				
Turbidity (subjective: clear, slightly cloudy, cloudy)	>1,100	>1,100	>1,100	>1,100				
Dissolved Oxygen (mg/l)	1.0							

Remarks: Well purged dry after 6.0 gallons Well sampled @ 1525 on 11/14/13

BUNNELL-LAMMONS ENGINEERING, INC.

Field Data Information Sheet for Ground Water Sampling
Division of Underground Storage Tank Management

Date 11/14/13
Field Personnel W. Stan Cole
General weather Conditions
Ambient Air Temperature (°C)

Facility Name: Former Enmark 380 Site ID #: 06588

Quality Assurance

pH Sensor:		Conductivity Sensor:	
Serial No.		Serial No.	
pH =4.0		Standard	
pH = 7.0		Standard	
pH = 7.0		Standard	
pH = 10.0		Standard	

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time

Well # MW-4R

Well Diameter (D) 4 inch of 27.60 feet(ft) bgs
Conversion Factor (C): 3.143*(D/2)^2
for a 2 inch well C = 0.163
for a 4 inch well C = 0.652
*Free Product Thickness --- ft
Total Well Depth (TWD) 27.40 ft bgs
Depth to Groundwater (DGW) 20.95 ft bgs
Length of Water Colum (LWC = TWD-DGW) 6.45 ft
1 Casing Volume (LWC*C) = 0.00 X .17 = 1.10 gals
3 Casing Volumes = 3 X 0.00 = 3.30 gals
(Standard Purge Volume)

Total Volume of Water Purged Before Sampling 3.5 gals

*If free product is present over 1/8 inch, sampling will not be required.

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post	Sample
Volume Purged (gallons)	—	1.5	3.0	3.5				
Time (military)	1140	1143	1146	1150				
pH (s.u)	6.03	5.85	5.74	5.75				
Specific Conductivity	149.4	137.4	148.8	146.1				
Water Temperature (°C)	20.6	20.3	20.3	20.1				
Turbidity (subjective: clear, slightly cloudy, cloudy)	>1,100	>1,100	>1,100	>1,100				
Dissolved Oxygen (mg/l)	0.57							

Remarks: Well sampled @ 1150 on 11/14/13

BUNNELL-LAMMONS ENGINEERING, INC.

Field Data Information Sheet for Ground Water Sampling
Division of Underground Storage Tank Management

Date 11/17/13
Field Personnel V. Snoke
General weather Conditions Sunny Clear
Ambient Air Temperature (°C) 11.10

Facility Name: Former Enmark 380 Site ID #: 06588

Quality Assurance

pH Sensor:		Conductivity Sensor:	
Serial No.		Serial No.	
pH =4.0		Standard	
pH = 7.0		Standard	
pH = 7.0		Standard	
pH = 10.0		Standard	

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time

Well # MW-5

Well Diameter (D) 2 inch of 25.00 feet(ft) bgs
Conversion Factor (C): 3.143*(D/2)^2
for a 2 inch well C = 0.163
for a 4 inch well C = 0.652
*Free Product Thickness 1.17 ft
Total Well Depth (TWD) 25.00 ft bgs
Depth to Groundwater (DGW) 20.70 ft bgs
Length of Water Colum (LWC = TWD-DGW) ft
1 Casing Volume (LWC*C) = 0.00 X .17 = gals
3 Casing Volumes = 3 X 0.00 = gals
(Standard Purge Volume)

Total Volume of Water Purged Before Sampling – gals

*If free product is present over 1/8 inch, sampling will not be required.

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post	Sample
Volume Purged (gallons)								
Time (military)								
pH (s.u)								
Specific Conductivity								
Water Temperature (°C)								
Turbidity (subjective: clear, slightly cloudy, cloudy)								
Dissolved Oxygen (mg/l)								

Remarks: Replaced 2 missing bolts. 1.17ft of Free Product detected @ time of sampling event

BLE

BUNNELL-LAMMONS ENGINEERING, INC.

Field Data Information Sheet for Ground Water Sampling
Division of Underground Storage Tank Management

Date 11/11/13

Field Personnel W. Sz[illegible]

General weather Conditions

Ambient Air Temperature (°C)

Facility Name: Former Enmark 380 Site ID #: 06588

Quality Assurance

pH Sensor:		Conductivity Sensor:	
Serial No.		Serial No.	
pH =4.0		Standard	
pH = 7.0		Standard	
pH = 7.0		Standard	
pH = 10.0		Standard	

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time

Well # MW-6

Well Diameter (D) 2 inch of 25.00 feet(ft) bgs

Conversion Factor (C): 3.143*(D/2)^2

for a 2 inch well C = 0.163

for a 4 inch well C = 0.652

*Free Product Thickness 0.26 ft

Total Well Depth (TWD) 25.00 ft bgs

Depth to Groundwater (DGW) 20.27/20.53 ft bgs

Length of Water Colum (LWC = TWD-DGW) ft

1 Casing Volume (LWC*C) = 0.00 X .17 = gals

3 Casing Volumes = 3 X 0.00 = gals

(Standard Purge Volume)

Total Volume of Water Purged Before Sampling – gals

*If free product is present over 1/8 inch, sampling will not be required.

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post	Sample
Volume Purged (gallons)								
Time (military)								
pH (s.u)								
Specific Conductivity								
Water Temperature (°C)								
Turbidity (subjective: clear, slightly cloudy, cloudy)								
Dissolved Oxygen (mg/l)								

Remarks: 0.26ft. of Free product detected @ time of sampling

BLE

BUNNELL-LAMMONS ENGINEERING, INC.

Field Data Information Sheet for Ground Water Sampling
Division of Underground Storage Tank Management

Date 11/11/13

Field Personnel W. Sh. Click

General weather Conditions

Ambient Air Temperature (°C)

Facility Name: Former Enmark 380 Site ID #: 06588

Quality Assurance

pH Sensor:		Conductivity Sensor:	
Serial No.		Serial No.	
pH =4.0		Standard	
pH = 7.0		Standard	
pH = 7.0		Standard	
pH = 10.0		Standard	

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time

Well # MW-7

Well Diameter (D) 2 inch of 25.00 feet(ft) bgs

Conversion Factor (C): 3.143*(D/2)^2

for a 2 inch well C = 0.163

for a 4 inch well C = 0.652

*Free Product Thickness 0.10 ft

Total Well Depth (TWD) 25.00 ft bgs

Depth to Groundwater (DGW) 20.70/20.80 ft bgs

Length of Water Colum (LWC = TWD-DGW) ft

1 Casing Volume (LWC*C) = 0.00 X .17 = gals

3 Casing Volumes = 3 X 0.00 = gals

(Standard Purge Volume)

Total Volume of Water Purged Before Sampling – gals

*If free product is present over 1/8 inch, sampling wiil not be required.

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post	Sample
Volume Purged (gallons)								
Time (military)								
pH (s.u)								
Specific Conductivity								
Water Temperature (°C)								
Turbidity (subjective: clear, slightly cloudy, cloudy)								
Dissolved Oxygen (mg/l)								

Remarks: Replaced 2 missing bolts, 0.10 Ft. of Free product detected @ time of sampling

BLE

BUNNELL-LAMMONS ENGINEERING, INC.

Field Data Information Sheet for Ground Water Sampling
Division of Underground Storage Tank Management

Date 11/14/13
Field Personnel W. Stancick
General weather Conditions
Ambient Air Temperature (°C)

Facility Name: Former Enmark 380 Site ID #: 06588

Quality Assurance

pH Sensor:	Oakton 35630-62	Conductivity Sensor:	35630-32
Serial No.	324976	Serial No.	324976
pH =4.0	4.0	Standard	
pH = 7.0	7.0	Standard	
pH = 7.0		Standard	
pH = 10.0		Standard	

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time

Well # MW-7D

Well Diameter (D) 2 inch of 46.04 feet(ft) bgs
Conversion Factor (C): 3.143*(D/2)^2
for a 2 inch well C = 0.163
for a 4 inch well C = 0.652
*Free Product Thickness --- ft
Total Well Depth (TWD) 46.04 ft bgs
Depth to Groundwater (DGW) 19.71 ft bgs
Length of Water Colum (LWC = TWD-DGW) 26.33 ft
1 Casing Volume (LWC*C) = 0.00 X .17 = 4.48 gals
3 Casing Volumes = 3 X 0.00 = 13.44 gals
(Standard Purge Volume)

Total Volume of Water Purged Before Sampling 13.5 gals

*If free product is present over 1/8 inch, sampling will not be required.

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post	Sample
Volume Purged (gallons)	–	4.5	9.0	13.5				
Time (military)	1112	1119	1125	1131				
pH (s.u)	7.04	7.60	7.31	6.22				
Specific Conductivity	157.6	136.7	144.7	131.3				
Water Temperature (°C)	18.4	20.0	20.0	19.9				
Turbidity (subjective: clear, slightly cloudy, cloudy)	250	96	7.2	9.6				
Dissolved Oxygen (mg/l)	1.2							

Remarks: Replaced 1 missing bolt. Well sampled @ 1131 on 11/14/13

BUNNELL-LAMMONS ENGINEERING, INC.

Field Data Information Sheet for Ground Water Sampling
Division of Underground Storage Tank Management

Date 11/14/13
Field Personnel W. Sam Chick
General weather Conditions
Ambient Air Temperature (°C)

Facility Name: Former Enmark 380 Site ID #: 06588

Quality Assurance

pH Sensor:	Oakton 35630-62	Conductivity Sensor:	35630-32
Serial No.	324976	Serial No.	324976
pH =4.0	4.0	Standard	
pH = 7.0	7.0	Standard	
pH = 7.0		Standard	
pH = 10.0		Standard	

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time

Well # MW-8D

Well Diameter (D) 2 inch of 45.00 feet(ft) bgs
Conversion Factor (C): 3.143*(D/2)^2
for a 2 inch well C = 0.163
for a 4 inch well C = 0.652
*Free Product Thickness — ft
Total Well Depth (TWD) 45.00 ft bgs
Depth to Groundwater (DGW) 23.30 ft bgs
Length of Water Colum (LWC = TWD-DGW) 21.70 ft
1 Casing Volume (LWC*C) = 0.00 X .17 = 3.69 gals
3 Casing Volumes = 3 X 0.00 = 11.07 gals
(Standard Purge Volume)

Total Volume of Water Purged Before Sampling 6.0 gals

*If free product is present over 1/8 inch, sampling will not be required.

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post	Sample
Volume Purged (gallons)	–	4.0	6.0					
Time (military)	1315	1320	1325					
pH (s.u)	11.92	11.66	11.30					
Specific Conductivity	1,521	780	424					
Water Temperature (°C)	23.1	23.2	23.5					
Turbidity (subjective: clear, slightly cloudy, cloudy)	120	80	150					
Dissolved Oxygen (mg/l)	1.2							

Remarks: Well pumped dry after 6.0 gallons Removed. Replaced 2 missing bolts. Well Sampled @ 1330 on 11/14/13

BLE

BUNNELL-LAMMONS ENGINEERING, INC.

Field Data Information Sheet for Ground Water Sampling
Division of Underground Storage Tank Management

Date 11/13/13
Field Personnel W. Slaughter
General weather Conditions sunny, clear, cold
Ambient Air Temperature (°C) 2.2

Facility Name: Former Enmark 380 Site ID #: 06588

Quality Assurance

pH Sensor:	Oakton 35630-62	Conductivity Sensor:	35630-32
Serial No.	324976	Serial No.	324976
pH =4.0	4.0	Standard	
pH = 7.0	7.0	Standard	
pH = 7.0		Standard	
pH = 10.0		Standard	

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time

Well # MW-9

Well Diameter (D) 2 inch of 28.74 feet(ft) bgs
Conversion Factor (C): 3.143*(D/2)^2
for a 2 inch well C = 0.163
for a 4 inch well C = 0.652
*Free Product Thickness --- ft
Total Well Depth (TWD) 28.74 ft bgs
Depth to Groundwater (DGW) 21.70 ft bgs
Length of Water Colum (LWC = TWD-DGW) 7.04 ft
1 Casing Volume (LWC*C) = 0.00 X .17 = 1.20 gals
3 Casing Volumes = 3 X 0.00 = 3.60 gals
(Standard Purge Volume)

Total Volume of Water Purged Before Sampling 4.0 gals

*If free product is present over 1/8 inch, sampling will not be required.

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post	Sample
Volume Purged (gallons)	–	1.5	3.0	4.0				
Time (military)	1310	1315	1320	1325				
pH (s.u)	5.43	4.96	4.39	4.36				
Specific Conductivity	131.8	135.1	137.0	101.7				
Water Temperature (°C)	17.3	17.5	18.0	18.3				
Turbidity (subjective: clear, slightly cloudy, cloudy)	<1,100	<1,100	<1,100	<1,100				
Dissolved Oxygen (mg/l)	7.5							

Remarks: Well sampled @ 1325 on 11/13/13

BLE

BUNNELL-LAMMONS ENGINEERING, INC.

Field Data Information Sheet for Ground Water Sampling
Division of Underground Storage Tank Management

Date 11/13/13

Field Personnel W. St. Ok

General weather Conditions

Ambient Air Temperature (°C)

Facility Name: Former Enmark 380 Site ID #: 06588

Quality Assurance

pH Sensor:	Oakton 35630-62	Conductivity Sensor:	35630-32
Serial No.	324976	Serial No.	324976
pH =4.0	4.0	Standard	
pH = 7.0	7.0	Standard	
pH = 7.0		Standard	
pH = 10.0		Standard	

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time

Well # MW-10

Well Diameter (D) 2 inch of 28.00 feet(ft) bgs

Conversion Factor (C): 3.143*(D/2)^2

for a 2 inch well C = 0.163

for a 4 inch well C = 0.652

*Free Product Thickness — ft

Total Well Depth (TWD) 28.00 ft bgs

Depth to Groundwater (DGW) 21.01 ft bgs

Length of Water Colum (LWC = TWD-DGW) 6.99 ft

1 Casing Volume (LWC*C) = 0.00 X .17 = 1.19 gals

3 Casing Volumes = 3 X 0.00 = 3.57 gals

(Standard Purge Volume)

Total Volume of Water Purged Before Sampling 4.0 gals

*If free product is present over 1/8 inch, sampling wiil not be required.

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post	Sample
Volume Purged (gallons)	5	1.5	3.0	3.5				
Time (military)	1335	1340	1345	1350				
pH (s.u)	5.30	5.29	5.24	5.22				
Specific Conductivity	80.9	77.3	76.3	76.6				
Water Temperature (°C)	15.7	15.9	16.3	16.5				
Turbidity (subjective: clear, slightly cloudy, cloudy)	>1,100	>1,100	>1,100	>1,100				
Dissolved Oxygen (mg/l)	5.3							

Remarks: Well purged dry after 3.5 gallons removed.

Well sampled @ 1350 on 11/13/13

BLE

BUNNELL-LAMMONS ENGINEERING, INC.

Field Data Information Sheet for Ground Water Sampling
Division of Underground Storage Tank Management

Date 11/13/13

Field Personnel W. [illegible]

General weather Conditions

Ambient Air Temperature (°C)

Facility Name: Former Enmark 380 Site ID #: 06588

Quality Assurance

pH Sensor:	Oakton 35630-62	Conductivity Sensor:	35630-32
Serial No.	324976	Serial No.	324976
pH =4.0	4.0	Standard	
pH = 7.0	7.0	Standard	
pH = 7.0		Standard	
pH = 10.0		Standard	

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time

Well # MW-11

Well Diameter (D) 2 inch of 28.30 feet(ft) bgs

Conversion Factor (C): 3.143*(D/2)^2

for a 2 inch well C = 0.163

for a 4 inch well C = 0.652

*Free Product Thickness — ft

Total Well Depth (TWD) 28.30 ft bgs

Depth to Groundwater (DGW) 18.95 ft bgs

Length of Water Colum (LWC = TWD-DGW) 9.35 ft

1 Casing Volume (LWC*C) = 0.00 X .17 = 1.59 gals

3 Casing Volumes = 3 X 0.00 = 4.77 gals

(Standard Purge Volume)

Total Volume of Water Purged Before Sampling 5.0 gals

*If free product is present over 1/8 inch, sampling wiil not be required.

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post	Sample
Volume Purged (gallons)	–	2.0	4.0	5.0				
Time (military)	1600	1604	1608	1612				
pH (s.u)	6.21	6.02	5.50	5.45				
Specific Conductivity	247	230	221	234				
Water Temperature (°C)	16.1	17.5	17.8	17.3				
Turbidity (subjective: clear, slightly cloudy, cloudy)	>1,100	>1,100	>1,100	>1,100				
Dissolved Oxygen (mg/l)	9.1							

Remarks: Well sampled @ 1612 on 11/13/13

BUNNELL-LAMMONS ENGINEERING, INC.

Field Data Information Sheet for Ground Water Sampling
Division of Underground Storage Tank Management

Date 11/13/13
Field Personnel W. Sz
General weather Conditions
Ambient Air Temperature (°C)

Facility Name: Former Enmark 380 Site ID #: 06588

Quality Assurance

pH Sensor:	Oakton 35630-62	Conductivity Sensor:	35630-32
Serial No.	324976	Serial No.	324976
pH =4.0	4.0	Standard	
pH = 7.0	7.0	Standard	
pH = 7.0		Standard	
pH = 10.0		Standard	

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time

Well # MW-12

Well Diameter (D) 2 inch of 27.61 feet(ft) bgs
Conversion Factor (C): 3.143*(D/2)^2
for a 2 inch well C = 0.163
for a 4 inch well C = 0.652
*Free Product Thickness — ft
Total Well Depth (TWD) 27.61 ft bgs
Depth to Groundwater (DGW) 19.05 ft bgs
Length of Water Colum (LWC = TWD-DGW) 8.56 ft
1 Casing Volume (LWC*C) = 0.00 X .17 = 1.46 gals
3 Casing Volumes = 3 X 0.00 = 4.38 gals
(Standard Purge Volume)

Total Volume of Water Purged Before Sampling 4.5 gals

*If free product is present over 1/8 inch, sampling will not be required.

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post	Sample
Volume Purged (gallons)	—	1.5	3.0	4.5				
Time (military)	1620	1624	1628	1632				
pH (s.u)	6.45	5.55	5.13	4.98				
Specific Conductivity	124.2	101.3	94.4	90.2				
Water Temperature (°C)	17.2	17.0	16.3	15.8				
Turbidity (subjective: clear, slightly cloudy, cloudy)	>1,100	>1,100	>1,100	>1,100				
Dissolved Oxygen (mg/l)	7.5							

Remarks: Well sampled @ 1632 on 11/13/13

Field Blank #2 @ 1700 on 11/13/13

BLE
BUNNELL-LAMMONS ENGINEERING, INC.

Field Data Information Sheet for Ground Water Sampling
Division of Underground Storage Tank Management

Date 11/13/13
Field Personnel W. Sm
General weather Conditions
Ambient Air Temperature (°C)

Facility Name: Former Enmark 380 Site ID #: 06588

Quality Assurance

pH Sensor:	Oakton 35630-62	Conductivity Sensor:	35630-32
Serial No.	324976	Serial No.	324976
pH =4.0	4.0	Standard	
pH = 7.0	7.0	Standard	
pH = 7.0		Standard	
pH = 10.0		Standard	

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time

Well # MW-13

Well Diameter (D) 2 inch of 26.46 feet(ft) bgs
Conversion Factor (C): 3.143*(D/2)^2
for a 2 inch well C = 0.163
for a 4 inch well C = 0.652
*Free Product Thickness --- ft
Total Well Depth (TWD) 26.46 ft bgs
Depth to Groundwater (DGW) 19.00 ft bgs
Length of Water Colum (LWC = TWD-DGW) 7.46 ft
1 Casing Volume (LWC*C) = 0.00 X .17 = 1.27 gals
3 Casing Volumes = 3 X 0.00 = 3.81 gals
(Standard Purge Volume)

Total Volume of Water Purged Before Sampling 4.0 gals

*If free product is present over 1/8 inch, sampling will not be required.

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post	Sample
Volume Purged (gallons)	-	1.5	3.0	4.0				
Time (military)	1642	1646	1650	1653				
pH (s.u)	5.82	5.31	5.04	4.96				
Specific Conductivity	113.9	113.6	112.3	111.9				
Water Temperature (°C)	16.9	17.3	17.7	17.9				
Turbidity (subjective: clear, slightly cloudy, cloudy)	>1,100	>1,100	>1,100	550				
Dissolved Oxygen (mg/l)	5.0							

Remarks: Well sampled @ 1653 on 11/13/13

BLE

BUNNELL-LAMMONS ENGINEERING, INC.

Field Data Information Sheet for Ground Water Sampling
Division of Underground Storage Tank Management

Date 11/12/13
Field Personnel W. Sp. [illegible]
General weather Conditions Sunny, pttly cldy
Ambient Air Temperature (°C) 18.0

Facility Name: Former Enmark 380 Site ID #: 06588

Quality Assurance

pH Sensor:	Oakton 35630-62	Conductivity Sensor:	35630-32
Serial No.	324976	Serial No.	324976
pH =4.0	4.0	Standard	
pH = 7.0	7.0	Standard	
pH = 7.0		Standard	
pH = 10.0		Standard	

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time

Well # MW-14

Well Diameter (D) 2 inch of 29.32 feet(ft) bgs
Conversion Factor (C): 3.143*(D/2)^2
for a 2 inch well C = 0.163
for a 4 inch well C = 0.652
*Free Product Thickness — ft
Total Well Depth (TWD) 29.32 ft bgs
Depth to Groundwater (DGW) 22.35 ft bgs
Length of Water Colum (LWC = TWD-DGW) 6.97 ft
1 Casing Volume (LWC*C) = 0.00 X .17 = 1.18 gals
3 Casing Volumes = 3 X 0.00 = 3.54 gals
(Standard Purge Volume)

Total Volume of Water Purged Before Sampling 4.0 gals

*If free product is present over 1/8 inch, sampling wiil not be required.

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post	Sample
Volume Purged (gallons)	—	1.5	3.0	4.0				
Time (military)	1130	1134	1138	1142				
pH (s.u)	5.64	4.62	4.52	4.40				
Specific Conductivity	115.8	103.1	103.2	102.7				
Water Temperature (°C)	20.1	19.7	19.4	18.8				
Turbidity (subjective: clear, slightly cloudy, cloudy)	>1,100	>1,100	>1,100	280				
Dissolved Oxygen (mg/l)	8.1							

Remarks: Well sampled @ 1142 on 11/12/13.

BLE

BUNNELL-LAMMONS ENGINEERING, INC.

Field Data Information Sheet for Ground Water Sampling
Division of Underground Storage Tank Management

Date 11/12/13
Field Personnel W. Sm[illegible]
General weather Conditions
Ambient Air Temperature (°C)

Facility Name: Former Enmark 380 Site ID #: 06588

Quality Assurance

pH Sensor:	Oakton 35630-62	Conductivity Sensor:	35630-32
Serial No.	324976	Serial No.	324976
pH =4.0	4.0	Standard	
pH = 7.0	7.0	Standard	
pH = 7.0		Standard	
pH = 10.0		Standard	

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time

Well # MW-15

Well Diameter (D) 2 inch of 28.62 feet(ft) bgs
Conversion Factor (C): 3.143*(D/2)^2
for a 2 inch well C = 0.163
for a 4 inch well C = 0.652
*Free Product Thickness --- ft
Total Well Depth (TWD) 28.62 ft bgs
Depth to Groundwater (DGW) 21.45 ft bgs
Length of Water Colum (LWC = TWD-DGW) 7.17 ft
1 Casing Volume (LWC*C) = 0.00 X .17 = 1.22 gals
3 Casing Volumes = 3 X 0.00 = 3.66 gals
(Standard Purge Volume)

Total Volume of Water Purged Before Sampling 4.0 gals

*If free product is present over 1/8 inch, sampling will not be required.

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post	Sample
Volume Purged (gallons)	—	1.5	3.0	4.0				
Time (military)	1200	1204	1208	1212				
pH (s.u)	4.65	4.56	4.87	4.76				
Specific Conductivity	79.9	78.6	78.3	78.5				
Water Temperature (°C)	21.0	19.7	19.3	19.4				
Turbidity (subjective: clear, slightly cloudy, cloudy)	>1,100	>1,100	400	120				
Dissolved Oxygen (mg/l)	6.2							

Remarks: Well sampled @ 1212am 11/12/13

BLE

BUNNELL-LAMMONS ENGINEERING, INC.

Field Data Information Sheet for Ground Water Sampling
Division of Underground Storage Tank Management

Date 11/14/13
Field Personnel W. Sa Click
General weather Conditions
Ambient Air Temperature (°C)

Facility Name: Former Enmark 380 Site ID #: 06588

Quality Assurance

pH Sensor:	Oakton 35630-62	Conductivity Sensor:	35630-32
Serial No.	324976	Serial No.	324976
pH =4.0	4.0	Standard	
pH = 7.0	7.0	Standard	
pH = 7.0		Standard	
pH = 10.0		Standard	

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time

Well # MW-16

Well Diameter (D) 2 inch of 26.02 feet(ft) bgs
Conversion Factor (C): 3.143*(D/2)^2
for a 2 inch well C = 0.163
for a 4 inch well C = 0.652
*Free Product Thickness — ft
Total Well Depth (TWD) 26.02 ft bgs
Depth to Groundwater (DGW) 17.90 ft bgs
Length of Water Colum (LWC = TWD-DGW) 8.12 ft
1 Casing Volume (LWC*C) = 0.00 X .17 = 1.38 gals
3 Casing Volumes = 3 X 0.00 = 4.14 gals
(Standard Purge Volume)

Total Volume of Water Purged Before Sampling 4.5 gals

*If free product is present over 1/8 inch, sampling will not be required.

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post	Sample
Volume Purged (gallons)	–	1.5	3.0	4.5				
Time (military)	0930	0935	0940	0945				
pH (s.u)	5.15	5.13	5.16	5.14				
Specific Conductivity	107.8	108.1	107.6	107.4				
Water Temperature (°C)	20.7	20.9	21.5	21.8				
Turbidity (subjective: clear, slightly cloudy, cloudy)	>1,100	>1,100	>1,100	>1,100				
Dissolved Oxygen (mg/l)	3.9							

Remarks: Well sampled @ 0945 on 11/14/13

BLE
BUNNELL-LAMMONS ENGINEERING, INC.

Field Data Information Sheet for Ground Water Sampling
Division of Underground Storage Tank Management

Date 11/14/13
Field Personnel W. Sa[illegible]
General weather Conditions
Ambient Air Temperature (°C)

Facility Name: Former Enmark 380 Site ID #: 06588

Quality Assurance

pH Sensor:	Oakton 35630-62	Conductivity Sensor:	35630-32
Serial No.	324976	Serial No.	324976
pH =4.0	4.0	Standard	
pH = 7.0	7.0	Standard	
pH = 7.0		Standard	
pH = 10.0		Standard	

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time

Well # MW-17

Well Diameter (D) 2 inch of 26.54 feet(ft) bgs
Conversion Factor (C): 3.143*(D/2)^2
for a 2 inch well C = 0.163
for a 4 inch well C = 0.652
*Free Product Thickness --- ft
Total Well Depth (TWD) 26.54 ft bgs
Depth to Groundwater (DGW) 19.36 ft bgs
Length of Water Colum (LWC = TWD-DGW) 7.18 ft
1 Casing Volume (LWC*C) = 0.00 X .17 = 1.22 gals
3 Casing Volumes = 3 X 0.00 = 3.66 gals
(Standard Purge Volume)

Total Volume of Water Purged Before Sampling 4.0 gals

*If free product is present over 1/8 inch, sampling will not be required.

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post	Sample
Volume Purged (gallons)	–	1.5	3.0	4.0				
Time (military)	1045	1049	1054	1058				
pH (s.u)	5.11	5.01	4.95	4.83				
Specific Conductivity	118.7	117.9	117.7	117.6				
Water Temperature (°C)	21.1	20.9	20.7	20.7				
Turbidity (subjective: clear, slightly cloudy, cloudy)	>1,100	>1,100	>1,100	>1,100				
Dissolved Oxygen (mg/l)	1.7							

Remarks: Well Sampled @ 1058 on 11/14/13

BLE

BUNNELL-LAMMONS ENGINEERING, INC.

Field Data Information Sheet for Ground Water Sampling
Division of Underground Storage Tank Management

Date 11/14/13
Field Personnel W. Sn Clair
General weather Conditions
Ambient Air Temperature (°C)

Facility Name: Former Enmark 380 Site ID #: 06588

Quality Assurance

pH Sensor:	Oakton 35630-62	Conductivity Sensor:	35630-32
Serial No.	324976	Serial No.	324976
pH =4.0	4.0	Standard	
pH = 7.0	7.0	Standard	
pH = 7.0		Standard	
pH = 10.0		Standard	

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time

Well # MW-18

Well Diameter (D) 2 inch of 26.28 feet(ft) bgs
Conversion Factor (C): 3.143*(D/2)^2
for a 2 inch well C = 0.163
for a 4 inch well C = 0.652
*Free Product Thickness --- ft
Total Well Depth (TWD) 26.28 ft bgs
Depth to Groundwater (DGW) 19.60 ft bgs
Length of Water Colum (LWC = TWD-DGW) 6.68 ft
1 Casing Volume (LWC*C) = 0.00 X .17 = 1.14 gals
3 Casing Volumes = 3 X 0.00 = 3.42 gals
(Standard Purge Volume)

Total Volume of Water Purged Before Sampling 3.5 gals

*If free product is present over 1/8 inch, sampling will not be required.

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post	Sample
Volume Purged (gallons)	–	1.5	3.0	3.5				
Time (military)	1210	1215	1220	1225				
pH (s.u)	6.27	6.42	6.53	6.57				
Specific Conductivity	219	296	287	291				
Water Temperature (°C)	24.2	24.3	24.1	23.7				
Turbidity (subjective: clear, slightly cloudy, cloudy)	100	71,100	71,100	71,100				
Dissolved Oxygen (mg/l)								

Remarks: Well Sampled @ 1225 on 11/14/13
Duplicated @ 1226

BUNNELL-LAMMONS ENGINEERING, INC.

Field Data Information Sheet for Ground Water Sampling
Division of Underground Storage Tank Management

Date 11/11/13
Field Personnel W.S.C.
General weather Conditions
Ambient Air Temperature (°C)

Facility Name: Former Enmark 380 Site ID #: 06588

Quality Assurance

pH Sensor:	Oakton 35630-62	Conductivity Sensor:	35630-32
Serial No.	324976	Serial No.	324976
pH =4.0	4.0	Standard	
pH = 7.0	7.0	Standard	
pH = 7.0		Standard	
pH = 10.0		Standard	

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time

Well # MW-19

Well Diameter (D) 2 inch of 25.52 feet(ft) bgs
Conversion Factor (C): 3.143*(D/2)^2
for a 2 inch well C = 0.163
for a 4 inch well C = 0.652
*Free Product Thickness 1.35 ft
Total Well Depth (TWD) 25.52 ft bgs
Depth to Groundwater (DGW) 18.96/20.31 ft bgs
Length of Water Colum (LWC = TWD-DGW) ft
1 Casing Volume (LWC*C) = 5.41 X .17 = gals
3 Casing Volumes = 3 X 0.92 = gals
(Standard Purge Volume)

Total Volume of Water Purged Before Sampling – gals

*If free product is present over 1/8 inch, sampling will not be required.

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post	Sample
Volume Purged (gallons)								
Time (military)								
pH (s.u)								
Specific Conductivity								
Water Temperature (°C)								
Turbidity (subjective: clear, slightly cloudy, cloudy)								
Dissolved Oxygen (mg/l)								

Remarks: 1.35ft. of Free product detected @ time of Sampling.

BUNNELL-LAMMONS ENGINEERING, INC.

Field Data Information Sheet for Ground Water Sampling
Division of Underground Storage Tank Management

Date 11/12/13
Field Personnel W.S.C.
General weather Conditions
Ambient Air Temperature (°C)

Facility Name: Former Enmark 380 Site ID #: 06588

Quality Assurance

pH Sensor:	Oakton 35630-62	Conductivity Sensor:	35630-32
Serial No.	324976	Serial No.	324976
pH =4.0	4.0	Standard	
pH = 7.0	7.0	Standard	
pH = 7.0		Standard	
pH = 10.0		Standard	

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time

Well # MW-20

Well Diameter (D) 2 inch of 27.24 feet(ft) bgs
Conversion Factor (C): 3.143*(D/2)^2
for a 2 inch well C = 0.163
for a 4 inch well C = 0.652
*Free Product Thickness --- ft
Total Well Depth (TWD) 27.24 ft bgs
Depth to Groundwater (DGW) 20.43 ft bgs
Length of Water Colum (LWC = TWD-DGW) 6.81 ft
1 Casing Volume (LWC*C) = 0.00 X .17 = 1.16 gals
3 Casing Volumes = 3 X 0.00 = 3.48 gals
(Standard Purge Volume)

Total Volume of Water Purged Before Sampling 3.5 gals

*If free product is present over 1/8 inch, sampling will not be required.

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post	Sample
Volume Purged (gallons)	–	1.5	3.0	3.5				
Time (military)	1314	1318	1322	1324				
pH (s.u)	5.48	5.26	5.01	5.08				
Specific Conductivity	30.4	30.6	31.5	34.3				
Water Temperature (°C)	22.5	22.3	22.1	22.6				
Turbidity (subjective: clear, slightly cloudy, cloudy)	>1,100	>1,100	700	340				
Dissolved Oxygen (mg/l)	4.2							

Remarks: Well sampled @ 1324 on 11/12/13

BLE

BUNNELL-LAMMONS ENGINEERING, INC.

Field Data Information Sheet for Ground Water Sampling
Division of Underground Storage Tank Management

Date 11/12/13
Field Personnel W. Sam Clift
General weather Conditions
Ambient Air Temperature (°C)

Facility Name: Former Enmark 380 Site ID #: 06588

Quality Assurance

pH Sensor:	Oakton 35630-62	Conductivity Sensor:	35630-32
Serial No.	324976	Serial No.	324976
pH =4.0	4.0	Standard	
pH = 7.0	7.0	Standard	
pH = 7.0		Standard	
pH = 10.0		Standard	

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time

Well # MW-21

Well Diameter (D) 2 inch of 27.16 feet(ft) bgs
Conversion Factor (C): 3.143*(D/2)^2
for a 2 inch well C = 0.163
for a 4 inch well C = 0.652
*Free Product Thickness — ft
Total Well Depth (TWD) 27.16 ft bgs
Depth to Groundwater (DGW) 19.92 ft bgs
Length of Water Colum (LWC = TWD-DGW) 7.24 ft
1 Casing Volume (LWC*C) = 0.00 X .17 = 1.23 gals
3 Casing Volumes = 3 X 0.00 = 3.69 gals
(Standard Purge Volume)

Total Volume of Water Purged Before Sampling 4.0 gals

*If free product is present over 1/8 inch, sampling will not be required.

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post	Sample
Volume Purged (gallons)	–	1.5	3.0	4.0				
Time (military)	1340	1343	1347	1350				
pH (s.u)	6.08	5.60	5.61	5.63				
Specific Conductivity	33.1	35.9	36.1	36.0				
Water Temperature (°C)	21.6	20.3	20.2	20.1				
Turbidity (subjective: clear, slightly cloudy, cloudy)	>1,100	>1,100	>1,100	800				
Dissolved Oxygen (mg/l)	4.8							

Remarks: Well Sampled @ 1350 on 11/12/13

BLE

BUNNELL-LAMMONS ENGINEERING, INC.

Field Data Information Sheet for Ground Water Sampling
Division of Underground Storage Tank Management

Date 11/12/13
Field Personnel W. Sn[illegible]
General weather Conditions
Ambient Air Temperature (°C)

Facility Name: Former Enmark 380 Site ID #: 06588

Quality Assurance

pH Sensor:	Oakton 35630-62	Conductivity Sensor:	35630-32
Serial No.	324976	Serial No.	324976
pH =4.0	4.0	Standard	
pH = 7.0	7.0	Standard	
pH = 7.0		Standard	
pH = 10.0		Standard	

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time

Well # MW-21D

Well Diameter (D) 2 inch of 46.75 feet(ft) bgs
Conversion Factor (C): 3.143*(D/2)^2
for a 2 inch well C = 0.163
for a 4 inch well C = 0.652
*Free Product Thickness --- ft
Total Well Depth (TWD) 46.75 ft bgs
Depth to Groundwater (DGW) 20.42 ft bgs
Length of Water Colum (LWC = TWD-DGW) 26.33 ft
1 Casing Volume (LWC*C) = 0.00 X .17 = 4.48 gals
3 Casing Volumes = 3 X 0.00 = 13.44 gals
(Standard Purge Volume)

Total Volume of Water Purged Before Sampling 13.5 gals

*If free product is present over 1/8 inch, sampling wiil not be required.

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post	Sample
Volume Purged (gallons)	–	4.5	9.0	13.5				
Time (military)	1405	1412	1420	1427				
pH (s.u)	5.51	5.74	5.69	5.87				
Specific Conductivity	82.6	84.3	84.6	84.8				
Water Temperature (°C)	23.7	22.6	23.0	22.5				
Turbidity (subjective: clear, slightly cloudy, cloudy)	675	170	85	45				
Dissolved Oxygen (mg/l)	3.6							

Remarks: Well sampled @ 1427 on 11/12/13

BUNNELL-LAMMONS ENGINEERING, INC.

Field Data Information Sheet for Ground Water Sampling
Division of Underground Storage Tank Management

Date 11/11/13
Field Personnel W. [illegible]
General weather Conditions
Ambient Air Temperature (°C)

Facility Name: Former Enmark 380 Site ID #: 06588

Quality Assurance

pH Sensor:	Oakton 35630-62	Conductivity Sensor:	35630-32
Serial No.	324976	Serial No.	324976
pH =4.0	4.0	Standard	
pH = 7.0	7.0	Standard	
pH = 7.0		Standard	
pH = 10.0		Standard	

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time

Well # MW-22

Well Diameter (D) 2 inch of 26.25 feet(ft) bgs
Conversion Factor (C): 3.143*(D/2)^2
for a 2 inch well C = 0.163
for a 4 inch well C = 0.652
*Free Product Thickness 0.51 ft
Total Well Depth (TWD) 26.25 ft bgs
Depth to Groundwater (DGW) 19.20/19.71 ft bgs
Length of Water Colum (LWC = TWD-DGW) ft
1 Casing Volume (LWC*C) = 0.00 X .17 = gals
3 Casing Volumes = 3 X 0.00 = gals
(Standard Purge Volume)

Total Volume of Water Purged Before Sampling – gals

*If free product is present over 1/8 inch, sampling will not be required.

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post	Sample
Volume Purged (gallons)								
Time (military)								
pH (s.u)								
Specific Conductivity								
Water Temperature (°C)								
Turbidity (subjective: clear, slightly cloudy, cloudy)								
Dissolved Oxygen (mg/l)								

Remarks: 0.51 ft. of Free product @ time of sampling

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BUNNELL-LAMMONS ENGINEERING, INC.

Field Data Information Sheet for Ground Water Sampling
Division of Underground Storage Tank Management

Date 11/14/13
Field Personnel W. [illegible]
General weather Conditions
Ambient Air Temperature (°C)

Facility Name: Former Enmark 380 Site ID #: 06588

Quality Assurance

pH Sensor:	Oakton 35630-62	Conductivity Sensor:	35630-32
Serial No.	324976	Serial No.	324976
pH =4.0	4.0	Standard	
pH = 7.0	7.0	Standard	
pH = 7.0		Standard	
pH = 10.0		Standard	

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time

Well # MW-22D

Well Diameter (D) 2 inch of 45.82 feet(ft) bgs
Conversion Factor (C): 3.143*(D/2)^2
for a 2 inch well C = 0.163
for a 4 inch well C = 0.652
*Free Product Thickness — ft
Total Well Depth (TWD) 45.82 ft bgs
Depth to Groundwater (DGW) 19.50 ft bgs
Length of Water Colum (LWC = TWD-DGW) 26.32 ft
1 Casing Volume (LWC*C) = 0.00 X .17 = 4.47 gals
3 Casing Volumes = 3 X 0.00 = 13.41 gals
(Standard Purge Volume)

Total Volume of Water Purged Before Sampling 13.5 gals

*If free product is present over 1/8 inch, sampling will not be required.

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post	Sample
Volume Purged (gallons)	–	4.5	9.0	13.5				
Time (military)	1245	1250	1256	1302				
pH (s.u)	6.11	6.07	5.86	5.66				
Specific Conductivity	180.5	157.5	154.2	153.5				
Water Temperature (°C)	21.8	21.2	21.5	21.8				
Turbidity (subjective: clear, slightly cloudy, cloudy)	>1,100	140	100	80				
Dissolved Oxygen (mg/l)	0.9							

Remarks: Well sampled @ 1302 on 11/14/13

BUNNELL-LAMMONS ENGINEERING, INC.

Field Data Information Sheet for Ground Water Sampling
Division of Underground Storage Tank Management

Date 11/11/13
Field Personnel W. Sz
General weather Conditions
Ambient Air Temperature (°C)

Facility Name: Former Enmark 380 Site ID #: 06588

Quality Assurance

pH Sensor:	Oakton 35630-62	Conductivity Sensor:	35630-32
Serial No.	324976	Serial No.	324976
pH =4.0	4.0	Standard	
pH = 7.0	7.0	Standard	
pH = 7.0		Standard	
pH = 10.0		Standard	

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time

Well # MW-23

Well Diameter (D) 2 inch of 25.25 feet(ft) bgs
Conversion Factor (C): 3.143*(D/2)^2
for a 2 inch well C = 0.163
for a 4 inch well C = 0.652
*Free Product Thickness 1.17 ft
Total Well Depth (TWD) 25.25 ft bgs
Depth to Groundwater (DGW) 19.33/20.50 ft bgs
Length of Water Colum (LWC = TWD-DGW) ft
1 Casing Volume (LWC*C) = 0.00 X .17 = gals
3 Casing Volumes = 3 X 1.02 = gals
(Standard Purge Volume)

Total Volume of Water Purged Before Sampling -- gals

*If free product is present over 1/8 inch, sampling will not be required.

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post	Sample
Volume Purged (gallons)								
Time (military)								
pH (s.u)								
Specific Conductivity								
Water Temperature (°C)								
Turbidity (subjective: clear, slightly cloudy, cloudy)								
Dissolved Oxygen (mg/l)								

Remarks: 1.17 ft. of Free product detected @ time of sampling

BUNNELL-LAMMONS ENGINEERING, INC.

Field Data Information Sheet for Ground Water Sampling
Division of Underground Storage Tank Management

Date 11/21/13
Field Personnel W. Sh
General weather Conditions
Ambient Air Temperature (°C)

Facility Name: Former Enmark 380 Site ID #: 06588

Quality Assurance

pH Sensor:	Oakton 35630-62	Conductivity Sensor:	35630-32
Serial No.	324976	Serial No.	324976
pH =4.0	4.0	Standard	
pH = 7.0	7.0	Standard	
pH = 7.0		Standard	
pH = 10.0		Standard	

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time

Well # MW-24

Well Diameter (D) 2 inch of 25.42 feet(ft) bgs
Conversion Factor (C): 3.143*(D/2)^2
for a 2 inch well C = 0.163
for a 4 inch well C = 0.652
*Free Product Thickness 0.58 ft
Total Well Depth (TWD) 25.42 ft bgs
Depth to Groundwater (DGW) 20.24 / 20.82 ft bgs
Length of Water Colum (LWC = TWD-DGW) ft
1 Casing Volume (LWC*C) = 0.00 X .17 = gals
3 Casing Volumes = 3 X 0.00 = gals
(Standard Purge Volume)

Total Volume of Water Purged Before Sampling -- gals

*If free product is present over 1/8 inch, sampling will not be required.

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post	Sample
Volume Purged (gallons)								
Time (military)								
pH (s.u)								
Specific Conductivity								
Water Temperature (°C)								
Turbidity (subjective: clear, slightly cloudy, cloudy)								
Dissolved Oxygen (mg/l)								

Remarks: Replaced 1 missing bolt.

0.58 ft of free product detected @ time of sampling

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BUNNELL-LAMMONS ENGINEERING, INC.

Field Data Information Sheet for Ground Water Sampling
Division of Underground Storage Tank Management

Date 11/14/13
Field Personnel W. Sa[illegible]
General weather Conditions
Ambient Air Temperature (°C)

Facility Name: Former Enmark 380 Site ID #: 06588

Quality Assurance

pH Sensor:	Oakton 35630-62	Conductivity Sensor:	35630-32
Serial No.	324976	Serial No.	324976
pH =4.0	4.0	Standard	
pH = 7.0	7.0	Standard	
pH = 7.0		Standard	
pH = 10.0		Standard	

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time

Well # MW-24D

Well Diameter (D) 2 inch of 46.03 feet(ft) bgs
Conversion Factor (C): 3.143*(D/2)^2
for a 2 inch well C = 0.163
for a 4 inch well C = 0.652
*Free Product Thickness — ft
Total Well Depth (TWD) 46.03 ft bgs
Depth to Groundwater (DGW) 19.26 ft bgs
Length of Water Colum (LWC = TWD-DGW) 26.77 ft
1 Casing Volume (LWC*C) = 0.00 X .17 = 4.55 gals
3 Casing Volumes = 3 X 0.00 = 13.65 gals
(Standard Purge Volume)

Total Volume of Water Purged Before Sampling 14.0 gals

*If free product is present over 1/8 inch, sampling wiil not be required.

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post	Sample
Volume Purged (gallons)	—	5.0	10.0	14.0				
Time (military)	1420	1425	1430	1435				
pH (s.u)	6.54	6.41	6.28	6.09				
Specific Conductivity	170.9	172.1	173.2	173.0				
Water Temperature (°C)	21.5	21.8	22.0	22.2				
Turbidity (subjective: clear, slightly cloudy, cloudy)	230	>1,100	550	180				
Dissolved Oxygen (mg/l)	3.5							

Remarks: Replaced 2 missing bolts Well Sampled @ 1435 on 11/14/13

BUNNELL-LAMMONS ENGINEERING, INC.

Field Data Information Sheet for Ground Water Sampling
Division of Underground Storage Tank Management

Date 11/12/13
Field Personnel [illegible]
General weather Conditions
Ambient Air Temperature (°C)

Facility Name: Former Enmark 380 Site ID #: 06588

Quality Assurance

pH Sensor:	Oakton 35630-62	Conductivity Sensor:	35630-32
Serial No.	324976	Serial No.	324976
pH =4.0	4.0	Standard	
pH = 7.0	7.0	Standard	
pH = 7.0		Standard	
pH = 10.0		Standard	

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time

Well # MW-25

Well Diameter (D) 2 inch of 25.38 feet(ft) bgs
Conversion Factor (C): 3.143*(D/2)^2
for a 2 inch well C = 0.163
for a 4 inch well C = 0.652
*Free Product Thickness 0.04 ft
Total Well Depth (TWD) 25.38 ft bgs
Depth to Groundwater (DGW) 20.74/20.80 ft bgs
Length of Water Colum (LWC = TWD-DGW) ft
1 Casing Volume (LWC*C) = 0.00 X .17 = gals
3 Casing Volumes = 3 X 0.00 = gals
(Standard Purge Volume)

Total Volume of Water Purged Before Sampling -- gals

*If free product is present over 1/8 inch, sampling will not be required.

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post	Sample
Volume Purged (gallons)								
Time (military)								
pH (s.u)								
Specific Conductivity								
Water Temperature (°C)								
Turbidity (subjective: clear, slightly cloudy, cloudy)								
Dissolved Oxygen (mg/l)								

Remarks: 0.04 ft. of free product detected @ time of sampling

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BUNNELL-LAMMONS ENGINEERING, INC.

Field Data Information Sheet for Ground Water Sampling
Division of Underground Storage Tank Management

Date 11/12/13

Field Personnel W. Sz Cz

General weather Conditions

Ambient Air Temperature (°C)

Facility Name: Former Enmark 380 Site ID #: 06588

Quality Assurance

pH Sensor:	Oakton 35630-62	Conductivity Sensor:	35630-32
Serial No.	324976	Serial No.	324976
pH =4.0	4.0	Standard	
pH = 7.0	7.0	Standard	
pH = 7.0		Standard	
pH = 10.0		Standard	

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time

Well # MW-26

Well Diameter (D) 2 inch of 27.00 feet(ft) bgs

Conversion Factor (C): 3.143*(D/2)^2

for a 2 inch well C = 0.163

for a 4 inch well C = 0.652

*Free Product Thickness --- ft

Total Well Depth (TWD) 27.00 ft bgs

Depth to Groundwater (DGW) 20.68 ft bgs

Length of Water Colum (LWC = TWD-DGW) 6.32 ft

1 Casing Volume (LWC*C) = 0.00 X .17 = 1.07 gals

3 Casing Volumes = 3 X 0.00 = 3.21 gals

(Standard Purge Volume)

Total Volume of Water Purged Before Sampling 3.5 gals

*If free product is present over 1/8 inch, sampling wiil not be required.

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post	Sample
Volume Purged (gallons)	—	1.5	3.0	3.5				
Time (military)	1257	1300	1304	1307				
pH (s.u)	4.31	4.93	4.60	4.57				
Specific Conductivity	107.7	105.3	103.6	105.1				
Water Temperature (°C)	22.9	22.5	22.0	22.1				
Turbidity (subjective: clear, slightly cloudy, cloudy)	>1,100	500	370	65				
Dissolved Oxygen (mg/l)	1.5							

Remarks: Sli. pet. odor

Well Sampled @ 1307 on 11/12/13

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BUNNELL-LAMMONS ENGINEERING, INC.

Field Data Information Sheet for Ground Water Sampling
Division of Underground Storage Tank Management

Date 11/12/13
Field Personnel W. St-Clair
General weather Conditions warm, clear, sunny
Ambient Air Temperature (°C) 0

Facility Name: Former Enmark 380 Site ID #: 06588

Quality Assurance

pH Sensor:	Oakton 35630-62	Conductivity Sensor:	35630-32
Serial No.	324976	Serial No.	324976
pH =4.0	4.0	Standard	
pH = 7.0	7.0	Standard	
pH = 7.0		Standard	
pH = 10.0		Standard	

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time

Well # MW-27

Well Diameter (D) 2 inch of 27.25 feet(ft) bgs
Conversion Factor (C): 3.143*(D/2)^2
for a 2 inch well C = 0.163
for a 4 inch well C = 0.652
*Free Product Thickness --- ft
Total Well Depth (TWD) 27.25 ft bgs
Depth to Groundwater (DGW) 20.14 ft bgs
Length of Water Colum (LWC = TWD-DGW) 7.11 ft
1 Casing Volume (LWC*C) = 0.00 X .17 = 1.21 gals
3 Casing Volumes = 3 X 0.00 = 3.63 gals
(Standard Purge Volume)

Total Volume of Water Purged Before Sampling 4.0 gals

*If free product is present over 1/8 inch, sampling wiil not be required.

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post	Sample
Volume Purged (gallons)	–	1.5	3.0	4.0				
Time (military)	1226	1230	1234	1238				
pH (s.u)	4.30	4.32	4.08	4.17				
Specific Conductivity	114.9	115.2	114.6	114.4				
Water Temperature (°C)	23.3	23.6	23.7	23.2				
Turbidity (subjective: clear, slightly cloudy, cloudy)	>1,100	>1,100	230	70				
Dissolved Oxygen (mg/l)	3.4							

Remarks: Well Sampled @ 1238 on 11/12/13

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BUNNELL-LAMMONS ENGINEERING, INC.

Field Data Information Sheet for Ground Water Sampling
Division of Underground Storage Tank Management

Date 11/13/13

Field Personnel W. Sh Cli

General weather Conditions

Ambient Air Temperature (°C)

Facility Name: Former Enmark 380 Site ID #: 06588

Quality Assurance

pH Sensor:	Oakton 35630-62	Conductivity Sensor:	35630-32
Serial No.	324976	Serial No.	324976
pH =4.0	4.0	Standard	
pH = 7.0	7.0	Standard	
pH = 7.0		Standard	
pH = 10.0		Standard	

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time

Well # MW-28

Well Diameter (D) 2 inch of 25.50 feet(ft) bgs

Conversion Factor (C): 3.143*(D/2)^2

for a 2 inch well C = 0.163

for a 4 inch well C = 0.652

*Free Product Thickness --- ft

Total Well Depth (TWD) 25.50 ft bgs

Depth to Groundwater (DGW) 18.38 ft bgs

Length of Water Colum (LWC = TWD-DGW) 7.12 ft

1 Casing Volume (LWC*C) = 0.00 X .17 = 1.21 gals

3 Casing Volumes = 3 X 0.00 = 3.63 gals

(Standard Purge Volume)

Total Volume of Water Purged Before Sampling 3.5 gals

*If free product is present over 1/8 inch, sampling will not be required.

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post	Sample
Volume Purged (gallons)	—	1.5	3.0	3.5				
Time (military)	1440	1443	1447	1451				
pH (s.u)	6.13	5.74	5.58	5.32				
Specific Conductivity	110.8	80.3	62.2	55.2				
Water Temperature (°C)	18.1	20.6	20.7	20.6				
Turbidity (subjective: clear, slightly cloudy, cloudy)	>1,100	>1,100	>1,100	190				
Dissolved Oxygen (mg/l)	4.5							

Remarks: Well purged dry after 3.5 gallons Well Sampled @ 1451 on 11/13/13

BLE

BUNNELL-LAMMONS ENGINEERING, INC.

Field Data Information Sheet for Ground Water Sampling
Division of Underground Storage Tank Management

Date 11/13/13
Field Personnel W. St. Clair
General weather Conditions
Ambient Air Temperature (°C)

Facility Name: Former Enmark 380 Site ID #: 06588

Quality Assurance

pH Sensor:	Oakton 35630-62	Conductivity Sensor:	35630-32
Serial No.	324976	Serial No.	324976
pH =4.0	4.0	Standard	
pH = 7.0	7.0	Standard	
pH = 7.0		Standard	
pH = 10.0		Standard	

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time

Well # MW-29

Well Diameter (D) 2 inch of 25.00 feet(ft) bgs
Conversion Factor (C): 3.143*(D/2)^2
for a 2 inch well C = 0.163
for a 4 inch well C = 0.652
*Free Product Thickness --- ft
Total Well Depth (TWD) 25.00 ft bgs
Depth to Groundwater (DGW) 17.63 ft bgs
Length of Water Colum (LWC = TWD-DGW) 7.37 ft
1 Casing Volume (LWC*C) = 0.00 X .17 = 1.25 gals
3 Casing Volumes = 3 X 0.00 = 3.75 gals
(Standard Purge Volume)

Total Volume of Water Purged Before Sampling 4.0 gals

*If free product is present over 1/8 inch, sampling will not be required.

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post	Sample
Volume Purged (gallons)	–	1.5	3.0	4.0				
Time (military)	1418	1422	1426	1430				
pH (s.u)	6.92	5.77	5.61	5.35				
Specific Conductivity	227	61.5	59.3	54.5				
Water Temperature (°C)	19.4	21.2	20.5	20.4				
Turbidity (subjective: clear, slightly cloudy, cloudy)	>1,100	>1,100	>1,100	>1,100				
Dissolved Oxygen (mg/l)	3.3							

Remarks: Well sampled @ 1430 on 11/13/13

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BUNNELL-LAMMONS ENGINEERING, INC.

Field Data Information Sheet for Ground Water Sampling
Division of Underground Storage Tank Management

Date 11/13/13

Field Personnel W. Stan Click

General weather Conditions

Ambient Air Temperature (°C)

Facility Name: Former Enmark 380 Site ID #: 06588

Quality Assurance

pH Sensor:	Oakton 35630-62	Conductivity Sensor:	35630-32
Serial No.	324976	Serial No.	324976
pH =4.0	4.0	Standard	
pH = 7.0	7.0	Standard	
pH = 7.0		Standard	
pH = 10.0		Standard	

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time

Well # MW-30

Well Diameter (D) 2 inch of 24.00 feet(ft) bgs

Conversion Factor (C): 3.143*(D/2)^2

for a 2 inch well C = 0.163

for a 4 inch well C = 0.652

*Free Product Thickness --- ft

Total Well Depth (TWD) 24.00 ft bgs

Depth to Groundwater (DGW) 16.80 ft bgs

Length of Water Colum (LWC = TWD-DGW) 7.20 ft

1 Casing Volume (LWC*C) = 0.00 X .17 = 1.22 gals

3 Casing Volumes = 3 X 0.00 = 3.66 gals

(Standard Purge Volume)

Total Volume of Water Purged Before Sampling 4.0 gals

*If free product is present over 1/8 inch, sampling will not be required.

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post	Sample
Volume Purged (gallons)	—	1.5	3.0	4.0				
Time (military)	1350	1355	1400	1405				
pH (s.u)	6.40	6.32	6.17	5.92				
Specific Conductivity	247	248	245	244				
Water Temperature (°C)	19.8	19.8	19.6	20.7				
Turbidity (subjective: clear, slightly cloudy, cloudy)	>1,100	>1,100	>1,100	>1,100				
Dissolved Oxygen (mg/l)	2.0							

Remarks: Well sampled @ 1405 on 11/13/13

BLE

BUNNELL-LAMMONS ENGINEERING, INC.

Field Data Information Sheet for Ground Water Sampling
Division of Underground Storage Tank Management

Date 11/13/13
Field Personnel W.S. CB
General weather Conditions
Ambient Air Temperature (°C)

Facility Name: Former Enmark 380 Site ID #: 06588

Quality Assurance

pH Sensor:	Oakton 35630-62	Conductivity Sensor:	35630-32
Serial No.	324976	Serial No.	324976
pH =4.0	4.0	Standard	
pH = 7.0	7.0	Standard	
pH = 7.0		Standard	
pH = 10.0		Standard	

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time

Well # MW-30D

Well Diameter (D) 2 inch of 46.30 feet(ft) bgs
Conversion Factor (C): 3.143*(D/2)^2
for a 2 inch well C = 0.163
for a 4 inch well C = 0.652
*Free Product Thickness --- ft
Total Well Depth (TWD) 46.30 ft bgs
Depth to Groundwater (DGW) 16.64 ft bgs
Length of Water Colum (LWC = TWD-DGW) 29.66 ft
1 Casing Volume (LWC*C) = X .17 = 5.04 gals
3 Casing Volumes = 3 X = 15.12 gals
(Standard Purge Volume)

Total Volume of Water Purged Before Sampling 15.5 gals

*If free product is present over 1/8 inch, sampling will not be required.

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post	Sample
Volume Purged (gallons)	–	5.5	11.0	15.5				
Time (military)	1140	1146	1152	1200				
pH (s.u)	7.52	6.62	6.52	6.18				
Specific Conductivity	312	186.1	171.7	162.4				
Water Temperature (°C)	18.6	19.1	18.4	18.3				
Turbidity (subjective: clear, slightly cloudy, cloudy)	>100	120	80	34				
Dissolved Oxygen (mg/l)	3.0							

Remarks: Well Sampled @ 1200 on 11/13/13

BLE

BUNNELL-LAMMONS ENGINEERING, INC.

Field Data Information Sheet for Ground Water Sampling
Division of Underground Storage Tank Management

Date 11/11/13
Field Personnel [illegible]
General weather Conditions
Ambient Air Temperature (°C)

Facility Name: Former Enmark 380 Site ID #: 06588

Quality Assurance

pH Sensor:	Oakton 35630-62	Conductivity Sensor:	35630-32
Serial No.	324976	Serial No.	324976
pH =4.0	4.0	Standard	
pH = 7.0	7.0	Standard	
pH = 7.0		Standard	
pH = 10.0		Standard	

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time

Well # MW-31

Well Diameter (D) 2 inch of 25.25 feet(ft) bgs
Conversion Factor (C): 3.143*(D/2)^2
for a 2 inch well C = 0.163
for a 4 inch well C = 0.652
*Free Product Thickness --- ft
Total Well Depth (TWD) 25.25 ft bgs
Depth to Groundwater (DGW) ft bgs
Length of Water Colum (LWC = TWD-DGW) ft
1 Casing Volume (LWC*C) = 0.00 X .17 = gals
3 Casing Volumes = 3 X 0.00 = gals
(Standard Purge Volume)

Total Volume of Water Purged Before Sampling – gals

*If free product is present over 1/8 inch, sampling will not be required.

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post	Sample
Volume Purged (gallons)								
Time (military)								
pH (s.u)								
Specific Conductivity								
Water Temperature (°C)								
Turbidity (subjective: clear, slightly cloudy, cloudy)								
Dissolved Oxygen (mg/l)								

Remarks: well potentially destoyed due to heavy traffic. unable to locate well @ time of sampling

BLE

BUNNELL-LAMMONS ENGINEERING, INC.

Field Data Information Sheet for Ground Water Sampling
Division of Underground Storage Tank Management

Date 11/13/13
Field Personnel W. Sa Ce
General weather Conditions
Ambient Air Temperature (°C)

Facility Name: Former Enmark 380 Site ID #: 06588

Quality Assurance

pH Sensor:	Oakton 35630-62	Conductivity Sensor:	35630-32
Serial No.	324976	Serial No.	324976
pH =4.0	4.0	Standard	
pH = 7.0	7.0	Standard	
pH = 7.0		Standard	
pH = 10.0		Standard	

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time

Well # MW-32

Well Diameter (D) 2 inch of 25.25 feet(ft) bgs
Conversion Factor (C): 3.143*(D/2)^2
for a 2 inch well C = 0.163
for a 4 inch well C = 0.652
*Free Product Thickness — ft
Total Well Depth (TWD) 25.25 ft bgs
Depth to Groundwater (DGW) 17.69 ft bgs
Length of Water Colum (LWC = TWD-DGW) 7.56 ft
1 Casing Volume (LWC*C) = 0.00 X .17 = 1.29 gals
3 Casing Volumes = 3 X 0.00 = 3.87 gals
(Standard Purge Volume)

Total Volume of Water Purged Before Sampling 4.0 gals

*If free product is present over 1/8 inch, sampling will not be required.

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post	Sample
Volume Purged (gallons)	-	1.5	3.0	4.0				
Time (military)	1315	1318	1322	1326				
pH (s.u)	6.21	6.18	6.15	6.10				
Specific Conductivity	196.7	177.3	143.9	173.9				
Water Temperature (°C)	20.3	22.1	22.3	22.5				
Turbidity (subjective: clear, slightly cloudy, cloudy)	>1,100	>1,100	>1,100	>1,100				
Dissolved Oxygen (mg/l)	1.9							

Remarks: Well sampled @ 1326 on 11/13/13

BLE

BUNNELL-LAMMONS ENGINEERING, INC.

Field Data Information Sheet for Ground Water Sampling
Division of Underground Storage Tank Management

Date 11/14/14
Field Personnel [illegible]
General weather Conditions
Ambient Air Temperature (°C)

Facility Name: Former Enmark 380 Site ID #: 06588

Quality Assurance

pH Sensor:	Oakton 35630-62	Conductivity Sensor:	35630-32
Serial No.	324976	Serial No.	324976
pH =4.0	4.0	Standard	
pH = 7.0	7.0	Standard	
pH = 7.0		Standard	
pH = 10.0		Standard	

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time

Well # MW-33

Well Diameter (D) 2 inch of 26.25 feet(ft) bgs
Conversion Factor (C): 3.143*(D/2)^2
for a 2 inch well C = 0.163
for a 4 inch well C = 0.652
*Free Product Thickness --- ft
Total Well Depth (TWD) 26.25 ft bgs
Depth to Groundwater (DGW) 18.58 ft bgs
Length of Water Colum (LWC = TWD-DGW) 7.67 ft
1 Casing Volume (LWC*C) = 0.00 X .17 = 1.30 gals
3 Casing Volumes = 3 X 0.00 = 3.90 gals
(Standard Purge Volume)

Total Volume of Water Purged Before Sampling 4.0 gals

*If free product is present over 1/8 inch, sampling will not be required.

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post	Sample
Volume Purged (gallons)	-	1.5	3.0	4.0				
Time (military)	0955	1000	1005	1010				
pH (s.u)	5.35	5.21	5.17	5.09				
Specific Conductivity	69.6	67.3	67.1	66.8				
Water Temperature (°C)	20.7	21.9	22.1	22.2				
Turbidity (subjective: clear, slightly cloudy, cloudy)	>1,100	>1,100	>1,100	>1,100				
Dissolved Oxygen (mg/l)	2.0							

Remarks: Well sampled @ 1010 on 11/14/13

BUNNELL-LAMMONS ENGINEERING, INC.

Field Data Information Sheet for Ground Water Sampling
Division of Underground Storage Tank Management

Date 11/13/13
Field Personnel W. Sa
General weather Conditions
Ambient Air Temperature (°C)

Facility Name: Former Enmark 380 Site ID #: 06588

Quality Assurance

pH Sensor:	Oakton 35630-62	Conductivity Sensor:	35630-32
Serial No.	324976	Serial No.	324976
pH =4.0	4.0	Standard	
pH = 7.0	7.0	Standard	
pH = 7.0		Standard	
pH = 10.0		Standard	

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time

Well # MW-33D

Well Diameter (D) 2 inch of 48.35 feet(ft) bgs
Conversion Factor (C): 3.143*(D/2)^2
for a 2 inch well C = 0.163
for a 4 inch well C = 0.652
*Free Product Thickness --- ft
Total Well Depth (TWD) 48.35 ft bgs
Depth to Groundwater (DGW) 18.67 ft bgs
Length of Water Colum (LWC = TWD-DGW) 29.68 ft
1 Casing Volume (LWC*C) = 0.00 X .17 = 5.05 gals
3 Casing Volumes = 3 X 0.00 = 15.15 gals
(Standard Purge Volume)

Total Volume of Water Purged Before Sampling 15.5 gals

*If free product is present over 1/8 inch, sampling will not be required.

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post	Sample
Volume Purged (gallons)	–	5.5	11.0	15.5				
Time (military)	1238	1244	1251	1300				
pH (s.u)	7.52	7.44	6.80	6.75				
Specific Conductivity	1163.6	268	313	318				
Water Temperature (°C)	21.2	21.3	22.2	22.3				
Turbidity (subjective: clear, slightly cloudy, cloudy)	72,100	400	400	230				
Dissolved Oxygen (mg/l)	1.5							

Remarks: Well sampled @ 1300 on 11/13/13

BLE

BUNNELL-LAMMONS ENGINEERING, INC.

Field Data Information Sheet for Ground Water Sampling
Division of Underground Storage Tank Management

Date 11/12/13
Field Personnel W. Smoot
General weather Conditions
Ambient Air Temperature (°C)

Facility Name: Former Enmark 380 Site ID #: 06588

Quality Assurance

pH Sensor:	Oakton 35630-62	Conductivity Sensor:	35630-32
Serial No.	324976	Serial No.	324976
pH =4.0	4.0	Standard	
pH = 7.0	7.0	Standard	
pH = 7.0		Standard	
pH = 10.0		Standard	

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time

Well # MW-34

Well Diameter (D) 2 inch of 18.25 feet(ft) bgs
Conversion Factor (C): 3.143*(D/2)^2
for a 2 inch well C = 0.163
for a 4 inch well C = 0.652
*Free Product Thickness --- ft
Total Well Depth (TWD) 18.25 ft bgs
Depth to Groundwater (DGW) 12.25 ft bgs
Length of Water Colum (LWC = TWD-DGW) 6.00 ft
1 Casing Volume (LWC*C) = 0.00 X .17 = 1.02 gals
3 Casing Volumes = 3 X 0.00 = 3.06 gals
(Standard Purge Volume)

Total Volume of Water Purged Before Sampling 3.5 gals

*If free product is present over 1/8 inch, sampling will not be required.

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post	Sample
Volume Purged (gallons)	–	1.5	3.0	3.5				
Time (military)	1435	1438	1441	1445				
pH (s.u)	5.60	5.71	5.95	6.05				
Specific Conductivity	30.0	31.3	32.7	33.3				
Water Temperature (°C)	19.8	19.5	19.4	19.3				
Turbidity (subjective: clear, slightly cloudy, cloudy)	>1,100	>1,100	>1,100	>1,100				
Dissolved Oxygen (mg/l)	4.7							

Remarks: Well sampled @ 1445 on 11/12/13

BLE

BUNNELL-LAMMONS ENGINEERING, INC.

Field Data Information Sheet for Ground Water Sampling
Division of Underground Storage Tank Management

Date 11/11/13
Field Personnel W. Sin Click
General weather Conditions
Ambient Air Temperature (°C)

Facility Name: Former Enmark 380 Site ID #: 06588

Quality Assurance

pH Sensor:	Oakton 35630-62	Conductivity Sensor:	35630-32
Serial No.	324976	Serial No.	324976
pH =4.0	4.0	Standard	
pH = 7.0	7.0	Standard	
pH = 7.0		Standard	
pH = 10.0		Standard	

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time

Well # MW-35

Well Diameter (D) 2 inch of 14.25 feet(ft) bgs
Conversion Factor (C): 3.143*(D/2)^2
for a 2 inch well C = 0.163
for a 4 inch well C = 0.652
*Free Product Thickness --- ft
Total Well Depth (TWD) 14.25 ft bgs
Depth to Groundwater (DGW) ft bgs
Length of Water Colum (LWC = TWD-DGW) ft
1 Casing Volume (LWC*C) = 0.00 X .17 = gals
3 Casing Volumes = 3 X 0.00 = gals
(Standard Purge Volume)

Total Volume of Water Purged Before Sampling -- gals

*If free product is present over 1/8 inch, sampling will not be required.

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post	Sample
Volume Purged (gallons)								
Time (military)								
pH (s.u)								
Specific Conductivity								
Water Temperature (°C)								
Turbidity (subjective: clear, slightly cloudy, cloudy)								
Dissolved Oxygen (mg/l)								

Remarks: Unable to locate - covered w/ overgrown vegitation and septic runoff

BLE

BUNNELL-LAMMONS ENGINEERING, INC.

Field Data Information Sheet for Ground Water Sampling
Division of Underground Storage Tank Management

Date 11/12/13
Field Personnel W. Sr Chick
General weather Conditions
Ambient Air Temperature (°C)

Facility Name: Former Enmark 380 Site ID #: 06588

Quality Assurance

pH Sensor:	Oakton 35630-62	Conductivity Sensor:	35630-32
Serial No.	324976	Serial No.	324976
pH =4.0	4.0	Standard	
pH = 7.0	7.0	Standard	
pH = 7.0		Standard	
pH = 10.0		Standard	

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time

Well # MW-36

Well Diameter (D) 2 inch of 31.00 feet(ft) bgs
Conversion Factor (C): 3.143*(D/2)^2
for a 2 inch well C = 0.163
for a 4 inch well C = 0.652
*Free Product Thickness --- ft
Total Well Depth (TWD) 31.00 ft bgs
Depth to Groundwater (DGW) 12.86 ft bgs
Length of Water Colum (LWC = TWD-DGW) 18.14 ft
1 Casing Volume (LWC*C) = 0.00 X .17 = 3.08 gals
3 Casing Volumes = 3 X 0.00 = 9.24 gals
(Standard Purge Volume)

Total Volume of Water Purged Before Sampling 9.5 gals

*If free product is present over 1/8 inch, sampling will not be required.

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post	Sample
Volume Purged (gallons)	—	3.5	7.0	9.5				
Time (military)	1500	1505	1510	1515				
pH (s.u)	6.52	6.58	6.61	6.45				
Specific Conductivity	225	204	175.0	168.7				
Water Temperature (°C)	18.6	18.5	18.6	17.9				
Turbidity (subjective: clear, slightly cloudy, cloudy)	>1,100	>1,100	>1,100	>1,100				
Dissolved Oxygen (mg/l)	2.6							

Remarks: Well sampled @ 1515 on 11/12/13

BLE

BUNNELL-LAMMONS ENGINEERING, INC.

Field Data Information Sheet for Ground Water Sampling
Division of Underground Storage Tank Management

Date 11/13/13
Field Personnel W. Smith
General weather Conditions sunny, clear, cool
Ambient Air Temperature (°C)

Facility Name: Former Enmark 380 Site ID #: 06588

Quality Assurance

pH Sensor:	Oakton 35630-62	Conductivity Sensor:	35630-32
Serial No.	324976	Serial No.	324976
pH =4.0	4.0	Standard	
pH = 7.0	7.0	Standard	
pH = 7.0		Standard	
pH = 10.0		Standard	

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time

Well # MW-37

Well Diameter (D) 2 inch of 21.69 feet(ft) bgs
Conversion Factor (C): 3.143*(D/2)^2
for a 2 inch well C = 0.163
for a 4 inch well C = 0.652
*Free Product Thickness --- ft
Total Well Depth (TWD) 21.69 ft bgs
Depth to Groundwater (DGW) 4.00 ft bgs
Length of Water Colum (LWC = TWD-DGW) 17.69 ft
1 Casing Volume (LWC*C) = 0.00 X .17 = 3.01 gals
3 Casing Volumes = 3 X 0.00 = 9.03 gals
(Standard Purge Volume)

Total Volume of Water Purged Before Sampling 9.5 gals

*If free product is present over 1/8 inch, sampling wiil not be required.

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post	Sample
Volume Purged (gallons)	—	3.5	7.0	9.5				
Time (military)	0950	0955	1000	1005				
pH (s.u)	6.23	6.05	6.01	5.97				
Specific Conductivity	116.6	107.9	103.8	103.2				
Water Temperature (°C)	19.3	19.4	19.0	19.2				
Turbidity (subjective: clear, slightly cloudy, cloudy)	>1100	850	290	140				
Dissolved Oxygen (mg/l)	6.2							

Remarks: Well sampled @ 1005 on 11/13/13

BLE

BUNNELL-LAMMONS ENGINEERING, INC.

Field Data Information Sheet for Ground Water Sampling
Division of Underground Storage Tank Management

Date 11/13/13
Field Personnel W. Sanchez
General weather Conditions
Ambient Air Temperature (°C)

Facility Name: Former Enmark 380 Site ID #: 06588

Quality Assurance

pH Sensor:	Oakton 35630-62	Conductivity Sensor:	35630-32
Serial No.	324976	Serial No.	324976
pH =4.0	4.0	Standard	
pH = 7.0	7.0	Standard	
pH = 7.0		Standard	
pH = 10.0		Standard	

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time

Well # MW-38

Well Diameter (D) 2 inch of 25.00 feet(ft) bgs
Conversion Factor (C): 3.143*(D/2)^2
for a 2 inch well C = 0.163
for a 4 inch well C = 0.652
*Free Product Thickness — ft
Total Well Depth (TWD) 25.00 ft bgs
Depth to Groundwater (DGW) 15.61 ft bgs
Length of Water Colum (LWC = TWD-DGW) 9.39 ft
1 Casing Volume (LWC*C) = 0.00 X .17 = 1.60 gals
3 Casing Volumes = 3 X 0.00 = 4.80 gals
(Standard Purge Volume)

Total Volume of Water Purged Before Sampling 5.0 gals

*If free product is present over 1/8 inch, sampling will not be required.

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post	Sample
Volume Purged (gallons)	—	2.0	4.0	5.0				
Time (military)	1040	1045	1050	1055				
pH (s.u)	4.94	4.33	4.29	4.26				
Specific Conductivity	378	355	341	329				
Water Temperature (°C)	18.2	19.5	19.1	18.6				
Turbidity (subjective: clear, slightly cloudy, cloudy)	>1,100	>1,100	>1,100	>1,100				
Dissolved Oxygen (mg/l)	1.6							

Remarks: Well Sampled @ 1055 on 11/13/13

BLE

BUNNELL-LAMMONS ENGINEERING, INC.

Field Data Information Sheet for Ground Water Sampling
Division of Underground Storage Tank Management

Date 11/13/13
Field Personnel W. Smith
General weather Conditions
Ambient Air Temperature (°C)

Facility Name: Former Enmark 380 Site ID #: 06588

Quality Assurance

pH Sensor:	Oakton 35630-62	Conductivity Sensor:	35630-32
Serial No.	324976	Serial No.	324976
pH =4.0	4.0	Standard	
pH = 7.0	7.0	Standard	
pH = 7.0		Standard	
pH = 10.0		Standard	

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time

Well # MW-39

Well Diameter (D) 2 inch of 12.00 feet(ft) bgs
Conversion Factor (C): 3.143*(D/2)^2
for a 2 inch well C = 0.163
for a 4 inch well C = 0.652
*Free Product Thickness — ft
Total Well Depth (TWD) 12.00 ft bgs
Depth to Groundwater (DGW) 2.30 ft bgs
Length of Water Colum (LWC = TWD-DGW) 9.70 ft
1 Casing Volume (LWC*C) = 0.00 X .17 = 1.65 gals
3 Casing Volumes = 3 X 0.00 = 4.95 gals
(Standard Purge Volume)

Total Volume of Water Purged Before Sampling 5.0 gals

*If free product is present over 1/8 inch, sampling will not be required.

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post	Sample
Volume Purged (gallons)	—	2.0	4.0	5.0				
Time (military)	1015	1019	1023	1028				
pH (s.u)	6.79	6.54	6.36	6.28				
Specific Conductivity	411	316	308	294				
Water Temperature (°C)	18.3	18.8	19.4	19.3				
Turbidity (subjective: clear, slightly cloudy, cloudy)	>1,100	>1,100	600	160				
Dissolved Oxygen (mg/l)	1.9							

Remarks: Replaced 2 missing bolts

Well Sampled @ 1028 on 11/13/13

BLE

BUNNELL-LAMMONS ENGINEERING, INC.

Field Data Information Sheet for Ground Water Sampling
Division of Underground Storage Tank Management

Date 11/14/13
Field Personnel W/ Smith
General weather Conditions
Ambient Air Temperature (°C)

Facility Name: Former Enmark 380 Site ID #: 06588

Quality Assurance

pH Sensor:	Oakton 35630-62	Conductivity Sensor:	35630-32
Serial No.	324976	Serial No.	324976
pH =4.0	4.0	Standard	
pH = 7.0	7.0	Standard	
pH = 7.0		Standard	
pH = 10.0		Standard	

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time

Well # MW-40

Well Diameter (D) 2 inch of 28.30 feet(ft) bgs
Conversion Factor (C): 3.143*(D/2)^2
for a 2 inch well C = 0.163
for a 4 inch well C = 0.652
*Free Product Thickness — ft
Total Well Depth (TWD) 28.30 ft bgs
Depth to Groundwater (DGW) 20.56 ft bgs
Length of Water Colum (LWC = TWD-DGW) 7.74 ft
1 Casing Volume (LWC*C) = 7.25 X .17 = 1.32 gals
3 Casing Volumes = 3 X 1.23 = 3.94 gals
(Standard Purge Volume)

Total Volume of Water Purged Before Sampling 4.0 gals

*If free product is present over 1/8 inch, sampling will not be required.

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post	Sample
Volume Purged (gallons)	—	1.5	3.0	4.0				
Time (military)	1335	1339	1344	1348				
pH (s.u)	6.57	6.56	6.55	6.54				
Specific Conductivity	463	498	503	501				
Water Temperature (°C)	20.5	20.5	20.7	20.7				
Turbidity (subjective: clear, slightly cloudy, cloudy)	>1,100	>1,100	>1,100	>1,100				
Dissolved Oxygen (mg/l)	7.3							

Remarks: Well Sampled @ 1348 on 11/14/13
Duplicate @ 1349

BLE

BUNNELL-LAMMONS ENGINEERING, INC.

Field Data Information Sheet for Ground Water Sampling
Division of Underground Storage Tank Management

Date 11/13/13
Field Personnel W. Sn Coi
General weather Conditions
Ambient Air Temperature (°C)

Facility Name: Former Enmark 380 Site ID #: 06588

Quality Assurance

pH Sensor:	Oakton 35630-62	Conductivity Sensor:	35630-32
Serial No.	324976	Serial No.	324976
pH =4.0	4.0	Standard	
pH = 7.0	7.0	Standard	
pH = 7.0		Standard	
pH = 10.0		Standard	

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time

Well # MW-41D

Well Diameter (D) 2 inch of 48.00 feet(ft) bgs
Conversion Factor (C): 3.143*(D/2)^2
for a 2 inch well C = 0.163
for a 4 inch well C = 0.652
*Free Product Thickness — ft
Total Well Depth (TWD) 48.00 ft bgs
Depth to Groundwater (DGW) 19.30 ft bgs
Length of Water Colum (LWC = TWD-DGW) 28.70 ft
1 Casing Volume (LWC*C) = 28.20 X .17 = 4.88 gals
3 Casing Volumes = 3 X 4.79 = 14.64 gals
(Standard Purge Volume)

Total Volume of Water Purged Before Sampling 15.0 gals

*If free product is present over 1/8 inch, sampling will not be required.

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post	Sample
Volume Purged (gallons)	—	5.0	10.0	15.0				
Time (military)	1212	1216	1221	1226				
pH (s.u)	12.20	7.50	6.99	6.81				
Specific Conductivity	915	474	441	415				
Water Temperature (°C)	18.5	19.5	21.3	21.2				
Turbidity (subjective: clear, slightly cloudy, cloudy)	130	220	36	50				
Dissolved Oxygen (mg/l)	2.7							

Remarks: Replaced 2 missing bolts

Well Sampled @ 1226 on 11/13/13

Field Blank # 1 @ 1645 on 11/12/13

BLE

Field Data Information Sheet for Ground Water Sampling
Division of Underground Storage Tank Management

Page _____ of _____

Date 11/12/13
Field Personnel W. [illegible]
General weather Conditions
Ambient Air Temperature (°C)

Facility Name: _____ Site ID# _____

Quality Assurance

pH Sensor:	Oakton 35630-62	**Conductivity Sensor:**	35630-32
serial no.	324976	serial no.	324976
pH =4.0	4.0	Standard	15,000
pH = 7.0	7.0	Standard	1,413
pH = 10.0	10.0	Standard	447
DO Meter	YSI 60	Standard	84
Standard	0% cal	**Turbidity:**	1.0-10.0 NTU

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time

Well # MW-42

Well Diameter (D) 2 inch of 0.00 feet(ft)
conversion factor (C): 3.143*(D/2)^2
for a 2 inch well C = 0.163
for a 4 inch well C = 0.652
*Free Product Thickness _____ ft
Total Well Depth (TWD) 12.00 ft
Depth to Groundwater (DGW) 5.16 ft
Length of Water Colum (LWC = TWD-DGW) 6.84 ft
1 Casing Volume (LWC*C) = 0.00 X .17 = 1.16 gals
3 Casing Volumes = 3 X 0.00 = 3.48 gals
(Standard Purge Volume)

Total Volume of Water Purged Before Sampling 3.5 gals

*If free product is present over 1/8 inch, sampling will not be required.

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	6th Vol.	7th Vol.	8th Vol.	Post
Volume Purged (gallons)	—	1.5	3.0	3.5						
Time (military)	1610	1613	1616	1620						
pH (s.u)	6.22	6.13	5.90	5.71						
Specific Conductivity	262	263	267	265						
Water Temperature (°C)	18.3	17.8	17.4	17.1						
Turbidity (NTU)	71,100	71,100	540	650						
Dissolved Oxygen (mg/l)	2.0									

Remarks: Well sampled @ 1620 on 11/12/13

BLE

BUNNELL-LAMMONS ENGINEERING, INC.

Field Data Information Sheet for Ground Water Sampling
Division of Underground Storage Tank Management

Date 11/12/13
Field Personnel W. Sz
General Weather Conditions
Ambient Air Temperature (°C)

Facility Name: Site ID #:

Well # MW-42D

Well Diameter (D) 2 inch of feet(ft) bgs
conversion factor (C): 3.143*(D/2)^2
for a 2 inch well C = 0.163
for a 4 inch well C = 0.652
*Free Product Thickness — ft
Total Well Depth (TWD) 42.00 ft btoc
Depth to Groundwater (DGW) 5.38 ft btoc
Length of Water Colum (LWC = TWD-DGW) 36.62 ft
1 Casing Volume (LWC*C) = 0.00 X .17 = 6.23 gals
3 Casing Volumes = 3 X 0.00 = 18.69 gals
(Standard Purge Volume)

Quality Assurance

pH Sensor:	Oakton 35630-62	**Conductivity Sensor:**	35630-32
serial no.	324976	serial no.	324976
pH =4.0	4.0	Standard	15,000
pH = 7.0	7.0	Standard	1,413
pH = 10.0	10.0	Standard	447
DO Meter	YSI 60	Standard	84
Standard	0% cal	**Turbidity:**	1.0-10.0 NTU

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time

Total Volume of Water Purged Before Sampling 19.0 gals
*If free product is present over 1/8 inch, sampling will not be required.

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	6th Vol.	7th Vol.	8th Vol.	Post
Volume Purged (gallons)	–	6.5	13.0	19.0						
Time (military)	1530	1540	1549	1600						
pH (s.u)	7.13	7.30	7.37	7.43						
Specific Conductivity (µS)	154.6	158.8	162.1	164.2						
Water Temperature (°C)	17.1	18.4	18.3	18.1						
Turbidity (NTU)	>1,100	800	625	550						
Dissolved Oxygen (mg/l)	5.1									

Remarks: Well sampled @ 1600 on 11/12/13

BLE

Field Data Information Sheet for Ground Water Sampling
Division of Underground Storage Tank Management

Page _____ of _____

Date 11/13/13
Field Personnel W. [illegible]
General weather Conditions
Ambient Air Temperature (°C)

Facility Name: _____ Site ID# _____

Quality Assurance

pH Sensor:	Oakton 35630-62	**Conductivity Sensor:**	35630-32
serial no.	324976	serial no.	324976
pH =4.0	4.0	Standard	15,000
pH = 7.0	7.0	Standard	1,413
pH = 10.0	10.0	Standard	447
DO Meter	YSI 60	Standard	84
Standard	0% cal	**Turbidity:**	1.0-10.0 NTU

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time

Well # MW-43D

Well Diameter (D) 2 inch of 0.00 feet(ft)
conversion factor (C): 3.143*(D/2)^2
for a 2 inch well C = 0.163
for a 4 inch well C = 0.652
*Free Product Thickness – ft
Total Well Depth (TWD) 32.00 ft
Depth to Groundwater (DGW) 16.72 ft
Length of Water Colum (LWC = TWD-DGW) 15.28 ft
1 Casing Volume (LWC*C) = 0.00 X .17 = 2.60 gals
3 Casing Volumes = 3 X 0.00 = 7.80 gals
(Standard Purge Volume)

Total Volume of Water Purged Before Sampling 8.0 gals

*If free product is present over 1/8 inch, sampling will not be required.

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	6th Vol.	7th Vol.	8th Vol.	Post
Volume Purged (gallons)	-	3.0	6.0	8.0						
Time (military)	1108	1114	1119	1125						
pH (s.u)	6.61	6.36	6.02	6.01						
Specific Conductivity	233	164.5	162.7	160.3						
Water Temperature (°C)	219	20.4	20.2	21.5						
Turbidity (NTU)	>1,100	>1,100	700	400						
Dissolved Oxygen (mg/l)	1.9									

Remarks: Well Sampled @ 1125 on 11/13/13.

BLE

BUNNELL-LAMMONS ENGINEERING, INC.

Field Data Information Sheet for Ground Water Sampling
Division of Underground Storage Tank Management

Date 11/14/13
Field Personnel WSB
General weather Conditions
Ambient Air Temperature (°C)

Facility Name: Former Enmark 380 Site ID #: 06588

Quality Assurance

pH Sensor:	Oakton 35630-62	Conductivity Sensor:	35630-32
Serial No.	324976	Serial No.	324976
pH =4.0	4.0	Standard	
pH = 7.0	7.0	Standard	
pH = 7.0		Standard	
pH = 10.0		Standard	

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time

Well # DW-1

Well Diameter (D) 2 inch of NA feet(ft) bgs
Conversion Factor (C): 3.143*(D/2)^2
for a 2 inch well C = 0.163
for a 4 inch well C = 0.652
*Free Product Thickness — ft
Total Well Depth (TWD) NA ft bgs
Depth to Groundwater (DGW) ft bgs
Length of Water Colum (LWC = TWD-DGW) ft
1 Casing Volume (LWC*C) = 0.00 X .17 = gals
3 Casing Volumes = 3 X 0.00 = gals
(Standard Purge Volume)

Total Volume of Water Purged Before Sampling – gals

*If free product is present over 1/8 inch, sampling will not be required.

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post	Sample
Volume Purged (gallons)								
Time (military)								
pH (s.u)								
Specific Conductivity								
Water Temperature (°C)								
Turbidity (subjective: clear, slightly cloudy, cloudy)								
Dissolved Oxygen (mg/l)								

Remarks: Well sampled @ 1515 on 11/14/13

BUNNELL-LAMMONS ENGINEERING, INC.

Field Data Information Sheet for Ground Water Sampling
Division of Underground Storage Tank Management

Date 11/14/13
Field Personnel W. Sm Ch
General Weather Conditions
Ambient Air Temperature (°C)

Facility Name: Site ID #:

Quality Assurance

pH Sensor:	Dakton 35630-62	**Conductivity Sensor:**	35630-32
serial no.	324976	serial no.	324976
pH =4.0	4.0	Standard	15,000
pH = 7.0	7.0	Standard	1,413
pH = 10.0	10.0	Standard	447
DO Meter	YSI 60	Standard	84
Standard	0% cal	**Turbidity:**	1.0-10.0 NTU

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time

Well # DW-2

Well Diameter (D) 2 inch of _____ feet(ft) bgs
conversion factor (C): 3.143*(D/2)^2
for a 2 inch well C = 0.163
for a 4 inch well C = 0.652
*Free Product Thickness _____ ft
Total Well Depth (TWD) _____ ft btoc
Depth to Groundwater (DGW) _____ ft btoc
Length of Water Colum (LWC = TWD-DGW) 0.00 ft
1 Casing Volume (LWC*C) = 0.00 X .17 = 0.00 gals
3 Casing Volumes = 3 X 0.00 = 0.00 gals
(Standard Purge Volume)

Total Volume of Water Purged Before Sampling _____ gals
*If free product is present over 1/8 inch, sampling will not be required.

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	6th Vol.	7th Vol.	8th Vol.	Post
Volume Purged (gallons)	--									
Time (military)										
pH (s.u)										
Specific Conductivity (µS)										
Water Temperature (°C)										
Turbidity (NTU)										
Dissolved Oxygen (mg/l)										

Remarks: Well sampled @ 1615 on 11/14/13

BUNNELL-LAMMONS ENGINEERING, INC.

Field Data Information Sheet for Ground Water Sampling
Division of Underground Storage Tank Management

Date 11/14/13
Field Personnel W. Smith
General weather Conditions
Ambient Air Temperature (°C)

Facility Name: Former Enmark 380 Site ID #: 06588

Quality Assurance

pH Sensor:	Oakton 35630-62	Conductivity Sensor:	35630-32
Serial No.	324976	Serial No.	324976
pH =4.0	4.0	Standard	
pH = 7.0	7.0	Standard	
pH = 7.0		Standard	
pH = 10.0		Standard	

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time

Well # DW-3

Well Diameter (D) 2 inch of NA feet(ft) bgs
Conversion Factor (C): 3.143*(D/2)^2
for a 2 inch well C = 0.163
for a 4 inch well C = 0.652
*Free Product Thickness — ft
Total Well Depth (TWD) NA ft bgs
Depth to Groundwater (DGW) ft bgs
Length of Water Colum (LWC = TWD-DGW) ft
1 Casing Volume (LWC*C) = 0.00 X .17 = gals
3 Casing Volumes = 3 X 0.00 = gals
(Standard Purge Volume)

Total Volume of Water Purged Before Sampling -- gals

*If free product is present over 1/8 inch, sampling will not be required.

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post	Sample
Volume Purged (gallons)								
Time (military)								
pH (s.u)								
Specific Conductivity								
Water Temperature (°C)								
Turbidity (subjective: clear, slightly cloudy, cloudy)								
Dissolved Oxygen (mg/l)								

Remarks: Well sampled @ 1600 on 11/14/13

BLE

BUNNELL-LAMMONS ENGINEERING, INC.

Field Data Information Sheet for Ground Water Sampling
Division of Underground Storage Tank Management

Date 11/14/13

Field Personnel W. S[illegible]

General Weather Conditions Overcast, ptly rainy

Ambient Air Temperature (°C)

Facility Name: _____ Site ID #: _____

Quality Assurance

pH Sensor:	Oakton 35630-62	**Conductivity Sensor:**	35630-32
serial no.	324976	serial no.	324976
pH =4.0	4.0	Standard	15,000
pH = 7.0	7.0	Standard	1,413
pH = 10.0	10.0	Standard	447
DO Meter	YSI 60	Standard	84
Standard	0% cal	**Turbidity:**	1.0-10.0 NTU

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time

Well # TW-4

Well Diameter (D) 2 inch of _____ feet(ft) bgs

conversion factor (C): 3.143*(D/2)^2

for a 2 inch well C = 0.163

for a 4 inch well C = 0.652

*Free Product Thickness _____ ft

Total Well Depth (TWD) _____ ft btoc

Depth to Groundwater (DGW) _____ ft btoc

Length of Water Colum (LWC = TWD-DGW) 0.00 ft

1 Casing Volume (LWC*C) = 0.00 X .17 = 0.00 gals

3 Casing Volumes = 3 X 0.00 = 0.00 gals

(Standard Purge Volume)

Total Volume of Water Purged Before Sampling _____ gals

*If free product is present over 1/8 inch, sampling will not be required.

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	6th Vol.	7th Vol.	8th Vol.	Post
Volume Purged (gallons)	--									
Time (military)										
pH (s.u)										
Specific Conductivity (µS)										
Water Temperature (°C)										
Turbidity (NTU)										
Dissolved Oxygen (mg/l)										

Remarks: Not working. unpable to sample.

FIELD BLANK #3 @ 1800 on 11/14/13

BUNNELL-LAMMONS ENGINEERING, INC.

Field Data Information Sheet for Ground Water Sampling
Division of Underground Storage Tank Management

Date 11/14/13
Field Personnel WSC
General Weather Conditions
Ambient Air Temperature (°C)

Facility Name: Site ID #:

Quality Assurance

pH Sensor:	Oakton 35630-62	**Conductivity Sensor:**	35630-32
serial no.	324976	serial no.	324976
pH =4.0	4.0	Standard	15,000
pH = 7.0	7.0	Standard	1,413
pH = 10.0	10.0	Standard	447
DO Meter	YSI 60	Standard	84
Standard	0% cal	**Turbidity:**	1.0-10.0 NTU

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time

Well # TW-5

Well Diameter (D) 2 inch of _____ feet(ft) bgs
conversion factor (C): 3.143*(D/2)^2
for a 2 inch well C = 0.163
for a 4 inch well C = 0.652
*Free Product Thickness _____ ft
Total Well Depth (TWD) _____ ft btoc
Depth to Groundwater (DGW) _____ ft btoc
Length of Water Colum (LWC = TWD-DGW) 0.00 ft
1 Casing Volume (LWC*C) = 0.00 X .17 = 0.00 gals
3 Casing Volumes = 3 X 0.00 = 0.00 gals
(Standard Purge Volume)

Total Volume of Water Purged Before Sampling _____ gals
*If free product is present over 1/8 inch, sampling will not be required.

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	6th Vol.	7th Vol.	8th Vol.	Post
Volume Purged (gallons)	--									
Time (military)										
pH (s.u)										
Specific Conductivity (µS)										
Water Temperature (°C)										
Turbidity (NTU)										
Dissolved Oxygen (mg/l)										

Remarks: Well sampled @ 1750 on 11/14/13.

BLE

BUNNELL-LAMMONS ENGINEERING, INC.

Field Data Information Sheet for Ground Water Sampling
Division of Underground Storage Tank Management

Date 11/14/13
Field Personnel W. Sn
General Weather Conditions
Ambient Air Temperature (°C)

Facility Name: Site ID #:

Quality Assurance

pH Sensor:		**Conductivity Sensor:**	
serial no.		serial no.	
pH =4.0		Standard	
pH = 7.0		Standard	
pH = 10.0		Standard	
DO Meter		Standard	
Standard		**Turbidity:**	

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time

Well # Dni-6

Well Diameter (D) 2 inch of _____ feet(ft) bgs
conversion factor (C): 3.143*(D/2)^2
for a 2 inch well C = 0.163
for a 4 inch well C = 0.652
*Free Product Thickness _____ ft
Total Well Depth (TWD) _____ ft btoc
Depth to Groundwater (DGW) _____ ft btoc
Length of Water Colum (LWC = TWD-DGW) NA ft
1 Casing Volume (LWC*C) = NA X .17 = NA gals
3 Casing Volumes = 3 X NA = #VALUE! gals
(Standard Purge Volume)

Total Volume of Water Purged Before Sampling _____ gals
*If free product is present over 1/8 inch, sampling will not be required.

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	6th Vol.	7th Vol.	8th Vol.	Post
Volume Purged (gallons)	--									
Time (military)										
pH (s.u)										
Specific Conductivity (µS)										
Water Temperature (°C)										
Turbidity (NTU)										
Dissolved Oxygen (mg/l)										

Remarks: Unable to sampled. Well bronze locked

BUNNELL-LAMMONS ENGINEERING, INC.

Field Data Information Sheet for Ground Water Sampling
Division of Underground Storage Tank Management

Date 11/14/13
Field Personnel W. Gr Cl
General Weather Conditions
Ambient Air Temperature (°C)

Facility Name: Site ID #:

Quality Assurance

pH Sensor:	Oakton 35630-62	**Conductivity Sensor:**	35630-32
serial no.	324976	serial no.	324976
pH =4.0	4.0	Standard	15,000
pH = 7.0	7.0	Standard	1,413
pH = 10.0	10.0	Standard	447
DO Meter	YSI 60	Standard	84
Standard	0% cal	**Turbidity:**	1.0-10.0 NTU

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time

Well # MW-7

Well Diameter (D) 2 inch of _____ feet(ft) bgs
conversion factor (C): 3.143*(D/2)^2
for a 2 inch well C = 0.163
for a 4 inch well C = 0.652
*Free Product Thickness _____ ft
Total Well Depth (TWD) _____ ft btoc
Depth to Groundwater (DGW) _____ ft btoc
Length of Water Colum (LWC = TWD-DGW) 0.00 ft
1 Casing Volume (LWC*C) = 0.00 X .17 = 0.00 gals
3 Casing Volumes = 3 X 0.00 = 0.00 gals
(Standard Purge Volume)

Total Volume of Water Purged Before Sampling _____ gals
*If free product is present over 1/8 inch, sampling will not be required.

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	6th Vol.	7th Vol.	8th Vol.	Post
Volume Purged (gallons)	--									
Time (military)										
pH (s.u)										
Specific Conductivity (µS)										
Water Temperature (°C)										
Turbidity (NTU)										
Dissolved Oxygen (mg/l)										

Remarks: No longer in use. Unable to sample.

BLE

BUNNELL-LAMMONS ENGINEERING, INC.

Field Data Information Sheet for Ground Water Sampling
Division of Underground Storage Tank Management

Date 11/14/13

Field Personnel W. Sh Cl

General Weather Conditions

Ambient Air Temperature (°C)

Facility Name: Site ID #:

Quality Assurance

pH Sensor:		**Conductivity Sensor:**	
serial no.		serial no.	
pH =4.0		Standard	
pH = 7.0		Standard	
pH = 10.0		Standard	
DO Meter		Standard	
Standard		**Turbidity:**	

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time

Well # Dw-8

Well Diameter (D) 2 inch of feet(ft) bgs

conversion factor (C): 3.143*(D/2)^2

for a 2 inch well C = 0.163

for a 4 inch well C = 0.652

*Free Product Thickness ft

Total Well Depth (TWD) ft btoc

Depth to Groundwater (DGW) ft btoc

Length of Water Colum (LWC = TWD-DGW) NL ft

1 Casing Volume (LWC*C) = NL X .17 = NL gals

3 Casing Volumes = 3 X NL = #VALUE! gals

(Standard Purge Volume)

Total Volume of Water Purged Before Sampling gals

*If free product is present over 1/8 inch, sampling will not be required.

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	6th Vol.	7th Vol.	8th Vol.	Post
Volume Purged (gallons)	--									
Time (military)										
pH (s.u)										
Specific Conductivity (µS)										
Water Temperature (°C)										
Turbidity (NTU)										
Dissolved Oxygen (mg/l)										

Remarks: Well sampled @ 1640 on 11/14/13

BLE

BUNNELL-LAMMONS ENGINEERING, INC.

Field Data Information Sheet for Ground Water Sampling
Division of Underground Storage Tank Management

Date 11/14/13
Field Personnel N. Smith
General Weather Conditions
Ambient Air Temperature (°C)

Facility Name: Site ID #:

Quality Assurance

pH Sensor:		**Conductivity Sensor:**	
serial no.		serial no.	
pH =4.0		Standard	
pH = 7.0		Standard	
pH = 10.0		Standard	
DO Meter		Standard	
Standard		**Turbidity:**	

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time

Well # DW-9

Well Diameter (D) 2 inch of _____ feet(ft) bgs
conversion factor (C): 3.143*(D/2)^2
for a 2 inch well C = 0.163
for a 4 inch well C = 0.652
*Free Product Thickness _____ ft
Total Well Depth (TWD) _____ ft btoc
Depth to Groundwater (DGW) _____ ft btoc
Length of Water Colum (LWC = TWD-DGW) NA ft
1 Casing Volume (LWC*C) = NA X .17 = NA gals
3 Casing Volumes = 3 X NA = #VALUE! gals
(Standard Purge Volume)

Total Volume of Water Purged Before Sampling _____ gals
*If free product is present over 1/8 inch, sampling will not be required.

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	6th Vol.	7th Vol.	8th Vol.	Post
Volume Purged (gallons)	--									
Time (military)										
pH (s.u)										
Specific Conductivity (µS)										
Water Temperature (°C)										
Turbidity (NTU)										
Dissolved Oxygen (mg/l)										

Remarks: Does not work. unable to sample

BUNNELL-LAMMONS ENGINEERING, INC.

Field Data Information Sheet for Ground Water Sampling
Division of Underground Storage Tank Management

Date 11/14/13
Field Personnel W. Sm
General Weather Conditions
Ambient Air Temperature (°C)

Facility Name: Site ID #:

Quality Assurance

pH Sensor:	Oakton 35630-62	**Conductivity Sensor:**	35630-32
serial no.	324976	serial no.	324976
pH =4.0	4.0	Standard	15,000
pH = 7.0	7.0	Standard	1,413
pH = 10.0	10.0	Standard	447
DO Meter	YSI 60	Standard	84
Standard	0% cal	**Turbidity:**	1.0-10.0 NTU

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time

Well # TW-10

Well Diameter (D) 2 inch of _____ feet(ft) bgs
conversion factor (C): 3.143*(D/2)^2
for a 2 inch well C = 0.163
for a 4 inch well C = 0.652

*Free Product Thickness _____ ft
Total Well Depth (TWD) _____ ft btoc
Depth to Groundwater (DGW) _____ ft btoc
Length of Water Colum (LWC = TWD-DGW) 0.00 ft
1 Casing Volume (LWC*C) = 0.00 X .17 = 0.00 gals
3 Casing Volumes = 3 X 0.00 = 0.00 gals
(Standard Purge Volume)

Total Volume of Water Purged Before Sampling _____ gals
*If free product is present over 1/8 inch, sampling will not be required.

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	6th Vol.	7th Vol.	8th Vol.	Post
Volume Purged (gallons)	--									
Time (military)										
pH (s.u)										
Specific Conductivity (µS)										
Water Temperature (°C)										
Turbidity (NTU)										
Dissolved Oxygen (mg/l)										

Remarks: Does not work. unable to Sample

BUNNELL-LAMMONS ENGINEERING, INC.

Field Data Information Sheet for Ground Water Sampling
Division of Underground Storage Tank Management

Date 11/14/13
Field Personnel WSC
General Weather Conditions
Ambient Air Temperature (°C)

Facility Name: Site ID #:

Quality Assurance

pH Sensor:	Oakton 35630-62	**Conductivity Sensor:**	35630-32
serial no.	324976	serial no.	324976
pH =4.0	4.0	Standard	15,000
pH = 7.0	7.0	Standard	1,413
pH = 10.0	10.0	Standard	447
DO Meter	YSI 60	Standard	84
Standard	0% cal	**Turbidity:**	1.0-10.0 NTU

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time

Well # SW - 1

Well Diameter (D) 2 inch of _____ feet(ft) bgs
conversion factor (C): 3.143*(D/2)^2
for a 2 inch well C = 0.163
for a 4 inch well C = 0.652
*Free Product Thickness _____ ft
Total Well Depth (TWD) _____ ft btoc
Depth to Groundwater (DGW) _____ ft btoc
Length of Water Colum (LWC = TWD-DGW) 0.00 ft
1 Casing Volume (LWC*C) = 0.00 X .17 = 0.00 gals
3 Casing Volumes = 3 X 0.00 = 0.00 gals
(Standard Purge Volume)

Total Volume of Water Purged Before Sampling _____ gals
*If free product is present over 1/8 inch, sampling will not be required.

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	6th Vol.	7th Vol.	8th Vol.	Post
Volume Purged (gallons)	--									
Time (military)										
pH (s.u)										
Specific Conductivity (µS)										
Water Temperature (°C)										
Turbidity (NTU)										
Dissolved Oxygen (mg/l)										

Remarks: Surface water sample collected @ 1545 on 11/14/13

APPENDIX D

LABORATORY ANALYTICAL REPORT

SHEALY ENVIRONMENTAL SERVICES, INC.

Report of Analysis

Bunnell-Lammons Engineering, Inc.
6004 Ponders Court
Greenville, SC 29615
Attention: Dan Osbourne

Project Name: **Spinx 258/Former Enmark 380**

Project Number: **J13-6859-05**

Lot Number: **OK15033**

Date Completed: **11/27/2013**

Lucas Odom
Project Manager

This report shall not be reproduced, except in its entirety, without the written approval of Shealy Environmental Services, Inc.

The following non-paginated documents are considered part of this report: Chain of Custody Record and Sample Receipt Checklist.

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Case Narrative
Bunnell-Lammons Engineering, Inc.
Lot Number: OK15033

This Report of Analysis contains the analytical result(s) for the sample(s) listed on the Sample Summary following this Case Narrative. The sample receiving date is documented in the header information associated with each sample.

All results listed in this report relate only to the samples that are contained within this report.

Sample receipt, sample analysis, and data review have been performed in accordance with the most current approved NELAC standards, the Shealy Environmental Services, Inc. ("Shealy") Quality Assurance Management Plan (QAMP), standard operating procedures (SOPs), and Shealy policies. Any exceptions to the NELAC standards, the QAMP, SOPs or policies are qualified on the results page or discussed below.

If you have any questions regarding this report please contact the Shealy Project Manager listed on the cover page.

EDB by Microextraction

Samples -017 and -018 were qualified with a "P" as the relative percent difference (RPD) between the two GC columns exceeded method criteria. Per SCDHEC, the lower of the two values has been reported.

Sample Summary
Bunnell-Lammons Engineering, Inc.
Lot Number: OK15033

Sample Number	Sample ID	Matrix	Date Sampled	Date Received
001	06588-MW01	Aqueous	11/14/2013 1033	11/15/2013
002	06588-MW01DUP	Aqueous	11/14/2013 1034	11/15/2013
003	06588-MW02	Aqueous	11/14/2013 1500	11/15/2013
004	06588-MW03	Aqueous	11/14/2013 1525	11/15/2013
005	06588-MW04R	Aqueous	11/14/2013 1150	11/15/2013
006	06588-MW07D	Aqueous	11/14/2013 1131	11/15/2013
007	06588-MW08D	Aqueous	11/14/2013 1330	11/15/2013
008	06588-MW09	Aqueous	11/13/2013 1525	11/15/2013
009	06588-MW10	Aqueous	11/13/2013 1550	11/15/2013
010	06588-MW11	Aqueous	11/13/2013 1612	11/15/2013
011	06588-MW12	Aqueous	11/13/2013 1632	11/15/2013
012	06588-MW13	Aqueous	11/13/2013 1653	11/15/2013
013	06588-MW14	Aqueous	11/12/2013 1142	11/15/2013
014	06588-MW15	Aqueous	11/12/2013 1212	11/15/2013
015	06588-MW16	Aqueous	11/14/2013 0945	11/15/2013
016	06588-MW17	Aqueous	11/14/2013 1058	11/15/2013
017	06588-MW18	Aqueous	11/14/2013 1225	11/15/2013
018	06588-MW18DUP	Aqueous	11/14/2013 1226	11/15/2013
019	06588-MW20	Aqueous	11/12/2013 1324	11/15/2013
020	06588-MW21	Aqueous	11/12/2013 1350	11/15/2013
021	06588-MW21D	Aqueous	11/12/2013 1427	11/15/2013
022	06588-MW22D	Aqueous	11/14/2013 1302	11/15/2013
023	06588-MW24D	Aqueous	11/14/2013 1435	11/15/2013
024	06588-MW26	Aqueous	11/12/2013 1307	11/15/2013
025	06588-MW27	Aqueous	11/12/2013 1238	11/15/2013
026	06588-MW28	Aqueous	11/13/2013 1451	11/15/2013
027	06588-MW29	Aqueous	11/13/2013 1430	11/15/2013
028	06588-MW30	Aqueous	11/13/2013 1405	11/15/2013
029	06588-MW30D	Aqueous	11/13/2013 1200	11/15/2013
030	06588-MW32	Aqueous	11/13/2013 1326	11/15/2013
031	06588-MW33	Aqueous	11/14/2013 1010	11/15/2013
032	06588-MW33D	Aqueous	11/13/2013 1300	11/15/2013
033	06588-MW34	Aqueous	11/12/2013 1445	11/15/2013
034	06588-MW36	Aqueous	11/12/2013 1515	11/15/2013
035	06588-MW37	Aqueous	11/13/2013 1005	11/15/2013
036	06588-MW38	Aqueous	11/13/2013 1055	11/15/2013
037	06588-MW39	Aqueous	11/13/2013 1028	11/15/2013
038	06588-MW40	Aqueous	11/14/2013 1348	11/15/2013
039	06588-MW40DUP	Aqueous	11/14/2013 1349	11/15/2013
040	06588-MW41D	Aqueous	11/13/2013 1226	11/15/2013
041	06588-MW42	Aqueous	11/12/2013 1620	11/15/2013
042	06588-MW42D	Aqueous	11/12/2013 1600	11/15/2013
043	06588-MW43D	Aqueous	11/13/2013 1125	11/15/2013
044	06588-DW01	Aqueous	11/14/2013 1515	11/15/2013
045	06588-DW02	Aqueous	11/14/2013 1615	11/15/2013

Sample Summary (Continued)

Lot Number: OK15033

Sample Number	Sample ID	Matrix	Date Sampled	Date Received
046	06588-DW03	Aqueous	11/14/2013 1600	11/15/2013
047	06588-DW05	Aqueous	11/14/2013 1750	11/15/2013
048	06588-DW08	Aqueous	11/14/2013 1640	11/15/2013
049	06588-SW01	Aqueous	11/14/2013 1545	11/15/2013
050	06588-FIELD BLANK 01	Aqueous	11/12/2013 1645	11/15/2013
051	06588-FIELD BLANK 02	Aqueous	11/13/2013 1700	11/15/2013
052	06588-FIELD BLANK 03	Aqueous	11/14/2013 1800	11/15/2013
053	06588-TRIP BLANK 01	Aqueous	11/14/2013	11/15/2013
054	06588-TRIP BLANK 02	Aqueous	11/14/2013	11/15/2013

(54 samples)

Executive Summary
Bunnell-Lammons Engineering, Inc.
Lot Number: OK15033

Sample	Sample ID	Matrix	Parameter	Method	Result	Q	Units	Page
001	06588-MW01	Aqueous	tert-Amyl alcohol (TAA)	8260B	2500		ug/L	10
001	06588-MW01	Aqueous	Benzene	8260B	5500		ug/L	10
001	06588-MW01	Aqueous	1,2-Dichloroethane	8260B	160	J	ug/L	10
001	06588-MW01	Aqueous	Diisopropyl ether (IPE)	8260B	40	J	ug/L	10
001	06588-MW01	Aqueous	Ethylbenzene	8260B	1600		ug/L	10
001	06588-MW01	Aqueous	Methyl tertiary butyl ether (MTBE)	8260B	57	J	ug/L	10
001	06588-MW01	Aqueous	Naphthalene	8260B	270		ug/L	10
001	06588-MW01	Aqueous	tert-butyl alcohol (TBA)	8260B	670	J	ug/L	10
001	06588-MW01	Aqueous	Toluene	8260B	6100		ug/L	10
001	06588-MW01	Aqueous	Xylenes (total)	8260B	6700		ug/L	10
001	06588-MW01	Aqueous	1,2-Dibromoethane (EDB)	8011	7.5		ug/L	10
001	06588-MW01	Aqueous	Lead	6010C	0.10		mg/L	11
002	06588-MW01DUP	Aqueous	tert-Amyl alcohol (TAA)	8260B	2400		ug/L	12
002	06588-MW01DUP	Aqueous	Benzene	8260B	5300		ug/L	12
002	06588-MW01DUP	Aqueous	Diisopropyl ether (IPE)	8260B	38	J	ug/L	12
002	06588-MW01DUP	Aqueous	Ethylbenzene	8260B	1500		ug/L	12
002	06588-MW01DUP	Aqueous	Methyl tertiary butyl ether (MTBE)	8260B	58	J	ug/L	12
002	06588-MW01DUP	Aqueous	Naphthalene	8260B	240	J	ug/L	12
002	06588-MW01DUP	Aqueous	tert-butyl alcohol (TBA)	8260B	660	J	ug/L	12
002	06588-MW01DUP	Aqueous	Toluene	8260B	5500		ug/L	12
002	06588-MW01DUP	Aqueous	Xylenes (total)	8260B	6100		ug/L	12
002	06588-MW01DUP	Aqueous	1,2-Dibromoethane (EDB)	8011	7.0		ug/L	12
002	06588-MW01DUP	Aqueous	Lead	6010C	0.054		mg/L	13
003	06588-MW02	Aqueous	tert-Amyl alcohol (TAA)	8260B	110		ug/L	14
003	06588-MW02	Aqueous	Benzene	8260B	45		ug/L	14
003	06588-MW02	Aqueous	Ethylbenzene	8260B	3.0	J	ug/L	14
003	06588-MW02	Aqueous	Naphthalene	8260B	8.1		ug/L	14
003	06588-MW02	Aqueous	tert-butyl alcohol (TBA)	8260B	280		ug/L	14
003	06588-MW02	Aqueous	Toluene	8260B	19		ug/L	14
003	06588-MW02	Aqueous	Xylenes (total)	8260B	49		ug/L	14
004	06588-MW03	Aqueous	tert-Amyl alcohol (TAA)	8260B	140		ug/L	15
004	06588-MW03	Aqueous	Benzene	8260B	21		ug/L	15
004	06588-MW03	Aqueous	Methyl tertiary butyl ether (MTBE)	8260B	0.63	J	ug/L	15
004	06588-MW03	Aqueous	Naphthalene	8260B	2.0	J	ug/L	15
004	06588-MW03	Aqueous	tert-butyl alcohol (TBA)	8260B	330		ug/L	15
004	06588-MW03	Aqueous	Toluene	8260B	4.0	J	ug/L	15
004	06588-MW03	Aqueous	Xylenes (total)	8260B	9.5		ug/L	15
004	06588-MW03	Aqueous	Lead	6010C	0.085		mg/L	15
005	06588-MW04R	Aqueous	tert-Amyl alcohol (TAA)	8260B	4800		ug/L	16
005	06588-MW04R	Aqueous	Benzene	8260B	2300		ug/L	16
005	06588-MW04R	Aqueous	Ethylbenzene	8260B	3000		ug/L	16
005	06588-MW04R	Aqueous	Naphthalene	8260B	760	J	ug/L	16
005	06588-MW04R	Aqueous	tert-butyl alcohol (TBA)	8260B	2500	J	ug/L	16
005	06588-MW04R	Aqueous	Toluene	8260B	22000		ug/L	16
005	06588-MW04R	Aqueous	Xylenes (total)	8260B	16000		ug/L	16

Executive Summary (Continued)

Lot Number: OK15033

Sample	Sample ID	Matrix	Parameter	Method	Result	Q	Units	Page
005	06588-MW04R	Aqueous	1,2-Dibromoethane (EDB)	8011	0.37		ug/L	16
005	06588-MW04R	Aqueous	Lead	6010C	0.85		mg/L	16
006	06588-MW07D	Aqueous	Benzene	8260B	2.5	J	ug/L	17
006	06588-MW07D	Aqueous	Xylenes (total)	8260B	3.3	J	ug/L	17
007	06588-MW08D	Aqueous	tert-Amyl alcohol (TAA)	8260B	110		ug/L	18
007	06588-MW08D	Aqueous	tert-Amyl methyl ether (TAME)	8260B	1.6	J	ug/L	18
007	06588-MW08D	Aqueous	Benzene	8260B	81		ug/L	18
007	06588-MW08D	Aqueous	Ethylbenzene	8260B	2.9	J	ug/L	18
007	06588-MW08D	Aqueous	Methyl tertiary butyl ether (MTBE)	8260B	4.2	J	ug/L	18
007	06588-MW08D	Aqueous	Naphthalene	8260B	24		ug/L	18
007	06588-MW08D	Aqueous	tert-butyl alcohol (TBA)	8260B	19	J	ug/L	18
007	06588-MW08D	Aqueous	Toluene	8260B	7.1		ug/L	18
007	06588-MW08D	Aqueous	Xylenes (total)	8260B	140		ug/L	18
007	06588-MW08D	Aqueous	Lead	6010C	0.0075	J	mg/L	18
008	06588-MW09	Aqueous	Benzene	8260B	0.42	J	ug/L	19
008	06588-MW09	Aqueous	Lead	6010C	0.075		mg/L	19
009	06588-MW10	Aqueous	Benzene	8260B	2.9	J	ug/L	20
009	06588-MW10	Aqueous	Xylenes (total)	8260B	2.9	J	ug/L	20
009	06588-MW10	Aqueous	Lead	6010C	0.36		mg/L	20
010	06588-MW11	Aqueous	Benzene	8260B	0.35	J	ug/L	21
010	06588-MW11	Aqueous	Lead	6010C	0.15		mg/L	21
011	06588-MW12	Aqueous	Benzene	8260B	0.57	J	ug/L	22
011	06588-MW12	Aqueous	Lead	6010C	0.042		mg/L	22
012	06588-MW13	Aqueous	Benzene	8260B	0.33	J	ug/L	23
012	06588-MW13	Aqueous	Lead	6010C	0.010		mg/L	23
013	06588-MW14	Aqueous	Lead	6010C	0.014		mg/L	24
014	06588-MW15	Aqueous	Lead	6010C	0.010		mg/L	25
015	06588-MW16	Aqueous	Lead	6010C	0.24		mg/L	26
016	06588-MW17	Aqueous	Benzene	8260B	11		ug/L	27
016	06588-MW17	Aqueous	Ethylbenzene	8260B	14		ug/L	27
016	06588-MW17	Aqueous	Naphthalene	8260B	2.9	J	ug/L	27
016	06588-MW17	Aqueous	Toluene	8260B	19		ug/L	27
016	06588-MW17	Aqueous	Xylenes (total)	8260B	54		ug/L	27
016	06588-MW17	Aqueous	Lead	6010C	0.0058	J	mg/L	28
017	06588-MW18	Aqueous	tert-Amyl alcohol (TAA)	8260B	200		ug/L	29
017	06588-MW18	Aqueous	Benzene	8260B	120		ug/L	29
017	06588-MW18	Aqueous	Ethylbenzene	8260B	1300		ug/L	29
017	06588-MW18	Aqueous	Naphthalene	8260B	480		ug/L	29
017	06588-MW18	Aqueous	tert-butyl alcohol (TBA)	8260B	150	J	ug/L	29
017	06588-MW18	Aqueous	Toluene	8260B	130		ug/L	29
017	06588-MW18	Aqueous	Xylenes (total)	8260B	1100		ug/L	29
017	06588-MW18	Aqueous	1,2-Dibromoethane (EDB)	8011	0.029	P	ug/L	29
017	06588-MW18	Aqueous	Lead	6010C	0.36		mg/L	29
018	06588-MW18DUP	Aqueous	tert-Amyl alcohol (TAA)	8260B	110		ug/L	30
018	06588-MW18DUP	Aqueous	tert-Amyl methyl ether (TAME)	8260B	5.2	J	ug/L	30
018	06588-MW18DUP	Aqueous	Benzene	8260B	120		ug/L	30
018	06588-MW18DUP	Aqueous	Ethylbenzene	8260B	1100		ug/L	30
018	06588-MW18DUP	Aqueous	Naphthalene	8260B	490		ug/L	30

Executive Summary (Continued)

Lot Number: OK15033

Sample	Sample ID	Matrix	Parameter	Method	Result	Q	Units	Page
018	06588-MW18DUP	Aqueous	tert-butyl alcohol (TBA)	8260B	91	J	ug/L	30
018	06588-MW18DUP	Aqueous	Toluene	8260B	130		ug/L	30
018	06588-MW18DUP	Aqueous	Xylenes (total)	8260B	1200		ug/L	30
018	06588-MW18DUP	Aqueous	1,2-Dibromoethane (EDB)	8011	0.026	P	ug/L	30
018	06588-MW18DUP	Aqueous	Lead	6010C	0.16		mg/L	31
019	06588-MW20	Aqueous	Benzene	8260B	1.0	J	ug/L	32
019	06588-MW20	Aqueous	Xylenes (total)	8260B	2.5	J	ug/L	32
019	06588-MW20	Aqueous	Lead	6010C	0.014		mg/L	32
020	06588-MW21	Aqueous	Lead	6010C	0.084		mg/L	33
021	06588-MW21D	Aqueous	Lead	6010C	0.0098	BJ	mg/L	34
022	06588-MW22D	Aqueous	tert-Amyl alcohol (TAA)	8260B	81		ug/L	35
022	06588-MW22D	Aqueous	tert-Amyl methyl ether (TAME)	8260B	4.7	J	ug/L	35
022	06588-MW22D	Aqueous	Benzene	8260B	190		ug/L	35
022	06588-MW22D	Aqueous	Methyl tertiary butyl ether (MTBE)	8260B	6.2		ug/L	35
022	06588-MW22D	Aqueous	Naphthalene	8260B	10		ug/L	35
022	06588-MW22D	Aqueous	tert-butyl alcohol (TBA)	8260B	14	J	ug/L	35
022	06588-MW22D	Aqueous	Xylenes (total)	8260B	2.3	J	ug/L	35
022	06588-MW22D	Aqueous	Lead	6010C	0.011	B	mg/L	35
023	06588-MW24D	Aqueous	tert-Amyl alcohol (TAA)	8260B	65		ug/L	36
023	06588-MW24D	Aqueous	Benzene	8260B	83		ug/L	36
023	06588-MW24D	Aqueous	Diisopropyl ether (IPE)	8260B	2.5	J	ug/L	36
023	06588-MW24D	Aqueous	Ethylbenzene	8260B	2.5	J	ug/L	36
023	06588-MW24D	Aqueous	Methyl tertiary butyl ether (MTBE)	8260B	22		ug/L	36
023	06588-MW24D	Aqueous	Naphthalene	8260B	4.1	J	ug/L	36
023	06588-MW24D	Aqueous	tert-butyl alcohol (TBA)	8260B	42		ug/L	36
023	06588-MW24D	Aqueous	Toluene	8260B	4.1	J	ug/L	36
023	06588-MW24D	Aqueous	Xylenes (total)	8260B	15		ug/L	36
023	06588-MW24D	Aqueous	Lead	6010C	0.0026	BJ	mg/L	36
024	06588-MW26	Aqueous	tert-Amyl alcohol (TAA)	8260B	280		ug/L	37
024	06588-MW26	Aqueous	Benzene	8260B	140		ug/L	37
024	06588-MW26	Aqueous	tert-butyl alcohol (TBA)	8260B	71	J	ug/L	37
024	06588-MW26	Aqueous	Xylenes (total)	8260B	29		ug/L	37
024	06588-MW26	Aqueous	Lead	6010C	0.0059	BJ	mg/L	37
025	06588-MW27	Aqueous	tert-butyl alcohol (TBA)	8260B	12	J	ug/L	38
025	06588-MW27	Aqueous	Xylenes (total)	8260B	4.9	J	ug/L	38
025	06588-MW27	Aqueous	Lead	6010C	0.014	B	mg/L	38
026	06588-MW28	Aqueous	Benzene	8260B	1.9	J	ug/L	39
026	06588-MW28	Aqueous	Xylenes (total)	8260B	3.3	J	ug/L	39
026	06588-MW28	Aqueous	Lead	6010C	0.065	B	mg/L	39
027	06588-MW29	Aqueous	Benzene	8260B	0.38	J	ug/L	40
027	06588-MW29	Aqueous	Lead	6010C	0.23	B	mg/L	40
028	06588-MW30	Aqueous	Benzene	8260B	1.2	J	ug/L	41
028	06588-MW30	Aqueous	1,2-Dichloroethane	8260B	0.68	J	ug/L	41
028	06588-MW30	Aqueous	Diisopropyl ether (IPE)	8260B	1.6	J	ug/L	41
028	06588-MW30	Aqueous	Methyl tertiary butyl ether (MTBE)	8260B	9.5		ug/L	41
028	06588-MW30	Aqueous	tert-butyl alcohol (TBA)	8260B	12	J	ug/L	41
028	06588-MW30	Aqueous	Lead	6010C	0.055	B	mg/L	41
029	06588-MW30D	Aqueous	tert-Amyl alcohol (TAA)	8260B	28		ug/L	42

Executive Summary (Continued)

Lot Number: OK15033

Sample	Sample ID	Matrix	Parameter	Method	Result	Q	Units	Page
029	06588-MW30D	Aqueous	Benzene	8260B	0.29	J	ug/L	42
029	06588-MW30D	Aqueous	Diisopropyl ether (IPE)	8260B	0.97	J	ug/L	42
029	06588-MW30D	Aqueous	Methyl tertiary butyl ether (MTBE)	8260B	6.3		ug/L	42
029	06588-MW30D	Aqueous	tert-butyl alcohol (TBA)	8260B	18	J	ug/L	42
029	06588-MW30D	Aqueous	Lead	6010C	0.0048	BJ	mg/L	42
030	06588-MW32	Aqueous	tert-Amyl alcohol (TAA)	8260B	87		ug/L	43
030	06588-MW32	Aqueous	tert-Amyl methyl ether (TAME)	8260B	7.8	J	ug/L	43
030	06588-MW32	Aqueous	Benzene	8260B	1.1	J	ug/L	43
030	06588-MW32	Aqueous	Diisopropyl ether (IPE)	8260B	5.1		ug/L	43
030	06588-MW32	Aqueous	Methyl tertiary butyl ether (MTBE)	8260B	120		ug/L	43
030	06588-MW32	Aqueous	tert-butyl alcohol (TBA)	8260B	49		ug/L	43
030	06588-MW32	Aqueous	Lead	6010C	0.55	B	mg/L	43
031	06588-MW33	Aqueous	Benzene	8260B	1.5	J	ug/L	44
031	06588-MW33	Aqueous	Ethanol	8260B	35	J	ug/L	44
031	06588-MW33	Aqueous	Methyl tertiary butyl ether (MTBE)	8260B	7.1		ug/L	44
031	06588-MW33	Aqueous	tert-butyl alcohol (TBA)	8260B	12	J	ug/L	44
031	06588-MW33	Aqueous	Xylenes (total)	8260B	5.0		ug/L	44
031	06588-MW33	Aqueous	Lead	6010C	0.11	B	mg/L	44
032	06588-MW33D	Aqueous	tert-Amyl alcohol (TAA)	8260B	3100		ug/L	45
032	06588-MW33D	Aqueous	tert-Amyl methyl ether (TAME)	8260B	200		ug/L	45
032	06588-MW33D	Aqueous	Benzene	8260B	16	J	ug/L	45
032	06588-MW33D	Aqueous	1,2-Dichloroethane	8260B	30	J	ug/L	45
032	06588-MW33D	Aqueous	Diisopropyl ether (IPE)	8260B	89		ug/L	45
032	06588-MW33D	Aqueous	Methyl tertiary butyl ether (MTBE)	8260B	2600		ug/L	45
032	06588-MW33D	Aqueous	tert-butyl alcohol (TBA)	8260B	1200		ug/L	45
032	06588-MW33D	Aqueous	Lead	6010C	0.020	B	mg/L	46
033	06588-MW34	Aqueous	tert-butyl alcohol (TBA)	8260B	12	J	ug/L	47
033	06588-MW34	Aqueous	Lead	6010C	0.078	B	mg/L	47
034	06588-MW36	Aqueous	Lead	6010C	0.026	B	mg/L	48
035	06588-MW37	Aqueous	Lead	6010C	0.013	B	mg/L	49
036	06588-MW38	Aqueous	Lead	6010C	0.012	B	mg/L	50
037	06588-MW39	Aqueous	Lead	6010C	0.055	B	mg/L	51
038	06588-MW40	Aqueous	tert-Amyl alcohol (TAA)	8260B	3600		ug/L	52
038	06588-MW40	Aqueous	tert-Amyl methyl ether (TAME)	8260B	110	J	ug/L	52
038	06588-MW40	Aqueous	Benzene	8260B	2800		ug/L	52
038	06588-MW40	Aqueous	Diisopropyl ether (IPE)	8260B	19	J	ug/L	52
038	06588-MW40	Aqueous	Ethylbenzene	8260B	490		ug/L	52
038	06588-MW40	Aqueous	Methyl tertiary butyl ether (MTBE)	8260B	320		ug/L	52
038	06588-MW40	Aqueous	Naphthalene	8260B	280		ug/L	52
038	06588-MW40	Aqueous	tert-butyl alcohol (TBA)	8260B	350	J	ug/L	52
038	06588-MW40	Aqueous	Toluene	8260B	170		ug/L	52
038	06588-MW40	Aqueous	Xylenes (total)	8260B	990		ug/L	52
038	06588-MW40	Aqueous	1,2-Dibromoethane (EDB)	8011	0.069		ug/L	52
038	06588-MW40	Aqueous	Lead	6010C	0.066	B	mg/L	52
039	06588-MW40DUP	Aqueous	tert-Amyl alcohol (TAA)	8260B	3800		ug/L	53
039	06588-MW40DUP	Aqueous	tert-Amyl methyl ether (TAME)	8260B	120	J	ug/L	53
039	06588-MW40DUP	Aqueous	Benzene	8260B	2900		ug/L	53
039	06588-MW40DUP	Aqueous	Diisopropyl ether (IPE)	8260B	19	J	ug/L	53

Executive Summary (Continued)

Lot Number: OK15033

Sample	Sample ID	Matrix	Parameter	Method	Result	Q	Units	Page
039	06588-MW40DUP	Aqueous	Ethylbenzene	8260B	510		ug/L	53
039	06588-MW40DUP	Aqueous	Methyl tertiary butyl ether (MTBE)	8260B	340		ug/L	53
039	06588-MW40DUP	Aqueous	Naphthalene	8260B	300		ug/L	53
039	06588-MW40DUP	Aqueous	tert-butyl alcohol (TBA)	8260B	350	J	ug/L	53
039	06588-MW40DUP	Aqueous	Toluene	8260B	170		ug/L	53
039	06588-MW40DUP	Aqueous	Xylenes (total)	8260B	1000		ug/L	53
039	06588-MW40DUP	Aqueous	1,2-Dibromoethane (EDB)	8011	0.069		ug/L	53
039	06588-MW40DUP	Aqueous	Lead	6010C	0.15	B	mg/L	53
040	06588-MW41D	Aqueous	tert-Amyl alcohol (TAA)	8260B	8300		ug/L	54
040	06588-MW41D	Aqueous	tert-Amyl methyl ether (TAME)	8260B	89	J	ug/L	54
040	06588-MW41D	Aqueous	Benzene	8260B	4500		ug/L	54
040	06588-MW41D	Aqueous	Diisopropyl ether (IPE)	8260B	290		ug/L	54
040	06588-MW41D	Aqueous	Ethylbenzene	8260B	270		ug/L	54
040	06588-MW41D	Aqueous	Methyl tertiary butyl ether (MTBE)	8260B	2300		ug/L	54
040	06588-MW41D	Aqueous	Naphthalene	8260B	100	J	ug/L	54
040	06588-MW41D	Aqueous	tert-butyl alcohol (TBA)	8260B	4500		ug/L	54
040	06588-MW41D	Aqueous	Lead	6010C	0.0054	BJ	mg/L	54
041	06588-MW42	Aqueous	Benzene	8260B	0.21	J	ug/L	55
041	06588-MW42	Aqueous	Xylenes (total)	8260B	2.2	J	ug/L	55
041	06588-MW42	Aqueous	Lead	6010C	0.11	B	mg/L	55
042	06588-MW42D	Aqueous	Lead	6010C	0.011	B	mg/L	56
043	06588-MW43D	Aqueous	Methyl tertiary butyl ether (MTBE)	8260B	5.3		ug/L	57
043	06588-MW43D	Aqueous	Lead	6010C	0.016	B	mg/L	57
044	06588-DW01	Aqueous	Benzene	8260B	4.2	J	ug/L	58
044	06588-DW01	Aqueous	Lead	6010C	0.24	B	mg/L	58
045	06588-DW02	Aqueous	Benzene	8260B	1.2	J	ug/L	59
045	06588-DW02	Aqueous	Lead	6010C	0.010	B	mg/L	59
046	06588-DW03	Aqueous	Benzene	8260B	1.3	J	ug/L	60
046	06588-DW03	Aqueous	Lead	6010C	0.0028	BJ	mg/L	60
047	06588-DW05	Aqueous	Benzene	8260B	6.5		ug/L	61
047	06588-DW05	Aqueous	Ethylbenzene	8260B	1.8	J	ug/L	61
047	06588-DW05	Aqueous	Naphthalene	8260B	1.8	J	ug/L	61
047	06588-DW05	Aqueous	Toluene	8260B	2.6	J	ug/L	61
047	06588-DW05	Aqueous	Xylenes (total)	8260B	12		ug/L	61
047	06588-DW05	Aqueous	Lead	6010C	0.0054	BJ	mg/L	61
048	06588-DW08	Aqueous	Benzene	8260B	8.4		ug/L	62
048	06588-DW08	Aqueous	3,3-Dimethyl-1-butanol	8260B	4.4	J	ug/L	62
048	06588-DW08	Aqueous	Xylenes (total)	8260B	5.0		ug/L	62
048	06588-DW08	Aqueous	Lead	6010C	0.016	B	mg/L	62
049	06588-SW01	Aqueous	Benzene	8260B	0.72	J	ug/L	63
049	06588-SW01	Aqueous	Lead	6010C	0.012	B	mg/L	63

(230 detections)

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **06588-MW01**
Date Sampled: **11/14/2013 1033**
Date Received: **11/15/2013**

Laboratory ID: **OK15033-001**
Matrix: **Aqueous**

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	50	11/21/2013 2016	ALL		34966

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
tert-Amyl alcohol (TAA)	**75-85-4**	**8260B**	**2500**		**1000**	**340**	**ug/L**	**1**
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		500	10	ug/L	1
Benzene	**71-43-2**	**8260B**	**5500**		**250**	**10**	**ug/L**	**1**
tert-Butyl formate (TBF)	762-75-4	8260B	ND		250	50	ug/L	1
1,2-Dichloroethane	**107-06-2**	**8260B**	**160**	**J**	**250**	**15**	**ug/L**	**1**
Diisopropyl ether (IPE)	**108-20-3**	**8260B**	**40**	**J**	**250**	**20**	**ug/L**	**1**
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		1000	50	ug/L	1
Ethanol	64-17-5	8260B	ND		5000	1700	ug/L	1
Ethylbenzene	**100-41-4**	**8260B**	**1600**		**250**	**85**	**ug/L**	**1**
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		50	10	ug/L	1
Methyl tertiary butyl ether (MTBE)	**1634-04-4**	**8260B**	**57**	**J**	**250**	**20**	**ug/L**	**1**
Naphthalene	**91-20-3**	**8260B**	**270**		**250**	**85**	**ug/L**	**1**
tert-butyl alcohol (TBA)	**75-65-0**	**8260B**	**670**	**J**	**1000**	**340**	**ug/L**	**1**
Toluene	**108-88-3**	**8260B**	**6100**		**250**	**85**	**ug/L**	**1**
Xylenes (total)	**1330-20-7**	**8260B**	**6700**		**250**	**85**	**ug/L**	**1**

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		92	70-130
Bromofluorobenzene		88	70-130
Toluene-d8		104	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	11/21/2013 1530	JCG	11/20/2013 1050	34820
2	8011	8011	10	11/22/2013 1313	JCG	11/20/2013 1050	34820

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,2-Dibromoethane (EDB)	**106-93-4**	**8011**	**7.5**		**0.20**	**0.20**	**ug/L**	**2**

Surrogate	Q	Run 1 % Recovery	Acceptance Limits	Q	Run 2 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		81	57-137		90	57-137

ICP-AES

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	3005A	6010C	1	11/19/2013 0623	CDF	11/18/2013 1653	34655

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
H = Out of holding time
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **06588-MW01**
Date Sampled: **11/14/2013 1033**
Date Received: **11/15/2013**

Laboratory ID: **OK15033-001**
Matrix: **Aqueous**

ICP-AES

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	3005A	6010C	1	11/19/2013 0623	CDF	11/18/2013 1653	34655

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Lead	**7439-92-1**	**6010C**	**0.10**		**0.010**	**0.0019**	**mg/L**	**1**

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
H = Out of holding time
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **06588-MW01DUP**
Date Sampled: **11/14/2013 1034**
Date Received: **11/15/2013**

Laboratory ID: **OK15033-002**
Matrix: **Aqueous**

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	50	11/21/2013 2039	ALL		34966

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
tert-Amyl alcohol (TAA)	**75-85-4**	**8260B**	**2400**		**1000**	**340**	**ug/L**	**1**
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		500	10	ug/L	1
Benzene	**71-43-2**	**8260B**	**5300**		**250**	**10**	**ug/L**	**1**
tert-Butyl formate (TBF)	762-75-4	8260B	ND		250	50	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		250	15	ug/L	1
Diisopropyl ether (IPE)	**108-20-3**	**8260B**	**38**	**J**	**250**	**20**	**ug/L**	**1**
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		1000	50	ug/L	1
Ethanol	64-17-5	8260B	ND		5000	1700	ug/L	1
Ethylbenzene	**100-41-4**	**8260B**	**1500**		**250**	**85**	**ug/L**	**1**
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		50	10	ug/L	1
Methyl tertiary butyl ether (MTBE)	**1634-04-4**	**8260B**	**58**	**J**	**250**	**20**	**ug/L**	**1**
Naphthalene	**91-20-3**	**8260B**	**240**	**J**	**250**	**85**	**ug/L**	**1**
tert-butyl alcohol (TBA)	**75-65-0**	**8260B**	**660**	**J**	**1000**	**340**	**ug/L**	**1**
Toluene	**108-88-3**	**8260B**	**5500**		**250**	**85**	**ug/L**	**1**
Xylenes (total)	**1330-20-7**	**8260B**	**6100**		**250**	**85**	**ug/L**	**1**

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		93	70-130
Bromofluorobenzene		91	70-130
Toluene-d8		107	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	11/21/2013 1540	JCG	11/20/2013 1050	34820
2	8011	8011	10	11/22/2013 0721	JCG	11/20/2013 1050	34820

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,2-Dibromoethane (EDB)	**106-93-4**	**8011**	**7.0**		**0.20**	**0.20**	**ug/L**	**2**

Surrogate	Q	Run 1 % Recovery	Acceptance Limits	Q	Run 2 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		81	57-137		91	57-137

ICP-AES

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	3005A	6010C	1	11/19/2013 0638	CDF	11/18/2013 1653	34655

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
H = Out of holding time
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **06588-MW01DUP**
Date Sampled: **11/14/2013 1034**
Date Received: **11/15/2013**

Laboratory ID: **OK15033-002**
Matrix: **Aqueous**

ICP-AES

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	3005A	6010C	1	11/19/2013 0638	CDF	11/18/2013 1653	34655

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Lead	**7439-92-1**	**6010C**	**0.054**		**0.010**	**0.0019**	**mg/L**	**1**

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
H = Out of holding time
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **06588-MW02**
Date Sampled: **11/14/2013 1500**
Date Received: **11/15/2013**

Laboratory ID: **OK15033-003**
Matrix: **Aqueous**

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	11/21/2013 2101	ALL		34966

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
tert-Amyl alcohol (TAA)	**75-85-4**	**8260B**	**110**		**20**	**6.7**	**ug/L**	**1**
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		10	0.20	ug/L	1
Benzene	**71-43-2**	**8260B**	**45**		**5.0**	**0.20**	**ug/L**	**1**
tert-Butyl formate (TBF)	762-75-4	8260B	ND		5.0	1.0	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		5.0	0.30	ug/L	1
Diisopropyl ether (IPE)	108-20-3	8260B	ND		5.0	0.40	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		20	1.0	ug/L	1
Ethanol	64-17-5	8260B	ND		100	33	ug/L	1
Ethylbenzene	**100-41-4**	**8260B**	**3.0**	**J**	**5.0**	**1.7**	**ug/L**	**1**
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		1.0	0.20	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		5.0	0.40	ug/L	1
Naphthalene	**91-20-3**	**8260B**	**8.1**		**5.0**	**1.7**	**ug/L**	**1**
tert-butyl alcohol (TBA)	**75-65-0**	**8260B**	**280**		**20**	**6.7**	**ug/L**	**1**
Toluene	**108-88-3**	**8260B**	**19**		**5.0**	**1.7**	**ug/L**	**1**
Xylenes (total)	**1330-20-7**	**8260B**	**49**		**5.0**	**1.7**	**ug/L**	**1**

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		94	70-130
Bromofluorobenzene		93	70-130
Toluene-d8		107	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
2	8011	8011	1	11/22/2013 0650	JCG	11/20/2013 1050	34820

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0.019	0.019	ug/L	2

Surrogate	Q	Run 2 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		84	57-137

ICP-AES

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	3005A	6010C	1	11/19/2013 0645	CDF	11/18/2013 1653	34655

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Lead	7439-92-1	6010C	ND		0.010	0.0019	mg/L	1

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
H = Out of holding time
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **06588-MW03**
Date Sampled: **11/14/2013 1525**
Date Received: **11/15/2013**

Laboratory ID: **OK15033-004**
Matrix: **Aqueous**

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	11/21/2013 2337	ALL		34966

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
tert-Amyl alcohol (TAA)	**75-85-4**	**8260B**	**140**		**20**	**6.7**	**ug/L**	**1**
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		10	0.20	ug/L	1
Benzene	**71-43-2**	**8260B**	**21**		**5.0**	**0.20**	**ug/L**	**1**
tert-Butyl formate (TBF)	762-75-4	8260B	ND		5.0	1.0	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		5.0	0.30	ug/L	1
Diisopropyl ether (IPE)	108-20-3	8260B	ND		5.0	0.40	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		20	1.0	ug/L	1
Ethanol	64-17-5	8260B	ND		100	33	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		5.0	1.7	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		1.0	0.20	ug/L	1
Methyl tertiary butyl ether (MTBE)	**1634-04-4**	**8260B**	**0.63**	**J**	**5.0**	**0.40**	**ug/L**	**1**
Naphthalene	**91-20-3**	**8260B**	**2.0**	**J**	**5.0**	**1.7**	**ug/L**	**1**
tert-butyl alcohol (TBA)	**75-65-0**	**8260B**	**330**		**20**	**6.7**	**ug/L**	**1**
Toluene	**108-88-3**	**8260B**	**4.0**	**J**	**5.0**	**1.7**	**ug/L**	**1**
Xylenes (total)	**1330-20-7**	**8260B**	**9.5**		**5.0**	**1.7**	**ug/L**	**1**

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		92	70-130
Bromofluorobenzene		94	70-130
Toluene-d8		106	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	11/21/2013 1601	JCG	11/20/2013 1050	34820

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0.019	0.019	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		88	57-137

ICP-AES

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	3005A	6010C	1	11/19/2013 0657	CDF	11/18/2013 1653	34655

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Lead	**7439-92-1**	**6010C**	**0.085**		**0.010**	**0.0019**	**mg/L**	**1**

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
H = Out of holding time
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **06588-MW04R**
Date Sampled: **11/14/2013 1150**
Date Received: **11/15/2013**

Laboratory ID: **OK15033-005**
Matrix: **Aqueous**

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	200	11/21/2013 2208	ALL		34966

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
tert-Amyl alcohol (TAA)	**75-85-4**	**8260B**	**4800**		**4000**	**1300**	**ug/L**	**1**
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		2000	40	ug/L	1
Benzene	**71-43-2**	**8260B**	**2300**		**1000**	**40**	**ug/L**	**1**
tert-Butyl formate (TBF)	762-75-4	8260B	ND		1000	200	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		1000	60	ug/L	1
Diisopropyl ether (IPE)	108-20-3	8260B	ND		1000	80	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		4000	200	ug/L	1
Ethanol	64-17-5	8260B	ND		20000	6600	ug/L	1
Ethylbenzene	**100-41-4**	**8260B**	**3000**		**1000**	**340**	**ug/L**	**1**
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		200	40	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		1000	80	ug/L	1
Naphthalene	**91-20-3**	**8260B**	**760**	**J**	**1000**	**340**	**ug/L**	**1**
tert-butyl alcohol (TBA)	**75-65-0**	**8260B**	**2500**	**J**	**4000**	**1300**	**ug/L**	**1**
Toluene	**108-88-3**	**8260B**	**22000**		**1000**	**340**	**ug/L**	**1**
Xylenes (total)	**1330-20-7**	**8260B**	**16000**		**1000**	**340**	**ug/L**	**1**

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		94	70-130
Bromofluorobenzene		91	70-130
Toluene-d8		108	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	11/21/2013 1611	JCG	11/20/2013 1050	34820

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,2-Dibromoethane (EDB)	**106-93-4**	**8011**	**0.37**		**0.023**	**0.023**	**ug/L**	**1**

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		81	57-137

ICP-AES

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	3005A	6010C	10	11/19/2013 2020	CDF	11/18/2013 1653	34655

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Lead	**7439-92-1**	**6010C**	**0.85**		**0.10**	**0.019**	**mg/L**	**1**

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
H = Out of holding time
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **06588-MW07D**
Date Sampled: **11/14/2013 1131**
Date Received: **11/15/2013**

Laboratory ID: **OK15033-006**
Matrix: **Aqueous**

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	11/21/2013 2230	ALL		34966

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
tert-Amyl alcohol (TAA)	75-85-4	8260B	ND		20	6.7	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		10	0.20	ug/L	1
Benzene	**71-43-2**	**8260B**	**2.5**	**J**	**5.0**	**0.20**	**ug/L**	**1**
tert-Butyl formate (TBF)	762-75-4	8260B	ND		5.0	1.0	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		5.0	0.30	ug/L	1
Diisopropyl ether (IPE)	108-20-3	8260B	ND		5.0	0.40	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		20	1.0	ug/L	1
Ethanol	64-17-5	8260B	ND		100	33	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		5.0	1.7	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		1.0	0.20	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		5.0	0.40	ug/L	1
Naphthalene	91-20-3	8260B	ND		5.0	1.7	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		20	6.7	ug/L	1
Toluene	108-88-3	8260B	ND		5.0	1.7	ug/L	1
Xylenes (total)	**1330-20-7**	**8260B**	**3.3**	**J**	**5.0**	**1.7**	**ug/L**	**1**

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		93	70-130
Bromofluorobenzene		86	70-130
Toluene-d8		105	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	11/21/2013 1621	JCG	11/20/2013 1050	34820

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0.020	0.020	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		80	57-137

ICP-AES

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	3005A	6010C	1	11/19/2013 0704	CDF	11/18/2013 1653	34655

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Lead	7439-92-1	6010C	ND		0.010	0.0019	mg/L	1

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
H = Out of holding time
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **06588-MW08D**
Date Sampled: **11/14/2013 1330**
Date Received: **11/15/2013**

Laboratory ID: **OK15033-007**
Matrix: **Aqueous**

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	11/21/2013 2253	ALL		34966

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
tert-Amyl alcohol (TAA)	**75-85-4**	**8260B**	**110**		**20**	**6.7**	**ug/L**	**1**
tert-Amyl methyl ether (TAME)	**994-05-8**	**8260B**	**1.6**	**J**	**10**	**0.20**	**ug/L**	**1**
Benzene	**71-43-2**	**8260B**	**81**		**5.0**	**0.20**	**ug/L**	**1**
tert-Butyl formate (TBF)	762-75-4	8260B	ND		5.0	1.0	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		5.0	0.30	ug/L	1
Diisopropyl ether (IPE)	108-20-3	8260B	ND		5.0	0.40	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		20	1.0	ug/L	1
Ethanol	64-17-5	8260B	ND		100	33	ug/L	1
Ethylbenzene	**100-41-4**	**8260B**	**2.9**	**J**	**5.0**	**1.7**	**ug/L**	**1**
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		1.0	0.20	ug/L	1
Methyl tertiary butyl ether (MTBE)	**1634-04-4**	**8260B**	**4.2**	**J**	**5.0**	**0.40**	**ug/L**	**1**
Naphthalene	**91-20-3**	**8260B**	**24**		**5.0**	**1.7**	**ug/L**	**1**
tert-butyl alcohol (TBA)	**75-65-0**	**8260B**	**19**	**J**	**20**	**6.7**	**ug/L**	**1**
Toluene	**108-88-3**	**8260B**	**7.1**		**5.0**	**1.7**	**ug/L**	**1**
Xylenes (total)	**1330-20-7**	**8260B**	**140**		**5.0**	**1.7**	**ug/L**	**1**

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		93	70-130
Bromofluorobenzene		94	70-130
Toluene-d8		108	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	11/21/2013 1652	JCG	11/20/2013 1050	34820

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0.019	0.019	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		81	57-137

ICP-AES

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	3005A	6010C	1	11/19/2013 0708	CDF	11/18/2013 1653	34655

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Lead	**7439-92-1**	**6010C**	**0.0075**	**J**	**0.010**	**0.0019**	**mg/L**	**1**

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
H = Out of holding time
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **06588-MW09**
Date Sampled: **11/13/2013 1525**
Date Received: **11/15/2013**

Laboratory ID: **OK15033-008**
Matrix: **Aqueous**

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	11/22/2013 0449	PMM2		35016

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
tert-Amyl alcohol (TAA)	75-85-4	8260B	ND		20	6.7	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		10	0.20	ug/L	1
Benzene	**71-43-2**	**8260B**	**0.42**	**J**	**5.0**	**0.20**	**ug/L**	**1**
tert-Butyl formate (TBF)	762-75-4	8260B	ND		5.0	1.0	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		5.0	0.30	ug/L	1
Diisopropyl ether (IPE)	108-20-3	8260B	ND		5.0	0.40	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		20	1.0	ug/L	1
Ethanol	64-17-5	8260B	ND		100	33	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		5.0	1.7	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		1.0	0.20	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		5.0	0.40	ug/L	1
Naphthalene	91-20-3	8260B	ND		5.0	1.7	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		20	6.7	ug/L	1
Toluene	108-88-3	8260B	ND		5.0	1.7	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		5.0	1.7	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		92	70-130
Bromofluorobenzene		90	70-130
Toluene-d8		102	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	11/21/2013 1703	JCG	11/20/2013 1050	34820

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0.021	0.021	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		93	57-137

ICP-AES

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	3005A	6010C	1	11/19/2013 0712	CDF	11/18/2013 1653	34655

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Lead	**7439-92-1**	**6010C**	**0.075**		**0.010**	**0.0019**	**mg/L**	**1**

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
H = Out of holding time
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **06588-MW10**
Date Sampled: **11/13/2013 1550**
Date Received: **11/15/2013**

Laboratory ID: **OK15033-009**
Matrix: **Aqueous**

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	11/22/2013 0512	PMM2		35016

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
tert-Amyl alcohol (TAA)	75-85-4	8260B	ND		20	6.7	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		10	0.20	ug/L	1
Benzene	**71-43-2**	**8260B**	**2.9**	**J**	**5.0**	**0.20**	**ug/L**	**1**
tert-Butyl formate (TBF)	762-75-4	8260B	ND		5.0	1.0	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		5.0	0.30	ug/L	1
Diisopropyl ether (IPE)	108-20-3	8260B	ND		5.0	0.40	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		20	1.0	ug/L	1
Ethanol	64-17-5	8260B	ND		100	33	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		5.0	1.7	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		1.0	0.20	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		5.0	0.40	ug/L	1
Naphthalene	91-20-3	8260B	ND		5.0	1.7	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		20	6.7	ug/L	1
Toluene	108-88-3	8260B	ND		5.0	1.7	ug/L	1
Xylenes (total)	**1330-20-7**	**8260B**	**2.9**	**J**	**5.0**	**1.7**	**ug/L**	**1**

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		93	70-130
Bromofluorobenzene		88	70-130
Toluene-d8		101	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	11/21/2013 1713	JCG	11/20/2013 1050	34820

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0.021	0.021	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		95	57-137

ICP-AES

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	3005A	6010C	5	11/19/2013 2024	CDF	11/18/2013 1653	34655

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Lead	**7439-92-1**	**6010C**	**0.36**		**0.050**	**0.0095**	**mg/L**	**1**

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
H = Out of holding time
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **06588-MW11**
Date Sampled: **11/13/2013 1612**
Date Received: **11/15/2013**

Laboratory ID: **OK15033-010**
Matrix: **Aqueous**

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	11/22/2013 0534	PMM2		35016

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
tert-Amyl alcohol (TAA)	75-85-4	8260B	ND		20	6.7	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		10	0.20	ug/L	1
Benzene	**71-43-2**	**8260B**	**0.35**	**J**	**5.0**	**0.20**	**ug/L**	**1**
tert-Butyl formate (TBF)	762-75-4	8260B	ND		5.0	1.0	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		5.0	0.30	ug/L	1
Diisopropyl ether (IPE)	108-20-3	8260B	ND		5.0	0.40	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		20	1.0	ug/L	1
Ethanol	64-17-5	8260B	ND		100	33	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		5.0	1.7	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		1.0	0.20	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		5.0	0.40	ug/L	1
Naphthalene	91-20-3	8260B	ND		5.0	1.7	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		20	6.7	ug/L	1
Toluene	108-88-3	8260B	ND		5.0	1.7	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		5.0	1.7	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		90	70-130
Bromofluorobenzene		87	70-130
Toluene-d8		99	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	11/21/2013 1723	JCG	11/20/2013 1050	34820

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0.021	0.021	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		125	57-137

ICP-AES

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	3005A	6010C	1	11/19/2013 0719	CDF	11/18/2013 1653	34655

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Lead	**7439-92-1**	**6010C**	**0.15**		**0.010**	**0.0019**	**mg/L**	**1**

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
H = Out of holding time
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Client: **Bunnell-Lammons Engineering, Inc.** Laboratory ID: **OK15033-011**
Description: **06588-MW12** Matrix: **Aqueous**
Date Sampled: **11/13/2013 1632**
Date Received: **11/15/2013**

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	11/22/2013 0556	PMM2		35016

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
tert-Amyl alcohol (TAA)	75-85-4	8260B	ND		20	6.7	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		10	0.20	ug/L	1
Benzene	**71-43-2**	**8260B**	**0.57**	**J**	**5.0**	**0.20**	**ug/L**	**1**
tert-Butyl formate (TBF)	762-75-4	8260B	ND		5.0	1.0	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		5.0	0.30	ug/L	1
Diisopropyl ether (IPE)	108-20-3	8260B	ND		5.0	0.40	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		20	1.0	ug/L	1
Ethanol	64-17-5	8260B	ND		100	33	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		5.0	1.7	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		1.0	0.20	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		5.0	0.40	ug/L	1
Naphthalene	91-20-3	8260B	ND		5.0	1.7	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		20	6.7	ug/L	1
Toluene	108-88-3	8260B	ND		5.0	1.7	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		5.0	1.7	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		93	70-130
Bromofluorobenzene		87	70-130
Toluene-d8		102	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	11/22/2013 0253	JCG	11/20/2013 1050	34821

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0.020	0.020	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		104	57-137

ICP-AES

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	3005A	6010C	1	11/19/2013 0723	CDF	11/18/2013 1653	34655

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Lead	**7439-92-1**	**6010C**	**0.042**		**0.010**	**0.0019**	**mg/L**	**1**

PQL = Practical quantitation limit B = Detected in the method blank E = Quantitation of compound exceeded the calibration range H = Out of holding time
ND = Not detected at or above the MDL J = Estimated result < PQL and ≥ MDL P = The RPD between two GC columns exceeds 40% N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Client: **Bunnell-Lammons Engineering, Inc.**	Laboratory ID: **OK15033-012**
Description: **06588-MW13**	Matrix: **Aqueous**
Date Sampled: **11/13/2013 1653**	
Date Received: **11/15/2013**	

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	11/22/2013 0619	PMM2		35016

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
tert-Amyl alcohol (TAA)	75-85-4	8260B	ND		20	6.7	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		10	0.20	ug/L	1
Benzene	**71-43-2**	**8260B**	**0.33**	**J**	**5.0**	**0.20**	**ug/L**	**1**
tert-Butyl formate (TBF)	762-75-4	8260B	ND		5.0	1.0	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		5.0	0.30	ug/L	1
Diisopropyl ether (IPE)	108-20-3	8260B	ND		5.0	0.40	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		20	1.0	ug/L	1
Ethanol	64-17-5	8260B	ND		100	33	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		5.0	1.7	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		1.0	0.20	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		5.0	0.40	ug/L	1
Naphthalene	91-20-3	8260B	ND		5.0	1.7	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		20	6.7	ug/L	1
Toluene	108-88-3	8260B	ND		5.0	1.7	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		5.0	1.7	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		91	70-130
Bromofluorobenzene		87	70-130
Toluene-d8		101	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	11/22/2013 0303	JCG	11/20/2013 1050	34821

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0.020	0.020	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		94	57-137

ICP-AES

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	3005A	6010C	1	11/19/2013 0727	CDF	11/18/2013 1653	34655

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Lead	**7439-92-1**	**6010C**	**0.010**		**0.010**	**0.0019**	**mg/L**	**1**

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
H = Out of holding time
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **06588-MW14**
Date Sampled: **11/12/2013 1142**
Date Received: **11/15/2013**

Laboratory ID: **OK15033-013**
Matrix: **Aqueous**

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	11/22/2013 0641	PMM2		35016

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
tert-Amyl alcohol (TAA)	75-85-4	8260B	ND		20	6.7	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		10	0.20	ug/L	1
Benzene	71-43-2	8260B	ND		5.0	0.20	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260B	ND		5.0	1.0	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		5.0	0.30	ug/L	1
Diisopropyl ether (IPE)	108-20-3	8260B	ND		5.0	0.40	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		20	1.0	ug/L	1
Ethanol	64-17-5	8260B	ND		100	33	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		5.0	1.7	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		1.0	0.20	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		5.0	0.40	ug/L	1
Naphthalene	91-20-3	8260B	ND		5.0	1.7	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		20	6.7	ug/L	1
Toluene	108-88-3	8260B	ND		5.0	1.7	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		5.0	1.7	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		91	70-130
Bromofluorobenzene		86	70-130
Toluene-d8		99	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	11/22/2013 0314	JCG	11/20/2013 1050	34821

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0.019	0.019	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		92	57-137

ICP-AES

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	3005A	6010C	1	11/19/2013 0731	CDF	11/18/2013 1653	34655

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Lead	**7439-92-1**	**6010C**	**0.014**		**0.010**	**0.0019**	**mg/L**	**1**

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
H = Out of holding time
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **06588-MW15**
Date Sampled: **11/12/2013 1212**
Date Received: **11/15/2013**

Laboratory ID: **OK15033-014**
Matrix: **Aqueous**

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	11/22/2013 0703	PMM2		35016

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
tert-Amyl alcohol (TAA)	75-85-4	8260B	ND		20	6.7	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		10	0.20	ug/L	1
Benzene	71-43-2	8260B	ND		5.0	0.20	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260B	ND		5.0	1.0	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		5.0	0.30	ug/L	1
Diisopropyl ether (IPE)	108-20-3	8260B	ND		5.0	0.40	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		20	1.0	ug/L	1
Ethanol	64-17-5	8260B	ND		100	33	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		5.0	1.7	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		1.0	0.20	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		5.0	0.40	ug/L	1
Naphthalene	91-20-3	8260B	ND		5.0	1.7	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		20	6.7	ug/L	1
Toluene	108-88-3	8260B	ND		5.0	1.7	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		5.0	1.7	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		94	70-130
Bromofluorobenzene		88	70-130
Toluene-d8		102	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	11/22/2013 0324	JCG	11/20/2013 1050	34821

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0.020	0.020	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		94	57-137

ICP-AES

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	3005A	6010C	1	11/19/2013 0742	CDF	11/18/2013 1653	34655

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Lead	**7439-92-1**	**6010C**	**0.010**		**0.010**	**0.0019**	**mg/L**	**1**

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
H = Out of holding time
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **06588-MW16**
Date Sampled: **11/14/2013 0945**
Date Received: **11/15/2013**

Laboratory ID: **OK15033-015**
Matrix: **Aqueous**

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	11/22/2013 0726	PMM2		35016

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
tert-Amyl alcohol (TAA)	75-85-4	8260B	ND		20	6.7	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		10	0.20	ug/L	1
Benzene	71-43-2	8260B	ND		5.0	0.20	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260B	ND		5.0	1.0	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		5.0	0.30	ug/L	1
Diisopropyl ether (IPE)	108-20-3	8260B	ND		5.0	0.40	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		20	1.0	ug/L	1
Ethanol	64-17-5	8260B	ND		100	33	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		5.0	1.7	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		1.0	0.20	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		5.0	0.40	ug/L	1
Naphthalene	91-20-3	8260B	ND		5.0	1.7	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		20	6.7	ug/L	1
Toluene	108-88-3	8260B	ND		5.0	1.7	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		5.0	1.7	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		93	70-130
Bromofluorobenzene		87	70-130
Toluene-d8		99	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	11/22/2013 0334	JCG	11/20/2013 1050	34821

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0.020	0.020	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		94	57-137

ICP-AES

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	3005A	6010C	1	11/19/2013 0746	CDF	11/18/2013 1653	34655

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Lead	**7439-92-1**	**6010C**	**0.24**		**0.010**	**0.0019**	**mg/L**	**1**

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
H = Out of holding time
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Client: **Bunnell-Lammons Engineering, Inc.** Laboratory ID: **OK15033-016**
Description: **06588-MW17** Matrix: **Aqueous**
Date Sampled: **11/14/2013 1058**
Date Received: **11/15/2013**

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	11/22/2013 1025	PMM2		35016
2	5030B	8260B	1	11/23/2013 0258	PMM2		35093

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
tert-Amyl alcohol (TAA)	75-85-4	8260B	ND		20	6.7	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		10	0.20	ug/L	1
Benzene	**71-43-2**	**8260B**	**11**		**5.0**	**0.20**	**ug/L**	**1**
tert-Butyl formate (TBF)	762-75-4	8260B	ND		5.0	1.0	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		5.0	0.30	ug/L	1
Diisopropyl ether (IPE)	108-20-3	8260B	ND		5.0	0.40	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		20	1.0	ug/L	1
Ethanol	64-17-5	8260B	ND		100	33	ug/L	1
Ethylbenzene	**100-41-4**	**8260B**	**14**		**5.0**	**1.7**	**ug/L**	**1**
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		1.0	0.20	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		5.0	0.40	ug/L	1
Naphthalene	**91-20-3**	**8260B**	**2.9**	**J**	**5.0**	**1.7**	**ug/L**	**2**
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		20	6.7	ug/L	1
Toluene	**108-88-3**	**8260B**	**19**		**5.0**	**1.7**	**ug/L**	**1**
Xylenes (total)	**1330-20-7**	**8260B**	**54**		**5.0**	**1.7**	**ug/L**	**1**

Surrogate	Q	Run 1 % Recovery	Acceptance Limits	Q	Run 2 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		91	70-130		95	70-130
Bromofluorobenzene		91	70-130		92	70-130
Toluene-d8		101	70-130		99	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	11/22/2013 0345	JCG	11/20/2013 1050	34821

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0.020	0.020	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		102	57-137

ICP-AES

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	3005A	6010C	1	11/19/2013 0749	CDF	11/18/2013 1653	34655

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run

PQL = Practical quantitation limit B = Detected in the method blank E = Quantitation of compound exceeded the calibration range H = Out of holding time
ND = Not detected at or above the MDL J = Estimated result < PQL and ≥ MDL P = The RPD between two GC columns exceeds 40% N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **06588-MW17**
Date Sampled: **11/14/2013 1058**
Date Received: **11/15/2013**

Laboratory ID: **OK15033-016**
Matrix: **Aqueous**

ICP-AES

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	3005A	6010C	1	11/19/2013 0749	CDF	11/18/2013 1653	34655

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Lead	**7439-92-1**	**6010C**	**0.0058**	**J**	**0.010**	**0.0019**	**mg/L**	**1**

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
H = Out of holding time
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Client: **Bunnell-Lammons Engineering, Inc.** Laboratory ID: **OK15033-017**
Description: **06588-MW18** Matrix: **Aqueous**
Date Sampled: **11/14/2013 1225**
Date Received: **11/15/2013**

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	10	11/22/2013 0941	PMM2		35016

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
tert-Amyl alcohol (TAA)	**75-85-4**	**8260B**	**200**		**200**	**67**	**ug/L**	**1**
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		100	2.0	ug/L	1
Benzene	**71-43-2**	**8260B**	**120**		**50**	**2.0**	**ug/L**	**1**
tert-Butyl formate (TBF)	762-75-4	8260B	ND		50	10	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		50	3.0	ug/L	1
Diisopropyl ether (IPE)	108-20-3	8260B	ND		50	4.0	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		200	10	ug/L	1
Ethanol	64-17-5	8260B	ND		1000	330	ug/L	1
Ethylbenzene	**100-41-4**	**8260B**	**1300**		**50**	**17**	**ug/L**	**1**
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		10	2.0	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		50	4.0	ug/L	1
Naphthalene	**91-20-3**	**8260B**	**480**		**50**	**17**	**ug/L**	**1**
tert-butyl alcohol (TBA)	**75-65-0**	**8260B**	**150**	**J**	**200**	**67**	**ug/L**	**1**
Toluene	**108-88-3**	**8260B**	**130**		**50**	**17**	**ug/L**	**1**
Xylenes (total)	**1330-20-7**	**8260B**	**1100**		**50**	**17**	**ug/L**	**1**

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		92	70-130
Bromofluorobenzene		94	70-130
Toluene-d8		102	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	11/22/2013 0355	JCG	11/20/2013 1050	34821

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,2-Dibromoethane (EDB)	**106-93-4**	**8011**	**0.029**	**P**	**0.020**	**0.020**	**ug/L**	**1**

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		91	57-137

ICP-AES

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	3005A	6010C	5	11/19/2013 2028	CDF	11/18/2013 1653	34655

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Lead	**7439-92-1**	**6010C**	**0.36**		**0.050**	**0.0095**	**mg/L**	**1**

PQL = Practical quantitation limit B = Detected in the method blank E = Quantitation of compound exceeded the calibration range H = Out of holding time
ND = Not detected at or above the MDL J = Estimated result < PQL and ≥ MDL P = The RPD between two GC columns exceeds 40% N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Client: **Bunnell-Lammons Engineering, Inc.**	Laboratory ID: **OK15033-018**
Description: **06588-MW18DUP**	Matrix: **Aqueous**
Date Sampled: **11/14/2013 1226**	
Date Received: **11/15/2013**	

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	5	11/22/2013 1003	PMM2		35016
2	5030B	8260B	20	11/23/2013 0648	PMM2		35093

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
tert-Amyl alcohol (TAA)	**75-85-4**	**8260B**	**110**		**100**	**34**	**ug/L**	**1**
tert-Amyl methyl ether (TAME)	**994-05-8**	**8260B**	**5.2**	**J**	**50**	**1.0**	**ug/L**	**1**
Benzene	**71-43-2**	**8260B**	**120**		**25**	**1.0**	**ug/L**	**1**
tert-Butyl formate (TBF)	762-75-4	8260B	ND		25	5.0	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		25	1.5	ug/L	1
Diisopropyl ether (IPE)	108-20-3	8260B	ND		25	2.0	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		100	5.0	ug/L	1
Ethanol	64-17-5	8260B	ND		500	170	ug/L	1
Ethylbenzene	**100-41-4**	**8260B**	**1100**		**100**	**34**	**ug/L**	**2**
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		5.0	1.0	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		25	2.0	ug/L	1
Naphthalene	**91-20-3**	**8260B**	**490**		**100**	**34**	**ug/L**	**2**
tert-butyl alcohol (TBA)	**75-65-0**	**8260B**	**91**	**J**	**100**	**34**	**ug/L**	**1**
Toluene	**108-88-3**	**8260B**	**130**		**25**	**8.5**	**ug/L**	**1**
Xylenes (total)	**1330-20-7**	**8260B**	**1200**		**25**	**8.5**	**ug/L**	**1**

Surrogate	Q	Run 1 % Recovery	Acceptance Limits	Q	Run 2 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		91	70-130		95	70-130
Bromofluorobenzene		98	70-130		93	70-130
Toluene-d8		102	70-130		99	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	11/22/2013 0405	JCG	11/20/2013 1050	34821

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,2-Dibromoethane (EDB)	**106-93-4**	**8011**	**0.026**	**P**	**0.021**	**0.021**	**ug/L**	**1**

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		96	57-137

ICP-AES

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	3005A	6010C	1	11/19/2013 0757	CDF	11/18/2013 1653	34655

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run

PQL = Practical quantitation limit B = Detected in the method blank E = Quantitation of compound exceeded the calibration range H = Out of holding time
ND = Not detected at or above the MDL J = Estimated result < PQL and ≥ MDL P = The RPD between two GC columns exceeds 40% N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **06588-MW18DUP**
Date Sampled: **11/14/2013 1226**
Date Received: **11/15/2013**

Laboratory ID: **OK15033-018**
Matrix: **Aqueous**

ICP-AES

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	3005A	6010C	1	11/19/2013 0757	CDF	11/18/2013 1653	34655

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Lead	**7439-92-1**	**6010C**	**0.16**		**0.010**	**0.0019**	**mg/L**	**1**

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
H = Out of holding time
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **06588-MW20**
Date Sampled: **11/12/2013 1324**
Date Received: **11/15/2013**

Laboratory ID: **OK15033-019**
Matrix: **Aqueous**

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	11/22/2013 0749	PMM2		35016

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
tert-Amyl alcohol (TAA)	75-85-4	8260B	ND		20	6.7	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		10	0.20	ug/L	1
Benzene	**71-43-2**	**8260B**	**1.0**	**J**	**5.0**	**0.20**	**ug/L**	**1**
tert-Butyl formate (TBF)	762-75-4	8260B	ND		5.0	1.0	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		5.0	0.30	ug/L	1
Diisopropyl ether (IPE)	108-20-3	8260B	ND		5.0	0.40	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		20	1.0	ug/L	1
Ethanol	64-17-5	8260B	ND		100	33	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		5.0	1.7	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		1.0	0.20	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		5.0	0.40	ug/L	1
Naphthalene	91-20-3	8260B	ND		5.0	1.7	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		20	6.7	ug/L	1
Toluene	108-88-3	8260B	ND		5.0	1.7	ug/L	1
Xylenes (total)	**1330-20-7**	**8260B**	**2.5**	**J**	**5.0**	**1.7**	**ug/L**	**1**

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		90	70-130
Bromofluorobenzene		85	70-130
Toluene-d8		100	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	11/22/2013 0416	JCG	11/20/2013 1050	34821

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0.019	0.019	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		95	57-137

ICP-AES

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	3005A	6010C	1	11/19/2013 0801	CDF	11/18/2013 1653	34655

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Lead	**7439-92-1**	**6010C**	**0.014**		**0.010**	**0.0019**	**mg/L**	**1**

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
H = Out of holding time
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **06588-MW21**
Date Sampled: **11/12/2013 1350**
Date Received: **11/15/2013**

Laboratory ID: **OK15033-020**
Matrix: **Aqueous**

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	11/22/2013 0811	PMM2		35016

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
tert-Amyl alcohol (TAA)	75-85-4	8260B	ND		20	6.7	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		10	0.20	ug/L	1
Benzene	71-43-2	8260B	ND		5.0	0.20	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260B	ND		5.0	1.0	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		5.0	0.30	ug/L	1
Diisopropyl ether (IPE)	108-20-3	8260B	ND		5.0	0.40	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		20	1.0	ug/L	1
Ethanol	64-17-5	8260B	ND		100	33	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		5.0	1.7	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		1.0	0.20	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		5.0	0.40	ug/L	1
Naphthalene	91-20-3	8260B	ND		5.0	1.7	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		20	6.7	ug/L	1
Toluene	108-88-3	8260B	ND		5.0	1.7	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		5.0	1.7	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		90	70-130
Bromofluorobenzene		84	70-130
Toluene-d8		100	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	11/22/2013 0426	JCG	11/20/2013 1050	34821

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0.020	0.020	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		94	57-137

ICP-AES

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	3005A	6010C	1	11/19/2013 0805	CDF	11/18/2013 1653	34655

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Lead	**7439-92-1**	**6010C**	**0.084**		**0.010**	**0.0019**	**mg/L**	**1**

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
H = Out of holding time
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **06588-MW21D**
Date Sampled: **11/12/2013 1427**
Date Received: **11/15/2013**

Laboratory ID: **OK15033-021**
Matrix: **Aqueous**

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	11/22/2013 0833	PMM2		35016

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
tert-Amyl alcohol (TAA)	75-85-4	8260B	ND		20	6.7	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		10	0.20	ug/L	1
Benzene	71-43-2	8260B	ND		5.0	0.20	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260B	ND		5.0	1.0	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		5.0	0.30	ug/L	1
Diisopropyl ether (IPE)	108-20-3	8260B	ND		5.0	0.40	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		20	1.0	ug/L	1
Ethanol	64-17-5	8260B	ND		100	33	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		5.0	1.7	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		1.0	0.20	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		5.0	0.40	ug/L	1
Naphthalene	91-20-3	8260B	ND		5.0	1.7	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		20	6.7	ug/L	1
Toluene	108-88-3	8260B	ND		5.0	1.7	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		5.0	1.7	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		91	70-130
Bromofluorobenzene		84	70-130
Toluene-d8		101	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	11/22/2013 0436	JCG	11/20/2013 1050	34821

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0.020	0.020	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		92	57-137

ICP-AES

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
2	3005A	6010C	1	11/20/2013 2017	CDF	11/18/2013 1934	34689

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Lead	**7439-92-1**	**6010C**	**0.0098**	**BJ**	**0.010**	**0.0019**	**mg/L**	**2**

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
H = Out of holding time
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Client: **Bunnell-Lammons Engineering, Inc.**	Laboratory ID: **OK15033-022**
Description: **06588-MW22D**	Matrix: **Aqueous**
Date Sampled: **11/14/2013 1302**	
Date Received: **11/15/2013**	

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	11/22/2013 1047	PMM2		35016

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
tert-Amyl alcohol (TAA)	**75-85-4**	**8260B**	**81**		**20**	**6.7**	**ug/L**	**1**
tert-Amyl methyl ether (TAME)	**994-05-8**	**8260B**	**4.7**	**J**	**10**	**0.20**	**ug/L**	**1**
Benzene	**71-43-2**	**8260B**	**190**		**5.0**	**0.20**	**ug/L**	**1**
tert-Butyl formate (TBF)	762-75-4	8260B	ND		5.0	1.0	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		5.0	0.30	ug/L	1
Diisopropyl ether (IPE)	108-20-3	8260B	ND		5.0	0.40	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		20	1.0	ug/L	1
Ethanol	64-17-5	8260B	ND		100	33	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		5.0	1.7	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		1.0	0.20	ug/L	1
Methyl tertiary butyl ether (MTBE)	**1634-04-4**	**8260B**	**6.2**		**5.0**	**0.40**	**ug/L**	**1**
Naphthalene	**91-20-3**	**8260B**	**10**		**5.0**	**1.7**	**ug/L**	**1**
tert-butyl alcohol (TBA)	**75-65-0**	**8260B**	**14**	**J**	**20**	**6.7**	**ug/L**	**1**
Toluene	108-88-3	8260B	ND		5.0	1.7	ug/L	1
Xylenes (total)	**1330-20-7**	**8260B**	**2.3**	**J**	**5.0**	**1.7**	**ug/L**	**1**

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		92	70-130
Bromofluorobenzene		89	70-130
Toluene-d8		103	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	11/22/2013 0446	JCG	11/20/2013 1050	34821

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0.019	0.019	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		97	57-137

ICP-AES

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
2	3005A	6010C	1	11/20/2013 2032	CDF	11/18/2013 1934	34689

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Lead	**7439-92-1**	**6010C**	**0.011**	**B**	**0.010**	**0.0019**	**mg/L**	**2**

PQL = Practical quantitation limit | B = Detected in the method blank | E = Quantitation of compound exceeded the calibration range | H = Out of holding time
ND = Not detected at or above the MDL | J = Estimated result < PQL and ≥ MDL | P = The RPD between two GC columns exceeds 40% | N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **06588-MW24D**
Date Sampled: **11/14/2013 1435**
Date Received: **11/15/2013**

Laboratory ID: **OK15033-023**
Matrix: **Aqueous**

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	11/22/2013 1516	ALL		35064

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
tert-Amyl alcohol (TAA)	**75-85-4**	**8260B**	**65**		**20**	**6.7**	**ug/L**	**1**
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		10	0.20	ug/L	1
Benzene	**71-43-2**	**8260B**	**83**		**5.0**	**0.20**	**ug/L**	**1**
tert-Butyl formate (TBF)	762-75-4	8260B	ND		5.0	1.0	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		5.0	0.30	ug/L	1
Diisopropyl ether (IPE)	**108-20-3**	**8260B**	**2.5**	**J**	**5.0**	**0.40**	**ug/L**	**1**
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		20	1.0	ug/L	1
Ethanol	64-17-5	8260B	ND		100	33	ug/L	1
Ethylbenzene	**100-41-4**	**8260B**	**2.5**	**J**	**5.0**	**1.7**	**ug/L**	**1**
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		1.0	0.20	ug/L	1
Methyl tertiary butyl ether (MTBE)	**1634-04-4**	**8260B**	**22**		**5.0**	**0.40**	**ug/L**	**1**
Naphthalene	**91-20-3**	**8260B**	**4.1**	**J**	**5.0**	**1.7**	**ug/L**	**1**
tert-butyl alcohol (TBA)	**75-65-0**	**8260B**	**42**		**20**	**6.7**	**ug/L**	**1**
Toluene	**108-88-3**	**8260B**	**4.1**	**J**	**5.0**	**1.7**	**ug/L**	**1**
Xylenes (total)	**1330-20-7**	**8260B**	**15**		**5.0**	**1.7**	**ug/L**	**1**

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		90	70-130
Bromofluorobenzene		90	70-130
Toluene-d8		102	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	11/22/2013 0457	JCG	11/20/2013 1050	34821

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0.020	0.020	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		81	57-137

ICP-AES

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	3005A	6010C	1	11/19/2013 2113	CDF	11/18/2013 1934	34689

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Lead	**7439-92-1**	**6010C**	**0.0026**	**BJ**	**0.010**	**0.0019**	**mg/L**	**1**

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
H = Out of holding time
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **06588-MW26**
Date Sampled: **11/12/2013 1307**
Date Received: **11/15/2013**

Laboratory ID: **OK15033-024**
Matrix: **Aqueous**

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	5	11/22/2013 1538	ALL		35064

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
tert-Amyl alcohol (TAA)	**75-85-4**	**8260B**	**280**		**100**	**34**	**ug/L**	**1**
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		50	1.0	ug/L	1
Benzene	**71-43-2**	**8260B**	**140**		**25**	**1.0**	**ug/L**	**1**
tert-Butyl formate (TBF)	762-75-4	8260B	ND		25	5.0	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		25	1.5	ug/L	1
Diisopropyl ether (IPE)	108-20-3	8260B	ND		25	2.0	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		100	5.0	ug/L	1
Ethanol	64-17-5	8260B	ND		500	170	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		25	8.5	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		5.0	1.0	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		25	2.0	ug/L	1
Naphthalene	91-20-3	8260B	ND		25	8.5	ug/L	1
tert-butyl alcohol (TBA)	**75-65-0**	**8260B**	**71**	**J**	**100**	**34**	**ug/L**	**1**
Toluene	108-88-3	8260B	ND		25	8.5	ug/L	1
Xylenes (total)	**1330-20-7**	**8260B**	**29**		**25**	**8.5**	**ug/L**	**1**

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		91	70-130
Bromofluorobenzene		89	70-130
Toluene-d8		101	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	11/22/2013 0527	JCG	11/20/2013 1050	34821

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0.020	0.020	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		85	57-137

ICP-AES

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	3005A	6010C	1	11/19/2013 2124	CDF	11/18/2013 1934	34689

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Lead	**7439-92-1**	**6010C**	**0.0059**	**BJ**	**0.010**	**0.0019**	**mg/L**	**1**

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
H = Out of holding time
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **06588-MW27**
Date Sampled: **11/12/2013 1238**
Date Received: **11/15/2013**

Laboratory ID: **OK15033-025**
Matrix: **Aqueous**

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	11/22/2013 1601	ALL		35064

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
tert-Amyl alcohol (TAA)	75-85-4	8260B	ND		20	6.7	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		10	0.20	ug/L	1
Benzene	71-43-2	8260B	ND		5.0	0.20	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260B	ND		5.0	1.0	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		5.0	0.30	ug/L	1
Diisopropyl ether (IPE)	108-20-3	8260B	ND		5.0	0.40	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		20	1.0	ug/L	1
Ethanol	64-17-5	8260B	ND		100	33	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		5.0	1.7	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		1.0	0.20	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		5.0	0.40	ug/L	1
Naphthalene	91-20-3	8260B	ND		5.0	1.7	ug/L	1
tert-butyl alcohol (TBA)	**75-65-0**	**8260B**	**12**	**J**	**20**	**6.7**	**ug/L**	**1**
Toluene	108-88-3	8260B	ND		5.0	1.7	ug/L	1
Xylenes (total)	**1330-20-7**	**8260B**	**4.9**	**J**	**5.0**	**1.7**	**ug/L**	**1**

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		91	70-130
Bromofluorobenzene		89	70-130
Toluene-d8		100	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	11/22/2013 0538	JCG	11/20/2013 1050	34821

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0.020	0.020	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		85	57-137

ICP-AES

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	3005A	6010C	1	11/19/2013 2128	CDF	11/18/2013 1934	34689

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Lead	**7439-92-1**	**6010C**	**0.014**	**B**	**0.010**	**0.0019**	**mg/L**	**1**

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
H = Out of holding time
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **06588-MW28**
Date Sampled: **11/13/2013 1451**
Date Received: **11/15/2013**

Laboratory ID: **OK15033-026**
Matrix: **Aqueous**

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	11/22/2013 1623	ALL		35064

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
tert-Amyl alcohol (TAA)	75-85-4	8260B	ND		20	6.7	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		10	0.20	ug/L	1
Benzene	**71-43-2**	**8260B**	**1.9**	**J**	**5.0**	**0.20**	**ug/L**	**1**
tert-Butyl formate (TBF)	762-75-4	8260B	ND		5.0	1.0	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		5.0	0.30	ug/L	1
Diisopropyl ether (IPE)	108-20-3	8260B	ND		5.0	0.40	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		20	1.0	ug/L	1
Ethanol	64-17-5	8260B	ND		100	33	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		5.0	1.7	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		1.0	0.20	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		5.0	0.40	ug/L	1
Naphthalene	91-20-3	8260B	ND		5.0	1.7	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		20	6.7	ug/L	1
Toluene	108-88-3	8260B	ND		5.0	1.7	ug/L	1
Xylenes (total)	**1330-20-7**	**8260B**	**3.3**	**J**	**5.0**	**1.7**	**ug/L**	**1**

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		91	70-130
Bromofluorobenzene		88	70-130
Toluene-d8		100	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	11/22/2013 0548	JCG	11/20/2013 1050	34821

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0.020	0.020	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		89	57-137

ICP-AES

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	3005A	6010C	1	11/19/2013 2131	CDF	11/18/2013 1934	34689

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Lead	**7439-92-1**	**6010C**	**0.065**	**B**	**0.010**	**0.0019**	**mg/L**	**1**

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
H = Out of holding time
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **06588-MW29**
Date Sampled: **11/13/2013 1430**
Date Received: **11/15/2013**

Laboratory ID: **OK15033-027**
Matrix: **Aqueous**

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	11/22/2013 1646	ALL		35064

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
tert-Amyl alcohol (TAA)	75-85-4	8260B	ND		20	6.7	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		10	0.20	ug/L	1
Benzene	**71-43-2**	**8260B**	**0.38**	**J**	**5.0**	**0.20**	**ug/L**	**1**
tert-Butyl formate (TBF)	762-75-4	8260B	ND		5.0	1.0	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		5.0	0.30	ug/L	1
Diisopropyl ether (IPE)	108-20-3	8260B	ND		5.0	0.40	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		20	1.0	ug/L	1
Ethanol	64-17-5	8260B	ND		100	33	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		5.0	1.7	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		1.0	0.20	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		5.0	0.40	ug/L	1
Naphthalene	91-20-3	8260B	ND		5.0	1.7	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		20	6.7	ug/L	1
Toluene	108-88-3	8260B	ND		5.0	1.7	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		5.0	1.7	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		94	70-130
Bromofluorobenzene		87	70-130
Toluene-d8		102	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	11/22/2013 0558	JCG	11/20/2013 1050	34821

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0.019	0.019	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		103	57-137

ICP-AES

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	3005A	6010C	1	11/19/2013 2135	CDF	11/18/2013 1934	34689

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Lead	**7439-92-1**	**6010C**	**0.23**	**B**	**0.010**	**0.0019**	**mg/L**	**1**

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
H = Out of holding time
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Client: **Bunnell-Lammons Engineering, Inc.** Laboratory ID: **OK15033-028**
Description: **06588-MW30** Matrix: **Aqueous**
Date Sampled: **11/13/2013 1405**
Date Received: **11/15/2013**

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	11/22/2013 1708	ALL		35064

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
tert-Amyl alcohol (TAA)	75-85-4	8260B	ND		20	6.7	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		10	0.20	ug/L	1
Benzene	**71-43-2**	**8260B**	**1.2**	**J**	**5.0**	**0.20**	**ug/L**	**1**
tert-Butyl formate (TBF)	762-75-4	8260B	ND		5.0	1.0	ug/L	1
1,2-Dichloroethane	**107-06-2**	**8260B**	**0.68**	**J**	**5.0**	**0.30**	**ug/L**	**1**
Diisopropyl ether (IPE)	**108-20-3**	**8260B**	**1.6**	**J**	**5.0**	**0.40**	**ug/L**	**1**
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		20	1.0	ug/L	1
Ethanol	64-17-5	8260B	ND		100	33	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		5.0	1.7	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		1.0	0.20	ug/L	1
Methyl tertiary butyl ether (MTBE)	**1634-04-4**	**8260B**	**9.5**		**5.0**	**0.40**	**ug/L**	**1**
Naphthalene	91-20-3	8260B	ND		5.0	1.7	ug/L	1
tert-butyl alcohol (TBA)	**75-65-0**	**8260B**	**12**	**J**	**20**	**6.7**	**ug/L**	**1**
Toluene	108-88-3	8260B	ND		5.0	1.7	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		5.0	1.7	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		93	70-130
Bromofluorobenzene		90	70-130
Toluene-d8		100	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	11/22/2013 0609	JCG	11/20/2013 1050	34821

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0.021	0.021	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		79	57-137

ICP-AES

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	3005A	6010C	1	11/19/2013 2139	CDF	11/18/2013 1934	34689

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Lead	**7439-92-1**	**6010C**	**0.055**	**B**	**0.010**	**0.0019**	**mg/L**	**1**

PQL = Practical quantitation limit B = Detected in the method blank E = Quantitation of compound exceeded the calibration range H = Out of holding time
ND = Not detected at or above the MDL J = Estimated result < PQL and ≥ MDL P = The RPD between two GC columns exceeds 40% N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **06588-MW30D**
Date Sampled: **11/13/2013 1200**
Date Received: **11/15/2013**

Laboratory ID: **OK15033-029**
Matrix: **Aqueous**

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	11/22/2013 1731	ALL		35064

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
tert-Amyl alcohol (TAA)	**75-85-4**	**8260B**	**28**		**20**	**6.7**	**ug/L**	**1**
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		10	0.20	ug/L	1
Benzene	**71-43-2**	**8260B**	**0.29**	**J**	**5.0**	**0.20**	**ug/L**	**1**
tert-Butyl formate (TBF)	762-75-4	8260B	ND		5.0	1.0	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		5.0	0.30	ug/L	1
Diisopropyl ether (IPE)	**108-20-3**	**8260B**	**0.97**	**J**	**5.0**	**0.40**	**ug/L**	**1**
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		20	1.0	ug/L	1
Ethanol	64-17-5	8260B	ND		100	33	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		5.0	1.7	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		1.0	0.20	ug/L	1
Methyl tertiary butyl ether (MTBE)	**1634-04-4**	**8260B**	**6.3**		**5.0**	**0.40**	**ug/L**	**1**
Naphthalene	91-20-3	8260B	ND		5.0	1.7	ug/L	1
tert-butyl alcohol (TBA)	**75-65-0**	**8260B**	**18**	**J**	**20**	**6.7**	**ug/L**	**1**
Toluene	108-88-3	8260B	ND		5.0	1.7	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		5.0	1.7	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		91	70-130
Bromofluorobenzene		87	70-130
Toluene-d8		102	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	11/22/2013 0619	JCG	11/20/2013 1050	34821

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0.020	0.020	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		90	57-137

ICP-AES

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	3005A	6010C	1	11/19/2013 2142	CDF	11/18/2013 1934	34689

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Lead	**7439-92-1**	**6010C**	**0.0048**	**BJ**	**0.010**	**0.0019**	**mg/L**	**1**

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
H = Out of holding time
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **06588-MW32**
Date Sampled: **11/13/2013 1326**
Date Received: **11/15/2013**

Laboratory ID: **OK15033-030**
Matrix: **Aqueous**

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	11/22/2013 1753	ALL		35064

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
tert-Amyl alcohol (TAA)	**75-85-4**	**8260B**	**87**		**20**	**6.7**	**ug/L**	**1**
tert-Amyl methyl ether (TAME)	**994-05-8**	**8260B**	**7.8**	**J**	**10**	**0.20**	**ug/L**	**1**
Benzene	**71-43-2**	**8260B**	**1.1**	**J**	**5.0**	**0.20**	**ug/L**	**1**
tert-Butyl formate (TBF)	762-75-4	8260B	ND		5.0	1.0	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		5.0	0.30	ug/L	1
Diisopropyl ether (IPE)	**108-20-3**	**8260B**	**5.1**		**5.0**	**0.40**	**ug/L**	**1**
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		20	1.0	ug/L	1
Ethanol	64-17-5	8260B	ND		100	33	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		5.0	1.7	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		1.0	0.20	ug/L	1
Methyl tertiary butyl ether (MTBE)	**1634-04-4**	**8260B**	**120**		**5.0**	**0.40**	**ug/L**	**1**
Naphthalene	91-20-3	8260B	ND		5.0	1.7	ug/L	1
tert-butyl alcohol (TBA)	**75-65-0**	**8260B**	**49**		**20**	**6.7**	**ug/L**	**1**
Toluene	108-88-3	8260B	ND		5.0	1.7	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		5.0	1.7	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		91	70-130
Bromofluorobenzene		89	70-130
Toluene-d8		100	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	11/22/2013 0629	JCG	11/20/2013 1050	34821

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0.021	0.021	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		100	57-137

ICP-AES

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	3005A	6010C	1	11/19/2013 2146	CDF	11/18/2013 1934	34689

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Lead	**7439-92-1**	**6010C**	**0.55**	**B**	**0.010**	**0.0019**	**mg/L**	**1**

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
H = Out of holding time
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **06588-MW33**
Date Sampled: **11/14/2013 1010**
Date Received: **11/15/2013**

Laboratory ID: **OK15033-031**
Matrix: **Aqueous**

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	11/22/2013 1815	ALL		35064

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
tert-Amyl alcohol (TAA)	75-85-4	8260B	ND		20	6.7	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		10	0.20	ug/L	1
Benzene	**71-43-2**	**8260B**	**1.5**	**J**	**5.0**	**0.20**	**ug/L**	**1**
tert-Butyl formate (TBF)	762-75-4	8260B	ND		5.0	1.0	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		5.0	0.30	ug/L	1
Diisopropyl ether (IPE)	108-20-3	8260B	ND		5.0	0.40	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		20	1.0	ug/L	1
Ethanol	**64-17-5**	**8260B**	**35**	**J**	**100**	**33**	**ug/L**	**1**
Ethylbenzene	100-41-4	8260B	ND		5.0	1.7	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		1.0	0.20	ug/L	1
Methyl tertiary butyl ether (MTBE)	**1634-04-4**	**8260B**	**7.1**		**5.0**	**0.40**	**ug/L**	**1**
Naphthalene	91-20-3	8260B	ND		5.0	1.7	ug/L	1
tert-butyl alcohol (TBA)	**75-65-0**	**8260B**	**12**	**J**	**20**	**6.7**	**ug/L**	**1**
Toluene	108-88-3	8260B	ND		5.0	1.7	ug/L	1
Xylenes (total)	**1330-20-7**	**8260B**	**5.0**		**5.0**	**1.7**	**ug/L**	**1**

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		92	70-130
Bromofluorobenzene		90	70-130
Toluene-d8		101	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	11/22/2013 0845	JCG	11/21/2013 1102	34930

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0.020	0.020	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		79	57-137

ICP-AES

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	3005A	6010C	1	11/19/2013 2150	CDF	11/18/2013 1934	34689

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Lead	**7439-92-1**	**6010C**	**0.11**	**B**	**0.010**	**0.0019**	**mg/L**	**1**

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
H = Out of holding time
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **06588-MW33D**
Date Sampled: **11/13/2013 1300**
Date Received: **11/15/2013**

Laboratory ID: **OK15033-032**
Matrix: **Aqueous**

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	10	11/22/2013 1838	ALL		35064
2	5030B	8260B	20	11/25/2013 1650	ALL		35179

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
tert-Amyl alcohol (TAA)	**75-85-4**	**8260B**	**3100**		**200**	**67**	**ug/L**	**1**
tert-Amyl methyl ether (TAME)	**994-05-8**	**8260B**	**200**		**100**	**2.0**	**ug/L**	**1**
Benzene	**71-43-2**	**8260B**	**16**	**J**	**50**	**2.0**	**ug/L**	**1**
tert-Butyl formate (TBF)	762-75-4	8260B	ND		50	10	ug/L	1
1,2-Dichloroethane	**107-06-2**	**8260B**	**30**	**J**	**50**	**3.0**	**ug/L**	**1**
Diisopropyl ether (IPE)	**108-20-3**	**8260B**	**89**		**50**	**4.0**	**ug/L**	**1**
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		200	10	ug/L	1
Ethanol	64-17-5	8260B	ND		1000	330	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		50	17	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		10	2.0	ug/L	1
Methyl tertiary butyl ether (MTBE)	**1634-04-4**	**8260B**	**2600**		**100**	**8.0**	**ug/L**	**2**
Naphthalene	91-20-3	8260B	ND		50	17	ug/L	1
tert-butyl alcohol (TBA)	**75-65-0**	**8260B**	**1200**		**200**	**67**	**ug/L**	**1**
Toluene	108-88-3	8260B	ND		50	17	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		50	17	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits	Q	Run 2 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		93	70-130		92	70-130
Bromofluorobenzene		87	70-130		95	70-130
Toluene-d8		105	70-130		96	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	11/22/2013 0855	JCG	11/21/2013 1102	34930

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0.020	0.020	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		88	57-137

ICP-AES

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	3005A	6010C	1	11/19/2013 2154	CDF	11/18/2013 1934	34689

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
H = Out of holding time
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **06588-MW33D**
Date Sampled: **11/13/2013 1300**
Date Received: **11/15/2013**

Laboratory ID: **OK15033-032**
Matrix: **Aqueous**

ICP-AES

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	3005A	6010C	1	11/19/2013 2154	CDF	11/18/2013 1934	34689

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Lead	**7439-92-1**	**6010C**	**0.020**	**B**	**0.010**	**0.0019**	**mg/L**	**1**

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
H = Out of holding time
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **06588-MW34**
Date Sampled: **11/12/2013 1445**
Date Received: **11/15/2013**

Laboratory ID: **OK15033-033**
Matrix: **Aqueous**

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	11/22/2013 1900	ALL		35064

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
tert-Amyl alcohol (TAA)	75-85-4	8260B	ND		20	6.7	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		10	0.20	ug/L	1
Benzene	71-43-2	8260B	ND		5.0	0.20	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260B	ND		5.0	1.0	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		5.0	0.30	ug/L	1
Diisopropyl ether (IPE)	108-20-3	8260B	ND		5.0	0.40	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		20	1.0	ug/L	1
Ethanol	64-17-5	8260B	ND		100	33	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		5.0	1.7	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		1.0	0.20	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		5.0	0.40	ug/L	1
Naphthalene	91-20-3	8260B	ND		5.0	1.7	ug/L	1
tert-butyl alcohol (TBA)	**75-65-0**	**8260B**	**12**	**J**	**20**	**6.7**	**ug/L**	**1**
Toluene	108-88-3	8260B	ND		5.0	1.7	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		5.0	1.7	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		93	70-130
Bromofluorobenzene		88	70-130
Toluene-d8		101	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	11/22/2013 0905	JCG	11/21/2013 1102	34930

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0.020	0.020	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		88	57-137

ICP-AES

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	3005A	6010C	1	11/19/2013 2157	CDF	11/18/2013 1934	34689

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Lead	**7439-92-1**	**6010C**	**0.078**	**B**	**0.010**	**0.0019**	**mg/L**	**1**

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
H = Out of holding time
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Client: **Bunnell-Lammons Engineering, Inc.**	Laboratory ID: **OK15033-034**
Description: **06588-MW36**	Matrix: **Aqueous**
Date Sampled: **11/12/2013 1515**	
Date Received: **11/15/2013**	

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	11/22/2013 1923	ALL		35064

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
tert-Amyl alcohol (TAA)	75-85-4	8260B	ND		20	6.7	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		10	0.20	ug/L	1
Benzene	71-43-2	8260B	ND		5.0	0.20	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260B	ND		5.0	1.0	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		5.0	0.30	ug/L	1
Diisopropyl ether (IPE)	108-20-3	8260B	ND		5.0	0.40	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		20	1.0	ug/L	1
Ethanol	64-17-5	8260B	ND		100	33	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		5.0	1.7	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		1.0	0.20	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		5.0	0.40	ug/L	1
Naphthalene	91-20-3	8260B	ND		5.0	1.7	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		20	6.7	ug/L	1
Toluene	108-88-3	8260B	ND		5.0	1.7	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		5.0	1.7	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		93	70-130
Bromofluorobenzene		89	70-130
Toluene-d8		101	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	11/22/2013 0916	JCG	11/21/2013 1102	34930

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0.019	0.019	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		92	57-137

ICP-AES

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	3005A	6010C	1	11/19/2013 2209	CDF	11/18/2013 1934	34689

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Lead	**7439-92-1**	**6010C**	**0.026**	**B**	**0.010**	**0.0019**	**mg/L**	**1**

PQL = Practical quantitation limit | B = Detected in the method blank | E = Quantitation of compound exceeded the calibration range | H = Out of holding time
ND = Not detected at or above the MDL | J = Estimated result < PQL and ≥ MDL | P = The RPD between two GC columns exceeds 40% | N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **06588-MW37**
Date Sampled: **11/13/2013 1005**
Date Received: **11/15/2013**

Laboratory ID: **OK15033-035**
Matrix: **Aqueous**

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	11/22/2013 1945	ALL		35064

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
tert-Amyl alcohol (TAA)	75-85-4	8260B	ND		20	6.7	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		10	0.20	ug/L	1
Benzene	71-43-2	8260B	ND		5.0	0.20	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260B	ND		5.0	1.0	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		5.0	0.30	ug/L	1
Diisopropyl ether (IPE)	108-20-3	8260B	ND		5.0	0.40	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		20	1.0	ug/L	1
Ethanol	64-17-5	8260B	ND		100	33	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		5.0	1.7	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		1.0	0.20	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		5.0	0.40	ug/L	1
Naphthalene	91-20-3	8260B	ND		5.0	1.7	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		20	6.7	ug/L	1
Toluene	108-88-3	8260B	ND		5.0	1.7	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		5.0	1.7	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		91	70-130
Bromofluorobenzene		86	70-130
Toluene-d8		101	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	11/22/2013 0926	JCG	11/21/2013 1102	34930

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0.020	0.020	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		84	57-137

ICP-AES

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	3005A	6010C	1	11/19/2013 2212	CDF	11/18/2013 1934	34689

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Lead	**7439-92-1**	**6010C**	**0.013**	**B**	**0.010**	**0.0019**	**mg/L**	**1**

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
H = Out of holding time
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Client: **Bunnell-Lammons Engineering, Inc.**	Laboratory ID: **OK15033-036**
Description: **06588-MW38**	Matrix: **Aqueous**
Date Sampled: **11/13/2013 1055**	
Date Received: **11/15/2013**	

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	11/22/2013 2007	ALL		35064

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
tert-Amyl alcohol (TAA)	75-85-4	8260B	ND		20	6.7	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		10	0.20	ug/L	1
Benzene	71-43-2	8260B	ND		5.0	0.20	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260B	ND		5.0	1.0	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		5.0	0.30	ug/L	1
Diisopropyl ether (IPE)	108-20-3	8260B	ND		5.0	0.40	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		20	1.0	ug/L	1
Ethanol	64-17-5	8260B	ND		100	33	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		5.0	1.7	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		1.0	0.20	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		5.0	0.40	ug/L	1
Naphthalene	91-20-3	8260B	ND		5.0	1.7	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		20	6.7	ug/L	1
Toluene	108-88-3	8260B	ND		5.0	1.7	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		5.0	1.7	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		89	70-130
Bromofluorobenzene		86	70-130
Toluene-d8		101	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	11/22/2013 0936	JCG	11/21/2013 1102	34930

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0.020	0.020	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		81	57-137

ICP-AES

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
2	3005A	6010C	1	11/20/2013 2039	CDF	11/18/2013 1934	34689

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Lead	**7439-92-1**	**6010C**	**0.012**	**B**	**0.010**	**0.0019**	**mg/L**	**2**

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
H = Out of holding time
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Client: **Bunnell-Lammons Engineering, Inc.** Laboratory ID: **OK15033-037**
Description: **06588-MW39** Matrix: **Aqueous**
Date Sampled: **11/13/2013 1028**
Date Received: **11/15/2013**

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	11/22/2013 2030	ALL		35064

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
tert-Amyl alcohol (TAA)	75-85-4	8260B	ND		20	6.7	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		10	0.20	ug/L	1
Benzene	71-43-2	8260B	ND		5.0	0.20	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260B	ND		5.0	1.0	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		5.0	0.30	ug/L	1
Diisopropyl ether (IPE)	108-20-3	8260B	ND		5.0	0.40	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		20	1.0	ug/L	1
Ethanol	64-17-5	8260B	ND		100	33	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		5.0	1.7	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		1.0	0.20	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		5.0	0.40	ug/L	1
Naphthalene	91-20-3	8260B	ND		5.0	1.7	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		20	6.7	ug/L	1
Toluene	108-88-3	8260B	ND		5.0	1.7	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		5.0	1.7	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		92	70-130
Bromofluorobenzene		85	70-130
Toluene-d8		102	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	11/22/2013 0946	JCG	11/21/2013 1102	34930

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0.020	0.020	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		82	57-137

ICP-AES

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	3005A	6010C	1	11/19/2013 2220	CDF	11/18/2013 1934	34689

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Lead	**7439-92-1**	**6010C**	**0.055**	**B**	**0.010**	**0.0019**	**mg/L**	**1**

PQL = Practical quantitation limit B = Detected in the method blank E = Quantitation of compound exceeded the calibration range H = Out of holding time
ND = Not detected at or above the MDL J = Estimated result < PQL and ≥ MDL P = The RPD between two GC columns exceeds 40% N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **06588-MW40**
Date Sampled: **11/14/2013 1348**
Date Received: **11/15/2013**

Laboratory ID: **OK15033-038**
Matrix: **Aqueous**

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	20	11/22/2013 2052	ALL		35064

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
tert-Amyl alcohol (TAA)	**75-85-4**	**8260B**	**3600**		**400**	**130**	**ug/L**	**1**
tert-Amyl methyl ether (TAME)	**994-05-8**	**8260B**	**110**	**J**	**200**	**4.0**	**ug/L**	**1**
Benzene	**71-43-2**	**8260B**	**2800**		**100**	**4.0**	**ug/L**	**1**
tert-Butyl formate (TBF)	762-75-4	8260B	ND		100	20	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		100	6.0	ug/L	1
Diisopropyl ether (IPE)	**108-20-3**	**8260B**	**19**	**J**	**100**	**8.0**	**ug/L**	**1**
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		400	20	ug/L	1
Ethanol	64-17-5	8260B	ND		2000	660	ug/L	1
Ethylbenzene	**100-41-4**	**8260B**	**490**		**100**	**34**	**ug/L**	**1**
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		20	4.0	ug/L	1
Methyl tertiary butyl ether (MTBE)	**1634-04-4**	**8260B**	**320**		**100**	**8.0**	**ug/L**	**1**
Naphthalene	**91-20-3**	**8260B**	**280**		**100**	**34**	**ug/L**	**1**
tert-butyl alcohol (TBA)	**75-65-0**	**8260B**	**350**	**J**	**400**	**130**	**ug/L**	**1**
Toluene	**108-88-3**	**8260B**	**170**		**100**	**34**	**ug/L**	**1**
Xylenes (total)	**1330-20-7**	**8260B**	**990**		**100**	**34**	**ug/L**	**1**

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		88	70-130
Bromofluorobenzene		90	70-130
Toluene-d8		101	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	11/22/2013 0957	JCG	11/21/2013 1102	34930

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,2-Dibromoethane (EDB)	**106-93-4**	**8011**	**0.069**		**0.020**	**0.020**	**ug/L**	**1**

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		93	57-137

ICP-AES

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	3005A	6010C	1	11/20/2013 2043	CDF	11/18/2013 1934	34689

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Lead	**7439-92-1**	**6010C**	**0.066**	**B**	**0.010**	**0.0019**	**mg/L**	**1**

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
H = Out of holding time
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **06588-MW40DUP**
Date Sampled: **11/14/2013 1349**
Date Received: **11/15/2013**

Laboratory ID: **OK15033-039**
Matrix: **Aqueous**

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	20	11/22/2013 2115	ALL		35064

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
tert-Amyl alcohol (TAA)	**75-85-4**	**8260B**	**3800**		**400**	**130**	**ug/L**	**1**
tert-Amyl methyl ether (TAME)	**994-05-8**	**8260B**	**120**	**J**	**200**	**4.0**	**ug/L**	**1**
Benzene	**71-43-2**	**8260B**	**2900**		**100**	**4.0**	**ug/L**	**1**
tert-Butyl formate (TBF)	762-75-4	8260B	ND		100	20	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		100	6.0	ug/L	1
Diisopropyl ether (IPE)	**108-20-3**	**8260B**	**19**	**J**	**100**	**8.0**	**ug/L**	**1**
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		400	20	ug/L	1
Ethanol	64-17-5	8260B	ND		2000	660	ug/L	1
Ethylbenzene	**100-41-4**	**8260B**	**510**		**100**	**34**	**ug/L**	**1**
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		20	4.0	ug/L	1
Methyl tertiary butyl ether (MTBE)	**1634-04-4**	**8260B**	**340**		**100**	**8.0**	**ug/L**	**1**
Naphthalene	**91-20-3**	**8260B**	**300**		**100**	**34**	**ug/L**	**1**
tert-butyl alcohol (TBA)	**75-65-0**	**8260B**	**350**	**J**	**400**	**130**	**ug/L**	**1**
Toluene	**108-88-3**	**8260B**	**170**		**100**	**34**	**ug/L**	**1**
Xylenes (total)	**1330-20-7**	**8260B**	**1000**		**100**	**34**	**ug/L**	**1**

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		89	70-130
Bromofluorobenzene		92	70-130
Toluene-d8		103	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	11/22/2013 1007	JCG	11/21/2013 1102	34930

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,2-Dibromoethane (EDB)	**106-93-4**	**8011**	**0.069**		**0.020**	**0.020**	**ug/L**	**1**

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		84	57-137

ICP-AES

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	3005A	6010C	1	11/19/2013 2227	CDF	11/18/2013 1934	34689

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Lead	**7439-92-1**	**6010C**	**0.15**	**B**	**0.010**	**0.0019**	**mg/L**	**1**

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
H = Out of holding time
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **06588-MW41D**
Date Sampled: **11/13/2013 1226**
Date Received: **11/15/2013**

Laboratory ID: **OK15033-040**
Matrix: **Aqueous**

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	50	11/22/2013 2137	ALL		35064

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
tert-Amyl alcohol (TAA)	**75-85-4**	**8260B**	**8300**		**1000**	**340**	**ug/L**	**1**
tert-Amyl methyl ether (TAME)	**994-05-8**	**8260B**	**89**	**J**	**500**	**10**	**ug/L**	**1**
Benzene	**71-43-2**	**8260B**	**4500**		**250**	**10**	**ug/L**	**1**
tert-Butyl formate (TBF)	762-75-4	8260B	ND		250	50	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		250	15	ug/L	1
Diisopropyl ether (IPE)	**108-20-3**	**8260B**	**290**		**250**	**20**	**ug/L**	**1**
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		1000	50	ug/L	1
Ethanol	64-17-5	8260B	ND		5000	1700	ug/L	1
Ethylbenzene	**100-41-4**	**8260B**	**270**		**250**	**85**	**ug/L**	**1**
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		50	10	ug/L	1
Methyl tertiary butyl ether (MTBE)	**1634-04-4**	**8260B**	**2300**		**250**	**20**	**ug/L**	**1**
Naphthalene	**91-20-3**	**8260B**	**100**	**J**	**250**	**85**	**ug/L**	**1**
tert-butyl alcohol (TBA)	**75-65-0**	**8260B**	**4500**		**1000**	**340**	**ug/L**	**1**
Toluene	108-88-3	8260B	ND		250	85	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		250	85	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		91	70-130
Bromofluorobenzene		89	70-130
Toluene-d8		104	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	11/22/2013 1017	JCG	11/21/2013 1102	34930

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0.020	0.020	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		89	57-137

ICP-AES

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	3005A	6010C	1	11/19/2013 2231	CDF	11/18/2013 1934	34689

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Lead	**7439-92-1**	**6010C**	**0.0054**	**BJ**	**0.010**	**0.0019**	**mg/L**	**1**

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
H = Out of holding time
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Client: **Bunnell-Lammons Engineering, Inc.** Laboratory ID: **OK15033-041**
Description: **06588-MW42** Matrix: **Aqueous**
Date Sampled: **11/12/2013 1620**
Date Received: **11/15/2013**

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	11/22/2013 2159	ALL		35064

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
tert-Amyl alcohol (TAA)	75-85-4	8260B	ND		20	6.7	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		10	0.20	ug/L	1
Benzene	**71-43-2**	**8260B**	**0.21**	**J**	**5.0**	**0.20**	**ug/L**	**1**
tert-Butyl formate (TBF)	762-75-4	8260B	ND		5.0	1.0	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		5.0	0.30	ug/L	1
Diisopropyl ether (IPE)	108-20-3	8260B	ND		5.0	0.40	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		20	1.0	ug/L	1
Ethanol	64-17-5	8260B	ND		100	33	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		5.0	1.7	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		1.0	0.20	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		5.0	0.40	ug/L	1
Naphthalene	91-20-3	8260B	ND		5.0	1.7	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		20	6.7	ug/L	1
Toluene	108-88-3	8260B	ND		5.0	1.7	ug/L	1
Xylenes (total)	**1330-20-7**	**8260B**	**2.2**	**J**	**5.0**	**1.7**	**ug/L**	**1**

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		91	70-130
Bromofluorobenzene		88	70-130
Toluene-d8		98	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	11/22/2013 1048	JCG	11/21/2013 1102	34930

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0.020	0.020	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		89	57-137

ICP-AES

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	3005A	6010C	1	11/19/2013 2254	CDF	11/18/2013 1934	34690

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Lead	**7439-92-1**	**6010C**	**0.11**	**B**	**0.010**	**0.0019**	**mg/L**	**1**

PQL = Practical quantitation limit B = Detected in the method blank E = Quantitation of compound exceeded the calibration range H = Out of holding time
ND = Not detected at or above the MDL J = Estimated result < PQL and ≥ MDL P = The RPD between two GC columns exceeds 40% N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **06588-MW42D**
Date Sampled: **11/12/2013 1600**
Date Received: **11/15/2013**

Laboratory ID: **OK15033-042**
Matrix: **Aqueous**

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	11/22/2013 2221	ALL		35064

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
tert-Amyl alcohol (TAA)	75-85-4	8260B	ND		20	6.7	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		10	0.20	ug/L	1
Benzene	71-43-2	8260B	ND		5.0	0.20	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260B	ND		5.0	1.0	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		5.0	0.30	ug/L	1
Diisopropyl ether (IPE)	108-20-3	8260B	ND		5.0	0.40	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		20	1.0	ug/L	1
Ethanol	64-17-5	8260B	ND		100	33	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		5.0	1.7	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		1.0	0.20	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		5.0	0.40	ug/L	1
Naphthalene	91-20-3	8260B	ND		5.0	1.7	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		20	6.7	ug/L	1
Toluene	108-88-3	8260B	ND		5.0	1.7	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		5.0	1.7	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		92	70-130
Bromofluorobenzene		86	70-130
Toluene-d8		102	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	11/22/2013 1058	JCG	11/21/2013 1102	34930

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0.019	0.019	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		92	57-137

ICP-AES

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	3005A	6010C	1	11/19/2013 2257	CDF	11/18/2013 1934	34690

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Lead	**7439-92-1**	**6010C**	**0.011**	**B**	**0.010**	**0.0019**	**mg/L**	**1**

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
H = Out of holding time
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **06588-MW43D**
Date Sampled: **11/13/2013 1125**
Date Received: **11/15/2013**

Laboratory ID: **OK15033-043**
Matrix: **Aqueous**

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	11/23/2013 0319	PMM2		35093

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
tert-Amyl alcohol (TAA)	75-85-4	8260B	ND		20	6.7	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		10	0.20	ug/L	1
Benzene	71-43-2	8260B	ND		5.0	0.20	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260B	ND		5.0	1.0	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		5.0	0.30	ug/L	1
Diisopropyl ether (IPE)	108-20-3	8260B	ND		5.0	0.40	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		20	1.0	ug/L	1
Ethanol	64-17-5	8260B	ND		100	33	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		5.0	1.7	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		1.0	0.20	ug/L	1
Methyl tertiary butyl ether (MTBE)	**1634-04-4**	**8260B**	**5.3**		**5.0**	**0.40**	**ug/L**	**1**
Naphthalene	91-20-3	8260B	ND		5.0	1.7	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		20	6.7	ug/L	1
Toluene	108-88-3	8260B	ND		5.0	1.7	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		5.0	1.7	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		94	70-130
Bromofluorobenzene		91	70-130
Toluene-d8		99	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	11/22/2013 1109	JCG	11/21/2013 1102	34930

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0.020	0.020	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		86	57-137

ICP-AES

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
2	3005A	6010C	1	11/20/2013 2105	CDF	11/18/2013 1934	34690

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Lead	**7439-92-1**	**6010C**	**0.016**	**B**	**0.010**	**0.0019**	**mg/L**	**2**

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
H = Out of holding time
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **06588-DW01**
Date Sampled: **11/14/2013 1515**
Date Received: **11/15/2013**

Laboratory ID: **OK15033-044**
Matrix: **Aqueous**

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	11/23/2013 0340	PMM2		35093

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
tert-Amyl alcohol (TAA)	75-85-4	8260B	ND		20	6.7	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		10	0.20	ug/L	1
Benzene	**71-43-2**	**8260B**	**4.2**	**J**	**5.0**	**0.20**	**ug/L**	**1**
tert-Butyl formate (TBF)	762-75-4	8260B	ND		5.0	1.0	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		5.0	0.30	ug/L	1
Diisopropyl ether (IPE)	108-20-3	8260B	ND		5.0	0.40	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		20	1.0	ug/L	1
Ethanol	64-17-5	8260B	ND		100	33	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		5.0	1.7	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		1.0	0.20	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		5.0	0.40	ug/L	1
Naphthalene	91-20-3	8260B	ND		5.0	1.7	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		20	6.7	ug/L	1
Toluene	108-88-3	8260B	ND		5.0	1.7	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		5.0	1.7	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		92	70-130
Bromofluorobenzene		89	70-130
Toluene-d8		88	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	11/22/2013 1119	JCG	11/21/2013 1102	34930

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0.020	0.020	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		95	57-137

ICP-AES

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	3005A	6010C	1	11/19/2013 2327	CDF	11/18/2013 1934	34690

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Lead	**7439-92-1**	**6010C**	**0.24**	**B**	**0.010**	**0.0019**	**mg/L**	**1**

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
H = Out of holding time
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Client: **Bunnell-Lammons Engineering, Inc.**	Laboratory ID: **OK15033-045**
Description: **06588-DW02**	Matrix: **Aqueous**
Date Sampled: **11/14/2013 1615**	
Date Received: **11/15/2013**	

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	11/23/2013 0401	PMM2		35093

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
tert-Amyl alcohol (TAA)	75-85-4	8260B	ND		20	6.7	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		10	0.20	ug/L	1
Benzene	**71-43-2**	**8260B**	**1.2**	**J**	**5.0**	**0.20**	**ug/L**	**1**
tert-Butyl formate (TBF)	762-75-4	8260B	ND		5.0	1.0	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		5.0	0.30	ug/L	1
Diisopropyl ether (IPE)	108-20-3	8260B	ND		5.0	0.40	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		20	1.0	ug/L	1
Ethanol	64-17-5	8260B	ND		100	33	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		5.0	1.7	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		1.0	0.20	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		5.0	0.40	ug/L	1
Naphthalene	91-20-3	8260B	ND		5.0	1.7	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		20	6.7	ug/L	1
Toluene	108-88-3	8260B	ND		5.0	1.7	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		5.0	1.7	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		93	70-130
Bromofluorobenzene		91	70-130
Toluene-d8		99	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	11/22/2013 1129	JCG	11/21/2013 1102	34930

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0.019	0.019	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		91	57-137

ICP-AES

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	3005A	6010C	1	11/19/2013 2331	CDF	11/18/2013 1934	34690

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Lead	**7439-92-1**	**6010C**	**0.010**	**B**	**0.010**	**0.0019**	**mg/L**	**1**

PQL = Practical quantitation limit B = Detected in the method blank E = Quantitation of compound exceeded the calibration range H = Out of holding time
ND = Not detected at or above the MDL J = Estimated result < PQL and ≥ MDL P = The RPD between two GC columns exceeds 40% N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **06588-DW03**
Date Sampled: **11/14/2013 1600**
Date Received: **11/15/2013**

Laboratory ID: **OK15033-046**
Matrix: **Aqueous**

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	11/23/2013 0422	PMM2		35093

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
tert-Amyl alcohol (TAA)	75-85-4	8260B	ND		20	6.7	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		10	0.20	ug/L	1
Benzene	**71-43-2**	**8260B**	**1.3**	**J**	**5.0**	**0.20**	**ug/L**	**1**
tert-Butyl formate (TBF)	762-75-4	8260B	ND		5.0	1.0	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		5.0	0.30	ug/L	1
Diisopropyl ether (IPE)	108-20-3	8260B	ND		5.0	0.40	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		20	1.0	ug/L	1
Ethanol	64-17-5	8260B	ND		100	33	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		5.0	1.7	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		1.0	0.20	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		5.0	0.40	ug/L	1
Naphthalene	91-20-3	8260B	ND		5.0	1.7	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		20	6.7	ug/L	1
Toluene	108-88-3	8260B	ND		5.0	1.7	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		5.0	1.7	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		94	70-130
Bromofluorobenzene		91	70-130
Toluene-d8		94	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	11/22/2013 1140	JCG	11/21/2013 1102	34930

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0.019	0.019	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		87	57-137

ICP-AES

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	3005A	6010C	1	11/19/2013 2335	CDF	11/18/2013 1934	34690

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Lead	**7439-92-1**	**6010C**	**0.0028**	**BJ**	**0.010**	**0.0019**	**mg/L**	**1**

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
H = Out of holding time
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Client: **Bunnell-Lammons Engineering, Inc.** Laboratory ID: **OK15033-047**
Description: **06588-DW05** Matrix: **Aqueous**
Date Sampled: **11/14/2013 1750**
Date Received: **11/15/2013**

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	11/23/2013 0443	PMM2		35093

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
tert-Amyl alcohol (TAA)	75-85-4	8260B	ND		20	6.7	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		10	0.20	ug/L	1
Benzene	**71-43-2**	**8260B**	**6.5**		**5.0**	**0.20**	**ug/L**	**1**
tert-Butyl formate (TBF)	762-75-4	8260B	ND		5.0	1.0	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		5.0	0.30	ug/L	1
Diisopropyl ether (IPE)	108-20-3	8260B	ND		5.0	0.40	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		20	1.0	ug/L	1
Ethanol	64-17-5	8260B	ND		100	33	ug/L	1
Ethylbenzene	**100-41-4**	**8260B**	**1.8**	**J**	**5.0**	**1.7**	**ug/L**	**1**
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		1.0	0.20	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		5.0	0.40	ug/L	1
Naphthalene	**91-20-3**	**8260B**	**1.8**	**J**	**5.0**	**1.7**	**ug/L**	**1**
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		20	6.7	ug/L	1
Toluene	**108-88-3**	**8260B**	**2.6**	**J**	**5.0**	**1.7**	**ug/L**	**1**
Xylenes (total)	**1330-20-7**	**8260B**	**12**		**5.0**	**1.7**	**ug/L**	**1**

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		93	70-130
Bromofluorobenzene		91	70-130
Toluene-d8		99	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	11/22/2013 1150	JCG	11/21/2013 1102	34930

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0.019	0.019	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		99	57-137

ICP-AES

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	3005A	6010C	1	11/19/2013 2338	CDF	11/18/2013 1934	34690

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Lead	**7439-92-1**	**6010C**	**0.0054**	**BJ**	**0.010**	**0.0019**	**mg/L**	**1**

PQL = Practical quantitation limit B = Detected in the method blank E = Quantitation of compound exceeded the calibration range H = Out of holding time
ND = Not detected at or above the MDL J = Estimated result < PQL and ≥ MDL P = The RPD between two GC columns exceeds 40% N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **06588-DW08**
Date Sampled: **11/14/2013 1640**
Date Received: **11/15/2013**

Laboratory ID: **OK15033-048**
Matrix: **Aqueous**

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	11/23/2013 0504	PMM2		35093

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
tert-Amyl alcohol (TAA)	75-85-4	8260B	ND		20	6.7	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		10	0.20	ug/L	1
Benzene	**71-43-2**	**8260B**	**8.4**		**5.0**	**0.20**	**ug/L**	**1**
tert-Butyl formate (TBF)	762-75-4	8260B	ND		5.0	1.0	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		5.0	0.30	ug/L	1
Diisopropyl ether (IPE)	108-20-3	8260B	ND		5.0	0.40	ug/L	1
3,3-Dimethyl-1-butanol	**624-95-3**	**8260B**	**4.4**	**J**	**20**	**1.0**	**ug/L**	**1**
Ethanol	64-17-5	8260B	ND		100	33	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		5.0	1.7	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		1.0	0.20	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		5.0	0.40	ug/L	1
Naphthalene	91-20-3	8260B	ND		5.0	1.7	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		20	6.7	ug/L	1
Toluene	108-88-3	8260B	ND		5.0	1.7	ug/L	1
Xylenes (total)	**1330-20-7**	**8260B**	**5.0**		**5.0**	**1.7**	**ug/L**	**1**

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		92	70-130
Bromofluorobenzene		88	70-130
Toluene-d8		92	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	11/22/2013 1200	JCG	11/21/2013 1102	34930

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0.020	0.020	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		86	57-137

ICP-AES

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	3005A	6010C	1	11/19/2013 2342	CDF	11/18/2013 1934	34690

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Lead	**7439-92-1**	**6010C**	**0.016**	**B**	**0.010**	**0.0019**	**mg/L**	**1**

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
H = Out of holding time
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **06588-SW01**
Date Sampled: **11/14/2013 1545**
Date Received: **11/15/2013**

Laboratory ID: **OK15033-049**
Matrix: **Aqueous**

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	11/23/2013 0525	PMM2		35093

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
tert-Amyl alcohol (TAA)	75-85-4	8260B	ND		20	6.7	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		10	0.20	ug/L	1
Benzene	**71-43-2**	**8260B**	**0.72**	**J**	**5.0**	**0.20**	**ug/L**	**1**
tert-Butyl formate (TBF)	762-75-4	8260B	ND		5.0	1.0	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		5.0	0.30	ug/L	1
Diisopropyl ether (IPE)	108-20-3	8260B	ND		5.0	0.40	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		20	1.0	ug/L	1
Ethanol	64-17-5	8260B	ND		100	33	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		5.0	1.7	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		1.0	0.20	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		5.0	0.40	ug/L	1
Naphthalene	91-20-3	8260B	ND		5.0	1.7	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		20	6.7	ug/L	1
Toluene	108-88-3	8260B	ND		5.0	1.7	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		5.0	1.7	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		91	70-130
Bromofluorobenzene		90	70-130
Toluene-d8		96	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	11/22/2013 1211	JCG	11/21/2013 1102	34930

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0.019	0.019	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		83	57-137

ICP-AES

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	3005A	6010C	1	11/19/2013 2346	CDF	11/18/2013 1934	34690

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Lead	**7439-92-1**	**6010C**	**0.012**	**B**	**0.010**	**0.0019**	**mg/L**	**1**

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
H = Out of holding time
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **06588-FIELD BLANK 01**
Date Sampled: **11/12/2013 1645**
Date Received: **11/15/2013**

Laboratory ID: **OK15033-050**
Matrix: **Aqueous**

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	11/23/2013 0044	PMM2		35093

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
tert-Amyl alcohol (TAA)	75-85-4	8260B	ND		20	6.7	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		10	0.20	ug/L	1
Benzene	71-43-2	8260B	ND		5.0	0.20	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260B	ND		5.0	1.0	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		5.0	0.30	ug/L	1
Diisopropyl ether (IPE)	108-20-3	8260B	ND		5.0	0.40	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		20	1.0	ug/L	1
Ethanol	64-17-5	8260B	ND		100	33	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		5.0	1.7	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		1.0	0.20	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		5.0	0.40	ug/L	1
Naphthalene	91-20-3	8260B	ND		5.0	1.7	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		20	6.7	ug/L	1
Toluene	108-88-3	8260B	ND		5.0	1.7	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		5.0	1.7	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		96	70-130
Bromofluorobenzene		93	70-130
Toluene-d8		101	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	11/22/2013 1221	JCG	11/21/2013 1102	34930

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0.020	0.020	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		92	57-137

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
H = Out of holding time
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Client: **Bunnell-Lammons Engineering, Inc.** Laboratory ID: **OK15033-051**
Description: **06588-FIELD BLANK 02** Matrix: **Aqueous**
Date Sampled: **11/13/2013 1700**
Date Received: **11/15/2013**

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	11/23/2013 0105	PMM2		35093

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
tert-Amyl alcohol (TAA)	75-85-4	8260B	ND		20	6.7	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		10	0.20	ug/L	1
Benzene	71-43-2	8260B	ND		5.0	0.20	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260B	ND		5.0	1.0	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		5.0	0.30	ug/L	1
Diisopropyl ether (IPE)	108-20-3	8260B	ND		5.0	0.40	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		20	1.0	ug/L	1
Ethanol	64-17-5	8260B	ND		100	33	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		5.0	1.7	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		1.0	0.20	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		5.0	0.40	ug/L	1
Naphthalene	91-20-3	8260B	ND		5.0	1.7	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		20	6.7	ug/L	1
Toluene	108-88-3	8260B	ND		5.0	1.7	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		5.0	1.7	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		96	70-130
Bromofluorobenzene		94	70-130
Toluene-d8		100	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	11/22/2013 1344	JCG	11/21/2013 1102	34931

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0.020	0.020	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		98	57-137

PQL = Practical quantitation limit B = Detected in the method blank E = Quantitation of compound exceeded the calibration range H = Out of holding time
ND = Not detected at or above the MDL J = Estimated result < PQL and ≥ MDL P = The RPD between two GC columns exceeds 40% N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **06588-FIELD BLANK 03**
Date Sampled: **11/14/2013 1800**
Date Received: **11/15/2013**

Laboratory ID: **OK15033-052**
Matrix: **Aqueous**

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	11/23/2013 0133	PMM2		35093

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
tert-Amyl alcohol (TAA)	75-85-4	8260B	ND		20	6.7	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		10	0.20	ug/L	1
Benzene	71-43-2	8260B	ND		5.0	0.20	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260B	ND		5.0	1.0	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		5.0	0.30	ug/L	1
Diisopropyl ether (IPE)	108-20-3	8260B	ND		5.0	0.40	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		20	1.0	ug/L	1
Ethanol	64-17-5	8260B	ND		100	33	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		5.0	1.7	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		1.0	0.20	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		5.0	0.40	ug/L	1
Naphthalene	91-20-3	8260B	ND		5.0	1.7	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		20	6.7	ug/L	1
Toluene	108-88-3	8260B	ND		5.0	1.7	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		5.0	1.7	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		97	70-130
Bromofluorobenzene		93	70-130
Toluene-d8		99	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	11/22/2013 1354	JCG	11/21/2013 1102	34931

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0.019	0.019	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		96	57-137

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
H = Out of holding time
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **06588-TRIP BLANK 01**
Date Sampled: **11/14/2013**
Date Received: **11/15/2013**

Laboratory ID: **OK15033-053**
Matrix: **Aqueous**

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	11/23/2013 0155	PMM2		35093

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
tert-Amyl alcohol (TAA)	75-85-4	8260B	ND		20	6.7	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		10	0.20	ug/L	1
Benzene	71-43-2	8260B	ND		5.0	0.20	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260B	ND		5.0	1.0	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		5.0	0.30	ug/L	1
Diisopropyl ether (IPE)	108-20-3	8260B	ND		5.0	0.40	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		20	1.0	ug/L	1
Ethanol	64-17-5	8260B	ND		100	33	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		5.0	1.7	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		1.0	0.20	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		5.0	0.40	ug/L	1
Naphthalene	91-20-3	8260B	ND		5.0	1.7	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		20	6.7	ug/L	1
Toluene	108-88-3	8260B	ND		5.0	1.7	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		5.0	1.7	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		95	70-130
Bromofluorobenzene		93	70-130
Toluene-d8		99	70-130

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
H = Out of holding time
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **06588-TRIP BLANK 02**
Date Sampled: **11/14/2013**
Date Received: **11/15/2013**

Laboratory ID: **OK15033-054**
Matrix: **Aqueous**

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	11/23/2013 0216	PMM2		35093

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
tert-Amyl alcohol (TAA)	75-85-4	8260B	ND		20	6.7	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		10	0.20	ug/L	1
Benzene	71-43-2	8260B	ND		5.0	0.20	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260B	ND		5.0	1.0	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		5.0	0.30	ug/L	1
Diisopropyl ether (IPE)	108-20-3	8260B	ND		5.0	0.40	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		20	1.0	ug/L	1
Ethanol	64-17-5	8260B	ND		100	33	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		5.0	1.7	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		1.0	0.20	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		5.0	0.40	ug/L	1
Naphthalene	91-20-3	8260B	ND		5.0	1.7	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		20	6.7	ug/L	1
Toluene	108-88-3	8260B	ND		5.0	1.7	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		5.0	1.7	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		95	70-130
Bromofluorobenzene		92	70-130
Toluene-d8		98	70-130

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
H = Out of holding time
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

QC Summary

Volatile Organic Compounds by GC/MS - MB

Sample ID: OQ34966-001
Batch: 34966
Analytical Method: 8260B

Matrix: Aqueous
Prep Method: 5030B

Parameter	Result	Q	Dil	PQL	MDL	Units	Analysis Date
tert-Amyl alcohol (TAA)	ND		1	20	6.7	ug/L	11/21/2013 1611
tert-Amyl methyl ether (TAME)	ND		1	10	0.20	ug/L	11/21/2013 1611
Benzene	ND		1	5.0	0.20	ug/L	11/21/2013 1611
tert-Butyl formate (TBF)	ND		1	5.0	1.0	ug/L	11/21/2013 1611
1,2-Dichloroethane	ND		1	5.0	0.30	ug/L	11/21/2013 1611
Diisopropyl ether (IPE)	ND		1	5.0	0.40	ug/L	11/21/2013 1611
3,3-Dimethyl-1-butanol	ND		1	20	1.0	ug/L	11/21/2013 1611
Ethanol	ND		1	100	33	ug/L	11/21/2013 1611
Ethylbenzene	ND		1	5.0	1.7	ug/L	11/21/2013 1611
Ethyl-tert-butyl ether (ETBE)	ND		1	1.0	0.20	ug/L	11/21/2013 1611
Methyl tertiary butyl ether (MTBE)	ND		1	5.0	0.40	ug/L	11/21/2013 1611
Naphthalene	ND		1	5.0	1.7	ug/L	11/21/2013 1611
tert-butyl alcohol (TBA)	ND		1	20	6.7	ug/L	11/21/2013 1611
Toluene	ND		1	5.0	1.7	ug/L	11/21/2013 1611
Xylenes (total)	ND		1	5.0	1.7	ug/L	11/21/2013 1611

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		88	70-130
1,2-Dichloroethane-d4		94	70-130
Toluene-d8		105	70-130

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N = Recovery is out of criteria
+ = RPD is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

Volatile Organic Compounds by GC/MS - LCS

Sample ID: OQ34966-002
Batch: 34966
Analytical Method: 8260B

Matrix: Aqueous
Prep Method: 5030B

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
tert-Amyl alcohol (TAA)	1000	920		1	92	70-130	11/21/2013 1442
tert-Amyl methyl ether (TAME)	50	44		1	89	70-130	11/21/2013 1442
Benzene	50	50		1	100	70-130	11/21/2013 1442
tert-Butyl formate (TBF)	250	250		1	99	70-130	11/21/2013 1442
1,2-Dichloroethane	50	51		1	102	70-130	11/21/2013 1442
Diisopropyl ether (IPE)	50	52		1	104	70-130	11/21/2013 1442
3,3-Dimethyl-1-butanol	1000	920		1	92	70-130	11/21/2013 1442
Ethanol	5000	5800		1	117	60-140	11/21/2013 1442
Ethylbenzene	50	51		1	102	70-130	11/21/2013 1442
Ethyl-tert-butyl ether (ETBE)	50	55		1	110	70-130	11/21/2013 1442
Methyl tertiary butyl ether (MTBE)	50	53		1	107	70-130	11/21/2013 1442
Naphthalene	50	46		1	92	70-130	11/21/2013 1442
tert-butyl alcohol (TBA)	1000	970		1	97	70-130	11/21/2013 1442
Toluene	50	58		1	116	70-130	11/21/2013 1442
Xylenes (total)	100	88		1	88	70-130	11/21/2013 1442

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		91	70-130
1,2-Dichloroethane-d4		94	70-130
Toluene-d8		102	70-130

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N = Recovery is out of criteria
+ = RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

Volatile Organic Compounds by GC/MS - LCSD

Sample ID: OQ34966-003
Batch: 34966
Analytical Method: 8260B

Matrix: Aqueous
Prep Method: 5030B

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% RPD	% Rec Limit	% RPD Limit	Analysis Date
tert-Amyl alcohol (TAA)	1000	950		1	95	2.4	70-130	20	11/21/2013 1505
tert-Amyl methyl ether (TAME)	50	43		1	86	3.4	70-130	20	11/21/2013 1505
Benzene	50	51		1	101	1.9	70-130	20	11/21/2013 1505
tert-Butyl formate (TBF)	250	240		1	96	2.5	70-130	20	11/21/2013 1505
1,2-Dichloroethane	50	52		1	105	2.9	70-130	20	11/21/2013 1505
Diisopropyl ether (IPE)	50	52		1	104	0.26	70-130	20	11/21/2013 1505
3,3-Dimethyl-1-butanol	1000	910		1	91	0.94	70-130	20	11/21/2013 1505
Ethanol	5000	5900		1	117	0.42	60-140	20	11/21/2013 1505
Ethylbenzene	50	52		1	104	1.7	70-130	20	11/21/2013 1505
Ethyl-tert-butyl ether (ETBE)	50	53		1	107	3.2	70-130	20	11/21/2013 1505
Methyl tertiary butyl ether (MTBE)	50	52		1	103	3.6	70-130	20	11/21/2013 1505
Naphthalene	50	44		1	88	5.0	70-130	20	11/21/2013 1505
tert-butyl alcohol (TBA)	1000	970		1	97	0.67	70-130	20	11/21/2013 1505
Toluene	50	58		1	116	0.66	70-130	20	11/21/2013 1505
Xylenes (total)	100	89		1	89	1.2	70-130	20	11/21/2013 1505

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		88	70-130
1,2-Dichloroethane-d4		91	70-130
Toluene-d8		100	70-130

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N = Recovery is out of criteria
+ = RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

Volatile Organic Compounds by GC/MS - MS

Sample ID: OK15033-002MS
Batch: 34966
Analytical Method: 8260B

Matrix: Aqueous
Prep Method: 5030B

Parameter	Sample Amount (ug/L)	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
tert-Amyl alcohol (TAA)	2400	50000	45000		50	85	70-130	11/22/2013 0000
tert-Amyl methyl ether (TAME)	ND	2500	2000		50	80	70-130	11/22/2013 0000
Benzene	5300	2500	8300		50	117	70-130	11/22/2013 0000
tert-Butyl formate (TBF)	ND	13000	8500	N	50	68	70-130	11/22/2013 0000
1,2-Dichloroethane	ND	2500	2600		50	104	70-130	11/22/2013 0000
Diisopropyl ether (IPE)	38	2500	2400		50	95	70-130	11/22/2013 0000
3,3-Dimethyl-1-butanol	ND	50000	40000		50	79	70-130	11/22/2013 0000
Ethanol	ND	250000	200000		50	80	70-130	11/22/2013 0000
Ethylbenzene	1500	2500	4000		50	103	70-130	11/22/2013 0000
Ethyl-tert-butyl ether (ETBE)	ND	2500	2400		50	98	70-130	11/22/2013 0000
Methyl tertiary butyl ether (MTBE)	58	2500	2400		50	95	70-130	11/22/2013 0000
Naphthalene	240	2500	2200		50	80	70-130	11/22/2013 0000
tert-butyl alcohol (TBA)	660	50000	43000		50	84	70-130	11/22/2013 0000
Toluene	5500	2500	8700		50	129	70-130	11/22/2013 0000
Xylenes (total)	6100	5000	11000		50	96	70-130	11/22/2013 0000

Surrogate	Q	% Rec	Acceptance Limit
1,2-Dichloroethane-d4		95	70-130
Bromofluorobenzene		91	70-130
Toluene-d8		104	70-130

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N = Recovery is out of criteria
+ = RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

Volatile Organic Compounds by GC/MS - MSD

Sample ID: OK15033-002MD
Batch: 34966
Analytical Method: 8260B

Matrix: Aqueous
Prep Method: 5030B

Parameter	Sample Amount (ug/L)	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% RPD	% Rec Limit	% RPD Limit	Analysis Date
tert-Amyl alcohol (TAA)	2400	50000	53000		50	102	17	70-130	20	11/22/2013 0022
tert-Amyl methyl ether (TAME)	ND	2500	2300		50	94	16	70-130	20	11/22/2013 0022
Benzene	5300	2500	8900	N	50	141	7.0	70-130	20	11/22/2013 0022
tert-Butyl formate (TBF)	ND	13000	10000		50	81	17	70-130	20	11/22/2013 0022
1,2-Dichloroethane	ND	2500	3100		50	122	16	70-130	20	11/22/2013 0022
Diisopropyl ether (IPE)	38	2500	2900		50	115	18	70-130	20	11/22/2013 0022
3,3-Dimethyl-1-butanol	ND	50000	47000		50	93	16	70-130	20	11/22/2013 0022
Ethanol	ND	250000	260000	+	50	102	24	70-130	20	11/22/2013 0022
Ethylbenzene	1500	2500	4600		50	126	13	70-130	20	11/22/2013 0022
Ethyl-tert-butyl ether (ETBE)	ND	2500	2900		50	117	17	70-130	20	11/22/2013 0022
Methyl tertiary butyl ether (MTBE)	58	2500	2900		50	113	17	70-130	20	11/22/2013 0022
Naphthalene	240	2500	2600		50	95	16	70-130	20	11/22/2013 0022
tert-butyl alcohol (TBA)	660	50000	51000		50	101	18	70-130	20	11/22/2013 0022
Toluene	5500	2500	9400	N	50	155	7.3	70-130	20	11/22/2013 0022
Xylenes (total)	6100	5000	12000		50	116	8.6	70-130	20	11/22/2013 0022

Surrogate	Q	% Rec	Acceptance Limit
1,2-Dichloroethane-d4		95	70-130
Bromofluorobenzene		92	70-130
Toluene-d8		106	70-130

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N = Recovery is out of criteria
+ = RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

Volatile Organic Compounds by GC/MS - MB

Sample ID: OQ35016-001
Batch: 35016
Analytical Method: 8260B

Matrix: Aqueous
Prep Method: 5030B

Parameter	Result	Q	Dil	PQL	MDL	Units	Analysis Date
tert-Amyl alcohol (TAA)	ND		1	20	6.7	ug/L	11/22/2013 0320
tert-Amyl methyl ether (TAME)	ND		1	10	0.20	ug/L	11/22/2013 0320
Benzene	ND		1	5.0	0.20	ug/L	11/22/2013 0320
tert-Butyl formate (TBF)	ND		1	5.0	1.0	ug/L	11/22/2013 0320
1,2-Dichloroethane	ND		1	5.0	0.30	ug/L	11/22/2013 0320
Diisopropyl ether (IPE)	ND		1	5.0	0.40	ug/L	11/22/2013 0320
3,3-Dimethyl-1-butanol	ND		1	20	1.0	ug/L	11/22/2013 0320
Ethanol	ND		1	100	33	ug/L	11/22/2013 0320
Ethylbenzene	ND		1	5.0	1.7	ug/L	11/22/2013 0320
Ethyl-tert-butyl ether (ETBE)	ND		1	1.0	0.20	ug/L	11/22/2013 0320
Methyl tertiary butyl ether (MTBE)	ND		1	5.0	0.40	ug/L	11/22/2013 0320
Naphthalene	ND		1	5.0	1.7	ug/L	11/22/2013 0320
tert-butyl alcohol (TBA)	ND		1	20	6.7	ug/L	11/22/2013 0320
Toluene	ND		1	5.0	1.7	ug/L	11/22/2013 0320
Xylenes (total)	ND		1	5.0	1.7	ug/L	11/22/2013 0320

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		87	70-130
1,2-Dichloroethane-d4		89	70-130
Toluene-d8		99	70-130

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N = Recovery is out of criteria
+ = RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

Volatile Organic Compounds by GC/MS - LCS

Sample ID: OQ35016-002
Batch: 35016
Analytical Method: 8260B

Matrix: Aqueous
Prep Method: 5030B

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
tert-Amyl alcohol (TAA)	1000	840		1	84	70-130	11/22/2013 0151
tert-Amyl methyl ether (TAME)	50	43		1	86	70-130	11/22/2013 0151
Benzene	50	48		1	97	70-130	11/22/2013 0151
tert-Butyl formate (TBF)	250	230		1	92	70-130	11/22/2013 0151
1,2-Dichloroethane	50	50		1	100	70-130	11/22/2013 0151
Diisopropyl ether (IPE)	50	51		1	102	70-130	11/22/2013 0151
3,3-Dimethyl-1-butanol	1000	860		1	86	70-130	11/22/2013 0151
Ethanol	5000	4700		1	94	60-140	11/22/2013 0151
Ethylbenzene	50	53		1	106	70-130	11/22/2013 0151
Ethyl-tert-butyl ether (ETBE)	50	52		1	104	70-130	11/22/2013 0151
Methyl tertiary butyl ether (MTBE)	50	51		1	102	70-130	11/22/2013 0151
Naphthalene	50	46		1	92	70-130	11/22/2013 0151
tert-butyl alcohol (TBA)	1000	890		1	89	70-130	11/22/2013 0151
Toluene	50	55		1	110	70-130	11/22/2013 0151
Xylenes (total)	100	90		1	90	70-130	11/22/2013 0151

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		95	70-130
1,2-Dichloroethane-d4		91	70-130
Toluene-d8		95	70-130

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N = Recovery is out of criteria
+ = RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

Volatile Organic Compounds by GC/MS - LCSD

Sample ID: OQ35016-003
Batch: 35016
Analytical Method: 8260B

Matrix: Aqueous
Prep Method: 5030B

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% RPD	% Rec Limit	% RPD Limit	Analysis Date
tert-Amyl alcohol (TAA)	1000	870		1	87	3.1	70-130	20	11/22/2013 0213
tert-Amyl methyl ether (TAME)	50	42		1	83	3.5	70-130	20	11/22/2013 0213
Benzene	50	49		1	97	0.50	70-130	20	11/22/2013 0213
tert-Butyl formate (TBF)	250	230		1	92	0.22	70-130	20	11/22/2013 0213
1,2-Dichloroethane	50	49		1	99	1.9	70-130	20	11/22/2013 0213
Diisopropyl ether (IPE)	50	50		1	99	2.3	70-130	20	11/22/2013 0213
3,3-Dimethyl-1-butanol	1000	880		1	88	1.8	70-130	20	11/22/2013 0213
Ethanol	5000	5000		1	99	5.2	60-140	20	11/22/2013 0213
Ethylbenzene	50	52		1	104	1.5	70-130	20	11/22/2013 0213
Ethyl-tert-butyl ether (ETBE)	50	51		1	102	2.4	70-130	20	11/22/2013 0213
Methyl tertiary butyl ether (MTBE)	50	50		1	100	1.8	70-130	20	11/22/2013 0213
Naphthalene	50	48		1	95	3.2	70-130	20	11/22/2013 0213
tert-butyl alcohol (TBA)	1000	910		1	91	2.4	70-130	20	11/22/2013 0213
Toluene	50	55		1	110	0.50	70-130	20	11/22/2013 0213
Xylenes (total)	100	90		1	90	0.78	70-130	20	11/22/2013 0213

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		92	70-130
1,2-Dichloroethane-d4		91	70-130
Toluene-d8		95	70-130

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N = Recovery is out of criteria
+ = RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

Volatile Organic Compounds by GC/MS - MS

Sample ID: OK15033-018MS
Batch: 35016
Analytical Method: 8260B

Matrix: Aqueous
Prep Method: 5030B

Parameter	Sample Amount (ug/L)	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
tert-Amyl alcohol (TAA)	110	5000	4600		5	89	70-130	11/22/2013 1110
tert-Amyl methyl ether (TAME)	5.2	250	220		5	85	70-130	11/22/2013 1110
Benzene	120	250	410		5	117	70-130	11/22/2013 1110
tert-Butyl formate (TBF)	ND	1300	120	N	5	9.6	70-130	11/22/2013 1110
1,2-Dichloroethane	ND	250	270		5	109	70-130	11/22/2013 1110
Diisopropyl ether (IPE)	ND	250	270		5	108	70-130	11/22/2013 1110
3,3-Dimethyl-1-butanol	ND	5000	4500		5	90	70-130	11/22/2013 1110
Ethanol	ND	25000	26000		5	105	70-130	11/22/2013 1110
Ethylbenzene	1100	250	2000	N	5	175	70-130	11/22/2013 1110
Ethyl-tert-butyl ether (ETBE)	ND	250	270		5	108	70-130	11/22/2013 1110
Methyl tertiary butyl ether (MTBE)	ND	250	260		5	103	70-130	11/22/2013 1110
Naphthalene	490	250	910	N	5	147	70-130	11/22/2013 1110
tert-butyl alcohol (TBA)	91	5000	5600		5	109	70-130	11/22/2013 1110
Toluene	130	250	480	N	5	137	70-130	11/22/2013 1110
Xylenes (total)	1200	500	1800		5	127	70-130	11/22/2013 1110

Surrogate	Q	% Rec	Acceptance Limit
1,2-Dichloroethane-d4		92	70-130
Bromofluorobenzene		94	70-130
Toluene-d8		102	70-130

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N = Recovery is out of criteria
+ = RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

Volatile Organic Compounds by GC/MS - MSD

Sample ID: OK15033-018MD
Batch: 35016
Analytical Method: 8260B

Matrix: Aqueous
Prep Method: 5030B

Parameter	Sample Amount (ug/L)	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% RPD	% Rec Limit	% RPD Limit	Analysis Date
tert-Amyl alcohol (TAA)	110	5000	4500		5	87	2.6	70-130	20	11/22/2013 1132
tert-Amyl methyl ether (TAME)	5.2	250	220		5	87	2.2	70-130	20	11/22/2013 1132
Benzene	120	250	400		5	112	3.4	70-130	20	11/22/2013 1132
tert-Butyl formate (TBF)	ND	1300	120	N	5	9.2	4.0	70-130	20	11/22/2013 1132
1,2-Dichloroethane	ND	250	270		5	108	1.2	70-130	20	11/22/2013 1132
Diisopropyl ether (IPE)	ND	250	280		5	111	2.4	70-130	20	11/22/2013 1132
3,3-Dimethyl-1-butanol	ND	5000	4400		5	87	3.2	70-130	20	11/22/2013 1132
Ethanol	ND	25000	26000		5	104	0.63	70-130	20	11/22/2013 1132
Ethylbenzene	1100	250	1800	E	5	123	6.9	70-130	20	11/22/2013 1132
Ethyl-tert-butyl ether (ETBE)	ND	250	270		5	110	1.3	70-130	20	11/22/2013 1132
Methyl tertiary butyl ether (MTBE)	ND	250	270		5	106	2.2	70-130	20	11/22/2013 1132
Naphthalene	490	250	880	N	5	139	2.3	70-130	20	11/22/2013 1132
tert-butyl alcohol (TBA)	91	5000	5500		5	108	1.6	70-130	20	11/22/2013 1132
Toluene	130	250	460		5	130	3.4	70-130	20	11/22/2013 1132
Xylenes (total)	1200	500	1800		5	110	4.8	70-130	20	11/22/2013 1132

Surrogate	Q	% Rec	Acceptance Limit
1,2-Dichloroethane-d4		90	70-130
Bromofluorobenzene		92	70-130
Toluene-d8		100	70-130

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N = Recovery is out of criteria
+ = RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

Volatile Organic Compounds by GC/MS - MB

Sample ID: OQ35064-001
Batch: 35064
Analytical Method: 8260B

Matrix: Aqueous
Prep Method: 5030B

Parameter	Result	Q	Dil	PQL	MDL	Units	Analysis Date
tert-Amyl alcohol (TAA)	ND		1	20	6.7	ug/L	11/22/2013 1454
tert-Amyl methyl ether (TAME)	ND		1	10	0.20	ug/L	11/22/2013 1454
Benzene	ND		1	5.0	0.20	ug/L	11/22/2013 1454
tert-Butyl formate (TBF)	ND		1	5.0	1.0	ug/L	11/22/2013 1454
1,2-Dichloroethane	ND		1	5.0	0.30	ug/L	11/22/2013 1454
Diisopropyl ether (IPE)	ND		1	5.0	0.40	ug/L	11/22/2013 1454
3,3-Dimethyl-1-butanol	ND		1	20	1.0	ug/L	11/22/2013 1454
Ethanol	ND		1	100	33	ug/L	11/22/2013 1454
Ethylbenzene	ND		1	5.0	1.7	ug/L	11/22/2013 1454
Ethyl-tert-butyl ether (ETBE)	ND		1	1.0	0.20	ug/L	11/22/2013 1454
Methyl tertiary butyl ether (MTBE)	ND		1	5.0	0.40	ug/L	11/22/2013 1454
Naphthalene	ND		1	5.0	1.7	ug/L	11/22/2013 1454
tert-butyl alcohol (TBA)	ND		1	20	6.7	ug/L	11/22/2013 1454
Toluene	ND		1	5.0	1.7	ug/L	11/22/2013 1454
Xylenes (total)	ND		1	5.0	1.7	ug/L	11/22/2013 1454

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		89	70-130
1,2-Dichloroethane-d4		89	70-130
Toluene-d8		101	70-130

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N = Recovery is out of criteria
+ = RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

Volatile Organic Compounds by GC/MS - LCS

Sample ID: OQ35064-002
Batch: 35064
Analytical Method: 8260B

Matrix: Aqueous
Prep Method: 5030B

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
tert-Amyl alcohol (TAA)	1000	840		1	84	70-130	11/22/2013 1325
tert-Amyl methyl ether (TAME)	50	42		1	83	70-130	11/22/2013 1325
Benzene	50	48		1	96	70-130	11/22/2013 1325
tert-Butyl formate (TBF)	250	230		1	92	70-130	11/22/2013 1325
1,2-Dichloroethane	50	49		1	97	70-130	11/22/2013 1325
Diisopropyl ether (IPE)	50	50		1	100	70-130	11/22/2013 1325
3,3-Dimethyl-1-butanol	1000	840		1	84	70-130	11/22/2013 1325
Ethanol	5000	4900		1	99	60-140	11/22/2013 1325
Ethylbenzene	50	51		1	102	70-130	11/22/2013 1325
Ethyl-tert-butyl ether (ETBE)	50	51		1	103	70-130	11/22/2013 1325
Methyl tertiary butyl ether (MTBE)	50	50		1	99	70-130	11/22/2013 1325
Naphthalene	50	45		1	91	70-130	11/22/2013 1325
tert-butyl alcohol (TBA)	1000	890		1	89	70-130	11/22/2013 1325
Toluene	50	56		1	112	70-130	11/22/2013 1325
Xylenes (total)	100	88		1	88	70-130	11/22/2013 1325

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		92	70-130
1,2-Dichloroethane-d4		91	70-130
Toluene-d8		99	70-130

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N = Recovery is out of criteria
+ = RPD is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

Volatile Organic Compounds by GC/MS - LCSD

Sample ID: OQ35064-003
Batch: 35064
Analytical Method: 8260B

Matrix: Aqueous
Prep Method: 5030B

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% RPD	% Rec Limit	% RPD Limit	Analysis Date
tert-Amyl alcohol (TAA)	1000	930		1	93	9.6	70-130	20	11/22/2013 1347
tert-Amyl methyl ether (TAME)	50	41		1	83	0.57	70-130	20	11/22/2013 1347
Benzene	50	47		1	94	2.0	70-130	20	11/22/2013 1347
tert-Butyl formate (TBF)	250	240		1	94	2.4	70-130	20	11/22/2013 1347
1,2-Dichloroethane	50	48		1	96	1.0	70-130	20	11/22/2013 1347
Diisopropyl ether (IPE)	50	49		1	97	3.0	70-130	20	11/22/2013 1347
3,3-Dimethyl-1-butanol	1000	900		1	90	6.1	70-130	20	11/22/2013 1347
Ethanol	5000	5400		1	108	9.5	60-140	20	11/22/2013 1347
Ethylbenzene	50	50		1	101	1.8	70-130	20	11/22/2013 1347
Ethyl-tert-butyl ether (ETBE)	50	51		1	102	0.45	70-130	20	11/22/2013 1347
Methyl tertiary butyl ether (MTBE)	50	50		1	101	1.4	70-130	20	11/22/2013 1347
Naphthalene	50	44		1	88	3.2	70-130	20	11/22/2013 1347
tert-butyl alcohol (TBA)	1000	960		1	96	7.8	70-130	20	11/22/2013 1347
Toluene	50	54		1	108	3.2	70-130	20	11/22/2013 1347
Xylenes (total)	100	85		1	85	2.9	70-130	20	11/22/2013 1347

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		92	70-130
1,2-Dichloroethane-d4		91	70-130
Toluene-d8		98	70-130

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N = Recovery is out of criteria
+ = RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

Volatile Organic Compounds by GC/MS - MS

Sample ID: OK15033-040MS
Batch: 35064
Analytical Method: 8260B

Matrix: Aqueous
Prep Method: 5030B

Parameter	Sample Amount (ug/L)	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
tert-Amyl alcohol (TAA)	8300	50000	62000		50	108	70-130	11/22/2013 2244
tert-Amyl methyl ether (TAME)	89	2500	2200		50	85	70-130	11/22/2013 2244
Benzene	4500	2500	7900	N	50	135	70-130	11/22/2013 2244
tert-Butyl formate (TBF)	ND	13000	9200		50	74	70-130	11/22/2013 2244
1,2-Dichloroethane	ND	2500	3000		50	122	70-130	11/22/2013 2244
Diisopropyl ether (IPE)	290	2500	2900		50	105	70-130	11/22/2013 2244
3,3-Dimethyl-1-butanol	ND	50000	49000		50	98	70-130	11/22/2013 2244
Ethanol	ND	250000	300000		50	119	70-130	11/22/2013 2244
Ethylbenzene	270	2500	3100		50	115	70-130	11/22/2013 2244
Ethyl-tert-butyl ether (ETBE)	ND	2500	2600		50	103	70-130	11/22/2013 2244
Methyl tertiary butyl ether (MTBE)	2300	2500	4900		50	106	70-130	11/22/2013 2244
Naphthalene	100	2500	2500		50	95	70-130	11/22/2013 2244
tert-butyl alcohol (TBA)	4500	50000	56000		50	103	70-130	11/22/2013 2244
Toluene	ND	2500	3100		50	122	70-130	11/22/2013 2244
Xylenes (total)	ND	5000	4800		50	94	70-130	11/22/2013 2244

Surrogate	Q	% Rec	Acceptance Limit
1,2-Dichloroethane-d4		89	70-130
Bromofluorobenzene		92	70-130
Toluene-d8		102	70-130

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N = Recovery is out of criteria
+ = RPD is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

Volatile Organic Compounds by GC/MS - MSD

Sample ID: OK15033-040MD
Batch: 35064
Analytical Method: 8260B

Matrix: Aqueous
Prep Method: 5030B

Parameter	Sample Amount (ug/L)	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% RPD	% Rec Limit	% RPD Limit	Analysis Date
tert-Amyl alcohol (TAA)	8300	50000	65000		50	113	3.9	70-130	20	11/22/2013 2306
tert-Amyl methyl ether (TAME)	89	2500	2300		50	87	2.1	70-130	20	11/22/2013 2306
Benzene	4500	2500	8000	N	50	140	1.4	70-130	20	11/22/2013 2306
tert-Butyl formate (TBF)	ND	13000	9600		50	76	3.9	70-130	20	11/22/2013 2306
1,2-Dichloroethane	ND	2500	3100		50	125	2.5	70-130	20	11/22/2013 2306
Diisopropyl ether (IPE)	290	2500	3100		50	111	4.8	70-130	20	11/22/2013 2306
3,3-Dimethyl-1-butanol	ND	50000	51000		50	102	3.9	70-130	20	11/22/2013 2306
Ethanol	ND	250000	310000		50	125	5.4	70-130	20	11/22/2013 2306
Ethylbenzene	270	2500	3200		50	117	1.5	70-130	20	11/22/2013 2306
Ethyl-tert-butyl ether (ETBE)	ND	2500	2800		50	110	6.8	70-130	20	11/22/2013 2306
Methyl tertiary butyl ether (MTBE)	2300	2500	5100		50	114	4.0	70-130	20	11/22/2013 2306
Naphthalene	100	2500	2500		50	96	0.69	70-130	20	11/22/2013 2306
tert-butyl alcohol (TBA)	4500	50000	58000		50	106	2.9	70-130	20	11/22/2013 2306
Toluene	ND	2500	3200		50	126	3.5	70-130	20	11/22/2013 2306
Xylenes (total)	ND	5000	4800		50	96	1.5	70-130	20	11/22/2013 2306

Surrogate	Q	% Rec	Acceptance Limit
1,2-Dichloroethane-d4		91	70-130
Bromofluorobenzene		89	70-130
Toluene-d8		100	70-130

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N = Recovery is out of criteria
+ = RPD is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

Volatile Organic Compounds by GC/MS - MB

Sample ID: OQ35093-001
Batch: 35093
Analytical Method: 8260B

Matrix: Aqueous
Prep Method: 5030B

Parameter	Result	Q	Dil	PQL	MDL	Units	Analysis Date
tert-Amyl alcohol (TAA)	ND		1	20	6.7	ug/L	11/23/2013 0022
tert-Amyl methyl ether (TAME)	ND		1	10	0.20	ug/L	11/23/2013 0022
Benzene	ND		1	5.0	0.20	ug/L	11/23/2013 0022
tert-Butyl formate (TBF)	ND		1	5.0	1.0	ug/L	11/23/2013 0022
1,2-Dichloroethane	ND		1	5.0	0.30	ug/L	11/23/2013 0022
Diisopropyl ether (IPE)	ND		1	5.0	0.40	ug/L	11/23/2013 0022
3,3-Dimethyl-1-butanol	ND		1	20	1.0	ug/L	11/23/2013 0022
Ethanol	ND		1	100	33	ug/L	11/23/2013 0022
Ethylbenzene	ND		1	5.0	1.7	ug/L	11/23/2013 0022
Ethyl-tert-butyl ether (ETBE)	ND		1	1.0	0.20	ug/L	11/23/2013 0022
Methyl tertiary butyl ether (MTBE)	ND		1	5.0	0.40	ug/L	11/23/2013 0022
Naphthalene	ND		1	5.0	1.7	ug/L	11/23/2013 0022
tert-butyl alcohol (TBA)	ND		1	20	6.7	ug/L	11/23/2013 0022
Toluene	ND		1	5.0	1.7	ug/L	11/23/2013 0022
Xylenes (total)	ND		1	5.0	1.7	ug/L	11/23/2013 0022

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		94	70-130
1,2-Dichloroethane-d4		96	70-130
Toluene-d8		100	70-130

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N = Recovery is out of criteria
+ = RPD is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

Volatile Organic Compounds by GC/MS - LCS

Sample ID: OQ35093-002
Batch: 35093
Analytical Method: 8260B

Matrix: Aqueous
Prep Method: 5030B

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
tert-Amyl alcohol (TAA)	1000	950		1	95	70-130	11/22/2013 2258
tert-Amyl methyl ether (TAME)	50	48		1	95	70-130	11/22/2013 2258
Benzene	50	50		1	100	70-130	11/22/2013 2258
tert-Butyl formate (TBF)	250	250		1	102	70-130	11/22/2013 2258
1,2-Dichloroethane	50	51		1	101	70-130	11/22/2013 2258
Diisopropyl ether (IPE)	50	48		1	96	70-130	11/22/2013 2258
3,3-Dimethyl-1-butanol	1000	990		1	99	70-130	11/22/2013 2258
Ethanol	5000	4700		1	94	60-140	11/22/2013 2258
Ethylbenzene	50	52		1	103	70-130	11/22/2013 2258
Ethyl-tert-butyl ether (ETBE)	50	52		1	104	70-130	11/22/2013 2258
Methyl tertiary butyl ether (MTBE)	50	47		1	95	70-130	11/22/2013 2258
Naphthalene	50	49		1	99	70-130	11/22/2013 2258
tert-butyl alcohol (TBA)	1000	950		1	95	70-130	11/22/2013 2258
Toluene	50	51		1	102	70-130	11/22/2013 2258
Xylenes (total)	100	100		1	101	70-130	11/22/2013 2258

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		94	70-130
1,2-Dichloroethane-d4		92	70-130
Toluene-d8		101	70-130

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N = Recovery is out of criteria
+ = RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

Volatile Organic Compounds by GC/MS - LCSD

Sample ID: OQ35093-003
Batch: 35093
Analytical Method: 8260B

Matrix: Aqueous
Prep Method: 5030B

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% RPD	% Rec Limit	% RPD Limit	Analysis Date
tert-Amyl alcohol (TAA)	1000	960		1	96	1.1	70-130	20	11/22/2013 2319
tert-Amyl methyl ether (TAME)	50	48		1	97	1.7	70-130	20	11/22/2013 2319
Benzene	50	50		1	100	0.12	70-130	20	11/22/2013 2319
tert-Butyl formate (TBF)	250	260		1	105	2.9	70-130	20	11/22/2013 2319
1,2-Dichloroethane	50	52		1	104	2.4	70-130	20	11/22/2013 2319
Diisopropyl ether (IPE)	50	48		1	97	0.52	70-130	20	11/22/2013 2319
3,3-Dimethyl-1-butanol	1000	990		1	99	0.0075	70-130	20	11/22/2013 2319
Ethanol	5000	4800		1	96	1.2	60-140	20	11/22/2013 2319
Ethylbenzene	50	51		1	103	0.39	70-130	20	11/22/2013 2319
Ethyl-tert-butyl ether (ETBE)	50	53		1	106	1.6	70-130	20	11/22/2013 2319
Methyl tertiary butyl ether (MTBE)	50	49		1	97	2.6	70-130	20	11/22/2013 2319
Naphthalene	50	49		1	98	0.15	70-130	20	11/22/2013 2319
tert-butyl alcohol (TBA)	1000	940		1	94	0.60	70-130	20	11/22/2013 2319
Toluene	50	52		1	103	1.3	70-130	20	11/22/2013 2319
Xylenes (total)	100	100		1	101	0.71	70-130	20	11/22/2013 2319

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		93	70-130
1,2-Dichloroethane-d4		92	70-130
Toluene-d8		101	70-130

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N = Recovery is out of criteria
+ = RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

Volatile Organic Compounds by GC/MS - MB

Sample ID: OQ35179-001
Batch: 35179
Analytical Method: 8260B

Matrix: Aqueous
Prep Method: 5030B

Parameter	Result	Q	Dil	PQL	MDL	Units	Analysis Date
Methyl tertiary butyl ether (MTBE)	ND		1	5.0	0.40	ug/L	11/25/2013 1317

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		101	70-130
1,2-Dichloroethane-d4		99	70-130
Toluene-d8		98	70-130

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N = Recovery is out of criteria
+ = RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

Volatile Organic Compounds by GC/MS - LCS

Sample ID: OQ35179-002
Batch: 35179
Analytical Method: 8260B

Matrix: Aqueous
Prep Method: 5030B

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
Methyl tertiary butyl ether (MTBE)	50	52		1	105	70-130	11/25/2013 1152

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		100	70-130
1,2-Dichloroethane-d4		96	70-130
Toluene-d8		99	70-130

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N = Recovery is out of criteria
+ = RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

Volatile Organic Compounds by GC/MS - LCSD

Sample ID: OQ35179-003
Batch: 35179
Analytical Method: 8260B

Matrix: Aqueous
Prep Method: 5030B

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% RPD	% Rec Limit	% RPD Limit	Analysis Date
Methyl tertiary butyl ether (MTBE)	50	52		1	105	0.28	70-130	20	11/25/2013 1213

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		101	70-130
1,2-Dichloroethane-d4		96	70-130
Toluene-d8		100	70-130

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N = Recovery is out of criteria
+ = RPD is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

EDB & DBCP by Microextraction - MB

Sample ID: OQ34820-001
Batch: 34820
Analytical Method: 8011

Matrix: Aqueous
Prep Method: 8011
Prep Date: 11/20/2013 1050

Parameter	Result	Q	Dil	PQL	MDL	Units	Analysis Date
1,2-Dibromoethane (EDB)	ND		1	0.020	0.020	ug/L	11/21/2013 1253

Surrogate	Q	% Rec	Acceptance Limit
1,1,1,2-Tetrachloroethane		95	57-137

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N = Recovery is out of criteria
+ = RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

EDB & DBCP by Microextraction - LCS

Sample ID: OQ34820-002
Batch: 34820
Analytical Method: 8011

Matrix: Aqueous
Prep Method: 8011
Prep Date: 11/20/2013 1050

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
1,2-Dibromoethane (EDB)	0.25	0.28		1	112	60-140	11/21/2013 1303

Surrogate	Q	% Rec	Acceptance Limit
1,1,1,2-Tetrachloroethane		91	57-137

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N = Recovery is out of criteria
+ = RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

EDB & DBCP by Microextraction - MS

Sample ID: OK15033-006MS
Batch: 34820
Analytical Method: 8011

Matrix: Aqueous
Prep Method: 8011
Prep Date: 11/20/2013 1050

Parameter	Sample Amount (ug/L)	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
1,2-Dibromoethane (EDB)	ND	0.24	0.28		1	114	60-140	11/21/2013 1632

Surrogate	Q	% Rec	Acceptance Limit
1,1,1,2-Tetrachloroethane		104	57-137

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N = Recovery is out of criteria
+ = RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

EDB & DBCP by Microextraction - MSD

Sample ID: OK15033-006MD
Batch: 34820
Analytical Method: 8011

Matrix: Aqueous
Prep Method: 8011
Prep Date: 11/20/2013 1050

Parameter	Sample Amount (ug/L)	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% RPD	% Rec Limit	% RPD Limit	Analysis Date
1,2-Dibromoethane (EDB)	ND	0.25	0.27		1	109	3.6	60-140	20	11/21/2013 1642

Surrogate	Q	% Rec	Acceptance Limit
1,1,1,2-Tetrachloroethane		107	57-137

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N = Recovery is out of criteria
+ = RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

EDB & DBCP by Microextraction - MB

Sample ID: OQ34821-001
Batch: 34821
Analytical Method: 8011

Matrix: Aqueous
Prep Method: 8011
Prep Date: 11/20/2013 1050

Parameter	Result	Q	Dil	PQL	MDL	Units	Analysis Date
1,2-Dibromoethane (EDB)	ND		1	0.020	0.020	ug/L	11/22/2013 0233

Surrogate	Q	% Rec	Acceptance Limit
1,1,1,2-Tetrachloroethane		93	57-137

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N = Recovery is out of criteria
+ = RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

EDB & DBCP by Microextraction - LCS

Sample ID: OQ34821-002
Batch: 34821
Analytical Method: 8011

Matrix: Aqueous
Prep Method: 8011
Prep Date: 11/20/2013 1050

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
1,2-Dibromoethane (EDB)	0.25	0.27		1	109	60-140	11/22/2013 0243

Surrogate	Q	% Rec	Acceptance Limit
1,1,1,2-Tetrachloroethane		92	57-137

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N = Recovery is out of criteria
+ = RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

EDB & DBCP by Microextraction - MS

Sample ID: OK15033-023MS
Batch: 34821
Analytical Method: 8011

Matrix: Aqueous
Prep Method: 8011
Prep Date: 11/20/2013 1050

Parameter	Sample Amount (ug/L)	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
1,2-Dibromoethane (EDB)	ND	0.24	0.24		1	99	60-140	11/22/2013 0507

Surrogate	Q	% Rec	Acceptance Limit
1,1,1,2-Tetrachloroethane		75	57-137

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N = Recovery is out of criteria
+ = RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

EDB & DBCP by Microextraction - MSD

Sample ID: OK15033-023MD
Batch: 34821
Analytical Method: 8011

Matrix: Aqueous
Prep Method: 8011
Prep Date: 11/20/2013 1050

Parameter	Sample Amount (ug/L)	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% RPD	% Rec Limit	% RPD Limit	Analysis Date
1,2-Dibromoethane (EDB)	ND	0.24	0.27		1	114	13	60-140	20	11/22/2013 0517

Surrogate	Q	% Rec	Acceptance Limit
1,1,1,2-Tetrachloroethane		81	57-137

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N = Recovery is out of criteria
+ = RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

EDB & DBCP by Microextraction - MB

Sample ID: OQ34930-001
Batch: 34930
Analytical Method: 8011

Matrix: Aqueous
Prep Method: 8011
Prep Date: 11/21/2013 1102

Parameter	Result	Q	Dil	PQL	MDL	Units	Analysis Date
1,2-Dibromoethane (EDB)	ND		1	0.020	0.020	ug/L	11/22/2013 0811

Surrogate	Q	% Rec	Acceptance Limit
1,1,1,2-Tetrachloroethane		75	57-137

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N = Recovery is out of criteria
+ = RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

EDB & DBCP by Microextraction - LCS

Sample ID: OQ34930-002
Batch: 34930
Analytical Method: 8011

Matrix: Aqueous
Prep Method: 8011
Prep Date: 11/21/2013 1102

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
1,2-Dibromoethane (EDB)	0.25	0.25		1	99	60-140	11/22/2013 0822

Surrogate	Q	% Rec	Acceptance Limit
1,1,1,2-Tetrachloroethane		85	57-137

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N = Recovery is out of criteria
+ = RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

EDB & DBCP by Microextraction - MS

Sample ID: OK15033-040MS
Batch: 34930
Analytical Method: 8011

Matrix: Aqueous
Prep Method: 8011
Prep Date: 11/21/2013 1102

Parameter	Sample Amount (ug/L)	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
1,2-Dibromoethane (EDB)	ND	0.25	0.30		1	121	60-140	11/22/2013 1027

Surrogate	Q	% Rec	Acceptance Limit
1,1,1,2-Tetrachloroethane		87	57-137

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N = Recovery is out of criteria
+ = RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

EDB & DBCP by Microextraction - MSD

Sample ID: OK15033-040MD
Batch: 34930
Analytical Method: 8011

Matrix: Aqueous
Prep Method: 8011
Prep Date: 11/21/2013 1102

Parameter	Sample Amount (ug/L)	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% RPD	% Rec Limit	% RPD Limit	Analysis Date
1,2-Dibromoethane (EDB)	ND	0.24	0.29	P	1	120	1.5	60-140	20	11/22/2013 1038

Surrogate	Q	% Rec	Acceptance Limit
1,1,1,2-Tetrachloroethane		85	57-137

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N = Recovery is out of criteria
+ = RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

EDB & DBCP by Microextraction - MB

Sample ID: OQ34931-001
Batch: 34931
Analytical Method: 8011

Matrix: Aqueous
Prep Method: 8011
Prep Date: 11/21/2013 1102

Parameter	Result	Q	Dil	PQL	MDL	Units	Analysis Date
1,2-Dibromoethane (EDB)	ND		1	0.020	0.020	ug/L	11/22/2013 1323

Surrogate	Q	% Rec	Acceptance Limit
1,1,1,2-Tetrachloroethane		90	57-137

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N = Recovery is out of criteria
+ = RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

EDB & DBCP by Microextraction - LCS

Sample ID: OQ34931-002
Batch: 34931
Analytical Method: 8011

Matrix: Aqueous
Prep Method: 8011
Prep Date: 11/21/2013 1102

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
1,2-Dibromoethane (EDB)	0.25	0.27		1	109	60-140	11/22/2013 1334

Surrogate	Q	% Rec	Acceptance Limit
1,1,1,2-Tetrachloroethane		92	57-137

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N = Recovery is out of criteria
+ = RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

ICP-AES - MB

Sample ID: OQ34655-001
Batch: 34655
Analytical Method: 6010C

Matrix: Aqueous
Prep Method: 3005A
Prep Date: 11/18/2013 1653

Parameter	Result	Q	Dil	PQL	MDL	Units	Analysis Date
Lead	ND		1	0.010	0.0019	mg/L	11/19/2013 0611

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N = Recovery is out of criteria
+ = RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

ICP-AES - LCS

Sample ID: OQ34655-002
Batch: 34655
Analytical Method: 6010C

Matrix: Aqueous
Prep Method: 3005A
Prep Date: 11/18/2013 1653

Parameter	Spike Amount (mg/L)	Result (mg/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
Lead	0.40	0.42		1	105	80-120	11/19/2013 0615

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N = Recovery is out of criteria
+ = RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

ICP-AES - LCSD

Sample ID: OQ34655-003
Batch: 34655
Analytical Method: 6010C

Matrix: Aqueous
Prep Method: 3005A
Prep Date: 11/18/2013 1653

Parameter	Spike Amount (mg/L)	Result (mg/L)	Q	Dil	% Rec	% RPD	% Rec Limit	% RPD Limit	Analysis Date
Lead	0.40	0.41		1	104	0.91	80-120	20	11/19/2013 0619

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N = Recovery is out of criteria
+ = RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

ICP-AES - MS

Sample ID: OK15033-001MS
Batch: 34655
Analytical Method: 6010C

Matrix: Aqueous
Prep Method: 3005A
Prep Date: 11/18/2013 1653

Parameter	Sample Amount (mg/L)	Spike Amount (mg/L)	Result (mg/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
Lead	0.10	0.40	0.48		1	94	75-125	11/19/2013 0626

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N = Recovery is out of criteria
+ = RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

ICP-AES - MSD

Sample ID: OK15033-001MD
Batch: 34655
Analytical Method: 6010C

Matrix: Aqueous
Prep Method: 3005A
Prep Date: 11/18/2013 1653

Parameter	Sample Amount (mg/L)	Spike Amount (mg/L)	Result (mg/L)	Q	Dil	% Rec	% RPD	% Rec Limit	% RPD Limit	Analysis Date
Lead	0.10	0.40	0.48		1	93	0.50	75-125	20	11/19/2013 0630

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N = Recovery is out of criteria
+ = RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

ICP-AES - MS

Sample ID: OK15033-002MS
Batch: 34655
Analytical Method: 6010C

Matrix: Aqueous
Prep Method: 3005A
Prep Date: 11/18/2013 1653

Parameter	Sample Amount (mg/L)	Spike Amount (mg/L)	Result (mg/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
Lead	0.054	0.40	0.43		1	94	75-125	11/19/2013 0642

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N = Recovery is out of criteria
+ = RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

ICP-AES - MB

Sample ID: OQ34689-001
Batch: 34689
Analytical Method: 6010C

Matrix: Aqueous
Prep Method: 3005A
Prep Date: 11/18/2013 1934

Parameter	Result	Q	Dil	PQL	MDL	Units	Analysis Date
Lead	0.0023	J	1	0.010	0.0019	mg/L	11/19/2013 2039

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N = Recovery is out of criteria
+ = RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

ICP-AES - LCS

Sample ID: OQ34689-002
Batch: 34689
Analytical Method: 6010C

Matrix: Aqueous
Prep Method: 3005A
Prep Date: 11/18/2013 1934

Parameter	Spike Amount (mg/L)	Result (mg/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
Lead	0.40	0.40		1	101	80-120	11/19/2013 2043

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N = Recovery is out of criteria
+ = RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

ICP-AES - LCSD

Sample ID: OQ34689-003
Batch: 34689
Analytical Method: 6010C

Matrix: Aqueous
Prep Method: 3005A
Prep Date: 11/18/2013 1934

Parameter	Spike Amount (mg/L)	Result (mg/L)	Q	Dil	% Rec	% RPD	% Rec Limit	% RPD Limit	Analysis Date
Lead	0.40	0.42		1	104	3.0	80-120	20	11/19/2013 2047

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N = Recovery is out of criteria
+ = RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

ICP-AES - MS

Sample ID: OK15033-021MS
Batch: 34689
Analytical Method: 6010C

Matrix: Aqueous
Prep Method: 3005A
Prep Date: 11/18/2013 1934

Parameter	Sample Amount (mg/L)	Spike Amount (mg/L)	Result (mg/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
Lead	0.0098	0.40	0.38		1	93	75-125	11/20/2013 2021

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N = Recovery is out of criteria
+ = RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

ICP-AES - MSD

Sample ID: OK15033-021MD
Batch: 34689
Analytical Method: 6010C

Matrix: Aqueous
Prep Method: 3005A
Prep Date: 11/18/2013 1934

Parameter	Sample Amount (mg/L)	Spike Amount (mg/L)	Result (mg/L)	Q	Dil	% Rec	% RPD	% Rec Limit	% RPD Limit	Analysis Date
Lead	0.0098	0.40	0.38		1	92	1.1	75-125	20	11/20/2013 2024

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N = Recovery is out of criteria
+ = RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

ICP-AES - MS

Sample ID: OK15033-022MS
Batch: 34689
Analytical Method: 6010C

Matrix: Aqueous
Prep Method: 3005A
Prep Date: 11/18/2013 1934

Parameter	Sample Amount (mg/L)	Spike Amount (mg/L)	Result (mg/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
Lead	0.011	0.40	0.39		1	95	75-125	11/20/2013 2035

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N = Recovery is out of criteria
+ = RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

ICP-AES - MB

Sample ID: OQ34690-001
Batch: 34690
Analytical Method: 6010C

Matrix: Aqueous
Prep Method: 3005A
Prep Date: 11/18/2013 1934

Parameter	Result	Q	Dil	PQL	MDL	Units	Analysis Date
Lead	0.0021	J	1	0.010	0.0019	mg/L	11/20/2013 2054

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N = Recovery is out of criteria
+ = RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

ICP-AES - LCS

Sample ID: OQ34690-002
Batch: 34690
Analytical Method: 6010C

Matrix: Aqueous
Prep Method: 3005A
Prep Date: 11/18/2013 1934

Parameter	Spike Amount (mg/L)	Result (mg/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
Lead	0.40	0.39		1	96	80-120	11/20/2013 2058

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N = Recovery is out of criteria
+ = RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

ICP-AES - LCSD

Sample ID: OQ34690-003
Batch: 34690
Analytical Method: 6010C

Matrix: Aqueous
Prep Method: 3005A
Prep Date: 11/18/2013 1934

Parameter	Spike Amount (mg/L)	Result (mg/L)	Q	Dil	% Rec	% RPD	% Rec Limit	% RPD Limit	Analysis Date
Lead	0.40	0.39		1	99	2.5	80-120	20	11/20/2013 2102

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N = Recovery is out of criteria
+ = RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

ICP-AES - MS

Sample ID: OK15033-042MS
Batch: 34690
Analytical Method: 6010C

Matrix: Aqueous
Prep Method: 3005A
Prep Date: 11/18/2013 1934

Parameter	Sample Amount (mg/L)	Spike Amount (mg/L)	Result (mg/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
Lead	0.011	0.40	0.31	N	1	74	75-125	11/19/2013 2301

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N = Recovery is out of criteria
+ = RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

ICP-AES - MSD

Sample ID: OK15033-042MD
Batch: 34690
Analytical Method: 6010C

Matrix: Aqueous
Prep Method: 3005A
Prep Date: 11/18/2013 1934

Parameter	Sample Amount (mg/L)	Spike Amount (mg/L)	Result (mg/L)	Q	Dil	% Rec	% RPD	% Rec Limit	% RPD Limit	Analysis Date
Lead	0.011	0.40	0.41	+	1	100	29	75-125	20	11/19/2013 2305

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N = Recovery is out of criteria
+ = RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

ICP-AES - MS

Sample ID: OK15033-043MS
Batch: 34690
Analytical Method: 6010C

Matrix: Aqueous
Prep Method: 3005A
Prep Date: 11/18/2013 1934

Parameter	Sample Amount (mg/L)	Spike Amount (mg/L)	Result (mg/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
Lead	0.016	0.40	0.41		1	98	75-125	11/20/2013 2109

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N = Recovery is out of criteria
+ = RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

SHEALY ENVIRONMENTAL SERVICES, INC.

Shealy Environmental Services, Inc
Document Number: F-AD-016
Revision Number: 13

Page 1 of 1
Replaces Date: 09/24/13
Effective Date: 09/26/13

Sample Receipt Checklist (SRC)

Client: BLE Cooler Inspected by/date: CUT/11/15/13 Lot #: OK15033

Means of receipt: ☑ SESI ☐ Client ☐ UPS ☐ FedEx ☐ Airborne Exp ☐ Other

Yes ☐	No ☑		1. Were custody seals present on the cooler?
Yes ☐	No ☐		2. If custody seals were present, were they intact and unbroken?

Cooler ID/Original temperature upon receipt/Derived (corrected) temperature upon receipt:
___/10/0.7 °C ___/___/___ °C ___/___/___ °C ___/___/___ °C

Method: ☐ Temperature Blank ☑ Against Bottles IR Gun ID: 3 IR Gun Correction Factor: -0.3 °C

Method of coolant: ☑ Wet Ice ☐ Blue Ice ☐ Dry Ice ☐ None

If response is No (or Yes for 14, 15, 16), an explanation/resolution must be provided.

Yes ☐	No ☐	NA ☑	3. If temperature of any cooler exceeded 6.0°C, was Project Manager notified? PM notified by SRC, phone, note (circle one), other: _____. (For coolers received via commercial courier, PMs are to be notified immediately.
Yes ☐	No ☐	NA ☑	4. Is the commercial courier's packing slip attached to this form?
Yes ☑	No ☐		5. Were proper custody procedures (relinquished/received) followed?
Yes ☐	No ☐	NA ☑	5a Were samples relinquished by client to commercial courier?
Yes ☑	No ☐		6. Were sample IDs listed?
Yes ☑	No ☐		7. Was collection date & time listed?
Yes ☑	No ☐		8. Were tests to be performed listed on the COC?
Yes ☑	No ☐		9. Did all samples arrive in the proper containers for each test?
Yes ☑	No ☑	cut 11/15/13	10. Did all container label information (ID, date, time) agree with COC?
Yes ☑	No ☐		11. Did all containers arrive in good condition (unbroken, lids on, etc.)?
Yes ☑	No ☐		12. Was adequate sample volume available?
Yes ☑	No ☐		13. Were all samples received within ½ the holding time or 48 hours, whichever comes first?
Yes ☐	No ☑		14. Were any samples containers missing?
Yes ☐	No ☑		15. Were there any excess samples not listed on COC?
Yes ☐	No ☑	NA ☐	16. Were bubbles present >"pea-size" (¼"or 6mm in diameter) in any VOA vials?
Yes ☑	No ☐	NA ☐	17. Were all metals/O&G/HEM/nutrient samples received at a pH of <2?
Yes ☐	No ☐	NA ☑	18. Were all cyanide and/or sulfide samples received at a pH >12?
Yes ☐	No ☐	NA ☑	19. Were all applicable NH3/TKN/cyanide/phenol (<0.2mg/L) samples free of residual chlorine?
Yes ☐	No ☐	NA ☑	20. Were collection temperatures documented on the COC for NC samples?
Yes ☐	No ☐	NA ☑	21. Were client remarks/requests (i.e. requested dilutions, MS/MSD designations, etc…) correctly transcribed from the COC into the comment section in LIMS?

Sample Preservation (Must be completed for any sample(s) incorrectly preserved or with headspace.)

Sample(s)_____ were received incorrectly preserved and were adjusted accordingly in sample receiving with _____ (H_2SO_4, HNO_3, HCl, NaOH) with the SR # (number)

Sample(s)_____ were received with bubbles >6 mm in diameter.

Sample(s)_____ were received with TRC >0.2 mg/L for NH3/TKN/cyanide/phenol

Sample labels verified by: _____ Date: _____

Corrective Action taken, if necessary:

Was client notified: Yes ☐ No ☐ Did client respond: Yes ☐ No ☐

SESI employee: _____ Date of response: _____

Comments: Sample - 014 has sample ID MW-12 on client label, but has correct time according to COC. Sample labeled as MW-15 instead.

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106 Vantage Point Drive
West Columbia, South Carolina 29172
Telephone No. (803) 791-9700 Fax No. (803) 791-9111
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SHEALY

Chain of Custody Record

Number 05757

Client: HE	Report to Contact: Dan Osborne	Sampler (Printed Name): W. Stan Clark	Cooler No:
Address: 10004 Pandus Ct.	Telephone No. / Fax No. / Email: Dan.Osborne@hbcorp.com	Waybill No:	Page 1 of 6
City: Columbia; State: SC; Zip Code: 29615	Preservation: 1. None; 2. NaOH, ZnA; 3. HNO3; 4. HCl; 5. H2SO4; 6. Na Thio.		Number of Containers
Project Name: SPNX 258 / Former Smurk 330			Bottle (See Instructions on back)
			Preservative
Project Number: 213-0859-05	PO Number:		Lot No: CK-15033
Sample ID / Description (Containers for each sample may be combined on one line)	Date / Time	Sample Type (G=Grab, C=Comp) / # of Containers / Matrix (GW, DW, WW, S, Other)	Remarks / Cooler ID
06588-MW01	11/14/13 1033	G 6 GW	
06588-MW01 Dup	1034		
06588-MW02	1500		
06588-MW03	1525		
06588-MW04R	1150		
06588-MW07D	1131		
06588-MW08D	1230		
06588-MW09	11/13/13 1525		
06588-MW10	1550		
06588-MW11	1612		

Analysis: 8260B (Acetone, 2-Butanone, Benzene); 8260B (Bzn); Lead (Total)

Turnaround Time Requested (Prior to sampling, required for expedited TAT): Standard; Rush (Please Specify)

Sample Disposal: Return to Client; Dispose by Lab

QC Requirements (Specify): Pressure Hazard Identification: Non-Hazard; Flammable; Skin Irritant; Poison; Unknown

1. Relinquished by: Sampler	Date: 11/15/13	Time: 1500	1. Received by:	Date: 11/15/13	Time: 1540
2. Relinquished by	Date	Time	2. Received by	Date	Time
3. Relinquished by	Date	Time	3. Received by	Date	Time
4. Relinquished by	Date: 11/15/13	Time: 1627	4. Laboratory Received by:	Date: 11/15/13	Time: 1627

Note: All samples are retained for six weeks from receipt unless other arrangements are made.

LAB USE ONLY: Received on Ice: Yes / No; Ice Pack; Receipt Temp: 0.7 °C; Temp Blank: Yes / No

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SHEALY

Chain of Custody Record

Number 05758

Client: FLE	Report to Contact: Dan Osborne	Sampler (Printed Name): W Stan Clark	Quote No.
Address: Grand Pavilion Ct	Telephone No. / Fax No. / Email: Dan.Osborne@flecorp.com	Waybill No.	Page 2 of 6
City: Bramble; State: SC; Zip Code: 29615	Preservative: 1. None; 2. NaOH/KA; 3. H2SO4; 4. HNO3; 5. HCl; 6. Ice; 7. NaO		Number of Containers
Project Name: STANX 258 / Former Emmanuel 36			Bottle (See instructions on back)
Project Number: 013-6859-05	P.O. Number		Preservative
			Lot No. OX15033

Sample ID / Description (Containers for each sample may be combined on one line)	Date	Time	Sample Type (C=Comp, G=Grab)	Matrix: GW	UW	WW	S	Other	Analysis: BTEX+MTBE (8260B)	EDB (8260)	Naphthalene (8260B)										Remarks / Cooler ID
06588-MW12	11/13/13	1632	G	X					X	X	X										
06588-MW13	↓	1653	↓	↓					↓	↓	↓										
06588-MW14	11/12/13	1142	↓	↓					↓	↓	↓										
06588-MW15	↓	1212	↓	↓					↓	↓	↓										
06588-MW16	11/14/13	0945	↓	↓					↓	↓	↓										
06588-MW17	↓	1058	↓	↓					↓	↓	↓										
06588-MW19	↓	1225	↓	↓					↓	↓	↓										
06588-MW18Dup	↓	1226	↓	↓					↓	↓	↓										
06588-MW20	11/12/13	1324	↓	↓					↓	↓	↓										
06588-MW21	↓	1350	V	V					V	V	V										

Turnaround Time Required (Prior lab approval required for expedited TAT): ☑ Standard ☐ Rush (Please Specify)

Sample Disposal: ☐ Return to Client ☑ Disposal by Lab

QC Requirements (Specify):

Possible Hazard Identification: ☑ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison ☐ Unknown

	Date	Time		Date	Time
1. Relinquished by / Sampler	11/15/13	1240	1. Received by	11/15/13	1240
2. Relinquished by			2. Received by		
3. Relinquished by			3. Received by		
4. Relinquished by	11/15/13	1627	4. Laboratory Received by	11/15/13	1627

Note: All samples are retained for six weeks from receipt unless other arrangements are made.

LAB USE ONLY: Received on Ice (Check) ☑ Yes ☐ No ☐ Ice Pack; Receipt Temp. 0-7 °C; Temp. Blank ☑ Y ☐ N

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SHEALY

Chain of Custody Record

Number 05759

Client: BLE	Report to Contact: Dan Osbourne	Sampler (Printed Name): W. Sloan Cuck	Quote No.
Address: 6004 Ponders Ct	Telephone No. / Fax No. / Email: Dan.Osbourne@bleeup.com	Waste No.	Page 3 of 6
City: Greenville; State: SC; Zip Code: 29615	Preservative: 1. Unpres 2. NaOH/ZnA 3. H2SO4 4. HNO3 5. HCl 6. Na Thio 7. NaOH		Number of Containers: Bottle (See Instructions on back)
Project Name: SPINK 258 / Former Emmark 380			Preservative
Project Number: J13-6859-05	P.O. Number		Lot No. OK15033

Sample ID / Description (Containers for each sample may be combined on one line)	Date	Time	GeoGrab	C Composite	Matrix: GW	DW	WW	S	Other	Analysis	Mercury 1,2,DCA+BOX (8260)	EDB (8011)	Lead (6010)	Remarks / Cooler ID
06588 - MW21D	11/12/13	1427	6		X						X	X	X	
06588 - MW22D	11/14/13	1302												
06588 MW24D	↓	1435												
06588 - MW26	11/12/13	1307												
06588 - MW27	↓	1238												
06588 - MW28	11/13/13	1451												
06588 MW29		1430												
06588 - MW30		1405												
06588 - MW30D		1200												
06588 - MW32	↓	1326	↓		4						↓	↓	↓	

Turn Around Time Required (Prior lab approval required for expedited TAT): ☑ Standard ☐ Rush 3 Before Specific

Sample Disposal: ☐ Return to Client ☑ Dispose by Lab

QC Requirements (Specify)

Possible Hazard Identification: ☑ Non Hazard ☐ Flammable ☐ Non Intact ☐ Poison ☐ Unknown

	Date	Time		Date	Time
1. Relinquished by / Sampler: [signature]	11/15/13	1540	1. Received by: [signature]	11/15/13	1540
2. Relinquished by			2. Received by		
3. Relinquished by			3. Received by		
4. Relinquished by: [signature]	11/15/13	1627	4. Laboratory Received by: [signature]	11/15/13	1627

Note: All samples are retained for six weeks from receipt unless other arrangements are made.

LAB USE ONLY: Received on Ice (Check) ☑ Yes No Ice Pack | Receipt Temp. 0.7 C | Temp. Blank Yes No

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SHEALY **Chain of Custody Record**

Number 05753

Client: BLE
Report to Contact: Dan Osbourne
Sampler (Printed Name): W. Sloan Cuick
Quote No:
Address: 6004 Powers Ct
Telephone No. / Fax No. / Email: Dan.Osbourne@blecorp.com
Waybill No:
Page 4 of 6
City: Greenville | State: SC | Zip Code: 29615
Project Name: J13-6859.05
Project Number: PMX 258 / Former Formula 380
P.O. Number:

Preservative: 1. Lupac 4. HNO3 7. NaOH; 2. NaOH/ZnA 5. KI; 3. H2SO4 6. Na Thio

Sample ID / Description (Containers for each sample may be combined on one line)	Date	Time	Sample Type (C=Comp, G=Grab)	Matrix: Liquid	Soil	WW	S	Other	Analysis: BTEX+MTBE+Naph+1,2,4-TMB+1,3,5-TMB (8260)	EDB (8011)	Lead (6010C)	Number of Containers	Media (See Instructions on back)	Preservative	Lot No.	Remarks / Cooler ID
									3	3			L			
									A	A			D			
									S	S			S			
									1	1			H			
															0415033	
06588 - MW33	11/14/13	1010	G	X					X	X	X					
06588 - MW33D	11/13/13	1300														
06588 - MW34	11/12/13	1445														
06588 - MW36	↓	1515														
06588 - MW37	11/13/13	1005														
06588 - MW38		1055														
06588 - MW39	↓	1028														
06588 - MW40	11/14/13	1348														
06588 - MW40Dup		1349														
06588 - MW41D	11/13/13	1226														

Turn Around Time Required (Prior to sample receipt required for expedited TAT): ✓ Standard ☐ Rush (Please Specify)

Sample Disposal: ☐ Return to Client ✓ Dispose by Lab

QC Requirements (Specify):

Possible Hazard Identification: ✓ Non-hazard ☐ Flammable ☐ Skin Irritant ☐ Poison ☐ Unknown

	Date	Time		Date	Time
1. Relinquished by / Sampler: [signature]	11/15/13	1340	1. Received by: [signature]	11/15/13	1340
2. Relinquished by:			2. Received by:		
3. Relinquished by:			3. Received by:		
4. Relinquished by: [signature]	11/15/13	1627	4. Laboratory Received by: [signature]	11/15/13	1627

Note: All samples are retained for six weeks from receipt unless other arrangements are made.

LAB USE ONLY: Received on Ice (Circle): ✓ Yes ☐ No ☐ Ice Pack. Receipt Temp: 0.7 °C. Temp Blank: ☐ Yes ✓ No

SHEALY ENVIRONMENTAL SERVICES, INC.

Shealy Environmental Services, Inc.
106 Vantage Point Drive
West Columbia, South Carolina 29172
Telephone No. (803) 791-9700 Fax No. (803) 791-9111
www.shealylab.com

Chain of Custody Record

Number 05754

Client: BLE
Address: 8004 Pendens Cir
City: Greenville State: SC Zip Code: 29615
Project Name: SPNX 258 / Former Enmark 380
Project Number: 113-6859-05
P.O. Number:

Report to Contact: Dan Osborne
Telephone No. / Fax No. / Email: Dan.Osborne@ble.com

Preservative: 1. Unpres. 4. HNO3 7. NaOH; 2. H2SO4/7mA 5. HCl; 3. Hexane 6. Na Tho.

Sampler (Printed Name): W. Sloan Crick
Waybill No.:
Cooler No.:
Page 5 of 6
Number of Containers
Below (See instructions on back)
Preservative
Lot No: CK15033

Sample ID / Description (Containers for each sample may be combined on one line)	Date	Time	Grab	Composite	GW	DW	WW	S	Other	Analysis: Block N+m Fe2 Silica (8260)	EPB (8011)	Lead (6000)	Remarks / Cooler ID
06588 - MW42	11/12/13	1620	G		X					X	X	X	
06588 - MW42D	↓	1600			↓								
06588 - MW43D	11/13/13	1125											
06588 - DW01	11/14/13	1515					X						
06588 - DW02		1615					X						
06588 - DW03		1600											
06588 - DW05		1750											
06588 - DW08		1640					↓						
06588 - SW01		1545			X							X	
06588 - FIELD BLANK01		1645							X	X	X		

Turn Around Time Requested (Prior lab approval required for expedited TAT): Standard; Rush (Please Specify)

Sample Disposal: Return to Client; Dispose by Lab

QC Requirements (Specify):

Possible Hazard Identification: Non-Hazard; Flammable; Skin Irritant; Poison; Unknown

	Date	Time
1. Relinquished by / Sampler	11/15/13	1540
2. Relinquished by		
3. Relinquished by		
4. Relinquished by	11/15/13	1627

	Date	Time
1. Received by	11/15/13	1540
2. Received by		
3. Received by		
4. Laboratory Received by	11/15/13	1627

Note: All samples are retained for six weeks from receipt unless other arrangements are made.

LAB USE ONLY: Received in Ice (Circle) Yes No No Ice Pack; Record Temp. 0.7 °C; Temp. Blank Y / N

SHEALY ENVIRONMENTAL SERVICES, INC.

Shealy Environmental Services, Inc.
106 Vantage Point Drive
West Columbia South Carolina 29172
Telephone No (803) 791-9700 Fax No (803) 791-9111
www.shealylab.com

SHEALY

Chain of Custody Record

Number 06687

Client: BLE	Report to Contact: Dan Osborne	Sampler (Printed Name): W. Sloan Click	Quote No:
Address: 6004 Pardue Ct	Telephone No. / Fax No. / Email: Dan.Osborne@bleeny.com	Work Order No:	Page: 6 of 6
City: Greenville; State: SC; Zip Code: 29615	Preservative: 1. Depes 4. HNO3 7. NaOH; 2. NaOH/ZnA 5. HCL; 3. H2SO4 6. No Ths		Number of Containers
Project Name: PINK 258 / Former Enmark 380			Bottle (See Instructions on back)
			Preservative
Project Number: 513-6859-05	P.O. Number		Lot No: OY15033

Sample I.D. / Description (Containers for each sample may be combined on one line)	Date	Time	Composite	Grab	Matrix: GW	SW	WW	S	Other	Analysis: PARENTM METALS (Total)	EDB (Soil)	Remarks / Code ID
06588 - FIELD BLANK 02	11/13/13	1700		G					X	X	X	
06588 - FIELD BLANK 03	11/14/13	1800		G					X	X	X	
06588 - TRIP BLANK 01									X	X		
06588 - TRIP BLANK 02									X	X		

Turn Around Time Required (Prior lab approval required for expedited TAT): Standard / Rush (Please Specify)

Sample Disposal: Return to Client / Disposal by Lab

QC Requirements (Specify):

Possible Hazard Identification: Non Hazard / Flammable / Skin Irritant / Poison / Unknown

	Date	Time		Date	Time
1. Relinquished by / Sampler	11/15/13	1340	1. Received by	11/15/13	1340
2. Relinquished by			2. Received by		
3. Relinquished by			3. Received by		
4. Relinquished by	11/15/13	1627	4. Laboratory Received by	11/15/13	1627

Note: All samples are retained for six weeks from receipt unless other arrangements are made.

LAB USE ONLY: Received on Ice (Circle) Yes / No; Cooler Temp. Receipt Temp: 0.7 °C; Temp Blank: °C

APPENDIX E

CONTRACTOR CHECKLIST

Contractor Checklist

For each report submitted to the UST Management Division, the contractor will be required to verify that all data elements for the required scope of work have been provided. For items not required for the scope of work, the N/A box should be checked. For items required and not completed or provided, the No box should be checked and a thorough description of the reason must be provided.

Item #	Item	Yes	No	N/A
1	Is Facility Name, Permit #, and address provided?	✓		
2	Is UST Owner/Operator name, address, & phone number provided?	✓		
3	Is name, address, & phone number of current property owner provided?	✓		
4	Is the DHEC Certified UST Site Rehabilitation Contractor's Name, Address, telephone number, and certification number provided?	✓		
5	Is the name, address, telephone number, and certification number of the well driller that installed borings/monitoring wells provided?	✓		
6	Is the name, address, telephone number, and certification number of the certified laboratory(ies) performing analytical analyses provided?	✓		
7	Has the facility history been summarized?	✓		
8	Has the regional geology and hydrogeology been described?			✓
9	Are the receptor survey results provided as required?			✓
10	Has current use of the site and adjacent land been described?	✓		
11	Has the site-specific geology and hydrogeology been described?			✓
12	Has the primary soil type been described?	✓		
13	Have field screening results been described?			✓
14	Has a description of the soil sample collection and preservation been detailed?			✓
15	Has the field screening methodology and procedure been detailed?			✓
16	Has the monitoring well installation and development dates been provided?			✓
17	Has the method of well development been detailed?	✓		
18	Has justification been provided for the locations of the monitoring wells?	✓		
19	Have the monitoring wells been labeled in accordance with the UST QAPP guidelines?	✓		
20	Has the groundwater sampling methodology been detailed?	✓		
21	Have the groundwater sampling dates and groundwater measurements been provided?	✓		
22	Has the purging methodology been detailed?	✓		
23	Has the volume of water purged from each well been provided along with measurements to verify that purging is complete?	✓		
24	If free-product is present, has the thickness been provided?	✓		
25	Does the report include a brief discussion of the assessment done and the results?	✓		
26	Does the report include a brief discussion of the aquifer evaluation and results?	✓		
27	Does the report include a brief discussion of the fate & transport models used?			✓

Item #	Item	Yes	No	N/A
28	Are the site-conceptual model tables included? (Tier 1 Risk Evaluation)			✓
29	Have the exposure pathways been analyzed? (Tier 2 Risk Evaluation)			✓
30	Have the SSTLs for each compound and pathway been calculated? (Tier 2 Risk Evaluation)			✓
31	Have recommendations for further action been provided and explained?	✓		
32	Has the soil analytical data for the site been provided in tabular format? (Table 1)			✓
33	Has the potentiometric data for the site been provided in tabular format? (Table 2)	✓		
34	Has the current and historical laboratory data been provided in tabular format?	✓		
35	Have the aquifer characteristics been provided and summarized on the appropriate form?	✓		
36	Have the Site conceptual model tables been included? (Tier 1 Risk Evaluation)			✓
37	Has the topographic map been provided with all required elements? (Figure 1)	✓		
38	Has the site base map been provided with all required elements? (Figure 2)	✓		
39	Have the CoC site maps been provided? (Figure 3 & Figure 4)	✓		
40	Has the site potentiometric map been provided? (Figure 5)	✓		
41	Have the geologic cross-sections been provided? (Figure 6)			✓
42	Have maps showing the predicted migration of the CoCs through time been provided? (Tier 2 Risk Evaluation)			✓
43	Has the site survey been provided and include all necessary elements? (Appendix A)	✓		
44	Have the sampling logs, chain of custody forms, and the analytical data package been included with all required elements? (Appendix B)	✓		
45	Is the laboratory performing the analyses properly certified?	✓		
46	Has the tax map been included with all necessary elements? (Appendix C)			✓
47	Have the soil boring/field screening logs been provided? (Appendix D)			✓
48	Have the well completion logs and SCDHEC Form 1903 been provided? (Appendix E)	✓		
49	Have the aquifer evaluation forms, data, graphs, equations, etc. been provided? (Appendix F)	✓		
50	Have the disposal manifests been provided? (Appendix G)	✓		
51	Has a copy of the local zoning regulations been provided? (Appendix H)			✓
52	Has all fate and transport modeling been provided? (Appendix I)			✓
53	Have copies of all access agreements obtained by the contractor been provided? (Appendix J)			✓
54	Has a copy of this form been attached to the final report and are explanations for any missing or incomplete data been provided?	✓		

Explanation for missing and incomplete information?

Project Verifier (signature) _____

(print name) _____

Date _____

D H E C
PROMOTE PROTECT PROSPER

Site-Specific Work Plan for Approved ACQAP
Underground Storage Tank Management Division

To: James Ford (SCDHEC Project Manager)
From: _____ (Contractor Project Manager)
Contractor: _____ UST Contractor Certification Number: _____

Facility Name: Spinx 258 (Former Enmark 380) UST Permit #: 06588
Facility Address: 2725 College Street, Newberry, SC
Responsible Party: Interstate Stations, Inc. Phone: _____
RP Address: PO Box 728, Savannah, GA
Property Owner (if different): Enigma Corporation
Property Owner Address: PO Box 8624, Greenville, SC 29604
Current Use of Property: Active Gas Station

Scope of Work (Please check all that apply)

- ☐ IGWA
- ☐ Tier II
- ☐ Groundwater Sampling
- ☐ GAC
- ☐ Tier I
- ☐ Monitoring Well Installation
- ☑ Other Staff Confirmation sampling of WSWs

Analyses (Please check all that apply)

Groundwater/Surface Water:

- ☑ BTEXNMDCA (8260B)
- ☑ Oxygenates (8260B)
- ☐ EDB (8011)
- ☐ PAH (8270D)
- ☐ Lead
- ☐ 8 RCRA Metals
- ☐ TPH
- ☐ pH
- ☐ BOD
- ☐ Nitrate
- ☐ Sulfate
- ☐ Other _____
- ☐ Methane
- ☐ Ethanol
- ☐ Dissolved Iron

Soil:

- ☐ BTEXN
- ☐ PAH
- ☐ 8 RCRA Metals
- ☐ Oil & Grease (9071)
- ☐ TPH-DRO (3550B/8015B)
- ☐ TPH-GRO (5030B/8015B)
- ☐ Grain Size
- ☐ TOC

Air:

- ☐ BTEXN

Sample Collection (Estimate the number of samples of each matrix that are expected to be collected.)

_____ Soil	5 Water Supply Wells	_____ Air	1 Field Blank
_____ Monitoring Wells	_____ Surface Water	1 Duplicate	1 Trip Blank

Field Screening Methodology

Estimate number and total completed depth for each point, and include their proposed locations on the attached map.
# of shallow points proposed: _____ Estimated Footage: _____ feet per point
# of deep points proposed: _____ Estimated Footage: _____ feet per point
Field Screening Methodology: _____

Permanent Monitoring Wells

Estimate number and total completed depth for each well, and include their proposed locations on the attached map.
# of shallow wells: _____ Estimated Footage: _____ feet per point
# of deep wells: _____ Estimated Footage: _____ feet per point
# of recovery wells: _____ Estimated Footage: _____ feet per point
Monitoring Well development method (consistent with SOP): _____
Comments, if warranted:

UST DOCKETING 022

UST Permit #: 06588 Facility Name: Spinx 258 (Former Enmark 380)

Implementation Schedule (Number of calendar days from approval)
Field Work Start-Up: 2/20/14 Field Work Completion: 2/20/14
Report Submittal: _____ # of Copies Provided to Property Owners: _____

Aquifer Characterization
Pump Test: ☐ Slug Test: ☐ (Check one and provide explanation below for choice)

Investigation Derived Waste Disposal
Soil: _____ Tons Purge Water: _____ Gallons
Drilling Fluids: _____ Gallons Free-Phase Product: _____ Gallons

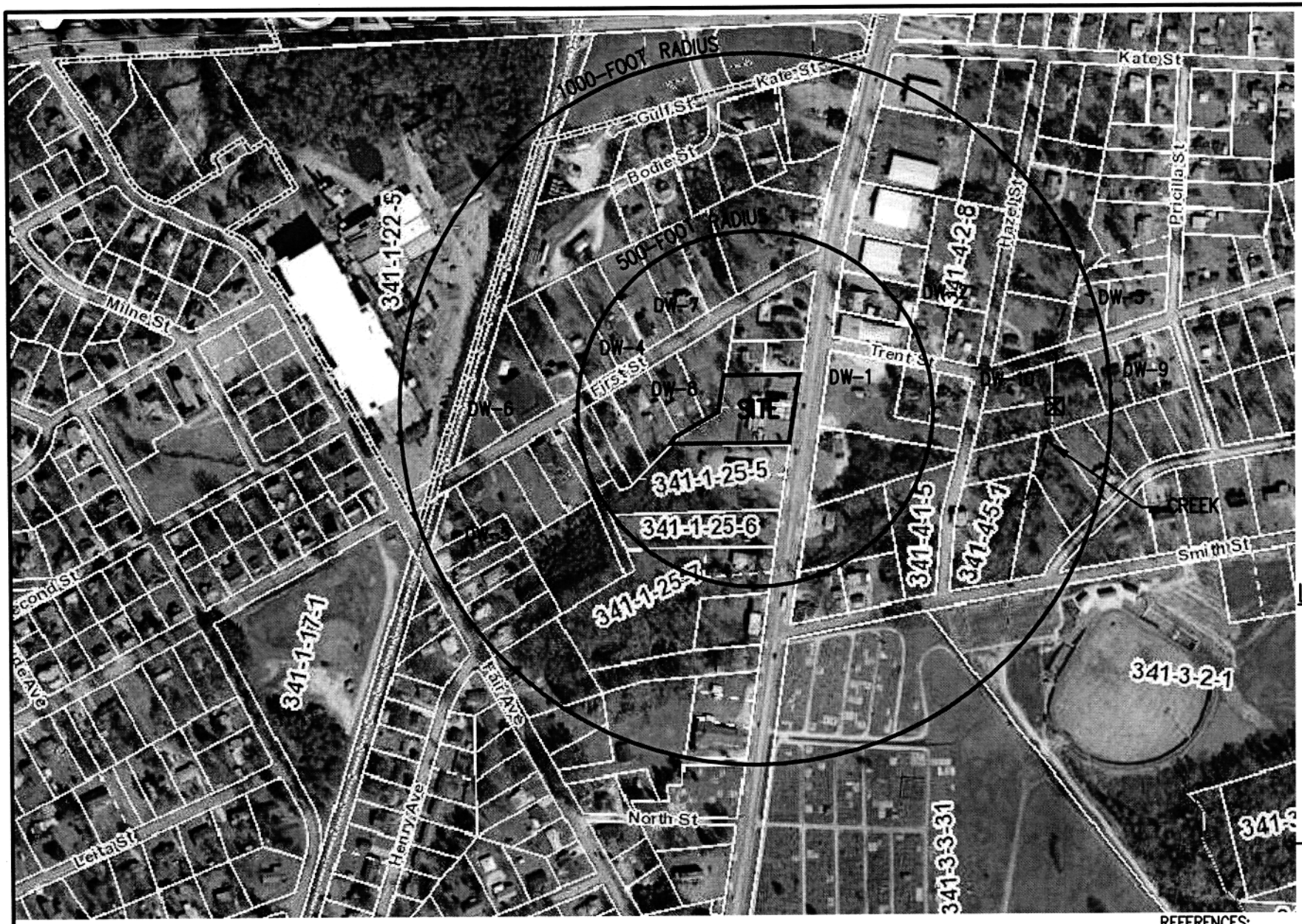
Additional Details For This Scope of Work
For example, list wells to be sampled, wells to be abandoned/repaired, well pads/bolts/caps to replace, details of AFVR event, etc.
Grab confirmation samples from water supply wells DW01, DW02, DW03, DW05, & DW08. Determine if properties with these wells are also connected to city water supply.

Compliance With Annual Contractor Quality Assurance Plan (ACQAP)
____ Laboratory as indicated in ACQAP? (Yes/No) If no, indicate laboratory information below.
Name of Laboratory: _____
SCDHEC Certification Number: _____
Name of Laboratory Director: _____

____ Well Driller as indicated in ACQAO? (Yes/No) If no, indicate driller information below.
Name of Well Driller: _____
SCLLR Certification Number: _____

____ Other variations from ACQAP. Please describe below.

Attachments
1. Attach a copy of the relevant portion of the USGS topographic map showing the site location.
2. Prepare a site base map. This map must be accurately scaled, but does not need to be surveyed. The map must include the following:
   - North Arrow
   - Location of property lines
   - Location of buildings
   - Previous soil sampling locations
   - Previous monitoring well locations
   - Proposed soil boring locations
   - Proposed monitoring well locations
   - Legend with facility name and address, UST permit number, and bar scale
   - Streets or highways (indicate names and numbers)
   - Location of all present and former ASTs and USTs
   - Location of all potential receptors
3. Assessment Component Cost Agreement, SCDHEC Form D-3664



LEGEND

- ● APPROXIMATE LOCATION OF PRIVATE WATER SUPPLY WELL
- ⊠ APPROXIMATE LOCATION OF SURFACE WATER SAMPLING POINT
- - - APPROXIMATE LOCATION OF CREEK

400 200 0 400 800

APPROXIMATE SCALE IN FEET

REFERENCES:
1. NEWBERRY COUNTY GIS IMAGE DATED 2008.
2. BLE FIELD NOTES.

DRAWN: ACE	DATE: 01-13-14	BLE INC. BUNNELL-LAMMONS ENGINEERING, INC. 6004 PONDERS COURT GREENVILLE, SOUTH CAROLINA 29615 PHONE: (864)288-1265 FAX: (864)288-4430	RECEPTOR SURVEY MAP SPINX 258/FORMER ENMARK 380 UST PERMIT #06588 NEWBERRY, SOUTH CAROLINA
CHECKED: DPO	CAD: SPINX258-04RSM		FIGURE 3
APPROVED:	JOB NO: J12-6859-		

DHEC
PROMOTE PROTECT PROSPER

Underground Storage Tank Management Division
Field Data Information Sheet – Notes

Site Information

Date: February 20, 2014	Site ID #: 06588	Site Name: SPINX 258
County: NEWBERRY	Project Manager: James Ford	Field Personnel: J. Ford

Notes: Site Visit to check potentially impacted water supply wells DW01, DW02, DW03, DW05, & DW08.

I was able to grab samples from DW02 and DW05, as these wells are used by the residences for drinking water and power was turned on. Supply wells DW01, DW03, and DW08 were discovered to be inactive and off-line. DW01 and DW03 were drilled wells with open casings. Those 2 wells were not sampled. Newberry County Water and Sewer Authority provides water to the residente where DW03 is located. DW01 is located on an uninhabited lot in a dilapidated concrete structure. DW08 is believed to be a hand-dug well that is capped off at least at ground level with a concrete pad. This well was not sampled. The home on the lot where DW08 is located is provided water by the Newberry County Water and Sewer Authority.

UST 23 tech DOCKETING

Signature: James Ford Date: 2/21/14

D H E C

Underground Storage Tank Management Division
Field Data Information Sheet – Sampling

Site Information

Date: 2/20/14	Site ID #: 06588	Site Name: SPINX 252	Field Personnel: J. Ford
County: Newberry	Project Manager: James Ford	General Weather Conditions: SUNNY	Ambient Air Temp (°F): 70°F

Quality Assurance

Meter Name	Serial #:	Calibration:			
YSI 63 (pH, Specific Conductivity, Temperature)		pH 4.0: Y or N	pH 7.0: Y or N	pH 10.0: Y or N	S.C.: Y or N
YSI 55 (Dissolved Oxygen)		Y or N			
LaMotte (Turbidity)		0.0 NTU: Y or N	1.0 NTU: Y or N	10.0 NTU: Y or N	

Well Information

Well ID: DW05	Well Diameter (ft.): ~6"	Conversion Factor (C): 1" well = 0.047, 2" well = 0.16, 4" well = 0.652	Method of Purging/Sample Collection: ____Bailer ____Pump
___MW ___IW ___RW ___Other_____ ✓ Private WSW ___Public WSW		Screened Interval (ft.): to	Total Well Depth (TWD) (ft.):
Depth to Free Product (DFP) (ft.):	Depth to Groundwater (DGW) (ft.):		Free Product Thickness (ft.):
Length of water column (LWC = TWD – DGW) (ft.):	1 casing volume (CV = LWC x C) (gals.):		3 casing volumes (3 x CV) (gals.):

Purging Data

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post	Sampling
Volume Purged (gallons)								
Time (military)								
PH (s.u.)								
Specific Conductivity (µS/cm)								
Water Temperature (°C)								
Turbidity (NTU)								
Dissolved Oxygen (mg/L)								

Sampling Data

Sampled By: J. FORD	Sampling Time: 1055	Duplicate: (Y) or N	If yes, Duplicate Time: 1100

Notes: Water supply well @ 1602 First St. in Newberry, SC ↑ DW05A
DW05

Signature: James Ford

DHEC 0423 (10/2012)

SOUTH CAROLINA DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL

D H E C

Underground Storage Tank Management Division
Field Data Information Sheet – Sampling

Site Information

Date: 2/20/14	Site ID #: 06589	Site Name: SPINX 258	Field Personnel: J. FORD
County: Newberry	Project Manager: James Ford	General Weather Conditions: SUNNY	Ambient Air Temp (°F): 76°F

Quality Assurance

Meter Name	Serial #:	Calibration:			
YSI 63 (pH, Specific Conductivity, Temperature)		pH 4.0: Y or N	pH 7.0: Y or N	pH 10.0: Y or N	S.C.: Y or N
YSI 55 (Dissolved Oxygen)		Y or N			
LaMotte (Turbidity)		0.0 NTU: Y or N	1.0 NTU: Y or N	10.0 NTU: Y or N	

Well Information

Well ID: DW02	Well Diameter (ft.): N 6"	Conversion Factor (C): 1" well = 0.047, 2" well = 0.16, 4" well = 0.652	Method of Purging/Sample Collection: ____Bailer ____Pump
✓ MW ___IW ___RW ___Other_____ ✓ Private WSW ___Public WSW		Screened Interval (ft.): to	Total Well Depth (TWD) (ft.):
Depth to Free Product (DFP) (ft.):	Depth to Groundwater (DGW) (ft.):		Free Product Thickness (ft.):
Length of water column (LWC = TWD – DGW) (ft.):	1 casing volume (CV = LWC x C) (gals.):		3 casing volumes (3 x CV) (gals.):

Purging Data

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post	Sampling
Volume Purged (gallons)								
Time (military)								
PH (s.u.)								
Specific Conductivity (µS/cm)								
Water Temperature (°C)								
Turbidity (NTU)								
Dissolved Oxygen (mg/L)								

Sampling Data

Sampled By: J. FORD	Sampling Time: 1240	Duplicate: Y or (N)	If yes, Duplicate Time:

Notes: · NO WATER METER @ STREET
· SAMPLE COLLECTED @ SPIGOT ON SIDE OF HOME
· WATER SUPPLY WELL @ 1311 TRENT ST. IN NEWBERRY, SC

Signature: James Ford

SHEALY ENVIRONMENTAL SERVICES, INC.

Report of Analysis

SC DHEC - UST Management
2600 Bull Street
Columbia, SC 29201
Attention: Debra Thoma

UST
Jamie
FEB 25 2014
DIVISION

Project Name: **Spinx 258**

Project Number: **UST Permit #06588/ CA #47539**

Lot Number: **PB20034**

Date Completed: **02/21/2014**

UST
24
DOCKETING

Kelly M. Maberry
Project Manager

ACCREDITED IN ACCORDANCE WITH nelac

This report shall not be reproduced, except in its entirety, without the written approval of Shealy Environmental Services, Inc.

The following non-paginated documents are considered part of this report: Chain of Custody Record and Sample Receipt Checklist.

Case Narrative
SC DHEC - UST Management
Lot Number: PB20034

This Report of Analysis contains the analytical result(s) for the sample(s) listed on the Sample Summary following this Case Narrative. The sample receiving date is documented in the header information associated with each sample.

All results listed in this report relate only to the samples that are contained within this report.

Sample receipt, sample analysis, and data review have been performed in accordance with the most current approved NELAC standards, the Shealy Environmental Services, Inc. ("Shealy") Quality Assurance Management Plan (QAMP), standard operating procedures (SOPs), and Shealy policies. Any exceptions to the NELAC standards, the QAMP, SOPs or policies are qualified on the results page or discussed below.

If you have any questions regarding this report please contact the Shealy Project Manager listed on the cover page.

SHEALY ENVIRONMENTAL SERVICES, INC.

Sample Summary
SC DHEC - UST Management
Lot Number: PB20034

Sample Number	Sample ID	Matrix	Date Sampled	Date Received
001	DW05	Aqueous	02/20/2014 1055	02/20/2014
002	DW05A	Aqueous	02/20/2014 1100	02/20/2014
003	FIELD	Aqueous	02/20/2014 1105	02/20/2014
004	DW02	Aqueous	02/20/2014 1240	02/20/2014
005	TRIP BLANK	Aqueous	02/20/2014	02/20/2014

(5 samples)

Executive Summary
SC DHEC - UST Management
Lot Number: PB20034

Sample Sample ID	Matrix	Parameter	Method	Result	Q	Units	Page

(0 detections)

Client: **SC DHEC - UST Management**
Description: **DW05**
Date Sampled: **02/20/2014 1055**
Date Received: **02/20/2014**

Laboratory ID: **PB20034-001**
Matrix: **Aqueous**

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	02/21/2014 0103	PMM2		40815

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
tert-Amyl alcohol (TAA)	75-85-4	8260B	ND		100	6.7	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		10	0.20	ug/L	1
Benzene	71-43-2	8260B	ND		1.0	0.13	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260B	ND		100	1.0	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		1.0	0.15	ug/L	1
Diisopropyl ether (IPE)	108-20-3	8260B	ND		10	0.40	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		100	1.0	ug/L	1
Ethanol	64-17-5	8260B	ND		1000	33	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		1.0	0.33	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		100	0.20	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		1.0	0.40	ug/L	1
Naphthalene	91-20-3	8260B	ND		1.0	0.40	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		100	6.7	ug/L	1
Toluene	108-88-3	8260B	ND		1.0	0.33	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		1.0	0.33	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		83	70-130
Bromofluorobenzene		81	70-130
Toluene-d8		86	70-130

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
H = Out of holding time
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Client: **SC DHEC - UST Management**
Description: **DW05A**
Date Sampled: **02/20/2014 1100**
Date Received: **02/20/2014**

Laboratory ID: **PB20034-002**
Matrix: **Aqueous**

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	02/21/2014 0125	PMM2		40815

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
tert-Amyl alcohol (TAA)	75-85-4	8260B	ND		100	6.7	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		10	0.20	ug/L	1
Benzene	71-43-2	8260B	ND		1.0	0.13	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260B	ND		100	1.0	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		1.0	0.15	ug/L	1
Diisopropyl ether (IPE)	108-20-3	8260B	ND		10	0.40	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		100	1.0	ug/L	1
Ethanol	64-17-5	8260B	ND		1000	33	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		1.0	0.33	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		100	0.20	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		1.0	0.40	ug/L	1
Naphthalene	91-20-3	8260B	ND		1.0	0.40	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		100	6.7	ug/L	1
Toluene	108-88-3	8260B	ND		1.0	0.33	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		1.0	0.33	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		84	70-130
Bromofluorobenzene		79	70-130
Toluene-d8		88	70-130

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
H = Out of holding time
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Client: **SC DHEC - UST Management**
Description: **FIELD**
Date Sampled: **02/20/2014 1105**
Date Received: **02/20/2014**

Laboratory ID: **PB20034-003**
Matrix: **Aqueous**

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	02/20/2014 2313	PMM2		40815

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
tert-Amyl alcohol (TAA)	75-85-4	8260B	ND		100	6.7	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		10	0.20	ug/L	1
Benzene	71-43-2	8260B	ND		1.0	0.13	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260B	ND		100	1.0	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		1.0	0.15	ug/L	1
Diisopropyl ether (IPE)	108-20-3	8260B	ND		10	0.40	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		100	1.0	ug/L	1
Ethanol	64-17-5	8260B	ND		1000	33	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		1.0	0.33	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		100	0.20	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		1.0	0.40	ug/L	1
Naphthalene	91-20-3	8260B	ND		1.0	0.40	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		100	6.7	ug/L	1
Toluene	108-88-3	8260B	ND		1.0	0.33	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		1.0	0.33	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		82	70-130
Bromofluorobenzene		80	70-130
Toluene-d8		85	70-130

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
H = Out of holding time
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Client: **SC DHEC - UST Management**
Description: **DW02**
Date Sampled: **02/20/2014 1240**
Date Received: **02/20/2014**

Laboratory ID: **PB20034-004**
Matrix: **Aqueous**

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	02/21/2014 0148	PMM2		40815

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
tert-Amyl alcohol (TAA)	75-85-4	8260B	ND		100	6.7	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		10	0.20	ug/L	1
Benzene	71-43-2	8260B	ND		1.0	0.13	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260B	ND		100	1.0	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		1.0	0.15	ug/L	1
Diisopropyl ether (iPE)	108-20-3	8260B	ND		10	0.40	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		100	1.0	ug/L	1
Ethanol	64-17-5	8260B	ND		1000	33	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		1.0	0.33	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		100	0.20	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		1.0	0.40	ug/L	1
Naphthalene	91-20-3	8260B	ND		1.0	0.40	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		100	6.7	ug/L	1
Toluene	108-88-3	8260B	ND		1.0	0.33	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		1.0	0.33	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		83	70-130
Bromofluorobenzene		81	70-130
Toluene-d8		88	70-130

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
H = Out of holding time
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Client: **SC DHEC - UST Management**
Description: **TRIP BLANK**
Date Sampled: **02/20/2014**
Date Received: **02/20/2014**

Laboratory ID: **PB20034-005**
Matrix: **Aqueous**

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	02/20/2014 2335	PMM2		40815

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
tert-Amyl alcohol (TAA)	75-85-4	8260B	ND		100	6.7	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		10	0.20	ug/L	1
Benzene	71-43-2	8260B	ND		1.0	0.13	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260B	ND		100	1.0	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		1.0	0.15	ug/L	1
Diisopropyl ether (IPE)	108-20-3	8260B	ND		10	0.40	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		100	1.0	ug/L	1
Ethanol	64-17-5	8260B	ND		1000	33	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		1.0	0.33	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		100	0.20	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		1.0	0.40	ug/L	1
Naphthalene	91-20-3	8260B	ND		1.0	0.40	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		100	6.7	ug/L	1
Toluene	108-88-3	8260B	ND		1.0	0.33	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		1.0	0.33	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		82	70-130
Bromofluorobenzene		81	70-130
Toluene-d8		86	70-130

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
H = Out of holding time
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

QC Summary

Volatile Organic Compounds by GC/MS - MB

Sample ID: PQ40815-001
Batch: 40815
Analytical Method: 8260B
Matrix: Aqueous
Prep Method: 5030B

Parameter	Result	Q	Dil	PQL	MDL	Units	Analysis Date
tert-Amyl alcohol (TAA)	ND		1	100	6.7	ug/L	02/20/2014 2251
tert-Amyl methyl ether (TAME)	ND		1	10	0.20	ug/L	02/20/2014 2251
Benzene	ND		1	1.0	0.13	ug/L	02/20/2014 2251
tert-Butyl formate (TBF)	ND		1	100	1.0	ug/L	02/20/2014 2251
1,2-Dichloroethane	ND		1	1.0	0.15	ug/L	02/20/2014 2251
Diisopropyl ether (IPE)	ND		1	10	0.40	ug/L	02/20/2014 2251
3,3-Dimethyl-1-butanol	ND		1	100	1.0	ug/L	02/20/2014 2251
Ethanol	ND		1	1000	33	ug/L	02/20/2014 2251
Ethylbenzene	ND		1	1.0	0.33	ug/L	02/20/2014 2251
Ethyl-tert-butyl ether (ETBE)	ND		1	100	0.20	ug/L	02/20/2014 2251
Methyl tertiary butyl ether (MTBE)	ND		1	1.0	0.40	ug/L	02/20/2014 2251
Naphthalene	ND		1	1.0	0.40	ug/L	02/20/2014 2251
tert-butyl alcohol (TBA)	ND		1	100	6.7	ug/L	02/20/2014 2251
Toluene	ND		1	1.0	0.33	ug/L	02/20/2014 2251
Xylenes (total)	ND		1	1.0	0.33	ug/L	02/20/2014 2251

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		79	70-130
1,2-Dichloroethane-d4		82	70-130
Toluene-d8		87	70-130

Volatile Organic Compounds by GC/MS - LCS

Sample ID: PQ40815-002
Batch: 40815
Analytical Method: 8260B
Matrix: Aqueous
Prep Method: 5030B

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
tert-Amyl alcohol (TAA)	1000	820		1	82	70-130	02/20/2014 2051
tert-Amyl methyl ether (TAME)	50	53		1	107	70-130	02/20/2014 2051
Benzene	50	51		1	102	70-130	02/20/2014 2051
tert-Butyl formate (TBF)	250	230		1	93	70-130	02/20/2014 2051
1,2-Dichloroethane	50	50		1	99	70-130	02/20/2014 2051
Diisopropyl ether (IPE)	50	53		1	107	70-130	02/20/2014 2051
3,3-Dimethyl-1-butanol	1000	820		1	82	70-130	02/20/2014 2051
Ethanol	5000	5000		1	100	60-140	02/20/2014 2051
Ethylbenzene	50	53		1	107	70-130	02/20/2014 2051
Ethyl-tert-butyl ether (ETBE)	50	53		1	107	70-130	02/20/2014 2051
Methyl tertiary butyl ether (MTBE)	50	55		1	109	70-130	02/20/2014 2051

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N = Recovery is out of criteria
+ = RPD is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

Volatile Organic Compounds by GC/MS - LCS

Sample ID: PQ40815-002 **Matrix:** Aqueous
Batch: 40815 **Prep Method:** 5030B
Analytical Method: 8260B

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
Naphthalene	50	46		1	92	70-130	02/20/2014 2051
tert-butyl alcohol (TBA)	1000	910		1	91	70-130	02/20/2014 2051
Toluene	50	53		1	105	70-130	02/20/2014 2051
Xylenes (total)	100	110		1	108	70-130	02/20/2014 2051

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		81	70-130
1,2-Dichloroethane-d4		76	70-130
Toluene-d8		81	70-130

Volatile Organic Compounds by GC/MS - LCSD

Sample ID: PQ40815-003 **Matrix:** Aqueous
Batch: 40815 **Prep Method:** 5030B
Analytical Method: 8260B

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% RPD	% Rec Limit	% RPD Limit	Analysis Date
tert-Amyl alcohol (TAA)	1000	840		1	84	1.9	70-130	20	02/20/2014 2113
tert-Amyl methyl ether (TAME)	50	54		1	107	0.062	70-130	20	02/20/2014 2113
Benzene	50	51		1	103	0.59	70-130	20	02/20/2014 2113
tert-Butyl formate (TBF)	250	230		1	92	1.1	70-130	20	02/20/2014 2113
1,2-Dichloroethane	50	49		1	99	0.55	70-130	20	02/20/2014 2113
Diisopropyl ether (IPE)	50	53		1	105	1.4	70-130	20	02/20/2014 2113
3,3-Dimethyl-1-butanol	1000	840		1	84	2.1	70-130	20	02/20/2014 2113
Ethanol	5000	5000		1	99	0.58	60-140	20	02/20/2014 2113
Ethylbenzene	50	54		1	108	0.77	70-130	20	02/20/2014 2113
Ethyl-tert-butyl ether (ETBE)	50	53		1	106	0.53	70-130	20	02/20/2014 2113
Methyl tertiary butyl ether (MTBE)	50	53		1	107	2.2	70-130	20	02/20/2014 2113
Naphthalene	50	46		1	93	0.58	70-130	20	02/20/2014 2113
tert-butyl alcohol (TBA)	1000	940		1	94	3.9	70-130	20	02/20/2014 2113
Toluene	50	53		1	105	0.013	70-130	20	02/20/2014 2113
Xylenes (total)	100	110		1	109	0.72	70-130	20	02/20/2014 2113

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		80	70-130
1,2-Dichloroethane-d4		76	70-130
Toluene-d8		81	70-130

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N = Recovery is out of criteria
+ = RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

SHEALY

Chain of Custody Record

Shealy Environmental Services, Inc.
106 Vantage Point Drive
West Columbia, South Carolina 29172
Telephone No. (803) 791-9700 Fax No. (803) 791-9111
www.shealylab.com

Number 19139

Client: SCDHEC	Report to Contact: Debra Thoma	Sampler (Printed Name): James Ford	Quote No.
Address: 2600 Bull St	Telephone No. / Fax No. / Email: 803-898-0599 (J. Ford)	Waybill No.	Page ___ of ___
City: Columbia; State: SC; Zip Code: 29201	Preservative: 1. Unpres. 2. NaOH/ZnA 3. H2SO4 4. HNO3 5. HCL 6. Na Thio. 7. NaOH		Number of Containers / Bottle (See Instructions on back) / Preservative
Project Name: SPINX 258			Lot No.
Project Number: UST# 06588; P.O Number: CA# 47539			PB20034

Sample ID / Description (Containers for each sample may be combined on one line)	Date	Time	G=Grab C=Composite	GW	DW	WW	S	Other	Analysis	BTEXMN	OXYGENATES	1,2DCA									Remarks / Cooler ID
DW05	2/20/14	1055	G		✓					X	X	X									11/14/13 used 5.0 POL
DW05A	2/20/14	1100	G		✓					X	X	X									
FIELD	2/20/14	1105	G					✓		X	X	X									LAB WATER
DW02	2/20/14	1240	G		✓					X	X	X									11/14/13 used 5.0 POL
																					USE LOW DET. Limits
																					WATER SUPPLY WELL
																					SAMPLES - Thanks.
																					JF

Turn Around Time Required (Prior lab approval required for expedited TAT): ☐ Standard ☒ Rush (Please Specify)

Sample Disposal: ☐ Return to Client ☒ Disposal by Lab

QC Requirements (Specify): LOW DETECTION LIMITS

Possible Hazard Identification: ☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison ☐ Unknown

1. Relinquished by / Sampler: James Ford	Date: 2/20/14	Time: 1500	1. Received by	Date	Time
2. Relinquished by	Date	Time	2. Received by	Date	Time
3. Relinquished by	Date	Time	3. Received by	Date	Time
4. Relinquished by	Date	Time	4. Laboratory Received by	Date: 2-20-14	Time: 1500

Note: All samples are retained for six weeks from receipt unless other arrangements are made.

LAB USE ONLY
Received on Ice (Check) ☐ Yes ☐ No ☐ Ice Pack — Receipt Temp. 5.0 °C — Temp. Blank ☐ Y ☐ N

Sample Receipt Checklist (SRC)

Client: SCDHEC Cooler Inspected by/date: ECC / 2/20/14 Lot #: PB20034

Means of receipt: ☐ SESI ☑ Client ☐ UPS ☐ FedEx ☐ Airborne Exp ☐ Other

Yes ☐	No ☑		1. Were custody seals present on the cooler?
Yes ☐	No ☐		2. If custody seals were present, were they intact and unbroken?

Cooler ID/Original temperature upon receipt/Derived (corrected) temperature upon receipt:
4.9/5.0 °C ___/___/___ °C ___/___/___ °C ___/___/___ °C

Method: ☑ Temperature Blank ☐ Against Bottles IR Gun ID: #3 IR Gun Correction Factor: +0.1°C

Method of coolant: ☑ Wet Ice ☐ Blue Ice ☐ Dry Ice ☐ None

If response is No (or Yes for 14, 15, 16), an explanation/resolution must be provided.

Yes ☐	No ☐	NA ☑	3. If temperature of any cooler exceeded 6.0°C, was Project Manager notified? PM notified by SRC, phone, note (circle one), other:_____. (For coolers received via commercial courier, PMs are to be notified immediately.
Yes ☐	No ☐	NA ☑	4. Is the commercial courier's packing slip attached to this form?
Yes ☑	No ☐		5. Were proper custody procedures (relinquished/received) followed?
Yes ☐	No ☐	NA ☑	5a Were samples relinquished by client to commercial courier?
Yes ☑	No ☐		6. Were sample IDs listed?
Yes ☑	No ☐		7. Was collection date & time listed?
Yes ☑	No ☐		8. Were tests to be performed listed on the COC?
Yes ☑	No ☐		9. Did all samples arrive in the proper containers for each test?
Yes ☑	No ☐		10. Did all container label information (ID, date, time) agree with COC?
Yes ☑	No ☐		11. Did all containers arrive in good condition (unbroken, lids on, etc.)?
Yes ☑	No ☐		12. Was adequate sample volume available?
Yes ☑	No ☐		13. Were all samples received within ½ the holding time or 48 hours, whichever comes first?
Yes ☐	No ☑		14. Were any samples containers missing?
Yes ☑	No ☑	ECC 2/20/14	15. Were there any excess samples not listed on COC? Tr. pBlank (2)
Yes ☐	No ☑	NA ☐	16. Were bubbles present >"pea-size" (¼"or 6mm in diameter) in any VOA vials?
Yes ☐	No ☐	NA ☑	17. Were all metals/O&G/HEM/nutrient samples received at a pH of <2?
Yes ☐	No ☐	NA ☑	18. Were all cyanide and/or sulfide samples received at a pH >12?
Yes ☐	No ☐	NA ☑	19. Were all applicable NH3/TKN/cyanide/phenol (<0.2mg/L) samples free of residual chlorine?
Yes ☐	No ☐	NA ☑	20. Were collection temperatures documented on the COC for NC samples?
Yes ☐	No ☐	NA ☑	21. Were client remarks/requests (i.e. requested dilutions, MS/MSD designations, etc…) correctly transcribed from the COC into the comment section in LIMS?

Sample Preservation (Must be completed for any sample(s) incorrectly preserved or with headspace.)

Sample(s)_____were received incorrectly preserved and were adjusted accordingly in sample receiving with _____(H_2SO_4,HNO_3,HCl,NaOH) with the SR # (number)

Sample(s) _____were received with bubbles >6 mm in diameter.

Sample(s)_____were received with TRC >0.2 mg/L for NH3/TKN/cyanide/phenol

Sample labels verified by: [signature] Date: 2/20/14

Corrective Action taken, if necessary:

Was client notified: Yes ☐ No ☐ Did client respond: Yes ☐ No ☐

SESI employee: _____ Date of response: _____

Comments:

D H E C
PROMOTE PROTECT PROSPER
Catherine B. Templeton, Director
Promoting and protecting the health of the public and the environment

BRIDGET MOODY
208 ROLLIN RD
NEWBERRY SC 29108-6298

FEB 28 2014

UST DOCKETING

Re: Results of Recent Assessment Activities
Spinx 258, 2725 College St., Newberry, SC
UST Permit # 06588
Release #1 Reported on December 29, 1989
Release #2 Reported on November 21, 1995
Bunnell Lammons Engineering, Inc., Assessment Report received January 17, 2014
Newberry County

Dear Ms. Moody:

The Underground Storage Tank (UST) Management Division of the South Carolina Department of Health and Environmental Control (Agency) directed the responsible party, Interstate Stations, Inc., to conduct a groundwater sampling event at the property on 2725 College St. As required, the responsible party's environmental contractor collected groundwater samples from surrounding private water supply wells. The well on your property at 1602 First St. was sampled on November 14, 2013. Laboratory analytical data results of the sample from your well (DW05) indicated a concentration of benzene, a known constituent of gasoline, above drinking water standards.

In response to the data results, verification groundwater samples were collected from your well on February 20, 2014 and delivered to Shealy Environmental Services, Inc., in West Columbia, SC by an Agency hydrogeologist. The laboratory analytical data results of this verification sampling event indicate that concentrations of gasoline constituents were not detected in the groundwater samples collected from your well at 1602 First St. A copy of the laboratory analytical data results for the November 14, 2013 and February 20, 2014 sampling of your well (DW05) are enclosed for your reference and files.

In the future, the Division will continue to monitor your water supply well by collecting groundwater samples. Your continued cooperation is appreciated. On all correspondence regarding this site, please reference UST permit number 06588. Please feel free to contact me at (803) 898-0599, fax me at (803) 898-0673 or e-mail me at fordrj@dhec.sc.gov if you have questions or need additional information.

Sincerely,

James Ford

James Ford, Hydrogeologist
Assessment Section
Underground Storage Tank Management Division
Bureau of Land and Waste Management

enc: Abbreviated Laboratory Analytical Data report dated November 27, 2013
Abbreviated Laboratory Analytical Data report dated February 21, 2014

cc: Technical File (without enc.)

D H E C
PROMOTE PROTECT PROSPER
Catherine B. Templeton, Director
Promoting and protecting the health of the public and the environment

JASON MEYERS
1311 TRENT ST
NEWBERRY SC 29108-2151

MAR 0 5 2014

UST DOCKETING

Re: Results of Recent Assessment Activities
Spinx 258, 2725 College St., Newberry, SC
UST Permit # 06588
Release #1 Reported on December 29, 1989
Release #2 Reported on November 21, 1995
Bunnell Lammons Engineering, Inc., Assessment Report, revised received February 19, 2014
Newberry County

Dear Mr. Meyers:

The Underground Storage Tank (UST) Management Division of the South Carolina Department of Health and Environmental Control (Agency) directed the responsible party, Interstate Stations, Inc., to conduct a groundwater sampling event at the property on 2725 College St. As required, the responsible party's environmental contractor collected groundwater samples from surrounding private water supply wells. The well on your property at 1311 Trent St. was sampled on November 14, 2013. Laboratory analytical data results of the sample from your well (DW02) indicated a concentration of benzene, a known constituent of gasoline, below drinking water standards.

In response to the data results, verification groundwater samples were collected from your well on February 20, 2014 and delivered to Shealy Environmental Services, Inc., in West Columbia, SC by an Agency hydrogeologist. The laboratory analytical data results of this verification sampling event indicate that concentrations of gasoline constituents were not detected in the groundwater samples collected from your well at 1311 Trent St. A copy of the laboratory analytical data results for the November 14, 2013 and February 20, 2014 sampling of your well (DW02) are enclosed for your reference and files.

In the future, the Division will continue to monitor your water supply well by collecting groundwater samples. Your continued cooperation is appreciated. On all correspondence regarding this site, please reference UST permit number 06588. Please feel free to contact me at (803) 898-0599, fax me at (803) 898-0673 or e-mail me at fordrj@dhec.sc.gov if you have questions or need additional information.

Sincerely,

James Ford

James Ford, Hydrogeologist
Assessment Section
Underground Storage Tank Management Division
Bureau of Land and Waste Management

enc: Abbreviated Laboratory Analytical Data report dated November 27, 2013
Abbreviated Laboratory Analytical Data report dated February 21, 2014

cc: Technical File (without enc.)

UST#06588

2/20/14 Site Visit

1150 DW08 - NO SAMPLE - unable to speak w/ homeowner, left door hanger & card
- unable to locate well (WSW) definitely
- possible well Found & photo taken
- on city water, photo of meter taken & hyd.

1210 DW01 - NO SAMPLE
- property is vacant - no one lives there (half dilapidated shop)
- well (WSW) on site - no power to the WSW (NO meter)
- no bailers in truck - no sample
- the well head is open and could probably be sampled as was done by UCC - BLE
~6" well dia.

1225 DW02 - well on site
- home is occupied, but noone was home
- No evidence of a city water meter (water is available)
- no spigot noticed @ well house
- sample collected From spigot on outside of home
- left door hanger

1305 DW03 - well on site
- well is off-line
- home has city water
- ~6" well dia. - open
- could be sampled w/ bailer - none in truck - NO SAMPLE
- left door hanger

DW05
1602 1st St.
Newberry, SC
Rhonda Moody
Bridgette Moody
803-271-2106

UST DOCKETING

#'s from the whitepages.com

Well ID	Parcel #	Propety Address	Owner Name	Mailing Address (if different)
DW01	341-4-1-2	College & Trent Street	Meetze Lewie E	2334 Vincent St. Newberry, SC
DW02	341-4-2-11	~~1131~~ Trent Steet → 1311	Meyers Jason	
DW03	341-4-3-9	1417 Trent Steet	Newberry County Special Needs Board	PO Box 856, Newberry, SC
DW04	341-1-24-7	1617 First Street	McCracken Hughie	
DW05	341-1-25-23	1602 First Steet	Moody Bridget trustee for Brandon Eugene Hylèr	208 Rollin Road, Newberry, SC
DW06	341-1-24-11	First Street (vacant)	New Beginnings Church	PO Box 672 Newberry SC
DW07	341-1-24-5	1623 First Street	Jain Sanjay	
DW08	341-1-25-30	1618 First Steet	Crapps Harley & Karen	
DW09	341-4-5-5	1420 Trent Street	Ard David William	307 Monrning Side Drive, Newberry SC
DW10	341-4-5-3	3030 Hazel Steet	Davis Dorothy	

864
- ~~803~~ - 276-3384 (Catherine)
- 803/864 - 321-3111 (Jason)
~~803~~ 276-0078
- ~~803/864~~ - 405-9736 (Bridget)
- left message on 803# - 2/19
- ~~864~~ - 276-8768 (Harley)
803

Google earth

feet 100
meters 50

Google earth

feet 100

meters 50

Google earth

feet 600
meters 200

Spinx 258
UST Permit #06588

	AR	AR	Tier II	AR	AR	AR	MR	MR
MW-1	2/24/92	6/11/97	6/26/98	11/2/10	7/20/11	7/17/12	11/14/13	2/20/14
DTW	nm	17 24	15 30	20 35	20 85	22 27	20 30	nm
Benzene	**5900**	**5900**	**3550**	**4400**	**5600**	**4600**	**5500**	ns
Toluene	**5900**	**8010**	**1910**	**2100**	**7700**	**2500**	**6100**	
Ethylbenzene	**1800**	**1630**	674	**1600**	**1800**	**1800**	**1600**	
Xylenes	7200	7420	3150	**7200**	**8300**	**6800**	**6700**	
MTBE	na	**135**	36	<20	**110**	**110**	**57**	
Naphthalene	na	**108**	**35**	**170**	**91**	**550**	**270**	
Lead	na	na	na	<10	na	8	10	
DCA	na	na	na	**160**	**160**	**<250**	**160**	
EDB	na	na	na	**1.90**	**24.00**	**3.90**	**7.50**	
DIPE	na	na	na	<100	57	**<250**	40	
TAA	na	na	na	<100	**<250**	**<250**	**2500**	
TAME	na	na	na	<200	<500	<500	<500	
TBA	na	na	na	<400	**3700**	**2500**	670	

MW-2		6/11/97	6/26/98	11/2/10	7/20/11	7/17/12	11/14/13	2/20/14
DTW		17 56	15 54	20 82	21 32	22 77	20 81	nm
Benzene		**6750**	**3780**	2	1	**25**	**45**	ns
Toluene		**13500**	**9380**	2	2	23	19	
Ethylbenzene		**900**	**896**	11	52	160	3	
Xylenes		5180	3340	39	270	910	19	
MTBE		**900**	**236**	<1	<2	<5	<5	
Naphthalene		**254**	**885**	15	**27**	**83**	8	
Lead		na	na	**38**	na	10	<10	
DCA		na	na	<1	<2	<5	<5	
EDB		na	na	<0 02	<0 02	<0 02	<0 02	
DIPE		na	na	<5	<10	<5	<5	
TAA		na	na	<5	<10	<5	110	
TAME		na	na	<10	<20	<10	<10	
TBA		na	na	<20	15	87	280	

MW-3		6/11/97	6/26/98	11/2/10	7/20/11	7/17/12	11/14/13	2/20/14
DTW		18 34	16 28	21 25	22 14	23 54	21 60	nm
Benzene		**675**	**411**	**68**	**31**	**43**	**21**	ns
Toluene		**9000**	na	11	1	3	**4**	
Ethylbenzene		**900**	**986**	9	<1	2	<5	
Xylenes		5400	5080	89	19	**47**	9	
MTBE		5	**40**	<1	<1	<5	<1	
Naphthalene		**450**	**534**	21	<1	6	2	
Lead		na	na	<10	na	**270**	**85**	
DCA		na	na	<1	<1	<5	<5	
EDB		na	na	<0 02	<0 02	<0 02	<0 02	
DIPE		na	na	<5	<5	<5	<5	
TAA		na	na	<5	<5	<5	140	
TAME		na	na	<10	<10	<10	<10	
TBA		na	na	100	200	110	330	

MW-4		6/11/97	6/26/98	11/2/10	7/20/11	7/17/12	11/14/13	2/20/14
DTW		**FP**	**FP**	well	well	well	well	nm
Benzene		(0 45')	(0 39')	damaged	damaged	damaged	dry	ns
Toluene								
Ethylbenzene								
Xylenes								
MTBE								
Naphthalene								
Lead								
DCA								
EDB								
DIPE								
TAA								
TAME								
TBA								

MW-4R							11/14/13	2/20/14
DTW							20 95	nm
Benzene							**2300**	ns
Toluene							**22000**	
Ethylbenzene							**3000**	
Xylenes							**16000**	
MTBE							**<1000**	
Naphthalene							**760**	
Lead							850	
DCA							**<1000**	
EDB							**0.37**	
DIPE							**<1000**	
TAA							**4800**	
TAME							**<2000**	
TBA							**2500**	

UST 28tech DOCKETING

MW-5		6/11/97	6/26/98	11/2/10	7/20/11	7/17/12	11/14/13	2/20/14
DTW		13 38	**FP**	**FP**	**FP**	**FP**	**FP**	nm
Benzene		ns	(0 02')	(0 02')	(0 02')	(0 55')	(1 17')	ns
Toluene								
Ethylbenzene								
Xylenes								
MTBE								
Naphthalene								
Lead								
DCA								
EDB								
DIPE								
TAA								
TAME								
TBA								

MW-6			6/26/98	11/2/10	7/20/11	7/17/12	11/14/13	2/20/14
DTW			15 49	**FP**	**FP**	**FP**	**FP**	nm
Benzene			**12800**	(0 06')	(1 20')	(0 60')	(0 26')	ns
Toluene			**20400**					
Ethylbenzene			**3980**					
Xylenes			**19600**					
MTBE			**410**					
Naphthalene			**2760**					
Lead			na					
DCA			na					
EDB			na					
DIPE			na					
TAA			na					
TAME			na					
TBA			na					

MW-7			6/26/98	11/2/10	7/20/11	7/17/12	11/14/13	2/20/14
DTW			15 42	**FP**	**FP**	**FP**	**FP**	nm
Benzene			**17000**	(0 39')	(0 20')	(0 13')	(0 10')	ns
Toluene			**27500**					
Ethylbenzene			**3660**					
Xylenes			**12800**					
MTBE			**7280**					
Naphthalene			**6140**					
Lead			na					
DCA			na					
EDB			na					
DIPE			na					
TAA			na					
TAME			na					
TBA			na					

MW-7D			6/26/98	11/2/10	7/20/11	7/17/12	11/14/13	2/20/14
DTW			15 42	19 80	20 35	21 89	19 71	nm
Benzene			ns	**19**	3	**8**	2	ns
Toluene				3	<1	<5	<5	
Ethylbenzene				2	<1	<5	<5	
Xylenes				16	<1	<5	3	
MTBE				<1	<1	<5	<5	
Naphthalene				3	<1	<5	<5	
Lead				<10	<10	10	<10	
DCA				<1	<1	<5	<5	
EDB				<0 02	<0 02	<0 02	<0 02	
DIPE				<5	<5	<5	<5	
TAA				<5	<5	<5	<20	
TAME				<10	<10	<10	<10	
TBA				<20	51	<20	<20	

MW-8D			6/26/98	11/2/10	7/20/11	7/17/12	11/14/13	2/20/14
DTW			15 47	21 80	19 84	25 39	23 30	nm
Benzene			**48**	**13**	**75**	**89**	**81**	ns
Toluene			3	12	<1	**4**	7	
Ethylbenzene			1	5	<1	<5	3	
Xylenes			30	29	120	190	140	
MTBE			**74**	6	23	8	**4**	
Naphthalene			14	**4**	22	22	24	
Lead			na	**17**	na	6	7	
DCA			na	<1	<1	<5	<5	
EDB			na	<0 02	**0.06**	**0.08**	<0 02	
DIPE			na	<5	<1	<5	<5	
TAA			na	<5	<5	<5	110	
TAME			na	<10	8	2	2	
TBA			na	37	**400**	150	19	

MW-9				11/2/10	7/20/11	7/17/12	11/14/13	2/20/14
DTW				21 70	22 25	24 68	21 70	nm
Benzene				<1	<1	<5	<1	ns
Toluene				<1	<1	<5	<5	
Ethylbenzene				<1	<1	<5	<5	
Xylenes				<1	<1	<5	<5	
MTBE				<1	<1	<5	<5	
Naphthalene				<1	1	<5	<5	
Lead				**350**	na	10	**75**	
DCA				<1	<1	<5	<5	
EDB				<0 02	<0 02	<0 02	<0 02	
DIPE				<5	<5	<5	<5	
TAA				<5	<5	<5	<20	
TAME				<10	<10	<10	<10	
TBA				<20	71	<20	<20	

MW-10				11/2/10	7/20/11	7/17/12	11/14/13	2/20/14
DTW				20 91	21 58	23 02	21 01	nm
Benzene				<1	<1	<5	3	ns
Toluene				<1	<1	<5	<5	
Ethylbenzene				<1	<1	<5	<5	
Xylenes				<1	<1	7	3	
MTBE				<1	<1	<5	<5	
Naphthalene				<1	<1	<5	<5	
Lead				**480**	na	**26**	**360**	
DCA				<1	<1	<5	<5	
EDB				<0 02	<0 02	<0 02	<0 02	
DIPE				<5	<5	<5	<5	
TAA				<5	<5	<5	<20	
TAME				<10	<10	<10	<10	
TBA				<20	<20	<20	<20	

MW-11				11/2/10	7/20/11	7/17/12	11/14/13	2/20/14
DTW				19 15	19 72	21 08	18 95	nm
Benzene				<1	<1	<5	<1	ns
Toluene				<1	<1	<5	<5	
Ethylbenzene				<1	<1	<5	<5	
Xylenes				<1	<1	<5	<5	
MTBE				<1	<1	<5	<5	
Naphthalene				<1	<1	<5	<5	
Lead				**220**	na	**4**	**150**	
DCA				<1	<1	<5	<5	
EDB				<0 02	<0 02	<0 02	<0 02	
DIPE				<5	<5	<5	<5	
TAA				<5	<5	<5	<20	
TAME				<10	<10	<10	<10	
TBA				<20	<20	<20	<20	

MW-12				11/2/10	7/20/11	7/17/12	11/14/13	2/20/14
DTW				19 10	19 74	21 17	19 05	nm
Benzene				<1	<1	<5	<1	ns
Toluene				<1	<1	<5	<5	
Ethylbenzene				<1	<1	<5	<5	
Xylenes				<1	<1	<5	<5	
MTBE				<1	<1	<5	<5	
Naphthalene				<1	<1	<5	<5	
Lead				**290**	na	**45**	**42**	
DCA				<1	<1	<5	<5	
EDB				<0 02	<0 02	<0 02	<0 02	
DIPE				<5	<5	<5	<5	
TAA				<5	<5	<5	<20	
TAME				<10	<10	<10	<10	
TBA				<20	<20	<20	<20	

MW-13				11/2/10	7/20/11	7/17/12	11/14/13	2/20/14
DTW				19 00	19 56	20 99	19 00	nm
Benzene				<1	<1	<5	<1	ns
Toluene				<1	<1	<5	<5	
Ethylbenzene				<1	<1	<5	<5	
Xylenes				<1	<1	<5	<5	
MTBE				<1	<1	<5	<5	
Naphthalene				<1	<1	<5	<5	
Lead				**420**	na	**23**	10	
DCA				<1	<1	<5	<5	
EDB				<0 02	<0 02	<0 02	<0 02	
DIPE				<5	<5	<5	<5	
TAA				<5	<5	<5	<20	
TAME				<10	<10	<10	<10	
TBA				<20	<20	<20	<20	

MW-14				11/2/10	7/20/11	7/17/12	11/14/13	2/20/14
DTW				22 40	22 95	24 48	22 35	nm
Benzene				<1	<1	<5	<5	ns
Toluene				<1	<1	<5	<5	
Ethylbenzene				<1	<1	<5	<5	
Xylenes				<1	<1	<5	<5	
MTBE				<1	<1	<5	<5	
Naphthalene				<1	<1	<5	<5	
Lead				**96**	na	**46**	**14**	
DCA				<1	<1	<5	<5	
EDB				<0 02	<0 02	<0 02	<0 02	
DIPE				<5	<5	<5	<5	
TAA				<5	<5	<5	<20	
TAME				<10	<10	<10	<10	
TBA				<20	<20	<20	<20	

MW-15				11/2/10	7/20/11	7/17/12	11/14/13	2/20/14
DTW				21 45	21 96	23 50	21 45	nm
Benzene				<1	<1	<5	<5	ns
Toluene				<1	<1	<5	<5	
Ethylbenzene				<1	<1	<5	<5	
Xylenes				<1	<1	<5	<5	
MTBE				<1	<1	<5	<5	
Naphthalene				<1	<1	<5	<5	
Lead				**70**	na	**79**	10	
DCA				<1	<1	<5	<5	
EDB				<0 02	<0 02	<0 02	<0 02	
DIPE				<5	<5	<5	<5	
TAA				<5	<5	<5	<20	
TAME				<10	<10	<10	<10	
TBA				<20	<20	<20	<20	

MW-16				11/2/10	7/20/11	7/17/12	11/14/13	2/20/14
DTW				17 96	18 45	19 79	17 90	nm
Benzene				<1	<1	<5	<5	ns
Toluene				<1	<1	<5	<5	
Ethylbenzene				<1	<1	<5	<5	
Xylenes				<1	<1	<5	<5	
MTBE				<1	<1	<5	<5	
Naphthalene				<1	<1	<5	<5	
Lead				**180**	na	**59**	**240**	
DCA				<1	<1	<5	<5	
EDB				<0 02	<0 02	<0 02	<0 02	
DIPE				<5	<5	<5	<5	
TAA				<5	<5	<5	<20	
TAME				<10	<10	<10	<10	
TBA				<20	<20	<20	<20	

MW-17				11/2/10	7/20/11	7/17/12	11/14/13	2/20/14
DTW				19 40	19 90	21 53	19 36	nm
Benzene				<1	<1	<5	11	ns
Toluene				<1	<1	<5	19	
Ethylbenzene				<1	<1	<5	14	
Xylenes				<1	<1	<5	54	
MTBE				<1	<1	<5	<5	
Naphthalene				<1	<1	<5	3	
Lead				**31**	na	**15**	6	
DCA				<1	<1	<5	<5	
EDB				<0 02	<0 02	<0 02	<0 02	
DIPE				<5	<5	<5	<5	
TAA				<5	<5	<5	<20	
TAME				<10	<10	<10	<10	
TBA				<20	<20	<20	<20	

MW-18				11/2/10	7/20/11	7/17/12	11/14/13	2/20/14
DTW				19 60	20 15	21 54	19 60	nm
Benzene				**20**	**28**	**25**	**120**	ns
Toluene				170	270	22	130	
Ethylbenzene				**1700**	**2600**	**1600**	**1300**	
Xylenes				6200	**12000**	2000	1100	
MTBE				<20	<20	**<50**	**<50**	
Naphthalene				**490**	**400**	**710**	**480**	
Lead				**270**	na	**19**	**360**	
DCA				**<20**	**<50**	**<50**	**<50**	
EDB				<0 02	<0 02	<0 02	0 03	
DIPE				<100	**<250**	<50	<50	
TAA				<100	**<250**	<50	200	
TAME				<200	**<500**	<100	<100	
TBA				<400	<1000	<200	150	

MW-19				11/2/10	7/20/11	7/17/12	11/14/13	2/20/14
DTW				19 26	20 15	**FP**	**FP**	nm
Benzene				**8300**	**7200**	(0 89')	(1 35')	ns
Toluene				**29000**	**27000**			
Ethylbenzene				**3100**	**4000**			
Xylenes				**19000**	**22000**			
MTBE				**320**	**260**			
Naphthalene				**850**	**<200**			
Lead				**480**	na			
DCA				**<200**	**<200**			
EDB				**28.00**	**24 00**			
DIPE				**<1000**	**<1000**			
TAA				**<1000**	**<1000**			
TAME				**<2000**	**<2000**			
TBA				**<4000**	**2000**			

MW-20				11/2/10	7/20/11	7/17/12	11/14/13	2/20/14
DTW				20 52	21 05	22 38	20 43	nm
Benzene				<1	<1	<5	1	ns
Toluene				<1	<1	<5	<5	
Ethylbenzene				<1	<1	<5	<5	
Xylenes				<1	<1	<5	2	
MTBE				<1	<1	<5	<5	
Naphthalene				<1	<1	<5	<5	
Lead				10	na	**21**	14	
DCA				<1	<1	<5	<5	
EDB				<0 02	<0 02	<0 02	<0 02	
DIPE				<5	<5	<5	<5	
TAA				<5	<5	<5	<5	
TAME				<10	<10	<10	<10	
TBA				<20	<20	<20	<20	

MW-21				11/2/10	7/20/11	7/17/12	11/14/13	2/20/14
DTW				20 50	20 98	21 86	19 92	nm
Benzene				<1	<1	<5	<5	ns
Toluene				<1	<1	<5	<5	
Ethylbenzene				<1	<1	<5	<5	
Xylenes				<1	<1	<5	<5	
MTBE				<1	<1	<5	<5	
Naphthalene				<1	<1	<5	<5	
Lead				**22**	na	9	**84**	
DCA				<1	<1	<5	<5	
EDB				<0 02	<0 02	<0 02	<0 02	
DIPE				<5	<5	<5	<5	
TAA				<5	<5	<5	<5	
TAME				<10	<10	<10	<10	
TBA				<20	<20	<20	<20	

MW-21D				11/2/10	7/20/11	7/17/12	11/14/13	2/20/14
DTW				20 00	20 46	22 34	20 42	nm
Benzene				<1	<1	<5	<5	ns
Toluene				<1	<1	<5	<5	
Ethylbenzene				<1	<1	<5	<5	
Xylenes				<1	<1	<5	<5	
MTBE				<1	<1	<5	<5	
Naphthalene				<1	<1	<5	<5	
Lead				**69**	na	**18**	10	
DCA				<1	<1	<5	<5	
EDB				<0 02	<0 02	<0 02	<0 02	
DIPE				<5	<5	<5	<5	
TAA				<5	<5	<5	<5	
TAME				<10	<10	<10	<10	
TBA				<20	<20	<20	<20	

MW-22				11/2/10	7/20/11	7/17/12	11/14/13	2/20/14
DTW				19 30	19 84	21 19	**FP**	nm
Benzene				**3200**	**3700**	**350**	(0 51')	ns
Toluene				**1000**	230	380		
Ethylbenzene				**2400**	**2900**	130		
Xylenes				7900	3900	1600		
MTBE				**610**	**910**	**84**		
Naphthalene				**630**	**530**	**130**		
Lead				**520**	na	**16**		
DCA				**<20**	**86**	**<25**		
EDB				**0.28**	**0.17**	**0.26**		
DIPE				<100	29	5		
TAA				<100	<100	<25		
TAME				**360**	**420**	36		
TBA				**<400**	**5000**	270		

MW-22D				11/2/10	7/20/11	7/17/12	11/14/13	2/20/14
DTW				19 30	19 80	21 15	19 50	nm
Benzene				**220**	**320**	**210**	**190**	ns
Toluene				<1	<1	<5	<5	
Ethylbenzene				<1	<1	<5	<5	
Xylenes				2	<1	<5	2	
MTBE				9	15	8	6	
Naphthalene				15	23	17	10	
Lead				**15**	na	12	11	
DCA				<1	7	<5	<5	
EDB				<0 02	<0 02	<0 02	<0 02	
DIPE				<5	1	<5	<5	
TAA				<5	<5	<5	81	
TAME				<10	14	7	5	
TBA				<20	160	<20	14	

MW-23				11/2/10	7/20/11	7/17/12	11/14/13	2/20/14
DTW				19 6	20 06	**FP**	**FP**	nm
Benzene				**19000**	**13000**	(1 65')	(1 17')	ns
Toluene				**30000**	**35000**			
Ethylbenzene				**4500**	**4000**			
Xylenes				**24000**	**22000**			
MTBE				**2300**	**260**			
Naphthalene				**1000**	**<400**			
Lead				**640**	na			
DCA				**910**	**<400**			
EDB				**40.00**	**42.00**			
DIPE				**<1000**	**260**			
TAA				**<1000**	**<2000**			
TAME				**<2000**	**<4000**			
TBA				**<4000**	**18000**			

MW-24				11/2/10	7/20/11	7/17/12	11/14/13	2/20/14
DTW				20 42	20 94	**FP**	**FP**	nm
Benzene				**17000**	**16000**	(1 32')	(0 58')	ns
Toluene				**23000**	**4500**			
Ethylbenzene				**5100**	**3500**			
Xylenes				**24000**	**11000**			
MTBE				**2400**	**2300**			
Naphthalene				**840**	**170**			
Lead				**120**	na			
DCA				**630**	**430**			
EDB				**55 00**	**37.00**			
DIPE				**<500**	**230**			
TAA				**<500**	**<500**			
TAME				**<1000**	**330**			
TBA				**<2000**	**13000**			

MW-24D				11/2/10	7/20/11	7/17/12	11/14/13	2/20/14
DTW				20 40	20 90	22 30	19 26	nm
Benzene				**110**	**220**	**240**	**83**	ns
Toluene				23	<1	<5	4	
Ethylbenzene				9	<1	<5	2	
Xylenes				33	1	<5	15	
MTBE				10	39	30	22	
Naphthalene				**14**	23	**30**	**4**	
Lead				<10	na	6	3	
DCA				<1	5	<5	<5	
EDB				0 04	0 02	<0 02	<0 02	
DIPE				<5	5	4	2	
TAA				<5	<5	<5	65	
TAME				<10	2	1	<10	
TBA				55	170	120	42	

MW-25				11/2/10	7/20/11	7/17/12	11/14/13	2/20/14
DTW				20 76	21 30	**FP**	**FP**	nm
Benzene				**6100**	**14000**	(0 31')	(0 04')	ns
Toluene				**3600**	**5800**			
Ethylbenzene				**1500**	**2600**			
Xylenes				7900	**12000**			
MTBE				**1000**	**1700**			
Naphthalene				**520**	**94**			
Lead				**110**	na			
DCA				**<20**	**320**			
EDB				**3.50**	**4 90**			
DIPE				<100	**54**			
TAA				<100	**<500**			
TAME				**<200**	**220**			
TBA				**2800**	**3900**			

MW-26				11/2/10	7/20/11	7/17/12	11/14/13	2/20/14
DTW				20 72	21 20	22 69	20 68	nm
Benzene				**27**	**13**	<5	**140**	ns
Toluene				<1	<1	<5	<25	
Ethylbenzene				2	1	<5	<25	
Xylenes				8	**4**	<5	29	
MTBE				<1	<1	<5	<25	
Naphthalene				<1	1	<5	<25	
Lead				<10	na	<10	6	
DCA				<1	<1	<5	**<25**	
EDB				<0 02	<0 02	<0 02	<0 02	
DIPE				<5	<5	<5	<25	
TAA				<5	<5	<5	**280**	
TAME				<10	<10	<10	<50	
TBA				64	75	11	71	

MW-27				11/2/10	7/20/11	7/17/12	11/14/13	2/20/14
DTW				21 20	21 66	23 18	20 14	nm
Benzene				<1	<1	<5	<5	ns
Toluene				<1	<1	<5	<5	
Ethylbenzene				<1	<1	<5	<5	
Xylenes				<1	<1	<5	5	
MTBE				<1	<1	<5	<5	
Naphthalene				<1	<1	<5	<5	
Lead				<10	na	6	14	
DCA				<1	<1	<5	<5	
EDB				<0 02	<0 02	<0 02	<0 02	
DIPE				<5	<5	<5	<5	
TAA				<5	<5	<5	<20	
TAME				<10	<10	<10	<10	
TBA				<20	<20	<20	12	

MW-28				11/2/10	7/20/11	7/17/12	11/14/13	2/20/14
DTW				18 44	18 90	20 28	18 38	nm
Benzene				<1	<1	<5	2	ns
Toluene				<1	<1	<5	<5	
Ethylbenzene				<1	<1	<5	<5	
Xylenes				<1	<1	<5	3	
MTBE				<1	<1	<5	<5	
Naphthalene				<1	<1	2	<5	
Lead				<10	na	6	**65**	
DCA				<1	<1	<5	<5	
EDB				<0 02	<0 02	<0 02	<0 02	
DIPE				<5	<5	<5	<5	
TAA				<5	<5	<5	<20	
TAME				<10	<10	<10	<10	
TBA				<20	<20	<20	<20	

MW-29				11/2/10	7/20/11	7/17/12	11/14/13	2/20/14
DTW				17 60	18 12	19 35	17 63	nm
Benzene				<1	<1	<5	<5	ns
Toluene				<1	<1	<5	<5	
Ethylbenzene				<1	<1	<5	<5	
Xylenes				<1	7	<5	<5	
MTBE				<1	<1	<5	<5	
Naphthalene				<1	<1	<5	<5	
Lead				**720**	na	10	**250**	
DCA				<1	<1	<5	<5	
EDB				<0 02	<0 02	<0 02	<0 02	
DIPE				<5	<5	<5	<5	
TAA				<5	<5	<5	<20	
TAME				<10	<10	<10	<10	
TBA				<20	120	<20	<20	

MW-30				11/2/10	7/20/11	7/17/12	11/14/13	2/20/14
DTW				16 54	17 20	18 36	16 80	nm
Benzene				**4**	<1	<5	1	ns
Toluene				19	<1	<5	<5	
Ethylbenzene				8	<1	<5	<5	
Xylenes				53	<1	<5	<5	
MTBE				**350**	**250**	**88**	9	
Naphthalene				9	<1	<5	<5	
Lead				**170**	na	<10	**55**	
DCA				**11**	**6**	3	<1	
EDB				<0 02	<0 02	<0 02	<0 02	
DIPE				**47**	35	13	2	
TAA				<5	<5	<5	<20	
TAME				12	10	3	<10	
TBA				1000	360	66	12	

MW-30D					7/20/11	7/17/12	11/14/13	2/20/14
DTW					17 10	18 29	16 64	nm
Benzene					2	2	<1	ns
Toluene					<1	<5	<5	
Ethylbenzene					<1	<5	<5	
Xylenes					<1	<5	<5	
MTBE					**45**	15	6	
Naphthalene					<1	<5	<5	
Lead					na	6	5	
DCA					3	<5	<5	
EDB					<0 02	<0 02	<0 02	
DIPE					8	2	1	
TAA					<5	<5	28	
TAME					1	<10	<10	
TBA					150	41	18	

MW-31				11/2/10	7/20/11	7/17/12	11/14/13	2/20/14
DTW				17 68	18 25	19 50	well	nm
Benzene				<1	<1	<5	not	ns
Toluene				<1	<1	<5	located	
Ethylbenzene				<1	<1	<5		
Xylenes				<1	<1	<5		
MTBE				12	**4**	**100**		
Naphthalene				<1	<1	<5		
Lead				<10	na	8		
DCA				<1	<1	<5		
EDB				<0 02	<0 02	<0 02		
DIPE				<5	<1	9		
TAA				<5	<5	<5		
TAME				<10	<1	6		
TBA				30	<20	240		

MW-32				11/2/10	7/20/11	7/17/12	11/14/13	2/20/14
DTW				17 70	18 24	19 50	17 69	nm
Benzene				<1	<1	<5	1	ns
Toluene				<1	<1	<5	<5	
Ethylbenzene				<1	<1	<5	<5	
Xylenes				<1	<1	<5	<5	
MTBE				15	**85**	<1	**120**	
Naphthalene				<1	<1	<5	<5	
Lead				**1800**	na	**110**	**550**	
DCA				<1	<1	<5	<5	
EDB				<0 02	<0 02	<0 02	<0 02	
DIPE				<5	**4**	<5	5	
TAA				<5	<5	<5	87	
TAME				<10	6	<10	8	
TBA				<20	<20	<20	49	

MW-33				11/2/10	7/20/11	7/17/12	11/14/13	2/20/14
DTW				18 66	19 15	20 42	18 58	nm
Benzene				<1	<1	<5	2	ns
Toluene				<1	<1	<5	<5	
Ethylbenzene				<1	<1	<5	<5	
Xylenes				<1	<1	<5	5	
MTBE				**43**	23	33	7	
Naphthalene				<1	<1	<5	<5	
Lead				**11**	na	**30**	**110**	
DCA				<1	<1	<5	<5	
EDB				<0 02	<0 02	<0 02	<0 02	
DIPE				<5	2	2	<5	
TAA				<5	<5	<5	<20	
TAME				<10	3	<10	<10	
TBA				62	12	<20	12	

MW-33D					7/20/11	7/17/12	11/14/13	2/20/14
DTW					19 20	20 42	18 67	nm
Benzene					**700**	**18**	**16**	ns
Toluene					12	<100	<5	
Ethylbenzene					<1	<100	<5	
Xylenes					<1	<100	5	
MTBE					**3100**	**2800**	**2800**	
Naphthalene					3	**<100**	**<50**	
Lead					na	8	**20**	
DCA					**70**	**39**	**30**	
EDB					<0 02	<0 02	<0 02	
DIPE					**170**	110	89	
TAA					<5	<100	**3100**	
TAME					**250**	**270**	**200**	
TBA					**6500**	**5200**	1200	

MW-34				11/2/10	7/20/11	7/17/12	11/14/13	2/20/14
DTW				12 30	12 80	14 97	12 25	nm
Benzene				<1	<1	<5	<5	ns
Toluene				<1	<1	<5	<5	
Ethylbenzene				<1	<1	<5	<5	
Xylenes				<1	<1	<5	<5	
MTBE				<1	<1	<5	<5	
Naphthalene				<1	<1	<5	<5	
Lead				<10	na	**27**	**78**	
DCA				<1	<1	<5	<5	
EDB				<0 02	<0 02	<0 02	<0 02	
DIPE				<5	<5	<5	<5	
TAA				<5	<5	<5	<20	
TAME				<10	<10	<10	<10	
TBA				<20	500	<20	12	

MW-35				11/2/10	7/20/11	7/17/12	11/14/13	2/20/14
DTW				6 88	7 36	9 45	well	nm
Benzene				<1	<1	<5	not	ns
Toluene				<1	**1100**	270	accessible	
Ethylbenzene				<1	<1	<5		
Xylenes				<1	<1	<5		
MTBE				<1	<1	<5		
Naphthalene				<1	<1	<5		
Lead				<10	na	3		
DCA				<1	<1	<5		
EDB				<0 02	<0 02	<0 02		
DIPE				<5	<5	<5		
TAA				<5	<5	<5		
TAME				<10	<10	<10		
TBA				<20	<20	<20		

MW-36				11/2/10	7/20/11	7/17/12	11/14/13	2/20/14
DTW				12 65	13 10	13 19	12 86	nm
Benzene				<1	<1	<5	<5	ns
Toluene				<1	<1	<5	<5	
Ethylbenzene				<1	<1	<5	<5	
Xylenes				<1	<1	<5	<5	
MTBE				<1	<1	<5	<5	
Naphthalene				<1	<1	<5	<5	
Lead				**310**	na	<10	**26**	
DCA				<1	<1	<5	<5	
EDB				<0 02	<0 02	<0 02	<0 02	
DIPE				<5	<5	<5	<5	
TAA				<5	<5	<5	<20	
TAME				<10	<10	<10	<10	
TBA				<20	57	<20	<20	

MW-37				11/2/10	7/20/11	7/17/12	11/14/13	2/20/14
DTW				3 70	4 22	5 22	4 00	nm
Benzene				<1	<1	<5	<5	ns
Toluene				<1	<1	<5	<5	
Ethylbenzene				<1	<1	<5	<5	
Xylenes				<1	<1	<5	<5	
MTBE				<1	<1	<5	<5	
Naphthalene				<1	<1	<5	<5	
Lead				10	na	6	13	
DCA				<1	<1	<5	<5	
EDB				<0 02	<0 02	<0 02	<0 02	
DIPE				<5	<5	<5	<5	
TAA				<5	<5	<5	<20	
TAME				<10	<10	<10	<10	
TBA				<20	<20	<20	<20	

MW-38				11/2/10	7/20/11	7/17/12	11/14/13	2/20/14
DTW				15 55	16 06	17 18	15 61	nm
Benzene				<1	<1	<5	<5	ns
Toluene				<1	<1	<5	<5	
Ethylbenzene				<1	<1	<5	<5	
Xylenes				<1	<1	<5	<5	
MTBE				<1	<1	<5	<5	
Naphthalene				<1	<1	<5	<5	
Lead				**35**	na	9	12	
DCA				<1	<1	<5	<5	
EDB				<0 02	<0 02	<0 02	<0 02	
DIPE				<5	<5	<5	<5	
TAA				<5	<5	<5	<20	
TAME				<10	<10	<10	<10	
TBA				<20	<20	<20	<20	

MW-39				11/2/10	7/20/11	7/17/12	11/14/13	2/20/14
DTW				1 52	2 46	2 77	2 30	nm
Benzene				<1	<1	<5	<5	ns
Toluene				<1	<1	<5	<5	
Ethylbenzene				<1	<1	<5	<5	
Xylenes				1	<1	<5	<5	
MTBE				<1	<1	<5	<5	
Naphthalene				<1	<1	<5	<5	
Lead				**150**	na	**4**	**55**	
DCA				<1	<1	<5	<5	
EDB				<0 02	<0 02	<0 02	<0 02	
DIPE				<5	<5	<5	<5	
TAA				<5	<5	<5	<20	
TAME				<10	<10	<10	<10	
TBA				<20	<20	<20	<20	

MW-40					7/20/11	7/17/12	11/14/13	2/20/14
DTW					21 05	22 50	20 56	nm
Benzene					**2700**	**830**	**2800**	ns
Toluene					150	30	170	
Ethylbenzene					86	48	490	
Xylenes					1300	310	990	
MTBE					**160**	**150**	**320**	
Naphthalene					**240**	**96**	**280**	
Lead					na	<10	**66**	
DCA					**55**	**<25**	**<100**	
EDB					**0.65**	**0 15**	**0.07**	
DIPE					11	6	19	
TAA					<5	<25	**3600**	
TAME					82	50	110	
TBA					**3500**	740	350	

MW-41D					7/20/11	7/17/12	11/14/13	2/20/14
DTW					19 80	21 19	19 30	nm
Benzene					**8000**	3600	**4500**	ns
Toluene					52	<100	<250	
Ethylbenzene					230	140	270	
Xylenes					170	<100	<250	
MTBE					2600	1800	2300	
Naphthalene					<50	<100	100	
Lead					na	3	5	
DCA					320	190	**<250**	
EDB					<0 02	<0 02	<0 02	
DIPE					**340**	**230**	**290**	
TAA					**<250**	<100	**8300**	
TAME					63	62	89	
TBA					**12000**	**7400**	**4500**	

MW-42						7/17/12	11/14/13	2/20/14
DTW						6 55	5 16	nm
Benzene						<5	<1	ns
Toluene						<5	<5	
Ethylbenzene						<5	<5	
Xylenes						<5	2	
MTBE						<5	<5	
Naphthalene						<5	<5	
Lead						5	**110**	
DCA						<5	<5	
EDB						<0 02	<0 02	
DIPE						<5	<5	
TAA						<5	<20	
TAME						<10	<10	
TBA						<20	<20	

MW-42D						7/17/12	11/14/13	2/20/14
DTW						6 40	5 38	nm
Benzene						1	<5	ns
Toluene						<5	<5	
Ethylbenzene						<5	<5	
Xylenes						<5	<5	
MTBE						<5	<5	
Naphthalene						<5	<5	
Lead						**17**	11	
DCA						<5	<5	
EDB						<0 02	<0 02	
DIPE						<5	<5	
TAA						<5	<20	
TAME						<10	<10	
TBA						<20	<20	

MW-43D						7/17/12	11/14/13	2/20/14
DTW						18 15	16 72	nm
Benzene						<5	<5	ns
Toluene						<5	<5	
Ethylbenzene						<5	<5	
Xylenes						<5	<5	
MTBE						9	5	
Naphthalene						<5	<5	
Lead						11	**16**	
DCA						<5	<5	
EDB						<0 02	<0 02	
DIPE						<5	<5	
TAA						<5	<20	
TAME						<10	<10	
TBA						<20	<20	

WSW-1[1]				11/2/10	7/20/11	7/17/12	11/14/13	2/20/14
DTW								
Benzene				<1	<1	<1	**4**	well
Toluene				<1	<1	<1	<5	inactive
Ethylbenzene				<1	<1	<1	<5	
Xylenes				27	<1	<1	<5	
MTBE				<1	<1	<1	<5	
Naphthalene				18	<1	<1	<5	
Lead				na	na	na	**240**	
DCA				<1	<1	<1	<5	
EDB				<0 02	<0 02	<0 02	<0 02	
DIPE				<5	<5	<5	<5	
TAA				<5	<5	<5	<20	
TAME				<10	<10	<10	<10	
TBA				<20	230	<20	<20	

WSW-2				11/2/10	7/20/11	7/17/12	11/14/13	2/20/14
DTW								
Benzene				<1	ns	ns	1	<1
Toluene				<1			<5	<1
Ethylbenzene				<1			<5	<1
Xylenes				27			<5	<1
MTBE				<1			<5	<1
Naphthalene				18			<5	<1
Lead				na			**10**	na
DCA				<1			<5	<1
EDB				<0 02			<0 02	na
DIPE				<5			<5	<10
TAA				<5			<20	<100
TAME				<10			<10	<10
TBA				<20			<20	<100

WSW-3[2]				11/2/10	7/20/11	7/17/12	11/14/13	2/20/14
DTW								
Benzene				<1	<1	<5	1	well
Toluene				<1	<1	<5	<5	inactive
Ethylbenzene				<1	<1	<5	<5	
Xylenes				<1	<1	<5	<5	
MTBE				<1	<1	<5	<5	
Naphthalene				<1	<1	<5	<5	
Lead				<1	<1	<5	3	
DCA				<1	<1	<5	<5	
EDB				<0 02	<0 02	<0 02	<0 02	
DIPE				<5	<5	<5	<5	
TAA				<5	<5	<5	<20	
TAME				<10	<10	<10	<10	
TBA				<20	<20	<20	<20	

WSW-4				11/2/10	7/20/11	7/17/12	11/14/13	2/20/14
DTW								
Benzene				<1	ns	ns	ns	ns
Toluene				<1				
Ethylbenzene				<1				
Xylenes				<1				
MTBE				<1				
Naphthalene				<1				
Lead				<1				
DCA				<1				
EDB				<0 02				
DIPE				<5				
TAA				<5				
TAME				<10				
TBA				<20				

WSW-5				11/2/10	7/20/11	7/17/12	11/14/13	2/20/14
DTW								
Benzene				<1	ns	<5	**6**	<1
Toluene				<1		<5	3	<1
Ethylbenzene				<1		<5	2	<1
Xylenes				<1		<5	12	<1
MTBE				<1		<5	<5	<1
Naphthalene				<1		<5	2	<1
Lead				<1		<5	5	na
DCA				<1		<5	<5	<1
EDB				<0 02		<0 02	<0 02	na
DIPE				<5		<5	<5	<10
TAA				<5		<5	<20	<100
TAME				<10		<10	<10	<10
TBA				<20		<20	<20	<100

WSW-6				11/2/10	7/20/11	7/17/12	11/14/13	2/20/14
DTW								
Benzene				ns	ns	ns	ns	ns
Toluene								
Ethylbenzene								
Xylenes								
MTBE								
Naphthalene								
Lead								
DCA								
EDB								
DIPE								
TAA								
TAME								
TBA								

WSW-7				11/2/10	7/20/11	7/17/12	11/14/13	2/20/14
DTW								
Benzene				ns	ns	ns	ns	ns
Toluene								
Ethylbenzene								
Xylenes								
MTBE								
Naphthalene								
Lead								
DCA								
EDB								
DIPE								
TAA								
TAME								
TBA								

WSW-8[3]				11/2/10	7/20/11	7/17/12	11/14/13	2/20/14
DTW								
Benzene				ns	ns	<5	**8**	ns
Toluene						<5	<5	
Ethylbenzene						<5	<5	
Xylenes						<5	5	
MTBE						<5	<5	
Naphthalene						<5	<5	
Lead						<5	16	
DCA						<5	<5	
EDB						<0 02	<0 02	
DIPE						<5	<5	
TAA						<5	<20	
TAME						<10	<10	
TBA						<20	<20	

WSW-9				11/2/10	7/20/11	7/17/12	11/14/13	2/20/14
DTW								
Benzene				ns	ns	ns	ns	ns
Toluene								
Ethylbenzene								
Xylenes								
MTBE								
Naphthalene								
Lead								
DCA								
EDB								
DIPE								
TAA								
TAME								
TBA								

WSW-10				11/2/10	7/20/11	7/17/12	11/14/13	2/20/14
DTW								
Benzene				ns	ns	ns	ns	ns
Toluene								
Ethylbenzene								
Xylenes								
MTBE								
Naphthalene								
Lead								
DCA								
EDB								
DIPE								
TAA								
TAME								
TBA								

SW-1				11/2/10	7/20/11	7/17/12	11/14/13	2/20/14
DTW								
Benzene				<1	<1	<5	1	ns
Toluene				<1	<1	<5	<5	
Ethylbenzene				<1	<1	<5	<5	
Xylenes				<1	<1	<5	<5	
MTBE				<1	<1	<5	<5	
Naphthalene				<1	<1	<5	<5	
Lead				<1	<1	<5	12	
DCA				<1	<1	<5	<5	
EDB				<0 02	<0 02	<0 02	<0 02	
DIPE				<5	<5	<5	<5	
TAA				<5	<5	<5	<20	
TAME				<10	<10	<10	<10	
TBA				<20	<20	<20	<20	

FP- free-phase product
na- not analyzed
nd- not detected
nm- not measured
ns- not sampled
(1)- Out of service
(2)- Out of service City water provided
(3)- Capped dug well City water provided

D H E C

PROMOTE PROTECT PROSPER

Catherine B. Templeton, Director

Promoting and protecting the health of the public and the environment

MR TOM DOLAN
INTERSTATE STATIONS INC
PO BOX 728
SAVANNAH GA 31402-0728

SEP 16 2014

UST DOCKETING 29feet

Re: ACA options letter
Spinx #258, 2527 College Street, Newberry, SC
UST Permit #06588
Release #1 reported December 29, 1989
Release #2 reported November 21, 1995
Assessment report received September 4, 2012
Monitoring report received February 19, 2014
Newberry County

Dear Mr. Dolan:

The Underground Storage Tank (UST) Management Division of the South Carolina Department of Health and Environmental Control (Agency) has reviewed the referenced report submitted on your behalf by Bunnell-Lammons Engineering, Inc. The report documents free-phase product (FPP) in eight source area monitoring wells and ten water supply wells within 1000 feet of the Spinx #258. Accordingly, corrective action will be necessary to remove the FPP and reduce the risk posed by the releases to the wells.

Funds from the State Underground Petroleum Environmental Response Bank (SUPERB) Account will soon be available for ACA at Spinx #258. The selected technology must reduce FPP thicknesses and concentrations of chemicals of concern in the groundwater to site-specific target levels (SSTLs) determined by the Division.

The SUPERB Site Rehabilitation and Fund Access Regulations R.61-98 require the UST owner/operator to develop and implement a reasonable, cost-effective corrective action to be performed by a SCDHEC-certified site rehabilitation contractor. As the owner/operator for the referenced release, you may choose one of two options as to how to proceed with this requirement: state lead or owner/operator lead.

State Lead Option:

- If you choose the state lead option, the Division will procure a certified site rehabilitation contractor to perform corrective action on your behalf. The Agency will enter into an enforceable contract with the awarded contractor. As long as you do not interfere with or prohibit work at the facility, you will not be responsible in the event the state-selected contractor does not perform appropriately or does not make satisfactory progress towards achieving established corrective action goals. To choose the state lead option, please sign and return the applicable Permission Form or Right-of-Entry Form within 15 days of the date of this letter.

Owner/Operator Lead Option:

- If you select the owner/operator lead option, you will be required to select a contractor to perform the corrective action. In order to assist you in determining the clean-up technology, time frame, clean-up levels, and associated costs, the Division will prepare a technical specification package and provide copies for you to send to contractors of your choice. In addition, the Division will announce the request for solicitations in the South Carolina Business Opportunities, a bi-weekly state government publication. This announcement will clearly indicate that you will select a contractor to implement the corrective action.
- Compensation to your contractor will be from the SUPERB Account, but you may have the obligation to pay your contractor for any costs not approved by the Agency.
- The Division strongly suggests that a written contract between you and your contractor be developed following the completion of the solicitation process. The parties to this contract would be you and your contractor. The Division's function would be to monitor and ensure progress of corrective action activities.
- If your contractor does not or cannot complete the required corrective action activities, you will be required to find another certified contractor to complete the activities for the remainder of the existing financial approval amount. No additional funding from the SUPERB Account may be allowed. Under Agency regulations, you, as the owner/operator on record, are ultimately responsible to the Agency for the actions of your contractor. The Agency will pursue enforcement actions against you if your contractor does not make satisfactory progress towards achieving established corrective actions goals. To choose the owner/operator lead option, please sign and return the enclosed Active Corrective Action Options Form within 15 days of the date of this letter.

Please complete the appropriate form(s) and return to the Division to my attention within 30 days of the date of this letter. On all other correspondence or inquiries regarding this project, please reference UST Permit #06588. If you have any questions, please feel free to contact me by telephone at (803) 898-0655, by fax at (803) 898-0673, or by e-mail at padgetjp@dhec.sc.gov.

Sincerely,

Joel P. Padgett, P.G., Hydrologist
Corrective Action Section
Underground Storage Tank Management Division
Bureau of Land and waste Management

JPP/jpp
06588.acaoptions

enc: Active Corrective Action Options form
Permission/Right-of-Entry forms

cc: Technical file (w/ enc)

State Lead Option

PERMISSION FORM

UNDERGROUND STORAGE TANK AND PROPERTY OWNER

UST Permit #06588

If you are both the owner of the former or existing underground storage tanks for the releases reported on December 29, 1989 and November 21, 1995, and are the current property owner, please complete this form.

I, _____, certify that I am the identified legal owner of the underground storage tanks for the releases reported on December 29, 1989 and November 21, 1995, and property located at the facility identified below or serve as the authorized representative for the owner. I grant permission to the South Carolina Department of Health and Environmental Control (Agency) to secure on my behalf contractor services to conduct assessment and corrective action activities as required, and authorize the Agency, or a contractor selected by the Agency, to enter this property at reasonable times only to accomplish these site rehabilitation tasks. The contractor will be designated as my contractor for only the required site rehabilitation activities Compensation to the contractor will be from the SUPERB Account and I will have no obligation to pay the contractor. I understand that the Agency or its contractor will be responsible for notifying me of all activities that are necessary prior to their initiation and will promptly provide to me a copy of each environmental report. I understand that I may choose to select my own contractor at the completion of any phase of work by notifying the Underground Storage Tank Management Division in writing

Name of Facility _____ Phone # _____

Street Address of Facility _____

Town, City, District, Suburb _____

Name of nearest intersecting street, road, highway, alley _____

_____ Is this facility within the city limits? (yes or no) _____

Does a public water or sewer utility service this facility? (yes or no) _____, if no, please provide the name and phone number of a person that we can contact that can assist in the location of private water and septic tank lines _____, phone number _____

Is the property currently leased or rented to someone? (yes or no) _____. If yes, please provide their name _____ and phone number _____ _____ and let them know about the pending site rehabilitation activities. If vehicles or other mobile structures are parked over the monitoring wells, they should be moved before the Agency's contractor arrives at the site.

NAME of UST property owner (Please Print): _____

Phone Number (home) _____ (work) _____

Signature of UST/property Owner: _____

Witness: _____

Date: _____ Month _____ Day _____ Year

State Lead Option

PERMISSION FORM

UNDERGROUND STORAGE TANK OWNER

UST Permit #06588

If you are the owner of the former or existing underground storage tanks for the releases reported on December 29, 1989 and November 21, 1995 or are designated as their authorized representative, but do not own the property, please complete this form.

I, _____ certify that I am the legal owner of the underground storage tanks located at the facility identified below and for the releases reported on December 29, 1989 and November 21, 1995, or serve as the authorized representative for the UST owner. I grant permission to the South Carolina Department of Health and Environmental Control (Agency) to secure on my behalf services of a contractor to conduct assessment and corrective action activities, as required. The contractor will be designated as my contractor for only the required environmental site rehabilitation activities. Compensation to the contractor will be from the SUPERB Account and I will have no obligation to pay the contractor. I understand that the Agency or its contractor will be responsible for obtaining right-of-entry from the property owner and notifying me of all activities that are necessary prior to their initiation and will promptly provide to me a copy of each environmental report. I understand that I may choose to select my own contractor at the completion of any phase of work by notifying the Underground Storage Tank Management Division in writing.

Name of Facility _____ Phone # _____

Street Address of Facility _____

Town, City, District, Suburb _____

Name of nearest intersecting street, road, highway, alley _____

_____ Is this facility within the city limits? (yes or no) _____

Does a public water or sewer utility service this facility? (yes or no) _____, if no, please provide the name and phone number of a person that we can contact that can assist in the location of private water and septic tank lines _____, phone number _____

NAME of UST owner (Please Print): _____

Phone Number (home) _____ (work) _____

Signature of UST Owner: _____

Witness _____

Date: _____ Month _____ Day _____ Year

State Lead Option

RIGHT-OF-ENTRY FORM

PROPERTY OWNER

UST Permit #06588

If you are the Property Owner or are the authorized representative for that person, but did not own the former or existing underground storage tanks at the time the release was reported, please complete this form.

I, _____, certify that I am the legal owner of the property identified below or serve as the authorized representative for the property owner I authorize the South Carolina Department of Health and Environmental Control (Agency), or a contractor selected by the Agency, to enter this property at reasonable times only to conduct assessment and corrective action activities, as required. The contractor will be designated as the contractor for the UST owner or operator for only the required environmental site rehabilitation activities. Compensation to the contractor will be from the SUPERB Account and I will have no obligation to pay the contractor. I understand that the Agency or its contractor will notify me of all activities that are necessary prior to their initiation and will promptly provide to me a summary of the data upon request.

Name of Facility _____ Phone # _____

Street Address of Facility _____

Town, City, District, Suburb _____

Name of nearest intersecting street, road, highway, alley _____

_____ Is this facility within the city limits? (yes or no) _____

Does a public water or sewer utility service this facility? (yes or no) _____, if no, please provide the name and phone number of a person that we can contact that can assist in the location of private water and septic tank lines _____, phone number _____

Is the property currently leased or rented to someone? (yes or no) _____ If yes, please provide their name _____ and phone number _____ and let them know about the pending site rehabilitation activities If vehicles or other mobile structures are parked over the monitoring wells, they should be moved before the Agency's contractor arrives at the site

NAME of Property owner (Please Print): _____

Phone Number (home) _____ (work) _____

Current Mailing Address: _____

Signature of Property Owner: _____

Witness _____

Date _____ Month _____ Day _____ Year

Owner/ Operator Lead Option

ACTIVE CORRECTIVE ACTION OPTIONS FORM

UST PERMIT #06588

I, _____, certify that I am the legal owner on record for the underground storage tanks at the facility identified below for the releases reported on December 29, 1989 and November 21, 1995, or serve as the authorized representative for the owner. I wish to secure price quotations for corrective action activities as required by the South Carolina Department of Health and Environmental Control (Agency), and to select my own corrective action contractor after price quotation results are received. I understand that the Agency will also advertise for price quotations in the South Carolina Business Opportunities and provide the results to me. **I understand compensation to the contractor will be from the SUPERB Account, but I may have the obligation to pay the contractor for any costs not approved by the Agency. I understand that if the contractor I select does not or cannot complete the required activities, I will be required to find another certified contractor to complete the required activities for the remainder of the existing financial approval amount and that no additional funding from the SUPERB Account may be allowed. I also understand that the Agency will pursue enforcement actions against me if the contractor I select does not make satisfactory progress towards achieving established corrective actions goals.**

NAME of UST owner or authorized representative (Please Print):_____

Phone Number (home)_____ (work)_____

Signature of UST Owner:_____

Date:_____

Witness:_____

Date:_____

D H E C

PROMOTE PROTECT PROSPER

C. Earl Hunter, Commissioner

Promoting and protecting the health of the public and the environment.

3tech UST DOCKET

TOM DOLAN
ENMARK STATIONS INC
PO BOX 728
SAVANNAH GA 31402-0728

MAY 18 2010

Re: Tier II Plan Directive
Spinx 258, 2725 College St., Newberry, SC
UST Permit #06588
Release #1 reported Dec. 29, 1989, Release #2 reported Nov. 21, 1995
O/O Information sheet received Feb. 26, 2010
Newberry County

Dear Mr. Dolan:

The Underground Storage Tank (UST) Management Division of the South Carolina Department of Health and Environmental Control (SCDHEC) reviewed the above-referenced Information sheet. The Information sheet indicates you, as the UST Owner Operator, have selected Bunnell-Lammons Engineering for all future assessment scopes.

To determine what risk the referenced release may pose to the environment and public health, and in accordance with Section 280.65 of the South Carolina Underground Storage Tank Control Regulations, implementation of the scope of work as outlined in the Tier II Assessment Guidance Document is necessary. The assessment should be conducted in accordance with the Tier II Assessment guidance document and must be conducted in compliance with all applicable regulations. All shallow wells are to be installed with screen intervals that bracket the water table. The Tier II assessment document and appendices may be obtained from our website at http://www.scdhec.gov/environment/lwm/html/ust_guidance_docs.htm. Forms may be obtained from the UST website at http://www.scdhec.gov/eqc/lwm/ forms/assess%7E1.pdf.

Please have your contractor complete and submit the Assessment Component Cost Agreement and Assessment Plan Forms within thirty days of the date of this letter. Every component may not be necessary to complete the above scope of work. The State Underground Petroleum Environmental Response Bank (SUPERB) Account allowable cost for each component is included on the Assessment Component Cost Agreement Form. **Please note that approval from the Department must be issued before work begins**.

On all correspondence regarding this site, please reference UST Permit #06588. If you have questions or need additional information feel free to call me at (803) 896-6648.

Sincerely,

John Skowronek

John Skowronek, P.G., Hydrogeologist
Assessment Section
Underground Storage Tank Management Division
Bureau of Land and Waste Management

cc: Bunnell Lammons Engineering, 6004 Ponders Ct., Greenville, SC 29615-4601
Technical File

SCDHEC/UST/5/17/2010

ENMARK STATIONS, INC.

P. O. BOX 728
SAVANNAH, GEORGIA 31402
(912) 236-1331
FAX (912) 443-6637

UST
SEP 23 2014
DIVISION

September 19, 2014

CERTIFIED MAIL# 7005 3110 0001 2334 6550
RETURN RECEIPT REQUESTED

Mr. Joel P. Padgett, P.G., Hydrogeologist
Correction Action Section, USTMD
SC Department of Health and Environmental Control
2600 Bull Street
Columbia, SC 29201

RE: Corrective Action Permission Form
UST Permit # 06588
Spinx #258 / Enmark #380 – Newberry, SC

Dear Mr. Padgett:

Please find attached Corrective Action Permission Form for Spinx #258 / Enmark #380 in Newberry, South Carolina, UST Permit # 06588. Enmark Stations, Inc., has chosen the State Lead Option for this site.

Please let me know if there is anything else I can provide.

Sincerely,

Thomas C. Dolan
EHS Specialist

TCD/vee

Enclosure

State Lead Option

PERMISSION FORM

UNDERGROUND STORAGE TANK OWNER

UST Permit #06588

If you are the owner of the former or existing underground storage tanks for the releases reported on December 29, 1989 and November 21, 1995 or are designated as their authorized representative, but do not own the property, please complete this form.

I, Thomas C. Dolan certify that I am the legal owner of the underground storage tanks located at the facility identified below and for the releases reported on December 29, 1989 and November 21, 1995, or serve as the authorized representative for the UST owner. I grant permission to the South Carolina Department of Health and Environmental Control (Agency) to secure on my behalf services of a contractor to conduct assessment and corrective action activities, as required. The contractor will be designated as my contractor for only the required environmental site rehabilitation activities. Compensation to the contractor will be from the SUPERB Account and I will have no obligation to pay the contractor. I understand that the Agency or its contractor will be responsible for obtaining right-of-entry from the property owner and notifying me of all activities that are necessary prior to their initiation and will promptly provide to me a copy of each environmental report. I understand that I may choose to select my own contractor at the completion of any phase of work by notifying the Underground Storage Tank Management Division in writing.

Name of Facility Spinx 258 / Enmark 380 Phone # (803) 276-3859

Street Address of Facility 2725 College Street

Town, City, District, Suburb Newberry

Name of nearest intersecting street, road, highway, alley Trent Street

_____ Is this facility within the city limits? (yes or no) Yes

Does a public water or sewer utility service this facility? (yes or no) Yes, if no, please provide the name and phone number of a person that we can contact that can assist in the location of private water and septic tank lines _____, phone number _____

NAME of UST owner (Please Print): Thomas C. Dolan for Enmark Stations, Inc.

Phone Number (home) 912.658.8130 (work) 912.443.6645

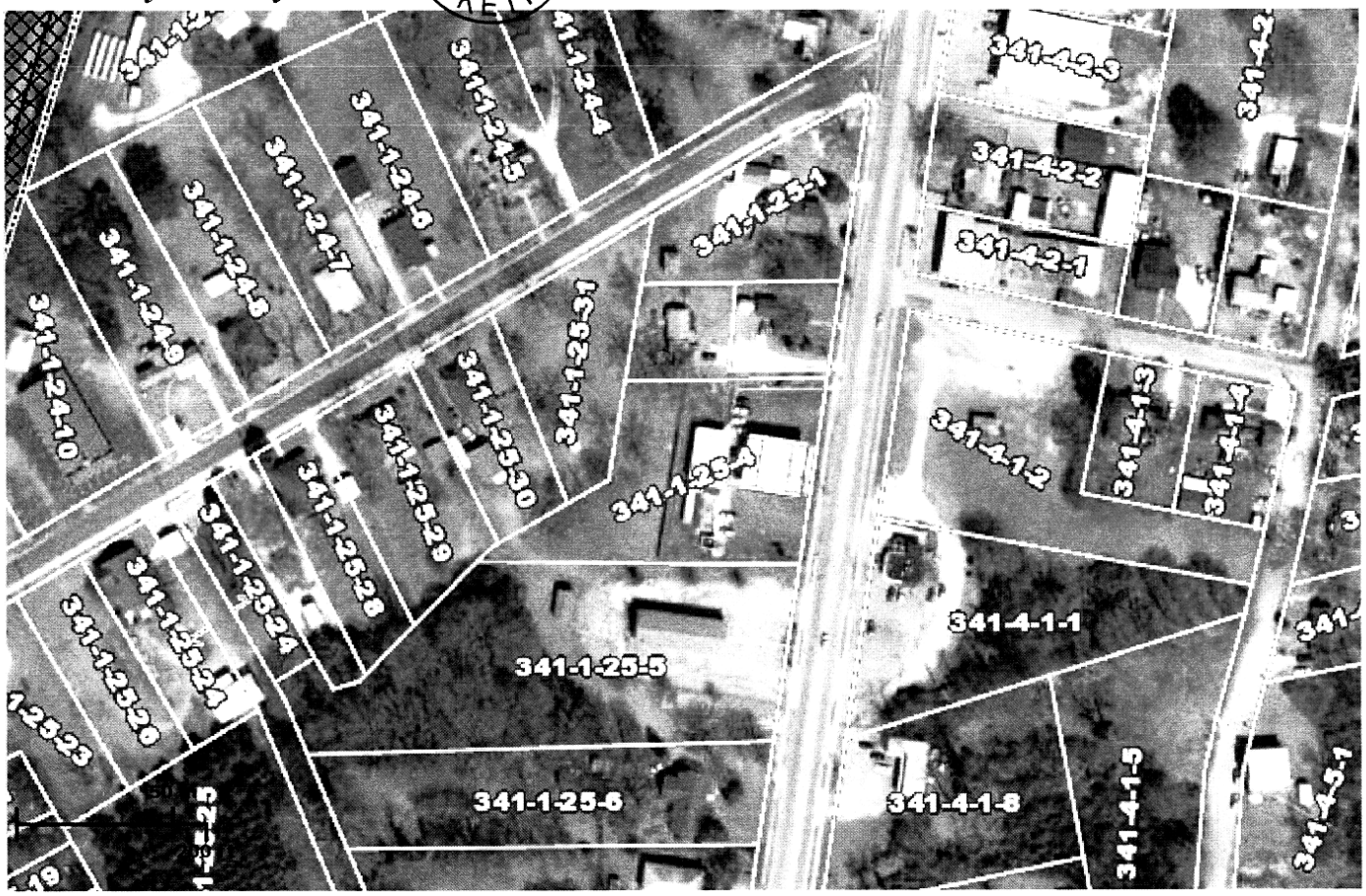
Signature of UST Owner: [signature]

Witness: Vivian E. Early

Date: September Month 19 Day 2014 Year

UST
DOCKETING

Newberry County GIS



*** THIS MAP IS NOT TO BE USED AS A PLAT ***

Newberry County

Historic - Progressive

Search Sales In Area
Search Sales In Neighborhood | Previous Parcel | Next Parcel | Return to Main Search Page | Newberry Home

Owner and Parcel Information

Owner Name	ENIGMA CORPORATION	**Today's Date**	October 17, 2014
Mailing Address	P O BOX 8624	**Parcel Number**	341-1-25-4 (Account#:7106)
	GREENVILLE, SC 29604	**Millage Group**	1 - Newberry
Location Address	2725 COLLEGE ST	**Neighborhood**	COMM COLLEGE (CCOL)
Property Usage	Commercial Improved (6COI)	**Land Size**	1.07 AC
Homestead	No	**Parcel Map**	Show Parcel Map
Legal Description	1.07AC PLAT BK C234 PG 7		

Value Information

Year	Land Value	Building Value	Yard Item Value	Total Market Value	Ag Credit	Taxable Land Value	Total Taxable Value	Capped Taxable Value	Total Assessment
2014	$ 66,900	$ 207,000	$ 45,600	$ 319,500	$ 0	$ 66,900	$ 319,500	* $ 319,500	19,170
2013	$ 66,900	$ 207,000	$ 45,600	$ 319,500	$ 0	$ 66,900	$ 319,500	NA	19,170
2012	$ 66,900	$ 207,000	$ 45,600	$ 319,500	$ 0	$ 66,900	$ 319,500	* $ 165,890	9,953
2011	$ 66,900	$ 207,000	$ 45,600	$ 319,500	$ 0	$ 66,900	$ 319,500	NA	19,170
2010	$ 34,700	$ 156,000	$ 45,600	$ 236,300	$ 0	$ 34,700	$ 236,300	* $ 165,890	9,953
2009	$ 25,000	$ 79,600	$ 0	$ 104,600	$ 0	$ 25,000	$ 104,600	NA	6,276

*This parcel is subject to the value cap

Land Information

Land Use	Number Units	Unit Type
Commercial Improved (6COI)	1.07	AC

Building Information

Style	Gross Sq Ft	Finished Sq Ft	Stories	Interior Walls	Exterior Walls	Year Built	Effective Year Built	Photo
ConvMartGas	1,624	1,624	1 Story		Stucco	0	0	Building Images

Foundation	Roof Type	Roof Coverage	Flooring Type	Heating Type	Bathrooms	Grade	Number Fire Pl	Sketch
SLAB	FLAT	MEMBRANE			0.0	A+	0	Sketch Building 1

Miscellaneous Information

Building Type	Quantity	Units	Year Built
Canopy (66)	1	60	2009

Sales Information

OR Book/Page	Sale Date	Sale Price	Instrument	Qualification	Vacant/Improved	Grantor	Grantee
1485/52	2010-02-26	$ 0	QUICK (QUICK)	Other (9)	Improved	INTERSTATE STATION INC,	ENIGMA CORPORATION
1485/47	2010-02-26	$ 450,000		Personal or other property included ATI (4A)	Improved	INTERSTATE STATION INC,	ENIGMA CORPORATION
165/118	1979-08-17	$ 1	RIGHT (RIGHT)	()	Improved	INTERSTATE STATION INC,	CITY OF NEWBERRY
99/57	1969-05-08	$ 25,000		()	Improved	KOON MARY EMMA ETAL	INTERSTATE STATIONS INC

Search Sales In Area | Previous Parcel | Next Parcel | Return to Main Search Page | Newberry Home

The Newberry County Tax Assessor's Office makes every effort to produce the most accurate information possible. No warranties, expressed or implied, are provided for the data herein, its use or interpretation. All assessment information is subject to change before the next certified tax roll. Website Updated: October 11, 2014

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Newberry County Historic - Progressive

Search Sales In Area
Search Sales In Neighborhood
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Next Parcel
Return to Main Search Page
Newberry Home

Owner and Parcel Information

Owner Name	BROOKS JACK B	**Today's Date**	October 17, 2014
Mailing Address	505 SCHUMPERT MILL RD	**Parcel Number**	341-4-1-2 (Account#:7768)
	NEWBERRY, SC 29108	**Millage Group**	1 - Newberry
Location Address	COLLEGE & TRENT STS	**Neighborhood**	COMM COLLEGE (CCOL)
Property Usage	Commercial Vacant (6COV)	**Land Size**	4 LOT
Homestead	No	**Parcel Map**	Show Parcel Map
Legal Description	LOTS 48, 49, 50 & 35 PLAT BK I PG 243		

Value Information

Year	Land Value	Building Value	Yard Item Value	Total Market Value	Ag Credit	Taxable Land Value	Total Taxable Value	Capped Taxable Value	Total Assessment
2014	$ 20,000	$ 0	$ 800	$ 20,800	$ 0	$ 20,000	$ 20,800	* $ 20,800	1,248
2013	$ 22,700	$ 0	$ 800	$ 23,500	$ 0	$ 22,700	$ 23,500	* $ 23,500	1,410
2012	$ 22,700	$ 0	$ 800	$ 23,500	$ 0	$ 22,700	$ 23,500	* $ 23,500	1,410
2011	$ 22,700	$ 0	$ 800	$ 23,500	$ 0	$ 22,700	$ 23,500	* $ 23,500	1,410
2010	$ 22,700	$ 0	$ 800	$ 23,500	$ 0	$ 22,700	$ 23,500	* $ 23,500	1,410
2009	$ 20,000	$ 0	$ 800	$ 20,800	$ 0	$ 20,000	$ 20,800	NA	1,248

*This parcel is subject to the value cap

Land Information

Land Use	Number Units	Unit Type
Commercial Vacant (6COV)	4	LOT

Building Information

No building information available for this parcel.

Miscellaneous Information

Building Type	Quantity	Units	Year Built
BrGaragePoor (143)	1	375	0

Sales Information

OR Book/Page	Sale Date	Sale Price	Instrument	Qualification	Vacant/Improved	Grantor	Grantee
1745/312	2014-02-18	$ 0	Deed Dist (DOD)	9ATI (9ATI)	Vacant	MEETZE LEWIE E DECEASED,	
63/50	1951-05-15	$ 3,000		()	Vacant		

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Owner and Parcel Information

Owner Name	TGE LLC	**Today's Date**	October 17, 2014
Mailing Address	505 SCHUMPERT MILL RD	**Parcel Number**	341-4-1-1 (Account#:7710)
	NEWBERRY, SC 29108	**Millage Group**	1 - Newberry
Location Address	1207 COLLEGE ST	**Neighborhood**	COMM COLLEGE (CCOL)
Property Usage	Commercial Improved (6COI)	**Land Size**	4 LOT
Homestead	No	**Parcel Map**	Show Parcel Map
Legal Description	1207 COLLEGE ST-ZESTO LOTS 36, 51, 52, 53 PLAT BK I PG 243		

Value Information

Year	Land Value	Building Value	Yard Item Value	Total Market Value	Ag Credit	Taxable Land Value	Total Taxable Value	Capped Taxable Value	Total Assessment
2014	$ 20,000	$ 37,200	$ 0	$ 57,200	$ 0	$ 20,000	$ 57,200	* $ 49,360	2,962
2013	$ 20,000	$ 37,200	$ 0	$ 57,200	$ 0	$ 20,000	$ 57,200	* $ 45,530	2,732
2012	$ 20,000	$ 37,200	$ 0	$ 57,200	$ 0	$ 20,000	$ 57,200	* $ 45,530	2,732
2011	$ 20,000	$ 37,200	$ 0	$ 57,200	$ 0	$ 20,000	$ 57,200	* $ 45,530	2,732
2010	$ 20,000	$ 37,200	$ 0	$ 57,200	$ 0	$ 20,000	$ 57,200	* $ 45,530	2,732
2009	$ 20,000	$ 22,200	$ 0	$ 42,200	$ 0	$ 20,000	$ 42,200	NA	2,532

*This parcel is subject to the value cap

Land Information

Land Use	Number Units	Unit Type
Commercial Improved (6COI)	4	LOT

Building Information

Style	Gross Sq Ft	Finished Sq Ft	Stories	Interior Walls	Exterior Walls	Year Built	Effective Year Built	Photo
FFRest	843	843	1 Story		Concr Blk	0	0	Building Images

Foundation	Roof Type	Roof Coverage	Flooring Type	Heating Type	Bathrooms	Grade	Number Fire Pl	Sketch
SLAB	FLAT	TAR+GRAVEL			0.0	L	0	NA

Miscellaneous Information

Building Type	Quantity	Units	Year Built

No miscellaneous information available for this parcel.

Sales Information

QR Book/Page	Sale Date	Sale Price	Instrument	Qualification	Vacant/Improved	Grantor	Grantee
1099/213	2005-10-13	$ 72,000		True Sale (0)	Improved	NEWBERRY ENTERPRISES INC	
63/40	1951-05-03	$ 1		()	Improved		

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Owner and Parcel Information

Owner Name	SINGLEY PHILIP R	**Today's Date**	October 17, 2014
Mailing Address	PO BOX 621	**Parcel Number**	341-4-1-8 (Account#:7774)
	NEWBERRY, SC 29108	**Millage Group**	1 - Newberry
Location Address	2710 COLLEGE ST	**Neighborhood**	COMM COLLEGE (CCOL)
Property Usage	Commercial Improved (6COI)	**Land Size**	1 LOT
Homestead	No	**Parcel Map**	Show Parcel Map
Legal Description	LOT 3 PLAT BK KK PG 123		

Value Information

Year	Land Value	Building Value	Yard Item Value	Total Market Value	Ag Credit	Taxable Land Value	Total Taxable Value	Capped Taxable Value	Total Assessment
2014	$ 20,000	$ 43,100	$ 0	$ 63,100	$ 0	$ 20,000	$ 63,100	* $ 51,872	3,112
2013	$ 20,000	$ 43,100	$ 0	$ 63,100	$ 0	$ 20,000	$ 63,100	* $ 47,715	2,863
2012	$ 20,000	$ 43,100	$ 0	$ 63,100	$ 0	$ 20,000	$ 63,100	* $ 47,715	2,863
2011	$ 20,000	$ 43,100	$ 0	$ 63,100	$ 0	$ 20,000	$ 63,100	* $ 47,715	2,863
2010	$ 20,000	$ 43,100	$ 0	$ 63,100	$ 0	$ 20,000	$ 63,100	* $ 47,715	2,863
2009	$ 20,000	$ 24,100	$ 0	$ 44,100	$ 0	$ 20,000	$ 44,100	NA	2,646

*This parcel is subject to the value cap

Land Information

Land Use	Number Units	Unit Type
Commercial Improved (6COI)	1	LOT

Building Information

Style	Gross Sq Ft	Finished Sq Ft	Stories	Interior Walls	Exterior Walls	Year Built	Effective Year Built	Photo
Retail Str	2,820	1,560	1 Story		Brk Veneer	0	0	Building Images

Foundation	Roof Type	Roof Coverage	Flooring Type	Heating Type	Bathrooms	Grade	Number Fire Pl	Sketch
SLAB	FLAT	TAR+GRAVEL			0.0	L-	0	Sketch Building 1

Miscellaneous Information

Building Type	Quantity	Units	Year Built

No miscellaneous information available for this parcel.

Sales Information

OR Book/Page	Sale Date	Sale Price	Instrument	Qualification	Vacant/Improved	Grantor	Grantee
1160/126	2006-05-31	$ 5	JOINT (JOINT)	Gift (3)	Improved	SINGLEY GERALDINE L	
1046/88	2005-04-18	$ 5	CORRECT (CORRECT)	Other (9)	Improved	SINGLEY GERALDINE L	
1026/139	2005-02-08	$ 5		Other (9)	Improved	BOUKNIGHT MELVIN D	
500/279	1999-01-05	$ 52,500		Personal or other property included (4)	Improved	SINGLEY GERALDINE L	

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Owner and Parcel Information

Owner Name	HENRY SUMMER & COMPANY INC	**Today's Date**	October 17, 2014
Mailing Address	1508 LINDSAY ST	**Parcel Number**	341-1-25-5 (Account#:7107)
	NEWBERRY, SC 29108	**Millage Group**	1 - Newberry
Location Address	2715 COLLEGE ST	**Neighborhood**	COMM COLLEGE (CCOL)
Property Usage	Commercial Improved (6COI)	**Land Size**	2.06 AC
Homestead	No	**Parcel Map**	Show Parcel Map
Legal Description	2.06AC / LOT 2 & 3 PLAT BK G PG 491		

Value Information

Year	Land Value	Building Value	Yard Item Value	Total Market Value	Ag Credit	Taxable Land Value	Total Taxable Value	Capped Taxable Value	Total Assessment
2014	$ 25,000	$ 51,600	$ 0	$ 76,600	$ 0	$ 25,000	$ 76,600	* $ 69,833	4,190
2013	$ 25,000	$ 51,600	$ 0	$ 76,600	$ 0	$ 25,000	$ 76,600	* $ 63,985	3,839
2012	$ 25,000	$ 51,600	$ 0	$ 76,600	$ 0	$ 25,000	$ 76,600	* $ 63,985	3,839
2011	$ 25,000	$ 51,600	$ 0	$ 76,600	$ 0	$ 25,000	$ 76,600	* $ 63,985	3,839
2010	$ 25,000	$ 51,600	$ 0	$ 76,600	$ 0	$ 25,000	$ 76,600	* $ 63,985	3,839
2009	$ 25,000	$ 33,900	$ 0	$ 58,900	$ 0	$ 25,000	$ 58,900	NA	3,534

*This parcel is subject to the value cap

Land Information

Land Use	Number Units	Unit Type
Commercial Improved (6COI)	1	LOT

Building Information

Style	Gross Sq Ft	Finished Sq Ft	Stories	Interior Walls	Exterior Walls	Year Built	Effective Year Built	Photo
Disc Str	2,954	2,954	1 Story		Concr Blk	0	0	Building Images

Foundation	Roof Type	Roof Coverage	Flooring Type	Heating Type	Bathrooms	Grade	Number Fire Pl	Sketch
SLAB	GABLE	COMPOSITION			0.0	L-	0	Sketch Building 1

Miscellaneous Information

Building Type	Quantity	Units	Year Built

No miscellaneous information available for this parcel.

Sales Information

OR Book/Page	Sale Date	Sale Price	Instrument	Qualification	Vacant/Improved	Grantor	Grantee
1609/303	2012-02-29	$ 5		Gift (3)	Improved	CRENSHAW STREET INVESTMENTS LL,	
1228/170	2007-01-24	$ 5		Gift (3)	Improved	SUMMER HENRY B	
491/303	1998-08-25	$ 55,000		()	Improved	PRINT O MATIC INC	
383/73	1993-09-16	$ 36,000		True Sale (0)	Improved	METZENDORF ROBERT H	
103/45	1970-11-05	$ 32,500		()	Improved	JONES M ALBERT JR ,	
75/498	1960-02-01	$ 1,500		()	Improved		
75/462	1960-01-01	$ 1,200		()	Improved	KOON FRANK D	

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Owner and Parcel Information

Owner Name	NEWBERRY BROADCASTING CO INC	**Today's Date**	October 17, 2014
Mailing Address	P O BOX 753	**Parcel Number**	341-4-1-5 (Account#:7771)
	NEWBERRY, SC 29108	**Millage Group**	1 - Newberry
Location Address	HAZEL ST	**Neighborhood**	NBY CTY AVE (1NCA)
Property Usage	Non-Qualified Residential Vacant (6RV)	**Land Size**	1 LOT
Homestead	No	**Parcel Map**	Show Parcel Map

Legal Description HAZEL ST PLAT BK KK PG 123 DEED BK 60 PG 542

Value Information

Year	Land Value	Building Value	Yard Item Value	Total Market Value	Ag Credit	Taxable Land Value	Total Taxable Value	Capped Taxable Value	Total Assessment
2014	$ 8,500	$ 0	$ 0	$ 8,500	$ 0	$ 8,500	$ 8,500	* $ 8,500	510
2013	$ 8,500	$ 0	$ 0	$ 8,500	$ 0	$ 8,500	$ 8,500	* $ 8,500	510
2012	$ 8,500	$ 0	$ 0	$ 8,500	$ 0	$ 8,500	$ 8,500	* $ 8,500	510
2011	$ 8,500	$ 0	$ 0	$ 8,500	$ 0	$ 8,500	$ 8,500	* $ 8,500	510
2010	$ 8,500	$ 0	$ 0	$ 8,500	$ 0	$ 8,500	$ 8,500	* $ 8,500	510
2009	$ 7,500	$ 0	$ 0	$ 7,500	$ 0	$ 7,500	$ 7,500	NA	450

*This parcel is subject to the value cap

Land Information

Land Use	Number Units	Unit Type
Non-Qualified Residential Vacant (6RV)	1	LOT

Building Information

No building information available for this parcel.

Miscellaneous Information

Building Type	Quantity	Units	Year Built

No miscellaneous information available for this parcel.

Sales Information

OR Book/Page	Sale Date	Sale Price	Instrument	Qualification	Vacant/Improved	Grantor	Grantee

No sales associated with this parcel.

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Owner and Parcel Information

Owner Name	CRAPPS HARLEY & KAREN JOINT SURVIVORSHIP	**Today's Date**	October 17, 2014
Mailing Address	1618 FIRST ST NEWBERRY, SC 29108	**Parcel Number**	341-1-25-30 (Account#:7104)
		Millage Group	1 - Newberry
Location Address	1618 FIRST ST	**Neighborhood**	NBY CTY AVE (1NCA)
Property Usage	Qualified Owner-Occupied Improved (4OOI)	**Land Size**	1 LOT
Homestead	No	**Parcel Map**	Show Parcel Map
Legal Description	1618 FIRST ST		

Value Information

Year	Land Value	Building Value	Yard Item Value	Total Market Value	Ag Credit	Taxable Land Value	Total Taxable Value	Capped Taxable Value	Total Assessment
2014	$ 7,400	$ 64,800	$ 7,200	$ 79,400	$ 0	$ 7,400	$ 79,400	* $ 79,400	3,176
2013	$ 7,400	$ 64,800	$ 7,200	$ 79,400	$ 0	$ 7,400	$ 79,400	* $ 79,400	3,176
2012	$ 7,400	$ 64,800	$ 7,200	$ 79,400	$ 0	$ 7,400	$ 79,400	* $ 79,400	3,176
2011	$ 7,400	$ 64,800	$ 7,200	$ 79,400	$ 0	$ 7,400	$ 79,400	* $ 79,400	3,176
2010	$ 7,400	$ 64,800	$ 7,200	$ 79,400	$ 0	$ 7,400	$ 79,400	* $ 79,400	3,176
2009	$ 6,500	$ 57,300	$ 7,200	$ 71,000	$ 0	$ 6,500	$ 71,000	NA	2,840

*This parcel is subject to the value cap

Land Information

Land Use	Number Units	Unit Type
Qualified Owner-Occupied Improved (4OOI)	1	LOT

Building Information

Style	Gross Sq Ft	Finished Sq Ft	Stories	Interior Walls	Exterior Walls	Year Built	Effective Year Built	Photo
Residential	1,973	1,409	1 Story		Vinyl	0	0	Building Images

Foundation	Roof Type	Roof Coverage	Flooring Type	Heating Type	Bathrooms	Grade	Number Fire Pl	Sketch
CRAWL SP	HIP	COMPOSITION			0.0	F+	1	Sketch Building 1

Miscellaneous Information

Building Type	Quantity	Units	Year Built
BrGarageFair (144)	1	825	0

Sales Information

OR Book/Page	Sale Date	Sale Price	Instrument	Qualification	Vacant/Improved	Grantor	Grantee
952/269	2004-04-30	$ 5		Gift (3)	Improved	CRAPPS HARLEY	

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Owner and Parcel Information

Owner Name	JAIN SANJAY	**Today's Date**	October 17, 2014
Mailing Address	1623 FIRST ST	**Parcel Number**	341-1-24-5 (Account#:7075)
	NEWBERRY, SC 29108	**Millage Group**	1 - Newberry
Location Address	1623 FIRST ST	**Neighborhood**	1 MILL OKLND (1MLO)
Property Usage	Qualified Owner-Occupied Improved (4OOI)	**Land Size**	1 LOT
Homestead	No	**Parcel Map**	Show Parcel Map
Legal Description	1623 FIRST ST		

Value Information

Year	Land Value	Building Value	Yard Item Value	Total Market Value	Ag Credit	Taxable Land Value	Total Taxable Value	Capped Taxable Value	Total Assessment
2014	$ 6,500	$ 83,900	$ 2,600	$ 93,000	$ 0	$ 6,500	$ 93,000	* $ 82,499	3,300
2013	$ 6,500	$ 83,900	$ 2,600	$ 93,000	$ 0	$ 6,500	$ 93,000	* $ 72,925	4,376
2012	$ 6,500	$ 83,900	$ 2,600	$ 93,000	$ 0	$ 6,500	$ 93,000	* $ 72,925	2,917
2011	$ 6,500	$ 83,900	$ 2,600	$ 93,000	$ 0	$ 6,500	$ 93,000	* $ 72,925	2,917
2010	$ 6,500	$ 83,900	$ 2,600	$ 93,000	$ 0	$ 6,500	$ 93,000	* $ 72,925	2,917
2009	$ 6,500	$ 55,500	$ 2,600	$ 64,600	$ 0	$ 6,500	$ 64,600	NA	2,584

*This parcel is subject to the value cap

Land Information

Land Use	Number Units	Unit Type
Qualified Owner-Occupied Improved (4OOI)	1	LOT

Building Information

Style	Gross Sq Ft	Finished Sq Ft	Stories	Interior Walls	Exterior Walls	Year Built	Effective Year Built	Photo
Residential	1,737	1,464	1 Story		Vinyl	0	0	Building Images

Foundation	Roof Type	Roof Coverage	Flooring Type	Heating Type	Bathrooms	Grade	Number Fire Pl	Sketch
CRAWL SP	GABLE	COMPOSITION			0.0	F	2	NA

Miscellaneous Information

Building Type	Quantity	Units	Year Built
FrameGarPoor (133)	1	616	0

Sales Information

OR Book/Page	Sale Date	Sale Price	Instrument	Qualification	Vacant/Improved	Grantor	Grantee
1062/85	2005-05-06	$ 78,900		True Sale (0)	Improved	NICHOLS KENT EUGENE & SUPBOCK	
367/178	1992-12-29	$ 5		Gift (3)	Improved	NICHOLS JANIE A	

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Owner and Parcel Information

Owner Name	BRANCH BANKING & TRUST COMPANY	**Today's Date**	October 17, 2014
Mailing Address	301 COLLEGE ST FORECLOSURE DEPARTMENT GREENVILLE, SC 29601	**Parcel Number**	341-1-24-7 (Account#:7077)
		Millage Group	1 - Newberry
Location Address	1617 FIRST ST	**Neighborhood**	1 MILL OKLND (1MLO)
Property Usage	Non-Qualified Residential Improved (6RI)	**Land Size**	1 LOT
Homestead	No	**Parcel Map**	Show Parcel Map
Legal Description	1617 FIRST ST LOTS 62 & 63 PLAT BK E PG 491		

Value Information

Year	Land Value	Building Value	Yard Item Value	Total Market Value	Ag Credit	Taxable Land Value	Total Taxable Value	Capped Taxable Value	Total Assessment
2014	$ 6,500	$ 60,600	$ 1,200	$ 68,300	$ 0	$ 6,500	$ 68,300	* $ 56,368	3,382
2013	$ 6,500	$ 60,600	$ 1,200	$ 68,300	$ 0	$ 6,500	$ 68,300	* $ 50,020	3,001
2012	$ 6,500	$ 60,600	$ 1,200	$ 68,300	$ 0	$ 6,500	$ 68,300	* $ 50,020	3,001
2011	$ 6,500	$ 58,000	$ 0	$ 64,500	$ 0	$ 6,500	$ 64,500	* $ 48,820	1,953
2010	$ 6,500	$ 58,000	$ 0	$ 64,500	$ 0	$ 6,500	$ 64,500	* $ 48,820	1,953
2009	$ 6,500	$ 36,800	$ 0	$ 43,300	$ 0	$ 6,500	$ 43,300	NA	1,732

*This parcel is subject to the value cap

Land Information

Land Use	Number Units	Unit Type
Non-Qualified Residential Improved (6RI)	1	LOT

Building Information

Style	Gross Sq Ft	Finished Sq Ft	Stories	Interior Walls	Exterior Walls	Year Built	Effective Year Built	Photo
Residential	1,656	1,152	1 Story		Frame /Wood	0	0	Building Images

Foundation	Roof Type	Roof Coverage	Flooring Type	Heating Type	Bathrooms	Grade	Number Fire Pl	Sketch
CRAWL SP	GABLE	ASBESTOS			0.0	F	1	Sketch Building 1

Miscellaneous Information

Building Type	Quantity	Units	Year Built
FrameGarPoor (133)	1	12	0
FrmeStorPoor (170)	1	8	0

Sales Information

OR Book/Page	Sale Date	Sale Price	Instrument	Qualification	Vacant/Improved	Grantor	Grantee
1784/60	2014-09-23	$ 59,417		Other (9)	Improved	MCCRACKEN HUGHIE C DECEASED,	
416/332	1995-06-15	$ 15,000		Contract Sale or Bond for title (8)	Improved	SHEALY ANNA N	

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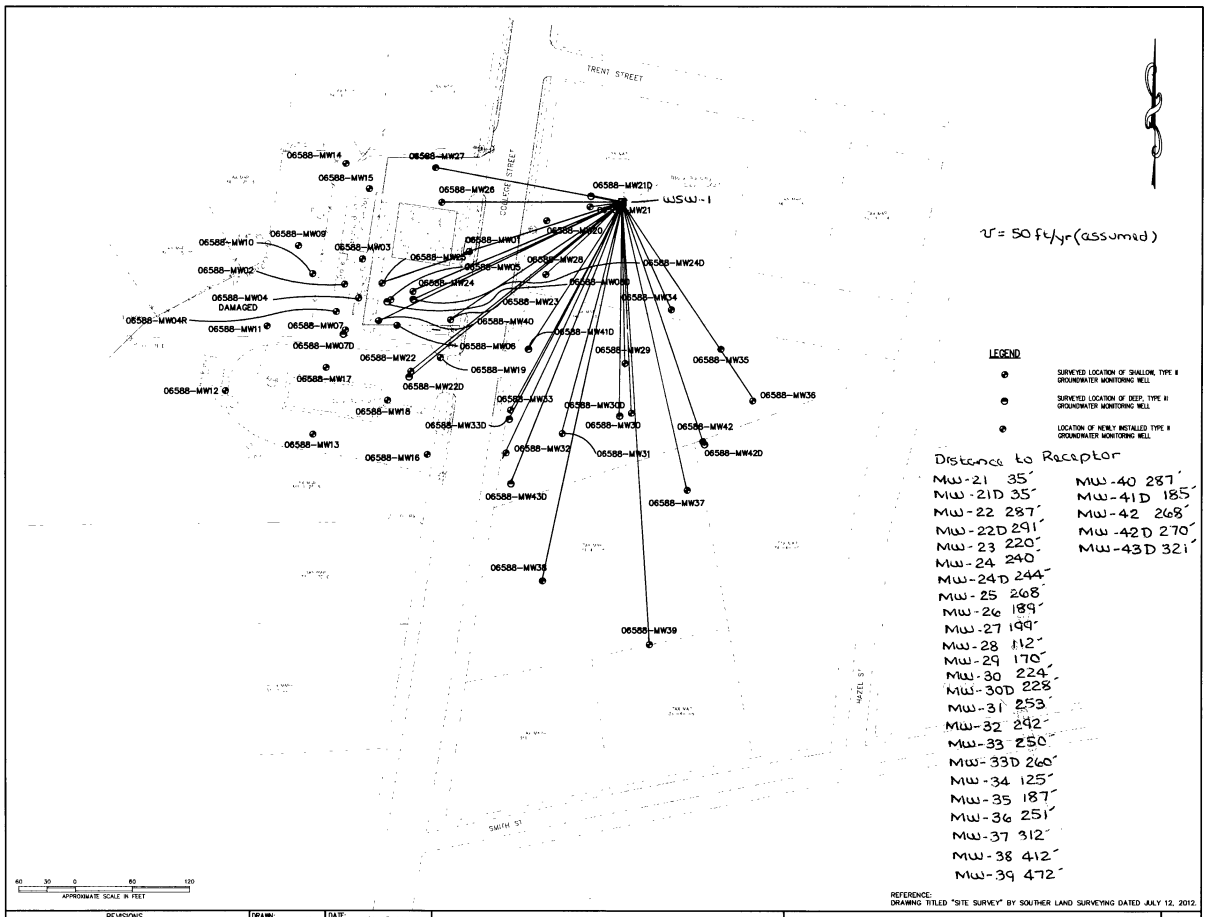


v = 50 ft/yr (assumed)

LEGEND

- SURVEYED LOCATION OF SHALLOW, TYPE II GROUNDWATER MONITORING WELL
- SURVEYED LOCATION OF DEEP, TYPE III GROUNDWATER MONITORING WELL
- LOCATION OF NEWLY INSTALLED TYPE II GROUNDWATER MONITORING WELL

Distance to Receptor

MW-21 35'	MW-40 287'
MW-21D 35'	MW-41D 185'
MW-22 287'	MW-42 268'
MW-22D 291'	MW-42D 270'
MW-23 220'	MW-43D 321'
MW-24 240'	
MW-24D 244'	
MW-25 268'	
MW-26 189'	
MW-27 199'	
MW-28 112'	
MW-29 170'	
MW-30 224'	
MW-30D 228'	
MW-31 253'	
MW-32 292'	
MW-33 250'	
MW-33D 260'	
MW-34 125'	
MW-35 187'	
MW-36 251'	
MW-37 312'	
MW-38 412'	
MW-39 472'	

REFERENCE:
DRAWING TITLED "SITE SURVEY" BY SOUTHER LAND SURVEYING DATED JULY 12, 2012.

UST DOCKETING 35 tech

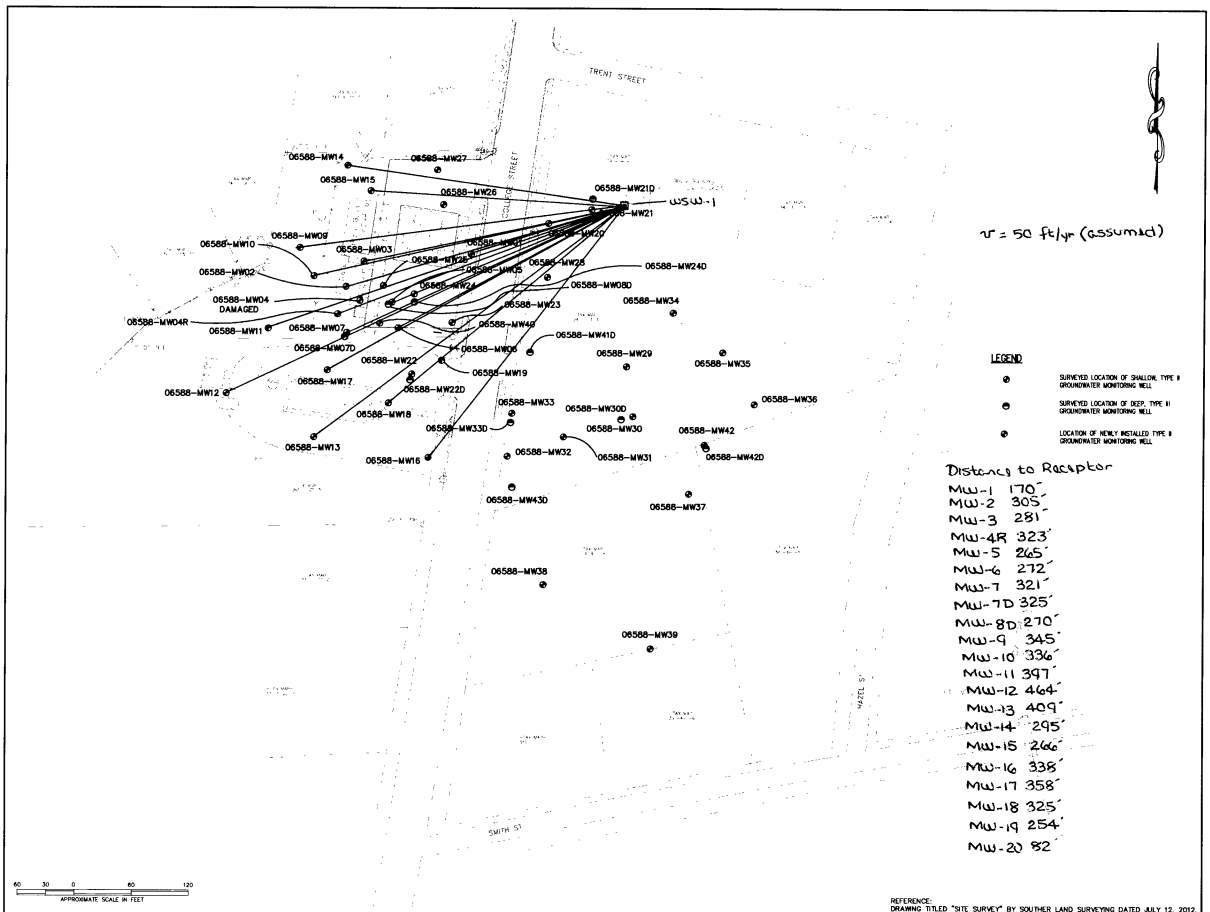
REVISIONS			
No.	DESCRIPTION	BY	

DRAWN:	ACE	DATE:	01-13-14
CHECKED:	IAI	CAD FILE:	SPINX258-05SIPL
APPROVED:	TLL	JOB NO:	J13-6859-05

IBLE INC.
BURNELL-LAMMONS ENGINEERING, INC.
6004 PONDERS COURT
GREENVILLE, SOUTH CAROLINA 29615
PHONE: (864)288-1265 FAX: (864)288-4430

SITE PLAN
SPINX 258/FORMER EMMARK 380
UST PERMIT #06588
NEWBERRY, SOUTH CAROLINA

FIGURE NO
2



$v = 50$ ft/yr (assumed)

LEGEND

- SURVEYED LOCATION OF SHALLOW, TYPE II GROUNDWATER MONITORING WELL
- SURVEYED LOCATION OF DEEP, TYPE II GROUNDWATER MONITORING WELL
- LOCATION OF NEWLY INSTALLED TYPE II GROUNDWATER MONITORING WELL

Distance to Receptor

MW-1 170'
MW-2 305'
MW-3 281'
MW-4R 323'
MW-5 265'
MW-6 272'
MW-7 321'
MW-7D 325'
MW-8D 270'
MW-9 345'
MW-10 336'
MW-11 397'
MW-12 464'
MW-13 409'
MW-14 295'
MW-15 266'
MW-16 338'
MW-17 358'
MW-18 325'
MW-19 254'
MW-20 82'

REFERENCE:
DRAWING TITLED "SITE SURVEY" BY SOUTHER LAND SURVEYING DATED JULY 12, 2012.

REVISIONS			
No.	DESCRIPTION	BY	

DRAWN:	ACE	DATE:	01-13-14
CHECKED:	IAI	CAD FILE:	SPINX258-05SIPL
APPROVED:	TLL	JOB NO:	J13-6859-05

BLE INC.
BUNNELL-LAMMONS ENGINEERING, INC.
6004 PONDERS COURT
GREENVILLE, SOUTH CAROLINA 29615
PHONE: (864)288-1265 FAX: (864)288-4430

SITE PLAN
SPINX 258/FORMER SHARK 380
UST PERMIT #06588
NEWBERRY, SOUTH CAROLINA

FIGURE NO
2

Domenico Model

UST # 06588
Site Name: Spinx #258
Modeler: J. Padgett
Date: 9/15/2014

Groundwater Flow Parameters

K	70	ft/yr
dh/dx	0.1	
θ	0.25	dec. %
v_x	50	ft/yr

Transport Parameters

x_{max}	130	ft
y_{max}	0	ft
z	0	ft
Source Width	30	ft
Source Thickness	15	ft
Plume Length	270	ft
α_x	13.07301	ft
α_y	1.307301	ft
α_z	1.00E-99	ft

Simulation Time

t_{sim}	22	yrs

Aquifer Characteristics

ρ_d	1.7	kg/L
f_{oc}	0.0002	

Source Area CoC Data

CoC	C_{source} (mg/L)	K_{oc} (L/kg)
Benzene	3.7	81
Toluene	0.23	133
Ethylbenzene	2.9	176
Xylenes	3.9	639
Naphthalene	0.53	1543
MtBE	0.91	11
EDB	0.00017	28
1,2-DCA	0.086	17.5

Retarded Velocity (ft/yr)

CoC	R	v_R
Benzene	1.110	45.04
Toluene	1.181	42.34
Ethylbenzene	1.239	40.34
Xylenes	1.869	26.75
Naphthalene	3.098	16.14
MtBE	1.015	49.26
EDB	1.038	48.17
1,2-DCA	1.024	48.84

Simulation Points for Breakthrough Curves

	MW-32	
x	130	ft
y	0	ft
z	0	ft

x		ft
y		ft
z		ft

$$C(x,y,z,t)=\left(\frac{C_0}{8}\right)\exp\left[\left(\frac{x}{2\alpha_x}\right)\left(1-\sqrt{1+\frac{4\lambda\alpha_x}{v}}\right)\right]erfc\left[\frac{x-vt\sqrt{1+\frac{4\lambda\alpha_x}{v}}}{2\sqrt{\alpha_x vt}}\right]\left\{erf\left[\frac{y+\frac{Y}{2}}{2\sqrt{\alpha_y x}}\right]-erf\left[\frac{y-\frac{Y}{2}}{2\sqrt{\alpha_y x}}\right]\right\}\left\{erf\left[\frac{z+Z}{2\sqrt{\alpha_z x}}\right]-erf\left[\frac{z-Z}{2\sqrt{\alpha_z x}}\right]\right\}$$

Benzene Calibration

Spatial Calibration Data
(centerline)

x	C_{obs} (mg/L)	C_{sim} (mg/L)
0	3.7	3.7
13		1.700
26		0.742
39		0.319
52		0.138
65		0.060
78		0.026
91		0.011
104		0.005
117		0.002
130	0.001	0 001

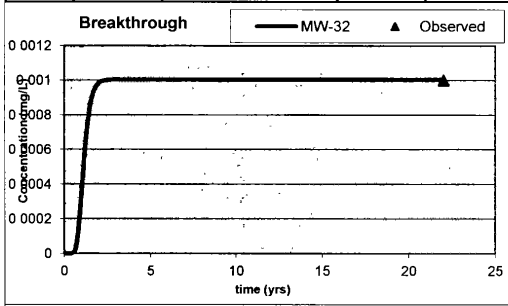
Temporal Calibration Data

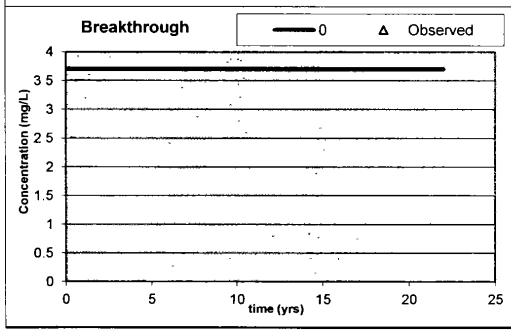
	MW-32		0	
t (yrs)	C_{obs} (mg/L)	C_{sim} (mg/L)	C_{obs} (mg/L)	C_{sim} (mg/L)
0		0		3.7
2.2		0 001		3 700
4 4		0.001		3 700
6 6		0.001		3.700
8 8		0.001		3 700
11		0.001		3.700
13 2		0.001		3.700
15.4		0.001		3 700
17.6		0.001		3.700
19.8		0 001		3 700
22	0.001	0.001		3.700

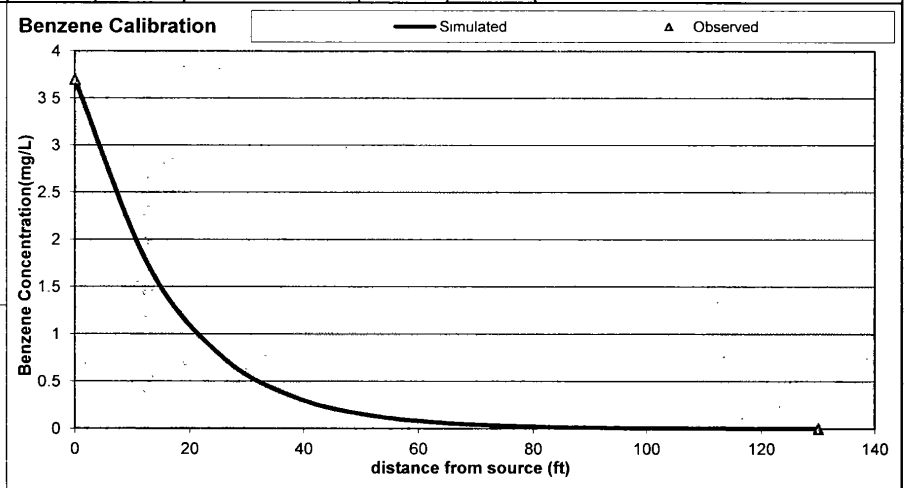
Site ID 06588
Site Name Spinx #258

Model Calibration Parameters

$t_{1/2}$	0.1471	yrs	λ	4.71108	yr^{-1}
v_x	50	ft/yr			
R	1.110				
v_R	45.039	ft/yr	C_{source}	3.7	mg/L
L_p	270	ft			
α_x	13.07301	ft	t_{sim}	22	yrs
α_y	1.307301	ft			
α_z	1E-99	ft			







Source	13	26	39	52	65	78	91	104	117	130
0	1 70014811	0 74231548	0 31919841	0 13771084	0 05980883	0 0261462	0 011496	0 00508	0 002254	0 001004
0	1 70014811	0 74231548	0 31919841	0 13771084	0 05980883	0 0261462	0 011496	0 00508	0 002254	0 001004
0	1 70014811	0 74231548	0 31919841	0 13771084	0 05980883	0 0261462	0 011496	0.00508	0 002254	0 001004
0	1 70014811	0 74231548	0 31919841	0 13771084	0 05980883	0 0261462	0 011496	0 00508	0 002254	0 001004
0	1.70014811	0 74231548	0 31919841	0 13771084	0 05980883	0 0261462	0 011496	0 00508	0 002254	0 001004

Toluene Calibration

Spatial Calibration Data (centerline)

x	C_{obs} (mg/L)	C_{sim} (mg/L)
0	0.23	0.23
13		0.140
26		0.080
39		0.046
52		0.026
65		0.015
78		0.009
91		0.005
104		0.003
117		0.002
130	0.001	0.001

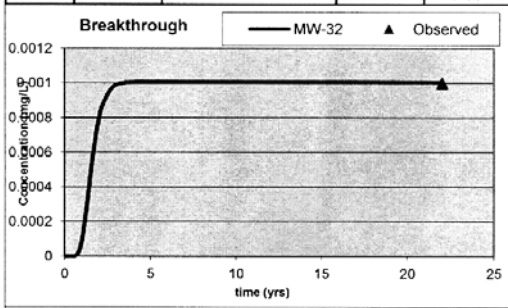
Temporal Calibration Data

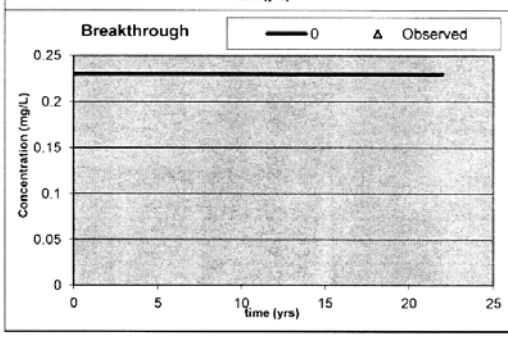
	MW-32		0	
t (yrs)	C_{obs} (mg/L)	C_{sim} (mg/L)	C_{obs} (mg/L)	C_{sim} (mg/L)
0		0		0.23
2.2		0.001		0.230
4.4		0.001		0.230
6.6		0.001		0.230
8.8		0.001		0.230
11		0.001		0.230
13.2		0.001		0.230
15.4		0.001		0.230
17.6		0.001		0.230
19.8		0.001		0.230
22	0.001	0.001		0.230

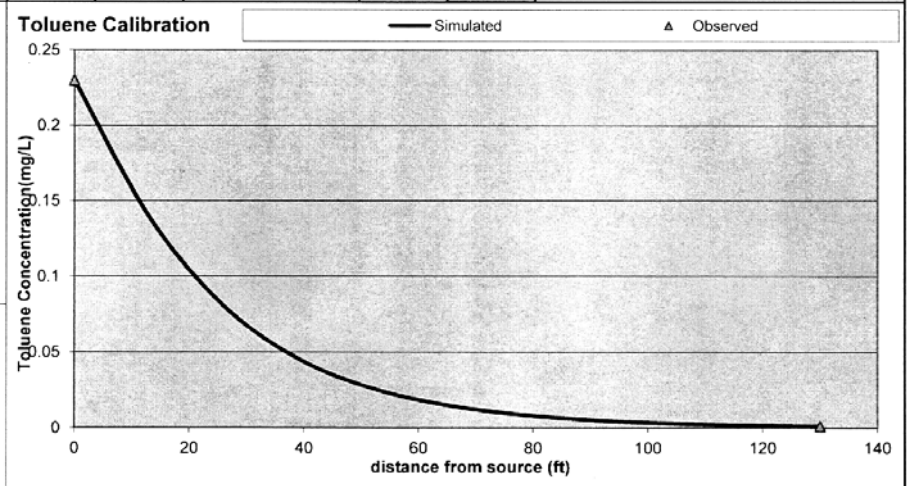
Site ID 06588
Site Name Spinx #258

Model Calibration Parameters

$t_{1/2}$	0.2912	yrs	λ	2.37981	yr^{-1}
v_x	50	ft/yr			
R	1.181				
v_R	42.341	ft/yr	C_{source}	0.23	mg/L
L_p	270	ft			
α_x	13.07301	ft	t_{sim}	22	yrs
α_y	1.307301	ft			
α_z	1E-99	ft			







Source	13	26	39	52	65	78	91	104	117	130
0	0.13953764	0.08043992	0.04566909	0.02601407	0.01491709	0.0086101	0.004998	0.002916	0.001708	0.001004
0	0.13953764	0.08043992	0.04566909	0.02601407	0.01491709	0.0086101	0.004998	0.002916	0.001708	0.001004
0	0.13953764	0.08043992	0.04566909	0.02601407	0.01491709	0.0086101	0.004998	0.002916	0.001708	0.001004
0	0.13953764	0.08043992	0.04566909	0.02601407	0.01491709	0.0086101	0.004998	0.002916	0.001708	0.001004
0	0.13953764	0.08043992	0.04566909	0.02601407	0.01491709	0.0086101	0.004998	0.002916	0.001708	0.001004

Ethylbenzene Calibration

Spatial Calibration Data (centerline)

x	C_{obs} (mg/L)	C_{sim} (mg/L)
0	2.9	2.9
13		1.365
26		0.611
39		0.269
52		0.119
65		0.053
78		0.024
91		0.011
104		0.005
117		0.002
130	0.001	0.001

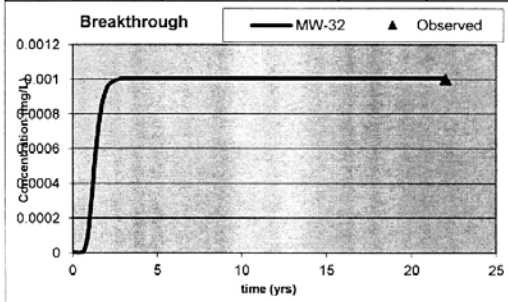
Temporal Calibration Data

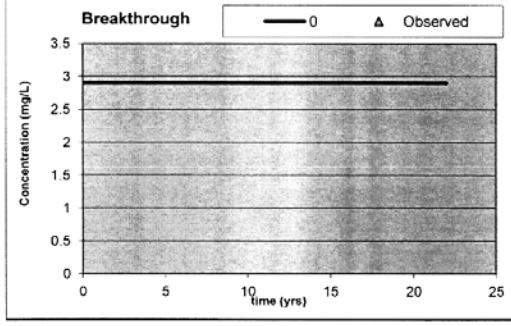
	MW-32		0	
t (yrs)	C_{obs} (mg/L)	C_{sim} (mg/L)	C_{obs} (mg/L)	C_{sim} (mg/L)
0		0		2.9
2.2		0.001		2.900
4.4		0.001		2.900
6.6		0.001		2.900
8.8		0.001		2.900
11		0.001		2.900
13.2		0.001		2.900
15.4		0.001		2.900
17.6		0.001		2.900
19.8		0.001		2.900
22	0.001	0.001		2.900

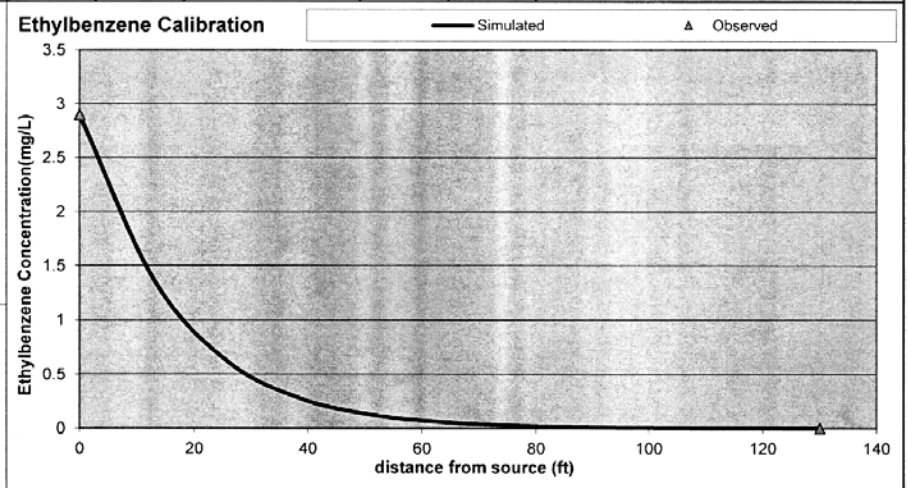
Site ID 06588
Site Name Spinx #258

Model Calibration Parameters

$t_{1/2}$	0.172	yrs	λ	4.02907	yr^{-1}
v_x	50	ft/yr			
R	1.239				
v_R	40.343	ft/yr	C_{source}	2.9	mg/L
L_p	270	ft			
α_x	13.07301	ft	t_{sim}	22	yrs
α_y	1.307301	ft			
α_z	1E-99	ft			







Source	13	26	39	52	65	78	91	104	117	130
0	1.36548868	0.6109349	0.26919824	0.11901034	0.05296476	0.0237266	0.01069	0.00484	0.002201	0.001004
0	1.36548868	0.6109349	0.26919824	0.11901034	0.05296476	0.0237266	0.01069	0.00484	0.002201	0.001004
0	1.36548868	0.6109349	0.26919824	0.11901034	0.05296476	0.0237266	0.01069	0.00484	0.002201	0.001004
0	1.36548868	0.6109349	0.26919824	0.11901034	0.05296476	0.0237266	0.01069	0.00484	0.002201	0.001004
0	1.36548868	0.6109349	0.26919824	0.11901034	0.05296476	0.0237266	0.01069	0.00484	0.002201	0.001004

Xylenes Calibration

Spatial Calibration Data
(centerline)

x	C_{obs} (mg/L)	C_{sim} (mg/L)
0	3.9	3.9
13		1.783
26		0.774
39		0.331
52		0.142
65		0.061
78		0.027
91		0.012
104		0.005
117		0.002
130	0.001	0.001

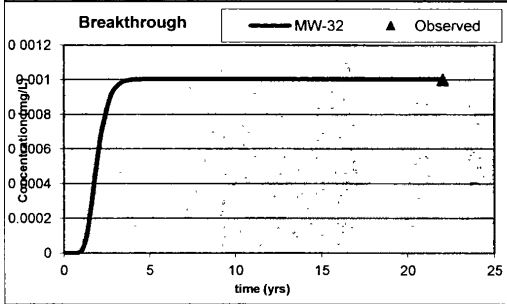
Temporal Calibration Data

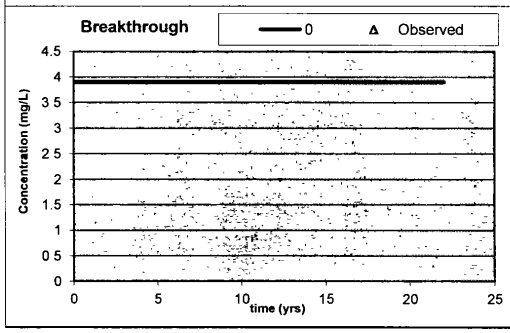
	MW-32		0	
t (yrs)	C_{obs} (mg/L)	C_{sim} (mg/L)	C_{obs} (mg/L)	C_{sim} (mg/L)
0		0		3.9
2.2		0 001		3.900
4.4		0 001		3.900
6.6		0.001		3.900
8 8		0.001		3.900
11		0 001		3.900
13.2		0.001		3 900
15.4		0.001		3 900
17.6		0.001		3.900
19.8		0.001		3.900
22	0.001	0.001		3.900

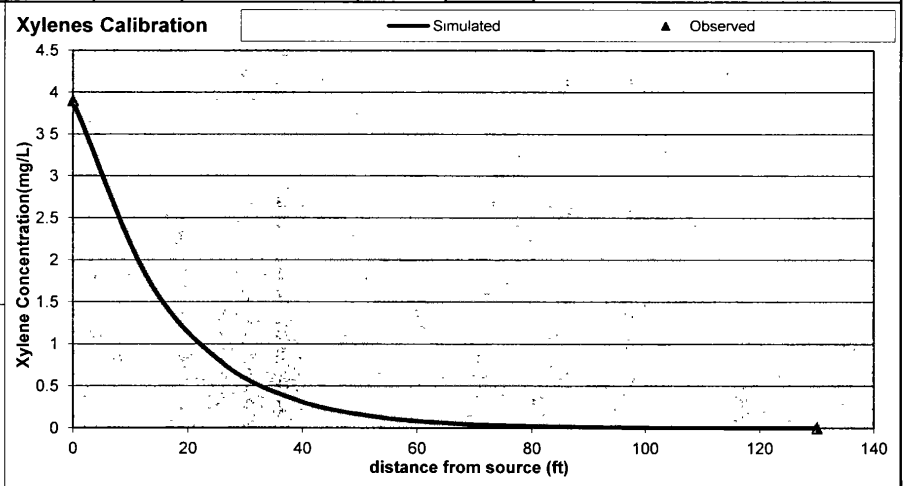
Site ID 06588
Site Name Spinx #258

Model Calibration Parameters

$t_{1/2}$	0.2452	yrs	λ	2.82626	yr^{-1}
v_x	50	ft/yr			
R	1.869				
v_R	26.752	ft/yr	C_{source}	3.9	mg/L
L_p	270	ft			
α_x	13.07301	ft	t_{sim}	22	yrs
α_y	1.307301	ft			
α_z	1E-99	ft			







Source	13	26	39	52	65	78	91	104	117	130
0	1.78250473	0.77412929	0 33110577	0 14208728	0 06138093	0 0266906	0 011673	0 00513	0 002264	0.001003
0	1.78250473	0 77412929	0 33110577	0 14208728	0 06138093	0 0266906	0 011673	0 00513	0 002264	0 001003
0	1 78250473	0.77412929	0 33110577	0 14208728	0 06138093	0 0266906	0 011673	0 00513	0 002264	0 001003
0	1 78250473	0 77412929	0.33110577	0 14208728	0.06138093	0 0266906	0 011673	0 00513	0 002264	0 001003
0	1 78250473	0 77412929	0 33110577	0.14208728	0 06138093	0 0266906	0 011673	0 00513	0 002264	0 001003

MtBE Calibration

Spatial Calibration Data (centerline)

x	C_{obs} (mg/L)	C_{sim} (mg/L)
0	0.91	0.91
13		0.750
26		0.587
39		0.453
52		0.350
65		0.273
78		0.214
91		0.169
104		0.134
117		0.106
130	0.085	0.085

Temporal Calibration Data

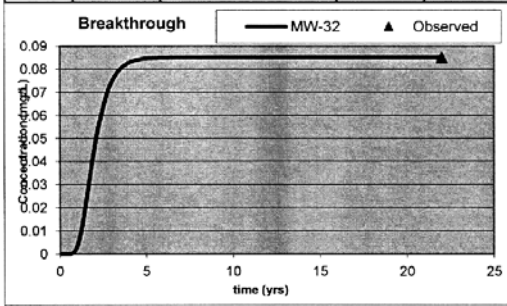
	MW-32		0	
t (yrs)	C_{obs} (mg/L)	C_{sim} (mg/L)	C_{obs} (mg/L)	C_{sim} (mg/L)
0		0		0.91
2.2		0.054		0.910
4.4		0.084		0.910
6.6		0.085		0.910
8.8		0.085		0.910
11		0.085		0.910
13.2		0.085		0.910
15.4		0.085		0.910
17.6		0.085		0.910
19.8		0.085		0.910
22	0.085	0.085		0.910

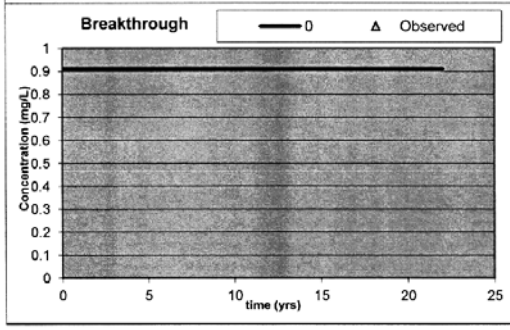
Site ID 06588

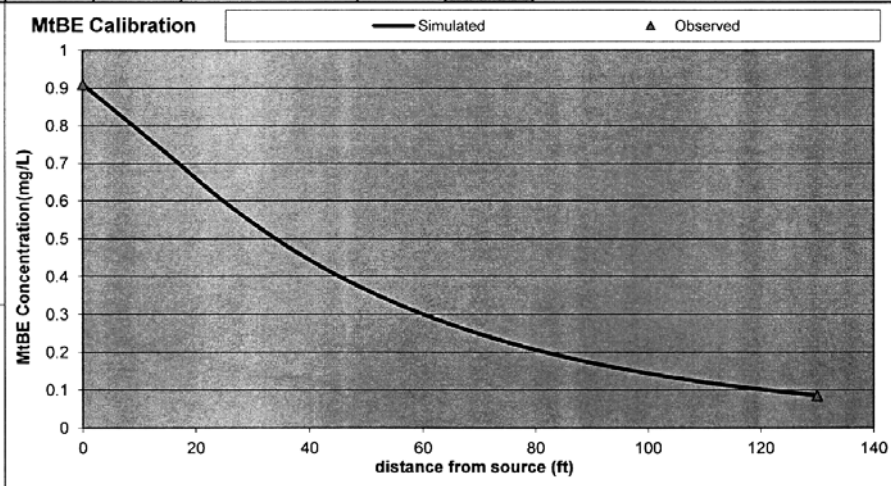
Site Name Spinx #258

Model Calibration Parameters

$t_{1/2}$	0.8423	yrs	λ	0.82275	yr^{-1}
v_x	50	ft/yr			
R	1.015				
v_R	49.263	ft/yr	C_{source}	0.91	mg/L
L_p	270	ft			
α_x	13.07301	ft	t_{sim}	22	yrs
α_y	1.307301	ft			
α_z	1E-99	ft			







Source	13	26	39	52	65	78	91	104	117	130
0	0.74993586	0.58725074	0.45289076	0.35042781	0.27295652	0.2140104	0.168763	0.133739	0.106428	0.084997
0	0.74993586	0.58725074	0.45289076	0.35042781	0.27295652	0.2140104	0.168763	0.133739	0.106428	0.084997
0	0.74993586	0.58725074	0.45289076	0.35042781	0.27295652	0.2140104	0.168763	0.133739	0.106428	0.084997
0	0.74993586	0.58725074	0.45289076	0.35042781	0.27295652	0.2140104	0.168763	0.133739	0.106428	0.084997
0	0.74993586	0.58725074	0.45289076	0.35042781	0.27295652	0.2140104	0.168763	0.133739	0.106428	0.084997

Naphthalene Calibration

Spatial Calibration Data (centerline)

x	C_{obs} (mg/L)	C_{sim} (mg/L)
0	0.53	0.53
13		0.296
26		0.157
39		0.082
52		0.043
65		0.023
78		0.012
91		0.006
104		0.003
117		0.002
130	0.001	0.001

Temporal Calibration Data

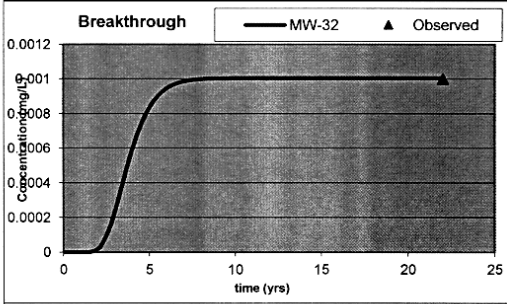
	MW-32		0	
t (yrs)	C_{obs} (mg/L)	C_{sim} (mg/L)	C_{obs} (mg/L)	C_{sim} (mg/L)
0		0		0.53
2.2		0.000		0.530
4.4		0.001		0.530
6.6		0.001		0.530
8.8		0.001		0.530
11		0.001		0.530
13.2		0.001		0.530
15.4		0.001		0.530
17.6		0.001		0.530
19.8		0.001		0.530
22	0.001	0.001		0.530

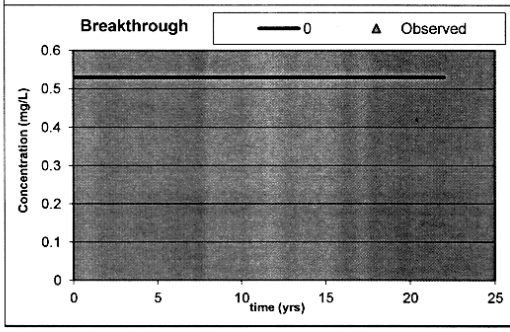
Site ID 06588

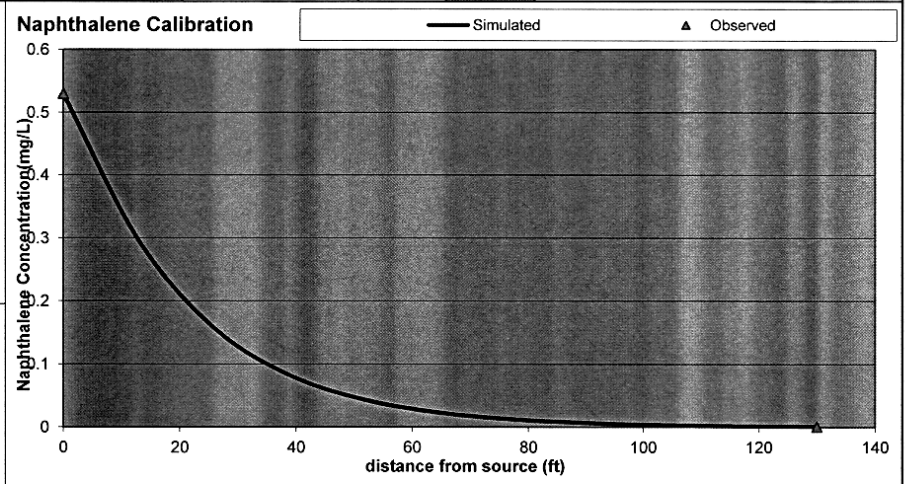
Site Name Spinx #258

Model Calibration Parameters

$t_{1/2}$	0.618	yrs	λ	1.12136	yr^{-1}
v_x	50	ft/yr			
R	3.098				
v_R	16.137	ft/yr	C_{source}	0.53	mg/L
L_p	270	ft			
α_x	13.07301	ft	t_{sim}	22	yrs
α_y	1.307301	ft			
α_z	1E-99	ft			







Source	13	26	39	52	65	78	91	104	117	130
0	0.2957892	0.15685757	0.08192173	0.04292674	0.02264366	0.012023	0.006421	0.003446	0.001857	0.001004
0	0.2957892	0.15685757	0.08192173	0.04292674	0.02264366	0.012023	0.006421	0.003446	0.001857	0.001004
0	0.2957892	0.15685757	0.08192173	0.04292674	0.02264366	0.012023	0.006421	0.003446	0.001857	0.001004
0	0.2957892	0.15685757	0.08192173	0.04292674	0.02264366	0.012023	0.006421	0.003446	0.001857	0.001004
0	0.2957892	0.15685757	0.08192173	0.04292674	0.02264366	0.012023	0.006421	0.003446	0.001857	0.001004

EDB Calibration

Spatial Calibration Data (centerline)

x	C_{obs} (mg/L)	C_{sim} (mg/L)
0	0.00017	0.00017
13		0.00014
26		0.00012
39		0.00009
52		0.00007
65		0.00006
78		0.00005
91		0.00004
104		0.00003
117		0.00003
130	0.00002	0.00002

Temporal Calibration Data

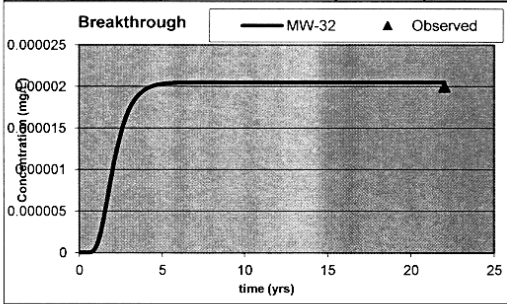
	MW-32		0	
t (yrs)	C_{obs} (mg/L)	C_{sim} (mg/L)	C_{obs} (mg/L)	C_{sim} (mg/L)
0		0.00000		0.00017
2.2		0.00001		0.00017
4.4		0.00002		0.00017
6.6		0.00002		0.00017
8.8		0.00002		0.00017
11		0.00002		0.00017
13.2		0.00002		0.00017
15.4		0.00002		0.00017
17.6		0.00002		0.00017
19.8		0.00002		0.00017
22	0.00002	0.00002		0.00017

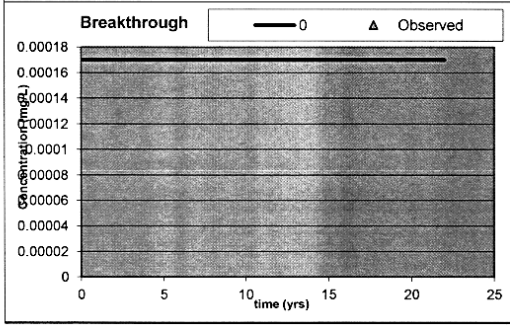
Site ID 06588

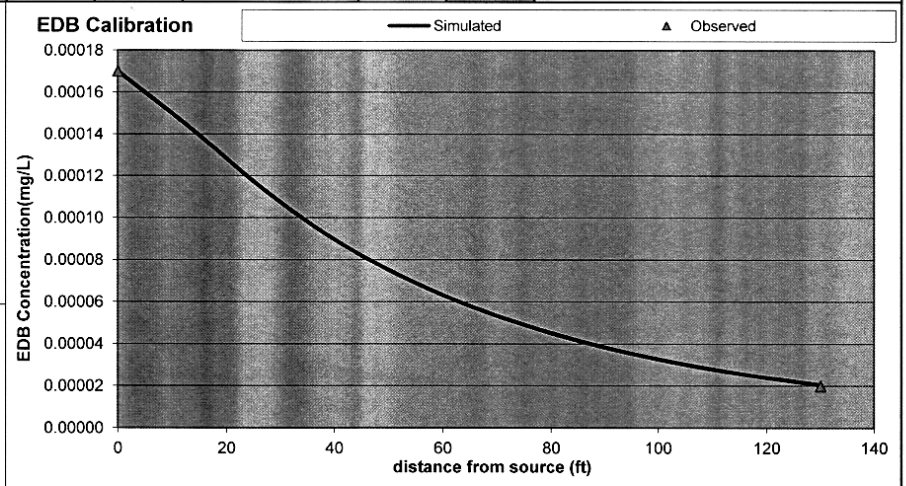
Site Name Spinx #258

Model Calibration Parameters

$t_{1/2}$	1.0231	yrs	λ	0.67735 yr^{-1}
v_x	50	ft/yr		
R	1.038			
v_R	48.166	ft/yr	C_{source}	0.00017 mg/L
L_p	270	ft		
α_x	13.07301	ft	t_{sim}	22 yrs
α_y	1.307301	ft		
α_z	1E-99	ft		







Source	13	26	39	52	65	78	91	104	117	130
0	0.00014372	0.00011545	9.1342E-05	7.2505E-05	5.7937E-05	4.66E-05	3.77E-05	3.06E-05	2.5E-05	2.05E-05
0	0.00014372	0.00011545	9.1342E-05	7.2505E-05	5.7937E-05	4.66E-05	3.77E-05	3.06E-05	2.5E-05	2.05E-05
0	0.00014372	0.00011545	9.1342E-05	7.2505E-05	5.7937E-05	4.66E-05	3.77E-05	3.06E-05	2.5E-05	2.05E-05
0	0.00014372	0.00011545	9.1342E-05	7.2505E-05	5.7937E-05	4.66E-05	3.77E-05	3.06E-05	2.5E-05	2.05E-05
0	0.00014372	0.00011545	9.1342E-05	7.2505E-05	5.7937E-05	4.66E-05	3.77E-05	3.06E-05	2.5E-05	2.05E-05

1,2-DCA Calibration

Spatial Calibration Data
(centerline)

x	C_{obs} (mg/L)	C_{sim} (mg/L)
0	0 086	0.086
13		0.058
26		0.037
39		0.023
52		0.014
65		0.009
78		0.006
91		0.004
104		0.002
117		0 002
130	0.001	0.001

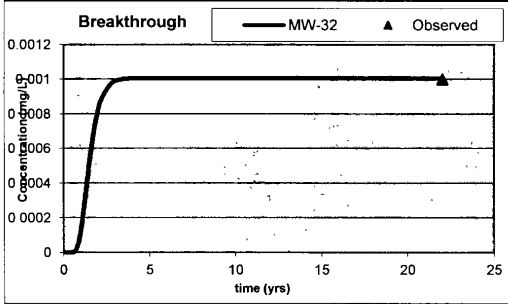
Temporal Calibration Data

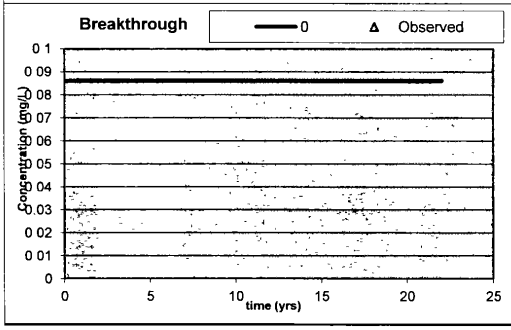
	MW-32		0	
t (yrs)	C_{obs} (mg/L)	C_{sim} (mg/L)	C_{obs} (mg/L)	C_{sim} (mg/L)
0		0		0 086
2.2		0 001		0 086
4 4		0.001		0.086
6.6		0.001		0 086
8.8		0 001		0.086
11		0.001		0.086
13.2		0 001		0.086
15.4		0.001		0.086
17.6		0 001		0.086
19.8		0.001		0.086
22	0.001	0.001		0.086

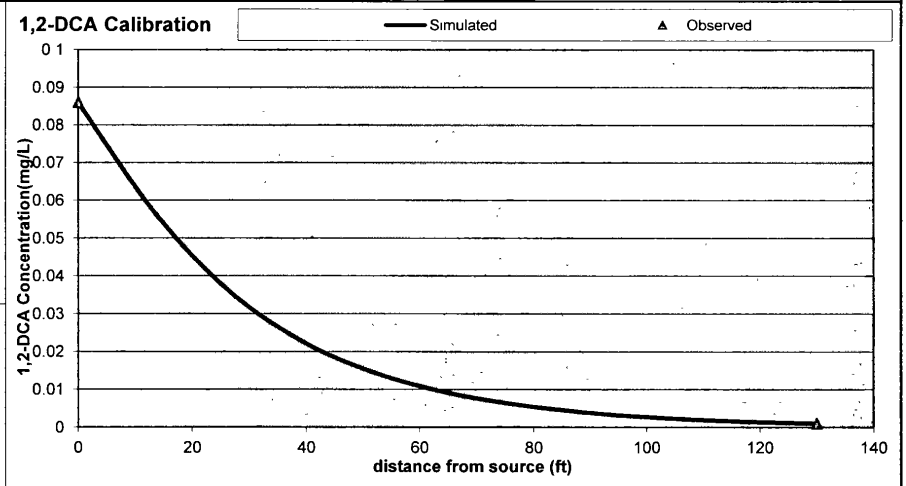
Site ID 06588
Site Name Spinx #258

Model Calibration Parameters

$t_{1/2}$	0.3384	yrs	λ	2.04787	yr^{-1}
v_x	50	ft/yr			
R	1.024				
v_R	48.838	ft/yr	C_{source}	0 086	mg/L
L_p	270	ft			
α_x	13.07301	ft	t_{sim}	22	yrs
α_y	1.307301	ft			
α_z	1E-99	ft			







Source	13	26	39	52	65	78	91	104	117	130
0	0 05756977	0 03661907	0 02293984	0 01441813	0 00912257	0 0058099	0 003722	0 002396	0 001549	0 001005
0	0 05756977	0.03661907	0 02293984	0 01441813	0 00912257	0 0058099	0.003722	0 002396	0 001549	0 001005
0	0 05756977	0 03661907	0 02293984	0 01441813	0 00912257	0 0058099	0.003722	0 002396	0 001549	0 001005
0	0.05756977	0 03661907	0 02293984	0 01441813	0 00912257	0 0058099	0 003722	0 002396	0 001549	0 001005
0	0.05756977	0 03661907	0.02293984	0 01441813	0.00912257	0.0058099	0 003722	0 002396	0 001549	0.001005

SSTLs t 1000 yrs

UST Permit # 06588
Site Name: Spinx #258

SSTLs in mg/L			RBSLs (mg/L):	0.005	1.000	0.700	10.000	0.040	0.025	0.00005	0.005
MW #	x (ft)	y (ft)	z (ft)	Benzene SSTL	Toluene SSTL	Ethylbenzene SSTL	Xylenes SSTL	MtBE SSTL	Naphthalene SSTL	EDB SSTL	1,2-DCA SSTL
MW-1	170	0	0	218.268	1153.233	22204.299	>99999	0.840	85.899	0.00075	1.592
MW-2	305	0	0	>99999	>99999	>99999	>99999	7.291	42674.518	0.00501	119.669
MW-3	281	0	0	>99999	93952.131	>99999	>99999	5.008	14274.393	0.00360	56.001
MW-4R	323	0	0	>99999	>99999	>99999	>99999	9.647	96859.277	0.00639	211.146
MW-5	265	0	0	72228.906	50090.585	>99999	>99999	3.893	6867.252	0.00289	33.701
MW-6	272	0	0	>99999	65968.002	>99999	>99999	4.347	9459.829	0.00318	42.093
MW-7	321	0	0	>99999	>99999	>99999	>99999	9.352	88433.636	0.00622	198.249
MW-7D	325	0	0	>99999	>99999	>99999	>99999	9.951	>99999	0.00657	224.879
MW-8D	270	0	0	97847.595	60979.016	>99999	>99999	4.212	8632.813	0.00310	39.503
MW-9	345	0	0	>99999	>99999	>99999	>99999	13.560	>99999	0.00861	421.919
MW-10	336	0	0	>99999	>99999	>99999	>99999	11.799	>99999	0.00762	317.931
MW-11	397	0	0	>99999	>99999	>99999	>99999	30.123	>99999	0.01726	2152.922
MW-12	464	0	0	>99999	>99999	>99999	>99999	83.345	>99999	0.04187	17391.305
MW-13	409	0	0	>99999	>99999	>99999	>99999	36.175	>99999	0.02025	3132.415
MW-14	295	0	0	>99999	>99999	>99999	>99999	6.237	27048.382	0.00437	87.240
MW-15	266	0	0	76750.944	52100.973	>99999	>99999	3.955	7188.888	0.00293	34.789
MW-16	338	0	0	>99999	>99999	>99999	>99999	12.170	>99999	0.00783	338.574
MW-17	358	0	0	>99999	>99999	>99999	>99999	16.568	>99999	0.01025	634.641
MW-18	325	0	0	>99999	>99999	>99999	>99999	9.951	>99999	0.00657	224.879
MW-19	254	0	0	37020.735	32479.002	>99999	>99999	3.271	4149.068	0.00248	23.749
			λ (yr^{-1}):	4.711	2.380	4.029	2.826	0.823	1.121	0.677	2.048
			R:	1.110	1.181	1.239	1.869	1.015	3.098	1.038	1.024
			Pure Substance Solubility:	1750	526	169	175	5110	31	4321	8520
			Effective Solubility:	44.39	26.54	3.7	21.68	173	6.7	1.9	3.7

SSTLs t 1000 yrs

UST Permit # 06588
Site Name: Spinx #258

SSTLs in mg/L			RBSLs (mg/L):	0.005	1.000	0.700	10.000	0.040	0.025	0.00005	0.005
MW #	x (ft)	y (ft)	z (ft)	Benzene SSTL	Toluene SSTL	Ethylbenzene SSTL	Xylenes SSTL	MtBE SSTL	Naphthalene SSTL	EDB SSTL	1,2-DCA SSTL
MW-20	82	0	0	0.912	31.597	109.408	1885.690	0.183	1.337	0.00019	0.085
MW-21	35	0	0	0.045	4.231	5.860	90.699	0.074	0.132	0.00009	0.016
MW-21D	35	0	0	0.045	4.231	5.860	90.699	0.074	0.132	0.00009	0.016
MW-22	287	0	0	>99999	>99999	>99999	>99999	5.503	18774.710	0.00391	67.726
MW-22D	291	0	0	>99999	>99999	>99999	>99999	5.859	22535.851	0.00413	76.869
MW-23	220	0	0	4667.757	8470.061	>99999	>99999	1.900	869.777	0.00154	8.011
MW-24	240	0	0	15796.000	18692.451	>99999	>99999	2.618	2182.569	0.00204	15.196
MW-24D	244	0	0	20150.621	21891.509	>99999	>99999	2.790	2622.608	0.00216	17.266
MW-25	268	0	0	86660.617	56366.096	>99999	>99999	4.082	7877.926	0.00301	37.072
MW-26	189	0	0	700.960	2467.422	68808.135	>99999	1.149	207.637	0 00099	2.951
MW-27	199	0	0	1293.370	3676.574	>99999	>99999	1.353	329.910	0.00114	4.076
MW-28	112	0	0	6.008	109.658	681.498	12580.900	0.313	5.628	0 00031	0.235
MW-29	170	0	0	218.268	1153.233	22204.299	>99999	0.840	85.899	0.00075	1.592
MW-30	224	0	0	5957.974	9925.333	>99999	>99999	2.027	1045 738	0.00163	9.108
MW-30D	228	0	0	7603.895	11629.225	>99999	>99999	2.161	1257.142	0.00173	10.353
MW-31	253	0	0	34837.071	31223.547	>99999	>99999	3.219	3963.155	0.00245	23.004
MW-32	292	0	0	>99999	>99999	>99999	>99999	5.951	23588.151	0.00419	79.341
MW-33	250	0	0	29027.880	27739.895	>99999	>99999	3.070	3453.795	0.00235	20.907
MW-33D	260	0	0	53310.196	41140.556	>99999	>99999	3.597	5462.004	0.00270	28.747
MW-34	125	0	0	13.509	186.758	1495.461	28441.107	0.393	10.419	0.00038	0.363
			λ (yr^{-1}):	4.711	2.380	4.029	2.826	0.823	1.121	0.677	2.048
			R:	1.110	1.181	1.239	1.869	1.015	3.098	1.038	1.024
			Pure Substance Solubility:	1750	526	169	175	5110	31	4321	8520
			Effective Solubility:	44.39	26.54	3.7	21.68	173	6.7	1.9	3.7

SSTLs t 1000 yrs

UST Permit # 06588
Site Name: Spinx #258

SSTLs in mg/L			RBSLs (mg/L):	0.005	1.000	0.700	10.000	0.040	0.025	0.00005	0.005
MW #	x (ft)	y (ft)	z (ft)	Benzene SSTL	Toluene SSTL	Ethylbenzene SSTL	Xylenes SSTL	MtBE SSTL	Naphthalene SSTL	EDB SSTL	1,2-DCA SSTL
MW-35	187	0	0	620.063	2277.990	61096.152	>99999	1.112	189.250	0.00096	2.766
MW-36	251	0	0	30847.985	28855.814	>99999	>99999	3.119	3615.881	0.00238	21.584
MW-37	312	0	0	>99999	>99999	>99999	>99999	8.131	58704.696	0.00551	149.263
MW-38	412	0	0	>99999	>99999	>99999	>99999	37.867	>99999	0.02107	3440.064
MW-39	472	0	0	>99999	>99999	>99999	>99999	94.052	>99999	0.04652	22303.698
MW-40	287	0	0	>99999	>99999	>99999	>99999	5.503	18774.710	0.00391	67.726
MW-41D	185	0	0	548.479	2103.015	54246.289	>99999	1.076	172.484	0.00094	2.592
MW-42	268	0	0	86660.617	56366.096	>99999	>99999	4.082	7877.926	0.00301	37.072
MW-42D	270	0	0	97847.595	60979.016	>99999	>99999	4.212	8632.813	0.00310	39.503
MW-43D	321	0	0	>99999	>99999	>99999	>99999	9.352	88433.636	0.00622	198.249
			λ (yr^{-1}):	4.711	2.380	4.029	2.826	0.823	1.121	0.677	2.048
			R:	1.110	1.181	1.239	1.869	1.015	3.098	1.038	1.024
			Pure Substance Solubility:	1750	526	169	175	5110	31	4321	8520
			Effective Solubility:	44.39	26.54	3.7	21.68	173	6.7	1.9	3.7

Domenico Model (Oxygenates)

UST # 06588
Site Name: Spinx #258
Modeler: J. Padgett
Date: 9/15/2014

Groundwater Flow Parameters

K	500	ft/yr
dh/dx	0.01	
θ	0.25	dec. %
v_x	50	ft/yr

Transport Parameters

x_{max}	130	ft
y_{max}	0	ft
z	0	ft
Source Width	30	ft
Source Thickness	15	ft
Plume Length	270	ft
α_x	13.07301	ft
α_y	1.307301	ft
α_z	1.00E-99	ft

Simulation Time

t_{sim}	22	yrs

Aquifer Characteristics

ρ_d	1.7	kg/L
f_{oc}	0.0002	

Source Area CoC Data

CoC	C_{source} (mg/L)	K_{oc} (L/kg)
tBA	5	1
tAA	0.1	1
DIPE		1.5
tAME	0.42	1.5
EtBE		1.5
Ethanol		0.5

Retarded Velocity (ft/yr)

CoC	R	v_R
tBA	1.001	49.93
tAA	1.001	49.93
DIPE	1.002	49.90
tAME	1.002	49.90
EtBE	1.002	49.90
Ethanol	1.001	49.97

Simulation Points for Breakthrough Curves

	MW-32	
x	130	ft
y	0	ft
z	0	ft

x		ft
y		ft
z		ft

$$C(x,y,z,t)=\left(\frac{C_0}{8}\right)\exp\left[\left(\frac{x}{2\alpha_x}\right)\left(1-\sqrt{1+\frac{4\lambda\alpha_x}{v}}\right)\right]erfc\left[\frac{x-vt\sqrt{1+\frac{4\lambda\alpha_x}{v}}}{2\sqrt{\alpha_x vt}}\right]\left\{erf\left[\frac{y+\frac{Y}{2}}{2\sqrt{\alpha_y x}}\right]-erf\left[\frac{y-\frac{Y}{2}}{2\sqrt{\alpha_y x}}\right]\right\}\left\{erf\left[\frac{z+Z}{2\sqrt{\alpha_z x}}\right]-erf\left[\frac{z-Z}{2\sqrt{\alpha_z x}}\right]\right\}$$

tBA Calibration

Spatial Calibration Data
(centerline)

x	C_{obs} (mg/L)	C_{sim} (mg/L)
0	5	5
13		3 007
26		1.718
39		0 967
52		0.546
65		0 310
78		0 177
91		0.102
104		0 059
117		0.034
130	0 02	0.020

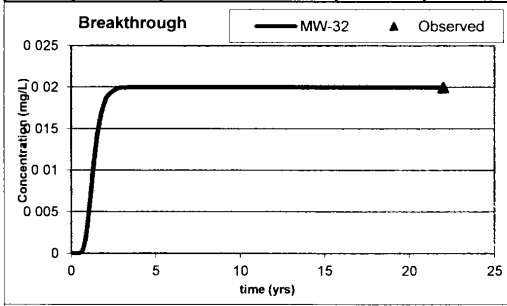
Temporal Calibration Data

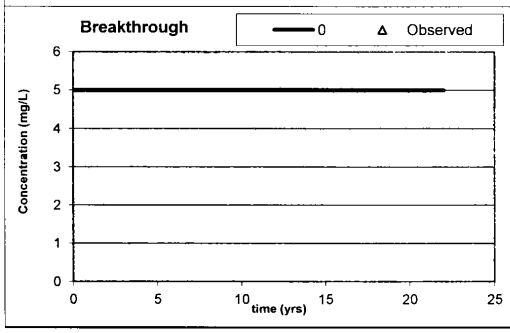
	MW-32		0	
t (yrs)	C_{obs} (mg/L)	C_{sim} (mg/L)	C_{obs} (mg/L)	C_{sim} (mg/L)
0		0		5
2.2		0 019		5.000
4.4		0.020		5.000
6.6		0 020		5.000
8 8		0 020		5.000
11		0.020		5.000
13 2		0.020		5 000
15 4		0 020		5 000
17 6		0 020		5 000
19 8		0 020		5.000
22	0.02	0 020		5 000

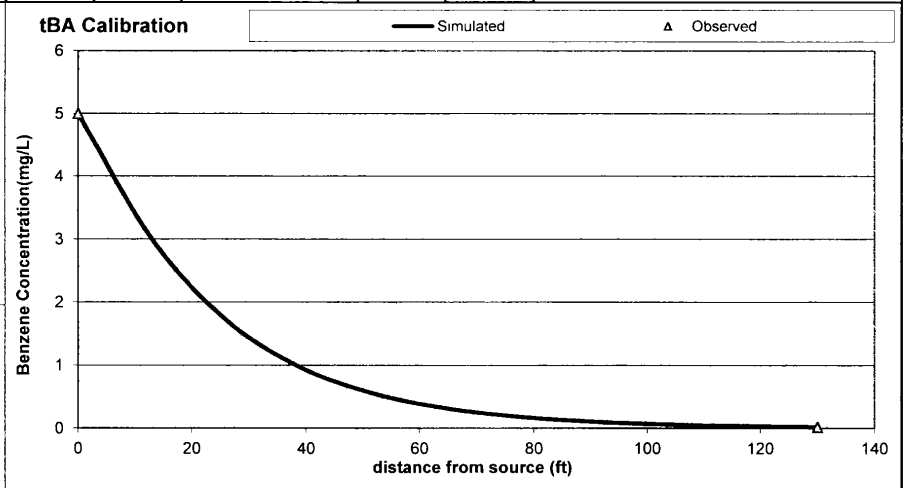
Site ID 06588
Site Name Spinx #258

Model Calibration Parameters

$t_{1/2}$	0.2411	yrs	λ	2.87433	yr^{-1}
v_x	50	ft/yr			
R	1.001				
v_R	49.932	ft/yr	C_{source}	5	mg/L
L_p	270	ft			
α_x	13.07301	ft	t_{sim}	22	yrs
α_y	1.307301	ft			
α_z	1E-99	ft			







Source	13	26	39	52	65	78	91	104	117	130
0	3 00665734	1 71796611	0 96675335	0 54582321	0 31022594	0 1774805	0 102123	0 059052	0 03429	0 019982
0	3 00665734	1.71796611	0 96675335	0 54582321	0 31022594	0 1774805	0 102123	0 059052	0 03429	0 019982
0	3 00665734	1 71796611	0 96675335	0 54582321	0 31022594	0 1774805	0 102123	0 059052	0 03429	0 019982
0	3 00665734	1.71796611	0 96675335	0 54582321	0 31022594	0 1774805	0 102123	0 059052	0 03429	0 019982
0	3 00665734	1 71796611	0 96675335	0 54582321	0 31022594	0 1774805	0 102123	0 059052	0 03429	0 019982

tAA Calibration

Spatial Calibration Data (centerline)

x	C_{obs} (mg/L)	C_{sim} (mg/L)
0	0 1	0 1
13		0.077
26		0.057
39		0.041
52		0.030
65		0.022
78		0.016
91		0.012
104		0.009
117		0.007
130	0.005	0.005

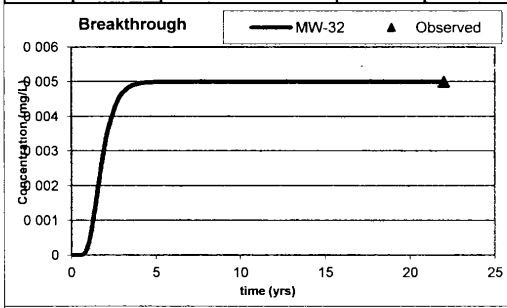
Temporal Calibration Data

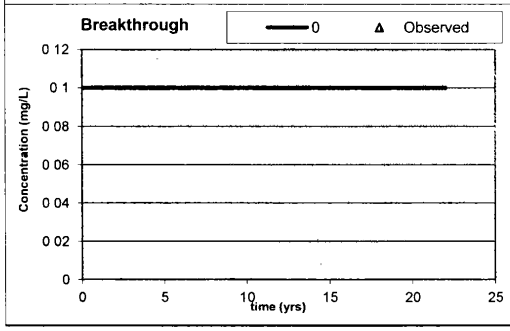
	MW-32		0	
t (yrs)	C_{obs} (mg/L)	C_{sim} (mg/L)	C_{obs} (mg/L)	C_{sim} (mg/L)
0		0		0 1
2.2		0.004		0.100
4 4		0.005		0.100
6 6		0 005		0.100
8.8		0.005		0.100
11		0 005		0.100
13.2		0.005		0.100
15.4		0 005		0.100
17 6		0.005		0.100
19 8		0.005		0 100
22	0 005	0 005		0 100

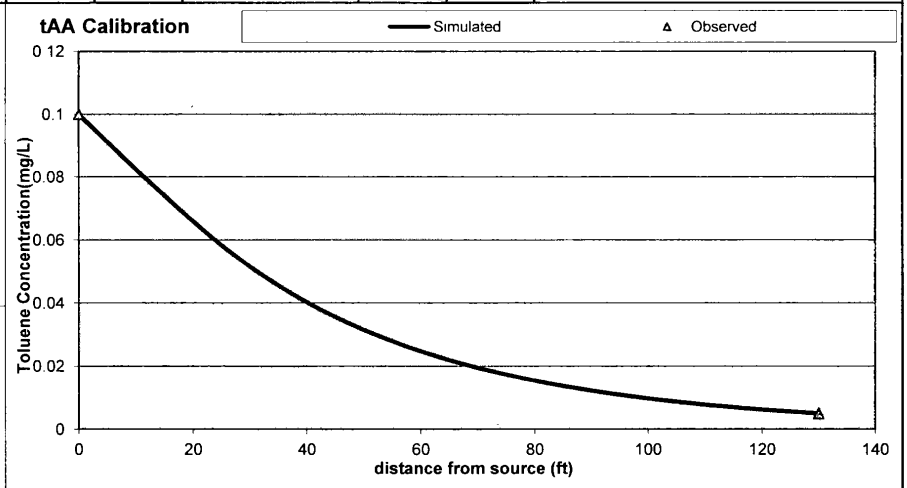
Site ID 06588
Site Name Spinx #258

Model Calibration Parameters

$t_{1/2}$	0.5883	yrs	λ	1.17797	yr^{-1}
v_x	50	ft/yr			
R	1.001				
v_R	49.932	ft/yr	C_{source}	0 1	mg/L
L_p	270	ft			
α_x	13.07301	ft	t_{sim}	22	yrs
α_y	1.307301	ft			
α_z	1E-99	ft			







Source	13	26	39	52	65	78	91	104	117	130
0	0 07741222	0 0569424	0 04125081	0 02998226	0 02193744	0 0161568	0 011968	0 008909	0 00666	0 004996
0	0 07741222	0 0569424	0 04125081	0 02998226	0 02193744	0 0161568	0 011968	0 008909	0 00666	0 004996
0	0 07741222	0 0569424	0 04125081	0 02998226	0 02193744	0 0161568	0 011968	0 008909	0 00666	0 004996
0	0.07741222	0 0569424	0 04125081	0 02998226	0 02193744	0 0161568	0 011968	0 008909	0 00666	0 004996
0	0 07741222	0 0569424	0 04125081	0 02998226	0 02193744	0 0161568	0 011968	0 008909	0.00666	0 004996

tAME Calibration

Spatial Calibration Data (centerline)

x	C_{obs} (mg/L)	C_{sim} (mg/L)
0	0.42	0 42
13		0 287
26		0.186
39		0.119
52		0.076
65		0.049
78		0.032
91		0.021
104		0.014
117		0.009
130	0 006	0.006

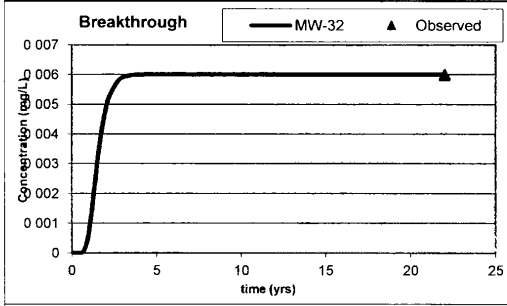
Temporal Calibration Data

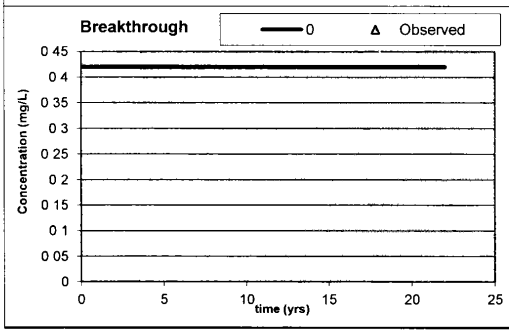
	MW-32		0	
t (yrs)	C_{obs} (mg/L)	C_{sim} (mg/L)	C_{obs} (mg/L)	C_{sim} (mg/L)
0		0		0.42
2 2		0 005		0.420
4.4		0 006		0.420
6.6		0 006		0.420
8 8		0.006		0.420
11		0 006		0.420
13 2		0.006		0 420
15 4		0.006		0.420
17.6		0.006		0 420
19.8		0 006		0 420
22	0.006	0.006		0 420

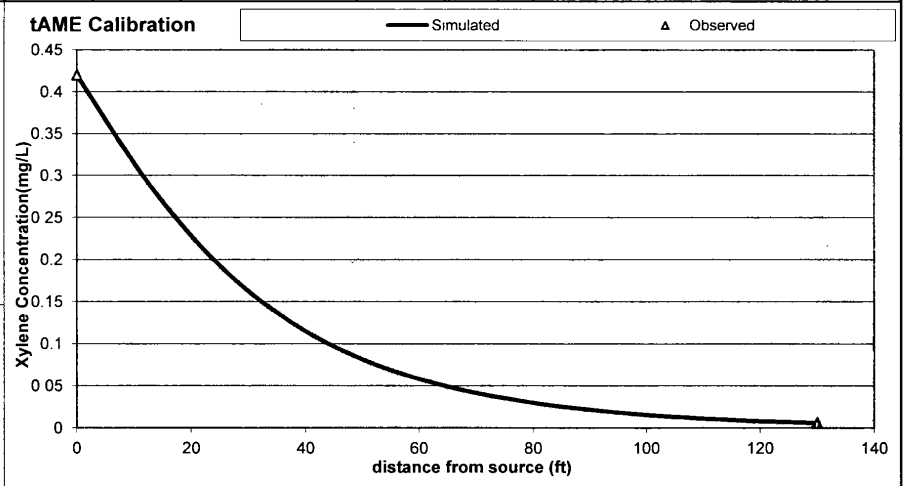
Site ID 06588
Site Name Spinx #258

Model Calibration Parameters

$t_{1/2}$	0.3544	yrs	λ	1.95542	yr^{-1}
v_x	50	ft/yr			
R	1.002				
v_R	49.898	ft/yr	C_{source}	0 42	mg/L
L_p	270	ft			
α_x	13.07301	ft	t_{sim}	22	yrs
α_y	1.307301	ft			
α_z	1E-99	ft			







Source	13	26	39	52	65	78	91	104	117	130
0	0 28689011	0 18620811	0 11902879	0 07633798	0 0492855	0 0320291	0 020935	0 013751	0 00907	0 006004
0	0 28689011	0 18620811	0 11902879	0 07633798	0 0492855	0 0320291	0 020935	0.013751	0 00907	0 006004
0	0 28689011	0 18620811	0 11902879	0 07633798	0 0492855	0 0320291	0 020935	0 013751	0 00907	0 006004
0	0 28689011	0 18620811	0 11902879	0.07633798	0 0492855	0 0320291	0 020935	0 013751	0 00907	0 006004
0	0 28689011	0 18620811	0 11902879	0 07633798	0 0492855	0 0320291	0 020935	0 013751	0.00907	0 006004

UST Permit # 06588
Site Name: Spinx #258

SSTLs t 1000 yrs

SSTLs in mg/L			RBSLs (mg/L):	1.400	0.240		0.128		
MW #	**x (ft)**	**y (ft)**	**z (ft)**	**tBA SSTL**	**tAA SSTL**		**tAME SSTL**		
MW-1	170	0	0	1812.952	11.428		31.306		
MW-2	305	0	0	>99999	189.882		1907.470		
MW-3	281	0	0	>99999	116.203		926.542		
MW-4R	323	0	0	>99999	273.967		3272.780		
MW-5	265	0	0	84015.018	83.625		571.613		
MW-6	272	0	0	>99999	96.588		706.232		
MW-7	321	0	0	>99999	263.049		3082.439		
MW-7D	325	0	0	>99999	285.333		3474.818		
MW-8D	270	0	0	>99999	92.694		664.841		
MW-9	345	0	0	>99999	428.091		6320.051		
MW-10	336	0	0	>99999	356.725		4829.430		
MW-11	397	0	0	>99999	1221.466		29746.692		
MW-12	464	0	0	>99999	4665.606		>99999		
MW-13	409	0	0	>99999	1554.081		42480.944		
MW-14	295	0	0	>99999	154.798		1412.336		
MW-15	266	0	0	87446.569	85.366		589.156		
MW-16	338	0	0	>99999	371.488		5127.055		
MW-17	358	0	0	>99999	556.829		9316.423		
MW-18	325	0	0	>99999	285.333		3474.818		
MW-19	254	0	0	54068.726	66.642		409.759		
			λ (yr^{-1}):	2.874	1.178		1.955		
			R:	1.001	1.001		1.002		

UST Permit # 06588
Site Name: Spinx #258

SSTLs t 1000 yrs

SSTLs in mg/L			RBSLs (mg/L):	1.400	0.240		0.128		
MW #	x (ft)	y (ft)	z (ft)	tBA SSTL	tAA SSTL		tAME SSTL		
MW-20	82	0	0	46.779	1.630		1.914		
MW-21	35	0	0	6.067	0.527		0.394		
MW-21D	35	0	0	6.067	0.527		0.394		
MW-22	287	0	0	>99999	131.415		1110.136		
MW-22D	291	0	0	>99999	142.634		1252.200		
MW-23	220	0	0	13777.227	32.874		145.717		
MW-24	240	0	0	30822.224	49.865		267.952		
MW-24D	244	0	0	36195.779	54.180		302.565		
MW-25	268	0	0	94734.278	88.956		625.863		
MW-26	189	0	0	3929.514	17.124		56.323		
MW-27	199	0	0	5895.219	21.154		76.606		
MW-28	112	0	0	165.705	3.224		5.053		
MW-29	170	0	0	1812.952	11.428		31.306		
MW-30	224	0	0	16188.434	35.740		164.635		
MW-30D	228	0	0	19019.321	38.850		185.987		
MW-31	253	0	0	51943.305	65.278		397.530		
MW-32	292	0	0	>99999	145.583		1290.455		
MW-33	250	0	0	46053.621	61.350		362.976		
MW-33D	260	0	0	68768.627	75.433		491.389		
MW-34	125	0	0	284.723	4.303		7.643		
			λ (yr^{-1}):	2.874	1.178		1.955		
			R:	1.001	1.001		1.002		

UST Permit # 06588
Site Name: Spinx #258

SSTLs t 1000 yrs

SSTLs in mg/L			RBSLs (mg/L):	1.400	0.240		0.128		
MW #	x (ft)	y (ft)	z (ft)	tBA SSTL	tAA SSTL		tAME SSTL		
MW-35	82	0	0	46.779	1.630		1.914		
MW-36	35	0	0	6.067	0.527		0.394		
MW-37	35	0	0	6.067	0.527		0.394		
MW-38	287	0	0	>99999	131.415		1110.136		
MW-39	291	0	0	>99999	142.634		1252.200		
MW-40	220	0	0	13777.227	32.874		145.717		
MW-41D	240	0	0	30822.224	49.865		267.952		
MW-42	244	0	0	36195.779	54.180		302.565		
MW-42D	268	0	0	94734.278	88.956		625.863		
MW-43D	189	0	0	3929.514	17.124		56.323		
			λ (yr^{-1}):	2.874	1.178		1.955		
			R:	1.001	1.001		1.002		

D H E C
PROMOTE PROTECT PROSPER
Catherine B. Templeton, Director
Promoting and protecting the health of the public and the environment

MR TOM DOLAN
ENMARK STATIONS INC
PO BOX 728
SAVANNAH GA 31402-0728

OCT 20 2014

UST 33tech DOCKETING

Re: Site-specific work plan request
Spinx #258, 2527 College Street, Newberry, SC
UST Permit #06588
Release #1 reported December 29, 1989
Release #2 reported November 21, 1995
Newberry County

Dear Mr. Dolan:

The Underground Storage Tank (UST) Management Division of the South Carolina Department of Health and Environmental Control (Agency) recognizes your commitment to continue work at this site using Bunnell-Lammons Enginering, Inc. as your contractor. The next scope of work is ground-water sampling as outlined in UST Quality Assurance Program Plan (QAPP) Revision 2.0. The data are to be used to establish a corrective action baseline. Please have your contractor plan to sample all monitoring/recovery wells and water supply wells WSW-1, WSW-4, WSW-7, and WSW-8 for BTEX+naph+MtBE+DCA+oxygenates and EDB. Do not sample wells containing measurable free-phase product. All work must be done in accordance with QAPP Revision 2.0 and in compliance with all applicable regulations. A copy of QAPP Revision 2.0 is available at http://www.scdhec.gov/environment/docs/QAPP_Rev-2_April2013.pdf.

Your contractor must complete and submit a site-specific work plan and cost agreement for the sampling within 30 days of the date of this letter. Upon review and approval of the plan and cost agreement, the Division will issue a directive to you for the work.

On all correspondence concerning this site, please reference UST Permit #06588. If there are any questions, feel free to contact me by telephone at (803) 898-0655, by fax at (803) 898-0673, or by e-mail at padgetjp@dhec.sc.gov.

Sincerely,

Joel P. Padgett, P.G., Geologist/Hydrologist
Corrective Action Section
Underground Storage Tank Management Division
Bureau of Land and Waste Management

JPP/jpp
06588.sswp1

cc: Bunnell-Lammons Engineering, Inc., 6004 Ponders Court, Greenville, SC 29615
Technical file

UST
NOV 03 2014
PROGRAM

BLE
BUNNELL-LAMMONS ENGINEERING, INC.
GEOTECHNICAL, ENVIRONMENTAL AND CONSTRUCTION MATERIALS CONSULTANTS

UST
34 tech
DOCKETING

October 27, 2014

South Carolina Department of Health and Environmental Control
Underground Storage Tank Division
2600 Bull Street
Columbia, South Carolina 29201-1708

Attention: Mr. Joel P. Padgett, P.G.

Subject: **Site Specific Work Plan – Comprehensive Groundwater Sampling Event**
Spinx #258 (Former Enmark #380)
2527 College Street
Newberry, Newberry County, South Carolina
UST Permit #06588
BLE Project No. J14-6859-06

Dear Mr. Padgett:

On behalf of Enmark Stations Inc., Bunnell-Lammons Engineering, Inc. (BLE) submits herein the completed Site Specific Work Plan (SSWP) for the subject site. This submittal is in response to the South Carolina Department of Health and Environmental Control's (SCDHEC) SSWP request dated October 20, 2014, for the implementation of a comprehensive groundwater sampling event at the subject site.

Please do not hesitate to contact us if you have any questions concerning this submittal.

Sincerely,

Bunnell-Lammons Engineering, Inc.

Daniel P. Osbourne, P.G., RSM
Senior Hydrogeologist
Registered, South Carolina #2376

Thomas L. Lammons, P.G., CHMM
Principal
Registered, South Carolina #893

cc: Mr. Tom Dolan, Enmark Stations Inc., P.O. Box 728, Savannah GA 31402-0728

6004 PONDERS COURT
GREENVILLE, SOUTH CAROLINA 29615

PHONE (864) 288-1265
FAX (864) 288-4430

D H E C

PROMOTE PROTECT PROSPER

Site-Specific Work Plan for Approved ACQAP
Underground Storage Tank Management Division

To: Joel Padgett, P.G. (SCDHEC Project Manager)
From: Dan Osbourne, P.G. (Contractor Project Manager)
Contractor: BLE UST Contractor Certification Number: UCC-0010

Facility Name: Spinx #258 (Former Enmark #380) UST Permit #: 06588
Facility Address: 2527 College Street, Newberry, SSC
Responsible Party: Enmark Stations Inc. Phone: _____
RP Address: PO Box 728, Savannah, GA 31402
Property Owner (if different): Enigma Corporation
Property Owner Address: PO Box 8624, Greenville, SC 29604
Current Use of Property: Fueling Station and Convenience Store

Scope of Work (Please check all that apply)

- ☐ IGWA
- ☐ Tier II
- ☑ Groundwater Sampling
- ☐ GAC
- ☐ Tier I
- ☐ Monitoring Well Installation
- ☐ Other _____

Analyses (Please check all that apply)

Groundwater/Surface Water:

- ☑ BTEXNMDCA (8260B)
- ☑ Oxygenates (8260B)
- ☑ EDB (8011)
- ☐ PAH (8270D)
- ☐ Lead
- ☐ 8 RCRA Metals
- ☐ TPH
- ☐ pH
- ☐ BOD
- ☐ Nitrate
- ☐ Sulfate
- ☐ Other _____
- ☐ Methane
- ☐ Ethanol
- ☐ Dissolved Iron

Soil:

- ☐ BTEXN
- ☐ PAH
- ☐ 8 RCRA Metals
- ☐ Oil & Grease (9071)
- ☐ TPH-DRO (3550B/8015B)
- ☐ TPH-GRO (5030B/8015B)
- ☐ Grain Size
- ☐ TOC

Air:

- ☐ BTEXN

Sample Collection (Estimate the number of samples of each matrix that are expected to be collected.)

_____ Soil	4 Water Supply Wells	_____ Air	3 Field Blank
51 Monitoring Wells	_____ Surface Water	3 Duplicate	3 Trip Blank

Field Screening Methodology

Estimate number and total completed depth for each point, and include their proposed locations on the attached map.

# of shallow points proposed: 0 Estimated Footage: 0 feet per point
# of deep points proposed: 0 Estimated Footage: 0 feet per point
Field Screening Methodology: NA

Permanent Monitoring Wells

Estimate number and total completed depth for each well, and include their proposed locations on the attached map.

# of shallow wells: 0 Estimated Footage: 0 feet per point
# of deep wells: 0 Estimated Footage: 0 feet per point
# of recovery wells: 0 Estimated Footage: 0 feet per point
Monitoring Well development method (consistent with SOP): NA
Comments, if warranted:

UST Permit #: 06588 Facility Name: Spinx #258 (Former Enmark #380)

Implementation Schedule (Number of calendar days from approval)
Field Work Start-Up: 14 Field Work Completion: 45
Report Submittal: 60 # of Copies Provided to Property Owners: 1

Aquifer Characterization
Pump Test: ☐ Slug Test: ☐ (Check one and provide explanation below for choice)
NA

Investigation Derived Waste Disposal
Soil: 0 Tons Purge Water: 300 Gallons
Drilling Fluids: 0 Gallons Free-Phase Product: 0 Gallons

Additional Details For This Scope of Work
For example, list wells to be sampled, wells to be abandoned/repaired, well pads/bolts/caps to replace, details of AFVR event, etc.

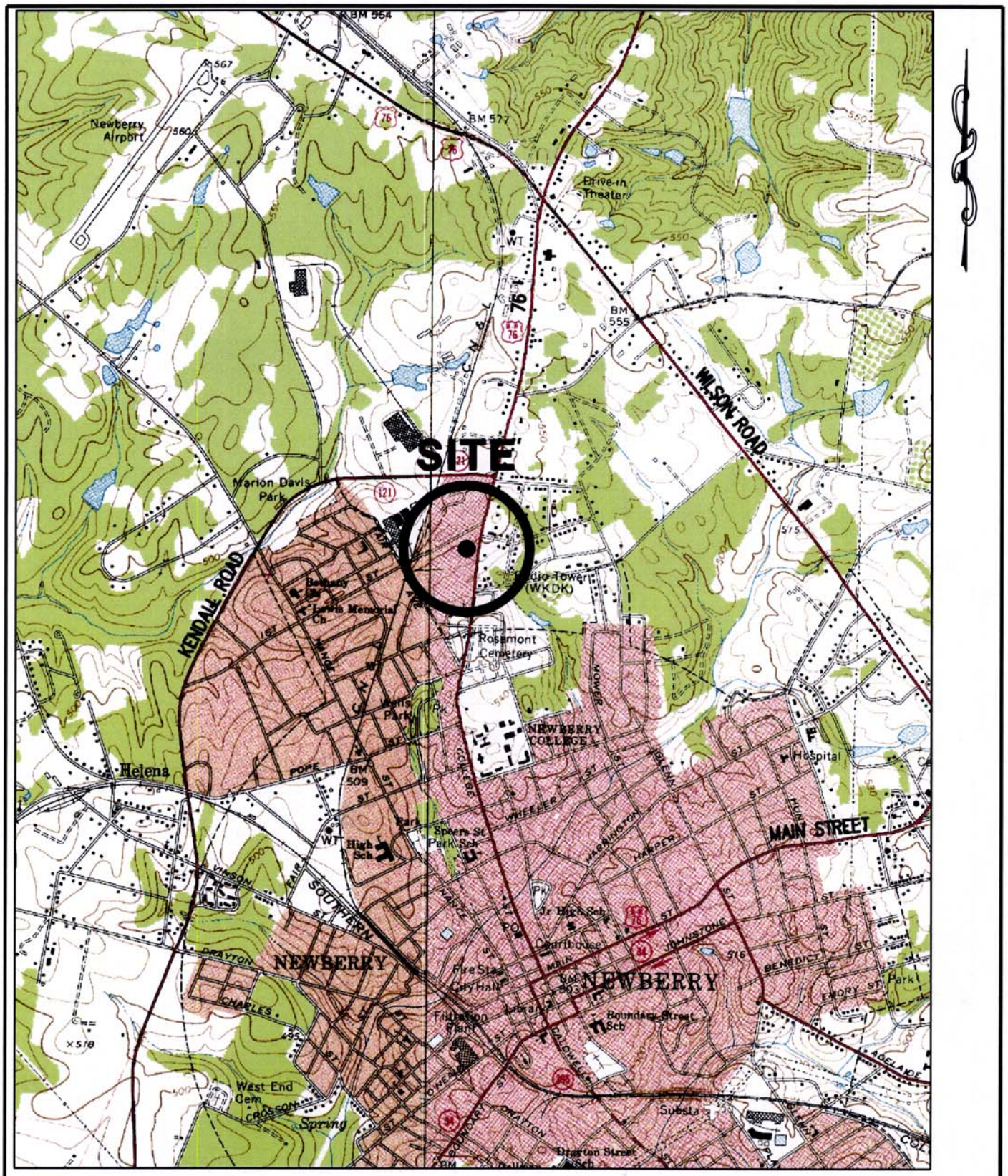
Compliance With Annual Contractor Quality Assurance Plan (ACQAP)
Yes Laboratory as indicated in ACQAP? (Yes/No) If no, indicate laboratory information below.
Name of Laboratory:
SCDHEC Certification Number:
Name of Laboratory Director:

NA Well Driller as indicated in ACQAO? (Yes/No) If no, indicate driller information below.
Name of Well Driller:
SCLLR Certification Number:

No Other variations from ACQAP. Please describe below.

Attachments
1. Attach a copy of the relevant portion of the USGS topographic map showing the site location.
2. Prepare a site base map. This map must be accurately scaled, but does not need to be surveyed. The map must include the following:
   - North Arrow
   - Location of property lines
   - Location of buildings
   - Previous soil sampling locations
   - Previous monitoring well locations
   - Proposed soil boring locations
   - Proposed monitoring well locations
   - Legend with facility name and address, UST permit number, and bar scale
   - Streets or highways (indicate names and numbers)
   - Location of all present and former ASTs and USTs
   - Location of all potential receptors
3. Assessment Component Cost Agreement, SCDHEC Form D-3664

FIGURES



2000 1000 0 2000 4000

APPROXIMATE SCALE IN FEET

REFERENCE:
USGS TOPOGRAPHIC MAP, 7.5 MINUTE SERIES, NEWBERRY WEST AND NEWBERRY EAST, S.C. QUADRANGLES, 1969 AND 1968.

DRAWN: ACE	DATE: 09-03-13	BLE INC. BUNNELL-LAMMONS ENGINEERING, INC. 6004 PONDERS COURT GREENVILLE, SOUTH CAROLINA 29615 PHONE: (864)288-1265 FAX: (864)288-4430	SITE LOCATION MAP SPINX 258/FORMER ENMARK 380 UST PERMIT #06588 NEWBERRY, SOUTH CAROLINA	FIGURE 1
CHECKED: DPO	CAD: SPINX258-05SLM			
APPROVED: TLL	JOB NO: J13-6859-05			

REFERENCE:
DRAWING TITLED "SITE SURVEY" BY SOUTHER LAND SURVEYING DATED JULY 12, 2012.

REVISIONS		
No.	DESCRIPTION	BY

DRAWN:	ACE	DATE:	10-27-14
CHECKED:	DPO	CAD FILE:	SPINX258-06SBM
APPROVED:	TLL	JOB NO:	J14-6859-06

BLE INC.

BUNNELL-LAMMONS ENGINEERING, INC.
6004 PONDERS COURT
GREENVILLE, SOUTH CAROLINA 29615
PHONE: (864)288-1265 FAX: (864)288-4430

SITE BASE MAP
SPINX 258/FORMER ENMARK 380
UST PERMIT #06588
NEWBERRY, SOUTH CAROLINA

FIGURE NO.
2

ASSESSMENT COMPONENT COST AGREEMENT

D H E C

PROMOTE PROTECT PROSPER

South Carolina Department of Health and Environmental Control

ASSESSMENT COMPONENT COST AGREEMENT

SOUTH CAROLINA

Department of Health and Environmental Control

Underground Storage Tank Management Division

State Underground Petroleum Environmental Response Bank Account

Facility Name: **Spinx 258 (Former Enmark #380)**

UST Permit #: 06588 **Cost Agreement #:**

ITEM	QUANTITY	UNIT	UNIT PRICE		TOTAL
1. **Plan Preparation**					
A1. Site-specific Work Plan	1	each	$150.00		$150.00
B1. Tax Map		each	$70.00		$0.00
C1. Tier II or Comp. Plan /QAPP Appendix B		each	$250.00		$0.00
2. A1. **Receptor Survey ***		each	$551.00		$0.00
3. **Survey (500 ft x 500 ft)**					
A1. Comprehensive Survey		each	$1,040.00		$0.00
B. Subsurface Geophysical Survey					
1B. < 10 meters below grade		each	$1,300.00		$0.00
2B. > 10 meters below grade		each	$2,310.00		$0.00
C1. Geophysical UST or Drum Survey		each	$910.00		$0.00
4. **Mob/Demob**					
A1. Equipment		each	$1,020.00		$0.00
B1. Personnel	2	each	$423.00		$846.00
C1. Adverse Terrain Vehicle		each	$500.00		$0.00
5. A1. **Soil Borings (hand auger)***		foot	$5.00		$0.00
6. **Soil Borings (requiring equipment, push technology, etc)* or Field Screening (including water ssample, soil sample, soil gas sample, etc.)***					
A1. Standard		per foot	$15.00		$0.00
C1. Fractured Rock		per foot	$20.20		$0.00
7. A1. **Soil Leachability Model**		each	$60.00		$0.00
8. **Abandonment (per foot)***					
A1. 2" diameter or less		per foot	$3.10		$0.00
B1. Greater than 2" to 6" diameter		per foot	$4.50		$0.00
C1. Dug/Bored well (up to 6 feet diameter)		per foot	$15.00		$0.00
9. **Well Installation (per foot)***					
A1. Water Table (hand augered)		per foot	$10.60		$0.00
B1. Water Table (drill rig)		per foot	$38.00		$0.00
C1. Telescoping		per foot	$50.00		$0.00
D1. Rock Drilling		per foot	$58.00		$0.00
E1. 2" Rock Coring		per foot	$30.90		$0.00
G1. Rock Multi-sampling ports/screens		per foot	$33.40		$0.00
H1. Recovery Well (4" diameter)		per foot	$45.00		$0.00
II. Pushed Pre-packed screen (1.25" dia)		per foot	$15.00		$0.00
J1. Rotosonic (2" diameter)		per foot	$44.00		$0.00
K. Re-develop Existing Well		per foot	$11.00		$0.00
10. **Groundwater Sample Collection / Gauge Depth to Water or Product ***					
A1. Groundwater Purge	51	per well/receptor	$60.00		$3,060.00
B1. Air or Vapors		per receptor	$12.00		$0.00
C1. Water Supply	4	per well/receptor	$22.00		$88.00
D1. Groundwater No Purge or Duplicate	3	per well/receptor	$28.00		$84.00
E1. Gauge Well only		per well	$7.00		$0.00
F1. Sample Below Product		per well	$12.00		$0.00
G1. Passive Diffusion Bag		each	$26.00		$0.00
H1. Field Blank	3	each	$24.60		$73.80

11. Laboratory Analyses-Groundwater					
A2. BTEXNM+Oxyg's+1,2 DCA+Eth(8260B)	64	per sample	$122.00		$7,808.00
AA1. Lead, Filtered		per sample	$13.80		$0.00
B2. Rush EPA Method 8260B (All of item A.)		per sample	$153.60		$0.00
C2. Trimethal, Butyl, and Isopropyl Benzenes		per sample	$36.40		$0.00
D1. PAH's		per sample	$60.60		$0.00
E1. Lead		per sample	$16.00		$0.00
F1. EDB by EPA 8011	61	per sample	$45.20		$2,757.20
FF1. EDB by EPA Method 8011 Rush		per sample	$68.20		$0.00
G1. 8 RCRA Metals		per sample	$63.40		$0.00
H1. TPH (9070)		per sample	$41.00		$0.00
II. pH		per sample	$5.20		$0.00
J1. BOD		per sample	$20.00		$0.00
PP. Ethanol		per sample	$14.80		$0.00
11. **Analyses-Soil**					
Q1. BTEX + Naphth.		per sample	$64.00		$0.00
R1. PAH's		per sample	$64.04		$0.00
S1. 8 RCRA Metals		per sample	$56.40		$0.00
U1. TPH-DRO (3550C/8015C)		per sample	$40.00		$0.00
V1. TPH- GRO (5030B/8015C)		per sample	$35.96		$0.00
W1. Grain size/hydrometer		per sample	$104.00		$0.00
X1. Total Organic Carbon		per sample	$30.60		$0.00
11. **Analyses-Air**					
Y1. BTEX + Naphthalene		per sample	$216.00		$0.00
11. **Analyses-Free Phase Product**					
Z1. Hydrocarbon Fuel Identification		per sample	$357.00		$0.00
12. **Aquifer Characterization**					
A1. Pumping Test*		per hour	$23.00		$0.00
B1. Slug Test*		per test	$191.00		$0.00
C1. Fractured Rock		per test	$100.00		$0.00
13. A1. **Free Product Recovery Rate Test***		each	$38.00		$0.00
14. **Fate/Transport Modeling**					
A1. Mathematical Model		each	$100.00		$0.00
B1. Computer Model		each	$100.00		$0.00
15. **Risk Evaluation**					
A. Tier I Risk Evaluation		each	$300.00		$0.00
B1. Tier II Risk Evaluation		each	$100.00		$0.00
16. A1. **Subsequent Survey***		each	$260.00		$0.00
17. **Disposal (gallons or tons)***					
AA. Wastewater	300	gallon	$0.56		$168.00
BB. Free Product		gallon	$0.50		$0.00
C1. Soil Treatment/Disposal		ton	$60.00		$0.00
D1. Drilling fluids		gallon	$0.42		$0.00
18. **Miscellaneous (attach receipts)**					
		each	$0.00		$0.00
		each	$0.00		$0.00
		each	$0.00		$0.00
20. **Tier I Assessment (Use DHEC 3665 form)**		standard			$0.00
21. **IGWA (Use DHEC 3666 form)**		standard			$0.00
22. **Corrective Action (Use DHEC 3667 form)**		PFP Bid			$0.00

23. **Aggressive Fluid & Vapor Recovery (AFVR)**					
A1. 8-hour Event*		each	$1,375.00		$0.00
A2. 24-hour Event*		each	$3,825.00		$0.00
A3. 48-hour Event*		each	$6,265.00		$0.00
A4. 96-hour Event*		each	$12,567.50		$0.00
C1. Off-gas Treatment 8 hour		per event	$122.50		$0.00
C2. Off-gas Treatment 24 hour		per event	$241.50		$0.00
C3. Off-gas Treatment 48 hour		per event	$327.00		$0.00
C4. Off-gas Treatment 96 hour		per event	$780.00		$0.00
D. Site Reconnaissance		each	$203.25		$0.00
E1. Additional Hook-ups		each	$25.75		$0.00
F. Effluent Disposal		gallon	$0.44		$0.00
G. AFVR Mobilization/Demobilization		each	$391.50		$0.00
24. **Granulated Activated Carbon (GAC) filter system installation & service:**					
A1. New GAC System Installation*		each	$1,900.00		$0.00
BB. Refurbished GAC Sys. Install*		each	$900.00		$0.00
C1. Filter replacement/removal*		each	$350.00		$0.00
DD. GAC System removal, cleaning, & refurbishment*		each	$275.00		$0.00
E1. GAC System housing*		each	$250.00		$0.00
F. In-line particulate filter		each	$150.00		$0.00
G1. Additional piping & fittings		foot	$1.50		$0.00
25. **Well Repair**					
A1. Additional Copies of the Report Delivered		each	$50.00		$0.00
B1. Repair 2x2 MW pad*		each	$50.00		$0.00
C1. Repair 4x4 MW pad*		each	$88.00		$0.00
D1. Repair well vault*		each	$118.00		$0.00
F1. Replace well cover bolts		each	$2.60		$0.00
G. Replace locking well cap & lock		each	$15.00		$0.00
H1. Replace/Repair stick-up*		each	$134.00		$0.00
II. Convert Flush-mount to Stick-up*		each	$150.00		$0.00
J1. Convert Stick-up to Flush-mount*		each	$130.00		$0.00
K1. Replace missing/illegible well ID plate		each	$12.00		$0.00
Report Prep & Project Management	12%	percent	$15,035.00		$1,804.20
TOTAL					$16,839.20

*The appropriate mobilization cost can be added to complete these tasks, as necessary

D H E C
PROMOTE PROTECT PROSPER
Catherine B Templeton, Director
Promoting and protecting the health of the public and the environment

MR TOM DOLAN
ENMARK STATIONS INC
PO BOX 728
SAVANNAH GA 31402-0728

NOV 21 2014

UST 35tech DOCKETING

Re: Ground-water sampling directive
Spinx #258, 2527 College Street, Newberry, SC
UST Permit #06588; CA #49275 and #49276
Release #1 reported December 29, 1989
Release #2 reported November 21, 1995
Newberry County

Dear Mr. Dolan:

The Underground Storage Tank (UST) Management Division of the South Carolina Department of Health and Environmental Control (Agency) has reviewed and approved the referenced site-specific work plan (SSWP) submitted by Bunnell-Lammons Engineering, Inc. Ground-water sampling as outlined in the plan may proceed immediately upon receipt of this letter. The work must be conducted in accordance with Quality Assurance Program Plan (QAPP) Revision 2.0 for the UST Management Division. A copy of QAPP Revision 2.0 is available at http://www.scdhec.gov/environment/docs/QAPP_Rev-2_April2013.pdf.

Cost Agreements (CA) #49275 and #49276 have been approved in the amount shown on the enclosed cost agreement form for the sampling of 51 monitoring/recovery wells and 4 water supply wells for BTEX+naph+MtBE+DCA+oxygenates and EDB. All applicable South Carolina certification requirements apply to the sampling and report preparation. Further, all site rehabilitation activities must be performed and submitted by a South Carolina-Certified Underground Storage Tank Site Rehabilitation Contractor.

A monitoring report, contractor checklist (QAPP Appendix K), and invoices are due within 60 days from the date of this letter. Your contractor may directly bill the State Underground Petroleum Environmental Response Bank (SUPERB) Account. Interim invoices may not be submitted for this scope of work. If the invoices are not submitted within 120 days from the date of this letter, monies allocated to pay them will be uncommitted. This means that the invoices will not be processed for payment until all other committed funds are paid or monies become available.

Sections 44-2-110(4) and 44-2-130 of the SUPERB Statute state that no costs will be allowed unless prior approval from the Agency is obtained. If for any reason additional tasks will be completed, these additional tasks and the associated cost must be pre-approved by the Agency for the cost to be paid. The Agency reserves the authority to pay only for work properly performed and/or technically justified and will only pay rates in accordance with established criteria. Further, the Agency reserves the right to question and/or reject costs if deemed

unreasonable and the right to audit project records at any time during the project or after completion of work.

The UST Management Division grants pre-approval for transportation of petroleum-contaminated, investigative-derived waste (IDW) from the referenced site to a permitted treatment/disposal facility. The transport and disposal must be conducted in accordance with QAPP revision 2.0.

On all correspondence concerning this facility, please reference UST Permit #06588. If there are any questions concerning this project, feel free to contact me by telephone at (803) 898-0655, by fax at (803) 898-0673, or by e-mail at padgetjp@dhec.sc.gov.

Sincerely,

Joel P. Padgett, P.G., Geologist/Hydrologist
Corrective Action Section
Underground Storage Tank Management Division
Bureau of Land and Waste Management

JPP/jpp
06588.mr1

enc: Approved cost agreement forms

cc: Bunnell-Lammons Engineering, Inc., 6004 Ponders Court, Greenville, SC 29615 (w/enc)
Technical file (w/enc)

Approved Cost Agreement 49276

Facility· 06588 SPINX 258

PADGETJP

PO Number.

Task / Description	Categories	Item	Description	Qty / Pct	Unit Price	Amount
01 PLAN						
		A1	SITE SPECIFIC WORK PLAN	0.5000	150.00	75.00
04 MOB/DEMOB						
		B1	PERSONNEL	2.0000	423.00	846.00
10 SAMPLE COLLECTION						
		A1	GROUNDWATER (PURGE)	25 5000	60 00	1,530 00
		C1	WATER SUPPLY	2 0000	22.00	44.00
		D1	GROUNDWATER NO PURGE/DUPLICATE	1.5000	28.00	42 00
		H1	FIELD BLANK	1.5000	24 60	36 90
11 ANALYSES						
	GW GROUNDWATER	A2	BTEXNM+OXYGS+1,2-DCA+ETH-8260B	32.0000	122.00	3,904.00
		F1	EDB BY 8011	32.0000	45.20	1,446 40
17 DISPOSAL						
		AA	WASTEWATER	150.0000	0.56	84 00
19 RPT/PROJECT MNGT & COORDINATIO						
		PRT	REPORT PREPARATION	0 1200	8,008.30	961.00
				Total Amount		8,969.30

Approved Cost Agreement 49275

Facility. 06588 SPINX 258

PADGETJP

PO Number:

Task / Description	Categories	Item	Description	Qty / Pct	Unit Price	Amount
01 PLAN						
		A1	SITE SPECIFIC WORK PLAN	0.5000	150 00	75 00
04 MOB/DEMOB						
		B1	PERSONNEL	2.0000	423.00	846.00
10 SAMPLE COLLECTION						
		A1	GROUNDWATER (PURGE)	25.5000	60.00	1,530.00
		C1	WATER SUPPLY	2.0000	22 00	44.00
		D1	GROUNDWATER NO PURGE/DUPLICATE	1.5000	28 00	42.00
		H1	FIELD BLANK	1.5000	24.60	36 90
11 ANALYSES						
	GW GROUNDWATER	A2	BTEXNM+OXYGS+1,2-DCA+ETH-8260B	32.0000	122.00	3,904.00
		F1	EDB BY 8011	32.0000	45 20	1,446.40
17 DISPOSAL						
		AA	WASTEWATER	150.0000	0 56	84.00
19 RPT/PROJECT MNGT & COORDINATIO						
		PRT	REPORT PREPARATION	0 1200	8,008 30	961.00
				Total Amount		8,969 30

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PROGRAM

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DOCKETING

BLE

BUNNELL-LAMMONS ENGINEERING, INC.

GEOTECHNICAL, ENVIRONMENTAL AND CONSTRUCTION MATERIALS CONSULTANTS

REPORT OF GROUNDWATER SAMPLING EVENT January 2015

SPINX 258/FORMER ENMARK 380
2527 COLLEGE STREET
NEWBERRY, NEWBERRY COUNTY, SOUTH CAROLINA
UST PERMIT #06588; COST AGREEMENT #49275 & #49276

Prepared For

Enmark Stations, Inc.
Post Office Box 728
Savannah, Georgia 31402

Prepared By

Bunnell-Lammons Engineering, Inc.
6004 Ponders Court
Greenville, South Carolina 29615
SCDHEC Certified Contractor No. UCC-010

April 9, 2015

BLE Project Number J14-6859-06

BUNNELL-LAMMONS ENGINEERING, INC.
GEOTECHNICAL, ENVIRONMENTAL AND CONSTRUCTION MATERIALS CONSULTANTS

April 9, 2015

South Carolina Department of Health and Environmental Control
Bureau of Land and Waste Management
Underground Storage Tank Program
2600 Bull Street
Columbia, South Carolina 29201-1708

Attention: Mr. Joel P. Padgett, P.G.
Hydrogeologist

Subject: **Report of Groundwater Sampling Event – January 2015**
Spinx 258/Former Enmark 380
Newberry, Newberry County, South Carolina
UST Permit #06588; CA #49275 & #49276
BLE Project No. J14-6859-06

Dear Mr. Padgett:

On behalf of Enmark Stations, Inc. (Enmark), Bunnell-Lammons Engineering, Inc. (BLE) has completed a groundwater sampling event at the subject site. This scope of work was performed in response to a South Carolina Department of Health and Environmental Control (SCDHEC) directive dated November 21, 2014. This report describes the work performed and presents the results obtained, along with our comments and recommendations. Please do not hesitate to contact us if you have any questions concerning this report.

Sincerely,

BUNNELL-LAMMONS ENGINEERING, INC.

Daniel P. Osbourne, P.G.
Senior Hydrogeologist
Registered, South Carolina No. 2376

Thomas L. Lammons, P.G., CHMM
Principal Hydrogeologist
Registered, South Carolina No. 893

cc: Mr. Tom Dolan, Enmark Stations Inc., PO Box 728, Savannah, GA 31402-0728

6004 PONDERS COURT
GREENVILLE, SOUTH CAROLINA 29615

PHONE (864) 288-1265
FAX (864) 288-4430

BACKGROUND INFORMATION

The subject property is located at 2527 College Street in Newberry, Newberry County, South Carolina (**Figure 1**). The site is currently utilized as an automobile fueling station and retail convenience store and is bordered by commercial properties to the east and south and residential properties to the north and west.

According to a review of files available through a freedom of information request, the following environmental activities have been completed at the subject site to date:

- *Soil Sampling Program* — December 1989
- *Site Assessment* — October 1991
- *Petroleum Recovery activities* — March 1996
- *Risk-Based Corrective Action Tier II Evaluation Report* — May 1997
- *Tier II Assessment Report* — February 2011
- *Report of Monitoring Well Installation and Groundwater Sampling Event* — August 2011
- *Report of Aggressive Fluid Vapor Recovery, Monitoring Well Installation and Groundwater Sampling* — August 2012
- *Report of Monitoring Well Installation & Groundwater Sampling Event* — January 2014

In October 2013, the SCDHEC issued a Site Specific Work Plan (SSWP) request letter for a groundwater sampling event at the subject site. BLE prepared and submitted the SSWP on October 27, 2014. On November 21, 2014, the SCDHEC approved the SSWP and directed the performance of the proposed scope of work. Details of the groundwater sampling event are provided herein.

GROUNDWATER SAMPLING		
Date Sampled:	January 21 - 28, 2015	
Total Number of Wells Associated with Site:	60	MW-01, MW-02, MW-03, MW-04R, MW-05, MW-06, MW-07, MW-07D, MW-08D, MW-09 through MW-21, MW-21D, MW-22, MW-22D, MW-23, MW-24, MW-24D, MW-25, MW-26, through MW-30, MW-30D, MW-

		31, MW-32, MW-33, MW-33D, MW-34, MW-35 through MW-40, MW-41D, MW-42, MW-42D, MW-43D, DW-1 through DW-10.
Total Number of Wells Sampled:	45	MW-01, MW-02, MW-04R, MW-07, MW-07D, MW-08D, MW-09 through MW-18, MW-20, MW-21, MW-21D, MW-22D, MW-24D, MW-25, MW-26 through MW-30, MW-30D, MW-32, MW-33, MW-33D, MW-34 through MW-40, MW-41D, MW-42, MW-42D, MW-43D, DW-1, DW-4, and DW-8.
Total Number of Wells NOT Sampled:	15	MW-03 (Not located), MW-05, MW-06, MW-19, MW-22, MW-23, MW-24 (Free Product), MW-31 (Not located), DW-2, DW-3, DW-5, DW-6, DW-9, and DW-10 (Not directed by SCDHEC), DW-7 (Could not be accessed).
QA / QC Samples	7	3 Duplicate Samples (MW-07 DUP), (MW-25 DUP), (MW-30 DUP), 3 Field Blanks, 1 Trip Blank
Total Purge Volume (gallons)	283	Disposal Manifest Included in Appendix A
Analytical Laboratory	Shealy Environmental Services, Inc.	
Analytical Methods	EPA Method 8260B and EPA Method 8011,	
Free-Phase Petroleum Product	MW-05 (0.32 feet), MW-06 (0.14 feet), MW-19 (0.42 feet), MW-22 (0.03 feet), MW-23 (0.37 feet), and MW-24 (0.05 feet)	
Contaminants Exceeding Risk Based Screening Level (RBSL) Concentrations	Benzene, Toluene, Ethylbenzene, Xylenes, Methyl-Tert-Butyl-Ether (MTBE), Naphthalene, 1,2-Dibromoehtane (EDB), 1,2-Dichloroethane (1,2-DCA), Diisopropyl Ether (IPE), Tert-Butyl Alcohol (TBA), Tert-Amyl Alcohol (TAA)	
Field Sampling Logs	See Appendix B	

Groundwater Level Measurements	See Table 1
Laboratory Analytical Summary	See Table 2
Laboratory Analytical Results	See Appendix C
Potentiometric Map	See Figure 2
CoC Map	See Figure 3

CONCLUSIONS AND RECOMMENDATIONS

The extent of the CoCs in groundwater at the subject site has been substantially defined both horizontally and vertically. Dissolved phase petroleum compounds were detected at concentrations exceeding their respective RBSL in nine monitoring wells (MW-01, MW-02, MW-04R, MW-07 MW-18, MW-25, MW-26, MW-40, and MW-41D). Free-phase petroleum was identified in six monitoring wells (MW-05, MW-06, MW-19, MW-22, MW-23, and MW-24).

In May 2012, three 8-hour Aggressive Fluid Vapor Recovery (AFVR) events were performed on a total of six monitoring wells at the site. Since that time, free-phase petroleum thicknesses in each of the six wells has remained below the levels identified prior to May 2012. Additionally, during the current assessment free-phase petroleum product was no longer present in two of the six wells (MW-07 and MW-25).

Based on the results of this assessment and the effectiveness of the 8-hour AFVR events, BLE recommends three 96-hour Aggressive Fluid Vapor Recovery (AFVR) events be conducted at the site. The first 96-hour AFVR event should be performed on monitoring wells MW-05, MW-24 and MW-25, the second 96-hour AFVR event should be performed on monitoring wells MW-06, MW-23 and MW-40, and the third AFVR event should be performed on monitoring wells MW-19 and MW22. The goal of the AFVR events is to 1) remove residual free-phase petroleum product from the area around the extraction points, 2) remove petroleum hydrocarbon vapors from the unsaturated zone, and 3) remove petroleum impacted groundwater from the subsurface.

Approximately thirty days after the completion of the third AFVR event, BLE recommends performing a comprehensive groundwater sampling event at the site to evaluate the effectiveness of the AFVR event, obtain current CoC concentration data, and to evaluate CoC trends.

QUALIFICATION OF REPORT

The activities and evaluative approaches used in this assessment are consistent with those normally employed in hydrogeological assessments of this type. Our evaluation of site conditions has been based on our understanding of the site and project information and the data obtained in our exploration.

This report has been prepared on behalf of and exclusively for the use of Enmark. This report and the findings contained herein shall not, in whole or in part, be used or relied upon by any other party without BLE's prior written consent. Any unauthorized use or distribution of BLE's work shall be at third parties risk and without liability to BLE.

TABLES

TABLE 1

Monitoring Well and Groundwater Surface Elevation Data
Spiro 250/Former Exxon# 300
Newberry, Newberry County, South Carolina
SCDHEC UST Permit #06588; Cost Agreement #49275 & #49276
BLE Project Number J13-6859-06

Monitoring Well	Ground Elevation	Top-Of-Casing Elevation	Date Sampled	Groundwater Depth BTOC	Groundwater Elevation	Well Depth feet BGS	Screened Interval Depth BGS	Screened Interval Elevation
06588-MW01	542 43	542 17	12/22/10	20 35	521 82	28 30	13 05 - 28 05	529 12 - 514 12
			7/19/11	20 85	521 32			
			7/16/12	22 27	519 90			
			11/12/13	20 30	521 87			
			1/21/15	19 66	522 51			
06588-MW02	543 01	542 83	12/22/10	20 82	522 01	25 20	10 20 - 25 20	532 63 - 517 63
			7/19/11	21 32	521 51			
			7/16/12	22 77	520 06			
			11/12/13	20 81	522 02			
			1/21/15	20 11	522 72			
06588-MW03	543 98	543 63	12/22/10	21 25	522 38	25 00	10 00 - 25 00	533 63 - 518 63
			7/19/11	22 14	521 49			
			7/16/12	23 54	520 09			
			11/12/13	21 60	522 03			
			1/21/15	Not Located	NA			
06588-MW04	543 58	542 96	12/22/10	Damaged	NA	25 00	10 00 - 25 00	532 96 - 517 96
			7/19/11	Damaged	NA			
			7/16/12	Damaged	NA			
06588-MW04R	542 34	542 14	11/12/13	20 95	521 19	27 60	17 40 - 27 40	524 74 - 514 74
			1/21/15	20 18	521 96			
06588-MW05*	542 69	542 43	12/22/10	21 10	521 33	25 00	15 00 - 25 00	527 43 - 517 43
			7/19/11	21 65	520 78			
			7/16/12	22 57	519 86			
			11/12/13	20 70	521 73			
			1/21/15	20 19	522 24			
06588-MW06*	542 43	542 24	12/22/10	20 85	521 39	25 00	15 00 - 25 00	527 24 - 517 24
			7/19/11	20 76	521 48			
			7/16/12	22 52	519 72			
			11/12/13	20 35	521 89			
			1/21/15	19 94	522 30			
06588-MW07	542 79	542 63	12/22/10	20 90	521 73	25 00	15 00 - 25 00	527 63 - 517 63
			7/19/11	21 26	521 37			
			7/16/12	22 62	520 01			
			11/12/13	20 73	521 90			
			1/21/15	19 94	522 69			
06588-MW07D	542 25	541 75	12/22/10	19 80	521 95	46 04	40 84 - 45 84	500 91 - 495 91
			7/19/11	20 35	521 40			
			7/16/12	21 89	519 86			
			11/12/13	19 71	522 04			
			1/21/15	19 02	522 73			
06588-MW08D	542 76	542 54	12/22/10	21 80	520 74	45 00	40 00 - 45 00	502 54 - 497 54
			7/19/11	19 84	522 70			
			7/16/12	25 39	517 15			
			11/12/13	23 30	519 24			
			1/21/15	23 60	518 94			
06588-MW09	544 20	543 91	12/22/10	21 70	522 21	28 74	18 54 - 28 54	525 37 - 515 37
			7/19/11	22 25	521 66			
			7/16/12	24 68	519 23			
			11/12/13	21 70	522 21			
			1/21/15	20 86	523 05			
06588-MW10	543 29	542 98	12/22/10	20 91	522 07	28 00	17 80 - 27 80	525 18 - 515 18
			7/19/11	21 58	521 40			
			7/16/12	23 02	519 96			
			11/12/13	21 01	521 97			
			1/21/15	20 25	522 73			
06588-MW11	541 88	541 60	12/22/10	19 15	522 45	28 30	18 10 - 28 10	523 50 - 513 50
			7/19/11	19 72	521 88			
			7/16/12	21 08	520 52			
			11/12/13	18 95	522 65			
			1/21/15	18 19	523 41			

Prepared By RAD
Checked By DPO

TABLE 1

Monitoring Well and Groundwater Surface Elevation Data
Spinx 250/Former Exxmark 380
Newberry, Newberry County, South Carolina
SCDHEC UST Permit #06588; Cost Agreement #49275 & #49276
BLE Project Number J13-6859-06

Monitoring Well	Ground Elevation	Top-Of-Casing Elevation	Date Sampled	Groundwater Depth BTOC	Groundwater Elevation	Well Depth feet BGS	Screened Interval Depth BGS	Screened Interval Elevation
06588-MW12	541 90	541 67	12/22/10	19 10	522 57	27 61	17 41 - 27 41	524 26 - 514 26
			7/19/11	19 74	521 93			
			7/16/12	21 17	520 50			
			11/12/13	19 05	522 62			
			1/21/15	18 16	523 51			
06588-MW13	541 19	540 96	12/22/10	19 00	521 96	26 46	16 26 - 26 26	524 70 - 514 70
			7/19/11	19 56	521 40			
			7/16/12	20 99	519 97			
			11/12/13	19 00	521 96			
			1/21/15	18 13	522 83			
06588-MW14	545 14	544 81	12/22/10	22 40	522 41	29 32	19 12 - 29 12	525 69 - 515 69
			7/19/11	22 95	521 86			
			7/16/12	24 48	520 33			
			11/12/13	22 35	522 46			
			1/21/15	21 73	523 08			
06588-MW15	544 11	543 81	12/22/10	21 45	522 36	28 62	18 42 - 28 42	525 39 - 515 39
			7/19/11	21 96	521 85			
			7/16/12	23 50	520 31			
			11/12/13	21 45	522 36			
			1/21/15	20 80	523 01			
06588-MW16	539 55	539 35	12/22/10	17 96	521 39	26 02	15 82 - 25 82	523 53 - 513 53
			7/19/11	18 45	520 90			
			7/16/12	19 79	519 56			
			11/12/13	17 90	521 45			
			1/21/15	17 18	522 17			
06588-MW17	541 46	541 24	12/22/10	19 40	521 84	26 54	16 34 - 26 34	524 90 - 514 90
			7/19/11	19 90	521 34			
			7/16/12	21 33	519 91			
			11/12/13	19 36	521 88			
			1/21/15	18 64	522 60			
06588-MW18	541 42	541 24	12/22/10	19 60	521 64	26 28	16 08 - 26 08	525 16 - 515 16
			7/19/11	20 15	521 09			
			7/16/12	21 54	519 70			
			11/12/13	19 60	521 64			
			1/21/15	18 92	522 32			
06588-MW19*	540 98	540 82	12/22/10	19 26	521 56	25 52	15 32 - 25 32	525 50 - 515 50
			7/19/11	19 80	521 02			
			7/16/12	21 23	519 59			
			11/12/13	19 37	521 45			
			1/21/15	18 93	521 89			
06588-MW20	542 61	542 24	12/22/10	20 52	521 72	27 24	17 04 - 27 04	525 20 - 515 20
			7/19/11	21 05	521 19			
			7/16/12	22 38	519 86			
			11/12/13	20 43	521 81			
			1/21/15	19 80	522 44			
06588-MW21	541 95	541 73	12/22/10	20 50	521 23	27 16	16 96 - 26 96	524 77 - 514 77
			7/19/11	20 98	520 75			
			7/16/12	21 86	519 87			
			11/12/13	19 92	521 81			
			1/21/15	19 20	522 53			
06588-MW21D	542 43	542 23	12/22/10	20 00	522 23	46 75	41 55 - 46 55	500 68 - 495 68
			7/19/11	20 46	521 77			
			7/16/12	22 34	519 89			
			11/12/13	20 42	521 81			
			1/21/15	24 14	518 09			
06588-MW22*	541 08	540 89	12/22/10	19 30	521 59	26 25	16 05 - 26 05	524 84 - 514 84
			7/19/11	19 84	521 05			
			7/16/12	21 19	519 70			
			11/12/13	19 35	521 54			
			1/21/15	18 66	522 23			

Prepared By RAD
Checked By DPO

TABLE 1

Monitoring Well and Groundwater Surface Elevation Data
Spiez 250/Former Exxmark 380
Newberry, Newberry County, South Carolina
SCDHEC UST Permit #06588; Cost Agreement #49275 & #49276
BLE Project Number J13-6859-06

Monitoring Well	Ground Elevation	Top-Of-Casing Elevation	Date Sampled	Groundwater Depth BTOC	Groundwater Elevation	Well Depth feet BGS	Screened Interval Depth BGS	Screened Interval Elevation
06588-MW22D	541 22	540 87	12/22/10	19 30	521 57	45 82	40 62 - 45 62	500 25 - 495 25
			7/19/11	19 80	521 07			
			7/16/12	21 15	519 72			
			11/12/13	19 50	521 37			
			1/21/15	18 35	522 52			
06588-MW23*	541 44	541 19	12/22/10	19 60	521 59	25 25	15 05 - 25 05	526 14 - 516 14
			7/19/11	20 06	521 13			
			7/16/12	21 55	519 64			
			11/12/13	19 68	521 51			
			1/21/15	19 17	522 02			
06588-MW24*	542 50	542 17	12/22/10	20 42	521 75	25 42	15 22 - 25 22	526 95 - 516 95
			7/19/11	20 94	521 23			
			7/16/12	22 43	519 74			
			11/12/13	20 41	521 76			
			1/21/15	19 68	522 49			
06588-MW24D	542 37	542 14	12/22/10	20 40	521 74	46 03	40 83 - 45 83	501 31 - 496 31
			7/19/11	20 90	521 24			
			7/16/12	22 30	519 84			
			11/12/13	19 26	522 88			
			1/21/15	18 64	523 50			
06588-MW25	542 98	542 72	12/22/10	20 76	521 96	25 38	15 18 - 25 18	527 54 - 517 54
			7/19/11	21 30	521 42			
			7/16/12	22 73	519 99			
			11/12/13	20 77	521 95			
			1/21/15	20 04	522 68			
06588-MW26	543 01	542 87	12/22/10	20 72	522 15	27 00	16 80 - 26 80	526 07 - 516 07
			7/19/11	21 20	521 67			
			7/16/12	22 69	520 18			
			11/12/13	20 68	522 19			
			1/21/15	20 04	522 83			
06588-MW27	543 72	543 45	12/22/10	21 20	522 25	27 25	17 05 - 27 05	526 40 - 516 40
			7/19/11	21 66	521 79			
			7/16/12	23 18	520 27			
			11/12/13	20 14	523 31			
			1/21/15	20 51	522 94			
06588-MW28	540 32	540 03	12/22/10	18 44	521 59	25 50	15 30 - 25 30	524 73 - 514 73
			7/19/11	18 90	521 13			
			7/16/12	20 28	519 75			
			11/12/13	18 38	521 65			
			1/21/15	17 68	522 35			
06588-MW29	538 80	538 56	12/22/10	17 60	520 96	25 00	14 80 - 24 80	523 76 - 513 76
			7/19/11	18 12	520 44			
			7/16/12	19 35	519 21			
			11/12/13	17 63	520 93			
			1/21/15	16 85	521 71			
06588-MW30	537 42	537 15	12/22/10	16 54	520 61	24 00	13 80 - 23 80	523 35 - 513 35
			7/19/11	17 20	519 95			
			7/16/12	18 36	518 79			
			11/12/13	16 80	520 35			
			1/21/15	15 73	521 42			
06588-MW30D	537 60	537 24	7/19/11	17 10	520 14	46 30	36 10 - 46 10	501 14 - 491 14
			7/16/12	18 29	518 95			
			11/12/13	16 64	520 60			
			1/21/15	15 88	521 36			
06588-MW31	538 87	538 63	12/22/10	17 68	520 95	25 25	15 05 - 25 05	523 58 - 513 58
			7/19/11	18 25	520 38			
			7/16/12	19 50	519 13			
			11/12/13	Not located	NA			
			1/21/15	Not located	NA			
06588-MW32	539 18	538 94	12/22/10	17 70	521 24	25 25	15 05 - 25 05	523 89 - 513 89
			7/19/11	18 24	520 70			
			7/16/12	19 50	519 44			
			11/12/13	17 69	521 25			
			1/21/15	16 89	522 05			

Prepared By RAD
Checked By DPO

TABLE I

Monitoring Well and Groundwater Surface Elevation Data
Spinx 258/Former Exxmark 300
Newberry, Newberry County, South Carolina
SCDHEC UST Permit #06588; Cost Agreement #49275 & #49276
BLE Project Number J13-6859-06

Monitoring Well	Ground Elevation	Top-Of-Casing Elevation	Date Sampled	Groundwater Depth BTOC	Groundwater Elevation	Well Depth feet BGS	Screened Interval Depth BGS	Screened Interval Elevation
06588-MW33	540 16	539 95	12/22/10	18 66	521 29	26 25	16 05 - 26 05	523 90 - 513 90
			7/19/11	19 15	520 80			
			7/16/12	20 42	519 53			
			11/12/13	18 58	521 37			
			1/21/15	17 90	522 05			
06588-MW33D	540 22	540 02	7/19/11	19 20	520 82	48 35	38 15 - 48 15	501 87 - 491 87
			7/16/12	20 42	519 60			
			11/12/13	18 67	521 35			
			1/21/15	17 91	522 11			
06588-MW34	533 67	533 42	12/22/10	12 30	521 12	18 25	8 05 - 18 05	525 37 - 515 37
			7/19/11	12 80	520 62			
			7/16/12	14 97	518 45			
			11/12/13	12 25	521 17			
			1/21/15	11 45	521 97			
06588-MW35	528 00	527 70	12/22/10	6 88	520 82	14 25	4 05 - 14 05	523 65 - 513 65
			7/19/11	7 36	520 34			
			7/16/12	9 45	518 25			
			11/12/13	Not Accessible	NA			
			1/21/15	7 41	520 29			
06588-MW36	525 24	528 05	12/22/10	12 65	515 40	31 00	20 80 - 30 80	507 25 - 497 25
			7/19/11	13 10	514 95			
			7/16/12	13 19	514 86			
			11/12/13	12 86	515 19			
			1/21/15	12 10	515 95			
06588-MW37	519 24	522 30	12/22/10	3 70	518 60	21 69	11 49 - 21 49	510 81 - 500 81
			7/19/11	4 22	518 08			
			7/16/12	5 22	517 08			
			11/12/13	4 00	518 30			
			1/21/15	3 26	519 04			
06588-MW38	536 16	535 96	12/22/10	15 55	520 41	25 00	14 80 - 24 80	521 16 - 511 16
			7/19/11	16 06	519 90			
			7/16/12	17 18	518 78			
			11/12/13	15 61	520 35			
			1/21/15	14 76	521 20			
06588-MW39	518 80	518 57	12/22/10	1 52	517 05	12 00	1 80 - 11 80	516 77 - 506 77
			7/19/11	2 46	516 11			
			7/16/12	2 77	515 80			
			11/12/13	2 30	516 27			
			1/21/15	3 47	515 10			
06588-MW40	542 66	542 05	7/19/11	21 05	521 00	28 30	18 10 - 28 10	523 95 - 513 95
			7/16/12	22 50	519 55			
			11/12/13	20 56	521 49			
			1/21/15	19 82	522 23			
06588-MW41D	540 98	540 78	7/19/11	19 80	520 98	48 00	37 80 - 47 80	503 18 - 493 18
			7/16/12	21 19	519 59			
			11/12/13	19 30	521 48			
			1/21/15	18 53	522 25			
06588-MW42	522 18	524 59	7/16/12	6 55	518 04	12 59	2 39 - 12 39	522 20 - 512 20
			11/12/13	5 16	519 43			
			1/21/15	3 46	521 13			
06588-MW42D	522 04	524 49	7/16/12	6 40	518 09	32 75	27 55 - 32 55	496 94 - 491 94
			11/12/13	5 38	519 11			
			1/21/15	4 64	519 85			
06588-MW43D	538 18	537 95	7/16/12	18 15	519 80	33 03	27 83 - 32 83	510 12 - 505 12
			11/12/13	16 72	521 23			
			1/21/15	15 96	521 99			

NOTES:
Groundwater levels were measured on November 18, 2013
Measurements are in feet, elevations are relative to an arbitrary site datum
BTOC - Below Top Of Casing
BGS - Below Ground Surface
* - The depth-to-groundwater measurements for these wells have been corrected for the presence of free-product using a specific gravity value of 0 70 g/cc

Prepared By RAD
Checked By DPO

TABLE 2

Historical Laboratory Analytical Results
Spinx 258/Former Enmark 380
Newberry, Newberry County, South Carolina
SCDHEC UST Permit #06588; Cost Agreement #49275 & #49276
BLE Project Number J13-6859-06

Well	Date Sampled	Free-Product Thickness (ft)	Benzene (µg/l)	Toluene (µg/l)	Ethylbenzene (µg/l)	Xylenes (µg/l)	MTBE (µg/l)	Naphthalene (µg/l)	EDB (µg/l)	1,2-Dichloroethane (µg/l)	Lead (µg/l)
SCDHEC RBSL		None	5	1,000	700	10,000	40	25	0.05	5	15
06588-MW01	2/24/92	0.00	5,900	5,900	1,800	7,200	NS	NS	NS	NS	NS
	6/11/97	0.00	5,900	8,010	1,530	7,420	135	108	NS	NS	NS
	6/26/98	0.00	3,550	1,910	674	3,150	36	35	NS	NS	NS
	11/2/10	0.00	4,400	2,100	1,600	7,200	<20	170	1.9	160	<10
	7/20/11	0.00	5,600	7,700	1,800	8,300	110	91	24.0	160	NS
	7/17/12	0.00	4,600	2,500	1,800	6,800	110J	550	3.9	<250	7.7J
	11/14/13	0.00	5,500	6,100	1,600	6,700	57J	270	7.5	160J	10
	1/21/15	0.00	3,600	2,400	1,300	5,500	23 J	120 J	0.55	<15	NS
06588-MW02	6/11/97	0.00	6,750	13,500	900	5,180	900	254	NS	NS	NS
	6/26/98	0.00	3,780	9,380	896	3,340	236	885	NS	NS	NS
	11/2/10	0.00	1.90	1.8	11	39	<1.0	15	<0.021	<1.0	38
	7/20/11	0.00	1.4J	2.0	52	270	<2.0	27	<0.019	<2.0	NS
	7/17/12	0.00	25	23	160	910	<5.0	83	<0.019	<5.0	9.9J
	11/14/13	0.00	45	19	3.0J	49	<5.0	8.1	<0.019	<5.0	<10
	1/21/15	0.00	150	46	130	500	<2.0	82	<0.020	3.2 J	NS
06588-MW03	6/11/97	0.00	675	9,000	900	5,400	5.0	450	NS	NS	NS
	6/26/98	0.00	411	Dry	986	5,080	40	534	NS	NS	NS
	11/15/2010	0.00	68	11.0	8.7	89	<1.0	21	<0.020	<1.0	<10
	7/22/11	0.00	31	1.1	<1.0	19	<1.0	0.67J	<0.019	<1.0	NS
	7/17/12	0.00	43	3.0J	1.8J	47	<5.0	6.2	<0.021	<5.0	270
	11/14/13	0.00	21	4.0J	<5.0	9.5	0.63J	2.0J	<0.019	<5.0	85
	1/21/15	Not Located									
06588-MW04	6/11/97	0.45	NS	NS	NS	NS	NS	NS	NS	NS	NS
	6/26/98	0.39	25,300	26,300	4,290	24,900	7,000	3,050	NS	NS	NS
	11/2/10	Well Damaged									
06588-MW04R	11/14/13	0.00	2,300	22,000	3,000	16,000	<1,000	760J	0.37	<1,000	850
	1/21/15	0.00	880	8,500	2,500	15,000	<40	870	0.051	<30	NS
06588-MW05	6/26/98	0.02	10,100	24,400	2,920	8,480	25,300	2,800	NS	NS	NS
	11/2/10	0.02	NS	NS	NS	NS	NS	NS	NS	NS	NS
	7/22/11	0.02	NS	NS	NS	NS	NS	NS	NS	NS	NS
	7/16/12	0.55	NS	NS	NS	NS	NS	NS	NS	NS	NS
	11/12/13	1.17	NS	NS	NS	NS	NS	NS	NS	NS	NS
	1/21/15	0.32	NS	NS	NS	NS	NS	NS	NS	NS	NS
06588-MW06	6/26/98	0.00	12,800	20,400	3,980	19,600	410	2,760	NS	NS	NS
	11/15/10	0.06	NS	NS	NS	NS	NS	NS	NS	NS	NS
	7/22/11	1.20	NS	NS	NS	NS	NS	NS	NS	NS	NS
	7/16/12	0.60	NS	NS	NS	NS	NS	NS	NS	NS	NS
	11/12/13	0.26	NS	NS	NS	NS	NS	NS	NS	NS	NS
	1/21/15	0.14	NS	NS	NS	NS	NS	NS	NS	NS	NS
06588-MW07	6/26/98	0.00	17,000	27,500	3,660	12,800	7,280	6,140	NS	NS	NS
	11/15/10	0.39	NS	NS	NS	NS	NS	NS	NS	NS	NS
	7/22/11	0.20	NS	NS	NS	NS	NS	NS	NS	NS	NS
	7/16/12	0.13	NS	NS	NS	NS	NS	NS	NS	NS	NS
	11/12/13	0.10	NS	NS	NS	NS	NS	NS	NS	NS	NS
	1/21/15	0.00	1,000	6,200	2,200	18,000	<40	1,100	0.13	<30	NS
06588-MW07 DUP	1/21/15	0.00	1,000	6,200	2,100	17,000	<40	1,100	0.11	<30	NS
06588-MW07D	11/4/10	0.00	19	3.4	2.3	16	<1.0	2.8	<0.019	<1.0	<10
	7/19/11	0.00	2.6	<1.0	<1.0	<1.0	<1.0	<1.0	<0.020	<1.0	NS
	7/17/12	0.00	7.6	<5.0	<5.0	<5.0	<5.0	<5.0	<0.019	<5.0	10
	11/14/13	0.00	2.5J	<5.0	<5.0	3.3J	<5.0	<5.0	<0.020	<5.0	<10
	1/21/15	0.00	<0.20	<1.7	<1.7	<1.7	<0.40	<1.7	<0.020	<0.30	NS
06588-MW08D	6/26/98	0.00	47.6	3	1.3	30	74	14	NS	NS	NS
	11/4/10	0.00	13	12	4.7	29	6	4.4	<0.020	<1.0	17.0
	7/19/11	0.00	75	0.98J	0.36J	120	23	22	0.06	<1.0	NS
	7/17/12	0.00	89	3.7J	<5.0	190	8	22	0.08	<5.0	6.2J
	11/14/13	0.00	81	7.1	2.9J	140	4.2J	24	<0.019	<5.0	7.5J
	1/21/15	0.00	3.0 J	<1.7	<1.7	<1.7	<0.40	<1.7	<0.020	<0.30	NS
06588-MW09	11/2/10	0.00	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.022	<1.0	350
	7/20/11	0.00	<1.0	<1.0	<1.0	0.64J	<1.0	1	<0.019	<1.0	NS
	7/16/12	0.00	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<0.019	<5.0	9.8J
	11/13/13	0.00	0.42J	<5.0	<5.0	<5.0	<5.0	<5.0	<0.021	<5.0	75
	1/21/15	0.00	<0.20	<1.7	<1.7	<1.7	<0.40	<1.7	<0.019	<0.30	NS
06588-MW10	11/2/10	0.00	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.020	<1.0	480
	7/20/11	0.00	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.019	<1.0	NS
	7/16/12	0.00	<5.0	<5.0	<5.0	7.0	<5.0	<5.0	<0.019	<5.0	26
	11/13/13	0.00	2.9J	<5.0	<5.0	2.9J	<5.0	<5.0	<0.021	<5.0	360
	1/21/15	0.00	<0.20	<1.7	<1.7	<1.7	<0.40	<1.7	<0.020	<0.30	NS
06588-MW11	11/2/10	0.00	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.020	<1.0	220
	7/20/11	0.00	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.019	<1.0	NS
	7/16/12	0.00	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<0.019	<5.0	4.2J
	11/13/13	0.00	0.35J	<5.0	<5.0	<5.0	<5.0	<5.0	<0.021	<5.0	150
	1/21/15	0.00	<0.20	<1.7	<1.7	<1.7	<0.40	<1.7	<0.020	<0.30	NS
06588-MW12	11/2/10	0.00	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.021	<1.0	290
	7/20/11	0.00	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.019	<1.0	NS
	7/20/11	0.00	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<0.020	<5.0	45.0
	11/13/13	0.00	0.57J	<5.0	<5.0	<5.0	<5.0	<5.0	<0.020	<5.0	42.0
	1/21/15	0.00	<0.20	<1.7	<1.7	<1.7	<0.40	<1.7	<0.020	<0.30	NS
06588-MW13	11/2/10	0.00	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.021	<1.0	420
	7/20/11	0.00	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.019	<1.0	NS
	7/17/12	0.00	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<0.020	<5.0	23
	11/13/13	0.00	0.33J	<5.0	<5.0	<5.0	<5.0	<5.0	<0.020	<5.0	10
	1/21/15	0.00	<0.20	<1.7	<1.7	<1.7	<0.40	<1.7	<0.020	<0.30	NS
06588-MW14	11/3/10	0.00	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.020	<1.0	96
	7/20/11	0.00	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.020	<1.0	NS
	7/16/12	0.00	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<0.019	<5.0	46
	11/13/13	0.00	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<0.019	<5.0	14
	1/21/15	0.00	<0.20	<1.7	<1.7	<1.7	<0.40	<1.7	<0.019	<0.30	NS
06588-MW15	11/3/10	0.00	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.020	<1.0	70
	7/20/11	0.00	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.019	<1.0	NS
	7/16/12	0.00	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<0.019	<5.0	79
	11/13/13	0.00	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<0.020	<5.0	10
	1/21/15	0.00	<0.20	<1.7	<1.7	<1.7	<0.40	<1.7	<0.020	<0.30	NS
06588-MW16	11/2/10	0.00	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.020	<1.0	180
	7/20/11	0.00	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.019	<1.0	NS
	7/17/12	0.00	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<0.020	<5.0	59
	11/14/13	0.00	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<0.020	<5.0	240
	1/21/15	0.00	<0.20	<1.7	<1.7	<1.7	<0.40	<1.7	<0.020	<0.30	NS
06588-MW17	11/2/10	0.00	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.020	<1.0	31
	7/20/11	0.00	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.019	<1.0	NS
	7/17/12	0.00	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<0.019	<5.0	15
	11/14/13	0.00	11	19	14	54	<5.0	2.9J	<0.020	<5.0	5.8J
	1/21/15	0.00	<0.20	<1.7	<1.7	<1.7	<0.40	<1.7	<0.019	<0.30	NS

Prepared By:RAD
Checked By:DPO

TABLE 2

Historical Laboratory Analytical Results
Spinx 258/Former Enmark 380
Newberry, Newberry County, South Carolina
SCDHEC UST Permit #06588; Cost Agreement #49275 & #49276
BLE Project Number J13-6859-06

Well	Date Sampled	Free-Product Thickness (ft)	Benzene (µg/l)	Toluene (µg/l)	Ethylbenzene (µg/l)	Xylenes (µg/l)	MTBE (µg/l)	Naphthalene (µg/l)	EDB (µg/l)	1,2-Dichloroethane (µg/l)	Lead (µg/l)
SCDHEC RBSL		None	5	1,000	700	10,000	40	25	0.05	5	15
06588-MW18	11/2/10	0.00	**20**	**170**	**1,700**	**6,200**	<20	**490**	<0.020	<20	**270**
	7/20/11	0.00	**28J**	**270**	**2,600**	**12,000**	<50	**400**	<0.020	<50	NS
	7/17/12	0.00	**25J**	**22J**	**1,600**	**2,000**	<50	**710**	<0.019	<50	**19**
	11/14/13	0.00	**120**	**130**	**1,300**	**1,100**	<50	**480**	**0.029**	<50	**360**
	1/21/15	0.00	**780**	**490**	**1,500**	**2,500**	<8.0	**610**	**0.20**	<6.0	NS
06588-MW19	11/2/10	0.00	**8,300**	**29,000**	**3,100**	**19,000**	**320**	**850**	**28**	<200	**480**
	7/20/11	0.00	**7,200**	**27,000**	**4,000**	**22,000**	**260**	<200	**24**	<200	NS
	7/16/12	**0.89**	NS	NS	NS	NS	NS	NS	NS	NS	NS
	11/12/13	**1.35**	NS	NS	NS	NS	NS	NS	NS	NS	NS
	1/21/15	**0.42**	NS	NS	NS	NS	NS	NS	NS	NS	NS
06588-MW20	11/4/10	0.00	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.020	<1.0	**10**
	7/21/11	0.00	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.019	<1.0	NS
	7/17/12	0.00	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<0.020	<5.0	**21**
	11/12/13	0.00	**1.0J**	<5.0	<5.0	**2.5J**	<5.0	<5.0	<0.019	<5.0	**14**
	1/21/15	0.00	<0.20	<1.7	<1.7	<1.7	<0.40	<1.7	<0.020	<0.30	NS
06588-MW21	11/4/10	0.00	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.019	<1.0	**22**
	7/21/11	0.00	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.019	<1.0	NS
	7/17/12	0.00	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<0.020	<5.0	**8.6J**
	11/12/13	0.00	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<0.020	<5.0	**84**
	1/26/15	0.00	<0.20	<1.7	<1.7	<1.7	<0.40	<1.7	<0.020	<0.30	NS
06588-MW21D	11/4/10	0.00	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.020	<1.0	**69**
	7/21/11	0.00	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.019	<1.0	NS
	7/17/12	0.00	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<0.019	<5.0	**18.0**
	11/12/13	0.00	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<0.020	<5.0	**9.8J**
	1/26/15	0.00	<0.20	<1.7	<1.7	<1.7	<0.40	<1.7	<0.020	<0.30	NS
06588-MW22	11/2/10	0.00	**3,200**	**1,000**	**2,400**	**7,900**	**610**	**630**	**0.28**	<20	**520**
	7/20/11	0.00	**3,700**	**230**	**2,900**	**3,900**	**910**	**530**	**0.17**	**86**	NS
	7/17/12	0.00	**350**	**380**	**130**	**1,600**	**84**	**130**	**0.26**	<25	**16**
	11/12/13	**0.51**	NS	NS	NS	NS	NS	NS	NS	NS	NS
	1/21/15	**0.03**	NS	NS	NS	NS	NS	NS	NS	NS	NS
06588-MW22D	11/4/10	0.00	**220**	<1.0	<1.0	2	9.2	15	<0.019	<1.0	15
	7/19/11	0.00	**320**	<1.0	<1.0	0.64J	15.0	23	<0.019	6.6	NS
	7/17/12	0.00	**210**	<5.0	<5.0	<5.0	8.4	**17.0**	<0.020	<5.0	12
	11/14/13	0.00	**190**	<5.0	<5.0	**2.3J**	**6.2**	**10**	<0.019	<5.0	**11**
	1/21/15	0.00	<0.20	<1.7	<1.7	<1.7	<0.40	<1.7	<0.020	<0.30	NS
06588-MW23	11/3/10	0.00	**19,000**	**30,000**	**4,500**	**24,000**	**2,300**	**1,000**	**40**	**910**	**640**
	7/20/11	0.00	**13,000**	**35,000**	**4,000**	**22,000**	**260J**	<400	**42**	<400	NS
	7/16/12	**1.65**	NS	NS	NS	NS	NS	NS	NS	NS	NS
	11/12/13	**1.17**	NS	NS	NS	NS	NS	NS	NS	NS	NS
	1/21/15	**0.37**	NS	NS	NS	NS	NS	NS	NS	NS	NS
06588-MW24	11/3/10	0.00	**17,000**	**23,000**	**5,100**	**24,000**	**2,400**	**840**	**55,000**	**630**	**120**
	7/20/11	0.00	**16,000**	**4,500**	**3,500**	**11,000**	**2,300**	**170**	**37**	**430**	NS
	7/16/12	**1.32**	NS	NS	NS	NS	NS	NS	NS	NS	NS
	11/12/13	**0.58**	NS	NS	NS	NS	NS	NS	NS	NS	NS
	1/21/15	**0.05**	NS	NS	NS	NS	NS	NS	NS	NS	NS
06588-MW24D	11/4/10	0.00	**110**	**23**	**9.2**	**33**	**10**	**14**	**0.041**	<1.0	<10
	7/19/11	0.00	**220.0**	<1.0	<1.0	**1.2**	**39**	**23.0**	**0.017**	**4.9**	NS
	7/17/12	0.00	**240**	<5.0	<5.0	<5.0	**30**	**30**	<0.019	<5.0	**5.9J**
	11/14/13	0.00	**83**	**4.1J**	**2.5J**	**15**	**22**	**4.1J**	<0.020	<5.0	**2.6J**
	1/21/15	0.00	**0.96 J**	<1.7	<1.7	<1.7	**3.9 J**	<1.7	<0.019	<0.30	NS
06588-MW25	11/3/10	0.00	**6,100**	**3,600**	**1,500**	**7,900**	**1,000**	**520**	**3.5**	<20	**110**
	7/20/11	0.00	**14,000**	**5,800**	**2,600**	**12,000**	**1,700**	**94J**	**4.9**	**320**	NS
	7/16/12	**0.31**	NS	NS	NS	NS	NS	NS	NS	NS	NS
	11/14/13	**0.04**	NS	NS	NS	NS	NS	NS	NS	NS	NS
	1/21/15	0.00	**11,000**	**13,000**	**2,700**	**13,000**	**1,400**	**760**	**4.4**	<30	NS
06588-MW25 DUP	1/21/15	0.00	**9,700**	**11,000**	**2,400**	**12,000**	**1,300**	**670**	**5.4**	<30	NS
06588-MW26	11/3/10	0.00	**27**	<1.0	**2.2**	**8.5**	<1.0	<1.0	<0.021	<1.0	<10
	7/21/11	0.00	**13**	<1.0	**1.3**	**4.3**	<1.0	**1.1**	<0.020	**0.32J**	NS
	7/16/12	0.00	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<0.020	<5.0	<10
	11/12/13	0.00	**140**	<25	<25	**29**	<25.0	<25.0	<0.020	<25	**5.9J**
	1/21/14	0.00	**250**	<8.5	<8.5	**36**	<2.0	<8.5	<0.020	<1.5	NS
06588-MW27	11/3/10	0.00	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.021	<1.0	<10
	7/21/11	0.00	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.019	<1.0	NS
	7/16/12	0.00	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<0.019	<5.0	**6.7J**
	11/12/13	0.00	<5.0	<5.0	<5.0	**4.9J**	<5.0	<5.0	<0.020	<5.0	**14**
	1/21/15	0.00	<0.20	<1.7	<1.7	<1.7	<0.40	<1.7	<0.020	<0.30	NS
06588-MW28	11/4/10	0.00	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.020	<1.0	<10
	7/21/11	0.00	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.019	<1.0	NS
	7/16/12	0.00	<5.0	<5.0	<5.0	<5.0	<5.0	**1.7J**	<0.020	<5.0	**5.6J**
	11/13/13	0.00	**1.9J**	<5.0	<5.0	**3.3J**	<5.0	<5.0	<0.020	<5.0	**65**
	1/26/15	0.00	<0.20	<1.7	<1.7	<1.7	<0.40	<1.7	<0.020	<0.30	NS
06588-MW29	11/3/10	0.00	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.021	<1.0	**720**
	7/21/11	0.00	**0.65J**	**0.75J**	**0.57J**	**6.9**	<1.0	**0.93J**	<0.020	<1.0	NS
	7/17/12	0.00	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<0.020	<5.0	**10**
	11/13/13	0.00	**0.38J**	<5.0	<5.0	<5.0	<5.0	<5.0	<0.019	<5.0	**230**
	1/26/15	0.00	<0.20	<1.7	<1.7	<1.7	<0.40	<1.7	<0.020	<0.30	NS
06588-MW30	11/3/10	0.00	**3.6**	**19**	**8.3**	**53**	**350**	**9.0**	<0.020	**11**	**170**
	7/21/11	0.00	<1.0	<1.0	<1.0	<1.0	**250**	<1.0	<0.019	**5.7**	NS
	7/17/12	0.00	<5.0	<5.0	<5.0	<5.0	**88**	<5.0	<0.020	**2.8J**	<10
	11/13/13	0.00	**1.2J**	<5.0	<5.0	<5.0	**9.5**	<5.0	<0.021	**0.68J**	**55**
	1/26/15	0.00	<0.20	<1.7	<1.7	<1.7	**15**	<1.7	<0.020	<0.30	NS
06588-MW30 DUP	1/26/15	0.00	<0.20	<1.7	<1.7	<1.7	**15**	<1.7	<0.019	<0.30	NS
06588-MW30D	7/19/11	0.00	**2.1**	<1.0	<1.0	<1.0	**45**	<1.0	<0.020	**3.3**	NS
	7/18/12	0.00	**2.1J**	<5.0	<5.0	<5.0	**15**	<5.0	<0.020	<5.0	**6.2J**
	11/13/13	0.00	**0.29J**	<5.0	<5.0	<5.0	**6.3**	<5.0	<0.020	<5.0	**4.8J**
	1/26/15	0.00	<0.20	<1.7	<1.7	<1.7	<0.40	<1.7	<0.020	<0.30	NS
06588-MW31	11/3/10	0.00	<1.0	<1.0	<1.0	<1.0	**12**	<1.0	<0.020	<1.0	<10
	7/21/11	0.00	**0.13J**	<1.0	<1.0	<1.0	**3.7**	<1.0	<0.019	<1.0	NS
	7/17/12	0.00	<5.0	<5.0	<5.0	<5.0	**100**	<5.0	<0.020	**0.89J**	**8.4J**
	11/12/13	Not Located									
	1/21/15	Not Located									
06588-MW32	11/3/10	0.00	<1.0	<1.0	<1.0	<1.0	**15**	<1.0	<0.020	<1.0	**1,800**
	7/21/11	0.00	<1.0	<1.0	<1.0	<1.0	**85**	<1.0	<0.019	<1.0	NS
	7/17/12	0.00	<5.0	<5.0	<5.0	<5.0	**0.52J**	<5.0	<0.019	<5.0	**110**
	11/13/13	0.00	**1.1J**	<5.0	<5.0	<5.0	**120**	<5.0	<0.021	<5.0	**550**
	1/28/15	0.00	<0.20	<1.7	<1.7	<1.7	**160**	<1.7	<0.020	<0.30	NS
06588-MW33	11/4/10	0.00	<1.0	<1.0	<1.0	<1.0	**43**	<1.0	<0.020	<1.0	**11**
	7/21/11	0.00	**0.14J**	<1.0	<1.0	<1.0	**23**	<1.0	<0.020	<1.0	NS
	7/17/12	0.00	<5.0	<5.0	<5.0	<5.0	**33**	<5.0	<0.019	<5.0	**30**
	11/14/13	0.00	**1.5J**	<5.0	<5.0	**5.0**	**7.1**	<5.0	<0.020	<5.0	**110**
	1/26/15	0.00	**<0.20**	<1.7	<1.7	<1.7	**0.56 J**	<1.7	<0.020	<0.30	NS

Prepared By:RAD
Checked By:DPO

TABLE 2

Historical Laboratory Analytical Results

Spinx 258/Former Enmark 380
Newberry, Newberry County, South Carolina
SCDHEC UST Permit #06588; Cost Agreement #49275 & #49276
BLE Project Number J13-6859-06

Well	Date Sampled	Free-Product Thickness (ft)	Benzene (µg/l)	Toluene (µg/l)	Ethylbenzene (µg/l)	Xylenes (µg/l)	MTBE (µg/l)	Naphthalene (µg/l)	EDB (µg/l)	1,2-Dichloroethane (µg/l)	Lead (µg/l)
SCDHEC RBSL		None	5	1,000	700	10,000	40	25	0.05	5	15
06588-MW33D	7/19/11	0.00	**700**	**12**	<1.0	**28**	**3,100**	**3.3**	<0.020	**70**	NS
	7/18/12	0.00	**18J**	<100	<100	<100	**2,800**	<100	<0.020	**39J**	**7.8J**
	11/13/13	0.00	**16J**	<50	<50	<50	**2,600**	<50	<0.020	**30J**	**20**
	1/26/15	0.00	<0.20	<1.7	<1.7	<1.7	<0.40	<1.7	<0.020	<0.30	NS
06588-MW34	11/4/10	0.00	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.019	<1.0	<10
	7/21/11	0.00	**0.38J**	<1.0	<1.0	<1.0	<1.0	<1.0	<0.019	<1.0	NS
	7/17/12	0.00	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<0.020	<5.0	**27**
	11/12/13	0.00	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<0.020	<5.0	**78**
	1/28/15	0.00	<0.20	<1.7	<1.7	<1.7	<0.40	<1.7	<0.020	<0.30	NS
06588-MW35	11/4/10	0.00	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.020	<1.0	<10
	7/21/11	0.00	<1.0	**1,100**	<1.0	<1.0	<1.0	**0.90J**	<0.019	<1.0	NS
	7/17/12	0.00	<5.0	**270**	<5.0	<5.0	<5.0	<5.0	<0.019	<5.0	**3.2J**
	11/12/13	Well could not be accesed									
	1/28/15	0.00	<0.20	<1.7	<1.7	<1.7	<0.40	<1.7	<0.019	<0.30	NS
06588-MW36	11/4/10	0.00	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.020	<1.0	**310**
	7/21/11	0.00	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.021	<1.0	NS
	7/18/12	0.00	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<0.020	<5.0	<10
	11/12/13	0.00	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<0.019	<5.0	**26**
	1/28/15	0.00	<0.20	<1.7	<1.7	<1.7	<0.40	<1.7	<0.020	<0.30	NS
06588-MW37	11/4/10	0.00	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.020	<1.0	**10**
	7/21/11	0.00	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.019	<1.0	NS
	7/18/12	0.00	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<0.020	<5.0	**6.1J**
	11/13/13	0.00	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<0.020	<5.0	**13**
	1/28/15	0.00	<0.20	<1.7	<1.7	<1.7	<0.40	<1.7	<0.020	<0.30	NS
06588-MW38	11/4/10	0.00	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.020	<1.0	**35**
	7/21/11	0.00	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.019	<1.0	NS
	7/18/12	0.00	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<0.020	<5.0	**9.3J**
	11/13/13	0.00	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<0.020	<5.0	**12**
	1/26/15	0.00	<0.20	<1.7	<1.7	<1.7	<0.40	<1.7	<0.020	<0.30	NS
06588-MW39	11/12/10	0.00	<1.0	<1.0	<1.0	**1.2**	<1.0	<1.0	<0.019	<1.0	**150**
	7/21/11	0.00	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.019	<1.0	NS
	7/18/12	0.00	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<0.019	<5.0	**3.9J**
	11/13/13	0.00	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<0.020	<5.0	**55**
	1/28/15	0.00	<0.20	<1.7	<1.7	<1.7	<0.40	<1.7	<0.020	<0.30	NS
06588-MW40	7/21/11	0.00	**2,700**	**150**	**86**	**1,300**	**160.0**	**240**	**0.65**	**55**	NS
	7/17/12	0.00	**830**	**30**	**48**	**310**	**150.0**	**96**	**0.15**	<25	<10
	11/14/13	0.00	**2,800**	**170**	**490**	**990**	**320.0**	**280**	**0.069**	<100	**66**
	1/21/15	0.00	**3,500**	**230 J**	**620**	**3,000**	**670**	**260**	**0.81**	<15	NS
06588-MW41D	7/19/11	0.00	**8,000**	**52**	**230**	**170**	**2,600**	<50	<0.020	**320**	NS
	7/18/12	0.00	**3,600**	<100	**140**	<100	**1,800**	<100	<0.020	**190**	**3.3J**
	11/14/13	0.00	**4,500**	<250	**270**	<250	**2,300**	**100J**	<0.020	<250	**5.4J**
	1/26/15	0.00	**2,300**	<34	**170**	<34	**880**	<34	<0.020	**130**	NS
06588-MW42	7/18/2012	0.00	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<0.020	<5.0	**4.8J**
	11/12/13	0.00	**0.21J**	<5.0	<5.0	**2.2J**	<5.0	<5.0	<0.020	<5.0	**110**
	1/28/15	0.00	<0.20	<1.7	<1.7	<1.7	<0.40	<1.7	<0.020	<0.30	NS
06588-MW42D	7/18/2012	0.00	1.43	<5.0	<5.0	<5.0	<5.0	<5.0	<0.019	<5.0	**17**
	11/12/13	0.00	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<0.019	<5.0	**11**
	1/28/15	0.00	<0.20	<1.7	<1.7	<1.7	<0.40	<1.7	<0.020	<0.30	NS
06588-MW43D	7/18/2012	0.00	<5.0	<5.0	<5.0	<5.0	**9.0**	<5.0	<0.020	<5.0	**11**
	7/13/13	0.00	<5.0	<5.0	<5.0	<5.0	**5.3**	<5.0	<0.020	<5.0	**16**
	1/26/15	0.00	<0.20	<1.7	<1.7	<1.7	**0.50 J**	<1.7	<0.020	<0.30	NS
SW-1	11/12/10	0.00	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.019	<1.0	NS
	7/22/11	0.00	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.020	<1.0	NS
	7/18/12	0.00	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<0.019	<5.0	NS
	7/14/13	0.00	**0.72J**	<5.0	<5.0	<5.0	<5.0	<5.0	<0.019	<5.0	**12**
	1/28/15	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
DW-1	11/5/10	0.00	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.020	<1.0	NS
	7/22/11	0.00	<1.0	<1.0	**0.81J**	**27**	**0.58J**	**18**	<0.019	<1.0	NS
	7/18/12	0.00	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<0.019	<5.0	NS
	11/14/13	0.00	**4.2J**	<5.0	<5.0	<5.0	<5.0	<5.0	<0.020	<5.0	**240**
	1/28/15	0.00	<0.20	<1.7	<1.7	7.2	<0.40	<1.7	<0.020	<0.30	NS
DW-2	11/5/10	0.00	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.019	<1.0	NS
	7/22/11	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	7/18/12	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	11/14/13	0.00	**1.2J**	<5.0	<5.0	<5.0	<5.0	<5.0	<0.019	<5.0	**10**
	1/28/15	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
DW-3	11/5/10	0.00	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.020	<1.0	NS
	7/22/11	0.00	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.019	<1.0	NS
	7/18/12	0.00	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<0.020	<5.0	NS
	11/14/13	0.00	**1.3J**	<5.0	<5.0	<5.0	<5.0	<5.0	<0.019	<5.0	**2.8J**
	1/28/15	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
DW-4	11/5/10	0.00	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.020	<1.0	NS
	7/22/11	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	7/18/12	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	11/14/13	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	1/28/15	0.00	<0.20	<1.7	<1.7	<1.7	<0.40	<1.7	<0.020	<0.30	NS
DW-5	11/5/10	0.00	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.020	<1.0	NS
	7/22/11	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	7/18/12	0.00	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<0.020	<5.0	NS
	11/14/13	0.00	**6.5**	**2.6J**	**1.8J**	**12**	<5.0	**1.8J**	<0.019	<5.0	**5.4J**
	1/28/15	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
DW-6	11/5/10	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	7/22/11	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	7/18/12	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	11/14/13	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	1/28/15	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
DW-7	11/5/10	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	7/22/11	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	7/18/12	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	11/14/13	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	1/28/15	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
DW-8	11/5/10	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	7/22/11	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	7/18/12	0.00	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<0.019	<5.0	NS
	11/14/13	0.00	**8.4**	<5.0	<5.0	**5.0**	<5.0	<5.0	<0.020	<5.0	**16**
	1/28/15	0.00	<0.20	<1.7	<1.7	<1.7	<0.40	<1.7	<0.020	<0.30	NS
DW-9	11/5/10	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	7/22/11	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	7/18/12	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	11/14/13	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	1/28/15	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS

Prepared By:RAD
Checked By:DPO

TABLE 2

Historical Laboratory Analytical Results

Spinx 258/Former Enmark 380
Newberry, Newberry County, South Carolina
SCDHEC UST Permit #06588; Cost Agreement #49275 & #49276
BLE Project Number J13-6859-06

Well	Date Sampled	Free-Product Thickness (ft)	Benzene (µg/l)	Toluene (µg/l)	Ethylbenzene (µg/l)	Xylenes (µg/l)	MTBE (µg/l)	Naphthalene (µg/l)	EDB (µg/l)	1,2-Dichloroethane (µg/l)	Lead (µg/l)
SCDHEC RBSL		None	5	1,000	700	10,000	40	25	0.05	5	15
DW-10	11/5/10	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	7/22/11	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	7/23/11	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	11/14/13	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	1/28/15	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Field Blank-1	1/21/15	NA	<0.20	<1.7	<1.7	<1.7	<0.40	<1.7	<0.020	<0.30	NS
Field Blank-2	1/26/15	NA	<0.20	<1.7	<1.7	<1.7	<0.40	<1.7	<0.020	<0.30	NS
Field Blank-3	1/28/15	NA	<0.20	<1.7	<1.7	<1.7	<0.40	<1.7	<0.020	<0.30	NS
Trip Blank-1	1/21/15	NA	<0.20	<1.7	<1.7	<1.7	<0.40	<1.7	NS	<0.30	NS

Notes:
µg/liter = micrograms/liter = approximate Parts Per Billion (ppb)
Bold and shaded cells indicate conceNSrations above RBSLs
NA = Not Applicable
NS = Not Sampled
ND = Not Detected at the Method Detection Limit
J = estimated value between practical quaNSitative limit and method detection limit.
NE = RBSL has not been established
RBSL = Risk Based Screening Level

Prepared By:RAD
Checked By:DPO

TABLE 3

Laboratory Analytical Results
8-Oxygenates
Spinx 258/Former Enmark 380
Newberry, Newberry County, South Carolina
SCDHEC UST Permit #06588; Cost Agreement #49275 & #49276
BLE Project Number J13-6859-06

Well	Date Sampled	Ethyl-Tert-ButylEther (ETBE) (µg/L)	Ethyl-Tert-Butyl Alcohol (ETBA) (µg/L)	Tert-Amyl methyl Ether (TAME) (µg/L)	Diisopropyl Ether (IPE) (µg/L)	Ethanol (µg/L)	Tert-Amyl Alcohol (TAA) (µg/L)	Tert-Butyl Formate (TBF) (µg/L)	Tert-Butyl Alcohol (TBA) (µg/L)
SC DHEC RBSL		47	NA	128	150	10,000	240	NA	1,400
06588-MW01	2/24/92	NT	NT	NT	NT	NT	NT	NT	NT
	6/11/97	NT	NT	NT	NT	NT	NT	NT	NT
	6/26/98	NT	NT	NT	NT	NT	NT	NT	NT
	11/2/10	<20	<400	<200	<100	<2,000	<100	<400	<400
	7/20/11	<50	<1,000	<500	**57J**	<5,000	<250	<1,000	**3,700**
	7/17/12	<50	<1,000	<500	<250	<5,000	<250	<1,000	**2,900**
	11/14/13	<50	<1,000	<500	**40J**	<5,000	**2,500**	<250	**670J**
	1/21/15	<10	<50	<10	<20	<1700	<1,700	<50	<340
06588-MW02	6/11/97	NT	NT	NT	NT	NT	NT	NT	NT
	6/26/98	NT	NT	NT	NT	NT	NT	NT	NT
	11/2/10	<1.0	<20	<10	<5.0	<100	<5.0	**59**	<20
	7/20/11	<2.0	<40	<20	<10	<200	<10	**25J**	**15J**
	7/17/12	<1.0	<20	<10	<5.0	<100	<5.0	**110**	**87**
	11/14/13	<1.0	<20	<10	<5.0	<100	**110**	<5.0	**280**
	1/21/15	<1.0	<5.0	<1.0	<2.0	<170	**67 J**	<5.0	**230**
06588-MW03	6/11/97	NT	NT	NT	NT	NT	NT	NT	NT
	6/26/98	NT	NT	Dry	NT	NT	NT	NT	NT
	11/15/22010	<1.0	<20	<10	<5.0	<100	<5.0	**58**	**100**
	7/22/11	<1.0	<20	<10	<5.0	<100	<5.0	<20	**200**
	7/17/12	<1.0	<20	<10	<5.0	<100	<5.0	**120**	**110**
	11/14/13	<1.0	<20	<10	<5.0	<100	**140**	<5.0	**330**
	1/21/15	Not Located							
06588-MW04	6/11/97	NS	NS	NS	NS	NS	NS	NS	NS
	6/26/98	NT	NT	NT	NT	NT	NT	NT	NT
	11/2/10	Well damaged							
06588-MW04R	11/14/13	<200	<4,000	<2,000	<1,000	<20,000	**4,800**	<1,000	**2,500J**
	1/21/15	<20	<100	<20	<40	<3300	**870 J**	<100	<670
06588-MW05	6/26/98	NT	NT	NT	NT	NT	NT	NT	NT
	11/2/10	NS	NS	NS	NS	NS	NS	NS	NS
	7/22/11	NS	NS	NS	NS	NS	NS	NS	NS
	7/16/12	NS	NS	NS	NS	NS	NS	NS	NS
	11/12/13	NS	NS	NS	NS	NS	NS	NS	NS
	1/21/15	NS	NS	NS	NS	NS	NS	NS	NS
06588-MW06	6/26/98	NT	NT	NT	NT	NT	NT	NT	NT
	11/15/10	NS	NS	NS	NS	NS	NS	NS	NS
	7/22/11	NS	NS	NS	NS	NS	NS	NS	NS
	7/16/12	NS	NS	NS	NS	NS	NS	NS	NS
	11/12/13	NS	NS	NS	NS	NS	NS	NS	NS
	1/21/15	NS	NS	NS	NS	NS	NS	NS	NS
06588-MW07	6/26/98	NT	NT	NT	NT	NT	NT	NT	NT
	11/15/10	NS	NS	NS	NS	NS	NS	NS	NS
	7/22/11	NS	NS	NS	NS	NS	NS	NS	NS
	7/16/12	NS	NS	NS	NS	NS	NS	NS	NS
	11/12/13	NS	NS	NS	NS	NS	NS	NS	NS
	1/21/15	<20	<100	<20	<40	<3300	<670	<100	<670
06588-MW07 DUP	1/21/15	<20	<100	<20	<40	<3300	<670	<100	<670
06588-MW07D	11/4/10	<1.0	<20	<10	<5.0	<100	<5.0	<20	<20
	7/19/11	<1.0	<20	<10	<5.0	<100	<5.0	**33**	**51**
	7/17/12	<1.0	<20	<10	<5.0	<100	<5.0	<20	<20
	11/14/13	<1.0	<20	<10	<5.0	<100	<20	<5.0	<20
	1/21/15	<0.20	<1.0	<0.20	<0.40	<33	<6.7	<1.0	<6.7
06588-MW08D	6/26/98	NT	NT	NT	NT	NT	NT	NT	NT
	11/4/10	<1.0	<20	<10	<5.0	**1,700**	<5.0	<20	**37**
	7/19/11	<1.0	<20	**8.5J**	**0.44J**	<100	<5.0	<20	**400**
	7/17/12	<1.0	<20	**2.4J**	<5.0	<100	<5.0	<20	**150**
	11/14/13	<1.0	<20	**1.6J**	<5.0	<100	**110**	<5.0	**19J**
	1/21/15	<0.20	<1.0	<0.20	<0.40	<33	<6.7	<1.0	<6.7
06588-MW09	11/2/10	<1.0	<20	<10	<5.0	330	<5.0	<20	<20
	7/20/11	<1.0	<20	<10	<5.0	<100	<5.0	<20	71
	7/16/12	<1.0	<20	<10	<5.0	<100	<5.0	<20	<20
	11/13/13	<1.0	<20	<10	<5.0	<100	<20	<5.0	<20
	1/21/15	<0.20	<1.0	<0.20	<0.40	<33	<6.7	<1.0	<6.7
06588-MW10	11/2/10	<1.0	<20	<10	<5.0	<100	<5.0	<20	<20
	7/20/11	<1.0	<20	<10	<5.0	<100	<5.0	<20	<20
	7/16/12	<1.0	<20	<10	<5.0	<100	<5.0	<20	<20
	7/13/13	<1.0	<20	<10	<5.0	<100	<20	<5.0	<20
	1/21/15	<0.20	<1.0	<0.20	<0.40	<33	<6.7	<1.0	<6.7
06588-MW11	11/2/10	<1.0	<20	<10	<5.0	<100	<5.0	<20	<20
	7/20/11	<1.0	<20	<10	<5.0	<100	<5.0	<20	<20
	7/16/12	<1.0	<20	<10	<5.0	<100	<5.0	<20	<20
	11/13/13	<1.0	<20	<10	<5.0	<100	<20	<5.0	<20
	1/21/15	<0.20	<1.0	<0.20	<0.40	<33	<6.7	<1.0	<6.7
06588-MW12	11/2/10	<1.0	<20	<10	<5.0	<100	<5.0	<20	<20
	7/20/11	<1.0	<20	<10	<5.0	<100	<5.0	<20	<20
	7/20/11	<1.0	<20	<10	<5.0	<100	<5.0	<20	<20
	11/13/13	<1.0	<20	<10	<5.0	<100	<20	<5.0	<20
	1/21/15	<0.20	<1.0	<0.20	<0.40	<33	<6.7	<1.0	<6.7

Prepared By:RAD
Checked By:DPO

TABLE 3

Laboratory Analytical Results
8-Oxygenates
Spinx 258/Former Enmark 380
Newberry, Newberry County, South Carolina
SCDHEC UST Permit #06588; Cost Agreement #49275 & #49276
BLE Project Number J13-6859-06

Well	Date Sampled	Ethyl-Tert-ButylEther (ETBE) (µg/L)	Ethyl-Tert-Butyl Alcohol (ETBA) (µg/L)	Tert-Amyl methyl Ether (TAME) (µg/L)	Diisopropyl Ether (IPE) (µg/L)	Ethanol (µg/L)	Tert-Amyl Alcohol (TAA) (µg/L)	Tert-Butyl Formate (TBF) (µg/L)	Tert-Butyl Alcohol (TBA) (µg/L)
SC DHEC RBSL		47	NA	128	150	10,000	240	NA	1,400
06588-MW13	11/2/10	<1.0	<20	<10	<5.0	<100	<5.0	<20	<20
	7/20/11	<1.0	<20	<10	<5.0	<100	<5.0	<20	<20
	7/17/12	<1.0	<20	<10	<5.0	<100	<5.0	<20	<20
	11/13/13	<1.0	<20	<10	<5.0	<100	<20	<5.0	<20
	1/21/15	<0.20	<1.0	<0.20	<0.40	<33	<6.7	<1.0	<6.7
06588-MW14	11/3/10	<1.0	<20	<10	<5.0	<100	<5.0	<20	<20
	7/20/11	<1.0	<20	<10	<5.0	<100	<5.0	<20	<20
	7/16/12	<1.0	<20	<10	<5.0	<100	<5.0	<20	<20
	11/13/13	<1.0	<20	<10	<5.0	<100	<20	<5.0	<20
	1/21/15	<0.20	<1.0	<0.20	<0.40	<33	<6.7	<1.0	<6.7
06588-MW15	11/3/10	<1.0	<20	<10	<5.0	<100	<5.0	<20	<20
	7/20/11	<1.0	<20	<10	<5.0	<100	<5.0	<20	<20
	7/16/12	<1.0	<20	<10	<5.0	<100	<5.0	<20	<20
	11/13/13	<1.0	<20	<10	<5.0	<100	<20	<5.0	<20
	1/21/15	<0.20	<1.0	<0.20	<0.40	<33	<6.7	<1.0	<6.7
06588-MW16	11/2/10	<1.0	<20	<10	<5.0	**220**	<5.0	<20	<20
	7/20/11	<1.0	<20	<10	<5.0	<100	<5.0	<20	<20
	7/17/12	<1.0	<20	<10	<5.0	<100	<5.0	<20	<20
	11/14/13	<1.0	<20	<10	<5.0	<100	<20	<5.0	<20
	1/21/15	<0.20	<1.0	<0.20	<0.40	<33	<6.7	<1.0	<6.7
06588-MW17	11/2/10	<1.0	<20	<10	<5.0	**260**	<5.0	<20	<20
	7/20/11	<1.0	<20	<10	<5.0	<100	<5.0	<20	<20
	7/17/12	<1.0	<20	<10	<5.0	<100	<5.0	<20	<20
	11/14/13	<1.0	<20	<10	<5.0	<100	<20	<5.0	<20
	1/21/15	<0.20	<1.0	<0.20	<0.40	<33	<6.7	<1.0	<6.7
06588-MW18	11/2/10	<20	<400	<200	<100	<2,000	<100	<400	<400
	7/20/11	<50	<1,000	<500	<250	<5,000	<250	<1,000	<1,000
	7/17/12	<10	<200	<100	<50	<1,000	<50	<200	<200
	11/14/13	<10	<200	<100	<50	<1,000	**200**	<50	**150J**
	1/21/15	<4.0	<20	**7.3 J**	<8.0	<660	<130	<20	<130
06588-MW19	11/2/10	<200	<4,000	<2,000	<1,000	<20,000	<1,000	<4,000	<4,000
	7/20/11	<200	<4,000	<2,000	<1,000	<20,000	<1,000	<4,000	**2,600J**
	7/16/12	NS	NS	NS	NS	NS	NS	NS	NS
	11/12/13	NS	NS	NS	NS	NS	NS	NS	NS
	1/21/15	NS	NS	NS	NS	NS	NS	NS	NS
06588-MW20	11/4/10	<1.0	<20	<10	<5.0	<100	<5.0	<20	<20
	7/21/11	<1.0	<20	<10	<5.0	<100	<5.0	<20	<20
	7/17/12	<1.0	<20	<10	<5.0	<100	<5.0	<20	<20
	11/12/13	<1.0	<20	<10	<5.0	<100	<20	<5.0	<20
	1/26/15	<0.20	<1.0	<0.20	<0.40	<33	<6.7	<1.0	<6.7
06588-MW21	11/4/10	<1.0	<20	<10	<5.0	<100	<5.0	<20	<20
	7/21/11	<1.0	<20	<10	<5.0	<100	<5.0	<20	<20
	7/17/12	<1.0	<20	<10	<5.0	<100	<5.0	<20	<20
	11/12/13	<1.0	<20	<10	<5.0	<100	<20	<5.0	<20
	1/26/15	<0.20	<1.0	<0.20	<0.40	<33	<6.7	<1.0	<6.7
06588-MW21D	11/4/10	<1.0	<20	<10	<5.0	<100	<5.0	<20	<20
	7/21/11	<1.0	<20	<10	<5.0	<100	<5.0	<20	<20
	7/17/12	<1.0	<20	<10	<5.0	<100	<5.0	<20	<20
	11/12/13	<1.0	<20	<10	<5.0	<100	<20	<5.0	<20
	1/26/15	<0.20	<1.0	<0.20	<0.40	<33	<6.7	<1.0	<6.7
06588-MW22	11/2/10	<20	<400	**360**	<100	<2,000	<100	<400	<400
	7/20/11	<20	<400	**420**	**29J**	<2,000	<100	**250J**	**5,000**
	7/17/12	<5.0	<100	**36J**	**4.7J**	<500	<25	<100	**270**
	11/12/13	NS	NS	NS	NS	NS	NS	NS	NS
	1/26/15	NS	NS	NS	NS	NS	NS	NS	NS
06588-MW22D	11/4/10	<1.0	<20	<10	<5.0	<100	<5.0	**24**	<20
	7/19/11	<1.0	<20	**14**	**0.89J**	<100	<5.0	<20	**160**
	7/17/12	<1.0	<20	**7.2J**	<5.0	<100	<5.0	<20	<20
	11/14/13	<1.0	<20	**4.7J**	<5.0	<100	**81**	<5.0	**14J**
	1/21/15	<0.20	<1.0	<0.20	<0.40	<33	<6.7	<1.0	<6.7
06588-MW23	11/3/10	<200	<4,000	<2,000	<1,000	<20,000	<1,000	**14,000**	<4,000
	7/20/11	<400	<8,000	<4,000	**260J**	<40,000	<2,000	<8,000	**18,000**
	7/16/12	NS	NS	NS	NS	NS	NS	NS	NS
	11/12//13	NS	NS	NS	NS	NS	NS	NS	NS
	1/12/15	NS	NS	NS	NS	NS	NS	NS	NS
06588-MW24	11/3/10	<100	<2,000	<1,000	<500	<10,000	<500	<2,000	<2,000
	7/20/11	<100	<2,000	**330J**	**230J**	<10,000	<500	**1,300J**	**13,000**
	7/16/12	NS	NS	NS	NS	NS	NS	NS	NS
	11/12/13	NS	NS	NS	NS	NS	NS	NS	NS
	1/21/15	NS	NS	NS	NS	NS	NS	NS	NS
06588-MW24D	11/4/10	<1.0	<20	<10	<5.0	<100	<5.0	<20	**55**
	7/19/11	<1.0	<20	**2.1J**	**4.9J**	<100	<5.0	<20	**170**
	7/17/12	<1.0	<20	**0.86J**	**3.7J**	<100	<5.0	**41**	**120**
	11/14/13	<1.0	<20	<10	**2.5J**	<100	**65**	<5.0	**42**
	1/21/15	<0.20	<1.0	<0.20	<0.40	<33	<6.7	<1.0	<6.7

Prepared By:RAD
Checked By:DPO

TABLE 3

Laboratory Analytical Results
8-Oxygenates
Spinx 258/Former Enmark 380
Newberry, Newberry County, South Carolina
SCDHEC UST Permit #06588; Cost Agreement #49275 & #49276
BLE Project Number J13-6859-06

Well	Date Sampled	Ethyl-Tert-ButylEther (ETBE) (µg/L)	Ethyl-Tert-Butyl Alcohol (ETBA) (µg/L)	Tert-Amyl methyl Ether (TAME) (µg/L)	Diisopropyl Ether (IPE) (µg/L)	Ethanol (µg/L)	Tert-Amyl Alcohol (TAA) (µg/L)	Tert-Butyl Formate (TBF) (µg/L)	Tert-Butyl Alcohol (TBA) (µg/L)
SC DHEC RBSL		47	NA	128	150	10,000	240	NA	1,400
06588-MW25	11/3/10	<20	<400	<200	<100	<2,000	<100	<400	**2,800**
	7/20/11	<100	<2,000	**220J**	**54J**	<10,000	<500	<2,000	**3,900**
	7/16/12	NS	NS	NS	NS	NS	NS	NS	NS
	11/14/13	NS	NS	NS	NS	NS	NS	NS	NS
	1/21/15	<20	<100	**180 J**	<40	<3300	2400	<100	<670
06588-MW25 DUP	1/21/15	<20	<100	**150 J**	<40	<3300	2300	<100	<670
06588-MW26	11/3/10	<1.0	<20	<10	<5.0	<100	<5.0	<20	**64**
	7/21/11	<1.0	<20	<10	<5.0	<100	<5.0	<20	**75**
	7/16/12	<1.0	<20	<10	<5.0	<100	<5.0	<20	**11J**
	11/12/13	<5.0	<100	<50	<25	<500	**280**	<25	**71J**
	1/21/15	<1.0	<5.0	<1.0	<2.0	<170	**220**	<5.0	<34
06588-MW27	11/3/10	<1.0	<20	<10	<5.0	**1,200**	<5.0	<20	<20
	7/21/11	<1.0	<20	<10	<5.0	<100	<5.0	<20	<20
	7/16/12	<1.0	<20	<10	<5.0	<100	<5.0	<20	<20
	11/12/13	<1.0	<20	<10	<5.0	<100	<20	<5.0	**12J**
	1/21/15	<0.20	<1.0	<0.20	<0.40	<33	<6.7	<1.0	<6.7
06588-MW28	11/4/10	<1.0	<20	<10	<5.0	<100	<5.0	<20	<20
	7/21/11	<1.0	<20	<10	<5.0	<100	<5.0	<20	<20
	7/16/12	<1.0	<20	<10	<5.0	<100	<5.0	<20	<20
	11/13/13	<1.0	<20	<10	<5.0	<100	<20	<5.0	<20
	1/21/15	<0.20	<1.0	<0.20	<0.40	<33	<6.7	<1.0	<6.7
06588-MW29	11/3/10	<1.0	<20	<10	<5.0	<100	<5.0	<20	<20
	7/21/11	<1.0	<20	<10	<5.0	<100	<5.0	<20	**120**
	7/17/12	<1.0	<20	<10	<5.0	<100	<5.0	<20	<20
	11/13/13	<1.0	<20	<10	<5.0	<100	<20	<5.0	<20
	1/26/15	<0.20	<1.0	<0.20	<0.40	<33	<6.7	<1.0	<6.7
06588-MW30	11/3/10	<1.0	<20	**13**	**47.0**	<100	<5.0	680	**1,000**
	7/21/11	<1.0	<20	**10**	**35**	<100	<5.0	250	**360**
	7/17/12	<1.0	<20	**2.7J**	**13**	<100	<5.0	79	**66**
	11/13/13	<1.0	<20	<10	**1.6J**	<100	<20	<5.0	**12J**
	1/26/15	<0.20	<1.0	<0.20	**1.1 J**	<33	<6.7	<1.0	<6.7
06588-MW30 DUP	1/26/15	<0.20	<1.0	<0.20	**1.1 J**	<33	<6.7	<1.0	<6.7
06588-MW30D	7/19/11	<1.0	<20	**0.98J**	**8.1**	<100	<5.0	**64**	**150**
	7/18/12	<1.0	<20	<10	**2.3J**	<100	<5.0	**17J**	**41**
	11/13/13	<1.0	<20	<10	**0.97J**	<100	**28**	<20	**18J**
	1/26/15	<0.20	<1.0	<0.20	<0.40	<33	<6.7	<1.0	<6.7
06588-MW31	11/3/10	<1.0	<20	<10	<5.0	<100	<5.0	<20	**30**
	7/21/11	<1.0	<20	**0.24J**	**0.42J**	<100	<5.0	<20	<20
	7/17/12	<1.0	<20	**6.4J**	**9**	<100	<5.0	**130**	**240**
	11/12/13	NS	NS	NS	NS	NS	NS	NS	NS
	1/21/15	NS	NS	NS	NS	NS	NS	NS	NS
06588-MW32	11/3/10	<1.0	<20	<10	<5.0	<100	<5.0	<20	<20
	7/21/11	<1.0	<20	**6.0J**	**4.1J**	<100	<5.0	<20	<20
	7/17/12	<1.0	<20	<10	<5.0	<100	<5.0	<20	<20
	11/13/13	<1.0	<20	**7.8J**	**5.1**	<100	**87**	<5.0	**49**
	1/28/15	<0.20	<1.0	**17**	**6.7**	<33	**110**	<1.0	**54**
06588-MW33	11/4/10	<1.0	<20	<10	<5.0	<100	<5.0	**23**	**62**
	7/21/11	<1.0	<20	**2.6J**	**2.2J**	<100	<5.0	<20	**12J**
	7/17/12	<1.0	<20	<10	**1.8J**	<100	<5.0	<20	<20
	11/14/13	<1.0	<20	<10	<5.0	**35J**	<20	<5.0	**12J**
	1/26/15	<0.20	<1.0	<0.20	<0.40	**<33**	<6.7	<1.0	**<6.7**
06588-MW33D	7/19/11	**0.26J**	**78**	**250**	**170**	**270**	<5.0	<20	**6,500**
	7/18/12	<20	<400	**270**	**110**	<2,000	<100	**1,700**	**5,200**
	11/13/13	<10	<200	**200**	**89**	<1,000	**3,100**	<50	**1,200**
	1/26/15	<0.20	<1.0	<0.20	<0.40	<33	<6.7	<1.0	<6.7
06588-MW34	11/4/10	<1.0	<20	<10	<5.0	<100	<5.0	<20	<20
	7/21/11	<1.0	<20	<10	<5.0	**130**	<5.0	**200**	**500**
	7/17/12	<1.0	<20	<10	<5.0	<100	<5.0	<20	<20
	11/12/13	<1.0	<20	<10	<5.0	<100	<20	<5.0	**12J**
	1/28/15	<0.20	<1.0	<0.20	<0.40	<33	<6.7	<1.0	<6.7
06588-MW35	11/4/10	<1.0	<20	<10	<5.0	<100	<5.0	<20	**<20**
	7/21/11	<1.0	<20	<10	<5.0	**110**	<5.0	<20	<20
	7/17/12	<1.0	<20	<10	<5.0	<100	<5.0	<20	<20
	11/12/13	Well was not accesible							
	1/28/15	<0.20	<1.0	<0.20	<0.40	<33	<6.7	<1.0	<6.7
06588-MW36	11/4/10	<1.0	<20	<10	<5.0	<100	<5.0	<20	<20
	7/21/11	<1.0	<20	<10	<5.0	<100	<5.0	<20	**57**
	7/18/12	<1.0	<20	<10	<5.0	<100	<5.0	<20	<20
	11/12/13	<1.0	<20	<10	<5.0	<100	<20	<5.0	<20
	1/28/15	<0.20	<1.0	<0.20	<0.40	<33	<6.7	<1.0	<6.7
06588-MW37	11/4/10	<1.0	<20	<10	<5.0	<100	<5.0	<20	<20
	7/21/11	<1.0	<20	<10	<5.0	<100	<5.0	<20	<20
	7/18/12	<1.0	<20	<10	<5.0	<100	<5.0	<20	<20
	11/13/13	<1.0	<20	<10	<5.0	<100	<20	<5.0	<20
	1/28/15	<0.20	<1.0	<0.20	<0.40	<33	<6.7	<1.0	<6.7

Prepared By:RAD
Checked By:DPO

TABLE 3

Laboratory Analytical Results
8-Oxygenates
Spinx 258/Former Enmark 380
Newberry, Newberry County, South Carolina
SCDHEC UST Permit #06588; Cost Agreement #49275 & #49276
BLE Project Number J13-6859-06

Well	Date Sampled	Ethyl-Tert-ButylEther (ETBE) (µg/L)	Ethyl-Tert-Butyl Alcohol (ETBA) (µg/L)	Tert-Amyl methyl Ether (TAME) (µg/L)	Diisopropyl Ether (IPE) (µg/L)	Ethanol (µg/L)	Tert-Amyl Alcohol (TAA) (µg/L)	Tert-Butyl Formate (TBF) (µg/L)	Tert-Butyl Alcohol (TBA) (µg/L)
SC DHEC RBSL		47	NA	128	150	10,000	240	NA	1,400
06588-MW38	11/4/10	<1.0	<20	<10	<5.0	<100	<5.0	<20	<20
	7/21/11	<1.0	<20	<10	<5.0	<100	<5.0	<20	<20
	7/18/12	<1.0	<20	<10	<5.0	<100	<5.0	<20	<20
	11/13/13	<1.0	<20	<10	<5.0	<100	<20	<5.0	<20
	1/28/15	<0.20	<1.0	<0.20	<0.40	<33	<6.7	<1.0	<6.7
06588-MW39	11/12/10	<1.0	<20	<10	<5.0	<100	<5.0	<20	<20
	7/21/11	<1.0	<20	<10	<5.0	<100	<5.0	<20	<20
	7/18/12	<1.0	<20	<10	<5.0	<100	<5.0	<20	<20
	11/13/13	<1.0	<20	<10	<5.0	<100	<20	<5.0	<20
	1/28/15	<0.20	<1.0	<0.20	<0.40	<33	<6.7	<1.0	<6.7
06588-MW40	7/21/11	<1.0	<20	**82**	**11**	<100	<5.0	<20	**3,500**
	7/17/12	<5.0	<100	**50**	**5.9J**	<500	<25	<100	**740**
	11/14/13	<20	<400	**110J**	**19J**	<2,000	**3,600**	<100	**350J**
	1/21/15	<10	<50	**170 J**	**24 J**	<1700	**2,700**	<50	<340
06588-MW41D	7/19/11	<50	<1,000	**63J**	**340**	<5,000	<250	**6,200**	**12,000**
	7/18/12	<20	<400	**62J**	**230**	<2,000	<100	**3,600**	**7,400**
	11/14/13	<50	<1,000	**89J**	**290**	<5,000	**8,300**	<250	**4,500**
	1/26/15	<4.0	<20	**25 J**	**170**	<660	**4,400**	<20	**1,600**
06588-MW42	7/18/2012	<1.0	<20	<10	<5.0	<100	<5.0	<20	<20
	11/12/13	<1.0	<20	<10	<5.0	<100	<20	<5.0	<20
	1/28/15	<0.20	<1.0	<0.20	<0.40	<33	<6.7	<1.0	<6.7
06588-MW42D	7/18/2012	<1.0	<20	<10	<5.0	<100	<5.0	<20	<20
	11/12/13	<1.0	<20	<10	<5.0	<100	<20	<5.0	<20
	1/28/15	<0.20	<1.0	<0.20	<0.40	<33	<6.7	<1.0	<6.7
06588-MW43D	7/18/2012	<1.0	<20	<10	<5.0	<100	<5.0	<20	<20
	7/13/13	<1.0	<20	<10	<5.0	<100	<20	<5.0	<20
	1/28/15	<0.20	<1.0	<0.20	<0.40	<33	<6.7	<1.0	<6.7
SW-1	11/12/10	<1.0	<20	<10	<5.0	<100	<5.0	<20	<20
	7/22/11	<1.0	<20	<10	<5.0	<100	<5.0	<20	<20
	7/18/12	<1.0	<20	<10	<5.0	<100	<5.0	<20	<20
	7/14/13	<1.0	<20	<10	<5.0	<100	<20	<5.0	<20
	1/21/15	NS	NS	NS	NS	NS	NS	NS	NS
DW-1	11/5/10	<1.0	<20	<10	<5.0	<100	<5.0	<20	<20
	7/22/11	<1.0	<20	<10	<5.0	<100	<5.0	**32**	**230**
	7/18/12	<1.0	<20	<10	<5.0	<100	<5.0	<20	<20
	11/14/13	<1.0	<20	<10	<5.0	<100	<20	<5.0	<20
	1/28/15	<0.20	<1.0	<0.20	<0.40	<33	<6.7	<1.0	<6.7
DW-2	11/5/10	<1.0	<20	<10	<5.0	<100	<5.0	<20	<20
	7/22/11	NS	NS	NS	NS	NS	NS	NS	NS
	7/18/12	NS	NS	NS	NS	NS	NS	NS	NS
	11/14/13	<1.0	<20	<10	<5.0	<100	<20	<5.0	<20
	1/21/15	NS	NS	NS	NS	NS	NS	NS	NS
DW-3	11/5/10	<1.0	<20	<10	<5.0	<100	<5.0	<20	<20
	7/22/11	<1.0	<20	<10	<5.0	<100	<5.0	<20	<20
	7/18/12	<1.0	<20	<10	<5.0	<100	<5.0	<20	<20
	11/14/13	<1.0	<20	<10	<5.0	<100	<20	<5.0	<20
	1/21/15	NS	NS	NS	NS	NS	NS	NS	NS
DW-4	11/5/10	<1.0	<20	<10	<5.0	<100	<5.0	<20	<20
	7/22/11	NS	NS	NS	NS	NS	NS	NS	NS
	7/18/12	NS	NS	NS	NS	NS	NS	NS	NS
	11/14/13	NS	NS	NS	NS	NS	NS	NS	NS
	1/28/15	<0.20	<1.0	<0.20	<0.40	<33	<6.7	<1.0	<6.7
DW-5	11/5/10	<1.0	<20	<10	<5.0	<100	<5.0	<20	<20
	7/22/11	NS	NS	NS	NS	NS	NS	NS	NS
	7/18/12	<1.0	<20	<10	<5.0	<100	<5.0	<20	<20
	11/14/13	<1.0	<20	<10	<5.0	<100	<20	<5.0	<20
	1/21/15	NS	NS	NS	NS	NS	NS	NS	NS
DW-6	11/5/10	NS	NS	NS	NS	NS	NS	NS	NS
	7/22/11	NS	NS	NS	NS	NS	NS	NS	NS
	7/18/12	NS	NS	NS	NS	NS	NS	NS	NS
	11/14/13	NS	NS	NS	NS	NS	NS	NS	NS
	1/21/15	NS	NS	NS	NS	NS	NS	NS	NS
DW-7	11/5/10	NS	NS	NS	NS	NS	NS	NS	NS
	7/22/11	NS	NS	NS	NS	NS	NS	NS	NS
	7/18/12	NS	NS	NS	NS	NS	NS	NS	NS
	11/14/13	NS	NS	NS	NS	NS	NS	NS	NS
	1/21/15	NS	NS	NS	NS	NS	NS	NS	NS
DW-8	11/5/10	NS	NS	NS	NS	NS	NS	NS	NS
	7/22/11	NS	NS	NS	NS	NS	NS	NS	NS
	7/18/12	<1.0	<20	<10	<5.0	<100	<5.0	<20	<20
	11/14/13	<1.0	**4.4J**	<10	<5.0	<100	<5.0	<20	<20
	1/28/15	<0.20	<1.0	<0.20	<0.40	<33	<6.7	<1.0	<6.7
DW-9	11/5/10	NS	NS	NS	NS	NS	NS	NS	NS
	7/22/11	NS	NS	NS	NS	NS	NS	NS	NS
	7/18/12	NS	NS	NS	NS	NS	NS	NS	NS
	11/14/13	NS	NS	NS	NS	NS	NS	NS	NS
	1/21/15	NS	NS	NS	NS	NS	NS	NS	NS

Prepared By:RAD
Checked By:DPO

TABLE 3

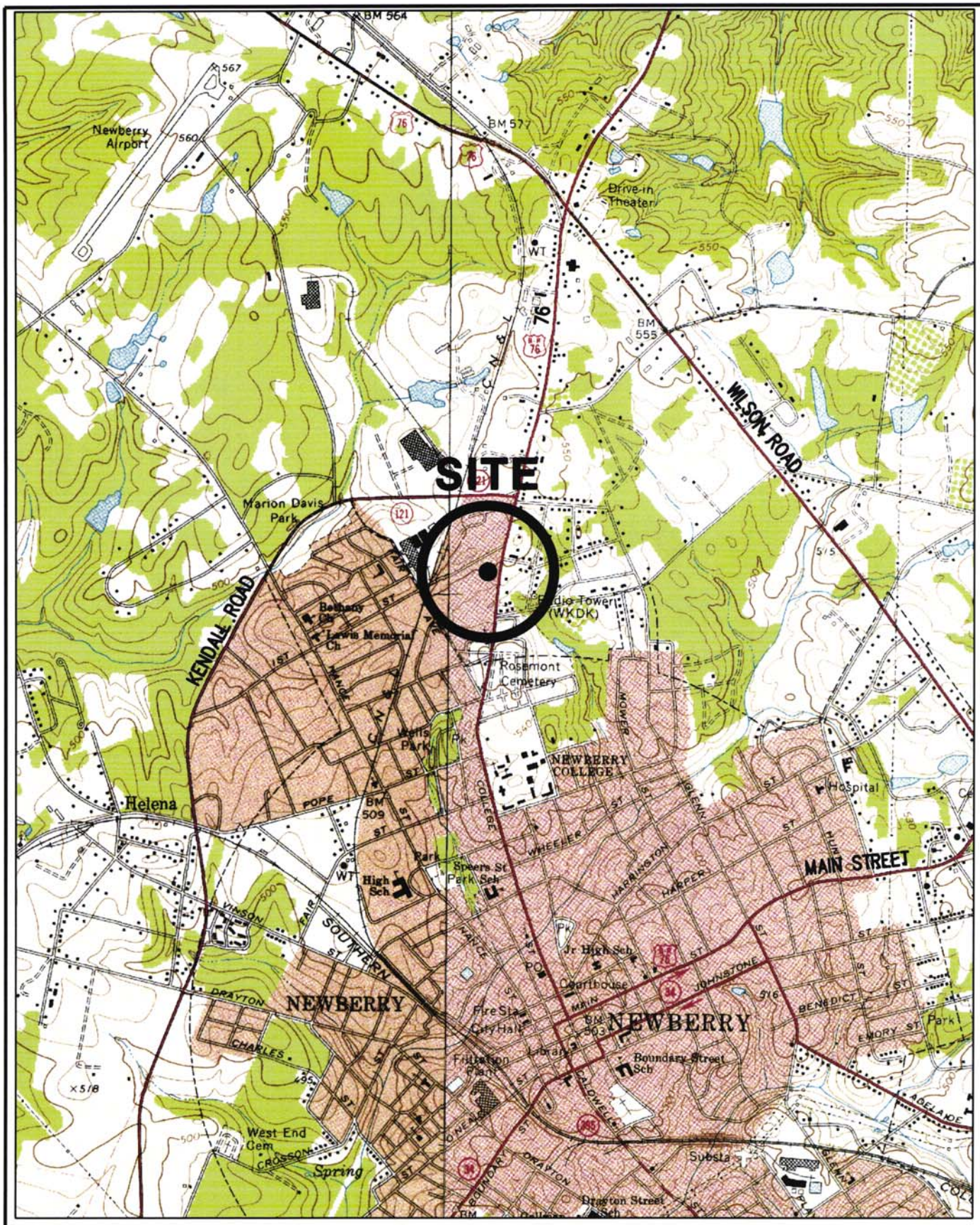
Laboratory Analytical Results
8-Oxygenates
Spinx 258/Former Enmark 380
Newberry, Newberry County, South Carolina
SCDHEC UST Permit #06588; Cost Agreement #49275 & #49276
BLE Project Number J13-6859-06

Well	Date Sampled	Ethyl-Tert-ButylEther (ETBE) (µg/L)	Ethyl-Tert-Butyl Alcohol (ETBA) (µg/L)	Tert-Amyl methyl Ether (TAME) (µg/L)	Diisopropyl Ether (IPE) (µg/L)	Ethanol (µg/L)	Tert-Amyl Alcohol (TAA) (µg/L)	Tert-Butyl Formate (TBF) (µg/L)	Tert-Butyl Alcohol (TBA) (µg/L)
SC DHEC RBSL		47	NA	128	150	10,000	240	NA	1,400
DW-10	11/5/10	NS	NS	NS	NS	NS	NS	NS	NS
	7/22/11	NS	NS	NS	NS	NS	NS	NS	NS
	7/23/11	NS	NS	NS	NS	NS	NS	NS	NS
	11/14/13	NS	NS	NS	NS	NS	NS	NS	NS
	1/21/15	NS	NS	NS	NS	NS	NS	NS	NS
Field Blank-1	1/21/15	<0.20	<1.0	<0.20	<0.40	<33	<6.7	<1.0	<6.7
Field Blank-2	1/26/15	<0.20	<1.0	<0.20	<0.40	<33	<6.7	<1.0	<6.7
Field Blank-3	1/28/15	<0.20	<1.0	<0.20	<0.40	<33	<6.7	<1.0	<6.7
Trip Blank-1	1/21/15	<0.20	<1.0	<0.20	<0.40	<33	<6.7	<1.0	<6.7

Notes:
Bold and shaded cells indicate concentrations above RBSLs
µg/liter = micrograms/liter = approximate Parts Per Billion (ppb)
RBSL = Risk Based Screening Level
NS = Not Sampled
NE = RBSL has not been established
J = estimated value between practical quantitative limit and method detection limit

Prepared By RAD
Checked By DPO

FIGURES

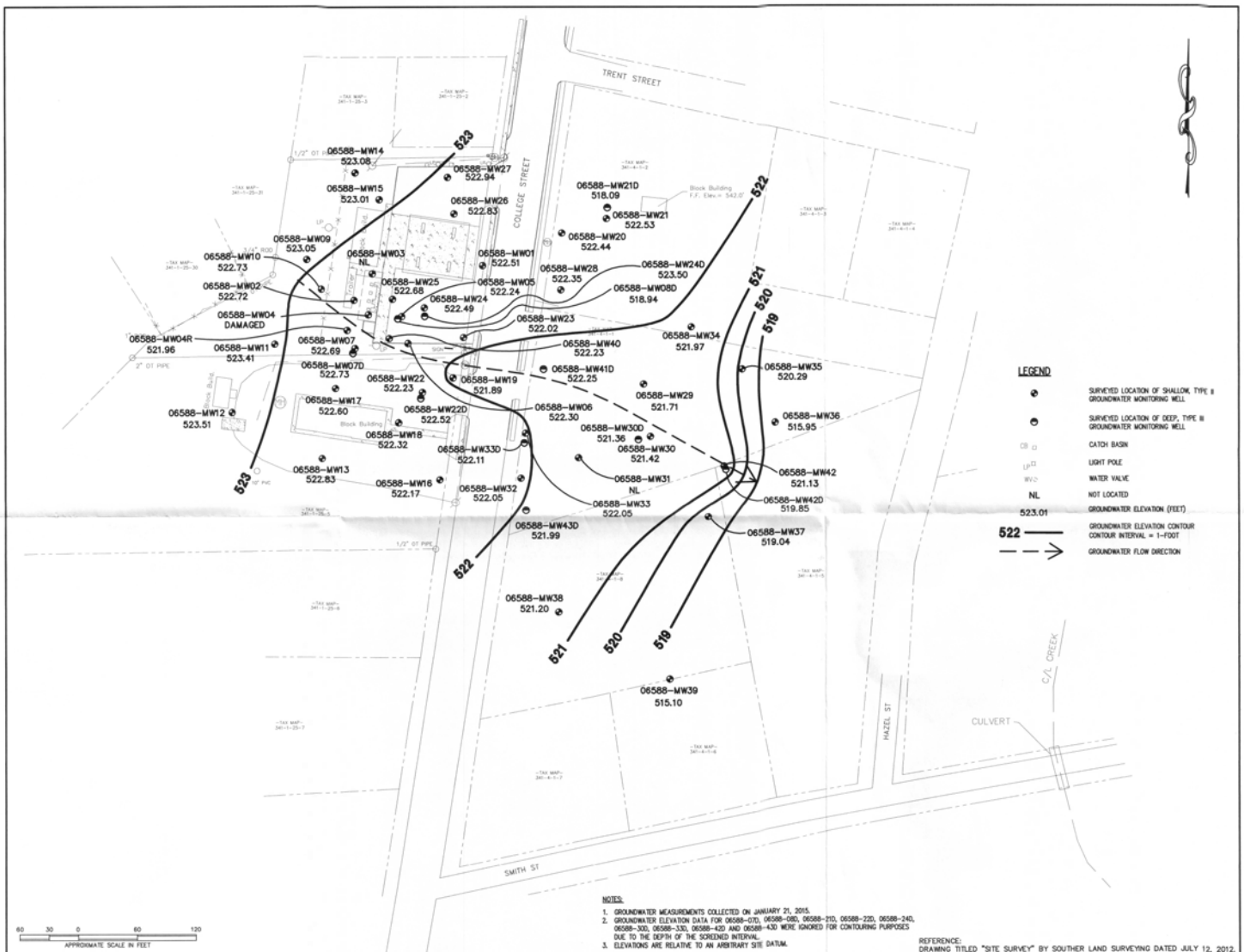


2000 1000 0 2000 4000

APPROXIMATE SCALE IN FEET

REFERENCE:
USGS TOPOGRAPHIC MAP, 7.5 MINUTE SERIES, NEWBERRY WEST AND NEWBERRY EAST, S.C. QUADRANGLES, 1969 AND 1968.

DRAWN: ACE	DATE: 03-13-15	BLE INC. BUNNELL-LAMMONS ENGINEERING, INC. 6004 PONDERS COURT GREENVILLE, SOUTH CAROLINA 29615 PHONE: (864)288-1265 FAX: (864)288-4430	SITE LOCATION MAP SPINX 258/FORMER ENMARK 380 UST PERMIT #06588 NEWBERRY, SOUTH CAROLINA	FIGURE 1
CHECKED: DPO	CAD: SPINX258-06SLM			
APPROVED: TLL	JOB NO: J14-6859-06			



NOTES:

1. GROUNDWATER MEASUREMENTS COLLECTED ON JANUARY 21, 2015.
2. GROUNDWATER ELEVATION DATA FOR 06588-07D, 06588-08D, 06588-21D, 06588-22D, 06588-24D, 06588-30D, 06588-33D, 06588-42D AND 06588-43D WERE IGNORED FOR CONTOURING PURPOSES DUE TO THE DEPTH OF THE SCREENED INTERVAL.
3. ELEVATIONS ARE RELATIVE TO AN ARBITRARY SITE DATUM.

REFERENCE:
DRAWING TITLED "SITE SURVEY" BY SOUTHER LAND SURVEYING DATED JULY 12, 2012.

REVISIONS		
No.	DESCRIPTION	BY

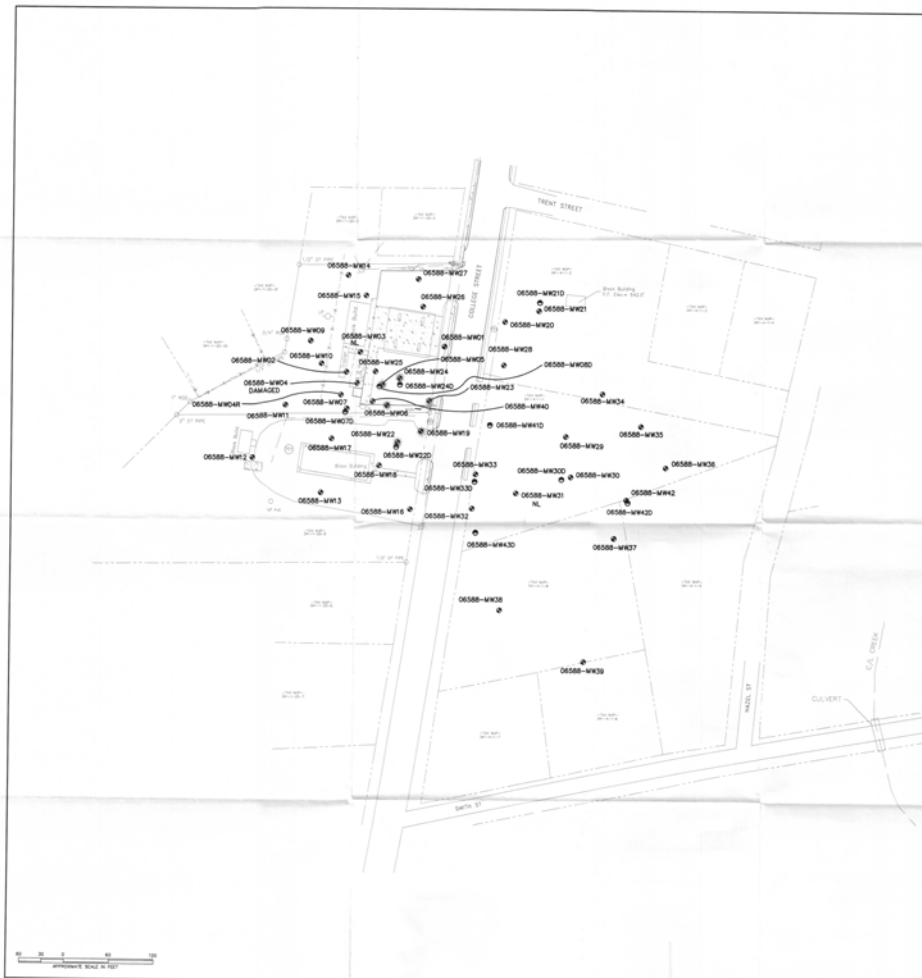
DRAWN:	ACE	DATE:	03-13-15
CHECKED:	DPG	CAD FILE:	SPINX258-06WTM
APPROVED:	TLL	JOB NO:	J14-6859-06

BLE INC.
BUNNELL-LAMMONS ENGINEERING, INC.
6004 PONDERS COURT
GREENVILLE, SOUTH CAROLINA 29615
PHONE: (864)288-1265 FAX: (864)288-4430

POTENTIOMETRIC MAP - JANUARY 2015
SPINX 258/FORMER ENMARK 380
UST PERMIT #06588
NEWBERRY, SOUTH CAROLINA

FIGURE NO.
2

APPENDICES



Well	Free-Product Thickness (ft)	Benzene (ug/l)	Toluene (ug/l)	Ethylbenzene (ug/l)	Xylenes (ug/l)	MTBE (ug/l)	Naphthalene (ug/l)	EDB (ug/l)	1,2-Dichloroethane (ug/l)
ECOSHIC RBSL	None	1	1,000	700	10,000	40	20	0.02	5
06588-MW01	0.00	3,600	2,400	1,300	8,800	23 J	120 J	0.68	<22
06588-MW02	0.00	180	46	150	890	<2.0	82	<0.020	3.2 J
06588-MW03	0.00			Not Located					
06588-MW04R	0.00	880	8,600	2,600	16,000	<40	870	0.041	<30
06588-MW05	0.32	NS	NS	NS	NS	NS	NS	NS	NS
06588-MW06	0.14	NS	NS	NS	NS	NS	NS	NS	NS
06588-MW07	0.01	1,000	6,300	2,300	18,000	<40	1,100	0.13	<40
06588-MW07D	0.00	<0.20	<1.7	<1.7	<1.7	<0.40	<1.7	<0.020	<0.30
06588-MW08D	0.00	3.0 J	<1.7	<1.7	<1.7	<0.40	<1.7	<0.020	<0.30
06588-MW09	0.00	<0.20	<1.7	<1.7	<1.7	<0.40	<1.7	<0.020	<0.30
06588-MW10	0.00	<0.20	<1.7	<1.7	<1.7	<0.40	<1.7	<0.019	<0.30
06588-MW11	0.00	<0.20	<1.7	<1.7	<1.7	<0.40	<1.7	<0.020	<0.30
06588-MW12	0.00	<0.20	<1.7	<1.7	<1.7	<0.40	<1.7	<0.020	<0.30
06588-MW13	0.00	<0.20	<1.7	<1.7	<1.7	<0.40	<1.7	<0.020	<0.30
06588-MW14	0.00	<0.20	<1.7	<1.7	<1.7	<0.40	<1.7	<0.020	<0.30
06588-MW15	0.00	<0.20	<1.7	<1.7	<1.7	<0.40	<1.7	<0.020	<0.30
06588-MW16	0.00	<0.20	<1.7	<1.7	<1.7	<0.40	<1.7	<0.020	<0.30
06588-MW17	0.00	<0.20	<1.7	<1.7	<1.7	<0.40	<1.7	<0.020	<0.30
06588-MW18	0.00	760	490	1,800	2,600	<3.0	630	0.20	<8.0
06588-MW19	0.42	NS	NS	NS	NS	NS	NS	NS	NS
06588-MW20	0.00	<0.20	<1.7	<1.7	<1.7	<0.40	<1.7	<0.020	<0.30
06588-MW21	0.00	<0.20	<1.7	<1.7	<1.7	<0.40	<1.7	<0.020	<0.30
06588-MW21D	0.00	<0.20	<1.7	<1.7	<1.7	<0.40	<1.7	<0.020	<0.30
06588-MW22	0.03	NS	NS	NS	NS	NS	NS	NS	NS
06588-MW22D	0.00	<0.20	<1.7	<1.7	<1.7	<0.40	<1.7	<0.020	<0.30
06588-MW23	0.27	NS	NS	NS	NS	NS	NS	NS	NS
06588-MW24	0.56	NS	NS	NS	NS	NS	NS	NS	NS
06588-MW24D	0.00	0.94 J	<1.7	<1.7	<1.7	3.9 J	<1.7	<0.020	<0.30
06588-MW25	0.00	11,000	13,000	2,700	13,000	1,400	760	4.4	<90
06588-MW26	0.00	380	<8.5	<8.5	36	<2.0	<8.5	<0.020	<2.5
06588-MW27	0.00	<0.20	<1.7	<1.7	<1.7	<0.40	<1.7	<0.020	<0.30
06588-MW28	0.00	<0.20	<1.7	<1.7	<1.7	<0.40	<1.7	<0.020	<0.30
06588-MW29	0.00	<0.20	<1.7	<1.7	<1.7	<0.40	<1.7	<0.020	<0.30
06588-MW30	0.00	<0.20	<1.7	<1.7	<1.7	18	<1.7	<0.020	<0.30
06588-MW30D	0.00	<0.20	<1.7	<1.7	<1.7	<0.40	<1.7	<0.020	<0.30
06588-MW31				Not Located					
06588-MW32	0.00	<0.20	<1.7	<1.7	<1.7	140	<1.7	<0.020	<0.30
06588-MW33	0.00	<0.20	<1.7	<1.7	<1.7	0.86 J	<1.7	<0.020	<0.30
06588-MW33D	0.00	<0.20	<1.7	<1.7	<1.7	<0.40	<1.7	<0.020	<0.30
06588-MW34	0.00	<0.20	<1.7	<1.7	<1.7	<0.40	<1.7	<0.020	<0.30
06588-MW35	0.00	<0.20	<1.7	<1.7	<1.7	<0.40	<1.7	<0.019	<0.30
06588-MW36	0.00	<0.20	<1.7	<1.7	<1.7	<0.40	<1.7	<0.020	<0.30
06588-MW37	0.00	<0.20	<1.7	<1.7	<1.7	<0.40	<1.7	<0.020	<0.30
06588-MW38	0.00	<0.20	<1.7	<1.7	<1.7	<0.40	<1.7	<0.020	<0.30
06588-MW39	0.00	<0.20	<1.7	<1.7	<1.7	<0.40	<1.7	<0.020	<0.30
06588-MW40	0.00	3,600	330 J	620	3,000	670	240	0.61	<21
06588-MW40D	0.00	3,300	<34	270	<34	880	<34	<0.020	130
06588-MW41	0.00	<0.20	<1.7	<1.7	<1.7	<0.40	<1.7	<0.020	<0.30
06588-MW41D	0.00	<0.20	<1.7	<1.7	<1.7	<0.40	<1.7	<0.020	<0.30
06588-MW42D	0.00	<0.20	<1.7	<1.7	<1.7	0.80 J	<1.7	<0.020	<0.30
DW-1	0.00	<0.20	<1.7	<1.7	<1.7	<0.40	<1.7	<0.020	<0.30
DW-4	0.00	<0.20	<1.7	<1.7	<1.7	<0.40	<1.7	<0.020	<0.30
DW-8	0.00	<0.20	<1.7	<1.7	<1.7	<0.40	<1.7	<0.020	<0.30

Notes:
ug/liter = micrograms/liter = approximate Parts Per Billion (ppb)
Bold and shaded cells indicate exceedances of criteria when a RBSL is
NA = Not Applicable
NS = Not Sampled
ND = Not Detected at the Method Detection Limit
J = estimated value here see practical quantitation limit and method detection limit.
NE = RBSL has not been established
RBSL = Risk Based Screening Level

LEGEND

- SURVEYED LOCATION OF SHALLOW, TYPE II GROUNDWATER MONITORING WELL
- SURVEYED LOCATION OF DEEP, TYPE III GROUNDWATER MONITORING WELL
- CATCH BASIN
- LIGHT POLE
- WATER VALVE
- FREE-PRODUCT

REFERENCE:
DRAWING TITLED "SITE SURVEY" BY SOUTHER LAND SURVEYING DATED JULY 12, 2012

REVISIONS		
No.	DESCRIPTION	BY

DRAWN: ACE
CHECKED: DPO
APPROVED: TLL

DATE: 03-13-15
CAD FILE: SPN12258-06GWCOC
JOB NO: J14-6859-06

BLE INC.
BUNNELL-LAMMONS ENGINEERING, INC.
8924 PONDEROSA COURT
GREENSBORO, NORTH CAROLINA 27407
PHONE (336)294-1011 FAX (336)294-4420

GROUNDWATER COC MAP - JANUARY 2016
SPMC 258/FORMER SUNBANK 360
UST PERMIT #06588
NEWBERRY, SOUTH CAROLINA

FIGURE NO. 3

APPENDIX A

DISPOSAL MANIFESTS

VLS recovery services, llc

NON-HAZARDOUS WASTE MANIFEST

1. Generator ID Number
2. Page 1 of
3. Emergency Response Phone
4. Waste Tracking Number: 2-10-15 BW-BLE

5. Generator's Name and Mailing Address
BUNNELL-LAMMON ENG, INC
8004 PONDERS COURT
GREENVILLE, SC 29615
Generator's Phone: 864-989-1255
Generator's Site Address (if different than mailing address)

6. Transporter 1 Company Name: BLE
U.S. EPA ID Number:

7. Transporter 2 Company Name
U.S. EPA ID Number:

8. Designated Facility Name and Site Address
VLS RECOVERY SERVICES, LLC
305 S. MAIN STREET
MAULDIN, SC 29662
Facility's Phone: 864-962-9953
U.S. EPA ID Number: SCR000762468

	9. Waste Shipping Name and Description	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	
1.	NON HAZ NON REG WELL WATER #11312 — Enmark 620 Waynesville NC UST 0-010126			432	G	
2.	Anderson Bulk Plant Anderson SC UST 00492			23.5	G	
3.	Stop & Mini 9 Anderson SC UST 00566			83.5	G	
4.	Enmark 380 Mauldin SC UST 06588			283	G	

SAME

13. Special Handling Instructions and Additional Information
Food Mart 111 (Dw) Orangeburg, SC UST 10633 — 170 G

14. GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations.

Generator's/Offeror's Printed/Typed Name: Brian K. White
Signature: Brian K. White
Month 2 Day 10 Year 15

15. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter Signature (for exports only): Date leaving U.S.:

16. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Brian K. White
Signature: Brian K. White
Month 2 Day 10 Year 15
Transporter 2 Printed/Typed Name
Signature
Month Day Year

17. Discrepancy
17a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
17b. Alternate Facility (or Generator)
U.S. EPA ID Number
Facility's Phone:
17c. Signature of Alternate Facility (or Generator)
Month Day Year

18. Designated Facility Owner or Operator: Certification of receipt of materials covered by the manifest except as noted in Item 17a
Printed/Typed Name: Steven W. Dean
Signature: Steven W. Dean
Month 2 Day 10 Year 15

GENERATOR — INT'L — TRANSPORTER — DESIGNATED FACILITY

APPENDIX B

GROUNDWATER SAMPLING PROCEDURES AND FIELD SAMPLING LOGS

APPENDIX B

MONITORING WELL SAMPLING PROCEDURES

The monitoring wells were sampled using a 4-foot long by 1.6-inch diameter disposable polyethylene bailer attached to an unused polypropylene cord. To minimize the potential for cross-contamination between wells, a new clean bailer was used at each well.

Samples were placed in glass vials or polypropylene containers with Teflon® lined lids and marked with identifying numbers. VOCs were preserved using hydrochloric acid (HCl) to achieve a pH of ≤ 2. Samples were maintained at less than 4°Celsius in a refrigerated sample cooler and shipped to Shealy Environmental Services, Inc. (SC#32010) in Columbia, South Carolina via courier service for analysis.

BUNNELL-LAMMONS ENGINEERING, INC.

Field Data Information Sheet for Ground Water Sampling
Division of Underground Storage Tank Management

Date 1/21/15
Field Personnel MWP
General weather Conditions Sunny
Ambient Air Temperature (°C) 3°

Facility Name: Former Enmark 380 Site ID #: 06588

Quality Assurance

pH Sensor:	Oakton 35630-62	Conductivity Sensor:	35630-32
Serial No.	324976	Serial No.	324976
pH =4.0	4.0	Standard	
pH = 7.0	7.0	Standard	
pH = 7.0		Standard	
pH = 10.0		Standard	

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time

Well # MW-1

Well Diameter (D) 2 inch of 28.30 feet(ft) bgs
Conversion Factor (C): 3.143*(D/2)^2
for a 2 inch well C = 0.163
for a 4 inch well C = 0.652
*Free Product Thickness — ft
Total Well Depth (TWD) 28.30 ft bgs
Depth to Groundwater (DGW) 19.66 ft bgs
Length of Water Colum (LWC = TWD-DGW) 8.64 ft
1 Casing Volume (LWC*C) = 0.00 X .17 = 1.47 gals
3 Casing Volumes = 3 X 0.00 = 4.41 gals
(Standard Purge Volume)

Total Volume of Water Purged Before Sampling 4.5 gals

*If free product is present over 1/8 inch, sampling will not be required.

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post	Sample
Volume Purged (gallons)	—	1.5	3.0	4.5				
Time (military)	1008	1010	1012	1014				
pH (s.u)	6.45	6.42	6.40	6.40				
Specific Conductivity	161	159	157	156				
Water Temperature (°C)	18.2	19.4	20.3	21.5				
Turbidity (subjective: clear, slightly cloudy, cloudy)	37.6	189	74.2	8.92				
Dissolved Oxygen (mg/l)	2.2							

Remarks: Strong Petr. odor.

Well sampled @ 1014 on 1/21/15

BUNNELL-LAMMONS ENGINEERING, INC.

Field Data Information Sheet for Ground Water Sampling
Division of Underground Storage Tank Management

Date 1/21/15
Field Personnel MWP
General weather Conditions Sunny
Ambient Air Temperature (°C) 30

Facility Name: Former Enmark 380 Site ID #: 06588

Quality Assurance

pH Sensor:	Oakton 35630-62	Conductivity Sensor:	35630-32
Serial No.	324976	Serial No.	324976
pH =4.0	4.0	Standard	
pH = 7.0	7.0	Standard	
pH = 7.0		Standard	
pH = 10.0		Standard	

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time

Well # MW-2

Well Diameter (D) 4 inch of 25.20 feet(ft) bgs
Conversion Factor (C): 3.143*(D/2)^2
for a 2 inch well C = 0.163
for a 4 inch well C = 0.652
*Free Product Thickness -- ft
Total Well Depth (TWD) 25.20 ft bgs
Depth to Groundwater (DGW) 20.11 ft bgs
Length of Water Colum (LWC = TWD-DGW) 5.09 ft
1 Casing Volume (LWC*C) = 0.00 X .17 = 3.32 gals
3 Casing Volumes = 3 X 0.00 = 9.96 gals
(Standard Purge Volume)

Total Volume of Water Purged Before Sampling 10.0 gals

*If free product is present over 1/8 inch, sampling will not be required.

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post	Sample
Volume Purged (gallons)	—	3.5	7.0	10.0				
Time (military)	1020	1025	1030	1035				
pH (s.u)	6.53	6.52	6.49	6.48				
Specific Conductivity	158	155	153	152				
Water Temperature (°C)	16.5	18.7	19.3	19.5				
Turbidity (subjective: clear, slightly cloudy, cloudy)	71,100	28.4	13.6	7.87				
Dissolved Oxygen (mg/l)								

Remarks: well sampled @ 1035 on 1/21/15. Strong Petr. Odor

BUNNELL-LAMMONS ENGINEERING, INC.

Field Data Information Sheet for Ground Water Sampling
Division of Underground Storage Tank Management

Date 1/21/15
Field Personnel mvp
General weather Conditions Sunny
Ambient Air Temperature (°C) 3°

Facility Name: Former Enmark 380 Site ID #: 06588

Quality Assurance

pH Sensor:	Oakton 35630-62	Conductivity Sensor:	35630-32
Serial No.	324976	Serial No.	324976
pH =4.0	4.0	Standard	
pH = 7.0	7.0	Standard	
pH = 7.0		Standard	
pH = 10.0		Standard	

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time

Well # MW-3

Well Diameter (D) 2 inch of 25.00 feet(ft) bgs
Conversion Factor (C): 3.143*(D/2)^2
for a 2 inch well C = 0.163
for a 4 inch well C = 0.652
*Free Product Thickness --- ft
Total Well Depth (TWD) 25.00 ft bgs
Depth to Groundwater (DGW) ft bgs
Length of Water Colum (LWC = TWD-DGW) ft
1 Casing Volume (LWC*C) = 0.00 X .17 = gals
3 Casing Volumes = 3 X 0.00 = gals
(Standard Purge Volume)

Total Volume of Water Purged Before Sampling -- gals

*If free product is present over 1/8 inch, sampling will not be required.

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post	Sample
Volume Purged (gallons)								
Time (military)								
pH (s.u)								
Specific Conductivity								
Water Temperature (°C)								
Turbidity (subjective: clear, slightly cloudy, cloudy)								
Dissolved Oxygen (mg/l)								

Remarks: well not located.

BUNNELL-LAMMONS ENGINEERING, INC.

Field Data Information Sheet for Ground Water Sampling
Division of Underground Storage Tank Management

Date 1/21/15
Field Personnel MWP
General weather Conditions Rainy
Ambient Air Temperature (°C) 30

Facility Name: Former Enmark 380 Site ID #: 06588

Quality Assurance

pH Sensor:		Conductivity Sensor:	
Serial No.		Serial No.	
pH =4.0		Standard	
pH = 7.0		Standard	
pH = 7.0		Standard	
pH = 10.0		Standard	

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time

Well # MW-4R

Well Diameter (D) 2 inch of 25.00 feet(ft) bgs
Conversion Factor (C): 3.143*(D/2)^2
for a 2 inch well C = 0.163
for a 4 inch well C = 0.652
*Free Product Thickness --- ft
Total Well Depth (TWD) 25.00 ft bgs
Depth to Groundwater (DGW) 20.18 ft bgs
Length of Water Colum (LWC = TWD-DGW) 4.82 ft
1 Casing Volume (LWC*C) = 0.00 X .17 = 0.82 gals
3 Casing Volumes = 3 X 0.00 = 2.46 gals
(Standard Purge Volume)

Total Volume of Water Purged Before Sampling 3.6 gals

*If free product is present over 1/8 inch, sampling will not be required.

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post	Sample
Volume Purged (gallons)	—	1.0	2.0	3.0				
Time (military)	1155	1157	1159	1201				
pH (s.u)	6.75	6.72	6.70	6.69				
Specific Conductivity	184	182	180	179				
Water Temperature (°C)	18.9	19.5	19.8	20.3				
Turbidity (subjective: clear, slightly cloudy, cloudy)	>6100	296	82.4	3.79				
Dissolved Oxygen (mg/l)	2.8							

Remarks: well sampled @ 1201 on 1/21/15.

BUNNELL-LAMMONS ENGINEERING, INC.

Field Data Information Sheet for Ground Water Sampling
Division of Underground Storage Tank Management

Date 1/21/18
Field Personnel MVP
General weather Conditions Foggy
Ambient Air Temperature (°C) 30

Facility Name: Former Enmark 380 Site ID #: 06588

Quality Assurance

pH Sensor:		Conductivity Sensor:	
Serial No.		Serial No.	
pH =4.0		Standard	
pH = 7.0		Standard	
pH = 7.0		Standard	
pH = 10.0		Standard	

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time

Well # MW-5

Well Diameter (D) 2 inch of 25.00 feet(ft) bgs
Conversion Factor (C): 3.143*(D/2)^2
for a 2 inch well C = 0.163
for a 4 inch well C = 0.652
*Free Product Thickness ~~0.02~~ 0.30 ft
Total Well Depth (TWD) 25.00 ft bgs
Depth to Groundwater (DGW) 20.19 ft bgs
Length of Water Colum (LWC = TWD-DGW) 4.81 ft
1 Casing Volume (LWC*C) = 0.00 X .17 = 0.82 gals
3 Casing Volumes = 3 X 0.00 = 2.46 gals
(Standard Purge Volume)

Total Volume of Water Purged Before Sampling -- gals

*If free product is present over 1/8 inch, sampling will not be required.

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post	Sample
Volume Purged (gallons)								
Time (military)								
pH (s.u)								
Specific Conductivity								
Water Temperature (°C)								
Turbidity (subjective: clear, slightly cloudy, cloudy)								
Dissolved Oxygen (mg/l)								

Remarks: well not sampled due to FPT > 0.02'

BUNNELL-LAMMONS ENGINEERING, INC.

Field Data Information Sheet for Ground Water Sampling
Division of Underground Storage Tank Management

Date 1/2/15
Field Personnel MWP
General weather Conditions Foggy
Ambient Air Temperature (°C) 3°

Facility Name: Former Enmark 380 Site ID #: 06588

Quality Assurance

pH Sensor:		Conductivity Sensor:	
Serial No.		Serial No.	
pH =4.0		Standard	
pH = 7.0		Standard	
pH = 7.0		Standard	
pH = 10.0		Standard	

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time

Well # MW-6

Well Diameter (D) 2 inch of 25.00 feet(ft) bgs
Conversion Factor (C): 3.143*(D/2)^2
for a 2 inch well C = 0.163
for a 4 inch well C = 0.652
*Free Product Thickness ~~4.20~~ 0.14 ft
Total Well Depth (TWD) 25.00 ft bgs
Depth to Groundwater (DGW) 19.94 ft bgs
Length of Water Colum (LWC = TWD-DGW) 5.06 ft
1 Casing Volume (LWC*C) = 0.00 X .17 = 0.86 gals
3 Casing Volumes = 3 X 0.00 = 2.58 gals
(Standard Purge Volume)

Total Volume of Water Purged Before Sampling – gals

*If free product is present over 1/8 inch, sampling will not be required.

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post	Sample
Volume Purged (gallons)								
Time (military)								
pH (s.u)								
Specific Conductivity								
Water Temperature (°C)								
Turbidity (subjective: clear, slightly cloudy, cloudy)								
Dissolved Oxygen (mg/l)								

Remarks: well not sampled due to FPT >0.02'

BUNNELL-LAMMONS ENGINEERING, INC.

Field Data Information Sheet for Ground Water Sampling
Division of Underground Storage Tank Management

Date 1/21/15
Field Personnel AWP
General weather Conditions Sunny
Ambient Air Temperature (°C) 3°

Facility Name: Former Enmark 380 Site ID #: 06588

Quality Assurance

pH Sensor:		Conductivity Sensor:	
Serial No.		Serial No.	
pH =4.0		Standard	
pH = 7.0		Standard	
pH = 7.0		Standard	
pH = 10.0		Standard	

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time

Well # MW-7

Well Diameter (D) 2 inch of 25.00 feet(ft) bgs
Conversion Factor (C): 3.143*(D/2)^2
for a 2 inch well C = 0.163
for a 4 inch well C = 0.652
*Free Product Thickness ~~0.00~~ ft
Total Well Depth (TWD) 25.00 ft bgs
Depth to Groundwater (DGW) 19.94 ft bgs
Length of Water Colum (LWC = TWD-DGW) 5.06 ft
1 Casing Volume (LWC*C) = 0.00 X .17 = 0.86 gals
3 Casing Volumes = 3 X 0.00 = 2.58 gals
(Standard Purge Volume)

Total Volume of Water Purged Before Sampling 3.0 gals

*If free product is present over 1/8 inch, sampling will not be required.

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post	Sample
Volume Purged (gallons)	—	1.0	2.0	3.0				
Time (military)	1210	1212	1214	1216				
pH (s.u)	6.85	6.84	6.81	6.98				
Specific Conductivity	211	209	207	207				
Water Temperature (°C)	18.4	18.9	19.5	19.9				
Turbidity (subjective: clear, slightly cloudy, cloudy)	71/106	284	97.9	2.87				
Dissolved Oxygen (mg/l)	0.9							

Remarks:

well sampled @ 1216 on 1/21/15.

Duplicate ran @ 1217 on 1/21/15

BUNNELL-LAMMONS ENGINEERING, INC

Field Data Information Sheet for Ground Water Sampling
Division of Underground Storage Tank Management

Date 1/21/15
Field Personnel MWP
General weather Conditions Sunny
Ambient Air Temperature (°C) 3°

Facility Name: Former Enmark 380 Site ID #: 06588

Quality Assurance

pH Sensor:	Oakton 35630-62	Conductivity Sensor:	35630-32
Serial No.	324976	Serial No.	324976
pH =4.0	4.0	Standard	
pH = 7.0	7.0	Standard	
pH = 7.0		Standard	
pH = 10.0		Standard	

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time

Well # MW-7D

Well Diameter (D) 2 inch of 46.04 feet(ft) bgs
Conversion Factor (C): 3.143*(D/2)^2
for a 2 inch well C = 0.163
for a 4 inch well C = 0.652
*Free Product Thickness --- ft
Total Well Depth (TWD) 46.04 ft bgs
Depth to Groundwater (DGW) 19.02 ft bgs
Length of Water Colum (LWC = TWD-DGW) 27.02 ft
1 Casing Volume (LWC*C) = 0.00 X .17 = 4.59 gals
3 Casing Volumes = 3 X 0.00 = 13.77 gals
(Standard Purge Volume)

Total Volume of Water Purged Before Sampling 14.6 gals

*If free product is present over 1/8 inch, sampling will not be required.

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post	Sample
Volume Purged (gallons)	—	5.0	10.0	14.0				
Time (military)	1229	1229	1234	1239				
pH (s.u)	11.54	11.52	11.48	11.47				
Specific Conductivity	186	181	179	171				
Water Temperature (°C)	18.7	19.2	19.8	20.1				
Turbidity (subjective: clear, slightly cloudy, cloudy)	71.100	283	68.7	9.21				
Dissolved Oxygen (mg/l)	1.8							

Remarks: well sampled @ 1239 on 1/21/15.

BUNNELL-LAMMONS ENGINEERING, INC.

Field Data Information Sheet for Ground Water Sampling
Division of Underground Storage Tank Management

Date 1/21/15
Field Personnel MWP
General weather Conditions Foggy
Ambient Air Temperature (°C) 3

Facility Name: Former Enmark 380 Site ID #: 06588

Quality Assurance

pH Sensor:	Oakton 35630-62	Conductivity Sensor:	35630-32
Serial No.	324976	Serial No.	324976
pH =4.0	4.0	Standard	
pH = 7.0	7.0	Standard	
pH = 7.0		Standard	
pH = 10.0		Standard	

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time

Well # MW-8D

Well Diameter (D) 2 inch of 45.00 feet(ft) bgs
Conversion Factor (C): 3.143*(D/2)^2
for a 2 inch well C = 0.163
for a 4 inch well C = 0.652
*Free Product Thickness --- ft
Total Well Depth (TWD) 45.00 ft bgs
Depth to Groundwater (DGW) 23.60 ft bgs
Length of Water Colum (LWC = TWD-DGW) 21.4 ft
1 Casing Volume (LWC*C) = 0.00 X .17 = 3.64 gals
3 Casing Volumes = 3 X 0.00 = 10.92 gals
(Standard Purge Volume)

Total Volume of Water Purged Before Sampling 11.0 gals

*If free product is present over 1/8 inch, sampling will not be required.

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post	Sample
Volume Purged (gallons)	—	4.0	8.0	11.0				
Time (military)	1053	1058	1103	1108				
pH (s.u)	11.65	11.62	11.61	11.60				
Specific Conductivity	275	273	270	271				
Water Temperature (°C)	18.4	19.1	20.8	21.6				
Turbidity (subjective: clear, slightly cloudy, cloudy)	>1,100	284	92.6	3.92				
Dissolved Oxygen (mg/l)	1.3							

Remarks: Well sampled @ 1108 on 1/21/15.

BUNNELL-LAMMONS ENGINEERING, INC

Field Data Information Sheet for Ground Water Sampling
Division of Underground Storage Tank Management

Date 1/21/15
Field Personnel MWP
General weather Conditions Foggy
Ambient Air Temperature (°C) 3°

Facility Name: Former Enmark 380 Site ID #: 06588

Quality Assurance

pH Sensor:	Oakton 35630-62	Conductivity Sensor:	35630-32
Serial No.	324976	Serial No.	324976
pH =4.0	4.0	Standard	
pH = 7.0	7.0	Standard	
pH = 7.0		Standard	
pH = 10.0		Standard	

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time

Well # MW-9

Well Diameter (D) 2 inch of 28.74 feet(ft) bgs
Conversion Factor (C): 3.143*(D/2)^2
for a 2 inch well C = 0.163
for a 4 inch well C = 0.652
*Free Product Thickness --- ft
Total Well Depth (TWD) 28.74 ft bgs
Depth to Groundwater (DGW) 20.86 ft bgs
Length of Water Colum (LWC = TWD-DGW) 7.88 ft
1 Casing Volume (LWC*C) = 0.00 X .17 = 1.34 gals
3 Casing Volumes = 3 X 0.00 = 4.04 gals
(Standard Purge Volume)

Total Volume of Water Purged Before Sampling 4.5 gals

*If free product is present over 1/8 inch, sampling will not be required.

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post	Sample
Volume Purged (gallons)	—	1.5	3.0	4.5				
Time (military)	1340	1343	1347	1351				
pH (s.u)	4.71	4.68	4.64	4.6				
Specific Conductivity	163	159	156	155				
Water Temperature (°C)	19.2	19.8	20.1	20.9				
Turbidity (subjective: clear, slightly cloudy, cloudy)	21.3	82.7	79.8	2.47				
Dissolved Oxygen (mg/l)								

Remarks: well sampled @ 1351 on 1/21/15

BUNNELL-LAMMONS ENGINEERING, INC

Field Data Information Sheet for Ground Water Sampling
Division of Underground Storage Tank Management

Date 1/21/15
Field Personnel MVP
General weather Conditions Sunny
Ambient Air Temperature (°C) 30

Facility Name: Former Enmark 380 Site ID #: 06588

Quality Assurance

pH Sensor:	Oakton 35630-62	Conductivity Sensor:	35630-32
Serial No.	324976	Serial No.	324976
pH =4.0	4.0	Standard	
pH = 7.0	7.0	Standard	
pH = 7.0		Standard	
pH = 10.0		Standard	

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time

Well # MW-10

Well Diameter (D) 2 inch of 28.00 feet(ft) bgs
Conversion Factor (C): 3.143*(D/2)^2
for a 2 inch well C = 0.163
for a 4 inch well C = 0.652
*Free Product Thickness --- ft
Total Well Depth (TWD) 28.00 ft bgs
Depth to Groundwater (DGW) 20.25 ft bgs
Length of Water Colum (LWC = TWD-DGW) 7.75 ft
1 Casing Volume (LWC*C) = 0.00 X .17 = 1.32 gals
3 Casing Volumes = 3 X 0.00 = 3.96 gals
(Standard Purge Volume)

Total Volume of Water Purged Before Sampling 4.0 gals

*If free product is present over 1/8 inch, sampling will not be required.

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post	Sample
Volume Purged (gallons)	—	1.5	3.0	4.0				
Time (military)	1400	1402	1404	1406				
pH (s.u)	5.52	5.49	5.45	5.44				
Specific Conductivity	53	51	48	49				
Water Temperature (°C)	16.9	18.9	19.6	20.1				
Turbidity (subjective: clear, slightly cloudy, cloudy)	13.8	187	42.1	8.71				
Dissolved Oxygen (mg/l)	1.1							

Remarks: well sampled @ 1406 on 1/21/15

BUNNELL-LAMMONS ENGINEERING, INC.

Field Data Information Sheet for Ground Water Sampling
Division of Underground Storage Tank Management

Date 1/21/15
Field Personnel MWP
General weather Conditions Sunny
Ambient Air Temperature (°C) 30

Facility Name: Former Enmark 380 Site ID #: 06588

Quality Assurance

pH Sensor:	Oakton 35630-62	Conductivity Sensor:	35630-32
Serial No.	324976	Serial No.	324976
pH =4.0	4.0	Standard	
pH = 7.0	7.0	Standard	
pH = 7.0		Standard	
pH = 10.0		Standard	

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time

Well # MW-11

Well Diameter (D) 2 inch of 28.30 feet(ft) bgs
Conversion Factor (C): 3.143*(D/2)^2
for a 2 inch well C = 0.163
for a 4 inch well C = 0.652
*Free Product Thickness — ft
Total Well Depth (TWD) 28.30 ft bgs
Depth to Groundwater (DGW) 18.19 ft bgs
Length of Water Colum (LWC = TWD-DGW) 10.11 ft
1 Casing Volume (LWC*C) = 0.00 X .17 = 1.72 gals
3 Casing Volumes = 3 X 0.00 = 5.16 gals
(Standard Purge Volume)

Total Volume of Water Purged Before Sampling 5.5 gals

*If free product is present over 1/8 inch, sampling will not be required.

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post	Sample
Volume Purged (gallons)	—	2.0	4.0	5.5				
Time (military)	1415	1418	1421	1424				
pH (s.u)	5.49	5.47	5.43	5.44				
Specific Conductivity	170	168	165	164				
Water Temperature (°C)	[redacted] 17.2	18.4	19.8	20.0				
Turbidity (subjective: clear, slightly cloudy, cloudy)	23.4	284	61.2	9.74				
Dissolved Oxygen (mg/l)	0.8							

Remarks: well sampled @ 1424 on 1/21/15.

BUNNELL-LAMMONS ENGINEERING, INC

Field Data Information Sheet for Ground Water Sampling
Division of Underground Storage Tank Management

Date 1/21/15
Field Personnel MWP
General weather Conditions Sunny
Ambient Air Temperature (°C) 30

Facility Name: Former Enmark 380 Site ID #: 06588

Quality Assurance

pH Sensor:	Oakton 35630-62	Conductivity Sensor:	35630-32
Serial No.	324976	Serial No.	324976
pH =4.0	4.0	Standard	
pH = 7.0	7.0	Standard	
pH = 7.0		Standard	
pH = 10.0		Standard	

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time

Well # MW-12

Well Diameter (D) 2 inch of 27.61 feet(ft) bgs
Conversion Factor (C): 3.143*(D/2)^2
for a 2 inch well C = 0.163
for a 4 inch well C = 0.652
*Free Product Thickness — ft
Total Well Depth (TWD) 27.61 ft bgs
Depth to Groundwater (DGW) 18.16 ft bgs
Length of Water Colum (LWC = TWD-DGW) 9.45 ft
1 Casing Volume (LWC*C) = 0.00 X .17 = 1.61 gals
3 Casing Volumes = 3 X 0.00 = 4.83 gals
(Standard Purge Volume)

Total Volume of Water Purged Before Sampling 5.0 gals

*If free product is present over 1/8 inch, sampling will not be required.

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post	Sample
Volume Purged (gallons)	—	2.0	4.0	5.0				
Time (military)	1430	1433	1436	1439				
pH (s.u)	5.49	5.45	5.43	5.43				
Specific Conductivity	78	74	71	70				
Water Temperature (°C)	18.2	18.8	19.4	20.6				
Turbidity (subjective: clear, slightly cloudy, cloudy)	29.6	193	37.1	7.14				
Dissolved Oxygen (mg/l)	1.3							

Remarks: well Sampled @ 1439 on 1/21/15

BLE

BUNNELL-LAMMONS ENGINEERING, INC.

Field Data Information Sheet for Ground Water Sampling
Division of Underground Storage Tank Management

Date 1/21/15
Field Personnel MW
General weather Conditions Sunny
Ambient Air Temperature (°C) 30

Facility Name: Former Enmark 380 Site ID #: 06588

Quality Assurance

pH Sensor:	Oakton 35630-62	Conductivity Sensor:	35630-32
Serial No.	324976	Serial No.	324976
pH =4.0	4.0	Standard	
pH = 7.0	7.0	Standard	
pH = 7.0		Standard	
pH = 10.0		Standard	

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time

Well # MW-13

Well Diameter (D) 2 inch of 26.46 feet(ft) bgs
Conversion Factor (C): 3.143*(D/2)^2
for a 2 inch well C = 0.163
for a 4 inch well C = 0.652
*Free Product Thickness --- ft
Total Well Depth (TWD) 26.46 ft bgs
Depth to Groundwater (DGW) 18.13 ft bgs
Length of Water Colum (LWC = TWD-DGW) 8.33 ft
1 Casing Volume (LWC*C) = 0.00 X .17 = 1.42 gals
3 Casing Volumes = 3 X 0.00 = 4.26 gals
(Standard Purge Volume)

Total Volume of Water Purged Before Sampling 4.5 gals

*If free product is present over 1/8 inch, sampling will not be required.

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post	Sample
Volume Purged (gallons)	—	1.5	3.0	4.5				
Time (military)	1443	1447	1449	1451				
pH (s.u)	5.82	5.80	5.75	5.72				
Specific Conductivity	101	97	95	96				
Water Temperature (°C)	18.4	19.2	19.9	20.2				
Turbidity (subjective: clear, slightly cloudy, cloudy)	184	27.6	21.3	3.71				
Dissolved Oxygen (mg/l)	1.3							

Remarks: well sampled @ 1451 on 1/21/15.

BUNNELL-LAMMONS ENGINEERING, INC.

Field Data Information Sheet for Ground Water Sampling
Division of Underground Storage Tank Management

Date 1/21/15
Field Personnel MWP
General weather Conditions Sunny
Ambient Air Temperature (°C) 9°

Facility Name: Former Enmark 380 Site ID #: 06588

Quality Assurance

pH Sensor:	Oakton 35630-62	Conductivity Sensor:	35630-32
Serial No.	324976	Serial No.	324976
pH =4.0	4.0	Standard	
pH = 7.0	7.0	Standard	
pH = 7.0		Standard	
pH = 10.0		Standard	

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time

Well # MW-14

Well Diameter (D) 2 inch of 29.32 feet(ft) bgs
Conversion Factor (C): 3.143*(D/2)^2
for a 2 inch well C = 0.163
for a 4 inch well C = 0.652
*Free Product Thickness --- ft
Total Well Depth (TWD) 29.32 ft bgs
Depth to Groundwater (DGW) 21.73 ft bgs
Length of Water Colum (LWC = TWD-DGW) 7.59 ft
1 Casing Volume (LWC*C) = 0.00 X .17 = 1.29 gals
3 Casing Volumes = 3 X 0.00 = 3.87 gals
(Standard Purge Volume)

Total Volume of Water Purged Before Sampling 4.0 gals

*If free product is present over 1/8 inch, sampling will not be required.

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post	Sample
Volume Purged (gallons)	—	1.5	3.0	4.0				
Time (military)	917	935	937	939				
pH (s.u)	5.22	5.20	5.18	5.17				
Specific Conductivity	89	87	84	82				
Water Temperature (°C)	17.6	18.4	18.9	19.2				
Turbidity (subjective: clear, slightly cloudy, cloudy)	24.7	98.9	37.1	7.46				
Dissolved Oxygen (mg/l)	0.9							

Remarks:
well sampled @ 939 on 1/21/15.

BLE

BUNNELL-LAMMONS ENGINEERING, INC

Field Data Information Sheet for Ground Water Sampling
Division of Underground Storage Tank Management

Date 1/21/15
Field Personnel MVP
General weather Conditions SUNNY
Ambient Air Temperature (°C) 3°

Facility Name: Former Enmark 380 Site ID #: 06588

Quality Assurance

pH Sensor:	Oakton 35630-62	Conductivity Sensor:	35630-32
Serial No.	324976	Serial No.	324976
pH =4.0	4.0	Standard	
pH = 7.0	7.0	Standard	
pH = 7.0		Standard	
pH = 10.0		Standard	

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time

Well # MW-15

Well Diameter (D) 2 inch of 28.62 feet(ft) bgs
Conversion Factor (C): 3.143*(D/2)^2
for a 2 inch well C = 0.163
for a 4 inch well C = 0.652
*Free Product Thickness --- ft
Total Well Depth (TWD) 28.62 ft bgs
Depth to Groundwater (DGW) 20.80 ft bgs
Length of Water Colum (LWC = TWD-DGW) 7.82 ft
1 Casing Volume (LWC*C) = 0.00 X .17 = 1.33 gals
3 Casing Volumes = 3 X 0.00 = 3.99 gals
(Standard Purge Volume)

Total Volume of Water Purged Before Sampling 4.0 gals

*If free product is present over 1/8 inch, sampling will not be required.

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post	Sample
Volume Purged (gallons)	—	1.5	3.0	4.0				
Time (military)	922	924	926	928				
pH (s.u)	5.80	5.75	5.72	5.62				
Specific Conductivity	92	89	88	85				
Water Temperature (°C)	16.9	18.9	19.4	19.8				
Turbidity (subjective: clear, slightly cloudy, cloudy)	184	76.9	21.4	3.79				
Dissolved Oxygen (mg/l)	1.3							

Remarks:
well sampled @ 928 on 1/21/15

BUNNELL-LAMMONS ENGINEERING, INC

Field Data Information Sheet for Ground Water Sampling
Division of Underground Storage Tank Management

Date 1/21/19
Field Personnel AWP
General weather Conditions Sunny
Ambient Air Temperature (°C) 30°

Facility Name: Former Enmark 380 Site ID #: 06588

Quality Assurance

pH Sensor:	Oakton 35630-62	Conductivity Sensor:	35630-32
Serial No.	324976	Serial No.	324976
pH =4.0	4.0	Standard	
pH = 7.0	7.0	Standard	
pH = 7.0		Standard	
pH = 10.0		Standard	

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time

Well # MW-16

Well Diameter (D) 2 inch of 26.02 feet(ft) bgs
Conversion Factor (C): 3.143*(D/2)^2
for a 2 inch well C = 0.163
for a 4 inch well C = 0.652
*Free Product Thickness --- ft
Total Well Depth (TWD) 26.02 ft bgs
Depth to Groundwater (DGW) 17.18 ft bgs
Length of Water Colum (LWC = TWD-DGW) 8.84 ft
1 Casing Volume (LWC*C) = 0.00 X .17 = 1.50 gals
3 Casing Volumes = 3 X 0.00 = 4.56 gals
(Standard Purge Volume)

Total Volume of Water Purged Before Sampling 4.5 gals

*If free product is present over 1/8 inch, sampling will not be required.

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post	Sample
Volume Purged (gallons)	—	1.5	3.0	4.5				
Time (military)	1500	1502	1504	1506				
pH (s.u)	5.81	5.79	5.76	5.75				
Specific Conductivity	89	67	86	86				
Water Temperature (°C)	18.4	19.2	20.3	20.9				
Turbidity (subjective: clear, slightly cloudy, cloudy)	291	183	72.6	7.71				
Dissolved Oxygen (mg/l)	1.2							

Remarks: well sampled @ 1506 on 1/21/19.

BUNNELL-LAMMONS ENGINEERING, INC.

Field Data Information Sheet for Ground Water Sampling
Division of Underground Storage Tank Management

Date 1/21/15
Field Personnel mrp
General weather Conditions Sunny
Ambient Air Temperature (°C) 3°

Facility Name: Former Enmark 380 Site ID #: 06588

Quality Assurance

pH Sensor:	Oakton 35630-62	Conductivity Sensor:	35630-32
Serial No.	324976	Serial No.	324976
pH =4.0	4.0	Standard	
pH = 7.0	7.0	Standard	
pH = 7.0		Standard	
pH = 10.0		Standard	

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time

Well # MW-17

Well Diameter (D) 2 inch of 26.54 feet(ft) bgs
Conversion Factor (C): 3.143*(D/2)^2
for a 2 inch well C = 0.163
for a 4 inch well C = 0.652
*Free Product Thickness --- ft
Total Well Depth (TWD) 26.54 ft bgs
Depth to Groundwater (DGW) 18.64 ft bgs
Length of Water Colum (LWC = TWD-DGW) 7.90 ft
1 Casing Volume (LWC*C) = 0.00 X .17 = 1.34 gals
3 Casing Volumes = 3 X 0.00 = 4.02 gals
(Standard Purge Volume)

Total Volume of Water Purged Before Sampling 4.5 gals

*If free product is present over 1/8 inch, sampling will not be required.

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post	Sample
Volume Purged (gallons)	—	1.5	3.0	4.5				
Time (military)	1325	1322	1329	1331				
pH (s.u)	5.92	5.89	5.87	5.83				
Specific Conductivity	131	128	123	120				
Water Temperature (°C)	19.8	20.2	20.9	21.6				
Turbidity (subjective: clear, slightly cloudy, cloudy)	27.7	184	74.6	8.92				
Dissolved Oxygen (mg/l)	1.2							

Remarks:
well Sampled @ 1331 on 1/21/15.

BUNNELL-LAMMONS ENGINEERING, INC.

Field Data Information Sheet for Ground Water Sampling
Division of Underground Storage Tank Management

Date 1/21/15
Field Personnel MWP
General weather Conditions Foggy
Ambient Air Temperature (°C) 9°

Facility Name: Former Enmark 380 Site ID #: 06588

Quality Assurance

pH Sensor:	Oakton 35630-62	Conductivity Sensor:	35630-32
Serial No.	324976	Serial No.	324976
pH =4.0	4.0	Standard	
pH = 7.0	7.0	Standard	
pH = 7.0		Standard	
pH = 10.0		Standard	

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time

Well # MW-18

Well Diameter (D) 2 inch of 26.28 feet(ft) bgs
Conversion Factor (C): 3.143*(D/2)^2
for a 2 inch well C = 0.163
for a 4 inch well C = 0.652
*Free Product Thickness --- ft
Total Well Depth (TWD) 26.28 ft bgs
Depth to Groundwater (DGW) 18.92 ft bgs
Length of Water Colum (LWC = TWD-DGW) 7.36 ft
1 Casing Volume (LWC*C) = 0.00 X .17 = 1.25 gals
3 Casing Volumes = 3 X 0.00 = 3.75 gals
(Standard Purge Volume)

Total Volume of Water Purged Before Sampling 4.0 gals

*If free product is present over 1/8 inch, sampling will not be required.

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post	Sample
Volume Purged (gallons)	—	1.5	2.0	4.0				
Time (military)	1312	1314	1316	1318				
pH (s.u)	7.01	6.95	6.91	6.87				
Specific Conductivity	247	238	232	230				
Water Temperature (°C)	16.9	19.8	20.8	21.9				
Turbidity (subjective: clear, slightly cloudy, cloudy)	29.6	83.4	28.2	9.81				
Dissolved Oxygen (mg/l)	0.4							

Remarks:
well sampled @ 1318 on 1/21/15

BUNNELL-LAMMONS ENGINEERING, INC.

Field Data Information Sheet for Ground Water Sampling
Division of Underground Storage Tank Management

Date 1/27/15
Field Personnel MWP
General weather Conditions SUNNY
Ambient Air Temperature (°C) 3°

Facility Name: Former Enmark 380 Site ID #: 06588

Quality Assurance

pH Sensor:	Oakton 35630-62	Conductivity Sensor:	35630-32
Serial No.	324976	Serial No.	324976
pH =4.0	4.0	Standard	
pH = 7.0	7.0	Standard	
pH = 7.0		Standard	
pH = 10.0		Standard	

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time

Well # MW-19

Well Diameter (D) 2 inch of 25.52 feet(ft) bgs
Conversion Factor (C): 3.143*(D/2)^2
for a 2 inch well C = 0.163
for a 4 inch well C = 0.652
*Free Product Thickness 0.42 ft
Total Well Depth (TWD) 25.52 ft bgs
Depth to Groundwater (DGW) 18.93 ft bgs
Length of Water Colum (LWC = TWD-DGW) 6.59 ft
1 Casing Volume (LWC*C) = 5.41 X .17 = 1.12 gals
3 Casing Volumes = 3 X 0.92 = 3.36 gals
(Standard Purge Volume)

Total Volume of Water Purged Before Sampling – gals

*If free product is present over 1/8 inch, sampling will not be required.

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post	Sample
Volume Purged (gallons)								
Time (military)								
pH (s.u)								
Specific Conductivity								
Water Temperature (°C)								
Turbidity (subjective: clear, slightly cloudy, cloudy)								
Dissolved Oxygen (mg/l)								

Remarks: well not sampled due to FPT > 0.02'

BUNNELL-LAMMONS ENGINEERING, INC

Field Data Information Sheet for Ground Water Sampling
Division of Underground Storage Tank Management

Date 1/21/15
Field Personnel MWP
General weather Conditions sunny
Ambient Air Temperature (°C) 30

Facility Name: Former Enmark 380 Site ID #: 06588

Quality Assurance

pH Sensor:	Oakton 35630-62	Conductivity Sensor:	35630-32
Serial No.	324976	Serial No.	324976
pH =4.0	4.0	Standard	
pH = 7.0	7.0	Standard	
pH = 7.0		Standard	
pH = 10.0		Standard	

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time

Well # MW-20

Well Diameter (D) 2 inch of 27.24 feet(ft) bgs
Conversion Factor (C): 3.143*(D/2)^2
for a 2 inch well C = 0.163
for a 4 inch well C = 0.652
*Free Product Thickness --- ft
Total Well Depth (TWD) 27.24 ft bgs
Depth to Groundwater (DGW) 19.80 ft bgs
Length of Water Colum (LWC = TWD-DGW) 7.44 ft
1 Casing Volume (LWC*C) = 0.00 X .17 = 1.26 gals
3 Casing Volumes = 3 X 0.00 = 3.78 gals
(Standard Purge Volume)

Total Volume of Water Purged Before Sampling 4.0 gals

*If free product is present over 1/8 inch, sampling will not be required.

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post	Sample
Volume Purged (gallons)	—	1.5	3.0	4.0				
Time (military)	848	850	852	854				
pH (s.u)	6.82	6.74	6.58	6.57				
Specific Conductivity	31	32	30	30				
Water Temperature (°C)	18.9	19.4	19.9	20.2				
Turbidity (subjective: clear, slightly cloudy, cloudy)	284	142	39.6	2.97				
Dissolved Oxygen (mg/l)	1.3							

Remarks: well sampled @ 854 on 1/26/15.

BUNNELL-LAMMONS ENGINEERING, INC.

Field Data Information Sheet for Ground Water Sampling
Division of Underground Storage Tank Management

Date 1/21/15
Field Personnel MWP
General weather Conditions Sunny
Ambient Air Temperature (°C) 3°

Facility Name: Former Enmark 380 Site ID #: 06588

Quality Assurance

pH Sensor:	Oakton 35630-62	Conductivity Sensor:	35630-32
Serial No.	324976	Serial No.	324976
pH =4.0	4.0	Standard	
pH = 7.0	7.0	Standard	
pH = 7.0		Standard	
pH = 10.0		Standard	

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time

Well # MW-21

Well Diameter (D) 2 inch of 27.16 feet(ft) bgs
Conversion Factor (C): 3.143*(D/2)^2
for a 2 inch well C = 0.163
for a 4 inch well C = 0.652
*Free Product Thickness --- ft
Total Well Depth (TWD) 27.16 ft bgs
Depth to Groundwater (DGW) 24.14 ft bgs
Length of Water Colum (LWC = TWD-DGW) 3.02 ft
1 Casing Volume (LWC*C) = 0.00 X .17 = 0.51 gals
3 Casing Volumes = 3 X 0.00 = 1.53 gals
(Standard Purge Volume)

Total Volume of Water Purged Before Sampling 1.0 gals

*If free product is present over 1/8 inch, sampling will not be required.

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post	Sample
Volume Purged (gallons)	—	1.0						
Time (military)	859	901						
pH (s.u)	5.89	5.83						
Specific Conductivity	19	15						
Water Temperature (°C)	18.7	19.2						
Turbidity (subjective: clear, slightly cloudy, cloudy)	29.4	83.7						
Dissolved Oxygen (mg/l)	0.9							

Remarks: well Purged dry @ 1.0 gals. well sampled @ 903 on 1/21/15.

BUNNELL-LAMMONS ENGINEERING, INC

Field Data Information Sheet for Ground Water Sampling
Division of Underground Storage Tank Management

Date 1/21/15
Field Personnel MWP
General weather Conditions Sunny
Ambient Air Temperature (°C) 3°

Facility Name: Former Enmark 380 Site ID #: 06588

Quality Assurance

pH Sensor:	Oakton 35630-62	Conductivity Sensor:	35630-32
Serial No.	324976	Serial No.	324976
pH =4.0	4.0	Standard	
pH = 7.0	7.0	Standard	
pH = 7.0		Standard	
pH = 10.0		Standard	

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time

Well # MW-21D

Well Diameter (D) 2 inch of 46.75 feet(ft) bgs
Conversion Factor (C): 3.143*(D/2)^2
for a 2 inch well C = 0.163
for a 4 inch well C = 0.652
*Free Product Thickness --- ft
Total Well Depth (TWD) 46.75 ft bgs
Depth to Groundwater (DGW) 19.2 ft bgs
Length of Water Colum (LWC = TWD-DGW) 27.55 ft
1 Casing Volume (LWC*C) = 0.00 X .17 = 4.68 gals
3 Casing Volumes = 3 X 0.00 = 14.04 gals
(Standard Purge Volume)

Total Volume of Water Purged Before Sampling 14.5 gals

*If free product is present over 1/8 inch, sampling will not be required.

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post	Sample
Volume Purged (gallons)	—	5.0	10.0	14.5				
Time (military)	910	915	920	925				
pH (s.u)	7.10	7.04	6.93	6.92				
Specific Conductivity	48	42	39	39				
Water Temperature (°C)	17.6	18.9	19.0	19.2				
Turbidity (subjective: clear, slightly cloudy, cloudy)	71.100	78.9	12.4	3.71				
Dissolved Oxygen (mg/l)	1.4							

Remarks: well sampled @ 925 on 1/26/15.

BLE

BUNNELL-LAMMONS ENGINEERING, INC.

Field Data Information Sheet for Ground Water Sampling
Division of Underground Storage Tank Management

Date 1/21/15

Field Personnel [illegible]

General weather Conditions Sunny

Ambient Air Temperature (°C) 3°

Facility Name: Former Enmark 380 Site ID #: 06588

Quality Assurance

pH Sensor:	Oakton 35630-62	Conductivity Sensor:	35630-32
Serial No.	324976	Serial No.	324976
pH =4.0	4.0	Standard	
pH = 7.0	7.0	Standard	
pH = 7.0		Standard	
pH = 10.0		Standard	

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time

Well # MW-22

Well Diameter (D) 2 inch of 26.25 feet(ft) bgs

Conversion Factor (C): 3.143*(D/2)^2

for a 2 inch well C = 0.163

for a 4 inch well C = 0.652

*Free Product Thickness 0.03 ft

Total Well Depth (TWD) 26.25 ft bgs

Depth to Groundwater (DGW) 18.66 ft bgs

Length of Water Colum (LWC = TWD-DGW) 7.59 ft

1 Casing Volume (LWC*C) = 0.00 X .17 = 1.29 gals

3 Casing Volumes = 3 X 0.00 = 3.87 gals

(Standard Purge Volume)

Total Volume of Water Purged Before Sampling -- gals

*If free product is present over 1/8 inch, sampling will not be required.

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post	Sample
Volume Purged (gallons)								
Time (military)								
pH (s.u)								
Specific Conductivity								
Water Temperature (°C)								
Turbidity (subjective: clear, slightly cloudy, cloudy)								
Dissolved Oxygen (mg/l)								

Remarks: well not sampled due to FPT > 0.02'

BUNNELL-LAMMONS ENGINEERING, INC.

Field Data Information Sheet for Ground Water Sampling
Division of Underground Storage Tank Management

Date 1/21/15
Field Personnel mmp
General weather Conditions sunny
Ambient Air Temperature (°C) 70

Facility Name: Former Enmark 380 Site ID #: 06588

Quality Assurance

pH Sensor:	Oakton 35630-62	Conductivity Sensor:	35630-32
Serial No.	324976	Serial No.	324976
pH =4.0	4.0	Standard	
pH = 7.0	7.0	Standard	
pH = 7.0		Standard	
pH = 10.0		Standard	

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time

Well # MW-22D

Well Diameter (D) 2 inch of 45.82 feet(ft) bgs
Conversion Factor (C): 3.143*(D/2)^2
for a 2 inch well C = 0.163
for a 4 inch well C = 0.652
*Free Product Thickness --- ft
Total Well Depth (TWD) 45.82 ft bgs
Depth to Groundwater (DGW) 18.35 ft bgs
Length of Water Colum (LWC = TWD-DGW) 27.47 ft
1 Casing Volume (LWC*C) = 0.00 X .17 = 4.67 gals
3 Casing Volumes = 3 X 0.00 = 14.01 gals
(Standard Purge Volume)

Total Volume of Water Purged Before Sampling 14.5 ~~10.0~~ gals

*If free product is present over 1/8 inch, sampling will not be required.

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post	Sample
Volume Purged (gallons)	—	5.0	10.0	14.5				
Time (military)	1245	1250	1455	1700				
pH (s.u)	8.04	7.99	7.95	7.91				
Specific Conductivity	179	172	168	161				
Water Temperature (°C)	19.2	19.8	20.9	21.4				
Turbidity (subjective: clear, slightly cloudy, cloudy)	>1,100	28.6	12.9	3.21				
Dissolved Oxygen (mg/l)	1.3							

Remarks:
well sampled @ 1300 on 1/21/15.

BUNNELL-LAMMONS ENGINEERING, INC.

Field Data Information Sheet for Ground Water Sampling
Division of Underground Storage Tank Management

Date 1/21/15
Field Personnel MVP
General weather Conditions Fuggy
Ambient Air Temperature (°C) 30

Facility Name: Former Enmark 380 Site ID #: 06588

Quality Assurance

pH Sensor:	Oakton 35630-62	Conductivity Sensor:	35630-32
Serial No.	324976	Serial No.	324976
pH =4.0	4.0	Standard	
pH = 7.0	7.0	Standard	
pH = 7.0		Standard	
pH = 10.0		Standard	

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time

Well # MW-23

Well Diameter (D) 2 inch of 25.25 feet(ft) bgs
Conversion Factor (C): 3.143*(D/2)^2
for a 2 inch well C = 0.163
for a 4 inch well C = 0.652
*Free Product Thickness 0.97 ft
Total Well Depth (TWD) 25.25 ft bgs
Depth to Groundwater (DGW) 19.17 ft bgs
Length of Water Colum (LWC = TWD-DGW) 6.08 ft
1 Casing Volume (LWC*C) = 0.00 X .17 = 1.03 gals
3 Casing Volumes = 3 X 1.02 = 3.09 gals
(Standard Purge Volume)

Total Volume of Water Purged Before Sampling – gals

*If free product is present over 1/8 inch, sampling will not be required.

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post	Sample
Volume Purged (gallons)								
Time (military)								
pH (s.u)								
Specific Conductivity								
Water Temperature (°C)								
Turbidity (subjective: clear, slightly cloudy, cloudy)								
Dissolved Oxygen (mg/l)								

Remarks: well not sampled due to FPT > 0.02.

BUNNELL-LAMMONS ENGINEERING, INC.

Field Data Information Sheet for Ground Water Sampling
Division of Underground Storage Tank Management

Date 1/21/15
Field Personnel MWP
General weather Conditions Hazy
Ambient Air Temperature (°C) 3°

Facility Name: Former Enmark 380 Site ID #: 06588

Quality Assurance

pH Sensor:	Oakton 35630-62	Conductivity Sensor:	35630-32
Serial No.	324976	Serial No.	324976
pH =4.0	4.0	Standard	
pH = 7.0	7.0	Standard	
pH = 7.0		Standard	
pH = 10.0		Standard	

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time

Well # MW-24

Well Diameter (D) 2 inch of 25.42 feet(ft) bgs
Conversion Factor (C): 3.143*(D/2)^2
for a 2 inch well C = 0.163
for a 4 inch well C = 0.652
*Free Product Thickness 0.05 ft
Total Well Depth (TWD) 25.42 ft bgs
Depth to Groundwater (DGW) 19.68 ft bgs
Length of Water Colum (LWC = TWD-DGW) 5.74 ft
1 Casing Volume (LWC*C) = 0.00 X .17 = 0.98 gals
3 Casing Volumes = 3 X 0.00 = 2.94 gals
(Standard Purge Volume)

Total Volume of Water Purged Before Sampling -- gals

*If free product is present over 1/8 inch, sampling will not be required.

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post	Sample
Volume Purged (gallons)								
Time (military)								
pH (s.u)								
Specific Conductivity								
Water Temperature (°C)								
Turbidity (subjective: clear, slightly cloudy, cloudy)								
Dissolved Oxygen (mg/l)								

Remarks: well not sampled due to FPT > 0.02'.

BUNNELL-LAMMONS ENGINEERING, INC.

Field Data Information Sheet for Ground Water Sampling
Division of Underground Storage Tank Management

Date 1/21/15
Field Personnel MVP
General weather Conditions Sunny
Ambient Air Temperature (°C) 9°

Facility Name: Former Enmark 380 Site ID #: 06588

Quality Assurance

pH Sensor:	Oakton 35630-62	Conductivity Sensor:	35630-32
Serial No.	324976	Serial No.	324976
pH =4.0	4.0	Standard	
pH = 7.0	7.0	Standard	
pH = 7.0		Standard	
pH = 10.0		Standard	

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time

Well # MW-24D

Well Diameter (D) 2 inch of 46.03 feet(ft) bgs
Conversion Factor (C): 3.143*(D/2)^2
for a 2 inch well C = 0.163
for a 4 inch well C = 0.652
*Free Product Thickness --- ft
Total Well Depth (TWD) 46.03 ft bgs
Depth to Groundwater (DGW) 18.64 ft bgs
Length of Water Colum (LWC = TWD-DGW) 27.39 ft
1 Casing Volume (LWC*C) = 0.00 X .17 = 4.66 gals
3 Casing Volumes = 3 X 0.00 = 13.98 gals
(Standard Purge Volume)

Total Volume of Water Purged Before Sampling 14.0 gals

*If free product is present over 1/8 inch, sampling will not be required.

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post	Sample
Volume Purged (gallons)	—	5.0	10.0	14.0				
Time (military)	1115	1120	1125	1130				
pH (s.u)	9.15	9.09	9.07	9.06				
Specific Conductivity	405	402	397	395				
Water Temperature (°C)	18.7	19.2	19.9	20.9				
Turbidity (subjective: clear, slightly cloudy, cloudy)	>1,100	18.3	21.2	7.46				
Dissolved Oxygen (mg/l)	1.8							

Remarks:
Well sampled @ 1135 on 1/21/15.

BUNNELL-LAMMONS ENGINEERING, INC.

Field Data Information Sheet for Ground Water Sampling
Division of Underground Storage Tank Management

Date 1/21/15
Field Personnel MWP
General weather Conditions Sunny
Ambient Air Temperature (°C) 30

Facility Name: Former Enmark 380 Site ID #: 06588

Quality Assurance

pH Sensor:	Oakton 35630-62	Conductivity Sensor:	35630-32
Serial No.	324976	Serial No.	324976
pH =4.0	4.0	Standard	
pH = 7.0	7.0	Standard	
pH = 7.0		Standard	
pH = 10.0		Standard	

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time

Well # MW-25

Well Diameter (D) 2 inch of 25.38 feet(ft) bgs
Conversion Factor (C): 3.143*(D/2)^2
for a 2 inch well C = 0.163
for a 4 inch well C = 0.652
*Free Product Thickness — ft
Total Well Depth (TWD) 25.38 ft bgs
Depth to Groundwater (DGW) 20.04 ft bgs
Length of Water Colum (LWC = TWD-DGW) 5.34 ft
1 Casing Volume (LWC*C) = 0.00 X .17 = 0.91 gals
3 Casing Volumes = 3 X 0.00 = 2.73 gals
(Standard Purge Volume)

Total Volume of Water Purged Before Sampling 3.6 gals

*If free product is present over 1/8 inch, sampling will not be required.

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post	Sample
Volume Purged (gallons)	—	1.0	2.0	3.0				
Time (military)	1140	1142	1144	1146				
pH (s.u)	7.01	6.98	6.97	6.97				
Specific Conductivity	320	318	316	317				
Water Temperature (°C)	18.7	19.4	20.8	21.4				
Turbidity (subjective: clear, slightly cloudy, cloudy)	76,100	283	82.7	9.89				
Dissolved Oxygen (mg/l)	8.4							

Remarks: well sampled @ 1146 on 1/21/15.
Duplicate ran @ 1147 on 1/21/15

Strong Petr. odor.
Purge water had sheen.

BUNNELL-LAMMONS ENGINEERING, INC.

Field Data Information Sheet for Ground Water Sampling
Division of Underground Storage Tank Management

Date 1/21/16
Field Personnel MWP
General weather Conditions Sunny
Ambient Air Temperature (°C) 30

Facility Name: Former Enmark 380 Site ID #: 06588

Quality Assurance

pH Sensor:	Oakton 35630-62	Conductivity Sensor:	35630-32
Serial No.	324976	Serial No.	324976
pH =4.0	4.0	Standard	
pH = 7.0	7.0	Standard	
pH = 7.0		Standard	
pH = 10.0		Standard	

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time

Well # MW-26

Well Diameter (D) 2 inch of 27.00 feet(ft) bgs
Conversion Factor (C): 3.143*(D/2)^2
for a 2 inch well C = 0.163
for a 4 inch well C = 0.652
*Free Product Thickness --- ft
Total Well Depth (TWD) 27.00 ft bgs
Depth to Groundwater (DGW) 20.04 ft bgs
Length of Water Colum (LWC = TWD-DGW) 6.96 ft
1 Casing Volume (LWC*C) = 0.00 X .17 = 1.18 gals
3 Casing Volumes = 3 X 0.00 = 3.54 gals
(Standard Purge Volume)

Total Volume of Water Purged Before Sampling 4.0 gals

*If free product is present over 1/8 inch, sampling will not be required.

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post	Sample
Volume Purged (gallons)	—	1.5	3.0	4.0				
Time (military)	915	952	959	1001				
pH (s.u)	5.11	5.09	5.05	5.09				
Specific Conductivity	99	95	93	94				
Water Temperature (°C)	17.9	18.4	19.9	21.3				
Turbidity (subjective: clear, slightly cloudy, cloudy)	284	131	57.2	3.79				
Dissolved Oxygen (mg/l)	1.6							

Remarks:
well sampled @ 1001 on 1/21/16.

BUNNELL-LAMMONS ENGINEERING, INC.

Field Data Information Sheet for Ground Water Sampling
Division of Underground Storage Tank Management

Date 1/21/15
Field Personnel MWP
General weather Conditions sunny
Ambient Air Temperature (°C) 3°

Facility Name: Former Enmark 380 Site ID #: 06588

Quality Assurance

pH Sensor:	Oakton 35630-62	Conductivity Sensor:	35630-32
Serial No.	324976	Serial No.	324976
pH =4.0	4.0	Standard	
pH = 7.0	7.0	Standard	
pH = 7.0		Standard	
pH = 10.0		Standard	

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time

Well # MW-27

Well Diameter (D) 2 inch of 27.25 feet(ft) bgs
Conversion Factor (C): 3.143*(D/2)^2
for a 2 inch well C = 0.163
for a 4 inch well C = 0.652
*Free Product Thickness --- ft
Total Well Depth (TWD) 27.25 ft bgs
Depth to Groundwater (DGW) 20.51 ft bgs
Length of Water Colum (LWC = TWD-DGW) 6.74 ft
1 Casing Volume (LWC*C) = 0.00 X .17 = 1.15 gals
3 Casing Volumes = 3 X 0.00 = 3.45 gals
(Standard Purge Volume)

Total Volume of Water Purged Before Sampling 3.5 gals

*If free product is present over 1/8 inch, sampling will not be required.

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post	Sample
Volume Purged (gallons)	—	1.5	2.5	3.5				
Time (military)	945	947	949	951				
pH (s.u)	5.01	4.92	4.89	4.89				
Specific Conductivity	101	98	97	97				
Water Temperature (°C)	17.8	18.4	19.7	21.0				
Turbidity (subjective: clear, slightly cloudy, cloudy)	183	112	47.2	7.41				
Dissolved Oxygen (mg/l)	1.2							

Remarks: well sampled @ 951 on 1/21/15.

BUNNELL-LAMMONS ENGINEERING, INC.

Field Data Information Sheet for Ground Water Sampling
Division of Underground Storage Tank Management

Date 1/21/18
Field Personnel MWP
General weather Conditions Sunny
Ambient Air Temperature (°C) 30

Facility Name: Former Enmark 380 Site ID #: 06588

Quality Assurance

pH Sensor:	Oakton 35630-62	Conductivity Sensor:	35630-32
Serial No.	324976	Serial No.	324976
pH =4.0	4.0	Standard	
pH = 7.0	7.0	Standard	
pH = 7.0		Standard	
pH = 10.0		Standard	

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time

Well # MW-28

Well Diameter (D) 2 inch of 25.50 feet(ft) bgs
Conversion Factor (C): 3.143*(D/2)^2
for a 2 inch well C = 0.163
for a 4 inch well C = 0.652
*Free Product Thickness --- ft
Total Well Depth (TWD) 25.50 ft bgs
Depth to Groundwater (DGW) 17.68 ft bgs
Length of Water Colum (LWC = TWD-DGW) 7.82 ft
1 Casing Volume (LWC*C) = 0.00 X .17 = 1.33 gals
3 Casing Volumes = 3 X 0.00 = 3.99 gals
(Standard Purge Volume)

Total Volume of Water Purged Before Sampling 4.0 gals

*If free product is present over 1/8 inch, sampling will not be required.

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post	Sample
Volume Purged (gallons)	—	1.5	3.0	4.0				
Time (military)	932	934	936	938				
pH (s.u)	5.90	5.87	5.85	5.83				
Specific Conductivity	59	55	54	53				
Water Temperature (°C)	18.4	18.6	18.7	19.2				
Turbidity (subjective: clear, slightly cloudy, cloudy)	134	99.6	24.1	9.24				
Dissolved Oxygen (mg/l)								

Remarks:
well sampled @ 938 on 1/26/18

BUNNELL-LAMMONS ENGINEERING, INC.

Field Data Information Sheet for Ground Water Sampling
Division of Underground Storage Tank Management

Date 1/21/15
Field Personnel MMP
General weather Conditions Sunny
Ambient Air Temperature (°C) 3°

Facility Name: Former Enmark 380 Site ID #: 06588

Quality Assurance

pH Sensor:	Oakton 35630-62	Conductivity Sensor:	35630-32
Serial No.	324976	Serial No.	324976
pH =4.0	4.0	Standard	
pH = 7.0	7.0	Standard	
pH = 7.0		Standard	
pH = 10.0		Standard	

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time

Well # MW-29

Well Diameter (D) 2 inch of 25.00 feet(ft) bgs
Conversion Factor (C): 3.143*(D/2)^2
for a 2 inch well C = 0.163
for a 4 inch well C = 0.652
*Free Product Thickness --- ft
Total Well Depth (TWD) 25.00 ft bgs
Depth to Groundwater (DGW) 16.85 ft bgs
Length of Water Colum (LWC = TWD-DGW) 8.15 ft
1 Casing Volume (LWC*C) = 0.00 X .17 = 1.39 gals
3 Casing Volumes = 3 X 0.00 = 4.17 gals
(Standard Purge Volume)

Total Volume of Water Purged Before Sampling 2.0 gals

*If free product is present over 1/8 inch, sampling will not be required.

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post	Sample
Volume Purged (gallons)	—	1.5	~~[illegible]~~	~~[illegible]~~				
Time (military)	1128	1130						
pH (s.u)	6.91	6.89						
Specific Conductivity	68	67						
Water Temperature (°C)	16.9	18.2						
Turbidity (subjective: clear, slightly cloudy, cloudy)	12.4	28.7						
Dissolved Oxygen (mg/l)	1.2							

well purged dry @ 2.0 gal.

Remarks:
well sampled @1132 on 1/26/15.

BUNNELL-LAMMONS ENGINEERING, INC.

Field Data Information Sheet for Ground Water Sampling
Division of Underground Storage Tank Management

Date 1/21/15
Field Personnel MWP
General weather Conditions Sunny
Ambient Air Temperature (°C) 9°

Facility Name: Former Enmark 380 Site ID #: 06588

Quality Assurance

pH Sensor:	Oakton 35630-62	Conductivity Sensor:	35630-32
Serial No.	324976	Serial No.	324976
pH =4.0	4.0	Standard	
pH = 7.0	7.0	Standard	
pH = 7.0		Standard	
pH = 10.0		Standard	

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time

Well # MW-30

Well Diameter (D) 2 inch of 24.00 feet(ft) bgs
Conversion Factor (C): 3.143*(D/2)^2
for a 2 inch well C = 0.163
for a 4 inch well C = 0.652
*Free Product Thickness --- ft
Total Well Depth (TWD) 24.00 ft bgs
Depth to Groundwater (DGW) 15.73 ft bgs
Length of Water Colum (LWC = TWD-DGW) 8.27 ft
1 Casing Volume (LWC*C) = 0.00 X .17 = 1.41 gals
3 Casing Volumes = 3 X 0.00 = 4.23 gals
(Standard Purge Volume)

Total Volume of Water Purged Before Sampling 4.5 gals

*If free product is present over 1/8 inch, sampling will not be required.

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post	Sample
Volume Purged (gallons)	—	1.5	3.0	4.5				
Time (military)	1040	1050	1052	1054				
pH (s.u)	6.71	6.68	6.64	6.60				
Specific Conductivity	183	180	179	178				
Water Temperature (°C)	17.4	18.8	19.2	19.3				
Turbidity (subjective: clear, slightly cloudy, cloudy)	24.7	29.6	32.1	8.91				
Dissolved Oxygen (mg/l)	2.4							

Remarks: well sampled @ 1054 on 1/26/15.
Duplicate sam @ 1055 on 1/26/15.

BUNNELL-LAMMONS ENGINEERING, INC.

Field Data Information Sheet for Ground Water Sampling
Division of Underground Storage Tank Management

Date 1/21/15
Field Personnel MWP
General weather Conditions Foggy
Ambient Air Temperature (°C) 3°

Facility Name: Former Enmark 380 Site ID #: 06588

Quality Assurance

pH Sensor:	Oakton 35630-62	Conductivity Sensor:	35630-32
Serial No.	324976	Serial No.	324976
pH =4.0	4.0	Standard	
pH = 7.0	7.0	Standard	
pH = 7.0		Standard	
pH = 10.0		Standard	

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time

Well # MW-30D

Well Diameter (D) 2 inch of 46.30 feet(ft) bgs
Conversion Factor (C): 3.143*(D/2)^2
for a 2 inch well C = 0.163
for a 4 inch well C = 0.652
*Free Product Thickness --- ft
Total Well Depth (TWD) 46.30 ft bgs
Depth to Groundwater (DGW) 15.88 ft bgs
Length of Water Colum (LWC = TWD-DGW) 30.42 ft
1 Casing Volume (LWC*C) = X .17 = 5.17 gals
3 Casing Volumes = 3 X = 15.51 gals
(Standard Purge Volume)

Total Volume of Water Purged Before Sampling ~~15.0~~ 16.0 gals

*If free product is present over 1/8 inch, sampling will not be required.

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post	Sample
Volume Purged (gallons)	—	5.5	11.0	16.0				
Time (military)	1105	1110	1115	1120				
pH (s.u)	8.99	8.94	8.92	8.91				
Specific Conductivity	91	89	87	85				
Water Temperature (°C)	16.3	16.9	17.9	18.4				
Turbidity (subjective: clear, slightly cloudy, cloudy)	71.100	184	61.2	4.49				
Dissolved Oxygen (mg/l)								

Remarks: well sampled @ 1120 on 1/26/15.

BUNNELL-LAMMONS ENGINEERING, INC.

Field Data Information Sheet for Ground Water Sampling
Division of Underground Storage Tank Management

Date 1/21/11
Field Personnel mwp
General weather Conditions Sunny
Ambient Air Temperature (°C) 30

Facility Name: Former Enmark 380 Site ID #: 06588

Quality Assurance

pH Sensor:	Oakton 35630-62	Conductivity Sensor:	35630-32
Serial No.	324976	Serial No.	324976
pH =4.0	4.0	Standard	
pH = 7.0	7.0	Standard	
pH = 7.0		Standard	
pH = 10.0		Standard	

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time

Well # MW-31

Well Diameter (D) 2 inch of 25.25 feet(ft) bgs
Conversion Factor (C): 3.143*(D/2)^2
for a 2 inch well C = 0.163
for a 4 inch well C = 0.652
*Free Product Thickness — ft
Total Well Depth (TWD) 25.25 ft bgs
Depth to Groundwater (DGW) ft bgs
Length of Water Colum (LWC = TWD-DGW) ft
1 Casing Volume (LWC*C) = 0.00 X .17 = gals
3 Casing Volumes = 3 X 0.00 = gals
(Standard Purge Volume)

Total Volume of Water Purged Before Sampling -- gals

*If free product is present over 1/8 inch, sampling will not be required.

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post	Sample
Volume Purged (gallons)								
Time (military)								
pH (s.u)								
Specific Conductivity								
Water Temperature (°C)								
Turbidity (subjective: clear, slightly cloudy, cloudy)								
Dissolved Oxygen (mg/l)								

Remarks: Well not located. Presumed destroyed.

BUNNELL-LAMMONS ENGINEERING, INC.

Field Data Information Sheet for Ground Water Sampling
Division of Underground Storage Tank Management

Date 1/21/15
Field Personnel MWP
General weather Conditions Sunny
Ambient Air Temperature (°C) 30

Facility Name: Former Enmark 380 Site ID #: 06588

Quality Assurance

pH Sensor:	Oakton 35630-62	Conductivity Sensor:	35630-32
Serial No.	324976	Serial No.	324976
pH =4.0	4.0	Standard	
pH = 7.0	7.0	Standard	
pH = 7.0		Standard	
pH = 10.0		Standard	

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time

Well # MW-32

Well Diameter (D) _____ inch of _____ feet(ft) bgs
Conversion Factor (C): 3.143*(D/2)^2
for a 2 inch well C = 0.163
for a 4 inch well C = 0.652
*Free Product Thickness _____ ft
Total Well Depth (TWD) 25.25 ft bgs
Depth to Groundwater (DGW) 17.90 ft bgs
Length of Water Colum (LWC = TWD-DGW) 7.35 ft
1 Casing Volume (LWC*C) = _____ X .17 = 1.25 gals
3 Casing Volumes = 3 X _____ = 3.75 gals
(Standard Purge Volume)

Total Volume of Water Purged Before Sampling 2.5 gals

*If free product is present over 1/8 inch, sampling will not be required.

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post	Sample
Volume Purged (gallons)	—	1.5	~~2.0~~	~~4.0~~				
Time (military)	858	900						
pH (s.u)	6.59	6.54						
Specific Conductivity	152	148						
Water Temperature (°C)	17.4	18.2						
Turbidity (subjective: clear, slightly cloudy, cloudy)	37.9	28.4						
Dissolved Oxygen (mg/l)	1.4							

Remarks:

well Purged dry @ 2.5 gals

well Sampled @ 900 on 1/28/15.

BUNNELL-LAMMONS ENGINEERING, INC.

Field Data Information Sheet for Ground Water Sampling
Division of Underground Storage Tank Management

Date 1/21/15
Field Personnel MWP
General weather Conditions Sunny
Ambient Air Temperature (°C) 3°

Facility Name: Former Enmark 380 Site ID #: 06588

Quality Assurance

pH Sensor:	Oakton 35630-62	Conductivity Sensor:	35630-32
Serial No.	324976	Serial No.	324976
pH =4.0	4.0	Standard	
pH = 7.0	7.0	Standard	
pH = 7.0		Standard	
pH = 10.0		Standard	

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time

Well # MW-33

Well Diameter (D) 2 inch of 26.25 feet(ft) bgs
Conversion Factor (C): 3.143*(D/2)^2
for a 2 inch well C = 0.163
for a 4 inch well C = 0.652
*Free Product Thickness --- ft
Total Well Depth (TWD) 26.25 ft bgs
Depth to Groundwater (DGW) 17.90 ft bgs
Length of Water Colum (LWC = TWD-DGW) 8.35 ft
1 Casing Volume (LWC*C) = 0.00 X .17 = 1.42 gals
3 Casing Volumes = 3 X 0.00 = 4.26 gals
(Standard Purge Volume)

Total Volume of Water Purged Before Sampling 4.5 gals

*If free product is present over 1/8 inch, sampling will not be required.

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post	Sample
Volume Purged (gallons)	—	1.5	3.0	4.5				
Time (military)	1008	1010	1012	1014				
pH (s.u)	6.71	6.65	6.58	6.54				
Specific Conductivity	215	213	211	211				
Water Temperature (°C)	18.4	18.9	19.4	19.7				
Turbidity (subjective: clear, slightly cloudy, cloudy)	247	187	42.6	9.74				
Dissolved Oxygen (mg/l)	1.3							

Remarks: well sampled @ 1014 on 1/26/15.

BUNNELL-LAMMONS ENGINEERING, INC.

Field Data Information Sheet for Ground Water Sampling
Division of Underground Storage Tank Management

Date 1/21/15
Field Personnel MWP
General weather Conditions Rainy
Ambient Air Temperature (°C) 3°

Facility Name: Former Enmark 380 Site ID #: 06588

Quality Assurance

pH Sensor:	Oakton 35630-62	Conductivity Sensor:	35630-32
Serial No.	324976	Serial No.	324976
pH =4.0	4.0	Standard	
pH = 7.0	7.0	Standard	
pH = 7.0		Standard	
pH = 10.0		Standard	

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time

Well # MW-33D

Well Diameter (D) 2 inch of 48.35 feet(ft) bgs
Conversion Factor (C): 3.143*(D/2)^2
for a 2 inch well C = 0.163
for a 4 inch well C = 0.652
*Free Product Thickness — ft
Total Well Depth (TWD) 48.35 ft bgs
Depth to Groundwater (DGW) 17.91 ft bgs
Length of Water Colum (LWC = TWD-DGW) 30.44 ft
1 Casing Volume (LWC*C) = 0.00 X .17 = 5.17 gals
3 Casing Volumes = 3 X 0.00 = 15.51 gals
(Standard Purge Volume)

Total Volume of Water Purged Before Sampling ~~6.0~~ 16.0 gals

*If free product is present over 1/8 inch, sampling will not be required.

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post	Sample
Volume Purged (gallons)	—	5.5	11.0	16.0				
Time (military)	1025	1030	1035	1040				
pH (s.u)	7.35	7.31	7.30	7.29				
Specific Conductivity	86	84	82	83				
Water Temperature (°C)	17.4	18.9	19.5	19.9				
Turbidity (subjective: clear, slightly cloudy, cloudy)	>1000	39.7	22.8	4.71				
Dissolved Oxygen (mg/l)	0.8							

Remarks: well sampled @ 1040 on 1/26/15.

BUNNELL-LAMMONS ENGINEERING, INC.

Field Data Information Sheet for Ground Water Sampling
Division of Underground Storage Tank Management

Date 1/21/15
Field Personnel MWP
General weather Conditions Sunny
Ambient Air Temperature (°C) 30

Facility Name: Former Enmark 380 Site ID #: 06588

Quality Assurance

pH Sensor:	Oakton 35630-62	Conductivity Sensor:	35630-32
Serial No.	324976	Serial No.	324976
pH =4.0	4.0	Standard	
pH = 7.0	7.0	Standard	
pH = 7.0		Standard	
pH = 10.0		Standard	

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time

Well # MW-34

Well Diameter (D) 2 inch of 18.25 feet(ft) bgs
Conversion Factor (C): 3.143*(D/2)^2
for a 2 inch well C = 0.163
for a 4 inch well C = 0.652
*Free Product Thickness --- ft
Total Well Depth (TWD) 18.25 ft bgs
Depth to Groundwater (DGW) 11.45 ft bgs
Length of Water Colum (LWC = TWD-DGW) 6.80 ft
1 Casing Volume (LWC*C) = 0.00 X .17 = 1.16 gals
3 Casing Volumes = 3 X 0.00 = 3.48 gals
(Standard Purge Volume)

Total Volume of Water Purged Before Sampling 3.5 – gals

*If free product is present over 1/8 inch, sampling will not be required.

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post	Sample
Volume Purged (gallons)	—	1.5	2.5	3.5				
Time (military)	840	842	844	846				
pH (s.u)	7.33	7.31	7.29	7.30				
Specific Conductivity	41	43	42	42				
Water Temperature (°C)	14.9	17.8	18.2	18.6				
Turbidity (subjective: clear, slightly cloudy, cloudy)	184	37.9	21.4	2.91				
Dissolved Oxygen (mg/l)	0.4							

Remarks: well sampled @ 846 on 1/28/15.

BUNNELL-LAMMONS ENGINEERING, INC.

Field Data Information Sheet for Ground Water Sampling
Division of Underground Storage Tank Management

Date 1/21/15
Field Personnel MWP
General weather Conditions sunny
Ambient Air Temperature (°C) 30

Facility Name: Former Enmark 380 Site ID #: 06588

Quality Assurance

pH Sensor:	Oakton 35630-62	Conductivity Sensor:	35630-32
Serial No.	324976	Serial No.	324976
pH =4.0	4.0	Standard	
pH = 7.0	7.0	Standard	
pH = 7.0		Standard	
pH = 10.0		Standard	

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time

Well # MW-35

Well Diameter (D) 2 inch of 14.25 feet(ft) bgs
Conversion Factor (C): 3.143*(D/2)^2
for a 2 inch well C = 0.163
for a 4 inch well C = 0.652
*Free Product Thickness — ft
Total Well Depth (TWD) 14.25 ft bgs
Depth to Groundwater (DGW) 7.41 ft bgs
Length of Water Colum (LWC = TWD-DGW) 6.84 ft
1 Casing Volume (LWC*C) = 0.00 X .17 = 1.16 gals
3 Casing Volumes = 3 X 0.00 = 3.48 gals
(Standard Purge Volume)

Total Volume of Water Purged Before Sampling 2.0 gals

*If free product is present over 1/8 inch, sampling will not be required.

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post	Sample
Volume Purged (gallons)	—	1.5						
Time (military)	1037	1040						
pH (s.u)	6.39	6.34						
Specific Conductivity	149	184						
Water Temperature (°C)	16.9	18.2						
Turbidity (subjective: clear, slightly cloudy, cloudy)	37.9	249						
Dissolved Oxygen (mg/l)	0.9							

well purged dry @ 2.0 gals.

Remarks:
well sampled @ 1042 on 1/28/15.

BUNNELL-LAMMONS ENGINEERING, INC.

Field Data Information Sheet for Ground Water Sampling
Division of Underground Storage Tank Management

Date 1/21/15
Field Personnel MWP
General weather Conditions Sunny
Ambient Air Temperature (°C) 3°

Facility Name: Former Enmark 380 Site ID #: 06588

Quality Assurance

pH Sensor:	Oakton 35630-62	Conductivity Sensor:	35630-32
Serial No.	324976	Serial No.	324976
pH =4.0	4.0	Standard	
pH = 7.0	7.0	Standard	
pH = 7.0		Standard	
pH = 10.0		Standard	

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time

Well # MW-36

Well Diameter (D) 2 inch of 31.00 feet(ft) bgs
Conversion Factor (C): 3.143*(D/2)^2
for a 2 inch well C = 0.163
for a 4 inch well C = 0.652
*Free Product Thickness --- ft
Total Well Depth (TWD) 31.00 ft bgs
Depth to Groundwater (DGW) 12.10 ft bgs
Length of Water Colum (LWC = TWD-DGW) 18.90 ft
1 Casing Volume (LWC*C) = 0.00 X .17 = 3.21 gals
3 Casing Volumes = 3 X 0.00 = 9.63 gals
(Standard Purge Volume)

Total Volume of Water Purged Before Sampling ~~10.0~~ 10.0 gals

*If free product is present over 1/8 inch, sampling will not be required.

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post	Sample
Volume Purged (gallons)	—	3.5	7.0	10.0				
Time (military)	1020	1023	1026	1029				
pH (s.u)	6.19	6.18	6.17	6.18				
Specific Conductivity	195	191	188	181				
Water Temperature (°C)	16.5	15.2	18.9	19.2				
Turbidity (subjective: clear, slightly cloudy, cloudy)	>1,100	45.9	31.7	8.24				
Dissolved Oxygen (mg/l)	2.1							

Remarks:
well sampled @ 1029 on 1/28/15

BUNNELL-LAMMONS ENGINEERING, INC.

Field Data Information Sheet for Ground Water Sampling
Division of Underground Storage Tank Management

Date 1/21/15
Field Personnel MWP
General weather Conditions Sunny
Ambient Air Temperature (°C) 3°

Facility Name: Former Enmark 380 Site ID #: 06588

Quality Assurance

pH Sensor:	Oakton 35630-62	Conductivity Sensor:	35630-32
Serial No.	324976	Serial No.	324976
pH =4.0	4.0	Standard	
pH = 7.0	7.0	Standard	
pH = 7.0		Standard	
pH = 10.0		Standard	

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time

Well # MW-37

Well Diameter (D) 2 inch of 21.69 feet(ft) bgs
Conversion Factor (C): 3.143*(D/2)^2
for a 2 inch well C = 0.163
for a 4 inch well C = 0.652
*Free Product Thickness --- ft
Total Well Depth (TWD) 21.69 ft bgs
Depth to Groundwater (DGW) 3.26 ft bgs
Length of Water Colum (LWC = TWD-DGW) 18.43 ft
1 Casing Volume (LWC*C) = 0.00 X .17 = 3.13 gals
3 Casing Volumes = 3 X 0.00 = 9.39 gals
(Standard Purge Volume)

Total Volume of Water Purged Before Sampling ~~9.0~~ 9.5 gals

*If free product is present over 1/8 inch, sampling will not be required.

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post	Sample
Volume Purged (gallons)	—	3.5	6.5	9.5				
Time (military)	910	915	920	925				
pH (s.u)	6.79	6.75	6.72	6.74				
Specific Conductivity	110	105	106	107				
Water Temperature (°C)	16.9	17.9	18.3	18.4				
Turbidity (subjective: clear, slightly cloudy, cloudy)	>1,100	181	74.6	3.71				
Dissolved Oxygen (mg/l)								

Remarks: well sampled @ 925 on 1/28/15

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BUNNELL-LAMMONS ENGINEERING, INC.

Field Data Information Sheet for Ground Water Sampling
Division of Underground Storage Tank Management

Date 1/21/15
Field Personnel MVP
General weather Conditions Sunny
Ambient Air Temperature (°C) 3°

Facility Name: Former Enmark 380 Site ID #: 06588

Quality Assurance

pH Sensor:	Oakton 35630-62	Conductivity Sensor:	35630-32
Serial No.	324976	Serial No.	324976
pH =4.0	4.0	Standard	
pH = 7.0	7.0	Standard	
pH = 7.0		Standard	
pH = 10.0		Standard	

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time

Well # MW-38

Well Diameter (D) 2 inch of 25.00 feet(ft) bgs
Conversion Factor (C): 3.143*(D/2)^2
for a 2 inch well C = 0.163
for a 4 inch well C = 0.652
*Free Product Thickness — ft
Total Well Depth (TWD) 25.00 ft bgs
Depth to Groundwater (DGW) 14.76 ft bgs
Length of Water Colum (LWC = TWD-DGW) 10.24 ft
1 Casing Volume (LWC*C) = 0.00 X .17 = 1.74 gals
3 Casing Volumes = 3 X 0.00 = 5.22 gals
(Standard Purge Volume)

Total Volume of Water Purged Before Sampling 3.0 gals

*If free product is present over 1/8 inch, sampling will not be required.

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post	Sample
Volume Purged (gallons)	—	2.0						
Time (military)	1153	1156						
pH (s.u)	6.92	6.88						
Specific Conductivity	399	358						
Water Temperature (°C)	17.7	18.8						
Turbidity (subjective: clear, slightly cloudy, cloudy)	23.4	18.7						
Dissolved Oxygen (mg/l)	1.4							

well purged dry @ 3.0 gals.

Remarks:

well sampled @ 1158 on 1/26/15.

BLE

BUNNELL-LAMMONS ENGINEERING, INC.

Field Data Information Sheet for Ground Water Sampling
Division of Underground Storage Tank Management

Date 1/21/15
Field Personnel MWP
General weather Conditions Sunny
Ambient Air Temperature (°C) 3°

Facility Name: Former Enmark 380 Site ID #: 06588

Quality Assurance

pH Sensor:	Oakton 35630-62	Conductivity Sensor:	35630-32
Serial No.	324976	Serial No.	324976
pH =4.0	4.0	Standard	
pH = 7.0	7.0	Standard	
pH = 7.0		Standard	
pH = 10.0		Standard	

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time

Well # MW-39

Well Diameter (D) 2 inch of 12.00 feet(ft) bgs
Conversion Factor (C): 3.143*(D/2)^2
for a 2 inch well C = 0.163
for a 4 inch well C = 0.652
*Free Product Thickness — ft
Total Well Depth (TWD) 12.00 ft bgs
Depth to Groundwater (DGW) 4.47 ft bgs
Length of Water Colum (LWC = TWD-DGW) 8.53 ft
1 Casing Volume (LWC*C) = 0.00 X .17 = 1.41 gals
3 Casing Volumes = 3 X 0.00 = 4.25 gals
(Standard Purge Volume)

Total Volume of Water Purged Before Sampling 4.5 gals

*If free product is present over 1/8 inch, sampling will not be required.

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post	Sample
Volume Purged (gallons)	—	1.5	3.0	4.5				
Time (military)	1003	1005	1008	1011				
pH (s.u)	6.79	6.75	6.73	6.74				
Specific Conductivity	154	139	125	123				
Water Temperature (°C)	15.3	17.2	18.5	18.9				
Turbidity (subjective: clear, slightly cloudy, cloudy)	12.4	1.83	47.9	9.74				
Dissolved Oxygen (mg/l)	0.8							

Remarks: Well sampled @ 1011 on 1/28/15.

BUNNELL-LAMMONS ENGINEERING, INC.

Field Data Information Sheet for Ground Water Sampling
Division of Underground Storage Tank Management

Date 1/21/15
Field Personnel MWP
General weather Conditions Sunny
Ambient Air Temperature (°C) 7°

Facility Name: Former Enmark 380 Site ID #: 06588

Quality Assurance

pH Sensor:	Oakton 35630-62	Conductivity Sensor:	35630-32
Serial No.	324976	Serial No.	324976
pH =4.0	4.0	Standard	
pH = 7.0	7.0	Standard	
pH = 7.0		Standard	
pH = 10.0		Standard	

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time

Well # MW-40

Well Diameter (D) 2 inch of 28.30 feet(ft) bgs
Conversion Factor (C): 3.143*(D/2)^2
for a 2 inch well C = 0.163
for a 4 inch well C = 0.652
*Free Product Thickness — ft
Total Well Depth (TWD) 28.30 ft bgs
Depth to Groundwater (DGW) 19.82 ft bgs
Length of Water Colum (LWC = TWD-DGW) 8.48 ft
1 Casing Volume (LWC*C) = ~~2.86~~ X .17 = 1.44 gals
3 Casing Volumes = 3 X ~~1.28~~ = 4.32 gals
(Standard Purge Volume)

Total Volume of Water Purged Before Sampling 4.5 ~~3.0~~ gals

*If free product is present over 1/8 inch, sampling will not be required.

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post	Sample
Volume Purged (gallons)	—	1.5	3.0	4.5				
Time (military)	1042	1044	1046	1048				
pH (s.u)	6.79	6.75	6.74	6.72				
Specific Conductivity	201	199	196	196				
Water Temperature (°C)	18.4	19.2	20.1	21.2				
Turbidity (subjective: clear, slightly cloudy, cloudy)	98.7	92.6	48.7	5.74				
Dissolved Oxygen (mg/l)	1.3							

Remarks: well sampled @ 1048 on 1/21/15.
~~of sampling.~~

BUNNELL-LAMMONS ENGINEERING, INC

Field Data Information Sheet for Ground Water Sampling
Division of Underground Storage Tank Management

Date 1/21/15
Field Personnel MCF
General weather Conditions Rain
Ambient Air Temperature (°C) 3°

Facility Name: Former Enmark 380 Site ID #: 06588

Quality Assurance

pH Sensor:	Oakton 35630-62	Conductivity Sensor:	35630-32
Serial No.	324976	Serial No.	324976
pH =4.0	4.0	Standard	
pH = 7.0	7.0	Standard	
pH = 7.0		Standard	
pH = 10.0		Standard	

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time

Well # MW-41D

Well Diameter (D) 2 inch of 48.00 feet(ft) bgs
Conversion Factor (C): 3.143*(D/2)^2
for a 2 inch well C = 0.163
for a 4 inch well C = 0.652
*Free Product Thickness — ft
Total Well Depth (TWD) 48.00 ft bgs
Depth to Groundwater (DGW) 18.53 ft bgs
Length of Water Colum (LWC = TWD-DGW) 29.47 ft
1 Casing Volume (LWC*C) = ~~28.20~~ X .17 = 5.01 gals
3 Casing Volumes = 3 X ~~4.79~~ = 15.03 gals
(Standard Purge Volume)

Total Volume of Water Purged Before Sampling ~~15.0~~ 15.5 gals

*If free product is present over 1/8 inch, sampling will not be required.

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post	Sample
Volume Purged (gallons)	—	5.5	11.0	15.1				
Time (military)	948	953	958	1003				
pH (s.u)	12.13	12.11	12.06	12.05				
Specific Conductivity	492	489	484	481				
Water Temperature (°C)	16.9	17.8	18.3	18.3				
Turbidity (subjective: clear, slightly cloudy, cloudy)	>1,100	121	32.6	7.61				
Dissolved Oxygen (mg/l)	1.2							

Remarks: well sampled @ 1003 on 1/26/15

BUNNELL-LAMMONS ENGINEERING, INC.

Field Data Information Sheet for Ground Water Sampling
Division of Underground Storage Tank Management

Date 1/21/15
Field Personnel MWP
General weather Conditions Sunny
Ambient Air Temperature (°C) 30

Facility Name: Former Enmark 380 Site ID #: 06588

Quality Assurance

pH Sensor:	Oakton 35630-62	Conductivity Sensor:	35630-32
Serial No.	324976	Serial No.	324976
pH =4.0	4.0	Standard	
pH = 7.0	7.0	Standard	
pH = 7.0		Standard	
pH = 10.0		Standard	

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time

Well # MW-~~4~~ 42

Well Diameter (D) _____ inch of _____ feet(ft) bgs
Conversion Factor (C): 3.143*(D/2)^2
for a 2 inch well C = 0.163
for a 4 inch well C = 0.652
*Free Product Thickness _____ ft
Total Well Depth (TWD) 14.0 ft bgs
Depth to Groundwater (DGW) 5.46 ft bgs
Length of Water Colum (LWC = TWD-DGW) 8.54 ft
1 Casing Volume (LWC*C) = _____ X .17 = 1.45 gals
3 Casing Volumes = 3 X _____ = 4.35 gals
(Standard Purge Volume)

Total Volume of Water Purged Before Sampling 2.5 ~~2.0~~ gals

*If free product is present over 1/8 inch, sampling will not be required.

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post	Sample
Volume Purged (gallons)	—	1.5						
Time (military)	934	936						
pH (s.u)	6.85	6.82						
Specific Conductivity	166	164						
Water Temperature (°C)	17.2	18.1						
Turbidity (subjective: clear, slightly cloudy, cloudy)	18.9	17.4						
Dissolved Oxygen (mg/l)	2.4							

well Purged dry @ 2.5 gals.

Remarks:
~~of sampling.~~
well Sampled @ 938 on 1/28/15

BLE

BUNNELL-LAMMONS ENGINEERING, INC.

Field Data Information Sheet for Ground Water Sampling
Division of Underground Storage Tank Management

Date 1/21/15
Field Personnel MWP
General weather Conditions Sunny
Ambient Air Temperature (°C) 30

Facility Name: Former Enmark 380 Site ID #: 06588

Quality Assurance

pH Sensor:	Oakton 35630-62	Conductivity Sensor:	35630-32
Serial No.	324976	Serial No.	324976
pH =4.0	4.0	Standard	
pH = 7.0	7.0	Standard	
pH = 7.0		Standard	
pH = 10.0		Standard	

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time

Well # MW-[redacted]-4D

Well Diameter (D) _____ inch of _____ feet(ft) bgs
Conversion Factor (C): 3.143*(D/2)^2
for a 2 inch well C = 0.163
for a 4 inch well C = 0.652
*Free Product Thickness _____ ft
Total Well Depth (TWD) 38.0 ft bgs
Depth to Groundwater (DGW) 4.64 ft bgs
Length of Water Colum (LWC = TWD-DGW) 33.36 ft
1 Casing Volume (LWC*C) = _____ X .17 = 5.67 gals
3 Casing Volumes = 3 X _____ = 17.01 gals
(Standard Purge Volume)

Total Volume of Water Purged Before Sampling 17.5 gals

*If free product is present over 1/8 inch, sampling will not be required.

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post	Sample
Volume Purged (gallons)	—	6.0	12.0	17.5				
Time (military)	935	940	945	950				
pH (s.u)	6.94	6.88	6.89	6.89				
Specific Conductivity	123	114	110	111				
Water Temperature (°C)	17.2	18.8	19.1	19.4				
Turbidity (subjective: clear, slightly cloudy, cloudy)	>1,100	184	32.7	4.41				
Dissolved Oxygen (mg/l)	1.9							

Remarks:

well sampled @ 950 on 1/28/15.

BUNNELL-LAMMONS ENGINEERING, INC.

Field Data Information Sheet for Ground Water Sampling
Division of Underground Storage Tank Management

Date 1/26/15
Field Personnel MWP
General weather Conditions Sunny
Ambient Air Temperature (°C) 3°

Facility Name: Former Enmark 380 Site ID #: 06588

Quality Assurance

pH Sensor:	Oakton 35630-62	Conductivity Sensor:	35630-32
Serial No.	324976	Serial No.	324976
pH =4.0	4.0	Standard	
pH = 7.0	7.0	Standard	
pH = 7.0		Standard	
pH = 10.0		Standard	

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time

Well # MW-43D

Well Diameter (D) _____ inch of _____ feet(ft) bgs
Conversion Factor (C): 3.143*(D/2)^2
for a 2 inch well C = 0.163
for a 4 inch well C = 0.652
*Free Product Thickness [redacted] ft
Total Well Depth (TWD) [redacted] ft bgs 44.0
Depth to Groundwater (DGW) 18.96 ft bgs
Length of Water Colum (LWC = TWD-DGW) 26.04 ft
1 Casing Volume (LWC*C) = _____ X .17 = 4.43 gals
3 Casing Volumes = 3 X _____ = 13.29 gals
(Standard Purge Volume)

Total Volume of Water Purged Before Sampling 8.0 gals

*If free product is present over 1/8 inch, sampling will not be required.

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post	Sample
Volume Purged (gallons)	—	4.0						
Time (military)	1140	1143						
pH (s.u)	6.79	6.72						
Specific Conductivity	139	129						
Water Temperature (°C)	18.4	18.9						
Turbidity (subjective: clear, slightly cloudy, cloudy)	>1,100	28.4						
Dissolved Oxygen (mg/l)	0.4							

well Purged dry @ 8.0 gals.

Remarks: well Sampled @ 445 on 1/26/15.

APPENDIX C

LABORATORY ANALYTICAL REPORT

SHEALY ENVIRONMENTAL SERVICES, INC.

Report of Analysis

Bunnell-Lammons Engineering, Inc.
6004 Ponders Court
Greenville, SC 29615
Attention: Dan Osbourne

Project Name: **Spinx 258 Former Enmark 380**

Project Number: **6859-06**

Lot Number: **QA28018**

Date Completed: **02/03/2015**

Lucas Odom
Project Manager

This report shall not be reproduced, except in its entirety, without the written approval of Shealy Environmental Services, Inc.

The following non-paginated documents are considered part of this report: Chain of Custody Record and Sample Receipt Checklist.

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Case Narrative
Bunnell-Lammons Engineering, Inc.
Lot Number: QA28018

This Report of Analysis contains the analytical result(s) for the sample(s) listed on the Sample Summary following this Case Narrative. The sample receiving date is documented in the header information associated with each sample.

All results listed in this report relate only to the samples that are contained within this report.

Sample receipt, sample analysis, and data review have been performed in accordance with the most current approved NELAC standards, the Shealy Environmental Services, Inc. ("Shealy") Quality Assurance Management Plan (QAMP), standard operating procedures (SOPs), and Shealy policies. Any exceptions to the NELAC standards, the QAMP, SOPs or policies are qualified on the results page or discussed below.

If you have any questions regarding this report please contact the Shealy Project Manager listed on the cover page.

SHEALY ENVIRONMENTAL SERVICES, INC.

Sample Summary
Bunnell-Lammons Engineering, Inc.
Lot Number: QA28018

Sample Number	Sample ID	Matrix	Date Sampled	Date Received
001	UST #06588 MW-1	Aqueous	01/21/2015 1014	01/28/2015
002	UST #06588 MW-2	Aqueous	01/21/2015 1031	01/28/2015
003	UST #06588 MW-4R	Aqueous	01/21/2015 1201	01/28/2015
004	UST #06588 MW-7	Aqueous	01/21/2015 1216	01/28/2015
005	UST #06588 MW-7 DUP	Aqueous	01/21/2015 1217	01/28/2015
006	UST #06588 MW-7D	Aqueous	01/21/2015 1239	01/28/2015
007	UST #06588 MW-8D	Aqueous	01/21/2015 1108	01/28/2015
008	UST #06588 MW-9	Aqueous	01/21/2015 1351	01/28/2015
009	UST #06588 MW-10	Aqueous	01/21/2015 1406	01/28/2015
010	UST #06588 MW-11	Aqueous	01/21/2015 1424	01/28/2015
011	UST #06588 MW-12	Aqueous	01/21/2015 1439	01/28/2015
012	UST #06588 MW-13	Aqueous	01/21/2015 1451	01/28/2015
013	UST #06588 MW-14	Aqueous	01/21/2015 0939	01/28/2015
014	UST #06588 MW-15	Aqueous	01/21/2015 0928	01/28/2015
015	UST #06588 MW-16	Aqueous	01/21/2015 1506	01/28/2015
016	UST #06588 MW-17	Aqueous	01/21/2015 1331	01/28/2015
017	UST #06588 MW-18	Aqueous	01/21/2015 1318	01/28/2015
018	UST #06588 MW-20	Aqueous	01/26/2015 0854	01/28/2015
019	UST #06588 MW-21	Aqueous	01/26/2015 0903	01/28/2015
020	UST #06588 MW-21D	Aqueous	01/26/2015 0925	01/28/2015
021	UST #06588 MW-22D	Aqueous	01/21/2015 1300	01/28/2015
022	UST #06588 MW-24D	Aqueous	01/21/2015 1135	01/28/2015
023	UST #06588 MW-25	Aqueous	01/21/2015 1146	01/28/2015
024	UST #06588 MW-25 DUPLICATE	Aqueous	01/21/2015 1147	01/28/2015
025	UST #06588 MW-26	Aqueous	01/21/2015 1001	01/28/2015
026	UST #06588 MW-27	Aqueous	01/21/2015 0951	01/28/2015
027	UST #06588 MW-28	Aqueous	01/26/2015 0938	01/28/2015
028	UST #06588 MW-29	Aqueous	01/26/2015 1132	01/28/2015
029	UST #06588 MW-30	Aqueous	01/26/2015 1054	01/28/2015
030	UST #06588 MW-30 DUPLICATE	Aqueous	01/26/2015 1055	01/28/2015
031	UST #06588 MW-30D	Aqueous	01/26/2015 1120	01/28/2015
032	UST #06588 MW-33	Aqueous	01/26/2015 1014	01/28/2015
033	UST #06588 MW-33D	Aqueous	01/26/2015 1040	01/28/2015
034	UST #06588 MW-34	Aqueous	01/28/2015 0846	01/28/2015
035	UST #06588 MW-35	Aqueous	01/28/2015 1042	01/28/2015
036	UST #06588 MW-36	Aqueous	01/28/2015 1029	01/28/2015
037	UST #06588 MW-37	Aqueous	01/28/2015 0925	01/28/2015
038	UST #06588 MW-38	Aqueous	01/26/2015 1158	01/28/2015
039	UST #06588 MW-39	Aqueous	01/28/2015 1011	01/28/2015
040	UST #06588 MW-40	Aqueous	01/21/2015 1048	01/28/2015
041	UST #06588 MW-41D	Aqueous	01/26/2015 1003	01/28/2015
042	UST #06588 MW-43D	Aqueous	01/26/2015 1145	01/28/2015
043	UST #06588 MW-32	Aqueous	01/28/2015 0900	01/28/2015
044	UST #06588 MW-42	Aqueous	01/28/2015 0938	01/28/2015
045	UST #06588 MW-42D	Aqueous	01/28/2015 0950	01/28/2015

Sample Summary (Continued)

Lot Number: QA28018

Sample Number	Sample ID	Matrix	Date Sampled	Date Received
046	UST #06588 DW-1	Aqueous	01/28/2015 1055	01/28/2015
047	UST #06588 DW-4	Aqueous	01/28/2015 1120	01/28/2015
048	UST #06588 DW-8	Aqueous	01/28/2015 1109	01/28/2015
049	UST #06588 FB-1	Aqueous	01/21/2015 1530	01/28/2015
050	UST #06588 FB-2	Aqueous	01/26/2015 1330	01/28/2015
051	UST #06588 FB-3	Aqueous	01/28/2015 1130	01/28/2015
052	TRIP BLANK	Aqueous	01/21/2015	01/28/2015

(52 samples)

Executive Summary
Bunnell-Lammons Engineering, Inc.
Lot Number: QA28018

Sample	Sample ID	Matrix	Parameter	Method	Result	Q	Units	Page
001	UST #06588 MW-1	Aqueous	tert-Amyl alcohol (TAA)	8260B	1700		ug/L	8
001	UST #06588 MW-1	Aqueous	Benzene	8260B	3600		ug/L	8
001	UST #06588 MW-1	Aqueous	Ethylbenzene	8260B	1300		ug/L	8
001	UST #06588 MW-1	Aqueous	Methyl tertiary butyl ether (MTBE)	8260B	23	J	ug/L	8
001	UST #06588 MW-1	Aqueous	Naphthalene	8260B	120	J	ug/L	8
001	UST #06588 MW-1	Aqueous	Toluene	8260B	2400		ug/L	8
001	UST #06588 MW-1	Aqueous	Xylenes (total)	8260B	5500		ug/L	8
001	UST #06588 MW-1	Aqueous	1,2-Dibromoethane (EDB)	8011	0.55		ug/L	8
002	UST #06588 MW-2	Aqueous	tert-Amyl alcohol (TAA)	8260B	67	J	ug/L	9
002	UST #06588 MW-2	Aqueous	Benzene	8260B	150		ug/L	9
002	UST #06588 MW-2	Aqueous	1,2-Dichloroethane	8260B	3.2	J	ug/L	9
002	UST #06588 MW-2	Aqueous	Ethylbenzene	8260B	130		ug/L	9
002	UST #06588 MW-2	Aqueous	Naphthalene	8260B	82		ug/L	9
002	UST #06588 MW-2	Aqueous	tert-butyl alcohol (TBA)	8260B	230		ug/L	9
002	UST #06588 MW-2	Aqueous	Toluene	8260B	46		ug/L	9
002	UST #06588 MW-2	Aqueous	Xylenes (total)	8260B	500		ug/L	9
003	UST #06588 MW-4R	Aqueous	tert-Amyl alcohol (TAA)	8260B	870	J	ug/L	10
003	UST #06588 MW-4R	Aqueous	Benzene	8260B	880		ug/L	10
003	UST #06588 MW-4R	Aqueous	Ethylbenzene	8260B	2500		ug/L	10
003	UST #06588 MW-4R	Aqueous	Naphthalene	8260B	870		ug/L	10
003	UST #06588 MW-4R	Aqueous	Toluene	8260B	8500		ug/L	10
003	UST #06588 MW-4R	Aqueous	Xylenes (total)	8260B	15000		ug/L	10
003	UST #06588 MW-4R	Aqueous	1,2-Dibromoethane (EDB)	8011	0.051		ug/L	10
004	UST #06588 MW-7	Aqueous	Benzene	8260B	1000		ug/L	11
004	UST #06588 MW-7	Aqueous	Ethylbenzene	8260B	2200		ug/L	11
004	UST #06588 MW-7	Aqueous	Naphthalene	8260B	1100		ug/L	11
004	UST #06588 MW-7	Aqueous	Toluene	8260B	6200		ug/L	11
004	UST #06588 MW-7	Aqueous	Xylenes (total)	8260B	18000		ug/L	11
004	UST #06588 MW-7	Aqueous	1,2-Dibromoethane (EDB)	8011	0.13		ug/L	11
005	UST #06588 MW-7 DUP	Aqueous	Benzene	8260B	1000		ug/L	12
005	UST #06588 MW-7 DUP	Aqueous	Ethylbenzene	8260B	2100		ug/L	12
005	UST #06588 MW-7 DUP	Aqueous	Naphthalene	8260B	1100		ug/L	12
005	UST #06588 MW-7 DUP	Aqueous	Toluene	8260B	6200		ug/L	12
005	UST #06588 MW-7 DUP	Aqueous	Xylenes (total)	8260B	17000		ug/L	12
005	UST #06588 MW-7 DUP	Aqueous	1,2-Dibromoethane (EDB)	8011	0.11		ug/L	12
007	UST #06588 MW-8D	Aqueous	Benzene	8260B	3.0	J	ug/L	14
017	UST #06588 MW-18	Aqueous	tert-Amyl methyl ether (TAME)	8260B	7.3	J	ug/L	24
017	UST #06588 MW-18	Aqueous	Benzene	8260B	780		ug/L	24
017	UST #06588 MW-18	Aqueous	Ethylbenzene	8260B	1500		ug/L	24
017	UST #06588 MW-18	Aqueous	Naphthalene	8260B	610		ug/L	24
017	UST #06588 MW-18	Aqueous	Toluene	8260B	490		ug/L	24
017	UST #06588 MW-18	Aqueous	Xylenes (total)	8260B	2500		ug/L	24
017	UST #06588 MW-18	Aqueous	1,2-Dibromoethane (EDB)	8011	0.20		ug/L	24
022	UST #06588 MW-24D	Aqueous	Benzene	8260B	0.96	J	ug/L	29
022	UST #06588 MW-24D	Aqueous	Methyl tertiary butyl ether (MTBE)	8260B	3.9	J	ug/L	29

Executive Summary (Continued)

Lot Number: QA28018

Sample	Sample ID	Matrix	Parameter	Method	Result	Q	Units	Page
023	UST #06588 MW-25	Aqueous	tert-Amyl alcohol (TAA)	8260B	2400		ug/L	30
023	UST #06588 MW-25	Aqueous	tert-Amyl methyl ether (TAME)	8260B	180	J	ug/L	30
023	UST #06588 MW-25	Aqueous	Benzene	8260B	11000		ug/L	30
023	UST #06588 MW-25	Aqueous	Ethylbenzene	8260B	2700		ug/L	30
023	UST #06588 MW-25	Aqueous	Methyl tertiary butyl ether (MTBE)	8260B	1400		ug/L	30
023	UST #06588 MW-25	Aqueous	Naphthalene	8260B	760		ug/L	30
023	UST #06588 MW-25	Aqueous	Toluene	8260B	13000		ug/L	30
023	UST #06588 MW-25	Aqueous	Xylenes (total)	8260B	13000		ug/L	30
023	UST #06588 MW-25	Aqueous	1,2-Dibromoethane (EDB)	8011	4.4		ug/L	30
024	UST #06588 MW-25	Aqueous	tert-Amyl alcohol (TAA)	8260B	2300		ug/L	31
024	UST #06588 MW-25	Aqueous	tert-Amyl methyl ether (TAME)	8260B	150	J	ug/L	31
024	UST #06588 MW-25	Aqueous	Benzene	8260B	9700		ug/L	31
024	UST #06588 MW-25	Aqueous	Ethylbenzene	8260B	2400		ug/L	31
024	UST #06588 MW-25	Aqueous	Methyl tertiary butyl ether (MTBE)	8260B	1300		ug/L	31
024	UST #06588 MW-25	Aqueous	Naphthalene	8260B	670		ug/L	31
024	UST #06588 MW-25	Aqueous	Toluene	8260B	11000		ug/L	31
024	UST #06588 MW-25	Aqueous	Xylenes (total)	8260B	12000		ug/L	31
024	UST #06588 MW-25	Aqueous	1,2-Dibromoethane (EDB)	8011	5.4		ug/L	31
025	UST #06588 MW-26	Aqueous	tert-Amyl alcohol (TAA)	8260B	220		ug/L	32
025	UST #06588 MW-26	Aqueous	Benzene	8260B	250		ug/L	32
025	UST #06588 MW-26	Aqueous	Xylenes (total)	8260B	36		ug/L	32
029	UST #06588 MW-30	Aqueous	Diisopropyl ether (IPE)	8260B	1.1	J	ug/L	36
029	UST #06588 MW-30	Aqueous	Methyl tertiary butyl ether (MTBE)	8260B	15		ug/L	36
030	UST #06588 MW-30	Aqueous	Diisopropyl ether (IPE)	8260B	1.1	J	ug/L	37
030	UST #06588 MW-30	Aqueous	Methyl tertiary butyl ether (MTBE)	8260B	15		ug/L	37
032	UST #06588 MW-33	Aqueous	Methyl tertiary butyl ether (MTBE)	8260B	0.56	J	ug/L	39
040	UST #06588 MW-40	Aqueous	tert-Amyl alcohol (TAA)	8260B	2700		ug/L	47
040	UST #06588 MW-40	Aqueous	tert-Amyl methyl ether (TAME)	8260B	170	J	ug/L	47
040	UST #06588 MW-40	Aqueous	Benzene	8260B	3500		ug/L	47
040	UST #06588 MW-40	Aqueous	Diisopropyl ether (IPE)	8260B	24	J	ug/L	47
040	UST #06588 MW-40	Aqueous	Ethylbenzene	8260B	620		ug/L	47
040	UST #06588 MW-40	Aqueous	Methyl tertiary butyl ether (MTBE)	8260B	670		ug/L	47
040	UST #06588 MW-40	Aqueous	Naphthalene	8260B	260		ug/L	47
040	UST #06588 MW-40	Aqueous	Toluene	8260B	230	J	ug/L	47
040	UST #06588 MW-40	Aqueous	Xylenes (total)	8260B	3000		ug/L	47
040	UST #06588 MW-40	Aqueous	1,2-Dibromoethane (EDB)	8011	0.81		ug/L	47
041	UST #06588 MW-41D	Aqueous	tert-Amyl alcohol (TAA)	8260B	4400		ug/L	48
041	UST #06588 MW-41D	Aqueous	tert-Amyl methyl ether (TAME)	8260B	25	J	ug/L	48
041	UST #06588 MW-41D	Aqueous	Benzene	8260B	2300		ug/L	48
041	UST #06588 MW-41D	Aqueous	1,2-Dichloroethane	8260B	130		ug/L	48
041	UST #06588 MW-41D	Aqueous	Diisopropyl ether (IPE)	8260B	170		ug/L	48
041	UST #06588 MW-41D	Aqueous	Ethylbenzene	8260B	170		ug/L	48
041	UST #06588 MW-41D	Aqueous	Methyl tertiary butyl ether (MTBE)	8260B	880		ug/L	48
041	UST #06588 MW-41D	Aqueous	tert-butyl alcohol (TBA)	8260B	1600		ug/L	48
042	UST #06588 MW-43D	Aqueous	Methyl tertiary butyl ether (MTBE)	8260B	0.50	J	ug/L	49
043	UST #06588 MW-32	Aqueous	tert-Amyl alcohol (TAA)	8260B	110		ug/L	50
043	UST #06588 MW-32	Aqueous	tert-Amyl methyl ether (TAME)	8260B	17		ug/L	50
043	UST #06588 MW-32	Aqueous	Diisopropyl ether (IPE)	8260B	6.7		ug/L	50

Executive Summary (Continued)

Lot Number: QA28018

Sample	Sample ID	Matrix	Parameter	Method	Result	Q	Units	Page
043	UST #06588 MW-32	Aqueous	Methyl tertiary butyl ether (MTBE)	8260B	160		ug/L	50
043	UST #06588 MW-32	Aqueous	tert-butyl alcohol (TBA)	8260B	54		ug/L	50
046	UST #06588 DW-1	Aqueous	Xylenes (total)	8260B	7.2		ug/L	53

(96 detections)

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **UST #06588 MW-1**
Date Sampled: **01/21/2015 1014**
Date Received: **01/28/2015**

Laboratory ID: **QA28018-001**
Matrix: **Aqueous**

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	50	01/30/2015 1639	EH1		66541

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
tert-Amyl alcohol (TAA)	**75-85-4**	**8260B**	**1700**		**1000**	**340**	**ug/L**	**1**
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		500	10	ug/L	1
Benzene	**71-43-2**	**8260B**	**3600**		**250**	**10**	**ug/L**	**1**
tert-Butyl formate (TBF)	762-75-4	8260B	ND		250	50	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		250	15	ug/L	1
Diisopropyl ether (IPE)	108-20-3	8260B	ND		250	20	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		1000	50	ug/L	1
Ethanol	64-17-5	8260B	ND		5000	1700	ug/L	1
Ethylbenzene	**100-41-4**	**8260B**	**1300**		**250**	**85**	**ug/L**	**1**
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		50	10	ug/L	1
Methyl tertiary butyl ether (MTBE)	**1634-04-4**	**8260B**	**23**	**J**	**250**	**20**	**ug/L**	**1**
Naphthalene	**91-20-3**	**8260B**	**120**	**J**	**250**	**85**	**ug/L**	**1**
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		1000	340	ug/L	1
Toluene	**108-88-3**	**8260B**	**2400**		**250**	**85**	**ug/L**	**1**
Xylenes (total)	**1330-20-7**	**8260B**	**5500**		**250**	**85**	**ug/L**	**1**

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		87	70-130
Bromofluorobenzene		96	70-130
Toluene-d8		93	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	01/29/2015 0953	MEM	01/28/2015 2145	66390

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,2-Dibromoethane (EDB)	**106-93-4**	**8011**	**0.55**		**0.020**	**0.020**	**ug/L**	**1**

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		96	57-137

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
H = Out of holding time
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Client: **Bunnell-Lammons Engineering, Inc.**	Laboratory ID: **QA28018-002**
Description: **UST #06588 MW-2**	Matrix: **Aqueous**
Date Sampled: **01/21/2015 1031**	
Date Received: **01/28/2015**	

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	5	01/30/2015 1703	EH1		66541

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
tert-Amyl alcohol (TAA)	**75-85-4**	**8260B**	**67**	**J**	**100**	**34**	**ug/L**	**1**
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		50	1.0	ug/L	1
Benzene	**71-43-2**	**8260B**	**150**		**25**	**1.0**	**ug/L**	**1**
tert-Butyl formate (TBF)	762-75-4	8260B	ND		25	5.0	ug/L	1
1,2-Dichloroethane	**107-06-2**	**8260B**	**3.2**	**J**	**25**	**1.5**	**ug/L**	**1**
Diisopropyl ether (IPE)	108-20-3	8260B	ND		25	2.0	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		100	5.0	ug/L	1
Ethanol	64-17-5	8260B	ND		500	170	ug/L	1
Ethylbenzene	**100-41-4**	**8260B**	**130**		**25**	**8.5**	**ug/L**	**1**
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		5.0	1.0	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		25	2.0	ug/L	1
Naphthalene	**91-20-3**	**8260B**	**82**		**25**	**8.5**	**ug/L**	**1**
tert-butyl alcohol (TBA)	**75-65-0**	**8260B**	**230**		**100**	**34**	**ug/L**	**1**
Toluene	**108-88-3**	**8260B**	**46**		**25**	**8.5**	**ug/L**	**1**
Xylenes (total)	**1330-20-7**	**8260B**	**500**		**25**	**8.5**	**ug/L**	**1**

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		88	70-130
Bromofluorobenzene		97	70-130
Toluene-d8		93	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	01/29/2015 1025	MEM	01/28/2015 2145	66390

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0.020	0.020	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		83	57-137

PQL = Practical quantitation limit | B = Detected in the method blank | E = Quantitation of compound exceeded the calibration range | H = Out of holding time
ND = Not detected at or above the MDL | J = Estimated result < PQL and ≥ MDL | P = The RPD between two GC columns exceeds 40% | N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **UST #06588 MW-4R**
Date Sampled: **01/21/2015 1201**
Date Received: **01/28/2015**

Laboratory ID: **QA28018-003**
Matrix: **Aqueous**

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	100	01/30/2015 1726	EH1		66541

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
tert-Amyl alcohol (TAA)	**75-85-4**	**8260B**	**870**	**J**	**2000**	**670**	**ug/L**	**1**
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		1000	20	ug/L	1
Benzene	**71-43-2**	**8260B**	**880**		**500**	**20**	**ug/L**	**1**
tert-Butyl formate (TBF)	762-75-4	8260B	ND		500	100	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		500	30	ug/L	1
Diisopropyl ether (IPE)	108-20-3	8260B	ND		500	40	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		2000	100	ug/L	1
Ethanol	64-17-5	8260B	ND		10000	3300	ug/L	1
Ethylbenzene	**100-41-4**	**8260B**	**2500**		**500**	**170**	**ug/L**	**1**
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		100	20	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		500	40	ug/L	1
Naphthalene	**91-20-3**	**8260B**	**870**		**500**	**170**	**ug/L**	**1**
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		2000	670	ug/L	1
Toluene	**108-88-3**	**8260B**	**8500**		**500**	**170**	**ug/L**	**1**
Xylenes (total)	**1330-20-7**	**8260B**	**15000**		**500**	**170**	**ug/L**	**1**

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		86	70-130
Bromofluorobenzene		96	70-130
Toluene-d8		94	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	01/29/2015 1035	MEM	01/28/2015 2145	66390

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,2-Dibromoethane (EDB)	**106-93-4**	**8011**	**0.051**		**0.020**	**0.020**	**ug/L**	**1**

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		76	57-137

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
H = Out of holding time
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Client: **Bunnell-Lammons Engineering, Inc.**	Laboratory ID: **QA28018-004**
Description: **UST #06588 MW-7**	Matrix: **Aqueous**
Date Sampled: **01/21/2015 1216**	
Date Received: **01/28/2015**	

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	100	01/30/2015 1749	EH1		66541

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
tert-Amyl alcohol (TAA)	75-85-4	8260B	ND		2000	670	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		1000	20	ug/L	1
Benzene	**71-43-2**	**8260B**	**1000**		**500**	**20**	**ug/L**	**1**
tert-Butyl formate (TBF)	762-75-4	8260B	ND		500	100	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		500	30	ug/L	1
Diisopropyl ether (IPE)	108-20-3	8260B	ND		500	40	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		2000	100	ug/L	1
Ethanol	64-17-5	8260B	ND		10000	3300	ug/L	1
Ethylbenzene	**100-41-4**	**8260B**	**2200**		**500**	**170**	**ug/L**	**1**
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		100	20	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		500	40	ug/L	1
Naphthalene	**91-20-3**	**8260B**	**1100**		**500**	**170**	**ug/L**	**1**
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		2000	670	ug/L	1
Toluene	**108-88-3**	**8260B**	**6200**		**500**	**170**	**ug/L**	**1**
Xylenes (total)	**1330-20-7**	**8260B**	**18000**		**500**	**170**	**ug/L**	**1**

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		87	70-130
Bromofluorobenzene		97	70-130
Toluene-d8		93	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	01/29/2015 1729	MEM	01/28/2015 2145	66390

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,2-Dibromoethane (EDB)	**106-93-4**	**8011**	**0.13**		**0.020**	**0.020**	**ug/L**	**1**

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		91	57-137

PQL = Practical quantitation limit | B = Detected in the method blank | E = Quantitation of compound exceeded the calibration range | H = Out of holding time
ND = Not detected at or above the MDL | J = Estimated result < PQL and ≥ MDL | P = The RPD between two GC columns exceeds 40% | N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **UST #06588 MW-7 DUP**
Date Sampled: **01/21/2015 1217**
Date Received: **01/28/2015**

Laboratory ID: **QA28018-005**
Matrix: **Aqueous**

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	100	01/30/2015 1812	EH1		66541

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
tert-Amyl alcohol (TAA)	75-85-4	8260B	ND		2000	670	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		1000	20	ug/L	1
Benzene	**71-43-2**	**8260B**	**1000**		**500**	**20**	**ug/L**	**1**
tert-Butyl formate (TBF)	762-75-4	8260B	ND		500	100	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		500	30	ug/L	1
Diisopropyl ether (IPE)	108-20-3	8260B	ND		500	40	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		2000	100	ug/L	1
Ethanol	64-17-5	8260B	ND		10000	3300	ug/L	1
Ethylbenzene	**100-41-4**	**8260B**	**2100**		**500**	**170**	**ug/L**	**1**
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		100	20	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		500	40	ug/L	1
Naphthalene	**91-20-3**	**8260B**	**1100**		**500**	**170**	**ug/L**	**1**
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		2000	670	ug/L	1
Toluene	**108-88-3**	**8260B**	**6200**		**500**	**170**	**ug/L**	**1**
Xylenes (total)	**1330-20-7**	**8260B**	**17000**		**500**	**170**	**ug/L**	**1**

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		87	70-130
Bromofluorobenzene		95	70-130
Toluene-d8		94	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	01/29/2015 1300	MEM	01/28/2015 2145	66390

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,2-Dibromoethane (EDB)	**106-93-4**	**8011**	**0.11**		**0.019**	**0.019**	**ug/L**	**1**

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		89	57-137

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
H = Out of holding time
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **UST #06588 MW-7D**
Date Sampled: **01/21/2015 1239**
Date Received: **01/28/2015**

Laboratory ID: **QA28018-006**
Matrix: **Aqueous**

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	01/30/2015 1616	EH1		66541

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
tert-Amyl alcohol (TAA)	75-85-4	8260B	ND		20	6.7	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		10	0.20	ug/L	1
Benzene	71-43-2	8260B	ND		5.0	0.20	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260B	ND		5.0	1.0	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		5.0	0.30	ug/L	1
Diisopropyl ether (IPE)	108-20-3	8260B	ND		5.0	0.40	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		20	1.0	ug/L	1
Ethanol	64-17-5	8260B	ND		100	33	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		5.0	1.7	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		1.0	0.20	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		5.0	0.40	ug/L	1
Naphthalene	91-20-3	8260B	ND		5.0	1.7	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		20	6.7	ug/L	1
Toluene	108-88-3	8260B	ND		5.0	1.7	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		5.0	1.7	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		87	70-130
Bromofluorobenzene		96	70-130
Toluene-d8		92	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	01/29/2015 1106	MEM	01/28/2015 2145	66390

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0.020	0.020	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		68	57-137

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
H = Out of holding time
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **UST #06588 MW-8D**
Date Sampled: **01/21/2015 1108**
Date Received: **01/28/2015**

Laboratory ID: **QA28018-007**
Matrix: **Aqueous**

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	01/30/2015 1222	EH1		66541

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
tert-Amyl alcohol (TAA)	75-85-4	8260B	ND		20	6.7	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		10	0.20	ug/L	1
Benzene	**71-43-2**	**8260B**	**3.0**	**J**	**5.0**	**0.20**	**ug/L**	**1**
tert-Butyl formate (TBF)	762-75-4	8260B	ND		5.0	1.0	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		5.0	0.30	ug/L	1
Diisopropyl ether (IPE)	108-20-3	8260B	ND		5.0	0.40	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		20	1.0	ug/L	1
Ethanol	64-17-5	8260B	ND		100	33	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		5.0	1.7	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		1.0	0.20	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		5.0	0.40	ug/L	1
Naphthalene	91-20-3	8260B	ND		5.0	1.7	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		20	6.7	ug/L	1
Toluene	108-88-3	8260B	ND		5.0	1.7	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		5.0	1.7	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		87	70-130
Bromofluorobenzene		95	70-130
Toluene-d8		93	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	01/29/2015 1116	MEM	01/28/2015 2145	66390

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0.020	0.020	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		84	57-137

PQL = Practical quantitation limit | B = Detected in the method blank | E = Quantitation of compound exceeded the calibration range | H = Out of holding time
ND = Not detected at or above the MDL | J = Estimated result < PQL and ≥ MDL | P = The RPD between two GC columns exceeds 40% | N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **UST #06588 MW-9**
Date Sampled: **01/21/2015 1351**
Date Received: **01/28/2015**

Laboratory ID: **QA28018-008**
Matrix: **Aqueous**

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	01/30/2015 1246	EH1		66541

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
tert-Amyl alcohol (TAA)	75-85-4	8260B	ND		20	6.7	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		10	0.20	ug/L	1
Benzene	71-43-2	8260B	ND		5.0	0.20	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260B	ND		5.0	1.0	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		5.0	0.30	ug/L	1
Diisopropyl ether (IPE)	108-20-3	8260B	ND		5.0	0.40	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		20	1.0	ug/L	1
Ethanol	64-17-5	8260B	ND		100	33	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		5.0	1.7	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		1.0	0.20	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		5.0	0.40	ug/L	1
Naphthalene	91-20-3	8260B	ND		5.0	1.7	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		20	6.7	ug/L	1
Toluene	108-88-3	8260B	ND		5.0	1.7	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		5.0	1.7	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		86	70-130
Bromofluorobenzene		96	70-130
Toluene-d8		93	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	01/29/2015 1127	MEM	01/28/2015 2145	66390

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0.019	0.019	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		87	57-137

PQL = Practical quantitation limit | B = Detected in the method blank | E = Quantitation of compound exceeded the calibration range | H = Out of holding time
ND = Not detected at or above the MDL | J = Estimated result < PQL and ≥ MDL | P = The RPD between two GC columns exceeds 40% | N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Client: Bunnell-Lammons Engineering, Inc.
Description: UST #06588 MW-10
Date Sampled: 01/21/2015 1406
Date Received: 01/28/2015

Laboratory ID: QA28018-009
Matrix: Aqueous

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	01/30/2015 1309	EH1		66541

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
tert-Amyl alcohol (TAA)	75-85-4	8260B	ND		20	6.7	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		10	0.20	ug/L	1
Benzene	71-43-2	8260B	ND		5.0	0.20	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260B	ND		5.0	1.0	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		5.0	0.30	ug/L	1
Diisopropyl ether (IPE)	108-20-3	8260B	ND		5.0	0.40	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		20	1.0	ug/L	1
Ethanol	64-17-5	8260B	ND		100	33	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		5.0	1.7	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		1.0	0.20	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		5.0	0.40	ug/L	1
Naphthalene	91-20-3	8260B	ND		5.0	1.7	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		20	6.7	ug/L	1
Toluene	108-88-3	8260B	ND		5.0	1.7	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		5.0	1.7	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		87	70-130
Bromofluorobenzene		97	70-130
Toluene-d8		94	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	01/29/2015 1137	MEM	01/28/2015 2145	66390

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0.020	0.020	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		94	57-137

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
H = Out of holding time
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **UST #06588 MW-11**
Date Sampled: **01/21/2015 1424**
Date Received: **01/28/2015**

Laboratory ID: **QA28018-010**
Matrix: **Aqueous**

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	01/30/2015 1333	EH1		66541

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
tert-Amyl alcohol (TAA)	75-85-4	8260B	ND		20	6.7	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		10	0.20	ug/L	1
Benzene	71-43-2	8260B	ND		5.0	0.20	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260B	ND		5.0	1.0	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		5.0	0.30	ug/L	1
Diisopropyl ether (IPE)	108-20-3	8260B	ND		5.0	0.40	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		20	1.0	ug/L	1
Ethanol	64-17-5	8260B	ND		100	33	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		5.0	1.7	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		1.0	0.20	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		5.0	0.40	ug/L	1
Naphthalene	91-20-3	8260B	ND		5.0	1.7	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		20	6.7	ug/L	1
Toluene	108-88-3	8260B	ND		5.0	1.7	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		5.0	1.7	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		87	70-130
Bromofluorobenzene		95	70-130
Toluene-d8		92	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	01/29/2015 1148	MEM	01/28/2015 2145	66390

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0.020	0.020	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		97	57-137

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
H = Out of holding time
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **UST #06588 MW-12**
Date Sampled: **01/21/2015 1439**
Date Received: **01/28/2015**

Laboratory ID: **QA28018-011**
Matrix: **Aqueous**

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	01/30/2015 1356	EH1		66541

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
tert-Amyl alcohol (TAA)	75-85-4	8260B	ND		20	6.7	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		10	0.20	ug/L	1
Benzene	71-43-2	8260B	ND		5.0	0.20	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260B	ND		5.0	1.0	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		5.0	0.30	ug/L	1
Diisopropyl ether (IPE)	108-20-3	8260B	ND		5.0	0.40	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		20	1.0	ug/L	1
Ethanol	64-17-5	8260B	ND		100	33	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		5.0	1.7	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		1.0	0.20	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		5.0	0.40	ug/L	1
Naphthalene	91-20-3	8260B	ND		5.0	1.7	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		20	6.7	ug/L	1
Toluene	108-88-3	8260B	ND		5.0	1.7	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		5.0	1.7	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		87	70-130
Bromofluorobenzene		96	70-130
Toluene-d8		93	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	01/29/2015 1158	MEM	01/28/2015 2145	66390

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0.020	0.020	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		95	57-137

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
H = Out of holding time
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **UST #06588 MW-13**
Date Sampled: **01/21/2015 1451**
Date Received: **01/28/2015**

Laboratory ID: **QA28018-012**
Matrix: **Aqueous**

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	01/30/2015 1419	EH1		66541

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
tert-Amyl alcohol (TAA)	75-85-4	8260B	ND		20	6.7	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		10	0.20	ug/L	1
Benzene	71-43-2	8260B	ND		5.0	0.20	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260B	ND		5.0	1.0	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		5.0	0.30	ug/L	1
Diisopropyl ether (IPE)	108-20-3	8260B	ND		5.0	0.40	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		20	1.0	ug/L	1
Ethanol	64-17-5	8260B	ND		100	33	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		5.0	1.7	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		1.0	0.20	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		5.0	0.40	ug/L	1
Naphthalene	91-20-3	8260B	ND		5.0	1.7	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		20	6.7	ug/L	1
Toluene	108-88-3	8260B	ND		5.0	1.7	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		5.0	1.7	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		87	70-130
Bromofluorobenzene		96	70-130
Toluene-d8		93	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	01/29/2015 1208	MEM	01/28/2015 2145	66390

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0.020	0.020	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		94	57-137

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
H = Out of holding time
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **UST #06588 MW-14**
Date Sampled: **01/21/2015 0939**
Date Received: **01/28/2015**

Laboratory ID: **QA28018-013**
Matrix: **Aqueous**

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	01/30/2015 1443	EH1		66541

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
tert-Amyl alcohol (TAA)	75-85-4	8260B	ND		20	6.7	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		10	0.20	ug/L	1
Benzene	71-43-2	8260B	ND		5.0	0.20	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260B	ND		5.0	1.0	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		5.0	0.30	ug/L	1
Diisopropyl ether (IPE)	108-20-3	8260B	ND		5.0	0.40	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		20	1.0	ug/L	1
Ethanol	64-17-5	8260B	ND		100	33	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		5.0	1.7	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		1.0	0.20	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		5.0	0.40	ug/L	1
Naphthalene	91-20-3	8260B	ND		5.0	1.7	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		20	6.7	ug/L	1
Toluene	108-88-3	8260B	ND		5.0	1.7	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		5.0	1.7	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		87	70-130
Bromofluorobenzene		96	70-130
Toluene-d8		93	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	01/29/2015 1219	MEM	01/28/2015 2145	66390

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0.019	0.019	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		87	57-137

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
H = Out of holding time
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **UST #06588 MW-15**
Date Sampled: **01/21/2015 0928**
Date Received: **01/28/2015**

Laboratory ID: **QA28018-014**
Matrix: **Aqueous**

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	01/30/2015 1506	EH1		66541

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
tert-Amyl alcohol (TAA)	75-85-4	8260B	ND		20	6.7	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		10	0.20	ug/L	1
Benzene	71-43-2	8260B	ND		5.0	0.20	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260B	ND		5.0	1.0	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		5.0	0.30	ug/L	1
Diisopropyl ether (IPE)	108-20-3	8260B	ND		5.0	0.40	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		20	1.0	ug/L	1
Ethanol	64-17-5	8260B	ND		100	33	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		5.0	1.7	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		1.0	0.20	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		5.0	0.40	ug/L	1
Naphthalene	91-20-3	8260B	ND		5.0	1.7	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		20	6.7	ug/L	1
Toluene	108-88-3	8260B	ND		5.0	1.7	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		5.0	1.7	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		87	70-130
Bromofluorobenzene		95	70-130
Toluene-d8		93	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	01/29/2015 1229	MEM	01/28/2015 2145	66390

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0.020	0.020	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		92	57-137

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
H = Out of holding time
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **UST #06588 MW-16**
Date Sampled: **01/21/2015 1506**
Date Received: **01/28/2015**

Laboratory ID: **QA28018-015**
Matrix: **Aqueous**

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	01/30/2015 1529	EH1		66541

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
tert-Amyl alcohol (TAA)	75-85-4	8260B	ND		20	6.7	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		10	0.20	ug/L	1
Benzene	71-43-2	8260B	ND		5.0	0.20	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260B	ND		5.0	1.0	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		5.0	0.30	ug/L	1
Diisopropyl ether (IPE)	108-20-3	8260B	ND		5.0	0.40	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		20	1.0	ug/L	1
Ethanol	64-17-5	8260B	ND		100	33	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		5.0	1.7	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		1.0	0.20	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		5.0	0.40	ug/L	1
Naphthalene	91-20-3	8260B	ND		5.0	1.7	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		20	6.7	ug/L	1
Toluene	108-88-3	8260B	ND		5.0	1.7	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		5.0	1.7	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		87	70-130
Bromofluorobenzene		94	70-130
Toluene-d8		92	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	01/29/2015 1240	MEM	01/28/2015 2145	66390

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0.020	0.020	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		95	57-137

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
H = Out of holding time
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **UST #06588 MW-17**
Date Sampled: **01/21/2015 1331**
Date Received: **01/28/2015**

Laboratory ID: **QA28018-016**
Matrix: **Aqueous**

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	01/30/2015 1553	EH1		66541

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
tert-Amyl alcohol (TAA)	75-85-4	8260B	ND		20	6.7	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		10	0.20	ug/L	1
Benzene	71-43-2	8260B	ND		5.0	0.20	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260B	ND		5.0	1.0	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		5.0	0.30	ug/L	1
Diisopropyl ether (IPE)	108-20-3	8260B	ND		5.0	0.40	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		20	1.0	ug/L	1
Ethanol	64-17-5	8260B	ND		100	33	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		5.0	1.7	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		1.0	0.20	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		5.0	0.40	ug/L	1
Naphthalene	91-20-3	8260B	ND		5.0	1.7	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		20	6.7	ug/L	1
Toluene	108-88-3	8260B	ND		5.0	1.7	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		5.0	1.7	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		87	70-130
Bromofluorobenzene		96	70-130
Toluene-d8		93	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	01/29/2015 1331	MEM	01/28/2015 2145	66391

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0.019	0.019	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		78	57-137

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
H = Out of holding time
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **UST #06588 MW-18**
Date Sampled: **01/21/2015 1318**
Date Received: **01/28/2015**

Laboratory ID: **QA28018-017**
Matrix: **Aqueous**

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	20	01/31/2015 0554	PMM2		66581

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
tert-Amyl alcohol (TAA)	75-85-4	8260B	ND		400	130	ug/L	1
tert-Amyl methyl ether (TAME)	**994-05-8**	**8260B**	**7.3**	**J**	**200**	**4.0**	**ug/L**	**1**
Benzene	**71-43-2**	**8260B**	**780**		**100**	**4.0**	**ug/L**	**1**
tert-Butyl formate (TBF)	762-75-4	8260B	ND		100	20	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		100	6.0	ug/L	1
Diisopropyl ether (IPE)	108-20-3	8260B	ND		100	8.0	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		400	20	ug/L	1
Ethanol	64-17-5	8260B	ND		2000	660	ug/L	1
Ethylbenzene	**100-41-4**	**8260B**	**1500**		**100**	**34**	**ug/L**	**1**
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		20	4.0	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		100	8.0	ug/L	1
Naphthalene	**91-20-3**	**8260B**	**610**		**100**	**34**	**ug/L**	**1**
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		400	130	ug/L	1
Toluene	**108-88-3**	**8260B**	**490**		**100**	**34**	**ug/L**	**1**
Xylenes (total)	**1330-20-7**	**8260B**	**2500**		**100**	**34**	**ug/L**	**1**

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		87	70-130
Bromofluorobenzene		96	70-130
Toluene-d8		94	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	01/29/2015 1402	MEM	01/28/2015 2145	66391

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,2-Dibromoethane (EDB)	**106-93-4**	**8011**	**0.20**		**0.020**	**0.020**	**ug/L**	**1**

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		107	57-137

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
H = Out of holding time
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **UST #06588 MW-20**
Date Sampled: **01/26/2015 0854**
Date Received: **01/28/2015**

Laboratory ID: **QA28018-018**
Matrix: **Aqueous**

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	01/30/2015 2346	PMM2		66581

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
tert-Amyl alcohol (TAA)	75-85-4	8260B	ND		20	6.7	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		10	0.20	ug/L	1
Benzene	71-43-2	8260B	ND		5.0	0.20	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260B	ND		5.0	1.0	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		5.0	0.30	ug/L	1
Diisopropyl ether (IPE)	108-20-3	8260B	ND		5.0	0.40	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		20	1.0	ug/L	1
Ethanol	64-17-5	8260B	ND		100	33	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		5.0	1.7	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		1.0	0.20	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		5.0	0.40	ug/L	1
Naphthalene	91-20-3	8260B	ND		5.0	1.7	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		20	6.7	ug/L	1
Toluene	108-88-3	8260B	ND		5.0	1.7	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		5.0	1.7	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		86	70-130
Bromofluorobenzene		93	70-130
Toluene-d8		92	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	01/29/2015 1413	MEM	01/28/2015 2145	66391

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0.020	0.020	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		78	57-137

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
H = Out of holding time
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Client: Bunnell-Lammons Engineering, Inc.
Description: UST #06588 MW-21
Date Sampled: 01/26/2015 0903
Date Received: 01/28/2015

Laboratory ID: QA28018-019
Matrix: Aqueous

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	01/31/2015 0009	PMM2		66581

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
tert-Amyl alcohol (TAA)	75-85-4	8260B	ND		20	6.7	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		10	0.20	ug/L	1
Benzene	71-43-2	8260B	ND		5.0	0.20	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260B	ND		5.0	1.0	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		5.0	0.30	ug/L	1
Diisopropyl ether (IPE)	108-20-3	8260B	ND		5.0	0.40	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		20	1.0	ug/L	1
Ethanol	64-17-5	8260B	ND		100	33	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		5.0	1.7	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		1.0	0.20	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		5.0	0.40	ug/L	1
Naphthalene	91-20-3	8260B	ND		5.0	1.7	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		20	6.7	ug/L	1
Toluene	108-88-3	8260B	ND		5.0	1.7	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		5.0	1.7	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		87	70-130
Bromofluorobenzene		94	70-130
Toluene-d8		93	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	01/29/2015 1423	MEM	01/28/2015 2145	66391

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0.020	0.020	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		95	57-137

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
H = Out of holding time
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **UST #06588 MW-21D**
Date Sampled: **01/26/2015 0925**
Date Received: **01/28/2015**

Laboratory ID: **QA28018-020**
Matrix: **Aqueous**

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	01/31/2015 0032	PMM2		66581

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
tert-Amyl alcohol (TAA)	75-85-4	8260B	ND		20	6.7	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		10	0.20	ug/L	1
Benzene	71-43-2	8260B	ND		5.0	0.20	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260B	ND		5.0	1.0	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		5.0	0.30	ug/L	1
Diisopropyl ether (IPE)	108-20-3	8260B	ND		5.0	0.40	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		20	1.0	ug/L	1
Ethanol	64-17-5	8260B	ND		100	33	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		5.0	1.7	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		1.0	0.20	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		5.0	0.40	ug/L	1
Naphthalene	91-20-3	8260B	ND		5.0	1.7	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		20	6.7	ug/L	1
Toluene	108-88-3	8260B	ND		5.0	1.7	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		5.0	1.7	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		87	70-130
Bromofluorobenzene		95	70-130
Toluene-d8		94	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	01/29/2015 1433	MEM	01/28/2015 2145	66391

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0.020	0.020	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		95	57-137

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
H = Out of holding time
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **UST #06588 MW-22D**
Date Sampled: **01/21/2015 1300**
Date Received: **01/28/2015**

Laboratory ID: **QA28018-021**
Matrix: **Aqueous**

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	01/31/2015 0055	PMM2		66581

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
tert-Amyl alcohol (TAA)	75-85-4	8260B	ND		20	6.7	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		10	0.20	ug/L	1
Benzene	71-43-2	8260B	ND		5.0	0.20	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260B	ND		5.0	1.0	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		5.0	0.30	ug/L	1
Diisopropyl ether (IPE)	108-20-3	8260B	ND		5.0	0.40	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		20	1.0	ug/L	1
Ethanol	64-17-5	8260B	ND		100	33	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		5.0	1.7	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		1.0	0.20	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		5.0	0.40	ug/L	1
Naphthalene	91-20-3	8260B	ND		5.0	1.7	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		20	6.7	ug/L	1
Toluene	108-88-3	8260B	ND		5.0	1.7	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		5.0	1.7	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		87	70-130
Bromofluorobenzene		96	70-130
Toluene-d8		94	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	01/29/2015 1444	MEM	01/28/2015 2145	66391

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0.020	0.020	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		97	57-137

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
H = Out of holding time
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **UST #06588 MW-24D**
Date Sampled: **01/21/2015 1135**
Date Received: **01/28/2015**

Laboratory ID: **QA28018-022**
Matrix: **Aqueous**

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	01/31/2015 0118	PMM2		66581

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
tert-Amyl alcohol (TAA)	75-85-4	8260B	ND		20	6.7	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		10	0.20	ug/L	1
Benzene	**71-43-2**	**8260B**	**0.96**	**J**	**5.0**	**0.20**	**ug/L**	**1**
tert-Butyl formate (TBF)	762-75-4	8260B	ND		5.0	1.0	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		5.0	0.30	ug/L	1
Diisopropyl ether (IPE)	108-20-3	8260B	ND		5.0	0.40	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		20	1.0	ug/L	1
Ethanol	64-17-5	8260B	ND		100	33	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		5.0	1.7	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		1.0	0.20	ug/L	1
Methyl tertiary butyl ether (MTBE)	**1634-04-4**	**8260B**	**3.9**	**J**	**5.0**	**0.40**	**ug/L**	**1**
Naphthalene	91-20-3	8260B	ND		5.0	1.7	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		20	6.7	ug/L	1
Toluene	108-88-3	8260B	ND		5.0	1.7	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		5.0	1.7	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		86	70-130
Bromofluorobenzene		95	70-130
Toluene-d8		94	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	01/29/2015 1454	MEM	01/28/2015 2145	66391

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0.019	0.019	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		93	57-137

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
H = Out of holding time
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **UST #06588 MW-25**
Date Sampled: **01/21/2015 1146**
Date Received: **01/28/2015**

Laboratory ID: **QA28018-023**
Matrix: **Aqueous**

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	100	01/31/2015 0445	PMM2		66581

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
tert-Amyl alcohol (TAA)	**75-85-4**	**8260B**	**2400**		**2000**	**670**	**ug/L**	**1**
tert-Amyl methyl ether (TAME)	**994-05-8**	**8260B**	**180**	**J**	**1000**	**20**	**ug/L**	**1**
Benzene	**71-43-2**	**8260B**	**11000**		**500**	**20**	**ug/L**	**1**
tert-Butyl formate (TBF)	762-75-4	8260B	ND		500	100	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		500	30	ug/L	1
Diisopropyl ether (IPE)	108-20-3	8260B	ND		500	40	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		2000	100	ug/L	1
Ethanol	64-17-5	8260B	ND		10000	3300	ug/L	1
Ethylbenzene	**100-41-4**	**8260B**	**2700**		**500**	**170**	**ug/L**	**1**
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		100	20	ug/L	1
Methyl tertiary butyl ether (MTBE)	**1634-04-4**	**8260B**	**1400**		**500**	**40**	**ug/L**	**1**
Naphthalene	**91-20-3**	**8260B**	**760**		**500**	**170**	**ug/L**	**1**
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		2000	670	ug/L	1
Toluene	**108-88-3**	**8260B**	**13000**		**500**	**170**	**ug/L**	**1**
Xylenes (total)	**1330-20-7**	**8260B**	**13000**		**500**	**170**	**ug/L**	**1**

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		87	70-130
Bromofluorobenzene		97	70-130
Toluene-d8		94	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	10	01/29/2015 1739	MEM	01/28/2015 2145	66391

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,2-Dibromoethane (EDB)	**106-93-4**	**8011**	**4.4**		**0.20**	**0.20**	**ug/L**	**1**

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		66	57-137

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
H = Out of holding time
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **UST #06588 MW-25 DUPLICATE**
Date Sampled: **01/21/2015 1147**
Date Received: **01/28/2015**

Laboratory ID: **QA28018-024**
Matrix: **Aqueous**

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	100	01/31/2015 0508	PMM2		66581

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
tert-Amyl alcohol (TAA)	**75-85-4**	**8260B**	**2300**		**2000**	**670**	**ug/L**	**1**
tert-Amyl methyl ether (TAME)	**994-05-8**	**8260B**	**150**	**J**	**1000**	**20**	**ug/L**	**1**
Benzene	**71-43-2**	**8260B**	**9700**		**500**	**20**	**ug/L**	**1**
tert-Butyl formate (TBF)	762-75-4	8260B	ND		500	100	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		500	30	ug/L	1
Diisopropyl ether (IPE)	108-20-3	8260B	ND		500	40	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		2000	100	ug/L	1
Ethanol	64-17-5	8260B	ND		10000	3300	ug/L	1
Ethylbenzene	**100-41-4**	**8260B**	**2400**		**500**	**170**	**ug/L**	**1**
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		100	20	ug/L	1
Methyl tertiary butyl ether (MTBE)	**1634-04-4**	**8260B**	**1300**		**500**	**40**	**ug/L**	**1**
Naphthalene	**91-20-3**	**8260B**	**670**		**500**	**170**	**ug/L**	**1**
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		2000	670	ug/L	1
Toluene	**108-88-3**	**8260B**	**11000**		**500**	**170**	**ug/L**	**1**
Xylenes (total)	**1330-20-7**	**8260B**	**12000**		**500**	**170**	**ug/L**	**1**

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		87	70-130
Bromofluorobenzene		98	70-130
Toluene-d8		95	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	10	01/29/2015 1750	MEM	01/28/2015 2145	66391

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,2-Dibromoethane (EDB)	**106-93-4**	**8011**	**5.4**		**0.20**	**0.20**	**ug/L**	**1**

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		137	57-137

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
H = Out of holding time
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Client: **Bunnell-Lammons Engineering, Inc.**	Laboratory ID: **QA28018-025**
Description: **UST #06588 MW-26**	Matrix: **Aqueous**
Date Sampled: **01/21/2015 1001**	
Date Received: **01/28/2015**	

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	5	01/31/2015 0531	PMM2		66581

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
tert-Amyl alcohol (TAA)	**75-85-4**	**8260B**	**220**		**100**	**34**	**ug/L**	**1**
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		50	1.0	ug/L	1
Benzene	**71-43-2**	**8260B**	**250**		**25**	**1.0**	**ug/L**	**1**
tert-Butyl formate (TBF)	762-75-4	8260B	ND		25	5.0	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		25	1.5	ug/L	1
Diisopropyl ether (IPE)	108-20-3	8260B	ND		25	2.0	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		100	5.0	ug/L	1
Ethanol	64-17-5	8260B	ND		500	170	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		25	8.5	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		5.0	1.0	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		25	2.0	ug/L	1
Naphthalene	91-20-3	8260B	ND		25	8.5	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		100	34	ug/L	1
Toluene	108-88-3	8260B	ND		25	8.5	ug/L	1
Xylenes (total)	**1330-20-7**	**8260B**	**36**		**25**	**8.5**	**ug/L**	**1**

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		87	70-130
Bromofluorobenzene		96	70-130
Toluene-d8		95	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	01/29/2015 1525	MEM	01/28/2015 2145	66391

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0.020	0.020	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		82	57-137

PQL = Practical quantitation limit | B = Detected in the method blank | E = Quantitation of compound exceeded the calibration range | H = Out of holding time
ND = Not detected at or above the MDL | J = Estimated result < PQL and ≥ MDL | P = The RPD between two GC columns exceeds 40% | N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **UST #06588 MW-27**
Date Sampled: **01/21/2015 0951**
Date Received: **01/28/2015**

Laboratory ID: **QA28018-026**
Matrix: **Aqueous**

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	01/31/2015 0141	PMM2		66581

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
tert-Amyl alcohol (TAA)	75-85-4	8260B	ND		20	6.7	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		10	0.20	ug/L	1
Benzene	71-43-2	8260B	ND		5.0	0.20	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260B	ND		5.0	1.0	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		5.0	0.30	ug/L	1
Diisopropyl ether (IPE)	108-20-3	8260B	ND		5.0	0.40	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		20	1.0	ug/L	1
Ethanol	64-17-5	8260B	ND		100	33	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		5.0	1.7	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		1.0	0.20	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		5.0	0.40	ug/L	1
Naphthalene	91-20-3	8260B	ND		5.0	1.7	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		20	6.7	ug/L	1
Toluene	108-88-3	8260B	ND		5.0	1.7	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		5.0	1.7	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		86	70-130
Bromofluorobenzene		96	70-130
Toluene-d8		94	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	01/29/2015 1535	MEM	01/28/2015 2145	66391

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0.020	0.020	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		62	57-137

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
H = Out of holding time
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Client: Bunnell-Lammons Engineering, Inc.
Description: UST #06588 MW-28
Date Sampled: 01/26/2015 0938
Date Received: 01/28/2015

Laboratory ID: QA28018-027
Matrix: Aqueous

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	01/31/2015 0204	PMM2		66581

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
tert-Amyl alcohol (TAA)	75-85-4	8260B	ND		20	6.7	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		10	0.20	ug/L	1
Benzene	71-43-2	8260B	ND		5.0	0.20	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260B	ND		5.0	1.0	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		5.0	0.30	ug/L	1
Diisopropyl ether (IPE)	108-20-3	8260B	ND		5.0	0.40	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		20	1.0	ug/L	1
Ethanol	64-17-5	8260B	ND		100	33	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		5.0	1.7	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		1.0	0.20	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		5.0	0.40	ug/L	1
Naphthalene	91-20-3	8260B	ND		5.0	1.7	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		20	6.7	ug/L	1
Toluene	108-88-3	8260B	ND		5.0	1.7	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		5.0	1.7	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		88	70-130
Bromofluorobenzene		96	70-130
Toluene-d8		93	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	01/29/2015 1546	MEM	01/28/2015 2145	66391

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0.020	0.020	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		84	57-137

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
H = Out of holding time
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **UST #06588 MW-29**
Date Sampled: **01/26/2015 1132**
Date Received: **01/28/2015**

Laboratory ID: **QA28018-028**
Matrix: **Aqueous**

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	01/31/2015 0227	PMM2		66581

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
tert-Amyl alcohol (TAA)	75-85-4	8260B	ND		20	6.7	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		10	0.20	ug/L	1
Benzene	71-43-2	8260B	ND		5.0	0.20	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260B	ND		5.0	1.0	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		5.0	0.30	ug/L	1
Diisopropyl ether (IPE)	108-20-3	8260B	ND		5.0	0.40	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		20	1.0	ug/L	1
Ethanol	64-17-5	8260B	ND		100	33	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		5.0	1.7	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		1.0	0.20	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		5.0	0.40	ug/L	1
Naphthalene	91-20-3	8260B	ND		5.0	1.7	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		20	6.7	ug/L	1
Toluene	108-88-3	8260B	ND		5.0	1.7	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		5.0	1.7	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		87	70-130
Bromofluorobenzene		95	70-130
Toluene-d8		94	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	01/29/2015 1556	MEM	01/28/2015 2145	66391

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0.020	0.020	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		98	57-137

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
H = Out of holding time
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **UST #06588 MW-30**
Date Sampled: **01/26/2015 1054**
Date Received: **01/28/2015**

Laboratory ID: **QA28018-029**
Matrix: **Aqueous**

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	01/31/2015 0250	PMM2		66581

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
tert-Amyl alcohol (TAA)	75-85-4	8260B	ND		20	6.7	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		10	0.20	ug/L	1
Benzene	71-43-2	8260B	ND		5.0	0.20	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260B	ND		5.0	1.0	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		5.0	0.30	ug/L	1
Diisopropyl ether (IPE)	**108-20-3**	**8260B**	**1.1**	**J**	**5.0**	**0.40**	**ug/L**	**1**
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		20	1.0	ug/L	1
Ethanol	64-17-5	8260B	ND		100	33	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		5.0	1.7	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		1.0	0.20	ug/L	1
Methyl tertiary butyl ether (MTBE)	**1634-04-4**	**8260B**	**15**		**5.0**	**0.40**	**ug/L**	**1**
Naphthalene	91-20-3	8260B	ND		5.0	1.7	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		20	6.7	ug/L	1
Toluene	108-88-3	8260B	ND		5.0	1.7	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		5.0	1.7	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		87	70-130
Bromofluorobenzene		96	70-130
Toluene-d8		95	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	01/29/2015 1606	MEM	01/28/2015 2145	66391

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0.020	0.020	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		99	57-137

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
H = Out of holding time
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **UST #06588 MW-30 DUPLICATE**
Date Sampled: **01/26/2015 1055**
Date Received: **01/28/2015**

Laboratory ID: **QA28018-030**
Matrix: **Aqueous**

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	01/31/2015 0313	PMM2		66581

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
tert-Amyl alcohol (TAA)	75-85-4	8260B	ND		20	6.7	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		10	0.20	ug/L	1
Benzene	71-43-2	8260B	ND		5.0	0.20	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260B	ND		5.0	1.0	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		5.0	0.30	ug/L	1
Diisopropyl ether (IPE)	**108-20-3**	**8260B**	**1.1**	**J**	**5.0**	**0.40**	**ug/L**	**1**
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		20	1.0	ug/L	1
Ethanol	64-17-5	8260B	ND		100	33	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		5.0	1.7	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		1.0	0.20	ug/L	1
Methyl tertiary butyl ether (MTBE)	**1634-04-4**	**8260B**	**15**		**5.0**	**0.40**	**ug/L**	**1**
Naphthalene	91-20-3	8260B	ND		5.0	1.7	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		20	6.7	ug/L	1
Toluene	108-88-3	8260B	ND		5.0	1.7	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		5.0	1.7	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		87	70-130
Bromofluorobenzene		95	70-130
Toluene-d8		93	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	01/29/2015 1617	MEM	01/28/2015 2145	66391

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0.019	0.019	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		103	57-137

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
H = Out of holding time
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **UST #06588 MW-30D**
Date Sampled: **01/26/2015 1120**
Date Received: **01/28/2015**

Laboratory ID: **QA28018-031**
Matrix: **Aqueous**

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	01/31/2015 0336	PMM2		66581

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
tert-Amyl alcohol (TAA)	75-85-4	8260B	ND		20	6.7	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		10	0.20	ug/L	1
Benzene	71-43-2	8260B	ND		5.0	0.20	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260B	ND		5.0	1.0	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		5.0	0.30	ug/L	1
Diisopropyl ether (IPE)	108-20-3	8260B	ND		5.0	0.40	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		20	1.0	ug/L	1
Ethanol	64-17-5	8260B	ND		100	33	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		5.0	1.7	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		1.0	0.20	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		5.0	0.40	ug/L	1
Naphthalene	91-20-3	8260B	ND		5.0	1.7	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		20	6.7	ug/L	1
Toluene	108-88-3	8260B	ND		5.0	1.7	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		5.0	1.7	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		88	70-130
Bromofluorobenzene		95	70-130
Toluene-d8		94	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	01/29/2015 1627	MEM	01/28/2015 2145	66391

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0.020	0.020	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		86	57-137

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
H = Out of holding time
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **UST #06588 MW-33**
Date Sampled: **01/26/2015 1014**
Date Received: **01/28/2015**

Laboratory ID: **QA28018-032**
Matrix: **Aqueous**

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	01/31/2015 0359	PMM2		66581

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
tert-Amyl alcohol (TAA)	75-85-4	8260B	ND		20	6.7	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		10	0.20	ug/L	1
Benzene	71-43-2	8260B	ND		5.0	0.20	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260B	ND		5.0	1.0	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		5.0	0.30	ug/L	1
Diisopropyl ether (IPE)	108-20-3	8260B	ND		5.0	0.40	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		20	1.0	ug/L	1
Ethanol	64-17-5	8260B	ND		100	33	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		5.0	1.7	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		1.0	0.20	ug/L	1
Methyl tertiary butyl ether (MTBE)	**1634-04-4**	**8260B**	**0.56**	**J**	**5.0**	**0.40**	**ug/L**	**1**
Naphthalene	91-20-3	8260B	ND		5.0	1.7	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		20	6.7	ug/L	1
Toluene	108-88-3	8260B	ND		5.0	1.7	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		5.0	1.7	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		88	70-130
Bromofluorobenzene		95	70-130
Toluene-d8		94	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	01/29/2015 1637	MEM	01/28/2015 2145	66391

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0.020	0.020	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		94	57-137

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
H = Out of holding time
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **UST #06588 MW-33D**
Date Sampled: **01/26/2015 1040**
Date Received: **01/28/2015**

Laboratory ID: **QA28018-033**
Matrix: **Aqueous**

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	01/31/2015 1436	DCS		66595

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
tert-Amyl alcohol (TAA)	75-85-4	8260B	ND		20	6.7	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		10	0.20	ug/L	1
Benzene	71-43-2	8260B	ND		5.0	0.20	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260B	ND		5.0	1.0	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		5.0	0.30	ug/L	1
Diisopropyl ether (IPE)	108-20-3	8260B	ND		5.0	0.40	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		20	1.0	ug/L	1
Ethanol	64-17-5	8260B	ND		100	33	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		5.0	1.7	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		1.0	0.20	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		5.0	0.40	ug/L	1
Naphthalene	91-20-3	8260B	ND		5.0	1.7	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		20	6.7	ug/L	1
Toluene	108-88-3	8260B	ND		5.0	1.7	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		5.0	1.7	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		84	70-130
Bromofluorobenzene		97	70-130
Toluene-d8		92	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	01/29/2015 1648	MEM	01/28/2015 2145	66391

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0.020	0.020	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		103	57-137

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
H = Out of holding time
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **UST #06588 MW-34**
Date Sampled: **01/28/2015 0846**
Date Received: **01/28/2015**

Laboratory ID: **QA28018-034**
Matrix: **Aqueous**

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	01/31/2015 1500	DCS		66595

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
tert-Amyl alcohol (TAA)	75-85-4	8260B	ND		20	6.7	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		10	0.20	ug/L	1
Benzene	71-43-2	8260B	ND		5.0	0.20	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260B	ND		5.0	1.0	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		5.0	0.30	ug/L	1
Diisopropyl ether (IPE)	108-20-3	8260B	ND		5.0	0.40	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		20	1.0	ug/L	1
Ethanol	64-17-5	8260B	ND		100	33	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		5.0	1.7	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		1.0	0.20	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		5.0	0.40	ug/L	1
Naphthalene	91-20-3	8260B	ND		5.0	1.7	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		20	6.7	ug/L	1
Toluene	108-88-3	8260B	ND		5.0	1.7	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		5.0	1.7	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		84	70-130
Bromofluorobenzene		96	70-130
Toluene-d8		92	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	01/29/2015 1658	MEM	01/28/2015 2145	66391

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0.020	0.020	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		101	57-137

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
H = Out of holding time
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **UST #06588 MW-35**
Date Sampled: **01/28/2015 1042**
Date Received: **01/28/2015**

Laboratory ID: **QA28018-035**
Matrix: **Aqueous**

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	01/31/2015 1523	DCS		66595

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
tert-Amyl alcohol (TAA)	75-85-4	8260B	ND		20	6.7	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		10	0.20	ug/L	1
Benzene	71-43-2	8260B	ND		5.0	0.20	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260B	ND		5.0	1.0	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		5.0	0.30	ug/L	1
Diisopropyl ether (IPE)	108-20-3	8260B	ND		5.0	0.40	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		20	1.0	ug/L	1
Ethanol	64-17-5	8260B	ND		100	33	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		5.0	1.7	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		1.0	0.20	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		5.0	0.40	ug/L	1
Naphthalene	91-20-3	8260B	ND		5.0	1.7	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		20	6.7	ug/L	1
Toluene	108-88-3	8260B	ND		5.0	1.7	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		5.0	1.7	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		84	70-130
Bromofluorobenzene		95	70-130
Toluene-d8		91	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	01/29/2015 1708	MEM	01/28/2015 2145	66391

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0.019	0.019	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		103	57-137

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
H = Out of holding time
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Client: Bunnell-Lammons Engineering, Inc.
Description: UST #06588 MW-36
Date Sampled: 01/28/2015 1029
Date Received: 01/28/2015

Laboratory ID: QA28018-036
Matrix: Aqueous

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	01/31/2015 1546	DCS		66595

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
tert-Amyl alcohol (TAA)	75-85-4	8260B	ND		20	6.7	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		10	0.20	ug/L	1
Benzene	71-43-2	8260B	ND		5.0	0.20	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260B	ND		5.0	1.0	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		5.0	0.30	ug/L	1
Diisopropyl ether (IPE)	108-20-3	8260B	ND		5.0	0.40	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		20	1.0	ug/L	1
Ethanol	64-17-5	8260B	ND		100	33	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		5.0	1.7	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		1.0	0.20	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		5.0	0.40	ug/L	1
Naphthalene	91-20-3	8260B	ND		5.0	1.7	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		20	6.7	ug/L	1
Toluene	108-88-3	8260B	ND		5.0	1.7	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		5.0	1.7	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		83	70-130
Bromofluorobenzene		96	70-130
Toluene-d8		91	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	02/02/2015 0915	MEM	01/30/2015 2225	66580

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0.020	0.020	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		93	57-137

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
H = Out of holding time
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **UST #06588 MW-37**
Date Sampled: **01/28/2015 0925**
Date Received: **01/28/2015**

Laboratory ID: **QA28018-037**
Matrix: **Aqueous**

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	01/31/2015 1610	DCS		66595

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
tert-Amyl alcohol (TAA)	75-85-4	8260B	ND		20	6.7	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		10	0.20	ug/L	1
Benzene	71-43-2	8260B	ND		5.0	0.20	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260B	ND		5.0	1.0	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		5.0	0.30	ug/L	1
Diisopropyl ether (IPE)	108-20-3	8260B	ND		5.0	0.40	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		20	1.0	ug/L	1
Ethanol	64-17-5	8260B	ND		100	33	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		5.0	1.7	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		1.0	0.20	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		5.0	0.40	ug/L	1
Naphthalene	91-20-3	8260B	ND		5.0	1.7	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		20	6.7	ug/L	1
Toluene	108-88-3	8260B	ND		5.0	1.7	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		5.0	1.7	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		84	70-130
Bromofluorobenzene		95	70-130
Toluene-d8		91	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	02/02/2015 0947	MEM	01/30/2015 2225	66580

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0.020	0.020	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		93	57-137

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
H = Out of holding time
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **UST #06588 MW-38**
Date Sampled: **01/26/2015 1158**
Date Received: **01/28/2015**

Laboratory ID: **QA28018-038**
Matrix: **Aqueous**

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	01/31/2015 1633	DCS		66595

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
tert-Amyl alcohol (TAA)	75-85-4	8260B	ND		20	6.7	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		10	0.20	ug/L	1
Benzene	71-43-2	8260B	ND		5.0	0.20	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260B	ND		5.0	1.0	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		5.0	0.30	ug/L	1
Diisopropyl ether (IPE)	108-20-3	8260B	ND		5.0	0.40	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		20	1.0	ug/L	1
Ethanol	64-17-5	8260B	ND		100	33	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		5.0	1.7	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		1.0	0.20	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		5.0	0.40	ug/L	1
Naphthalene	91-20-3	8260B	ND		5.0	1.7	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		20	6.7	ug/L	1
Toluene	108-88-3	8260B	ND		5.0	1.7	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		5.0	1.7	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		85	70-130
Bromofluorobenzene		96	70-130
Toluene-d8		91	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	02/02/2015 0957	MEM	01/30/2015 2225	66580

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0.020	0.020	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		94	57-137

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
H = Out of holding time
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Client: Bunnell-Lammons Engineering, Inc.
Description: UST #06588 MW-39
Date Sampled: 01/28/2015 1011
Date Received: 01/28/2015

Laboratory ID: QA28018-039
Matrix: Aqueous

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	01/31/2015 1656	DCS		66595

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
tert-Amyl alcohol (TAA)	75-85-4	8260B	ND		20	6.7	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		10	0.20	ug/L	1
Benzene	71-43-2	8260B	ND		5.0	0.20	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260B	ND		5.0	1.0	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		5.0	0.30	ug/L	1
Diisopropyl ether (IPE)	108-20-3	8260B	ND		5.0	0.40	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		20	1.0	ug/L	1
Ethanol	64-17-5	8260B	ND		100	33	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		5.0	1.7	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		1.0	0.20	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		5.0	0.40	ug/L	1
Naphthalene	91-20-3	8260B	ND		5.0	1.7	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		20	6.7	ug/L	1
Toluene	108-88-3	8260B	ND		5.0	1.7	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		5.0	1.7	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		84	70-130
Bromofluorobenzene		96	70-130
Toluene-d8		91	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	02/02/2015 1007	MEM	01/30/2015 2225	66580

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0.020	0.020	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		96	57-137

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
H = Out of holding time
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Client: Bunnell-Lammons Engineering, Inc.
Description: UST #06588 MW-40
Date Sampled: 01/21/2015 1048
Date Received: 01/28/2015

Laboratory ID: QA28018-040
Matrix: Aqueous

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	50	01/31/2015 1720	DCS		66595

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
tert-Amyl alcohol (TAA)	**75-85-4**	**8260B**	**2700**		**1000**	**340**	**ug/L**	**1**
tert-Amyl methyl ether (TAME)	**994-05-8**	**8260B**	**170**	**J**	**500**	**10**	**ug/L**	**1**
Benzene	**71-43-2**	**8260B**	**3500**		**250**	**10**	**ug/L**	**1**
tert-Butyl formate (TBF)	762-75-4	8260B	ND		250	50	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		250	15	ug/L	1
Diisopropyl ether (IPE)	**108-20-3**	**8260B**	**24**	**J**	**250**	**20**	**ug/L**	**1**
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		1000	50	ug/L	1
Ethanol	64-17-5	8260B	ND		5000	1700	ug/L	1
Ethylbenzene	**100-41-4**	**8260B**	**620**		**250**	**85**	**ug/L**	**1**
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		50	10	ug/L	1
Methyl tertiary butyl ether (MTBE)	**1634-04-4**	**8260B**	**670**		**250**	**20**	**ug/L**	**1**
Naphthalene	**91-20-3**	**8260B**	**260**		**250**	**85**	**ug/L**	**1**
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		1000	340	ug/L	1
Toluene	**108-88-3**	**8260B**	**230**	**J**	**250**	**85**	**ug/L**	**1**
Xylenes (total)	**1330-20-7**	**8260B**	**3000**		**250**	**85**	**ug/L**	**1**

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		85	70-130
Bromofluorobenzene		96	70-130
Toluene-d8		92	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	02/02/2015 1018	MEM	01/30/2015 2225	66580

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,2-Dibromoethane (EDB)	**106-93-4**	**8011**	**0.81**		**0.020**	**0.020**	**ug/L**	**1**

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		103	57-137

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
H = Out of holding time
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **UST #06588 MW-41D**
Date Sampled: **01/26/2015 1003**
Date Received: **01/28/2015**

Laboratory ID: **QA28018-041**
Matrix: **Aqueous**

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	20	01/31/2015 1743	DCS		66595

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
tert-Amyl alcohol (TAA)	**75-85-4**	**8260B**	**4400**		**400**	**130**	**ug/L**	**1**
tert-Amyl methyl ether (TAME)	**994-05-8**	**8260B**	**25**	**J**	**200**	**4.0**	**ug/L**	**1**
Benzene	**71-43-2**	**8260B**	**2300**		**100**	**4.0**	**ug/L**	**1**
tert-Butyl formate (TBF)	762-75-4	8260B	ND		100	20	ug/L	1
1,2-Dichloroethane	**107-06-2**	**8260B**	**130**		**100**	**6.0**	**ug/L**	**1**
Diisopropyl ether (IPE)	**108-20-3**	**8260B**	**170**		**100**	**8.0**	**ug/L**	**1**
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		400	20	ug/L	1
Ethanol	64-17-5	8260B	ND		2000	660	ug/L	1
Ethylbenzene	**100-41-4**	**8260B**	**170**		**100**	**34**	**ug/L**	**1**
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		20	4.0	ug/L	1
Methyl tertiary butyl ether (MTBE)	**1634-04-4**	**8260B**	**880**		**100**	**8.0**	**ug/L**	**1**
Naphthalene	91-20-3	8260B	ND		100	34	ug/L	1
tert-butyl alcohol (TBA)	**75-65-0**	**8260B**	**1600**		**400**	**130**	**ug/L**	**1**
Toluene	108-88-3	8260B	ND		100	34	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		100	34	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		85	70-130
Bromofluorobenzene		96	70-130
Toluene-d8		91	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	02/02/2015 1028	MEM	01/30/2015 2225	66580

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0.020	0.020	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		94	57-137

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
H = Out of holding time
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **UST #06588 MW-43D**
Date Sampled: **01/26/2015 1145**
Date Received: **01/28/2015**

Laboratory ID: **QA28018-042**
Matrix: **Aqueous**

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	01/31/2015 1806	DCS		66595

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
tert-Amyl alcohol (TAA)	75-85-4	8260B	ND		20	6.7	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		10	0.20	ug/L	1
Benzene	71-43-2	8260B	ND		5.0	0.20	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260B	ND		5.0	1.0	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		5.0	0.30	ug/L	1
Diisopropyl ether (IPE)	108-20-3	8260B	ND		5.0	0.40	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		20	1.0	ug/L	1
Ethanol	64-17-5	8260B	ND		100	33	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		5.0	1.7	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		1.0	0.20	ug/L	1
Methyl tertiary butyl ether (MTBE)	**1634-04-4**	**8260B**	**0.50**	**J**	**5.0**	**0.40**	**ug/L**	**1**
Naphthalene	91-20-3	8260B	ND		5.0	1.7	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		20	6.7	ug/L	1
Toluene	108-88-3	8260B	ND		5.0	1.7	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		5.0	1.7	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		84	70-130
Bromofluorobenzene		95	70-130
Toluene-d8		91	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	02/02/2015 1038	MEM	01/30/2015 2225	66580

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0.020	0.020	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		94	57-137

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
H = Out of holding time
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **UST #06588 MW-32**
Date Sampled: **01/28/2015 0900**
Date Received: **01/28/2015**

Laboratory ID: **QA28018-043**
Matrix: **Aqueous**

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	01/31/2015 1829	DCS		66595

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
tert-Amyl alcohol (TAA)	**75-85-4**	**8260B**	**110**		**20**	**6.7**	**ug/L**	**1**
tert-Amyl methyl ether (TAME)	**994-05-8**	**8260B**	**17**		**10**	**0.20**	**ug/L**	**1**
Benzene	71-43-2	8260B	ND		5.0	0.20	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260B	ND		5.0	1.0	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		5.0	0.30	ug/L	1
Diisopropyl ether (IPE)	**108-20-3**	**8260B**	**6.7**		**5.0**	**0.40**	**ug/L**	**1**
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		20	1.0	ug/L	1
Ethanol	64-17-5	8260B	ND		100	33	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		5.0	1.7	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		1.0	0.20	ug/L	1
Methyl tertiary butyl ether (MTBE)	**1634-04-4**	**8260B**	**160**		**5.0**	**0.40**	**ug/L**	**1**
Naphthalene	91-20-3	8260B	ND		5.0	1.7	ug/L	1
tert-butyl alcohol (TBA)	**75-65-0**	**8260B**	**54**		**20**	**6.7**	**ug/L**	**1**
Toluene	108-88-3	8260B	ND		5.0	1.7	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		5.0	1.7	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		84	70-130
Bromofluorobenzene		96	70-130
Toluene-d8		91	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	02/02/2015 1049	MEM	01/30/2015 2225	66580

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0.020	0.020	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		92	57-137

PQL = Practical quantitation limit | B = Detected in the method blank | E = Quantitation of compound exceeded the calibration range | H = Out of holding time
ND = Not detected at or above the MDL | J = Estimated result < PQL and ≥ MDL | P = The RPD between two GC columns exceeds 40% | N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **UST #06588 MW-42**
Date Sampled: **01/28/2015 0938**
Date Received: **01/28/2015**

Laboratory ID: **QA28018-044**
Matrix: **Aqueous**

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	01/31/2015 1852	DCS		66595

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
tert-Amyl alcohol (TAA)	75-85-4	8260B	ND		20	6.7	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		10	0.20	ug/L	1
Benzene	71-43-2	8260B	ND		5.0	0.20	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260B	ND		5.0	1.0	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		5.0	0.30	ug/L	1
Diisopropyl ether (IPE)	108-20-3	8260B	ND		5.0	0.40	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		20	1.0	ug/L	1
Ethanol	64-17-5	8260B	ND		100	33	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		5.0	1.7	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		1.0	0.20	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		5.0	0.40	ug/L	1
Naphthalene	91-20-3	8260B	ND		5.0	1.7	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		20	6.7	ug/L	1
Toluene	108-88-3	8260B	ND		5.0	1.7	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		5.0	1.7	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		83	70-130
Bromofluorobenzene		92	70-130
Toluene-d8		89	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	02/02/2015 1059	MEM	01/30/2015 2225	66580

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0.020	0.020	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		100	57-137

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
H = Out of holding time
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Client: **Bunnell-Lammons Engineering, Inc.**	Laboratory ID: **QA28018-045**
Description: **UST #06588 MW-42D**	Matrix: **Aqueous**
Date Sampled: **01/28/2015 0950**	
Date Received: **01/28/2015**	

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	01/31/2015 1916	DCS		66595

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
tert-Amyl alcohol (TAA)	75-85-4	8260B	ND		20	6.7	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		10	0.20	ug/L	1
Benzene	71-43-2	8260B	ND		5.0	0.20	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260B	ND		5.0	1.0	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		5.0	0.30	ug/L	1
Diisopropyl ether (IPE)	108-20-3	8260B	ND		5.0	0.40	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		20	1.0	ug/L	1
Ethanol	64-17-5	8260B	ND		100	33	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		5.0	1.7	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		1.0	0.20	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		5.0	0.40	ug/L	1
Naphthalene	91-20-3	8260B	ND		5.0	1.7	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		20	6.7	ug/L	1
Toluene	108-88-3	8260B	ND		5.0	1.7	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		5.0	1.7	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		85	70-130
Bromofluorobenzene		95	70-130
Toluene-d8		92	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	02/02/2015 1109	MEM	01/30/2015 2225	66580

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0.020	0.020	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		95	57-137

PQL = Practical quantitation limit | B = Detected in the method blank | E = Quantitation of compound exceeded the calibration range | H = Out of holding time
ND = Not detected at or above the MDL | J = Estimated result < PQL and ≥ MDL | P = The RPD between two GC columns exceeds 40% | N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Client: Bunnell-Lammons Engineering, Inc.	Laboratory ID: QA28018-046
Description: UST #06588 DW-1	Matrix: Aqueous
Date Sampled: 01/28/2015 1055	
Date Received: 01/28/2015	

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	01/31/2015 1939	DCS		66595

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
tert-Amyl alcohol (TAA)	75-85-4	8260B	ND		20	6.7	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		10	0.20	ug/L	1
Benzene	71-43-2	8260B	ND		5.0	0.20	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260B	ND		5.0	1.0	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		5.0	0.30	ug/L	1
Diisopropyl ether (IPE)	108-20-3	8260B	ND		5.0	0.40	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		20	1.0	ug/L	1
Ethanol	64-17-5	8260B	ND		100	33	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		5.0	1.7	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		1.0	0.20	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		5.0	0.40	ug/L	1
Naphthalene	91-20-3	8260B	ND		5.0	1.7	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		20	6.7	ug/L	1
Toluene	108-88-3	8260B	ND		5.0	1.7	ug/L	1
Xylenes (total)	**1330-20-7**	**8260B**	**7.2**		**5.0**	**1.7**	**ug/L**	**1**

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		84	70-130
Bromofluorobenzene		94	70-130
Toluene-d8		89	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	02/02/2015 1120	MEM	01/30/2015 2225	66580

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0.020	0.020	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		99	57-137

PQL = Practical quantitation limit | B = Detected in the method blank | E = Quantitation of compound exceeded the calibration range | H = Out of holding time
ND = Not detected at or above the MDL | J = Estimated result < PQL and ≥ MDL | P = The RPD between two GC columns exceeds 40% | N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Client: **Bunnell-Lammons Engineering, Inc.**	Laboratory ID: **QA28018-047**
Description: **UST #06588 DW-4**	Matrix: **Aqueous**
Date Sampled: **01/28/2015 1120**	
Date Received: **01/28/2015**	

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	01/31/2015 2002	DCS		66595

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
tert-Amyl alcohol (TAA)	75-85-4	8260B	ND		20	6.7	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		10	0.20	ug/L	1
Benzene	71-43-2	8260B	ND		5.0	0.20	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260B	ND		5.0	1.0	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		5.0	0.30	ug/L	1
Diisopropyl ether (IPE)	108-20-3	8260B	ND		5.0	0.40	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		20	1.0	ug/L	1
Ethanol	64-17-5	8260B	ND		100	33	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		5.0	1.7	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		1.0	0.20	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		5.0	0.40	ug/L	1
Naphthalene	91-20-3	8260B	ND		5.0	1.7	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		20	6.7	ug/L	1
Toluene	108-88-3	8260B	ND		5.0	1.7	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		5.0	1.7	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		85	70-130
Bromofluorobenzene		95	70-130
Toluene-d8		92	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	02/02/2015 1130	MEM	01/30/2015 2225	66580

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0.020	0.020	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		97	57-137

PQL = Practical quantitation limit | B = Detected in the method blank | E = Quantitation of compound exceeded the calibration range | H = Out of holding time
ND = Not detected at or above the MDL | J = Estimated result < PQL and ≥ MDL | P = The RPD between two GC columns exceeds 40% | N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **UST #06588 DW-8**
Date Sampled: **01/28/2015 1109**
Date Received: **01/28/2015**

Laboratory ID: **QA28018-048**
Matrix: **Aqueous**

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	01/31/2015 2025	DCS		66595

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
tert-Amyl alcohol (TAA)	75-85-4	8260B	ND		20	6.7	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		10	0.20	ug/L	1
Benzene	71-43-2	8260B	ND		5.0	0.20	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260B	ND		5.0	1.0	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		5.0	0.30	ug/L	1
Diisopropyl ether (IPE)	108-20-3	8260B	ND		5.0	0.40	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		20	1.0	ug/L	1
Ethanol	64-17-5	8260B	ND		100	33	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		5.0	1.7	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		1.0	0.20	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		5.0	0.40	ug/L	1
Naphthalene	91-20-3	8260B	ND		5.0	1.7	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		20	6.7	ug/L	1
Toluene	108-88-3	8260B	ND		5.0	1.7	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		5.0	1.7	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		85	70-130
Bromofluorobenzene		95	70-130
Toluene-d8		91	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	02/02/2015 1141	MEM	01/30/2015 2225	66580

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0.020	0.020	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		96	57-137

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
H = Out of holding time
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Client: Bunnell-Lammons Engineering, Inc.
Description: UST #06588 FB-1
Date Sampled: 01/21/2015 1530
Date Received: 01/28/2015

Laboratory ID: QA28018-049
Matrix: Aqueous

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	01/31/2015 1303	DCS		66595

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
tert-Amyl alcohol (TAA)	75-85-4	8260B	ND		20	6.7	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		10	0.20	ug/L	1
Benzene	71-43-2	8260B	ND		5.0	0.20	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260B	ND		5.0	1.0	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		5.0	0.30	ug/L	1
Diisopropyl ether (IPE)	108-20-3	8260B	ND		5.0	0.40	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		20	1.0	ug/L	1
Ethanol	64-17-5	8260B	ND		100	33	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		5.0	1.7	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		1.0	0.20	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		5.0	0.40	ug/L	1
Naphthalene	91-20-3	8260B	ND		5.0	1.7	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		20	6.7	ug/L	1
Toluene	108-88-3	8260B	ND		5.0	1.7	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		5.0	1.7	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		84	70-130
Bromofluorobenzene		96	70-130
Toluene-d8		91	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	02/02/2015 1151	MEM	01/30/2015 2225	66580

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0.020	0.020	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		98	57-137

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
H = Out of holding time
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **UST #06588 FB-2**
Date Sampled: **01/26/2015 1330**
Date Received: **01/28/2015**

Laboratory ID: **QA28018-050**
Matrix: **Aqueous**

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	01/31/2015 1326	DCS		66595

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
tert-Amyl alcohol (TAA)	75-85-4	8260B	ND		20	6.7	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		10	0.20	ug/L	1
Benzene	71-43-2	8260B	ND		5.0	0.20	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260B	ND		5.0	1.0	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		5.0	0.30	ug/L	1
Diisopropyl ether (IPE)	108-20-3	8260B	ND		5.0	0.40	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		20	1.0	ug/L	1
Ethanol	64-17-5	8260B	ND		100	33	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		5.0	1.7	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		1.0	0.20	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		5.0	0.40	ug/L	1
Naphthalene	91-20-3	8260B	ND		5.0	1.7	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		20	6.7	ug/L	1
Toluene	108-88-3	8260B	ND		5.0	1.7	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		5.0	1.7	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		85	70-130
Bromofluorobenzene		98	70-130
Toluene-d8		92	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	02/02/2015 1201	MEM	01/30/2015 2225	66580

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0.020	0.020	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		96	57-137

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
H = Out of holding time
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **UST #06588 FB-3**
Date Sampled: **01/28/2015 1130**
Date Received: **01/28/2015**

Laboratory ID: **QA28018-051**
Matrix: **Aqueous**

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	01/31/2015 1350	DCS		66595

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
tert-Amyl alcohol (TAA)	75-85-4	8260B	ND		20	6.7	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		10	0.20	ug/L	1
Benzene	71-43-2	8260B	ND		5.0	0.20	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260B	ND		5.0	1.0	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		5.0	0.30	ug/L	1
Diisopropyl ether (IPE)	108-20-3	8260B	ND		5.0	0.40	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		20	1.0	ug/L	1
Ethanol	64-17-5	8260B	ND		100	33	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		5.0	1.7	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		1.0	0.20	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		5.0	0.40	ug/L	1
Naphthalene	91-20-3	8260B	ND		5.0	1.7	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		20	6.7	ug/L	1
Toluene	108-88-3	8260B	ND		5.0	1.7	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		5.0	1.7	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		85	70-130
Bromofluorobenzene		96	70-130
Toluene-d8		91	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	02/02/2015 1212	MEM	01/30/2015 2225	66580

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0.020	0.020	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		96	57-137

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
H = Out of holding time
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **TRIP BLANK**
Date Sampled: **01/21/2015**
Date Received: **01/28/2015**

Laboratory ID: **QA28018-052**
Matrix: **Aqueous**

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	01/31/2015 1413	DCS		66595

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
tert-Amyl alcohol (TAA)	75-85-4	8260B	ND		20	6.7	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		10	0.20	ug/L	1
Benzene	71-43-2	8260B	ND		5.0	0.20	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260B	ND		5.0	1.0	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		5.0	0.30	ug/L	1
Diisopropyl ether (IPE)	108-20-3	8260B	ND		5.0	0.40	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		20	1.0	ug/L	1
Ethanol	64-17-5	8260B	ND		100	33	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		5.0	1.7	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		1.0	0.20	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		5.0	0.40	ug/L	1
Naphthalene	91-20-3	8260B	ND		5.0	1.7	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		20	6.7	ug/L	1
Toluene	108-88-3	8260B	ND		5.0	1.7	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		5.0	1.7	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		83	70-130
Bromofluorobenzene		96	70-130
Toluene-d8		91	70-130

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
H = Out of holding time
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

QC Summary

Volatile Organic Compounds by GC/MS - MB

Sample ID: QQ66541-001
Batch: 66541
Analytical Method: 8260B

Matrix: Aqueous
Prep Method: 5030B

Parameter	Result	Q	Dil	PQL	MDL	Units	Analysis Date
tert-Amyl alcohol (TAA)	ND		1	20	6.7	ug/L	01/30/2015 1025
tert-Amyl methyl ether (TAME)	ND		1	10	0.20	ug/L	01/30/2015 1025
Benzene	ND		1	5.0	0.20	ug/L	01/30/2015 1025
tert-Butyl formate (TBF)	ND		1	5.0	1.0	ug/L	01/30/2015 1025
1,2-Dichloroethane	ND		1	5.0	0.30	ug/L	01/30/2015 1025
Diisopropyl ether (IPE)	ND		1	5.0	0.40	ug/L	01/30/2015 1025
3,3-Dimethyl-1-butanol	ND		1	20	1.0	ug/L	01/30/2015 1025
Ethanol	ND		1	100	33	ug/L	01/30/2015 1025
Ethylbenzene	ND		1	5.0	1.7	ug/L	01/30/2015 1025
Ethyl-tert-butyl ether (ETBE)	ND		1	1.0	0.20	ug/L	01/30/2015 1025
Methyl tertiary butyl ether (MTBE)	ND		1	5.0	0.40	ug/L	01/30/2015 1025
Naphthalene	ND		1	5.0	1.7	ug/L	01/30/2015 1025
tert-butyl alcohol (TBA)	ND		1	20	6.7	ug/L	01/30/2015 1025
Toluene	ND		1	5.0	1.7	ug/L	01/30/2015 1025
Xylenes (total)	ND		1	5.0	1.7	ug/L	01/30/2015 1025

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		97	70-130
1,2-Dichloroethane-d4		87	70-130
Toluene-d8		94	70-130

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N = Recovery is out of criteria
+ = RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

Volatile Organic Compounds by GC/MS - LCS

Sample ID: QQ66541-002
Batch: 66541
Analytical Method: 8260B

Matrix: Aqueous
Prep Method: 5030B

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
tert-Amyl alcohol (TAA)	1000	1000		1	100	70-130	01/30/2015 0939
tert-Amyl methyl ether (TAME)	50	49		1	97	70-130	01/30/2015 0939
Benzene	50	49		1	98	70-130	01/30/2015 0939
tert-Butyl formate (TBF)	250	250		1	99	70-130	01/30/2015 0939
1,2-Dichloroethane	50	49		1	98	70-130	01/30/2015 0939
Diisopropyl ether (IPE)	50	50		1	101	70-130	01/30/2015 0939
3,3-Dimethyl-1-butanol	1000	1100		1	105	70-130	01/30/2015 0939
Ethanol	5000	5300		1	106	60-140	01/30/2015 0939
Ethylbenzene	50	48		1	95	70-130	01/30/2015 0939
Ethyl-tert-butyl ether (ETBE)	50	51		1	103	70-130	01/30/2015 0939
Methyl tertiary butyl ether (MTBE)	50	52		1	103	70-130	01/30/2015 0939
Naphthalene	50	57		1	115	70-130	01/30/2015 0939
tert-butyl alcohol (TBA)	1000	1000		1	102	70-130	01/30/2015 0939
Toluene	50	48		1	97	70-130	01/30/2015 0939
Xylenes (total)	100	95		1	95	70-130	01/30/2015 0939

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		97	70-130
1,2-Dichloroethane-d4		87	70-130
Toluene-d8		93	70-130

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N = Recovery is out of criteria
+ = RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

Volatile Organic Compounds by GC/MS - MS

Sample ID: QA28018-003MS
Batch: 66541
Analytical Method: 8260B

Matrix: Aqueous
Prep Method: 5030B

Parameter	Sample Amount (ug/L)	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
tert-Amyl alcohol (TAA)	870	100000	100000		100	100	70-130	01/30/2015 1835
tert-Amyl methyl ether (TAME)	ND	5000	5100		100	103	70-130	01/30/2015 1835
Benzene	880	5000	6200		100	107	70-130	01/30/2015 1835
tert-Butyl formate (TBF)	ND	25000	23000		100	94	70-130	01/30/2015 1835
1,2-Dichloroethane	ND	5000	5200		100	105	70-130	01/30/2015 1835
Diisopropyl ether (IPE)	ND	5000	5400		100	108	70-130	01/30/2015 1835
3,3-Dimethyl-1-butanol	ND	100000	100000		100	102	70-130	01/30/2015 1835
Ethanol	ND	500000	500000		100	100	70-130	01/30/2015 1835
Ethylbenzene	2500	5000	7600		100	102	70-130	01/30/2015 1835
Ethyl-tert-butyl ether (ETBE)	ND	5000	5400		100	108	70-130	01/30/2015 1835
Methyl tertiary butyl ether (MTBE)	ND	5000	5400		100	108	70-130	01/30/2015 1835
Naphthalene	870	5000	5900		100	100	70-130	01/30/2015 1835
tert-butyl alcohol (TBA)	ND	100000	100000		100	102	70-130	01/30/2015 1835
Toluene	8500	5000	14000		100	106	70-130	01/30/2015 1835
Xylenes (total)	15000	10000	25000		100	103	70-130	01/30/2015 1835

Surrogate	Q	% Rec	Acceptance Limit
1,2-Dichloroethane-d4		87	70-130
Bromofluorobenzene		97	70-130
Toluene-d8		93	70-130

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N = Recovery is out of criteria
+ = RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

Volatile Organic Compounds by GC/MS - MSD

Sample ID: QA28018-003MD
Batch: 66541
Analytical Method: 8260B

Matrix: Aqueous
Prep Method: 5030B

Parameter	Sample Amount (ug/L)	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% RPD	% Rec Limit	% RPD Limit	Analysis Date
tert-Amyl alcohol (TAA)	870	100000	100000		100	102	2.1	70-130	20	01/30/2015 1859
tert-Amyl methyl ether (TAME)	ND	5000	5000		100	100	3.1	70-130	20	01/30/2015 1859
Benzene	880	5000	6200		100	107	0.28	70-130	20	01/30/2015 1859
tert-Butyl formate (TBF)	ND	25000	23000		100	91	2.9	70-130	20	01/30/2015 1859
1,2-Dichloroethane	ND	5000	5200		100	104	0.48	70-130	20	01/30/2015 1859
Diisopropyl ether (IPE)	ND	5000	5200		100	105	2.5	70-130	20	01/30/2015 1859
3,3-Dimethyl-1-butanol	ND	100000	100000		100	103	0.93	70-130	20	01/30/2015 1859
Ethanol	ND	500000	510000		100	103	2.3	70-130	20	01/30/2015 1859
Ethylbenzene	2500	5000	7700		100	104	1.3	70-130	20	01/30/2015 1859
Ethyl-tert-butyl ether (ETBE)	ND	5000	5100		100	102	6.2	70-130	20	01/30/2015 1859
Methyl tertiary butyl ether (MTBE)	ND	5000	4900		100	97	10	70-130	20	01/30/2015 1859
Naphthalene	870	5000	6300		100	108	7.2	70-130	20	01/30/2015 1859
tert-butyl alcohol (TBA)	ND	100000	100000		100	104	1.7	70-130	20	01/30/2015 1859
Toluene	8500	5000	14000		100	106	0.13	70-130	20	01/30/2015 1859
Xylenes (total)	15000	10000	25000		100	101	0.79	70-130	20	01/30/2015 1859

Surrogate	Q	% Rec	Acceptance Limit
1,2-Dichloroethane-d4		86	70-130
Bromofluorobenzene		94	70-130
Toluene-d8		94	70-130

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N = Recovery is out of criteria
+ = RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

Volatile Organic Compounds by GC/MS - MB

Sample ID: QQ66581-001
Batch: 66581
Analytical Method: 8260B

Matrix: Aqueous
Prep Method: 5030B

Parameter	Result	Q	Dil	PQL	MDL	Units	Analysis Date
tert-Amyl alcohol (TAA)	ND		1	20	6.7	ug/L	01/30/2015 2153
tert-Amyl methyl ether (TAME)	ND		1	10	0.20	ug/L	01/30/2015 2153
Benzene	ND		1	5.0	0.20	ug/L	01/30/2015 2153
tert-Butyl formate (TBF)	ND		1	5.0	1.0	ug/L	01/30/2015 2153
1,2-Dichloroethane	ND		1	5.0	0.30	ug/L	01/30/2015 2153
Diisopropyl ether (IPE)	ND		1	5.0	0.40	ug/L	01/30/2015 2153
3,3-Dimethyl-1-butanol	ND		1	20	1.0	ug/L	01/30/2015 2153
Ethanol	ND		1	100	33	ug/L	01/30/2015 2153
Ethylbenzene	ND		1	5.0	1.7	ug/L	01/30/2015 2153
Ethyl-tert-butyl ether (ETBE)	ND		1	1.0	0.20	ug/L	01/30/2015 2153
Methyl tertiary butyl ether (MTBE)	ND		1	5.0	0.40	ug/L	01/30/2015 2153
Naphthalene	ND		1	5.0	1.7	ug/L	01/30/2015 2153
tert-butyl alcohol (TBA)	ND		1	20	6.7	ug/L	01/30/2015 2153
Toluene	ND		1	5.0	1.7	ug/L	01/30/2015 2153
Xylenes (total)	ND		1	5.0	1.7	ug/L	01/30/2015 2153

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		94	70-130
1,2-Dichloroethane-d4		87	70-130
Toluene-d8		93	70-130

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N = Recovery is out of criteria
+ = RPD is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

Volatile Organic Compounds by GC/MS - LCS

Sample ID: QQ66581-002
Batch: 66581
Analytical Method: 8260B

Matrix: Aqueous
Prep Method: 5030B

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
tert-Amyl alcohol (TAA)	1000	1000		1	101	70-130	01/30/2015 2057
tert-Amyl methyl ether (TAME)	50	48		1	96	70-130	01/30/2015 2057
Benzene	50	50		1	99	70-130	01/30/2015 2057
tert-Butyl formate (TBF)	250	250		1	98	70-130	01/30/2015 2057
1,2-Dichloroethane	50	50		1	100	70-130	01/30/2015 2057
Diisopropyl ether (IPE)	50	50		1	101	70-130	01/30/2015 2057
3,3-Dimethyl-1-butanol	1000	1000		1	104	70-130	01/30/2015 2057
Ethanol	5000	5100		1	102	60-140	01/30/2015 2057
Ethylbenzene	50	48		1	96	70-130	01/30/2015 2057
Ethyl-tert-butyl ether (ETBE)	50	51		1	101	70-130	01/30/2015 2057
Methyl tertiary butyl ether (MTBE)	50	49		1	98	70-130	01/30/2015 2057
Naphthalene	50	58		1	116	70-130	01/30/2015 2057
tert-butyl alcohol (TBA)	1000	1000		1	101	70-130	01/30/2015 2057
Toluene	50	49		1	98	70-130	01/30/2015 2057
Xylenes (total)	100	96		1	96	70-130	01/30/2015 2057

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		99	70-130
1,2-Dichloroethane-d4		88	70-130
Toluene-d8		96	70-130

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N = Recovery is out of criteria
+ = RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

Volatile Organic Compounds by GC/MS - MS

Sample ID: QA28018-017MS
Batch: 66581
Analytical Method: 8260B

Matrix: Aqueous
Prep Method: 5030B

Parameter	Sample Amount (ug/L)	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
tert-Amyl alcohol (TAA)	ND	20000	20000		20	101	70-130	01/31/2015 0617
tert-Amyl methyl ether (TAME)	7.3	1000	1100		20	105	70-130	01/31/2015 0617
Benzene	780	1000	1900		20	107	70-130	01/31/2015 0617
tert-Butyl formate (TBF)	ND	5000	3200	N	20	63	70-130	01/31/2015 0617
1,2-Dichloroethane	ND	1000	1100		20	107	70-130	01/31/2015 0617
Diisopropyl ether (IPE)	ND	1000	1100		20	109	70-130	01/31/2015 0617
3,3-Dimethyl-1-butanol	ND	20000	20000		20	102	70-130	01/31/2015 0617
Ethanol	ND	100000	100000		20	102	70-130	01/31/2015 0617
Ethylbenzene	1500	1000	2500		20	103	70-130	01/31/2015 0617
Ethyl-tert-butyl ether (ETBE)	ND	1000	1100		20	107	70-130	01/31/2015 0617
Methyl tertiary butyl ether (MTBE)	ND	1000	1100		20	110	70-130	01/31/2015 0617
Naphthalene	610	1000	1600		20	94	70-130	01/31/2015 0617
tert-butyl alcohol (TBA)	ND	20000	22000		20	108	70-130	01/31/2015 0617
Toluene	490	1000	1500		20	106	70-130	01/31/2015 0617
Xylenes (total)	2500	2000	4500		20	103	70-130	01/31/2015 0617

Surrogate	Q	% Rec	Acceptance Limit
1,2-Dichloroethane-d4		87	70-130
Bromofluorobenzene		98	70-130
Toluene-d8		94	70-130

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N = Recovery is out of criteria
+ = RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

Volatile Organic Compounds by GC/MS - MSD

Sample ID: QA28018-017MD
Batch: 66581
Analytical Method: 8260B

Matrix: Aqueous
Prep Method: 5030B

Parameter	Sample Amount (ug/L)	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% RPD	% Rec Limit	% RPD Limit	Analysis Date
tert-Amyl alcohol (TAA)	ND	20000	19000		20	96	5.1	70-130	20	01/31/2015 0640
tert-Amyl methyl ether (TAME)	7.3	1000	1000		20	103	1.6	70-130	20	01/31/2015 0640
Benzene	780	1000	1800		20	105	1.2	70-130	20	01/31/2015 0640
tert-Butyl formate (TBF)	ND	5000	3000	N	20	60	6.0	70-130	20	01/31/2015 0640
1,2-Dichloroethane	ND	1000	1000		20	105	2.5	70-130	20	01/31/2015 0640
Diisopropyl ether (IPE)	ND	1000	1100		20	107	2.6	70-130	20	01/31/2015 0640
3,3-Dimethyl-1-butanol	ND	20000	19000		20	96	5.6	70-130	20	01/31/2015 0640
Ethanol	ND	100000	97000		20	97	5.2	70-130	20	01/31/2015 0640
Ethylbenzene	1500	1000	2500		20	97	2.4	70-130	20	01/31/2015 0640
Ethyl-tert-butyl ether (ETBE)	ND	1000	1100		20	106	0.71	70-130	20	01/31/2015 0640
Methyl tertiary butyl ether (MTBE)	ND	1000	1000		20	105	5.5	70-130	20	01/31/2015 0640
Naphthalene	610	1000	1600		20	101	4.5	70-130	20	01/31/2015 0640
tert-butyl alcohol (TBA)	ND	20000	21000		20	104	3.9	70-130	20	01/31/2015 0640
Toluene	490	1000	1500		20	104	1.1	70-130	20	01/31/2015 0640
Xylenes (total)	2500	2000	4400		20	98	2.3	70-130	20	01/31/2015 0640

Surrogate	Q	% Rec	Acceptance Limit
1,2-Dichloroethane-d4		86	70-130
Bromofluorobenzene		96	70-130
Toluene-d8		95	70-130

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N = Recovery is out of criteria
+ = RPD is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

Volatile Organic Compounds by GC/MS - MB

Sample ID: QQ66595-001
Batch: 66595
Analytical Method: 8260B

Matrix: Aqueous
Prep Method: 5030B

Parameter	Result	Q	Dil	PQL	MDL	Units	Analysis Date
tert-Amyl alcohol (TAA)	ND		1	20	6.7	ug/L	01/31/2015 1240
tert-Amyl methyl ether (TAME)	ND		1	10	0.20	ug/L	01/31/2015 1240
Benzene	ND		1	5.0	0.20	ug/L	01/31/2015 1240
tert-Butyl formate (TBF)	ND		1	5.0	1.0	ug/L	01/31/2015 1240
1,2-Dichloroethane	ND		1	5.0	0.30	ug/L	01/31/2015 1240
Diisopropyl ether (IPE)	ND		1	5.0	0.40	ug/L	01/31/2015 1240
3,3-Dimethyl-1-butanol	ND		1	20	1.0	ug/L	01/31/2015 1240
Ethanol	ND		1	100	33	ug/L	01/31/2015 1240
Ethylbenzene	ND		1	5.0	1.7	ug/L	01/31/2015 1240
Ethyl-tert-butyl ether (ETBE)	ND		1	1.0	0.20	ug/L	01/31/2015 1240
Methyl tertiary butyl ether (MTBE)	ND		1	5.0	0.40	ug/L	01/31/2015 1240
Naphthalene	ND		1	5.0	1.7	ug/L	01/31/2015 1240
tert-butyl alcohol (TBA)	ND		1	20	6.7	ug/L	01/31/2015 1240
Toluene	ND		1	5.0	1.7	ug/L	01/31/2015 1240
Xylenes (total)	ND		1	5.0	1.7	ug/L	01/31/2015 1240

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		97	70-130
1,2-Dichloroethane-d4		84	70-130
Toluene-d8		92	70-130

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N = Recovery is out of criteria
+ = RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

Volatile Organic Compounds by GC/MS - LCS

Sample ID: QQ66595-002
Batch: 66595
Analytical Method: 8260B

Matrix: Aqueous
Prep Method: 5030B

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
tert-Amyl alcohol (TAA)	1000	910		1	91	70-130	01/31/2015 1139
tert-Amyl methyl ether (TAME)	50	48		1	96	70-130	01/31/2015 1139
Benzene	50	49		1	98	70-130	01/31/2015 1139
tert-Butyl formate (TBF)	250	240		1	96	70-130	01/31/2015 1139
1,2-Dichloroethane	50	48		1	96	70-130	01/31/2015 1139
Diisopropyl ether (IPE)	50	50		1	101	70-130	01/31/2015 1139
3,3-Dimethyl-1-butanol	1000	930		1	93	70-130	01/31/2015 1139
Ethanol	5000	4600		1	92	60-140	01/31/2015 1139
Ethylbenzene	50	48		1	96	70-130	01/31/2015 1139
Ethyl-tert-butyl ether (ETBE)	50	49		1	97	70-130	01/31/2015 1139
Methyl tertiary butyl ether (MTBE)	50	51		1	101	70-130	01/31/2015 1139
Naphthalene	50	54		1	108	70-130	01/31/2015 1139
tert-butyl alcohol (TBA)	1000	940		1	94	70-130	01/31/2015 1139
Toluene	50	49		1	97	70-130	01/31/2015 1139
Xylenes (total)	100	97		1	97	70-130	01/31/2015 1139

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		98	70-130
1,2-Dichloroethane-d4		84	70-130
Toluene-d8		92	70-130

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N = Recovery is out of criteria
+ = RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

Volatile Organic Compounds by GC/MS - MS

Sample ID: QA28018-040MS
Batch: 66595
Analytical Method: 8260B

Matrix: Aqueous
Prep Method: 5030B

Parameter	Sample Amount (ug/L)	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
tert-Amyl alcohol (TAA)	2700	50000	47000		50	89	70-130	01/31/2015 2048
tert-Amyl methyl ether (TAME)	170	2500	2400		50	91	70-130	01/31/2015 2048
Benzene	3500	2500	5800		50	91	70-130	01/31/2015 2048
tert-Butyl formate (TBF)	ND	13000	9600		50	77	70-130	01/31/2015 2048
1,2-Dichloroethane	ND	2500	2400		50	97	70-130	01/31/2015 2048
Diisopropyl ether (IPE)	24	2500	2500		50	97	70-130	01/31/2015 2048
3,3-Dimethyl-1-butanol	ND	50000	46000		50	91	70-130	01/31/2015 2048
Ethanol	ND	250000	230000		50	91	70-130	01/31/2015 2048
Ethylbenzene	620	2500	2900		50	91	70-130	01/31/2015 2048
Ethyl-tert-butyl ether (ETBE)	ND	2500	2400		50	95	70-130	01/31/2015 2048
Methyl tertiary butyl ether (MTBE)	670	2500	3100		50	96	70-130	01/31/2015 2048
Naphthalene	260	2500	2900		50	105	70-130	01/31/2015 2048
tert-butyl alcohol (TBA)	ND	50000	47000		50	93	70-130	01/31/2015 2048
Toluene	230	2500	2600		50	94	70-130	01/31/2015 2048
Xylenes (total)	3000	5000	7400		50	88	70-130	01/31/2015 2048

Surrogate	Q	% Rec	Acceptance Limit
1,2-Dichloroethane-d4		83	70-130
Bromofluorobenzene		96	70-130
Toluene-d8		91	70-130

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N = Recovery is out of criteria
+ = RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

Volatile Organic Compounds by GC/MS - MSD

Sample ID: QA28018-040MD
Batch: 66595
Analytical Method: 8260B

Matrix: Aqueous
Prep Method: 5030B

Parameter	Sample Amount (ug/L)	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% RPD	% Rec Limit	% RPD Limit	Analysis Date
tert-Amyl alcohol (TAA)	2700	50000	51000		50	96	7.4	70-130	20	01/31/2015 2111
tert-Amyl methyl ether (TAME)	170	2500	2600		50	97	6.0	70-130	20	01/31/2015 2111
Benzene	3500	2500	6000		50	100	3.8	70-130	20	01/31/2015 2111
tert-Butyl formate (TBF)	ND	13000	10000		50	80	3.8	70-130	20	01/31/2015 2111
1,2-Dichloroethane	ND	2500	2600		50	103	6.3	70-130	20	01/31/2015 2111
Diisopropyl ether (IPE)	24	2500	2500		50	101	3.6	70-130	20	01/31/2015 2111
3,3-Dimethyl-1-butanol	ND	50000	48000		50	97	5.6	70-130	20	01/31/2015 2111
Ethanol	ND	250000	240000		50	98	7.1	70-130	20	01/31/2015 2111
Ethylbenzene	620	2500	3000		50	97	5.4	70-130	20	01/31/2015 2111
Ethyl-tert-butyl ether (ETBE)	ND	2500	2500		50	102	6.7	70-130	20	01/31/2015 2111
Methyl tertiary butyl ether (MTBE)	670	2500	3300		50	104	5.8	70-130	20	01/31/2015 2111
Naphthalene	260	2500	2900		50	107	2.4	70-130	20	01/31/2015 2111
tert-butyl alcohol (TBA)	ND	50000	50000		50	100	6.3	70-130	20	01/31/2015 2111
Toluene	230	2500	2700		50	99	5.0	70-130	20	01/31/2015 2111
Xylenes (total)	3000	5000	7800		50	95	4.5	70-130	20	01/31/2015 2111

Surrogate	Q	% Rec	Acceptance Limit
1,2-Dichloroethane-d4		84	70-130
Bromofluorobenzene		96	70-130
Toluene-d8		92	70-130

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N = Recovery is out of criteria
+ = RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

EDB & DBCP by Microextraction - MB

Sample ID: QQ66390-001
Batch: 66390
Analytical Method: 8011

Matrix: Aqueous
Prep Method: 8011
Prep Date: 01/28/2015 2145

Parameter	Result	Q	Dil	PQL	MDL	Units	Analysis Date
1,2-Dibromoethane (EDB)	ND		1	0.020	0.020	ug/L	01/29/2015 0841

Surrogate	Q	% Rec	Acceptance Limit
1,1,1,2-Tetrachloroethane		90	57-137

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N = Recovery is out of criteria
+ = RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

EDB & DBCP by Microextraction - LCS

Sample ID: QQ66390-002
Batch: 66390
Analytical Method: 8011

Matrix: Aqueous
Prep Method: 8011
Prep Date: 01/28/2015 2145

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
1,2-Dibromoethane (EDB)	0.25	0.28		1	114	60-140	01/29/2015 0851

Surrogate	Q	% Rec	Acceptance Limit
1,1,1,2-Tetrachloroethane		94	57-137

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N = Recovery is out of criteria
+ = RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

EDB & DBCP by Microextraction - MS

Sample ID: QA28018-001MS
Batch: 66390
Analytical Method: 8011

Matrix: Aqueous
Prep Method: 8011
Prep Date: 01/28/2015 2145

Parameter	Sample Amount (ug/L)	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
1,2-Dibromoethane (EDB)	0.55	0.25	0.66	N	1	45	60-140	01/29/2015 1004

Surrogate	Q	% Rec	Acceptance Limit
1,1,1,2-Tetrachloroethane		73	57-137

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N = Recovery is out of criteria
+ = RPD is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

EDB & DBCP by Microextraction - MSD

Sample ID: QA28018-001MD
Batch: 66390
Analytical Method: 8011

Matrix: Aqueous
Prep Method: 8011
Prep Date: 01/28/2015 2145

Parameter	Sample Amount (ug/L)	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% RPD	% Rec Limit	% RPD Limit	Analysis Date
1,2-Dibromoethane (EDB)	0.55	0.25	0.63	N	1	32	4.9	60-140	20	01/29/2015 1014

Surrogate	Q	% Rec	Acceptance Limit
1,1,1,2-Tetrachloroethane		76	57-137

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N = Recovery is out of criteria
+ = RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

EDB & DBCP by Microextraction - MB

Sample ID: QQ66391-001
Batch: 66391
Analytical Method: 8011

Matrix: Aqueous
Prep Method: 8011
Prep Date: 01/28/2015 2145

Parameter	Result	Q	Dil	PQL	MDL	Units	Analysis Date
1,2-Dibromoethane (EDB)	ND		1	0.020	0.020	ug/L	01/29/2015 1311

Surrogate	Q	% Rec	Acceptance Limit
1,1,1,2-Tetrachloroethane		73	57-137

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N = Recovery is out of criteria
+ = RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

EDB & DBCP by Microextraction - LCS

Sample ID: QQ66391-002
Batch: 66391
Analytical Method: 8011

Matrix: Aqueous
Prep Method: 8011
Prep Date: 01/28/2015 2145

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
1,2-Dibromoethane (EDB)	0.25	0.26		1	106	60-140	01/29/2015 1321

Surrogate	Q	% Rec	Acceptance Limit
1,1,1,2-Tetrachloroethane		89	57-137

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N = Recovery is out of criteria
+ = RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

EDB & DBCP by Microextraction - MS

Sample ID: QA28018-016MS
Batch: 66391
Analytical Method: 8011

Matrix: Aqueous
Prep Method: 8011
Prep Date: 01/28/2015 2145

Parameter	Sample Amount (ug/L)	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
1,2-Dibromoethane (EDB)	ND	0.25	0.29		1	115	60-140	01/29/2015 1342

Surrogate	Q	% Rec	Acceptance Limit
1,1,1,2-Tetrachloroethane		99	57-137

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N = Recovery is out of criteria
+ = RPD is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

EDB & DBCP by Microextraction - MSD

Sample ID: QA28018-016MD
Batch: 66391
Analytical Method: 8011

Matrix: Aqueous
Prep Method: 8011
Prep Date: 01/28/2015 2145

Parameter	Sample Amount (ug/L)	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% RPD	% Rec Limit	% RPD Limit	Analysis Date
1,2-Dibromoethane (EDB)	ND	0.25	0.26		1	104	11	60-140	20	01/29/2015 1352

Surrogate	Q	% Rec	Acceptance Limit
1,1,1,2-Tetrachloroethane		89	57-137

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N = Recovery is out of criteria
+ = RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

EDB & DBCP by Microextraction - MB

Sample ID: QQ66580-001
Batch: 66580
Analytical Method: 8011

Matrix: Aqueous
Prep Method: 8011
Prep Date: 01/30/2015 2225

Parameter	Result	Q	Dil	PQL	MDL	Units	Analysis Date
1,2-Dibromoethane (EDB)	ND		1	0.020	0.020	ug/L	02/02/2015 0855

Surrogate	Q	% Rec	Acceptance Limit
1,1,1,2-Tetrachloroethane		87	57-137

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N = Recovery is out of criteria
+ = RPD is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

EDB & DBCP by Microextraction - LCS

Sample ID: QQ66580-002
Batch: 66580
Analytical Method: 8011

Matrix: Aqueous
Prep Method: 8011
Prep Date: 01/30/2015 2225

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
1,2-Dibromoethane (EDB)	0.25	0.29		1	114	60-140	02/02/2015 0905

Surrogate	Q	% Rec	Acceptance Limit
1,1,1,2-Tetrachloroethane		96	57-137

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N = Recovery is out of criteria
+ = RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

EDB & DBCP by Microextraction - MS

Sample ID: QA28018-036MS
Batch: 66580
Analytical Method: 8011

Matrix: Aqueous
Prep Method: 8011
Prep Date: 01/30/2015 2225

Parameter	Sample Amount (ug/L)	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
1,2-Dibromoethane (EDB)	ND	0.25	0.28		1	112	60-140	02/02/2015 0926

Surrogate	Q	% Rec	Acceptance Limit
1,1,1,2-Tetrachloroethane		95	57-137

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N = Recovery is out of criteria
+ = RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

EDB & DBCP by Microextraction - MSD

Sample ID: QA28018-036MD
Batch: 66580
Analytical Method: 8011

Matrix: Aqueous
Prep Method: 8011
Prep Date: 01/30/2015 2225

Parameter	Sample Amount (ug/L)	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% RPD	% Rec Limit	% RPD Limit	Analysis Date
1,2-Dibromoethane (EDB)	ND	0.25	0.28		1	111	0.14	60-140	20	02/02/2015 0936

Surrogate	Q	% Rec	Acceptance Limit
1,1,1,2-Tetrachloroethane		95	57-137

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N = Recovery is out of criteria
+ = RPD is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

SHEALY ENVIRONMENTAL SERVICES, INC.

Chain of Custody Record

106 Vantage Point Drive • West Columbia, SC 29172
Telephone No. 803-791-9700 Fax No 803-791-9111
www.shealylab.com

Number 45071

QA28018

Page 1 of 6

Client: BLE
Report to Contact: Dan Osborne
Telephone No / E-mail: Dan.Osborne@blevip.com
Quote No:
Address: 6004 Parkway Court
Sampler's Signature: X
Analysis (Attach list if more space is needed)
City: Greenville
State: SC
Zip Code: 29615
Printed Name: Michael Parks
Project Name: Spirit 218 Former Exxon 780
Project No.: 6859-06
P.O. No.:

Sample ID / Description (Containers for each sample may be combined on one line.)	Date	Time	# Grab C-Composite	Matrix: Aqueous	Soil	Sludge	Other	No. of Containers by Preservative Type: Unpres.	HNO3	HCl	NaOH	H2SO4	Other	Bkg. Nat. 1-way Lot #08 (Kits)	EDB (8011)	Remarks / Cooler I.D.
WS # 06788 MW-1	12/1/15	1014	G	✓						6				✓	✓	
# 06788 MW-2		1031														
# 06788 MW-4R		1201														
# 06788 MW-7		1216														
# 06788 MW-7 DUP		1217														
# 06788 MW-7D		1239														
# 06788 MW-8D		1108														
# 06788 MW-9		1311														
# 06788 MW-10		1406														
# 06788 MW-11		1424														

Turn Around Time Required (Prior lab approval required for expedited TAT): ☑ Standard ☐ Rush (Specify)

Sample Disposal: ☐ Return to Client ☑ Disposal by Lab

Possible Hazard Identification: ☑ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison ☐ Unknown

QC Requirements (Specify)

	Date	Time		Date	Time
1. Relinquished by:	12/1/15	1230	1. Received by		
2. Relinquished by			2. Received by		
3. Relinquished by			3. Received by		
4. Relinquished by			4. Laboratory received by	12/1/15	1230

Note: All samples are retained for four weeks from receipt unless other arrangements are made

LAB USE ONLY
Received on ice (Circle) Yes No Ice Pack
Receipt Temp. 1.7 °C

DISTRIBUTION: WHITE & YELLOW-Return to laboratory with Sample(s). PINK-Field/Client Copy

Document Number: F-AD-133 Effective Date: 08-01-2014

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www.shealylab.com

Number 45072

Client: BLE
Address: 6004 Ruddis Court
City: Greenville | State: SC | Zip Code: 29615
Project Name: Spirax 258 Former Enwork 180 Michael Park
Project No.: 6859 - 06
P.O. No.:
Report to Contact: Ann Osborne
Sampler's Signature: x
Printed Name:
Telephone No. / E-mail: Ann.Osborne@Blecorp.com
Quote No.:
Analyses (Attach list if more space is needed)
Page 2 of 6

QA28018

Sample ID / Description (Containers for each sample may be combined on one line.)	Date	Time	Matrix	No. of Containers by Preservative Type	Brcr, Mn, Fe, Cu, Ni, Zn (8260)	EDB (504)	Remarks / Cooler I.D.
#06588 MW-12	1/21/15	1439 G		6	✓	✓	
#06588 MW-13		1451					
#06588 MW-14		939					
#06588 MW-15		928					
#06588 MW-16		1506					
#06588 MW-17		1331					
#06588 MW-18		1318					
#06588 MW-20	1/26/15	854					
#06588 MW-21		903					
#06588 MW-21D		925					

Turn Around Time Required (Prior lab approval required for expedited TAT.): ☑ Standard ☐ Rush (Specify)
Sample Disposal: ☐ Return to Client ☑ Disposal by Lab
Possible Hazard Identification: ☑ Non Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison ☐ Unknown
QC Requirements (Specify):

	Date	Time		Date	Time
1. Relinquished by	1/28/15	1230	1. Received by		
2. Relinquished by			2. Received by		
3. Relinquished by			3. Received by		
4. Relinquished by			4. Laboratory received by	1/28/15	1230

Note: All samples are retained for four weeks from receipt unless other arrangements are made.

LAB USE ONLY
Received on Ice (Circle): Yes No Ice Pack Receipt Temp. 1.4 °C

DISTRIBUTION: WHITE & YELLOW-Return to laboratory with Sample(s); PINK-Field/Client Copy

Document Number: F-AD-133 Effective Date: 08-01-2014

Chain of Custody Record

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106 Vantage Point Drive • West Columbia, SC 29172
Telephone No. 803-791-9700 Fax No. 803-791-9111
www.shealylab.com

Number 45073

Client: BLE
Address: 6004 Parker Court
City: Greenville State: SC Zip Code: 29615
Project Name: Sylvia 258 Former Emmett 380
Project No.: 6859-06 P.O. No.:
Report to Contact: Dan Osborne
Sampler's Signature: [signature]
Printed Name: Michael Parks
Telephone No. / E-mail: Dan.Osborne@Blecorp.com
Analysis (Attach list if more space is needed):
Quote No.:
Page 3 of 6
QA28018

Sample ID / Description (Containers for each sample may be combined on one line.)	Date	Time	Grab Composite	Matrix: Aqueous	Matrix: Solid	Matrix: Non-Aqueous	Matrix: Oil	Matrix: Wipe	Matrix: Other	No. of Containers by Preservative Type: HCl	HNO3	NaOH	Other	Bkgs NGM, 8-day 1,2 DCA (8260)	EDB (8011)	Remarks / Cooler I.D.
UST # 06588 MW-22D	1/21/15	1300	G							6						
#06588 MW-24D		1135														
#06588 MW-25		1146														
#06588 MW-25 Duplicate		1147														
#06588 MW-26		1001														
#06588 MW-27		951														
#06588 MW-28	1/26/15	938														
#06588 MW-29		1132														
#06588 MW-30		1054														
#06588 MW-30 Duplicate		1055														

Turn Around Time Required (Prior lab approval required for expedited TAT.): ☑ Standard ☐ Rush (Specify)
Sample Disposal: ☐ Return to Client ☑ Disposal by Lab
Possible Hazard Identification: ☑ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison ☐ Unknown
QC Requirements (Specify):

	Date	Time		Date	Time
1. Relinquished by: [signature]	1/28/15	1230	1. Received by:		
2. Relinquished by:			2. Received by:		
3. Relinquished by:			3. Received by:		
4. Relinquished by:			4. Laboratory received by: [signature]	1/28/15	1230

Note: All samples are retained for four weeks from receipt unless other arrangements are made.

LAB USE ONLY
Received on Ice (Circle): Yes No Ice Pack Receipt Temp. 1.4 °C

DISTRIBUTION: WHITE & YELLOW-Return to laboratory with Sample(s); PINK-Field/Client Copy

Document Number: F-AD-133 Effective Date: 08-01-2014

Chain of Custody Record

SHEALY ENVIRONMENTAL SERVICES, INC.
106 Vantage Point Drive • West Columbia, SC 29172
Telephone No. 803-791-9700 Fax No. 803-791-9111
www.shealylab.com

Number 45074

Client: BLE
Address: 6004 Parker Court
City: Greenville | State: SC | Zip Code: 29615
Project Name: Spirit 458 Former Exxon 780
Project No: 6859-06
P.O. No.:
Report to Contact: Dan Osborne
Sampler's Signature: [signature]
Printed Name: Mitchell Parks
Telephone No. / E-mail: dan.osborne@blcorp.com
Analysis (Attach list if more space is needed): Benz MTBE, 8-oxy, 1,2 DCA (8260) | EDB (8011)
Custn No:
Page 4 of 6
QA28018
Remarks / Cooler I.D.:

Sample ID / Description (Containers for each sample may be combined on one line.)	Date	Time	# of Containers	Matrix	Benz MTBE, 8-oxy, 1,2 DCA (8260)	EDB (8011)
491 # 06588 MW-30D	1/28/15	1120	6		6	1 / 1
# 06588 MW-33	↓	1014				
# 06588 MW-33D	↓	1040				
# 06588 MW-34	1/28/15	846				
# 06588 MW-35	↓	1042				
# 06588 MW-36	↓	1029				
# 06588 MW-37	↓	925				
# 06588 MW-38	1/28/15	1159				
# 06588 MW-39	1/28/15	1011				
# 06588 MW-40	1/28/15	1048				

Turn Around Time Required (Prior lab approval required for expedited TAT.): ☑ Standard ☐ Rush (Specify)
Sample Disposal: ☐ Return to Client ☑ Disposal by Lab
Possible Hazard Identification: ☑ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison ☐ Unknown
QC Requirements (Specify):

	Date	Time		Date	Time
1. Relinquished by: [signature]	1/28/15	1230	1. Received by:		
2. Relinquished by:			2. Received by:		
3. Relinquished by:			3. Received by:		
4. Relinquished by:			4. Laboratory received by: [signature]	1/28/15	1230

Note: All samples are retained for four weeks from receipt unless other arrangements are made.

LAB USE ONLY
Received on ice (Circle): (Yes) No Ice Pack Receipt Temp 1.6 °C

DISTRIBUTION: WHITE & YELLOW-Return to laboratory with Sample(s); PINK-Field/Client Copy

Document Number: F-AD-153 Effective Date: 08-01-2014

Chain of Custody Record

SHEALY ENVIRONMENTAL SERVICES, INC.
106 Vantage Point Drive • West Columbia, SC 29172
Telephone No. 803 791-9700 Fax No. 803-791-9111
www.shealylab.com

Number 45075

Client: BLE
Report to Contact: Dan Osbourne
Telephone No. / E-mail: Dan.Osbourne@Blecorp.com
Quote No.:
Address: 6004 Poinsett Court
Sampler's Signature: x [signature]
Analysis (Attach list if more space is needed)
Page 5 of 6
City: Greenville
State: SC
Zip Code: 29615
Project Name: Shell 258 Former Emark 380
Printed Name: Michael Parks
Project No.: 6859-06
P.O. No.:

LIBRARY
QA28018

Sample ID / Description (Containers for each sample may be combined on one line.)	Date	Time	# of Containers	Matrix	Preservative Type	VOC	Analysis: MTBE, Benzene, 1,2 DCE (1,2-d)	Analysis: EDB (Total)	Remarks / Cooler I.D.
# 06588 MW-41D	1/26/15	1003	6			6	✓	✓	
# 06588 MW-43D	↓	1145							
# 06588 MW-32	1/28/15	920							
# 06588 MW-42		938							
# 06588 MW-42D		950							
# 06588 DW-1		1055							
# 06588 DW-4		1120							
# 06588 DW-8	↓	1109							
# 06588 FB-1	1/26/15	1530							
# 06588 FB-2	1/26/15	1330							

Turn Around Time Required (Prior lab approval required for expedited TAT.): ✓ Standard ☐ Rush (Specify)

Sample Disposal: ☐ Return to Client ☑ Disposal by Lab

Possible Hazard Identification: ☑ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison ☐ Unknown

QC Requirements (Specify):

	Date	Time		Date	Time
1. Relinquished by: [signature]	1/28/15	1230	1. Received by		
2. Relinquished by			2. Received by		
3. Relinquished by			3. Received by		
4. Relinquished by			4. Laboratory received by: [signature]	1/28/15	1230

Note: All samples are retained for four weeks from receipt unless other arrangements are made.

LAB USE ONLY
Received on ice (Circle): Yes No Ice Pack
Receipt Temp: _____ °C

DISTRIBUTION: WHITE & YELLOW-Return to laboratory with Sample(s); PINK-Field/Client Copy

Document Number: F AD-132 Effective Date: 08-01-2014

SHEALY ENVIRONMENTAL SERVICES, INC.

Shealy Environmental Services, Inc.
106 Vantage Point Drive West Columbia, SC 29172 (803) 791-9700 Fax (803) 791-9111 www.shealylab.com

SHEALY ENVIRONMENTAL SERVICES, INC.

Chain of Custody Record

SHEALY ENVIRONMENTAL SERVICES, INC.
106 Vantage Point Drive • West Columbia, SC 29172
Telephone No. 803-791-9700 Fax No. 803-791-9111
www.shealylab.com

Number 45076

Client: BLE
Address: 6004 Pendes Court
City: Greenville
State: SC
Zip Code: 29615
Report to Contact: Dan Osborne
Sampler's Signature: x [signature]
Project Name: Sphx 258 Former Emark 380 Michael Parks
Project No.: 6859-06
P.O. No.:
Telephone No. / E-mail: Dan.Osborne@BLEcorp.com
Analyses (Attach list if more space is needed): EDB (8011)
Quote No.:
Page 6 of 6

QA28018

Sample ID / Description (Containers for each sample may be combined on one line.)	Date	Time	Composite	Grab	Matrix: Aqueous	Soil	Air	Solids	No. of Containers by Preservative Type: Unpres.	HCl	HNO3	H2SO4	NaOH	Na2S2O3	Analyses: Analy. Meth. 8-day 1,2 DCE (Total)	EDB (8011)	Remarks / Cooler I.D.
44 # 06588 FB-3	1/28/15	1130		G	✓							6			✓	✓	
Trip Blank												2			✓		

Turn Around Time Required (Prior lab approval required for expedited TAT.): ☑ Standard ☐ Rush (Specify)

Sample Disposal: ☐ Return to Client ☑ Disposal by Lab

Possible Hazard Identification: ☑ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison ☐ Unknown

QC Requirements (Specify):

1. Relinquished by: [signature]	Date: 1/28/15	Time: 1230	1. Received by:	Date:	Time:
2. Relinquished by:	Date:	Time:	2. Received by:	Date:	Time:
3. Relinquished by:	Date:	Time:	3. Received by:	Date:	Time:
4. Relinquished by:	Date:	Time:	4. Laboratory received by: [signature]	Date: 1/28/15	Time: 1230

Note: All samples are retained for four weeks from receipt unless other arrangements are made.

LAB USE ONLY
Received on Ice (Circle): Yes No Ice Pack Receipt Temp °C

DISTRIBUTION: WHITE & YELLOW-Return to laboratory with Sample(s); PINK-Field/Client Copy

Document Number: F-AD-133 Effective Date: 08-01-2014

Level 1 Report v2.1

SHEALY ENVIRONMENTAL SERVICES, INC.

SHEALY ENVIRONMENTAL SERVICES, INC.

Shealy Environmental Services, Inc.
Document Number: F-AD-016
Revision Number: 16

Page 1 of 1
Replaces Date: 07/15/14
Effective Date: 11/07/14

Sample Receipt Checklist (SRC)

Client: BLE Cooler Inspected by/date: mam / 012815 Lot #: QA22012

Means of receipt: ☐ SESI ☑ Client ☐ UPS ☐ FedEx ☐ Airborne Exp ☐ Other

Yes ☐	No ☑		1. Were custody seals present on the cooler?
Yes ☐	No ☐	NA ☑	2. If custody seals were present, were they intact and unbroken?

Cooler ID/Original temperature upon receipt/Derived (corrected) temperature upon receipt:
1932/1.5/1.4 °C / / °C / / °C / / °C

Method: ☑ Temperature Blank ☐ Against Bottles IR Gun ID: #4 IR Gun Correction Factor: 0.1 °C

Method of coolant: ☑ Wet Ice ☐ Blue Ice ☐ Dry Ice ☐ None

Yes ☐	No ☐	NA ☑	3. If temperature of any cooler exceeded 6.0°C, was Project Manager notified? PM notified by SRC, phone, note (circle one), other: _____ (For coolers received via commercial courier, PMs are to be notified immediately.)
Yes ☐	No ☐	NA ☑	4. Is the commercial courier's packing slip attached to this form?
Yes ☑	No ☐		5. Were proper custody procedures (relinquished/received) followed?
Yes ☐	No ☐	NA ☑	5a Were samples relinquished by client to commercial courier?
Yes ☑	No ☐		6. Were sample IDs listed on the COC?
Yes ☑	No ☐		7. Were sample IDs listed on all sample containers?
Yes ☑	No ☐		8. Was collection date & time listed on the COC?
Yes ☑	No ☐		9. Was collection date & time listed on all sample containers?
Yes ☑	No ☐		10. Did all container label information (ID, date, time) agree with the COC?
Yes ☑	No ☐		11. Were tests to be performed listed on the COC?
Yes ☑	No ☐		12. Did all samples arrive in the proper containers for each test?
Yes ☑	No ☐		13. Did all containers arrive in good condition (unbroken, lids on, etc.)?
Yes ☑	No ☐		14. Was adequate sample volume available?
Yes ☑	No ☑		15. Were all samples received within ½ the holding time or 48 hours, whichever comes first?
Yes ☐	No ☑		16. Were any samples containers missing?
Yes ☐	No ☑		17. Were there any excess samples not listed on COC?
Yes ☐	No ☑	NA ☐	18. Were bubbles present >"pea-size" (¼" or 6mm in diameter) in any VOA vials?
Yes ☐	No ☐	NA ☑	19. Were all metals/O&G/HEM/nutrient samples received at a pH of <2?
Yes ☐	No ☐	NA ☑	20. Were all cyanide and/or sulfide samples received at a pH >12?
Yes ☐	No ☐	NA ☑	21. Were all applicable NH3/TKN/cyanide/phenol (<0.2mg/L) samples free of residual chlorine?
Yes ☐	No ☐	NA ☑	22. Were collection temperatures documented on the COC for NC samples?
Yes ☐	No ☐	NA ☑	23. Were client remarks/requests (i.e. requested dilutions, MS/MSD designations, etc...) correctly transcribed from the COC into the comment section in LIMS?
Yes ☐	No ☑		24. Was the quote number used taken from the container label?

mam 1/29/15

Sample Preservation (Must be completed for any sample(s) incorrectly preserved or with headspace.)

Sample(s) _____ were received incorrectly preserved and were adjusted accordingly in sample receiving with _____ (H_2SO_4, HNO_3, HCl, NaOH) using SR # _____

Sample(s) _____ were received with bubbles >6 mm in diameter.

Sample(s) _____ were received with TRC >0.2 mg/L (If #21 is No)

SC Drinking Water Project: Sample(s) pH verified to be > 2 by _____ Date: _____

Sample(s) _____ were not received at a pH of <2 and were adjusted accordingly using SR# _____

Sample labels applied by: mam Verified by: _____ Date: 1/28/15

Comments:

APPENDIX D

CONTRACTOR CHECKLIST

Contractor Checklist

For each report submitted to the UST Management Division, the contractor will be required to verify that all data elements for the required scope of work have been provided. For items not required for the scope of work, the N/A box should be checked. For items required and not completed or provided, the No box should be checked and a thorough description of the reason must be provided.

Item #	Item	Yes	No	N/A
1	Is Facility Name, Permit #, and address provided?	✓		
2	Is UST Owner/Operator name, address, & phone number provided?	✓		
3	Is name, address, & phone number of current property owner provided?	✓		
4	Is the DHEC Certified UST Site Rehabilitation Contractor's Name, Address, telephone number, and certification number provided?	✓		
5	Is the name, address, telephone number, and certification number of the well driller that installed borings/monitoring wells provided?			✓
6	Is the name, address, telephone number, and certification number of the certified laboratory(ies) performing analytical analyses provided?	✓		
7	Has the facility history been summarized?	✓		
8	Has the regional geology and hydrogeology been described?			✓
9	Are the receptor survey results provided as required?			✓
10	Has current use of the site and adjacent land been described?	✓		
11	Has the site-specific geology and hydrogeology been described?			✓
12	Has the primary soil type been described?			✓
13	Have field screening results been described?			✓
14	Has a description of the soil sample collection and preservation been detailed?			✓
15	Has the field screening methodology and procedure been detailed?			✓
16	Has the monitoring well installation and development dates been provided?			✓
17	Has the method of well development been detailed?			✓
18	Has justification been provided for the locations of the monitoring wells?			✓
19	Have the monitoring wells been labeled in accordance with the UST QAPP guidelines?			✓
20	Has the groundwater sampling methodology been detailed?	✓		
21	Have the groundwater sampling dates and groundwater measurements been provided?	✓		
22	Has the purging methodology been detailed?	✓		
23	Has the volume of water purged from each well been provided along with measurements to verify that purging is complete?	✓		
24	If free-product is present, has the thickness been provided?	✓		
25	Does the report include a brief discussion of the assessment done and the results?	✓		
26	Does the report include a brief discussion of the aquifer evaluation and results?			✓
27	Does the report include a brief discussion of the fate & transport models used?			✓

Item #	Item	Yes	No	N/A
28	Are the site-conceptual model tables included? (Tier 1 Risk Evaluation)			✓
29	Have the exposure pathways been analyzed? (Tier 2 Risk Evaluation)			✓
30	Have the SSTLs for each compound and pathway been calculated? (Tier 2 Risk Evaluation)			✓
31	Have recommendations for further action been provided and explained?	✓		
32	Has the soil analytical data for the site been provided in tabular format?			✓
33	Has the potentiometric data for the site been provided in tabular format?	✓		
34	Has the current and historical laboratory data been provided in tabular format?	✓		
35	Have the aquifer characteristics been provided and summarized on the appropriate form?			✓
36	Have the Site conceptual model tables been included? (Tier 1 Risk Evaluation)			✓
37	Has the topographic map been provided with all required elements? (Figure 1)	✓		
38	Has the site base map been provided with all required elements? (Figure 2)	✓		
39	Have the CoC site maps been provided?	✓		
40	Has the site potentiometric map been provided?	✓		
41	Have the geologic cross-sections been provided?			✓
42	Have maps showing the predicted migration of the CoCs through time been provided? (Tier 2 Risk Evaluation)			✓
43	Has the site survey been provided and include all necessary elements? (Appendix A)			✓
44	Have the sampling logs, chain of custody forms, and the analytical data package been included with all required elements?	✓		
45	Is the laboratory performing the analyses properly certified?	✓		
46	Has the tax map been included with all necessary elements? (Appendix C)			✓
47	Have the soil boring/field screening logs been provided?			✓
48	Have the well completion logs and SCDHEC Form 1903 been provided?			✓
49	Have the aquifer evaluation forms, data, graphs, equations, etc. been provided? (Appendix F)			✓
50	Have the disposal manifests been provided?	✓		
51	Has a copy of the local zoning regulations been provided? (Appendix H)			✓
52	Has all fate and transport modeling been provided? (Appendix I)			
53	Have copies of all access agreements obtained by the contractor been provided? (Appendix J)			✓
54	Has a copy of this form been attached to the final report and are explanations for any missing or incomplete data been provided?	✓		

Explanation for missing and incomplete information?

D H E C
PROMOTE PROTECT PROSPER
2600 Bull Street
Columbia, SC 29201-1708

DIVISION OF
UNDERGROUND STORAGE TANK MANAGEMENT

Phone (803) 898-4325 Fax (803) 898-4330

JUN 10 1999

Enmark Stations, Inc.
Mr. David Higgs
101 North Lathrop Avenue
Savannah, GA 31415

UST DOCKETING 37 Keep

Re: Enmark Station #380
UST Permit # 06588, Release #2
Rapid Assessment Report received June 1, 1999
Newberry County

Dear Mr. Higgs:

The Division of Underground Storage Tank Management has reviewed the referenced Rapid Assessment (RA) Report submitted by Handex.

The results of the investigation reveal the presence of **Benzene, Toluene, Ethylbenzene, Xylenes, Naphthalenes** and **MtBE** above the risk based screening levels (RBSL) for ground-water. In addition the referenced report indicated the presence of free phase petroleum in the subsurface. As indicated in the report, the contaminant plume has not been sufficiently defined. In order to determine risk to human health and/or the environment, activities are necessary to accurately define the contaminant plume.

Please have you Contractor submit a cost proposal for the necessary site activities. The cost proposal should be received by the Division no later than July 8, 1999. I have enclosed an Assessment Component Cost Proposal for your convenience.

On all correspondence or inquiries regarding this project, please reference **UST Permit # 06588**. If you have any questions, please feel free to contact Michael A. Bishop at (803) 734-0890 or 800-826-5435 (within South Carolina only).

Sincerely,
Owner/Operator Assistance Section
Assessment and Corrective Action Branch
Division of Underground Storage Tank Management

Michael A. Bishop

Michael A. Bishop, Hydrogeologist

Lee A. Monts

Lee A. Monts, Manager

enc: Assessment Component Cost Proposal Form

cc: Handex, 3600-G Woodpark Blvd., Charlotte, NC 28206
Technical File

DHEC/UST/06091999

RAPID ASSESSMENT PLAN

SOUTH CAROLINA

Department of Health and Environmental Control

Bureau of Underground Storage Tank Management

Site ID # 06588-02 County Newberry Facility Name Enmark S.S. #380

Facility Address 2725 College Street, Newberry, SC

UST Owner/Operator Enmark Stations, Inc. Address P.O. Box 576, Savannah, GA

No. USTs 4 removed? - (date) replaced? - (date)

Current O/O, if different from above same as above

Current use of facility/property service station

Current property owner name same as UST owner

Current property owner address same as UST owner

Field Screening Methodology

Specify the field screening methodology to be used. The use of field screening methods to optimize the number and location of permanent wells is required.

An organic vapor analyzer (OVA) will be used to screen petroleum vapors during subsurface investigations.

Permanent Monitoring wells (Estimate number and total completed depth)

# of shallow wells 3 total depth 25 ft each

# of deep wells 1 total depth 45 ft (If necessary)

Comments, if warranted Water table at approximately 18 ft. Four monitoring wells already on site from previous investigations.

Analyses

List the analytical parameters (e.g., BTEX, MTBE) and estimated number.

Soil: 8 samples for BTEX + Naphthalenes, PAHs, TPH (by 3550), and Grain size. These represent one sample from each of eight borings to be conducted by Geoprobe method prior to well installation. 1 sample for TOC analysis for modeling.

Water: 8 samples for BTEX + Naphthalenes + MTBE, PAHs, Nitrate, Sulfate, and Ferrous Iron. These represent one sample from each of eight monitoring wells, following installation of four new monitoring wells

Implementation Schedule

Start up date April 20, 1998 Completion date July 20, 1998

Report submittal date August 28, 1998

RAPID ASSESSMENT PLAN

SOUTH CAROLINA

Department of Health and Environmental Control

Bureau of Underground Storage Tank Management

Site ID # 06588-02 Facility Name Enmark S.S. #380

Site Maps

1. Attach a copy of the relevant portion of the USGS topographic map showing the site location.

2. Prepare a site base map. This map must be accurately scaled, but does not need to be surveyed. The map must include the following:

North Arrow	Legend with facility name and address, Site ID number, date, and a bar scale
Location of property lines	Streets or highways (indicate names and numbers)
Location of buildings	Identification of located buildings
Paved areas on or adjacent to site	Location of all present and former ASTs and USTs
Previous soil sampling locations	Underground and above ground utilities on or adjacent to site
Previous monitoring well locations	Location of any other potential receptor

Aquifer Characterization (Check one and provide explanation for choice)

Pump Test 0 Slug Tests 4

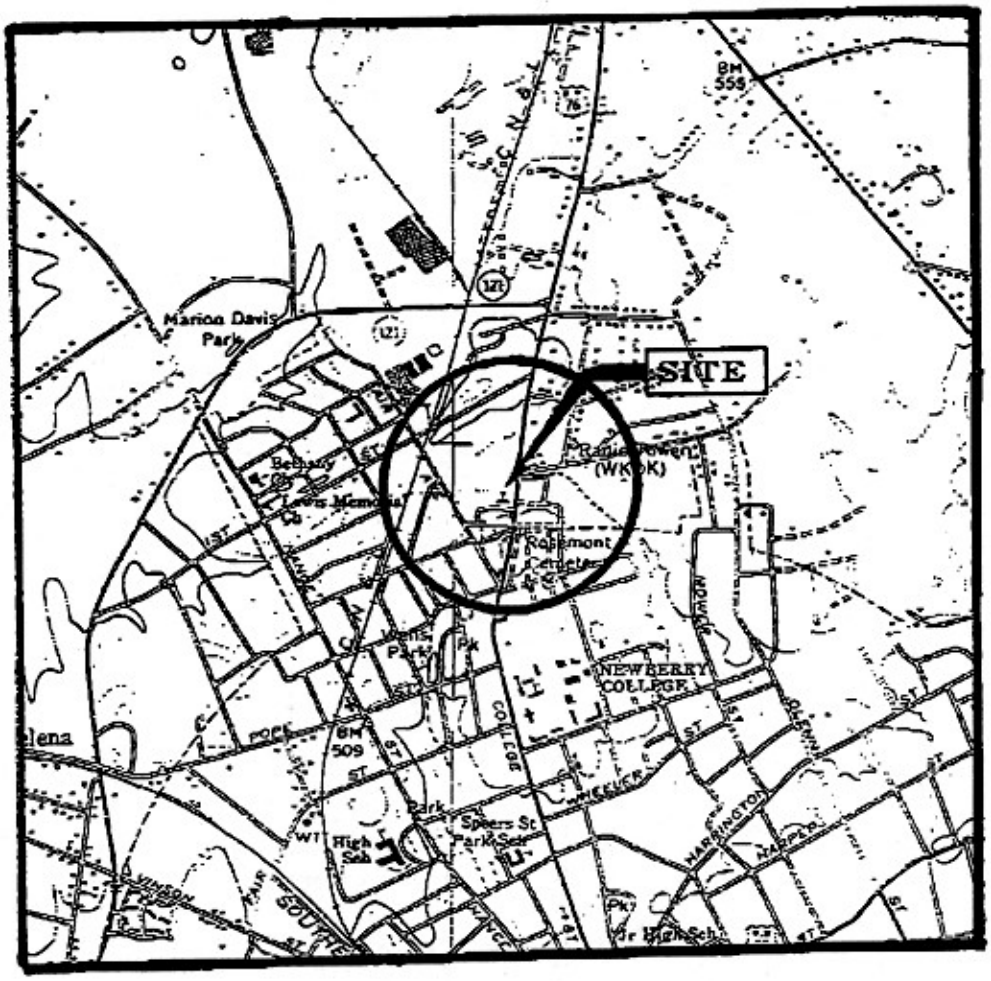
Aquifer characterization can be achieved more cost effectively through the use of slug tests, as compared to a pump test. Furthermore, a range of values can be averaged to produce a more representative value for the aquifer if slug tests are used. A pump test would produce only a single value, and be representative of only a limited area of the site.

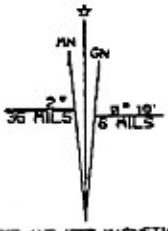
Small Volume Disposal Type and Method

Soil Approximately 12 drums of soil is expected to be produced as a result of monitoring well installation. These drums will be removed by a state-approved waste hauler.

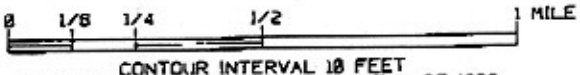
Purge Water All water produced as a result of well purging will be run through an activated carbon filter and allowed to spill onto the ground after treatment.

Additional Comments The attached cost proposal was prepared under the assumption that all drilling necessary to characterize the affected portion of the aquifer can be performed on the service station property, and that off-site access will not be required. Should access become necessary, a change order for coordination will be prepared and submitted to the Department.





UTM GRID AND 1980 MAGNETIC NORTH DECLINATION AT CENTER OF NEWBERRY EAST QUADRANGLE



CONTOUR INTERVAL 10 FEET
NATIONAL GEODETIC VERTICAL DATUM OF 1929

QUADRANGLE LOCATION

NEWBERRY EAST, S.C.
N3415-W8130/7.5
1968

AMS 4652 I SE-SERIES V846

&

NEWBERRY WEST, S.C.
N3415-W8137/7.5
1969

AMS 4652 I SE-SERIES V846

FIGURE 1
TOPOGRAPHIC LOCATION MAP

Handex
HANDEX OF THE CAROLINAS, INC.

ENMARK SS #380
2725 COLLEGE STREET
NEWBERRY, SOUTH CAROLINA

SCALE:	1:24000	PROJ. NO.	110727
DATE:	12-21-95	REV. BY:	
DWN. BY:	C. JOHNSON	DWG. NO.	10727SM1
PREP. BY:	DATE:	CHK. BY:	DATE:

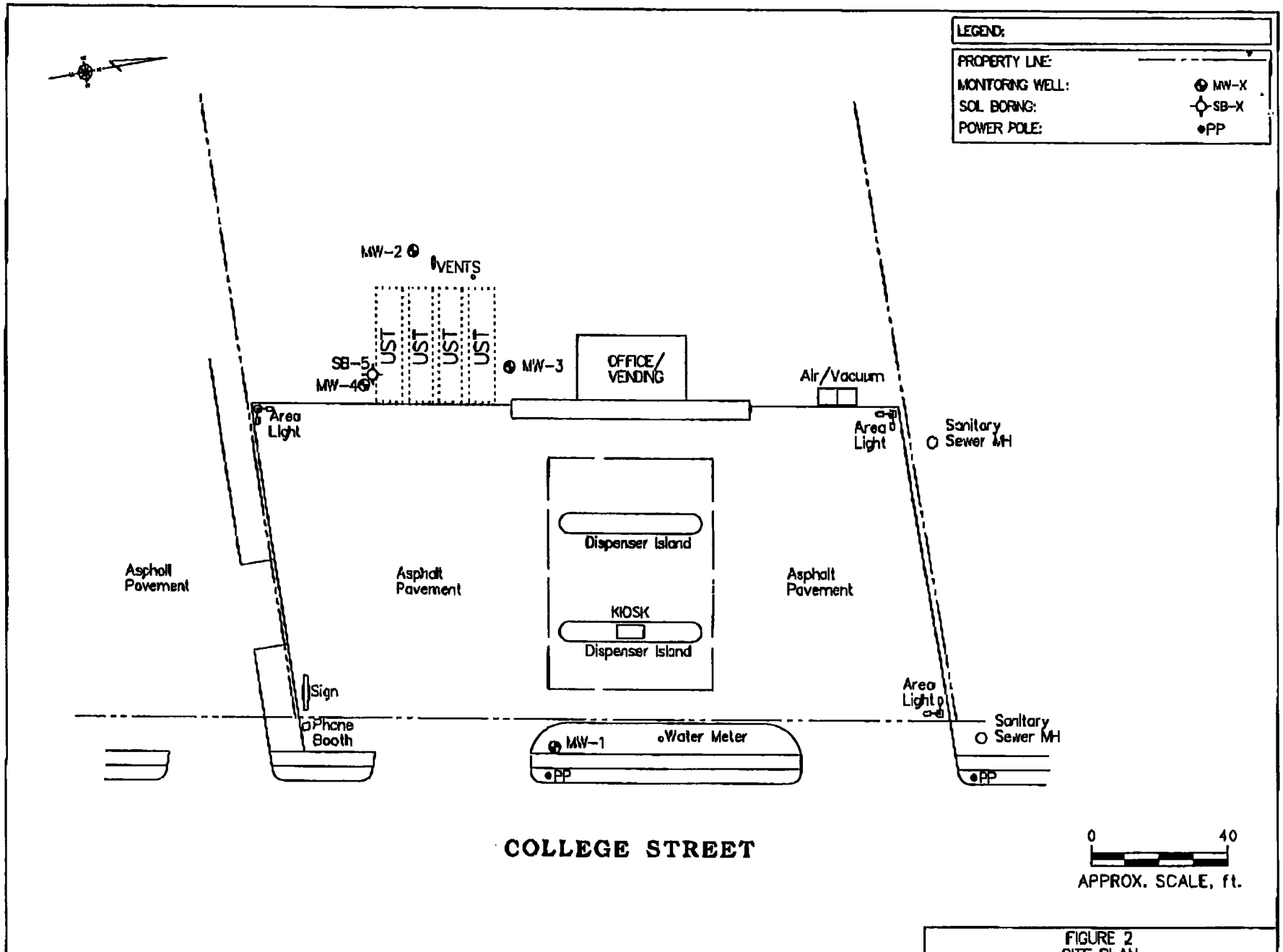


FIGURE 2
SITE PLAN

SCALE:	1" = 40'	PROJ. NO.	110727
DATE:	12-11-95	REV. BY:	
DWN. BY:	T. McGovern	DWG. NO.	1072700A
PREP. BY:	DATE:	CHK. BY:	DATE:

Handex
HANDEX OF THE CAROLINAS, INC.

ENMARK SS #380
2725 COLLEGE STREET
NEWBERRY, SOUTH CAROLINA
SCDHEC SITE ID #06588-02

D H E C
PROMOTE PROTECT PROSPER
2600 Bull Street
Columbia, SC 29201-1708

DIVISION OF
UNDERGROUND STORAGE TANK MANAGEMENT
Assessment and Corrective Action Branch
Phone (803) 734-4671 Fax (803) 734-3604

MAY 01 1998

Mr. David Higgs
Enmark Station, Inc.
Post Office Box 728
Savannah, GA 31402-0728

Re: Enmark Station #380
Site ID # 06588 2nd release
Rapid Assessment plan and associated cost proposal received April 8, 1998
Newberry County

Dear Mr. Higgs:

The Division of Underground Storage Tank Management has reviewed and approved the Rapid Assessment Plan submitted by Handex Environmental Services.

Site activities may begin immediately. Compliance with all well driller, laboratory, and professional certifications must be maintained. All rehabilitation activities associated with a UST release must be performed by a SCDHEC certified site rehabilitation contractor as required by R.61-98. Monitoring well approval has been issued to your site rehabilitation contractor; a copy of the approval form is enclosed for your records.

The Division grants preapproval for transportation of virgin petroleum contaminated soil and ground water from the referenced site to a permitted treatment facility. The contaminated soil or groundwater must be properly stored in labeled containers or covered with plastic, as appropriate. The contaminated soil and/or ground water must be accepted by the approved treatment facility. There can be no spillage or leakage in transport. A copy of the disposal manifest and/or acceptance letter from the receiving facility that clearly designates the quantity received must be included as an appendix to the final report. If the levels of petroleum contamination based on laboratory analysis are below risk-based screening levels, please contact the project manager for approval to dispose of soil and/or ground water on site. The SUPERB Account will not compensate for transportation or treatment of clean soil and/or ground water.

Cost proposal #04821 has been established in the amount of $22,853.95. However, as $894.94 remains to be met of the applicable 25,000.00 deductible for this release, the maximum amount that can be expended by the SUPERB Account is $21,959.01. Your contractor may directly invoice the SUPERB Account for the remaining deductible amount. Please reference the enclosed approved cost proposal for any adjustments deemed appropriate by the Department. Sections 44-2-110(4) and 44-2-130 of the SUPERB Statute state that no costs will be allowed unless prior approval from the Department is obtained. If for any reason components need to be

added to the work scope, these components and the associated rates must be approved by the Department prior to initiation.

The Rapid Assessment Report and associated invoice should be submitted to my attention within 90 days from the date of this correspondence. If the invoice is not submitted within 120 days from the date of this letter, monies allocated to pay this invoice will be uncommitted. This means that the invoice will not be processed for payment until all other committed funds are paid or monies become available.

On all future correspondence, please reference the **Site ID number 06588-02 and cost proposal number 04821**. Questions concerning the above should be addressed to the attention of Jan Trent Cooke at (803) 734-4671.

Sincerely,
Owner/Operator Assistance Section
Assessment and Corrective Action Branch
Division of Underground Storage Tank Management

Jan Trent Cooke, Hydrogeologist

Lee A. Monts, Manager

enc: Assessment Component Invoice
Monitoring Well approval (copy)
Approved Assessment Component Cost Proposal (copy)

cc: Jeff Hollis, Handex; Charlotte, NC (w/enc: and the original Monitoring Well approval)
Financial File (w/Approved Assessment Cost Proposal)
Read File
Technical Files (w/ copy of Monitoring Well Approval)

D H E C
PROMOTE PROTECT PROSPER
2600 Bull Street
Columbia, SC 29201-1708

Monitoring Well Installation Approval Form

Date of Issue: April 23, 1998

Approval No.: 9496

Approval is hereby granted to:	Handex
(On behalf of):	Enmark #380
Site ID #:	06588
County:	Newberry

This approval is for the construction of 10 temporary and 4 permanent monitoring wells in accordance with the construction plans and technical specifications outlined in the Rapid Assessment Document. The well(s) are to be constructed within the surficial aquifer for the intended purpose of monitoring ground-water quality and/or water level(s) at the referenced facility. Approval is provided with the following conditions:

1. The latitude and longitude, surveyed elevations, boring and/or geologist logs and actual (as built) construction details for each well will be submitted with the technical report.

2. Each well will be labeled with an identification plate constructed of a durable material affixed to the casing or surface pad where it is readily visible. The plate will provide monitoring well I.D.#, date of construction, static water level, and driller name and state certification #.

3. Well construction and sampling derived waste including, but not necessarily limited to, drill cuttings, drilling fluids, development and purge water should be managed properly and in compliance with applicable requirements. If containerized, each vessel should be clearly labeled with regard to contents, source, and date of activity.

4. A minimum of forty-eight (48) hours prior to initiation of drilling activities, please provide notice to Jan T. Cooke at (803) 734-4671 or cookejt@columb26.dhec.state.sc.us.

5. Please provide ground-water quality analytical data (chemical analysis and/or water level(s)) and associated measurements (i.e., in-situ field measurements) to me with the technical report.

6. Monitoring wells and temporary monitoring wells will be installed by or under the direct supervision of a licensed well driller certified by the State of South Carolina.

7. Monitoring wells and temporary monitoring wells will be abandoned by or under the direct supervision of a licensed well driller certified by the State of South Carolina. Temporary monitoring wells shall not remain in place for longer than 30 days from the date of installation. Monitoring wells may be abandoned only upon concurrence by this Division.

This approval is pursuant to the provisions of Section 44-55-40 of the 1976 South Carolina Code of Laws and the Department of Health and Environmental Control Regulations R.61-71. Please remember to have a copy of this approval on the site during well installation.

Approved by: Jan T. Cooke

Jan T. Cooke, Hydrogeologist
Owner/Operator Assistance Section
Assessment and Corrective Action Branch
Division of UST Management

cc: Central Midlands District EQC
Mr. David Higgs; Enmark Station Inc.
Read/Technical Files

South Carolina
DHEC
Department of Health and Environmental Control
2600 Bull Street, Columbia, SC 29201

Commissioner: Douglas E. Bryant

Board: Richard E. Jabbour, DDS, Chairman
Robert J. Stripling, Jr., Vice Chairman
Sandra J. Molander, Secretary

William E. Applegate, III,
John H. Burriss
Tony Graham, Jr., MD
John B. Pate, MD

Promoting Health, Protecting the Environment

Date: OCT 01 1993

INTERSTATE STATIONS INC.
PO BOX 728
SAVANNAH, GA 31402

Re: GWPD Site # N-36-NO-06588 INTERSTATE-NEWBERRY
Underground Storage Tank Release
Priority Ranking

Dear Underground Storage Tank Owner:

All releases from regulated underground storage tanks that have been reported to this Department have been prioritized using a ranking system that evaluates environmental and health related factors. The ranking system identifies those sites that represent the most serious threats where the Department should be allocating available SUPERB monies.

Currently, the referenced site ranks below many hundreds of other sites and no site rehabilitation activities under the direct billing method have been initiated to date. Therefore, since no site rehabilitation activities under direct billing are currently approved for this site (and due to the relative ranking), obligating financial resources for this site through the direct billing method is not possible at this time.

However, pursuant to R.61-92, § 280.65, the SCDHEC will provide expedited reviews of technical work plans should you wish to proceed with site rehabilitation activities and seek reimbursement upon completion. Please note that reimbursement typically takes a much longer period of time to process and that SUPERB monies are dispersed for reimbursement only so long as funds are available. Reimbursement requests are processed by SCDHEC in chronological order of receipt.

If you have any further questions, please contact Mr. David Baize or Mr. Chris Doll at 734-5331.

Sincerely,

Stanley L. Clark, P.G., Director
Ground-Water Protection Division
Bureau of Drinking Water Protection

SLC/jtc

cc: Paul Bristol, Central Midlands District EQC

recycled paper

rd

South Carolina
DHEC
Department of Health and Environmental Control
2600 Bull Street, Columbia, SC 29201

Commissioner: Michael D. Jarrett

Board: William E. Applegate, III, Chairman
John H. Burriss, Vice Chairman
Richard E. Jabbour, DDS, Secretary
Toney Graham, Jr., MD
Sandra J. Molander
John B. Pate, MD
Robert J. Stripling, Jr.

Promoting Health, Protecting the Environment

August 7, 1992

Thomas Taylor
no longer there
David Higgs

Enmark Stations, Inc.
Attn: S. Thomas Taylor, P.G.
P.O. Box 728
Savannah, GA 31402

Re: Interstate #380
GWPD Site ID #06588/PCAS #7667
SUPERB eligibility request received March 31, 1992
Newberry County

Dear Mr. Taylor:

The Ground-Water Protection Division (GWPD) of the South Carolina Department of Health and Environmental Control (SCDHEC) has reviewed the request for participation in Underground Petroleum Environmental Response Bank Act of 1988. None of the exclusions listed in 44-2-110 and 44-2-130 exist and the Department has determined that site rehabilitation is necessary. Therefore, the use of SUPERB for site rehabilitation is approved. This means that monies spent can be reimbursed from the fund, or if approved by this office, direct billing can be established.

As discussed between Mr. John West, council for Colonial Oil and Mr. Jim Hess of SCDHEC, Colonial Oil has requested Expanded Assessments Plans to be prepared and submitted to this office. Per conversation with Mr. Jim Kotti of ETE, the EAP will be submitted on or before October 2, 1992.

On all correspondence concerning this site, please reference GWPD Site ID #06588. If there are any questions concerning this project, please call me at (803) 734-4671.

Sincerely,

Jan Trent

Jan Trent, Hydrogeologist
UST State Corrective Action Section
Ground-Water Protection Division
Bureau of Drinking Water Protection

JCT/06588

cc: Paul Bristol, Central Midlands EQC
Robertha Dorsey, GWPD
Jim Kotti, ETE

recycled paper

JH - Jan

JOHN C. WEST, JR., P.A.
ATTORNEY AT LAW
1111 BROAD STREET
POST OFFICE BOX 661
CAMDEN, SOUTH CAROLINA 29020

JOHN C WEST, JR

TELEPHONE
(803) 432-5106
TELEX
805015
TELECOPIER
(803) 432-0550

RECEIVED
Groundwater Division

July 1, 1992

James R. Hess, P.G.
Section Manager
Division of Ground-Water Protection
South Carolina Department of Health
and Environmental Control
2600 Bull Street
Columbia, South Carolina 29201

Re: Colonial Oil/Enmark/Interstate

Dear Jim:

I enjoyed visiting with you last week and deeply appreciate your guidance with respect to expeditiously obtaining SUPERB eligibility for my client's service stations listed on the attached Exhibit "A."

Colonial Oil will ask its consultant to prepare Expanded Assessment Plans (EAP) for each site for submission to DHEC. The consultant will submit his statement for services in connection with preparation of said plans to DHEC at the time of submission of the plan and it is my understanding that DHEC/SUPERB will pay for said preparation. If my understanding is not correct, please advise.

Once again, thank you for your assistance. With warmest personal regards, I am

Sincerely,

John C. West, Jr.

JCWJr/cwj

Enclosure

cc: James B. Mercer

EXHIBIT "A"

INTERSTATE STATION #400 - North Augusta, Site No. 00173

INTERSTATE STATION #420 - Piedmont, Site No. 04104

ENMARK STATION #800 - Goose Creek, Site No. 01205

ENMARK STATION #350 - Moncks Corner, Site No. 10425

INTERSTATE STATION #160 - Clinton, Site No. 05669

INTERSTATE STATION #300 - Lancaster, Site No. 05545

INTERSTATE STATION #240 - Greenwood, Site No. 04689

INTERSTATE STATION #120 - Burton, Site No. 01003

INTERSTATE STATION #380 - Newberry, Site No. 06588

INTERSTATE STATION #220 - Fountain Inn, Site No. 04105

ENMARK STATION #510 - Summerville, Site No. 03071

INTERSTATE STATION #320 - Lexington, Site No. 06029

LETTER OF TRANSMITTAL

, Inc.
Consulting Engineers, Surveyors & Hydrogeologists
P.O. Box 1867 • 1445 Pisgah Church Road • Lexington, S.C. 29072
(803) 957-6270

TO Ground-Water Protection Division
SCDHEC
2600 Bull Street
Columbia, SC 29201

DATE 3/26/92
JOB NO
ATTENTION Mr. James Hess
RE Application for SUPERB funds.
Interstate Station #380
Newberry, Newberry Co., SC
GWPD Site # 065BB
PCAS # 7667
ENMARK STATIONS, INC.

WE ARE SENDING YOU ☒ Attached ☐ Under separate cover via _____ the following items:

☐ Shop drawings ☐ Prints ☐ Plans ☐ Samples ☐ Specifications
☐ Copy of letter ☐ Change order ☐ _____

COPIES	DATE	NO.	DESCRIPTION
1	3/23/92		Application for SUPERB funding.

RECEIVED
MAR 31 1992
Groundwater Protection Division

THESE ARE TRANSMITTED as checked below:

☐ For approval ☐ Approved as submitted ☐ Resubmit _____ copies for approval
☐ For your use ☐ Approved as noted ☐ Submit _____ copies for distribution
☐ As requested ☐ Returned for corrections ☐ Return _____ corrected prints
☒ For review and comment ☐ _____
☐ FOR BIDS DUE _____ 19 _____ ☐ PRINTS RETURNED AFTER LOAN TO US

REMARKS

Included in the application is verification of self insurance for the above referenced site, amoung others.

COPY TO Mr. Tom Taylor, Enmark Stations, Inc.

SIGNED: [signature]

If enclosures are not as noted, kindly notify us at once.

INTERSTATE

ENMARK STATIONS, INC.

ENMARK™

P. O. BOX 728
SAVANNAH, GEORGIA 31402
(912) 236-1331

March 23, 1992

RECEIVED
MAR 31 1992
Groundwater Protection Division

Mr. James Hess, Manager
UST State Corrective Action Section
SC DHEC - GWPD
2600 Bull Street
Columbia, South Carolina 29201

Re: Application for SUPERB Funding
Newberry Enmark #380 (f/k/a Newberry Interstate #380)
College Street, - Newberry, SC
GWPD Site # 06588/PCAS # 7667

Dear Mr. Hess:

Enclosed for your review is an assessment report describing a subsurface investigation performed to provide an indication of the vertical and horizontal extent of petroleum hydrocarbon contamination in soil and/or ground water at the above referenced site as related to the underground storage tank (UST) system at the site.

Also enclosed are copies of correspondence from the office of the Ground-Water Protection Division (GWPD) which indicate that a suspected/confirmed release of petroleum product at the site was originally reported to your office during the 1989 Early Detection Incentive Program. The GWPD correspondence requests the previously mentioned subsurface investigation. In addition to the GWPD correspondence to Enmark, a copy of Enmark's letter to Ms. Faller concerning self-insurance is also attached.

With submittal of this correspondence and enclosures, application for funding through the South Carolina State Underground Petroleum Environmental Response Bank Act (SUPERB) is effected should the Department mandate that further assessment and/or site rehabilitation is required at the above referenced site. This application for SUPERB funding is submitted under the conditions of the 1989 Early Detection Incentive Program which provides for "zero deductible" status in regard to receiving SUPERB funds.

We have selected ETE of Lexington, SC as our consultant for management and clean up of these sites. Please contact ~~Andy Wilson~~ of ETE should you have any questions, comments or require any additional information.

Sincerely,

S. Thomas Taylor

S. Thomas Taylor, P.G.
Principal Hydrogeologist
(SC RPG # 938/NC PG # 1137)

STT/ddc

Enclosures

INTERSTATE

ENMARK STATIONS, INC.

ENMARK™

P. O. BOX 728
SAVANNAH, GEORGIA 31402
(912) 236-1331

May 13, 1991

RECEIVED
MAY 15 1991
GROUND-WATER PROTECTION DIVISION

Mr. Christopher S. Doll
Underground Storage Tank Section
Ground-Water Protection Division
Bureau of Drinking Water Protection
2600 Bull Street
Columbia, SC 29201

Dear Chris:

This letter is to confirm your approval of the revised assessment plans for eight (8) locations. Unless otherwise notified by you in writing, we will proceed with revised assessments for these sites.

Listed below are the station number and state PCAS number for these sites:

STATION	PCAS NUMBER
#220 - Fountain Inn	P-08-NO-10425, PCAS-7671
#240 - Greenwood	N-24-NO-04689, PCAS-7659
#320 - Lexington	N-32-NO-06029, PCAS-7668
#350 - Moncks Corner	P-08-NO-10425, PCAS-7671
#380 - Newberry	N-36-NO-06588, PCAS-7667
#420 - Piedmont	N-23-NO-04104, PCAS-7655
#510 - Summerville	N-18-NO-03071, PCAS-7670
#800 - Goose Creek	N-08-NO-01205, PCAS-7672

Sincerely,

S. Thomas Taylor

S. Thomas Taylor
Hydrogeologist

STT/ddc

INTERSTATE

ENMARK STATIONS, INC.

ENMARK™

P. O. BOX 728
SAVANNAH, GEORGIA 31402
(912) 236-1331

May 3, 1991

RECEIVED
MAY 06 1991
GROUNDWATER
PROTECTION DIVISION

Mr. Christopher S. Doll
Underground Storage Tank Section
Ground-Water Protection Division
Bureau of Drinking Water Protection
2600 Bull St.
Columbia, SC 29201

Re: December 29, 1989 Release Report
Interstate # 380
Newberry, Newberry County
N-36-NO-06588, PCAS-7667

Dear Christopher:

This letter and the revised site plan are intended to serve as an addendum for revision of the previously approved assessment proposal for the Newberry Interstate in Newberry, South Carolina.

As agreed in our meeting, I have tentatively located boreholes for the assessment along the piping run (note the enclosed figure) and two in the tank pit. Furthermore, as agreed in our conversation, the position of these can be changed slightly due to logistics.

We will plan to drill the boreholes in the manner stated in the original proposal and obtain samples as originally proposed. We will also set casing in these holes to obtain water samples for the purposes of assessing groundwater quality at the site.

The soil sampling interval will remain the same as previously proposed, however, an Hnu will be used to screen duplicate soil samples obtained at each sampling point in the borehole. The duplicate sample will be analyzed using the Alabama Headspace Testing Method. If the Hnu indicates no contamination, the soil sample at that depth will not be submitted for laboratory analysis. If the soil sample yields a Hnu reading of 20 ppm or more above background levels, the sample will be submitted to the laboratory as proposed for BTEX analysis. Hnu readings will be recorded for all soil samples using the form for sample logging (note attached

form). The water sample obtained from individual boreholes will be submitted to the laboratory regardless of Hnu readings in the soil column above the water table.

If you need any further information, please do not hesitate to contact me.

Sincerely,

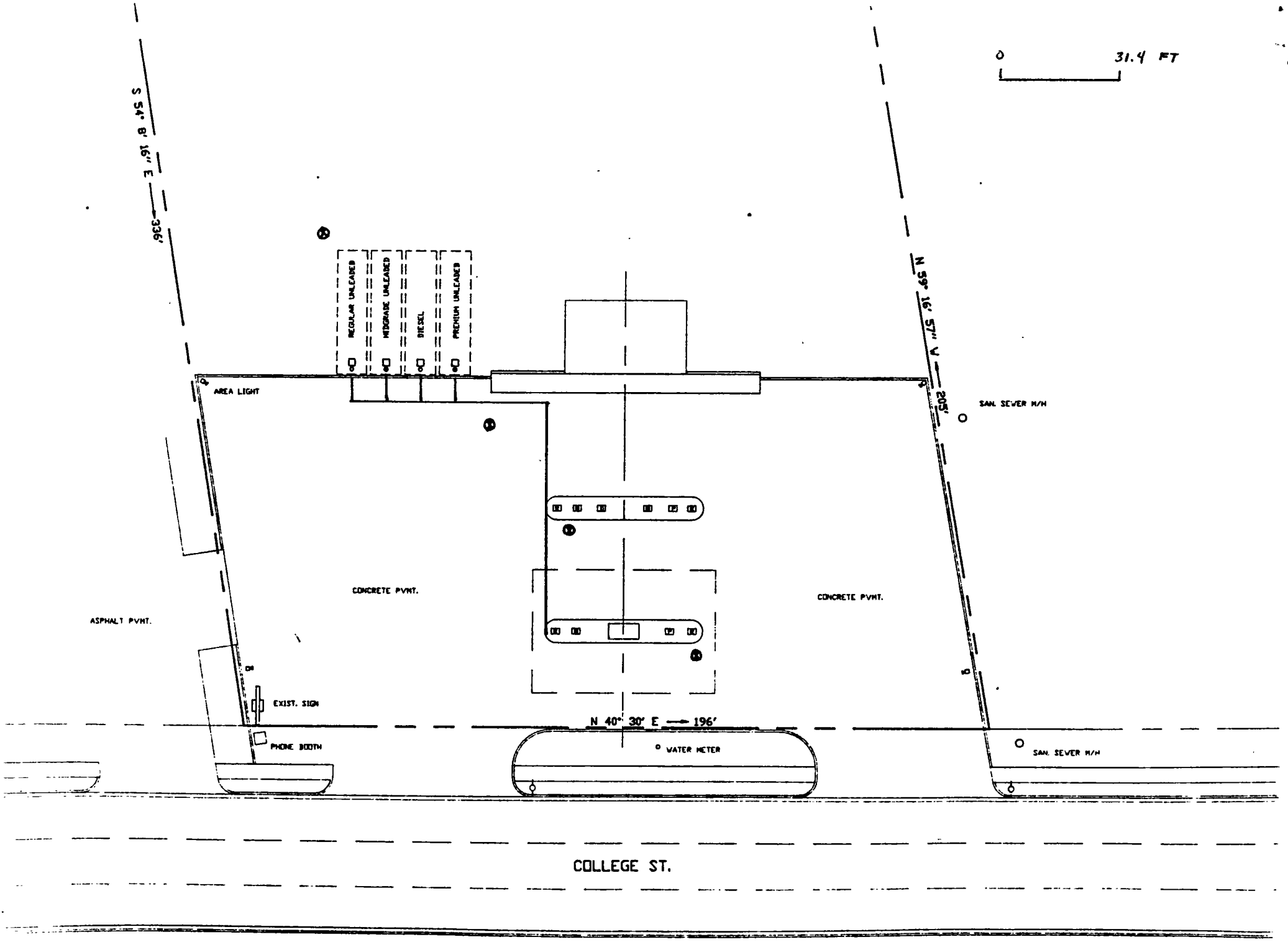
S Thomas Taylor

S. Thomas Taylor
Hydrogeologist

STT/ddc

Enclosure

MAY 06 1991
PROTECTION DIVISION



⊗ = *Proposed borehole*

FL

South Carolina
DHEC
Department of Health and Environmental Control
2600 Bull Street, Columbia, SC 29201

Commissioner: Michael D. Jarrett

Board: John B. Pate, MD, Chairman
William E. Applegate, III, Vice Chairman
John H. Burriss, Secretary
Toney Graham, Jr., MD
Richard E. Jabbour, DDS
Henry S. Jordan, MD
Currie B. Spivey, Jr.

Promoting Health, Protecting the Environment

February 4, 1991

Interstate Stations, Inc.
Attn: Wesley Townson
Post Office Box 728
Savannah, Georgia 31402

Re: Enmark # 380 (PCAS 7667)
Assessment Plan, Received November 28, 1990
Newberry, Newberry County

Dear Mr. Townson:

The Ground-Water Protection Division of the South Carolina Department of Health and Environmental Control has reviewed the referenced submittal prepared by Enmark Stations, Inc.

This investigation, to define the horizontal and vertical extents of contamination, is approvable as proposed. The report should be submitted on or before April 28, 1991.

Approval for installation of temporary ground-water monitoring wells has been issued to Enmark Stations, Inc. A copy of this approval has been attached for your records.

If you have any questions, contact Chris Doll at (803) 734-5333.

Sincerely,

Joe B Bowers

Joe B. Bowers, Hydrogeologist
Ground Water Protection Division
Bureau of Drinking Water Protection

Attachment

cc: Paul Bristol, Central Midlands District

recycled paper

South Carolina
DHEC
Department of Health and Environmental Control
2600 Bull Street, Columbia, SC 29201

Commissioner: Michael D. Jarrett

Board: John B. Pate, MD, Chairman
William E. Applegate, III, Vice Chairman
John H. Burriss, Secretary
Toney Graham, Jr., MD
Richard E. Jabbour, DDS
Henry S. Jordan, MD
Currie B. Spivey, Jr.

Promoting Health, Protecting the Environment

Monitoring Well Approval

Approval is hereby granted to: Enmark Stations, Inc.
P. O. Box 728
Savannah, Georgia 31402

RE: Enmark # 380 (PCAS 7667)
Newberry, Newberry County

for the construction of temporary monitoring wells designated B-1 through B-9 in accordance with the construction plans and specifications submitted on November 28, 1990.

Conditions: The latitude and longitude and actual construction details for the well shall be submitted with the assessment report. Paul Bristol of the Central Midlands District EQC (803-935-7015) should be notified at least 72 hours prior to well installation. The well(s) will be constructed with a casing and a screened interval across the water table. A properly-sized sandpack will be installed in the screened interval and the well will be properly developed prior to collection of groundwater samples.

This approval is pursuant to the provisions of Section 44-55-40 of the 1976 South Carolina Code of Laws and the Department of Health and Environmental Control Regulations R.61-71.

Date of Issue: February 1, 1991.

Stanley M. Swartzel

Stanley M. Swartzel, Manager
Underground Storage Tank Section
Ground-Water Protection Division
Bureau of Drinking Water Protection

0201912047/jbb

cc: Paul Bristol, Central Midlands District

recycled paper

South Carolina
DHEC
Department of Health and Environmental Control
2600 Bull Street, Columbia, SC 29201

Commissioner: Michael D. Jarrett

Board: John B. Pate, MD, Chairman
William E. Applegate, III, Vice Chairman
John H. Burriss, Secretary

Toney Graham, Jr., MD
Richard E. Jabbour, DDS
Henry S. Jordan, MD
Currie B. Spivey, Jr.

Promoting Health, Protecting the Environment

FILE

September 25, 1990

Interstate Stations
Attn: Wesley Townson
Post Office Box 728
Savannah, GA 31402

Re: December 29, 1989 Release Report
Interstate #380
Newberry, Newberry County
N-36-NO-06588, PCAS-7667

Dear Sir,

The Ground-Water Protection Division (GWPD) of the S. C. Department of Health and Environmental Control (SCDHEC) has reviewed the referenced submittal. This submittal is the report of the site check outlined in the South Carolina Underground Storage Tank Control Regulations (SCUSTCR), Part 280.52. The analytical results indicate the possibility that a release of regulated substance has occurred at the facility. Therefore in accordance with SCUSTCR Part 280.62, release investigation must be undertaken and the procedures outlined in SCUSTCR Part 280.62(a5) followed.

To fulfill the requirements of SCUSTCR Part 280.62(a5), additional investigation must be conducted to define the horizontal and vertical extent of the contamination. If ground water is encountered, then a sample must be taken and analyzed for Total Petroleum Hydrocarbons and total BETX (Benzene, Ethylbenzene, Toluene, Xylenes).

The South Carolina State Underground Petroleum Environmental Response Bank Act of 1988 (SUPERB) provides for the rehabilitation of any qualified site contaminated with petroleum or petroleum products released from underground storage tanks. The necessity of rehabilitation at the subject site has not yet been established, therefore the requested assessment is not immediately eligible for reimbursement through SUPERB. If rehabilitation is required, all reasonable costs associated with this assessment will then be subject to reimbursement.

A proposal for soil and/or ground-water investigation should be submitted to the writer no later than November 23, 1990.

recycled paper

If you have any questions, contact me at (803)734-5333.

Sincerely,

Christopher S. Doll, P.G., Hydrogeologist
Underground Storage Tank Section
Ground Water Protection Division
Bureau of Drinking Water Protection

CSD/csd

cc: Central Midlands District EQC

INTERSTATE

ENMARK STATIONS, INC.

ENMARK™

P. O. BOX 728
SAVANNAH, GEORGIA 31402
(912) 236-1331

September 6, 1990

Mr. Robert G. Faller, EQM
Trust Section
Ground-Water Protection Division
Bureau of Drinking Water Protection
South Carolina DHEC
2600 Bull Street
Columbia, S.C. 29201

Re: Underground Storage Tank Insurance

Dear Mr. Faller:

Enmark Stations, Inc. has demonstrated financial responsibility under rules promulgated by the United States Environmental Protection Agency for self insurance. This letter is in response to your letter of July 30, 1990, regarding the following stations:

FACILITY NAME AND ADDRESS	PCAS	PERMIT I.D. #
Interstate #420 Piedmont Highway Greenville, S.C.	7655	N-23-NO-04104
Interstate #650 934 Anderson Williamston, S.C.	7656	N-04-NO-00724
Enmark #040 Murray Avenue Anderson, S.C.	7657	N-04-NO-00723
Enmark #130 512 Bypass 28 Anderson, S.C.	7658	N-04-NO-00722
Interstate #240 Laurens Hwy Greenwood, S.C.	7659	N-24-NO-04689
Interstate #160 401 W. Carolina Laurens, S.C.	7660	N-30-NO-05669

RECEIVED
SEP 07 1990
GROUND-WATER
PROTECTION DIVISION

FACILITY NAME AND ADDRESS	PCAS	PERMIT I.D. #
Interstate #220 Fountain Inn, S.C.	7662	N-23-NO-04105
Interstate #680 Woodruff, S.C.	7663	N-42-NO-08570
Interstate #500 Whitney Road Spartanburg, S.C.	7664	N-42-NO-08498
Interstate #560 513 Thompson Blvd. Union, S.C.	7665	N-44-NO-08995
Interstate #300 Great Falls Hwy. Hwy 200 South Lancaster, S.C.	7666	N-29-NO-05545
Interstate #380 2725 College Newberry, S.C.	7667	N-36-NO-06558 06558
Interstate #320 4345 Augusta Road Lexington, S.C.	7668	N-32-NO-06029
Interstate #520 309 Lafayette Blvd. Sumter, S.C.	7669	N-43-NO-08863
Enmark #510 1130 N. Main Summerville, S.C.	7670	N-18-NO-03071

Should you have any further questions, please give me a call.

Sincerely,

S. Thomas Taylor

S. Thomas Taylor
Hydrogeologist

STT/ddc

SEP 07 1990
GROUND-WATER
PROTECTION DIVISION

MEMORANDUM

TO: Ground-Water Protection Division Files

FROM: Robert G. Faller, EQM
Trust Section

Re: Interstate #380 (PCAS-7667/N-36-NO-06558)
2725 College
Newberry, SC

Date: September 5, 1990

The inventory records for the referenced facility has been reviewed by the writer on August 28, 1990 with Interstate Station's accountant.

GL8748

COLONIAL-INTERSTATE, INC.
STATION OPERATING STATEMENTS AT THE END OF SEPTEMBER 1989
NEWBERRY

PRINTED ON 12/20/89

	TOTAL	REGULAR	PREMIUM	NO LEAD	DIESEL	KERO
BEGIN INV	15,533	5,879	2,149	4,382	3,123	
PURCHASES	85,371	21,081	13,423	48,256	2,581	
SALES	(83,959)	(21,523)	(13,158)	(48,217)	(1,061)	
BOOK INV	16,945	5,437	2,414	4,451	4,643	
PHYSICAL INV	18,209	6,454	2,544	4,541	4,670	
GAIN(LOSS)	1,264	1,017	130	90	27	
YTD GAIN(LOSS)	4,401	2,878	359	1,074	90	

GROSS PROFIT BY PRODUCT ANALYSIS

	CURRENT MONTH			CURRENT YEAR		
	$	% TOT GP	GP %	$	% TOT GP	GP %
GASOLINE	9,393.45	87.2	11.5	97,209.31	85.5	10.2
LUBE OIL & MISC	37.79	.4	7.7	2,327.04	2.1	54.1
CIGARETTES	1,247.72	11.6	17.9	12,828.42	11.3	18.2
DRINKS	41.38	.4	20.2	568.63	.5	20.4
CRACKERS	51.15	.5	43.7	829.11	.7	48.4
TOTAL GROSS PROFIT	10,771.49			113,762.51		

ANALYSIS PER GALLON

			REGULAR		PREMIUM		NO LEAD		DIESEL		KERO
			SS	FS	SS	FS	SS	FS	SS	FS	
OF TOTAL SALES			23.8	1.9		15.7	49.4	8.0	1.3		
	YTD	MTD									
SALES	.9521	.9701	.9346	1.0144		1.1119	.9346	1.0145	.9147		
COST OF SALES	.8548	.8582	.8296	.8296		.9179	.8591	.8591	.6559		
GASOLINE GP	.0973	.1119	.1050	.1848		.1940	.0755	.1554	.2588		
OTHER PRODUCTS GP	.0166	.0164									
TOTAL GP	.1139	.1283	REG COMBINED GP		PREM COMBINED GP		NL COMBINED GP		DIE COMBINED GP		
OTHER INCOME			.1108		.1940		.0366		.2588		
TOTAL INCOME	.1139	.1283									
EXPENSES											
MISC OPERATING	.0005	.0003									
STATION/STORE EXP	.0033	.0052									
STATION/ALLOCATED	.0130	.0405									
UTILITIES	.0057	.0063									
SALARIES-MEN	.0144	.0137									
SALARIES-MGR	.0182	.0231									
P/R TAXES	.0032	.0032									
TAXES & LICENSES	.0008										

MGM PETRO EQUIPMENT & ENVIRO SERVICES
P.O. BOX 5170 • 4245 DRANE FIELD ROAD • LAKELAND, FLORIDA 33807-5170
TELEPHONE 646-0366 • 646-0049

December 29, 1989

State of South Carolina
Department of Health and Environmental Control
2600 Bull Street
Columbia, S.C. 29201

Attention: Mr. Paul Bergstrand

Dear Mr. Bergstrand,

MGM Environmental Services was retained by Interstate Stations Inc. to conduct preliminary evaluations of all Interstate and Enmark Service Stations in South Carolina. The purposes of these investigations was to determine the presence of gasoline contamination associated with gasoline storage and dispensing operations at these sites.

To detect the presence of gasoline contamination at these sites, MGM personnel conducted [redacted] the areas of the underground storage tanks, associated piping and dispensers. Samples of soil were taken and placed in sealed 16 ounce soil sample jars. Following an approximate 2 minute holding period, the head-space in each jar was sampled using an HNu model PI-101 photoionization detector. This instrument, equipped with a 10.2 electron volt lamp is capable of detecting volatile organic compounds in the air from soil contaminated with gasoline. This instrument is further capable of discriminating between volatile organics and methane, assuring no "false" readings due to methane contamination. [redacted]

Table one shows a summary of the locations of the soil sample(s) and the maximum value in parts per million obtained from the sample(s) on the HNu photoionization detector. As a result of the ability of the photoionization detector to discriminate volatile organic compounds (ie. EPA method 602 or 5030/8020 compounds), any reading beyond a background indicates gasoline contamination is present.

Gasoline contamination was found at several of the locations visited. These data indicate that a discharge of gasoline to the soil, consistent with normal service station operations has taken place at these sites.

[redacted]
in Section 44-2-110 of the South Carolina Statutes.

Should you require any additional information regarding the above referenced sites, please contact the undersigned.

Sincerely,

Kenneth E. Czoer, P.G.
Manager, Environmental Services

KEC/gs

Table 1: Photoionization Readings In PPM

Service Station	Location	Sample Location	PID Reading
Interstate #640	640 White Horse Rd Greenville, SC	Monitor Well	Prod* PCAS 7654
Interstate #420	Piedmont Hwy. Greenville, SC	Tank Fill	150 ppm 7655
Interstate #650	934 Anderson Williamston, SC Anderson	Pump Housing Box	70 ppm 7656
Enmark #040	Murray Ave. Anderson, SC	Monitor Well	80 ppm 7657
Enmark #130	512 Bypass 28 Anderson, SC	Tank Fill	55 ppm 7658
Interstate #240	Laurens Hwy. Greenwood, SC	Tank Fill	150 ppm 7659
Interstate #160	401 W. Carolina Clinton, SC Laurens	Pump Housing Box	35 ppm 7660
Interstate #310	Carolina Ave. Laurens, SC	Tank Fill	110 ppm 7661
Interstate Sta.	Fountain Inn, SC Greenville	Tank Fill	200 ppm 7662
Interstate Sta.	Woodruff, SC. Spartanburg	Tank Fill	35 ppm 7663
Interstate #500	Whitney Rd. Spartanburg, SC	Tank Fill	220 ppm 7664
Interstate #560	513 Thompson Blvd. Union, SC Union	Tank Fill	250 ppm 7665
Interstate #300	Hwy 200 South Lancaster, SC	Tank Fill	220 ppm 7666
Interstate #380 N-36-NO-06588	2725 College **Newberry, SC**	Tank Fill	250 ppm 7667
Interstate #320	4345 Augusta Rd. Lexington, SC	Tank Fill	250 ppm 7668
Interstate #520	309 Lafayette Blvd. Sumpter, SC	Tank Fill	500 ppm 7669
Enmark #510	1130 N. Main Summerville, SC Dorchester	Monitor Well	20 ppm 7670

Enmark #350	Hwy 52 North Moncks Corner, SC	Monitor Well	35 ppm	PCAS 7671
Enmark #800	205 Goose Creek Goose Creek, SC	Monitor Well	400 ppm	7672
Interstate # 120	Hwy. 21 Beaufort, SC	Tank Fill	55 ppm	7673

* Free product reported previously refer to SCDHEC letter 12/6/89 from Mr. Mark Berenbrok to Enmark

20

DHEC
South Carolina Department of Health and Environmental Control

Report On Records Destroyed
Division Of Support Services

1. Date: 1/2/97 ~~12-31-96~~	Return this form to: **Bureau of Business Management** **Division of Support Services-Records and Forms Management Unit** **2600 Bull Street** Columbia, SC 29201

The records listed below have been disposed of in accordance with provisions of the Public Records Act, Code of Laws of South Carolina, 1976, Sections 30-1-10 through 30-1-140, **as amended, and approved Records Retention** Schedules.

2. Signature: Catherine Kirtinsky

3. Title: Prog. Coordinator

Agency Records Officer signature:

4. Record Series Titles	5. Record Series #	6. Inclusive Dates	7. Volume (cubic footage)	8. Date of Destruction
Assessment Plan	09344	10-2-92	01	put in recycled bin 12-31-96
			.01	Total Cubic Feet Destroyed

UST DOCKETING 38...

Site Name Zabriskie #350 Site ID 06558
Project Manager Gary Cor...

South Carolina
DHEC
Department of Health and Environmental Control
2600 Bull Street, Columbia, SC 29201-1708

Commissioner: Douglas E. Bryant

Board: John H. Burriss, Chairman
William M. Hull, Jr., MD, Vice Chairman
Roger Leaks, Jr., Secretary
Richard E. Jabbour, DDS
Cyndi C. Mosteller
Brian K. Smith
Rodney L. Grandy

Promoting Health, Protecting the Environment

NOV 18 1996

Mr. David Higgs
Enmark Stations, Inc.
PO Box 728
Savannah, GA 31402-0728

Re: Enmark Station-Newberry-2nd Release
Site ID: #06588
Request for Review received October 9, 1996
Newberry County

Dear Mr. Higgs:

In response to your request, I have reviewed the previously denied invoice submitted by Handex. The invoice has been approved for an additional amount of $1,009.68. This amount reflects the following adjustments:

- $187.50 additional for Item #1-drilling coordination and bail test coordination.
- $320.00 additional for Item #2-drilling coordination.
- $34.00 additional for Item #3-bail test coordination.
- $85.00 additional for Item #5-system repairs and upgrades.
- $798.00 less for Item #8-drilling. The maximum SUPERB allowable rate was paid.
- $68.05 additional for Item #10-miscellaneous supplies.
- $309.08 additional for Item #11-per diem.
- $6.05 additional Item #12-drums.

The approved amount will be applied toward your $25,000 SUPERB deductible. As a payee, you must retain all pertinent technical and financial documents related to this site in accordance with Section 44-2-130 of the SUPERB Statute.

A SUPERB Internal Review Committee, which is independent of the SUPERB Program, has been created by the Deputy Commissioner of Administrative Services to review payment requests for site rehabilitation activities that have been appealed to and denied by the Bureau of Underground Storage Tank Management Director. Should you desire to meet with the review committee and explain any concerns regarding the denied payment or reconsideration request, please submit your request within 30 days of the date of this letter to:

Mr. Ben Lee, Deputy Commissioner
Administrative Services
SCDHEC
2600 Bull Street
Columbia, SC 29201

recycled paper

If you have any questions, please contact me at (803) 734-5331.

Sincerely,

Stanley L. Clark, Director
Bureau of Underground Storage Tank Management

cc: Mr. Ben Lee, Administrative Services
Financial File
Read file

South Carolina
DHEC
Department of Health and Environmental Control
2600 Bull Street, Columbia, SC 29201-1708

Commissioner: Douglas E. Bryant

Board: John H. Burriss, Chairman
William M. Hull, Jr., MD, Vice Chairman
Roger Leaks, Jr., Secretary
Richard E. Jabbour, DDS
Cyndi C. Mosteller
Brian K. Smith
Rodney L. Grandy

Promoting Health, Protecting the Environment

JUL 10 1996

Mr. David Higgs
Enmark Stations, Inc.
P.O. Box 728
Savannah, GA 31402-0728

Re: Enmark Station-Newberry-2nd Release
Site ID# 06588 CP# 01432
Invoice Number 61121
Newberry County

Dear Higgs:

The S.C. Department of Health and Environmental Control (SCDHEC) has reviewed Enmark Stations invoice number 61121 for the referenced facility.

The invoice has been approved for the amount of $23,095.38. As discussed in previous letters, this amount will be applied towards your deductible. The total amount of the invoice was $26,418.88. The amount of $3,323.50 has not been approved. This amount represents the following adjustments:

$476.50 less for telecons re: drilling progress and work with SCDHEC (p.1-2). This work is not technically justified.

$320.00 less for drilling/DHEC contact/scheduling (p.3). This description needs to be clarified.

$34.00 less for discussion of work scope and remediation activities. This work is not technically justified.

$493.00 less for discussion of cost proposal with SCDHEC (p.6 & 9). This cost is not reimbursable from the SUPERB account.

$85.00 less for system downtime with client (p.12). This cost is not directly related to site rehabilitation and therefore is not reimbursable from the SUPERB account.

$247.00 less for bill requirements, invoice package and reimbursement discussion with client (p.12-15). This cost is incorporated into an established rate.

$153.00 less for client calls (p.15-17). This cost is not reimbursable from the SUPERB account.

recycled paper

$789.00 less for drilling (p.30). The maximum rates for drums $37.50, mob/demob $400.00 and 3 men drill crew $345.00/day has been allowed.

$321.87 less for tax (p.32,35-37). This amount is not reimbursable from the SUPERB account.

$68.05 less for miscellaneous materials (p.33). The use and description of these items must be clarified before payment is rendered.

$309.08 less for per diem (p.34-35). Supporting receipts must be submitted before payment is rendered. Also, meals are not reimbursable without an over night stay.

$7.00 less for drum (p.35). The maximum amount allowed is $25.00 without a supporting receipt.

$20.00 less for photo documentation. This amount is not reimbursable from the SUPERB account.

If you have any questions, feel free to call Robertha Dorsey at (803) 734-5331.

Sincerely,

Jane Juras

Jane T. Juras, CPA
Administrative Section
Bureau of UST Management

rxd/06588han

cc: Mr. Jeffery Hillis, Handex, 3600-G Woodpark Blvd., Charlotte, NC 28206

Jan Cooke, Bureau of UST Management, Technical Section

South Carolina
DHEC
Department of Health and Environmental Control
2600 Bull Street, Columbia, SC 29201-1708

Commissioner: Douglas E. Bryant

Board: John H. Burriss, Chairman
William M. Hull, Jr., MD, Vice Chairman
Roger Leaks, Jr., Secretary
Richard E. Jabbour, DDS
Cyndi C. Mosteller
Brian K. Smith
Rodney L. Grandy

Promoting Health, Protecting the Environment

FY
5-22-96

MAY 22 1996

Mr. David Higgs
Enmark Stations, Inc.
PO Box 728
Savannah, GA 31402-0728

Re: Enmark Station-Newberry-2nd Release
Site ID: #06588; CP #1432
Addendum Cost Proposal received May 10, 1996
Newberry County

Dear Mr. Higgs:

The Bureau of Underground Storage Tank Management of the South Carolina Department of Health and Environmental Control (SCDHEC) has increased cost proposal #01432 in the amount $1,885.12. This reflects a reduction of $150.00 for cost proposal preparation. As this is an amendment to a cost proposal, additional cost proposal preparation is not reimbursable. The total amount approved for CP #1432 is $28,381.02.

Cost Proposal #1432 was established December 7, 1995 and adjusted February 28, 1996. To date this cost proposal has not been billed against. Per Section 44-2-40 (B) of the SUPERB Act committed funds revert to noncommitted status after four months of initiation of the commitment if no invoices have been received by the Department. Upon submittal, the invoice(s) will be reviewed such that reasonable costs can be applied toward the $25,000.00 deductible. Direct billing is available for that amount that exceeds the deductible.

On all correspondence concerning this site, please reference Site ID #06588-2 and CP #1432. If there are any questions concerning this project, please call me at (803) 734-4671.

Sincerely,

Technical Section
Bureau of Underground Storage Tank Management

Jan T. Cooke

Jan T. Cooke, Hydrogeologist

David G. Baize, Manager

cc: Jeffery Hollis, Handex
Administrative Section

recycled paper

INTERSTATE

ENMARK STATIONS, INC.

P. O. BOX 728
SAVANNAH, GEORGIA 31402
(912) 236-1331

ENMARK™

RECEIVED
DEC 27 1995
Groundwater Protection Division

FACSIMILE TRANSMISSION COVER SHEET

TO: Jan Cook

FAX No. 803 734-3604

FROM: David Higgs

FAX No. 912-235-3885

DATE: 12/27/95

Results of Tank, Line & LD Test at Newberry.
Hard copy will follow today with Insurance Certification.
Thanks
David H.

This transmission consists of 4 pages (including this cover sheet). Please call _____ at 912-236-1331 in case of incomplete or illegible transmission.

PTS

PRECISION TANK SERVICE, INC.

12/22/1995

Enmark Stations
Test Date: 12/21/1995 Certification Number: PT 002

Location: 380
2725 College Street
Newberry SC

Dear David Higgs

A precision test was performed on the below mentioned tanks using the UST 2000/P/U, the results below indicate whether the tank(s) passed or failed the criteria as described by EPA CFR 280 PART D.

TANK TEST RESULTS

PRODUCT	CAPACITY	TEST HEIGHT	LEAK RATE	UNDERFILL	ULLAGE	WATER FOUND
PLUS	6000	49	-0.047	PASS	PASS	0 "
UNLEAD	6000	40	-0.044	PASS	PASS	0 "
PREMIUM	8000	63	0.013	PASS	PASS	0 "
UNLEAD	8000	45	-0.042	PASS	PASS	0 "

If you have any questions, please contact our office at (704)-892-8600.

PTS
PRECISION TANK SERVICE, INC.

12/28/1995

Bnmark Stations
P.O. Box 728
Savannah, GA 31402

Test Number: 951221A-17
Test Date: 12/21/1995

Technician: Darren Rowe
Certification Number: PT 002

Location: 380
2725 College Street
Newberry SC

Dear David Higgs,

A line integrity test was performed on the above line circuit(s) using the ACURITE line tester. This test was performed at a pressure equal to 1.5 times the system operating pressure. The criteria for acceptable line integrity allowed by this test procedure is based upon a leak detection limit of 0.01 gph., for pressurized piping, and a limit of 0.025 gph. for suction piping.

The results of the test are given below and indicate whether the line(s) passed or failed the integrity criteria. The validity of the information is based on the ability to effectively isolate the line(s) from the tank(s).

PRODUCT LINE TEST RESULTS

PRODUCT	ISOLATION	LEAK RATE	PRESS	PASS/FAIL
PLUS	ISOPLUG	0.001	45	PASS
UNLEAD	ISOPLUG	0.000	45	PASS
PREMIUM	ISOPLUG	0.001	45	PASS

If you have any questions, please contact our office at (704)-892-8600.

PTS
PRECISION TANK SERVICE, INC.

12/28/1995

Enmark Stations
P.O. Box 728
Savannah, GA 31402

Test Number: 951221A-17
Test Date: 12/21/1995

Technician: Darren Rowe
Certification Number: PT 002

Location: 380
2725 College Street
Newberry SC

Dear David Higgs,

A test was performed on the line leak detector(s) at the above location, in accordance with the manufacturer's recommended procedure. The results below indicate the performance of these devices in their present application.

If a "Retest" has been indicated, it may mean a new leak detector has been installed. The new leak detector type will be listed.

LEAK DETECTOR TEST RESULTS

PRODUCT	LD TYPE	PASS/FAIL
PLUS	XLP	PASS
UNLEAD	PLD	PASS
PREMIUM	PLD	PASS

If you have any questions, please contact our office at (704)-892-8600.

MEMORANDUM

TO: File

FROM: Mark Berenbrok, Hydrologist
Regulatory Section
Underground Storage Tank Program

RE: Interstate Station
2725 College Street, Newberry, SC
Site ID #06588

DATE: November 22, 1995

A release report was submitted for the referenced facility on November 21, 1995 by Jeff Hollis of Handex Carolinas. This writer spoke with Al Allen of Colonial Oil (Interstate's parent company) on November 22, 1995. Mr Allen relayed the following:

- Sub-Con had inspected the premium tank last week and determined that glassing was not required. Various release detection and spill/overfill prevention equipment was installed.

- The tank was filled with product on 11-17-95 and passed testing.

- On 11-19-95 the operators noticed inventory discrepancies. Since the tank has passed testing, they thought the discrepancy might be due to theft.

- The discrepancies continued on 11-20-95. The tank was taken out of service. Upon checking product level several hours later, it was determined that the level had dropped.

- Sub-Con reinspected the interior of the tank and found areas of corrosion.

- Handex Carolinas has been contacted by Colonial Oil to install free product recovery wells.

- Approximately 1400 gallons of premium gas is unaccounted for (and assumed lost).

cc: Connie Anderson, UST Regulatory

Handex®

FAX Transmittal Sheet

To : Jan Cooke, DHEC

FAX # : (803) 734 - 3604

From : Jeffrey Hollis

Date : April 25, 1996

This transmission consists of 2 page(s), including this cover sheet.

COMMENTS:

Re: Compressor Quotations - Enmark / Newberry, SC

Jan -

Attached please find three quotes obtained for the purchase of a compressor and associated dryer and filters to replace the use of the existing compressor on the site. The figures provided are for comparitive use and cover only the compressor and associated peripherals as listed. Handex hopes to order this equipment as soon as possible, so as to increase free product recovery here. Please call me with any questions or comments you may have at (704) 598 - 7900, ext 31. Thank you!

JH

RECEIVED
APR 25 1996
Bureau of Underground Storage Tank Management

3600-G Woodpark Boulevard, Charlotte, North Carolina 28206 • (704) 598-7900 FAX (704) 598-2248

Enmark / Newberry, SC

Necessary Upgrade to Free Product Recovery System

Addition of dedicated compressor for improved operation of pneumatic recovery system.

Quotation Sheet

1) Boart Longyear (Stone Mtn., GA) $895.00
   - Item # TR-901 2-hp air compressor
   - Item # TR-902 compressor kit

2) Handex (Charlotte, NC) $480.00
   - Item # 4B229 2.5-hp air compressor (Grainger)
   - Item # CB6-02-FM0 filter/regulator (Wilkerson)
   - Item # M16-02-FM0 coalescing filter (Wilkerson)

3) P&M Tool Company (Fletcher, NC) $1,190.00
   - Item # AT20A22NP 2-hp air compressor
   - Item # DA-10 Refrigerated air dryer w/auto drain
   - Particulate filter, 10-micron

The pricing information contained herein is for a compressor and associated filtration and drying equipment (as listed), and does not include any fittings, piping, or tubing which may be necessary to connect the compressor to the filters, dryer, and existing recovery system air feed line. These prices are also exclusive of any electrical upgrades which may be necessary to operate the compressor.

Quotes do not include markup or installation costs by Handex.

INTERSTATE

ENMARK STATIONS, INC.

ENMARK™

P. O. BOX 728
SAVANNAH, GEORGIA 31402
(912) 236-1331

FACSIMILE TRANSMISSION COVER SHEET

TO: Jan Cooke

FAX No. 803 734-3604

FROM: David Higgs

FAX No. 912-235-3885

DATE: 5/6/96

RECEIVED
MAY 06 1996
Bureau of Underground Storage Tank Management

Newberry Enmark (#06588-2)
Well completion letter originally
mailed on Jan 19, 1996.
If you have any questions
please contact me at
912-236-1331.
Thanks D. Higgs

This transmission consists of 11 pages (including this cover sheet). Please call _____ at 912-236-1331 in case of incomplete or illegible transmission.

Well (or Boring)	Latitude	Longitude	Top of Casing Elevation (feet above mean sea level)
MW-1	34° 17' 25.5" N	81° 37' 23.5" W	542.41
MW-2	34° 17' 25.5" N	81° 37' 23.5" W	543.08
MW-3	34° 17' 25.5" N	81° 37' 23.5" W	543.93
MW-4	34° 17' 25.5" N	81° 37' 23.5" W	543.30
SB-5	34° 17' 25.5" N	81° 37' 23.5" W	543.20

The latitude and longitude were determined by locating the site on the Newberry, SC East USGS 7.5-minute topographic map. The casing elevations were determined by a survey performed by Handex on November 28, 1995, which was tied in to a previous survey conducted by Environmental Technology Engineering, Inc. in 1991. A site location map showing the site relative to surrounding topography and local surface features is presented as Figure 1. A site plan showing the wells and borings in relation to pertinent site features is presented as Figure 2. Boring logs showing well construction details are included as Attachment B. Each well was installed approximately 6.5 feet below the water table, except SB-5 which was installed as a dry well at a depth of 14 feet below grade, and therefore did not require a well permit.

Well Identification

Each well and soil boring is identified by an identification plate permanently mounted inside each manhole. Each plate contains the well identification number (MW-2, MW-3, MW-4, SB-5), date of construction (November 27, 1995), static water level (approximately 18.5 feet below grade, except SB-5 which is dry), and driller name and state certification number (AE Drilling Services, SC # 1096).

Cuttings Disposal

All soils generated during soil boring and monitoring well installation were containerized on-site in 55-gallon drums for future disposal. Following analysis by Specialized Assays Environmental (SC Certification # 84009), it was determined that the soils could be disposed at Chambers Landfill in Elgin, South Carolina. The drums were removed from the site on January 11, 1996 by Watters Trucking Company and delivered to Chambers for disposal. A copy of the disposal manifest is included as Attachment C.

48-Hour Notice

Due to the emergency nature of the well installation, Handex was unable to provide 48-hour notice to Paul Bristol of the Central Midlands Environmental Quality Control (EQC) Office, as specified in the permit. However, Mark Berenbrok in the Regulatory Section of the UST Program was notified prior to initiating activities, and Jan Cooke of the Technical Section of the UST Program was apprised of developments from the field during drilling activities.

Groundwater Data

The monitoring wells were installed for the purpose of monitoring groundwater levels and recovering LPH. As such, no groundwater samples have been collected to date from the monitoring wells. Well gauge data are provided in Attachment D.

Weekly LPH removal activities were initiated on December 7, 1995. The amount of LPH bailed on a weekly basis is summarized in Table 1. To date, approximately 15.6 gallons of LPH have been removed from the monitoring wells and placed in a properly labeled, vented, 55-gallon drum located behind the station building for future disposal.

If you have any questions or require additional information, please contact this office at (800) 944 - 3835, or Jeffrey Hollis of Handex at (704) 598 - 7900.

Sincerely,
ENMARK STATIONS, INC.

David Higgs
Environmental Specialist

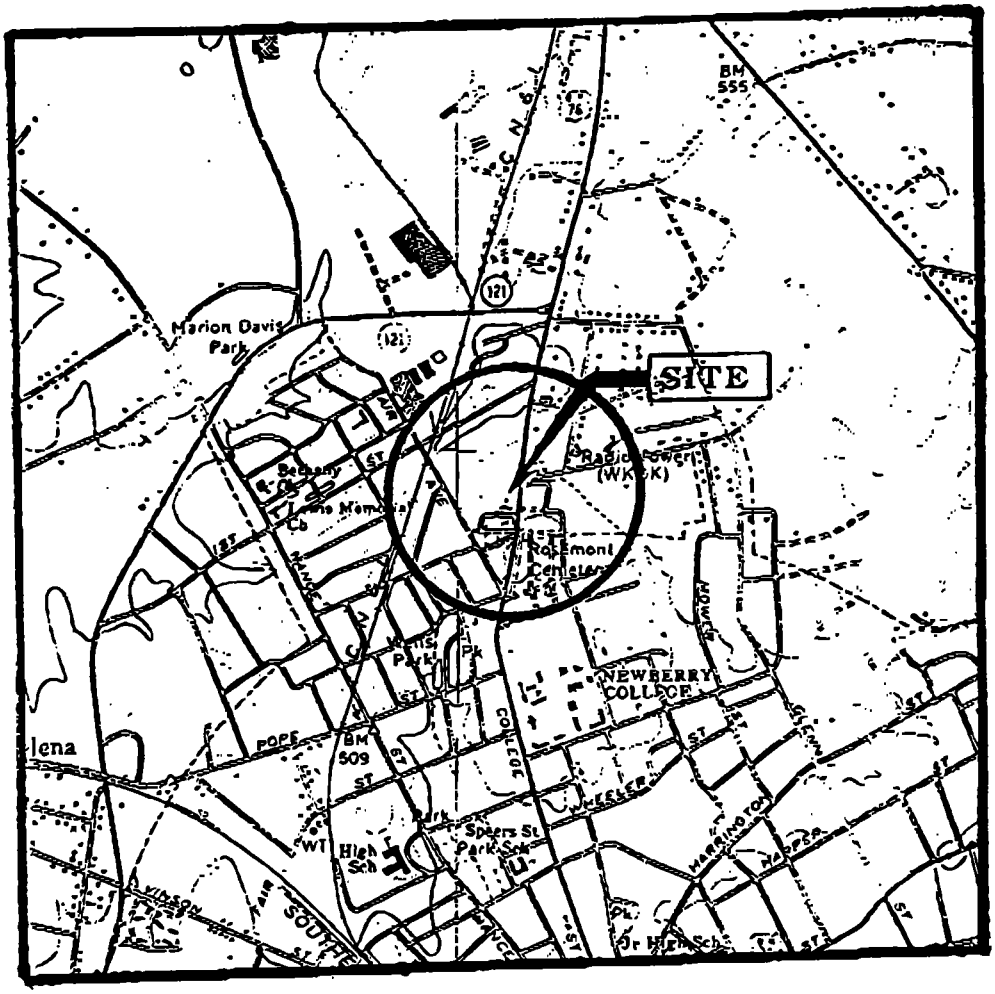
Attachments

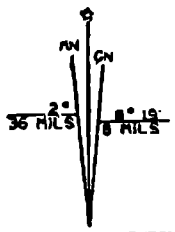
cc: Jeffrey Hollis, Handex

FIGURES

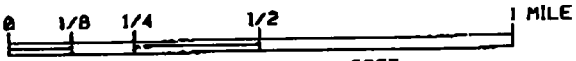
FIGURE 1: SITE LOCATION MAP

FIGURE 2: SITE PLAN





UTM GRID AND 1968 MAGNETIC NORTH DECLINATION AT CENTER OF NEWBERRY EAST QUADRANGLE



CONTOUR INTERVAL 10 FEET
NATIONAL GEODETIC VERTICAL DATUM OF 1929

QUADRANGLE LOCATION

NEWBERRY EAST, S.C.
N3415-W8130/7.5
1968

AMS 4652 I SE-SERIES V846

&

NEWBERRY WEST, S.C.
N3415-W8137/7.5
1969

AMS 4652 I SE-SERIES V846

FIGURE 1
TOPOGRAPHIC LOCATION MAP

Handex
HANDEX OF THE CAROLINAS, INC.

ENMARK SS #380
2725 COLLEGE STREET
NEWBERRY, SOUTH CAROLINA

SCALE:	1:24000	PROJ. NO.	110727
DATE:	12-21-95	REV. BY:	
DWN. BY:	C. JOHNSON	DWG. NO.	10727SM1
PROP. BY:	DATE:	CHK. BY:	DATE:

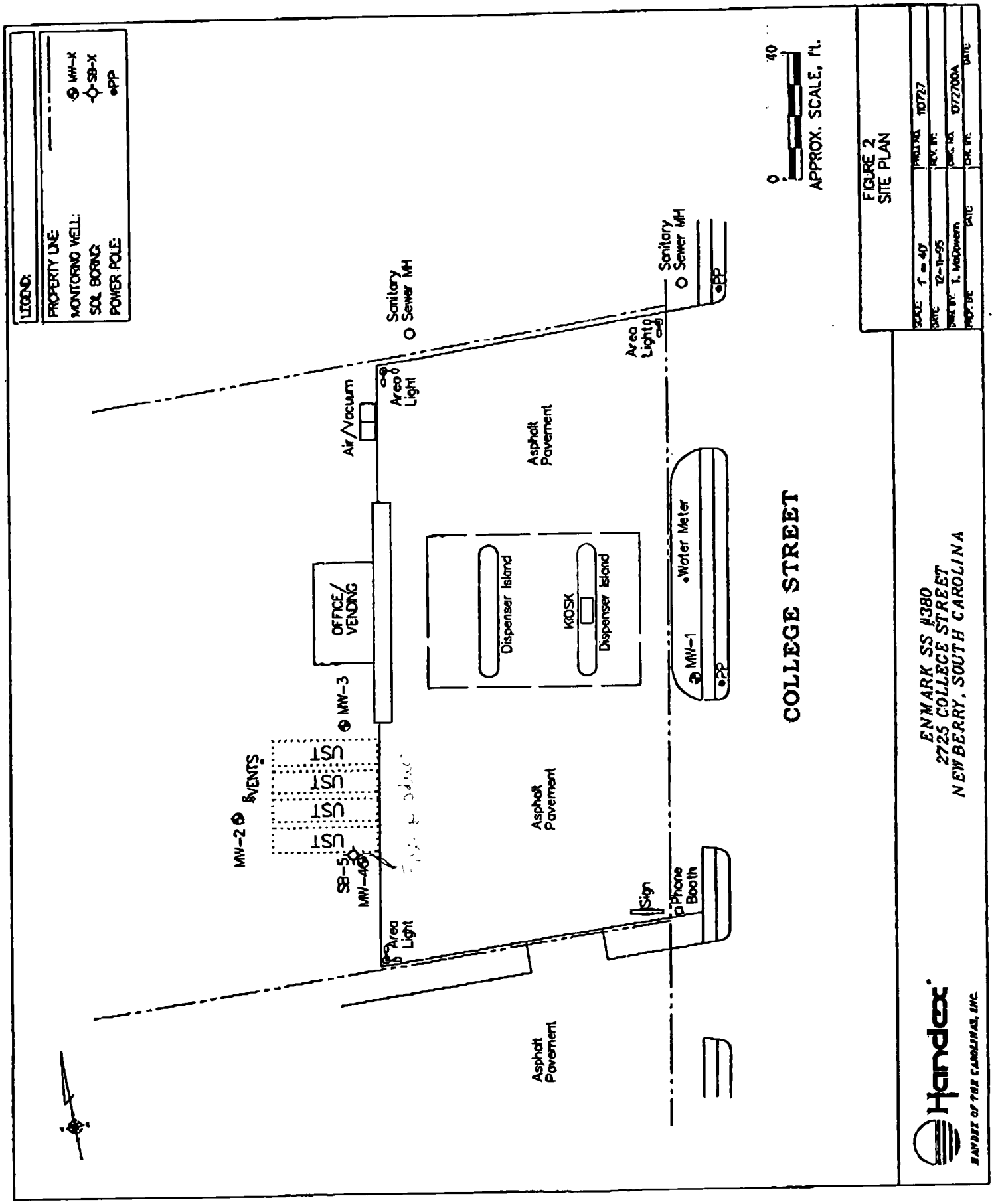

LEGEND:
PROPERTY LINE
MONITORING WELL:
SOIL BORING
POWER POLE:
MW-X
SB-X
PP
0
40
APPROX. SCALE, ft.
FIGURE 2
SITE PLAN
Sanitary Sewer MH
Area Light
Air/Vacuum
Asphalt Pavement
OFFICE/ VENDING
Dispenser Island
KIOSK
Water Meter
MW-1
MW-3
MW-2
VENTS
UST
SB-5
MW-4
Phone Booth
Sign
COLLEGE STREET
ENMARK SS #380
2725 COLLEGE STREET
NEWBERRY, SOUTH CAROLINA
Handex
HANDEX OF THE CAROLINAS, INC.

TABLE 1

SUMMARY OF LIQUID PHASE HYDROCARBON RECOVERY

Enmark Service Station #380
2725 College Street
Newberry, South Carolina
SCDHEC Incident # 06588-2

DATE	GALLONS LPH RECOVERED			GALLONS LPH RECOVERED THIS DATE	CUMULATIVE GALLONS LPH RECOVERED
	MW-2	MW-3	MW-4		
11-28-95				0.00	0.00
12-07-95	0.01		3.50	3.51	3.51
12-14-95	0.01		3.25	3.26	6.77
12-21-95			2.25	2.25	9.02
12-29-95			2.00	2.00	11.02
01-04-96	0.01	0.01	2.50	2.52	13.54
01-10-96	0.01	0.01	2.00	2.02	15.56

Note: LPH = Liquid Phase Hydrocarbons
Total Recovered LPH does not include water purged from wells.

ATTACHMENT A

MONITORING WELL INSTALLATION PERMIT

South Carolina
DHEC
Department of Health and Environmental Control
2600 Bull Street, Columbia, SC 29201

Commissioner: Douglas E. Bryant

Board: John H. Burriss, Chairman
William M. Hull, Jr., MD, Vice Chairman
Roger Leaks, Jr., Secretary

Promoting Health, Protecting the Environment

Richard E. Jabbour, DDS
Cyndi C. Mosteller
Brian K. Smith
Rodney L. Grandy

Monitoring Well Installation Approval Form

Date of Issue: November 22, 1995

Approval No.: 665

Approval is hereby granted to: Handex Carolinas
SCDHEC Site ID: # 06588
County: Newberry

This approval is for the construction of three permanent shallow monitoring wells designated PMW-1 thru PMW-3 in accordance with the construction plans and technical specifications submitted on November 22, 1995. The wells are to be constructed within the uppermost aquifer for the intended purpose of monitoring ground-water quality and/or water level(s) and/or recovering free product at the referenced facility. Approval is provided with the following conditions:

1. The latitude and longitude, surveyed elevations, boring and/or geologist logs and actual (as built) construction details for each well be submitted to my attention within the final report.
2. Each well shall be labeled with an identification plate constructed of a durable material affixed to the casing or surface pad where it is readily visible. The plate shall provide monitoring well I.D.#, date of construction, static water level, and driller name and state certification #.
3. Well construction and sampling derived waste including, but not necessarily limited to, drill cuttings, drilling fluids, development and purge water should be managed properly and in compliance with applicable requirements. If containerized, each vessel should be clearly labeled with regard to contents, source, and date of activity.
4. A minimum of forty-eight (48) hours prior to initiation of drilling activities, please provide notice to Paul Bristol, Central Midlands EQC Office (803-935-7015).
5. Please provide ground-water quality analytical data (chemical analysis and/or water level(s)) associated measurements (i.e., in-situ field measurements) to my attention within thirty (30) days of receipt from laboratory.
6. Monitoring wells shall be installed by a well driller certified by the State of South Carolina.

This approval is pursuant to the provisions of Section 4-5540 of the 1976 South Carolina Code of Laws and the Department of Health and Environmental Control Regulations R.61-71.

Approved by: Mark Berenbrok

Mark Berenbrok, Hydrologist
Regulatory Section
Underground Storage Tank Program

cc: Paul Bristol, Central Midlands District EQC
Jan Cooke, UST Program

recycled paper

INTERSTATE

ENMARK STATIONS, INC.

ENMARK™

P. O. BOX 728
SAVANNAH, GEORGIA 31402
(912) 236-1331

March 6, 1996

Ms. Jan Cooke, Hydrogeologist
Underground Storage Tank Program, Technical Section
Department of Health and Environmental Control
2600 Bull Street
Columbia, South Carolina 29201

RECEIVED
MAR 1 5 1996
Bureau of Underground
Storage Tank Management

Re: Enmark Service Station #380
2725 College Street
Newberry, Newberry County, South Carolina
Site ID #06588-2
SCDHEC Cost Agreement #1432

Dear Ms. Cooke:

In accordance with the provisions set forth in your letters dated January 19, 1996 and February 28, 1996, Enmark Stations, Inc. (Enmark) has prepared this free product removal report for the referenced facility. This report entails free product removal activities from November 27, 1995 through February 20, 1996.

WELL INSTALLATION

Pursuant to the provisions of Section 4-5540 of the 1976 South Carolina Code of Laws and the Department of Health and Environmental Control (DHEC) Regulations R.61-71, three monitoring wells and one soil boring were installed at the referenced facility on November 27, 1995, for the purposes of monitoring groundwater levels and recovering liquid-phase hydrocarbons (LPH). These wells were installed in response to a release of petroleum product, as reported to DHEC on November 21, 1995. Additional information on well installation was provided in the January 17, 1996 letter from Enmark to the DHEC, and will not be discussed here.

MANUAL LPH REMOVAL

Following well installation, Handex of the Carolinas, Inc. (Handex) initiated a weekly well monitoring program, including the manual bailing of any wells determined to contain LPH. A monitoring well gauge report for this reporting period is included in Appendix A.

Bailed LPH is stored in a vented 55-gallon drum located behind the station building. From December 7, 1995 to January 17, 1996, approximately 17.34 gallons of LPH were

manually recovered from the monitoring wells, 17.25 gallons of which was removed from MW-4. A summary of LPH recovery is presented as Table 1.

LPH RECOVERY SYSTEM INSTALLATION

On January 24, 1996, Handex installed an LPH recovery system at the site. A pneumatic pump was installed in monitoring well MW-4, utilizing existing air power from the station's tire compressor. In anticipation of greater LPH removal, a 275-gallon storage tank was installed near MW-4, and piped directly to the pump effluent.

LPH RECOVERY SYSTEM OPERATION

The LPH recovery system for MW-4 was put into operation on January 24, 1996, and has recovered approximately 43 gallons of LPH through February 20, 1996. The site and system are monitored and maintained on a monthly basis by Handex personnel. Other monitoring wells are still manually bailed of any LPH encountered during well gauging.

On February 20, 1996, it was reported that frequent shutdowns of the station's compressor were preventing the LPH recovery system from performing optimally. Enmark decided to temporarily disconnect the compressor from the tire filling hose on February 23, 1996 in order to isolate the problem. The LPH recovery system has operated continuously since then.

If you have any questions or require additional information, please contact this office at (800) 944 - 3835, or Jeffrey Hollis of Handex at (704) 598 - 7900, ext 31.

Sincerely,
ENMARK STATIONS, INC.

David Higgs
Environmental Specialist

Attachments

cc: Jeffrey Hollis, Handex

TABLE 1

SUMMARY OF LIQUID PHASE HYDROCARBON RECOVERY

Enmark Service Station #380
2725 College Street
Newberry, South Carolina
SCDHEC Incident # 06588-2

DATE	GALLONS LPH RECOVERED			GALLONS LPH RECOVERED THIS DATE	CUMULATIVE GALLONS LPH RECOVERED
	MW-2	MW-3	MW-4		
11-28-95				0.00	0.00
12-07-95	0.01		3.50	3.51	3.51
12-14-95	0.01		3.25	3.26	6.77
12-21-95			2.25	2.25	9.02
12-29-95			2.00	2.00	11.02
01-04-96	0.01	0.01	2.50	2.52	13.54
01-10-96	0.01	0.01	2.00	2.02	15.56
01-17-96	0.01	0.02	1.75	1.78	17.34
01-24-96				0.00	17.34
01-31-96		0.01	5.00	5.01	22.35
02-20-96			38.00	38.00	60.35

Note: LPH = Liquid Phase Hydrocarbons
Total Recovered LPH does not include water purged from wells.
LPH recovery from MW-4 after 01-24-96 is automated.

APPENDIX A

MONITORING WELL GAUGE REPORTS

OBSERVATION WELL GAUGE REPORTS

CLIENT: ENMARK
LOCATION: ENMARK, COLLEGE ST, NEWBERRY
STATE: SC

CLIENT CODE:
HANDEX CODE: 110727

MONITORING DATE	WELL TYPE-#	C	PRODUCT DEPTH (feet)	WATER DEPTH (feet)	PRODUCT THICK. (feet)	PRODUCT ELEV. (feet)	GW ELEV. (feet)	CORR GW ELEV. (feet)
28-Nov-95	MW-1			18.36			524.05	524.05
28-Nov-95	MW-2		18.66	18.66	F	524.42	524.42	524.42
28-Nov-95	MW-3			19.47			524.46	524.46
28-Nov-95	MW-4		18.62	20.05	1.43	524.68	523.25	524.31
28-Nov-95	SB-1	D						
7-Dec-95	MW-1			18.40			524.01	524.01
7-Dec-95	MW-2		18.67	18.67	F	524.41	524.41	524.41
7-Dec-95	MW-3			19.48			524.45	524.45
7-Dec-95	MW-4		18.41	20.69	2.28	524.89	522.61	524.30
7-Dec-95	SB-1	D						
14-Dec-95	MW-1			18.37			524.04	524.04
14-Dec-95	MW-2			18.66			524.42	524.42
14-Dec-95	MW-3			19.45			524.48	524.48
14-Dec-95	MW-4		18.42	20.43	2.01	524.88	522.87	524.36
14-Dec-95	SB-1	D						
21-Dec-95	MW-1			18.27			524.14	524.14
21-Dec-95	MW-2			18.57			524.51	524.51
21-Dec-95	MW-3			19.38			524.55	524.55
21-Dec-95	MW-4		18.42	20.25	1.83	524.88	523.05	524.40
21-Dec-95	SB-1	D						
29-Dec-95	MW-1			18.35			524.06	524.06
29-Dec-95	MW-2			18.57			524.51	524.51
29-Dec-95	MW-3			19.37			524.56	524.56
29-Dec-95	MW-4		18.46	20.15	1.69	524.84	523.15	524.40
29-Dec-95	SB-1	D						
4-Jan-96	MW-1			18.16			524.25	524.25
4-Jan-96	MW-2		18.44	18.44	F	524.64	524.64	524.64
4-Jan-96	MW-3		19.24	19.26	.02	524.69	524.67	524.68
4-Jan-96	MW-4		18.31	19.87	1.56	524.99	523.43	524.58
4-Jan-96	SB-1			13.57			529.63	529.63
4-Jan-96	SB-1	D						
10-Jan-96	MW-1			17.98			524.43	524.43

"C"omments: [P = Pumping; N = Non-Pumping; B/A = Before/After Adjustment]
[I = Well Inaccessible; # = nth Monitoring Event of Day]
[D = Dry Well; F = Film or Trace of Product]

MONITORING DATE	WELL TYPE-#	C	PRODUCT DEPTH (feet)	WATER DEPTH (feet)	PRODUCT THICK. (feet)	PRODUCT ELEV. (feet)	GW ELEV. (feet)	CORR GW ELEV. (feet)
10-Jan-96	MW-2		18.24	18.24	F	524.84	524.84	524.84
10-Jan-96	MW-3		19.05	19.06	.01	524.88	524.87	524.88
10-Jan-96	MW-4		18.18	19.63	1.45	525.12	523.67	524.74
10-Jan-96	SB-1	D						
17-Jan-96	MW-1			17.92			524.49	524.49
17-Jan-96	MW-2		18.15	18.15	F	524.93	524.93	524.93
17-Jan-96	MW-3		18.94	18.96	.02	524.99	524.97	524.98
17-Jan-96	MW-4		18.11	19.45	1.34	525.19	523.85	524.84
17-Jan-96	SB-1	D						
24-Jan-96	MW-1			17.79			524.62	524.62
24-Jan-96	MW-2		17.98	17.98	F	525.10	525.10	525.10
24-Jan-96	MW-3		18.72	18.72	F	525.21	525.21	525.21
24-Jan-96	MW-4		18.15	18.20	.05	525.15	525.10	525.14
24-Jan-96	SB-1	D						
31-Jan-96	MW-1			17.41			525.00	525.00
31-Jan-96	MW-2			17.60			525.48	525.48
31-Jan-96	MW-3		18.44	18.45	.01	525.49	525.48	525.49
31-Jan-96	MW-4		18.08	18.10	.02	525.22	525.20	525.21
31-Jan-96	SB-1	D						
20-Feb-96	MW-1			16.83			525.58	525.58
20-Feb-96	MW-2			16.96			526.12	526.12
20-Feb-96	MW-3			17.75			526.18	526.18
20-Feb-96	MW-4		17.29	17.86	.57	526.01	525.44	525.86
20-Feb-96	SB-1	D						

"C"omments: [P = Pumping; N = Non-Pumping; B/A = Before/After Adjustment]
[I = Well Inaccessible; # = nth Monitoring Event of Day]
[D = Dry Well; F = Film or Trace of Product] 110727

South Carolina
DHEC
Department of Health and Environmental Control
2600 Bull Street, Columbia, SC 29201-1708

Commissioner: Douglas E. Bryant

Board: John H. Burriss, Chairman
William M. Hull, Jr., MD, Vice Chairman
Roger Leaks, Jr., Secretary
Richard E. Jabbour, DDS
Cyndi C. Mosteller
Brian K. Smith
Rodney L. Grandy

Promoting Health, Protecting the Environment

2/27/96
JN

February 28, 1996

Mr. David Higgs
Enmark Stations, Inc.
PO Box 728
Savannah, GA 31402

RE: Enmark Station #380- Second Release
Site ID: #06588
SCDHEC letter dated December 7, 1995
Insurance Verification received January 2, 1996
Addendum to Cost proposal #1432 received
December 27, 1995
Newberry County

Dear Mr. Higgs,

The site has been evaluated for participation in the State Underground Petroleum Environmental Response Bank Act of 1988 (SUPERB). None of the exclusions listed in Section 44-2-110 and -130 of the Act apply to the site and the Department has determined that the site is qualified for SUPERB. This means that you are eligible for compensation from the SUPERB Account in accordance with applicable criteria and regulations.

As outlined in the December 7, 1995 letter, the release was reported to the SCDHEC on November 21, 1995, subsequent to the early detection incentive program. Therefore, in accordance with Section 44-2-40(B) of the Act, you are responsible for the first $25,000 for site rehabilitation. To insure that any expenditures you make apply to the first $25,000, cost agreement number 1432 was amended for an amount not to exceed $26,495.90 to define the extent of free product and to install a free product recovery system at this site. By law, the SUPERB account cannot compensate any costs that are not preapproved. Direct billing has been established for the amount that exceeds the $25,000.00 deductible ($1,495.90).

On all correspondence regarding this site, please reference site ID number 06588 and cost agreement number 1432. **Per Section 44-2-40 of the SUPERB Statute, the completed invoice forms plus cancelled check(s) must be submitted on or before April 7, 1996. A Free product recovery report is due on or before March 7, 1996.** If you have any questions concerning this correspondence, please contact me at (803) 734-4671.

Sincerely,

Jan Cooke

Jan Cooke, Hydrogeologist
Technical Section
Bureau of Underground Storage Tank Management

JTC/06588sq.25

cc: Jeffery Hollis, Handex
Administration Section

recycled paper

South Carolina
DHEC
Department of Health and Environmental Control
2600 Bull Street, Columbia, SC 29201

Commissioner: Douglas E. Bryant

Board: John H. Burriss, Chairman
William M. Hull, Jr., MD, Vice Chairman
Roger Leaks, Jr., Secretary
Richard E. Jabbour, DDS
Cyndi C. Mosteller
Brian K. Smith
Rodney L. Grandy

Promoting Health, Protecting the Environment

1/20/96
jc

January 19, 1996

Mr. David Higgs
Enmark Stations, Inc.
PO Box 728
Savannah, GA 31402

RE: Enmark Station #380- Second Release
Site ID: #06588
SCDHEC letter dated December 7, 1995
Insurance Verification received January 2, 1996
Addendum to Cost proposal #1432 received
December 27, 1995
Newberry County

Dear Mr. Higgs,

The site has been evaluated for participation in the State Underground Petroleum Environmental Response Bank Act of 1988 (SUPERB). None of the exclusions listed in Section 44-2-110 and -130 of the Act apply to the site and the Department has determined that the site is qualified for SUPERB. This means that you are eligible for compensation from the SUPERB Account in accordance with applicable criteria and regulations.

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On all correspondence regarding this site, please reference site ID number 06588 and cost agreement number 1432. **Per Section 44-2-40 of the SUPERB Statute, the completed invoice forms plus cancelled check(s) must be submitted on or before April 7, 1996. A Free product recovery report is due on or before March 7, 1996.** If you have any questions concerning this correspondence, please contact me at (803) 734-4671.

Sincerely,

Jan Cooke

Jan Cooke, Hydrogeologist
Technical Section
Bureau of Underground Storage Tank Management

cc: Jeffery Hollis, Handex
Administration Section

recycled paper

INTERSTATE

ENMARK STATIONS, INC.

ENMARK™

P. O. BOX 728
SAVANNAH, GEORGIA 31402
(912) 236-1331

December 27, 1995

Ms. Jan Cooke
SCDHEC
UST Program
2600 Bull Street
Columbia, SC 29201

Re: Enmark Station #380
2725 College Street
Newberry, SC 29108
Site ID: #06588; Newberry County

JAN - 2 1996
Groundwater Protection
Division

Dear Ms. Cooke:

As per your December 5, 1995 correspondence, please find enclosed a copy of the precision tank, line and leak detector test completed on 12/21/95 for the referenced site. Also, enclosed is a signed and notarized "Insurance Statement Form".

I am sorry for the delay in the testing and appreciate your patience. If you have any questions or comments concerning this submittal, please call me at (912) 236-1331.

Sincerely,

David Higgs
Geologist/Environmental Specialist

cc: sf
dah/cf

PTS

PRECISION TANK SERVICE, INC.

12/22/1995

Enmark Stations
P.O. Box 728
Savannah, GA 31402

Test Number: 951221A-17
Test Date: 12/21/1995

Technician: Darren Rowe
Certification Number: PT 002

Location: 380
2725 College Street
Newberry SC

Dear David Higgs

A precision test was performed on the below mentioned tanks using the UST 2000/P/U, the results below indicate whether the tank(s) passed or failed the criteria as described by EPA CFR 280 PART D.

TANK TEST RESULTS

PRODUCT	CAPACITY	TEST HEIGHT	LEAK RATE	UNDERFILL	ULLAGE	WATER FOUND
PLUS	6000	49	-0.047	PASS	PASS	0 "
UNLEAD	6000	40	-0.044	PASS	PASS	0 "
PREMIUM	8000	63	0.013	PASS	PASS	0 "
UNLEAD	8000	45	-0.042	PASS	PASS	0 "

If you have any questions, please contact our office at (704)-892-8600.

PTS

PRECISION TANK SERVICE, INC.

12/28/1995

Enmark Stations
P.O. Box 728
Savannah, GA 31402

Test Number: 951221A-17
Test Date: 12/21/1995

Technician: Darren Rowe
Certification Number: PT 002

Location: 380
2725 College Street
Newberry SC

Dear David Higgs,

A line integrity test was performed on the above line circuit(s) using the ACURITE line tester. This test was performed at a pressure equal to 1.5 times the system operating pressure. The criteria for acceptable line integrity allowed by this test procedure is based upon a leak detection limit of 0.01 gph., for pressurized piping, and a limit of 0.025 gph. for suction piping.

The results of the test are given below and indicate whether the line(s) passed or failed the integrity criteria. The validity of the information is based on the ability to effectively isolate the line(s) from the tank(s).

PRODUCT LINE TEST RESULTS

PRODUCT	ISOLATION	LEAK RATE	PRESS	PASS/FAIL
PLUS	ISOPLUG	0.001	45	PASS
UNLEAD	ISOPLUG	0.000	45	PASS
PREMIUM	ISOPLUG	0.001	45	PASS

If you have any questions, please contact our office at (704)-892-8600.

PTS

PRECISION TANK SERVICE, INC.

12/28/1995

Enmark Stations
P.O. Box 728
Savannah, GA 31402

Test Number: 951221A-17
Test Date: 12/21/1995

Technician: Darren Rowe
Certification Number: PT 002

Location: 380
2725 College Street
Newberry SC

Dear David Higgs,

A test was performed on the line leak detector(s) at the above location, in accordance with the manufacturer's recommended procedure. The results below indicate the performance of these devices in their present application.

If a "Retest" has been indicated, it may mean a new leak detector has been installed. The new leak detector type will be listed.

LEAK DETECTOR TEST RESULTS

PRODUCT	LD TYPE	PASS/FAIL
PLUS	XLP	PASS
UNLEAD	PLD	PASS
PREMIUM	PLD	PASS

If you have any questions, please contact our office at (704)-892-8600.

INSURANCE STATEMENT FORM

Site ID #06588 -2 release is potentially eligible to receive state monies to assist you in site rehabilitation, if required. Before eligibility for State Underground Petroleum Environmental Response Bank (SUPERB) funds can be determined, written confirmation of the existence or non-existence of an environmental insurance policy for this site is required. Please complete the following information:

X I do not have any insurance that would cover releases from underground storage tanks.

_____ I have an insurance policy that covers releases from underground storage tanks.

My policy provider is: _____
The policy deductible is: _____
The policy limit is: _____

If you have this type of insurance, please include a copy of the policy with this report.

Signature: [signature]

Date: 12/27/95

To be Completed by Notary Public:

Sworn before me this 27th day of DEC., 1995.

Catherine L Reagan
(Name)

Notary Public for the state of GEORGIA.

My commission expires CATHERINE L. REAGAN Notary Public, Chatham County, Ga. My Commission Expires June 20, 1998.

Please affix State Seal if you are commissioned outside South Carolina.

INTERSTATE

ENMARK STATIONS, INC.

P. O. BOX 728
SAVANNAH, GEORGIA 31402
(912) 236-1331

ENMARK™

FACSIMILE TRANSMISSION COVER SHEET

TO: Jan Cook

FAX No. 803 734-3604

FROM: David Higgs

FAX No. 912-235-3885

DATE: 12/20/95

DEC 20 1995
Groundwater Protection Division

Newberry, SC.
Enmark # 380

This transmission consists of 2 pages (including this cover sheet). Please call _____ at 912-236-1331 in case of incomplete or illegible transmission.

INTERSTATE

ENMARK STATIONS, INC.

ENMARK™

P. O. BOX 728
SAVANNAH, GEORGIA 31402
(912) 236-1331

December 20, 1995

Ms. Jan Cook
SCDHEC UST Program
2600 Bull Street
Columbia, SC29201

DEC 20 1995
Division

Dear Ms. Cook:

Your correspondence of 12/5/95 requested a copy of the precision tank, line and leak detector test and confirmation of the existence of an environmental insurance policy for the Newberry, SC Enmark #380 site (ID: #06588). Immediately after "lining" the leaking tank, Subcon pressure tested the tank before placing the system back into service. Also, product inventory records have been monitored closely and the tank was "stuck" several times a day for the first few days.

The precision tests you requested were scheduled to be performed at the first opportunity Precision Tank Services had to complete the test. The test were scheduled for today 12/20/95. This morning Precision called and had to reschedule the test for tomorrow. As soon as the test are completed tomorrow I will FAX the results to you. I will, also, send a hard copy of the test and the requested insurance statement to you by FED-X tomorrow or Friday.

I am sorry for the delay.

Sincerely,

David Higgs
Environmental Specialist

South Carolina
DHEC
Department of Health and Environmental Control
2600 Bull Street, Columbia, SC 29201

Commissioner: Douglas E. Bryant

Board: John H. Burriss, Chairman
William M. Hull, Jr., MD, Vice Chairman
Roger Leaks, Jr., Secretary

Richard E. Jabbour, DDS
Cyndi C. Mosteller
Brian K. Smith
Rodney L. Grandy

Promoting Health, Protecting the Environment

12/11 gr

December 7, 1995

Mr. David Higgs
Enmark Stations, Inc.
PO Box 728
Savannah, GA 31402-0728

Re: Enmark Station-Newberry-2nd Release
Site ID: #06588; CP #1432
Cost Proposals received November 22, December 1, 1995
and December 6, 1995
Newberry County

The Underground Storage Tank Program of the South Carolina Department of Health and Environmental Control (SCDHEC) has reviewed the referenced cost proposals for initial response and assessment implementation.

According to our records, a release was reported to the SCDHEC on November 21, 1995, subsequent to the early detection incentive program. Therefore, a $25,000.00 deductible exists for the release at the referenced facility. In order to track cost to be applied toward the $25,000.00 deductible, cost proposal # 1432 has been issued in the amount of $22,957.00. All submitted cost proposals for initial response investigation and free product recovery were combined.

Invoice(s) with all necessary supporting documentation should be submitted to the UST Program within 120 days from the date of this correspondence. The invoice(s) will be reviewed such that reasonable costs can be applied toward the $25,000.00 deductible. Due to the relative priority ranking of this site and the current limitations on the available funds in the SUPERB Account, financial approval for cost in excess of the $25,000.00 deductible cannot be given at this time. Please note that Sections 44-2-110(4) and 44-2-130(B) of the SUPERB Statute state that after September 30, 1994, no costs will be allowed (considered for payment) unless prior approval from the department is obtained. As previously discussed, an original signature must be on file before credit toward your deductible can be issued.

Rehabilitation activities at the site should commence immediately upon receipt of this letter. **The SCDHEC reserves the authority to pay only for work properly performed and/or technically justified and will only pay rates in accordance with established criteria.** Further, the SCDHEC reserves the right to question and/or reject costs if deemed unreasonable. The SCDHEC reserves the right to audit project records at any time during the project or after completion of the work. A detailed audit of work performed will be conducted at a later date and will be subject to review under the 1995 criteria.

The following rates and/or site rehabilitation activities proposed in the cost proposal have been adjusted to insure compliance with current SUPERB program criteria per Section 44-2-20(2):

- $350.00 less for cost proposal preparation. The Department allows $50.00 per task, as two tasks were indicated $100.00 was allowed. Please note, the program task was changed from Corrective Action to AP Implementation.

- $50.00 less for invoice preparation. The maximum allowable is $100.00 per task.

- Please note, Project Administration was changed to the appropriate title of Clerical.

- $150.00 less for soil transport and incineration. The established rate is $100.00 per drum.

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- $136.00 less for Hydrogeologist for HASP Preparation. Health and Safety Plans are not payable from the SUPERB Account.

- $1,549.50 less for drilling monitoring wells. The established maximum rate is $46.50 per foot. Please note that 4 inch wells are not typically necessary.

- $586.75 less for soil boring. The established maximum rate, including abandonment, is $18.00 per foot.

- $80.00 less for drums. This reflects the maximum SCDHEC rate of $37.50 per drum. Please be advised that without a receipt for the drums the maximum rate is $25.00 per drum.

- $5.40 less for disposal bailers. The established maximum rate for field assessment is $13.00 per well.

All laboratories utilized must be certified in the state of South Carolina for volatile organic analyses in accordance with R.61-81.

On all future correspondence, please reference the **Site ID number 06588-2nd release**. Questions concerning the above should be addressed to Jan Cooke at (803) 734-4671.

Sincerely,

Technical Section
Underground Storage Tank Program

Jan Cooke

Jan Cooke, Hydrogeologist

David Baize, Manager

RSM/JTC/06588.25k

cc: Paul Bristol, Central Midlands District EQC
Jeff Hollis, Handex, Charlotte, NC.

South Carolina
DHEC
Department of Health and Environmental Control
2600 Bull Street, Columbia, SC 29201

Commissioner: Douglas E. Bryant

Board: John H. Burriss, Chairman
William M. Hull, Jr., MD, Vice Chairman
Roger Leaks, Jr., Secretary

Richard E. Jabbour, DDS
Cyndi C. Mosteller
Brian K. Smith
Rodney L. Grandy

Promoting Health, Protecting the Environment

Monitoring Well Installation Approval Form

Date of Issue: November 22, 1995

Approval No.: 6651

Approval is hereby granted to: Handex Carolinas
SCDHEC Site ID: # 06588
County: Newberry

This approval is for the construction of three permanent shallow monitoring wells designated PMW-1 thru PMW-3 in accordance with the construction plans and technical specifications submitted on November 22, 1995. The wells are to be constructed within the uppermost aquifer for the intended purpose of monitoring ground-water quality and/or water level(s) and/or recovering free product at the referenced facility. Approval is provided with the following conditions:

1. The latitude and longitude, surveyed elevations, boring and/or geologist logs and actual (as built) construction details for each well be submitted to my attention within the final report.
2. Each well shall be labeled with an identification plate constructed of a durable material affixed to the casing or surface pad where it is readily visible. The plate shall provide monitoring well I.D.#, date of construction, static water level, and driller name and state certification #.
3. Well construction and sampling derived waste including, but not necessarily limited to, drill cuttings, drilling fluids, development and purge water should be managed properly and in compliance with applicable requirements. If containerized, each vessel should be clearly labeled with regard to contents, source, and date of activity.
4. A minimum of forty-eight (48) hours prior to initiation of drilling activities, please provide notice to Paul Bristol, Central Midlands EQC Office (803-935-7015).
5. Please provide ground-water quality analytical data (chemical analysis and/or water level(s)) associated measurements (i.e., in-situ field measurements) to my attention within thirty (30) days of receipt from laboratory.
6. Monitoring wells shall be installed by a well driller certified by the State of South Carolina.

This approval is pursuant to the provisions of Section 4-5540 of the 1976 South Carolina Code of Laws and the Department of Health and Environmental Control Regulations R.61-71.

Approved by: Mark Berenbrok

Mark Berenbrok, Hydrologist
Regulatory Section
Underground Storage Tank Program

cc: Paul Bristol, Central Midlands District EQC
Jan Cooke, UST Program

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South Carolina
DHEC
Department of Health and Environmental Control
2600 Bull Street, Columbia, SC 29201

Commissioner: Douglas E. Bryant

Board: John H. Burriss, Chairman
William M. Hull, Jr., MD, Vice Chairman
Roger Leaks, Jr., Secretary
Richard E. Jabbour, DDS
Cyndi C. Mosteller
Brian K. Smith
Rodney L. Grandy

Promoting Health, Protecting the Environment

ND
12-6-95
DW

December 5, 1995

Mr. David Higgs
Enmark Stations, INc.
PO Box 728
Savannah, GA 31402-0728

Re: Enmark Station-Newberry-2nd Release
Site ID: #06588
Telephone Release Report received November 22, 1995
Newberry County

Dear Mr. Higgs:

The Underground Storage Tank Program of the South Carolina Department of Health and Environmental Control (SCDHEC) received telephone communication indicating that a release occurred at the referenced facility on November 22, 1995. The telephone reports document that a release has occurred at the site and that additional actions will be necessary.

To proceed with the qualification process for the State Underground Petroleum Environmental Response Bank (SUPERB) Act, the following information is required:

- Written confirmation of the existence or non-existence of an environmental insurance policy or financial responsibility mechanism for this site. This information must be signed by the responsible party and a notary public. For your convenience, an insurance statement form has been enclosed. If an environmental insurance policy existed at the time of the release, a copy of the policy with all endorsements must be submitted with the insurance statement.

- System tightness testing.

The requested information must be submitted to my attention on or before **December 20, 1995** with a copy of this letter. Qualification for SUPERB funds cannot occur until this information is submitted.

Sincerely,
Technical Section
Underground Storage Tank Program

Jan Cooke

Jan Cooke, Hydrogeologist

DGB

David G. Baize, Manager

enc: Insurance Statement Form

cc: Paul Bristol, Central Midlands EQC
Administration Section
Jeff Hollis, Handex, Charlotte, NC

recycled paper

South Carolina
DHEC
Department of Health and Environmental Control
2600 Bull Street, Columbia, SC 29201
803-734-5000

MEMO

To: File # 06588: Interstate - Newberry
From: L.A. Monts
Re: Release #2

Date: 11-22-95

Handex reported a ~1600 gallon release at the referenced site on 11-21-95. In a telephone conversation between Mark Berenbrok (with me present) and Handex, Handex was informed that financial approval would be necessary for costs to be applied toward the deductible. Handex indicated that they would try to fax a cost proposal today for Jan Cooke to approve on Monday. Mark B. will provide monitoring well approval; however, Handex cannot mobilize to site until Monday. Mark was going to contact the City of Newberry to see about having them check manholes for vapors + or free product. Should emergency response measures be necessary over the holiday/weekend, Handex was informed that SUPERB could apply costs to the deductible, as appropriate, as long as financial documentation could be provided.

1A-442 (2/93)

PROJECT TRANSFER CHECKLIST

Site Name/Full ID # Interstate #380 / 111-36-NO-06588

Release # 2 For UST # 1-4 Release Report Date 11-21-95

Free Product Reported? Yes / (No) but it's there* **Impacted Water Supply Well Reported?** Yes / (No)

Worst Case Analysis / Sample #	Soil (mg/kg) / #_____	Water (ug/l) / #_____
Benzene		
Toluene		
Ethylbenzene		
Xylenes		
Naphthalene		
Benzo(a)anthracene		
Benzo(b)flouranthene		
Benzo(k)flouranthene		
Chrysene		
Dibenz(a,h)anthracene		
MTBE (water only)		
Other _____		

REGULATORY INFORMATION

1. All USTs Registered? (Yes) / No / NA
2. Regulatory PM Berenbrok
3. All Applicable Annual Fees Paid? (Yes) / No / NA
4. Site In Substantial Compliance? Yes / No / NA (attach copy of letter/memo to file)
5. UST Status (account for all USTs in database)

   _____ USTs Permanently Closed Date Closed _____

   _____ USTs CIU & Passed TT Date Tested _____

   _____ USTs TOU & Emptied Date Emptied _____
6. Project Transferred To: (Technical) / Federal On 11-22-95

* lost approx. 1400 gallons premium gas over 3 day period

MEMO TO FILE

FROM: Mark Berenbrok DATE: 11-22-95

PHONE CALL FROM Joe Palmer OF Newberry Fire Dept ON 11-22 AT 1110 AM

SITE: Interstate #380 GWPD ID # 06588

****

I asked Mr Palmer to check sewer & water lines & the nearby stream for any gas vapors or free product. He'll get back w/ us this PM.

320 PM 11-22-95 / Mr Palmer called. No vapors found. He'll check same areas on Saturday & call ER if there's a problem.

MEMORANDUM

TO: File

FROM: Mark Berenbrok, Hydrologist
Regulatory Section
Underground Storage Tank Program

RE: Interstate Station
2725 College Street, Newberry, SC
Site ID #06588

DATE: November 22, 1995

A release report was submitted for the referenced facility on November 21, 1995 by Jeff Hollis of Handex Carolinas. This writer spoke with Al Allen of Colonial Oil (Interstate's parent company) on November 22, 1995. Mr Allen relayed the following:

- Sub-Con had inspected the premium tank last week and determined that glassing was not required. Various release detection and spill/overfill prevention equipment was installed.

- The tank was filled with product on 11-17-95 and passed testing.

- On 11-19-95 the operators noticed inventory discrepancies. Since the tank has passed testing, they thought the discrepancy might be due to theft.

- The discrepancies continued on 11-20-95. The tank was taken out of service. Upon checking product level several hours later, it was determined that the level had dropped.

- Sub-Con reinspected the interior of the tank and found areas of corrosion.

- Handex Carolinas has been contacted by Colonial Oil to install free product recovery wells.

- Approximately 1400 gallons of premium gas is unaccounted for (and assumed lost).

cc: Connie Anderson, UST Regulatory

South Carolina
DHEC
Department of Health and Environmental Control
2600 Bull Street, Columbia, SC 29201

Commissioner: Douglas E. Bryant

Board: John H. Burriss, Chairman
William M. Hull, Jr., MD, Vice Chairman
Roger Leaks, Jr., Secretary

Richard E. Jabbour, DDS
Cyndi C. Mosteller
Brian K. Smith
Rodney L. Grandy

Promoting Health, Protecting the Environment

Monitoring Well Installation Approval Form

Date of Issue: November 22, 1995 Approval No.: 6651

Approval is hereby granted to: Handex Carolinas
SCDHEC Site ID: # 06588
County: Newberry

This approval is for the construction of three permanent shallow monitoring wells designated PMW-1 thru PMW-3 in accordance with the construction plans and technical specifications submitted on November 22, 1995. The wells are to be constructed within the uppermost aquifer for the intended purpose of monitoring ground-water quality and/or water level(s) and/or recovering free product at the referenced facility. Approval is provided with the following conditions:

1. The latitude and longitude, surveyed elevations, boring and/or geologist logs and actual (as built) construction details for each well be submitted to my attention within the final report.
2. Each well shall be labeled with an identification plate constructed of a durable material affixed to the casing or surface pad where it is readily visible. The plate shall provide monitoring well I.D.#, date of construction, static water level, and driller name and state certification #.
3. Well construction and sampling derived waste including, but not necessarily limited to, drill cuttings, drilling fluids, development and purge water should be managed properly and in compliance with applicable requirements. If containerized, each vessel should be clearly labeled with regard to contents, source, and date of activity.
4. A minimum of forty-eight (48) hours prior to initiation of drilling activities, please provide notice to Paul Bristol, Central Midlands EQC Office (803-935-7015).
5. Please provide ground-water quality analytical data (chemical analysis and/or water level(s)) associated measurements (i.e., in-situ field measurements) to my attention within thirty (30) days of receipt from laboratory.
6. Monitoring wells shall be installed by a well driller certified by the State of South Carolina.

This approval is pursuant to the provisions of Section 4-5540 of the 1976 South Carolina Code of Laws and the Department of Health and Environmental Control Regulations R.61-71.

Approved by:

Mark Berenbrok, Hydrologist
Regulatory Section
Underground Storage Tank Program

cc: Paul Bristol, Central Midlands District EQC
Jan Cooke, UST Program

recycled paper

Handex®

FAX Transmittal Sheet

To : Mark Berenbrok, SCDHEC

FAX # : (803) 734 - 3604

From : Jeffrey Hollis

Date : November 22, 1995

RECEIVED NOV 2 2 1995 Ground Water Protection Division

This transmission consists of 3 page(s), including this cover sheet.

COMMENTS:

Re: Monitoring Well Permit Application - Enmark/Newberry

Mark -

Attached please find a completed well diagram and proposed well location map for the Enmark service station located at 2725 College Street in Newberry, SC. These materials will serve as a monitoring well permit application for three monitoring wells to be installed on Monday, November 27, 1995 in the immediate vicinity of the UST field. Please review the application and fax your approval to my attention at (704) 598 - 2248. If you have any questions or require additional information, please contact me at (704) 598 - 7900, ext 31. Thank you.

JH

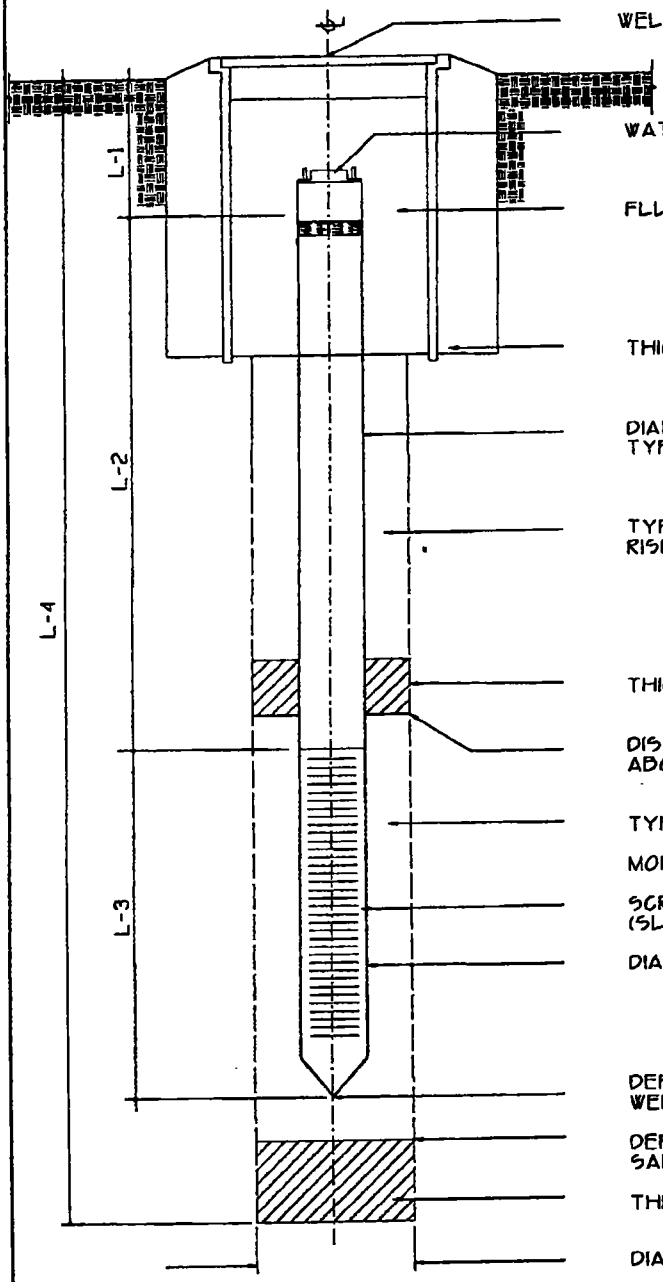
6651

3600-G Woodpark Boulevard, Charlotte, North Carolina 28206 • (704) 598-7900 FAX (704) 598-2248

PROPOSED INSTALLATION OF FLUSH GRADE MONITOR WELL

PROJECT: ENMARK
ADDRESS: 2725 COLLEGE STREET
NEWBERRY, SC

PROJECT NO. 110727-01 (GWPD ID# 06588)
MONITOR WELL NO. 3 WELLS



WELL COVER

WATER-TIGHT CAP ASSEMBLY

FLUSH GRADE WELL CONSTRUCTION

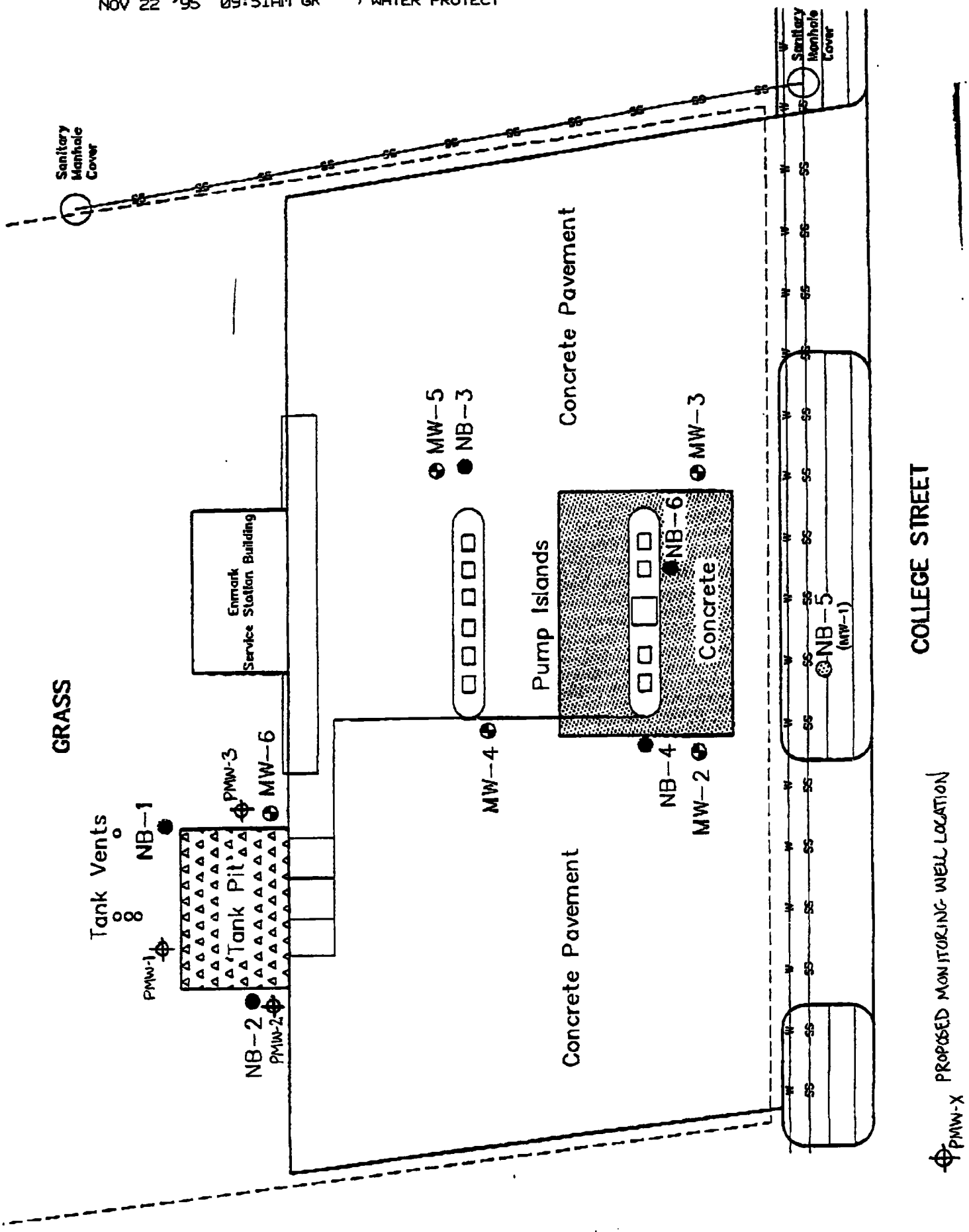
DIAMETER & MATERIAL	10" STEEL
TOTAL LENGTH	12"
LENGTH ABOVE GROUND	FLUSH (0")
THICKNESS AND TYPE OF SEAL	12" CONCRETE
DIAMETER, MATERIAL AND JOINT TYPE OF RISER PIPE	4" DIA, SCH 40 PVC FLUSH JOINT
TYPE OF BACKFILL AROUND RISER	PORTLAND CEMENT GROUT
THICKNESS AND TYPE OF SEAL	12" BENTONITE
DISTANCE OF FILTER SAND ABOVE TOP OF SCREEN	12"
TYPE OF FILTER AROUND SCREEN	6/20 SILICA SAND
MONITORING WELL MATERIAL	SCH 40 PVC
SCREEN GAUGE OR SIZE OF OPENING (SLOT SIZE)	0.020" MACHINE SLOT
DIAMETER AND LENGTH OF SCREEN	4" DIA, 15' LONG
DEPTH TO BOTTOM OF MONITOR WELL	25'
DEPTH TO BOTTOM OF FILTER SAND	25'
THICKNESS AND TYPE OF SEAL	NONE
DIAMETER OF BOREHOLE	10"

L-1 - 0.5'
L-2 - 9.5'
L-3 - 15'
L-4 - 25'

NOT TO SCALE

Handex OF THE CAROLINAS
3600-G WOODPARK BOULEVARD
CHARLOTTE, NORTH CAROLINA 28206

NOTE: ALL LENGTHS ARE APPROXIMATE, AND ARE SUBJECT TO THE OBSERVED DEPTH TO WATER TABLE AT TIME OF WELL INSTALLATION.


Sanitary Manhole Cover
Sanitary Manhole Cover
Concrete Pavement
MW-5
NB-3
MW-3
Enmark Service Station Building
Pump Islands
NB-6
Concrete
NB-5
(MW-1)
COLLEGE STREET
GRASS
MW-4
NB-4
MW-2
PMW-3
MW-6
NB-1
Tank Vents
Tank Pit
PMW-1
NB-2
PMW-2
Concrete Pavement
PMW-X PROPOSED MONITORING WELL LOCATION

South Carolina
DHEC
Department of Health and Environmental Control

Fax Message

Date: 11-22-95

Number of Pages Including Cover Sheet: 3

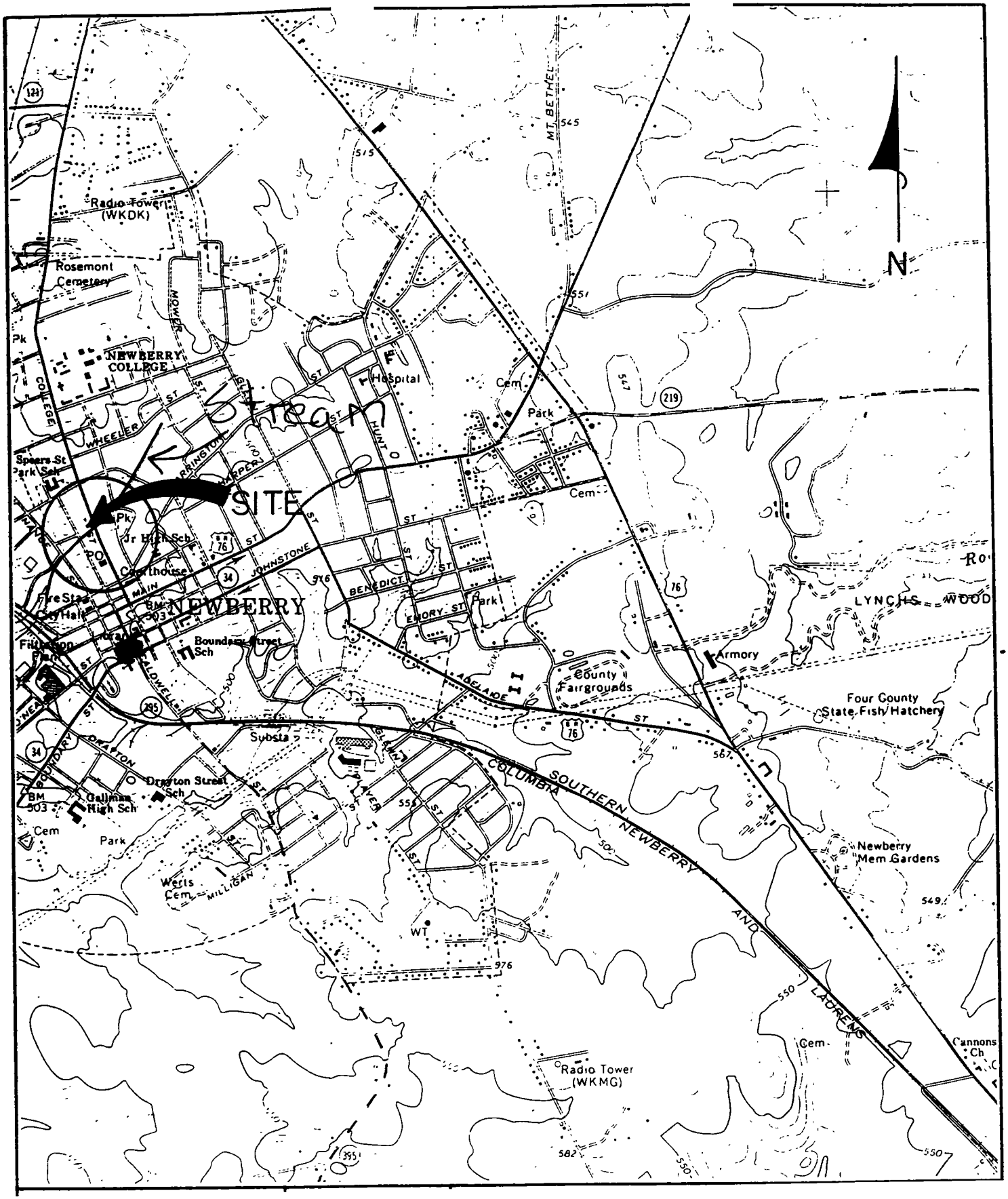
Please Deliver This Fax Message

TO:
Name: Jeff Hollis
Organization/Department: Handex
Fax Number: (704) 598-2248
Office Phone: ( ) 598-7900

FROM:
Name: Mark Berenbrok
Bureau/Division/Section: USTP
Fax Number: (803) 734-3604
Office Phone: (803) 734-5353

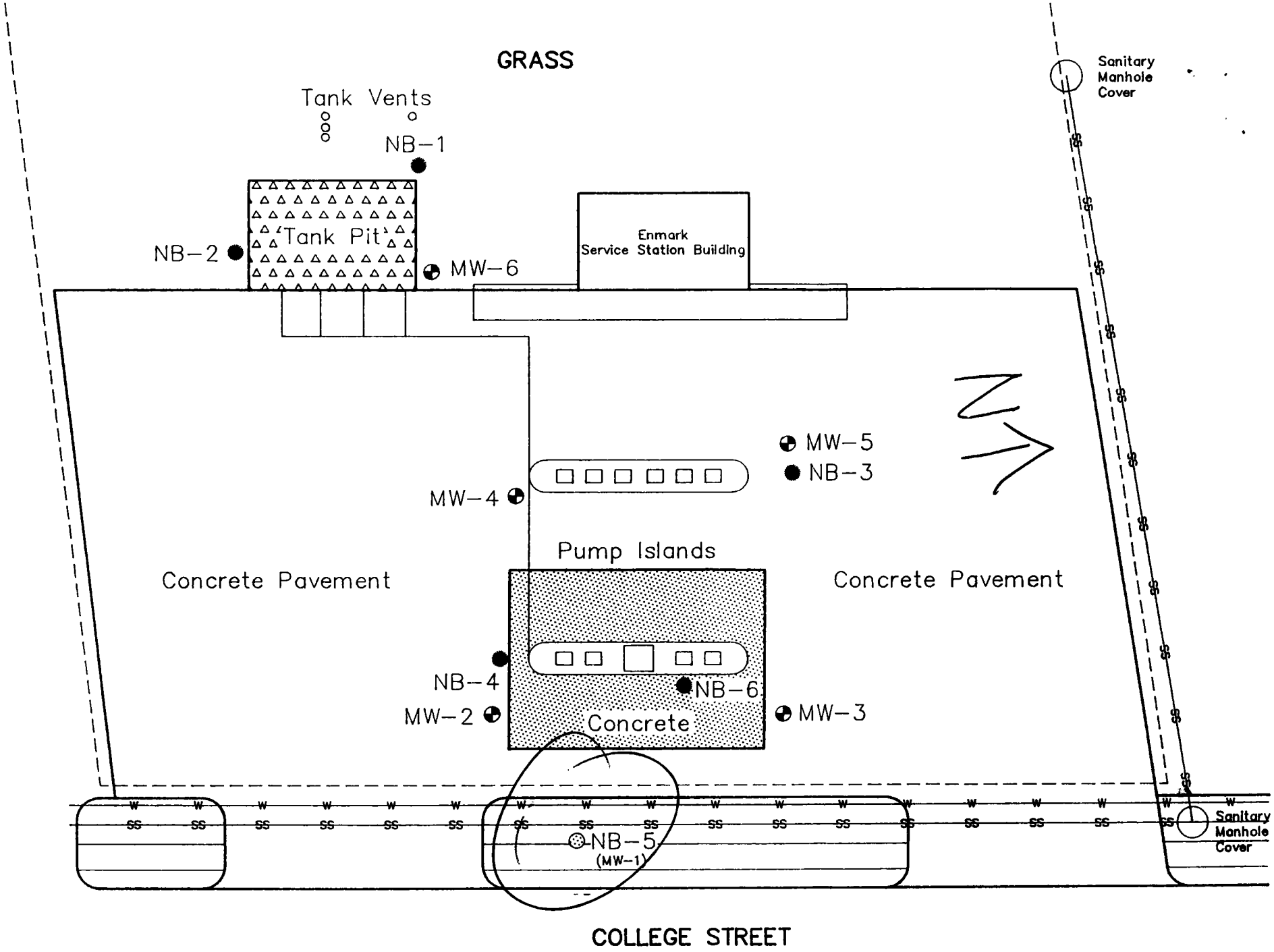
SUBJECT/COMMENTS: Maps for Interstate #380 attached. Site ID is #06588. Sanitary sewer line will need to be monitored ASAP. I'll give you a call. Water level data from a site in the 2300 block of College street runs from 11-16 feet BG.

DHEC 0504 (6/93)



06547 922 Nance 9-11 H BG

06568 1004 6-8 H BG


GRASS
Tank Vents
NB-1
Tank Pit
NB-2
MW-6
Enmark
Service Station Building
Sanitary
Manhole
Cover
MW-5
NB-3
MW-4
Pump Islands
Concrete Pavement
Concrete Pavement
NB-4
NB-6
MW-2
MW-3
Concrete
NB-5
(MW-1)
Sanitary
Manhole
Cover
COLLEGE STREET

19 A

PLAN

TRANSMISSION RESULT REPORT (NOV 22 '95 09:52AM)

GRO WATER PROTECT

(AUTO)

THE FOLLOWING FILE(S) ERASED

FILE	FILE TYPE	OPTION	TEL NO.	PAGE	RESULT
095	TRANSMISSION		917045982248	03	OK

ERRORS

1) HANG UP OR LINE FAIL 2) BUSY 3) NO ANSWER 4) NO FACSIMILE CONNECTION

South Carolina
DHEC
Department of Health and Environmental Control
2600 Bull Street, Columbia, SC 29201

Commissioner: Douglas E. Bryant

Board: John H. Burriss, Chairman
Sandra J. Molander, Secretary

Richard E. Jabbour, DDS
William M. Hull, Jr., MD
Roger Leaks, Jr.

Promoting Health, Protecting the Environment

UNDERGROUND STORAGE TANK (UST) 72 HOUR RELEASE REPORT

SITE ID NUMBER: (ON ANNUAL INVOICE) N-36-NO-06588

FACILITY NAME: Interstate - Newberry
Address: 2725 College St
Newberry

Contact: Dave Higgs (EnMark owner) Telephone 800 944-3855

1) Number of USTs at this site: In Service _____ Out of Service _____
2) Date of LAST System test. _____ (Attach copy)
3) Are there any drinking water wells on or near the site? Yes (No)
4) Is the drinking water contaminated? Yes No
5) Date release discovered. last 48 hrs.
6) How was the release discovered? Inventory - Noticed loss; tanks tested - passed; 2nd loss - tank dry
7) Type of product(s) discovered ?

Describe actions taken to: (attach additional sheets if needed)

8) Discover the cause of the release. _____
9) Prevent further release. shut down
10) Clean up the site. waiting to install wells

Follow the directives of Subpart E of the SC UST Control Regulations, notify proper local authorities and neighboring property owners potentially affected by the release. On all correspondence related to a particular site, please reference the **GWPD Site ID Number**. Questions should be addressed to the Ground-Water Protection Division at (803) 734-5331. FAX (803) 734-3604

Reported by (PRINT) TC * Jeff Hollis Telephone (704) 598-7900 x.31

Signature _____ Date 11-21-95

RR-12 930811

* consultant

Keehna Frasier provided this RLS from phone call

Stamp

Manager, UST Regulatory Section
Ground-Water Protection Division
2600 Bull Street
Columbia, SC 29201

INTERSTATE

ENMARK STATIONS, INC.

ENMARK™

P. O. BOX 728
SAVANNAH, GEORGIA 31402
(912) 236-1331

November 27, 1990

RECEIVED
NOV 28 1990
GROUND-WATER
PROTECTION DIVISION

Mr. Christopher S. Doll
Underground Storage Tank Section
Ground-Water Protection Division
Bureau of Drinking Water Protection
2600 Bull St.
Columbia, SC 29201

UST
39 tech
DOCKETING

Re: December 29, 1989 Release Report
Interstate # 380
Newberry, Newberry County
N-36-NO-06588, PCAS-7667

Dear Christopher:

As you requested, the following proposal for soil and/or groundwater investigation outlines the steps that Enmark Stations, Inc. will follow during the site assessment of the property in Newberry, S.C. The proposal consists of three sections and summarizes the set of procedures that will be performed at the Newberry site in order to complete the preliminary site assessment process and reporting procedure.

During the site assessment of the property, boreholes will be drilled to obtain samples of soil and/or groundwater. Enmark Stations, Inc. wishes to obtain approval to construct temporary monitoring wells at any or all of the proposed borehole locations in the attached diagram if groundwater is encountered.

Reviewed & approved
by Joe Bowers
2/4/91

SECTION ONE

CONTAMINANT ASSESSMENT PLAN

CONTAMINANT ASSESSMENT PLAN

Site Specific Drilling Procedures

1. DHEC will be notified at least 72 hours prior to the commencement of the work to be done at the site.

2. The position of the existing tank field is as diagrammed in Figure 1. A total of four boreholes will be drilled (1 at each corner of the existing tank pit) to assess the area near the pit. Boreholes will be drilled to 10' depths and soil samples obtained at 2.5 foot intervals. If groundwater is encountered in the borehole, a sample of the water shall be retained for analysis in lieu of the soil samples obtained below the water table. Those samples obtained above the water table will be analyzed in addition to the water sample.

3. Since the exact position of the piping trench(es) is not known, the trench(es) will be located with a metal detector. Beginning at an interval of 30 feet from the closest well at the corner of the tank pit and measuring along the trench, soil samples will be obtained from the piping trench (note probable location of trench denoted by red line in Figure 1).

4. At the trench sampling locations (a maximum of five for the estimated linear footage), boreholes will be drilled to 10' depths and soil samples obtained at 2.5 foot intervals. If

groundwater is encountered in the borehole, a sample of the water shall be retained for analysis in lieu of the soil samples obtained below the water table. Those samples obtained above the water table will be analyzed in addition to the water sample.

5. Since petroleum liquids were stored at this site (ie. gasoline, diesel fuels, etc), the soil samples will be tested for the benzene, toluene, ethylbenzene and xylene (BTEX) using EPA Analytical Method 602 + xylenes.

The procedures to be followed for the performance of field hydrogeologic sampling tasks are described in the following section. These include a description of the field sampling and analytical protocol be included in the work plan.

SAMPLING AND ANALYTICAL PROTOCOL

Drilling will be conducted by hollow stem auger techniques. All tools, drill bits, augers, and casings (i.e., anything placed in a borehole) will be decontaminated by steam cleaning prior to and between use onsite. Drilling rigs shall be decontaminated between sampling locations by steam cleaning.

The senior hydrogeologist will keep records of borehole depth, diameter, location, sampling intervals, sample types, final hole disposition, disposition of cuttings and a description of the

soil types encountered during drilling.

Procedures for collecting environmental samples at the site will be selected, as appropriate, from various standard operating procedures manuals issued by the U.S. EPA. Daily, site-specific conditions will determine the exact procedures to be used for sampling.

The manuals to be referenced are:

Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, SW-846, U.S. EPA Office of Solid Waste and Emergency Response.

Samplers and Sampling Procedures for Hazardous Waste Streams, EPA-600/2-80-0-18. U.S. EPA Municipal Environmental Research Laboratory, January, 1980.

Handbook for Sampling and Sampling Preservation of Water and Wastewater, EPA-600/4-82-029, U.S. EPA Office of Research and Development, 1982.

Standard Operating Procedures and Quality Assurance Manual, U.S. EPA Region IV Engineering Support Branch, April, 1986.

The selection of sample containers, sample preservation requirements, and sample holding times for environmental samples after collection and before analyses will be in accordance with the October 26, 1984, issue of the Federal Register (49 FR 43260, Table II).

The sampling team will obtain the required equipment (such as pumps, bailers, analytical equipment, steel tape) for each

sampling event. This equipment will have been inspected for proper operation and will have been cleaned in accordance with the standard cleaning procedures specified in Standard Operating Procedures and Quality Assurance Manual (Appendix C), U.S. EPA Region IV Engineering Support Branch, April, 1986. This equipment will be cleaned and repaired, if necessary, before being returned to the office pool.

The sampling team will use bound field notebooks for recording information such as the site name, date/time, sampling location, sample type (groundwater, surface water, soil, or wastewater), sampling equipment, sampling procedure, name(s) of sample(s), and analyses to be performed. Any additional or unusual information will also be recorded as appropriate.

When samples are to be shipped by common carrier, they will be prepared for shipment in accordance with U.S. Department of Transportation hazardous materials regulations (49 CFR Part 172). Each sample will be sealed in an individual plastic bag and placed in a cooler. Completed chain-of-custody forms will accompany each cooler of samples to the laboratory. Sample holding times will be considered when shipping samples and priority delivery of the samples to the laboratory will be required when holding times are critical.

Water samples collected for analysis will be obtained using a

bailer and transferred to the sample containers. Shallow subsurface soil samples may be collected by digging a hole or trench, removing all loose soil and collecting a sample at the desired depth using a shovel or hand auger. Regardless of the method of collection, all samples shall be collected directly from the sampling device.

SAMPLE CUSTODY AND HANDLING

In addition to bound field notebooks, the sampling team will use labels or sample tags for initiating the chain-of-custody record on the environmental samples. The date and sampling location will be recorded on the tag or label. The tag or label will be secured to each respective sample container at the completion of sample collection. The tag or label numbers will serve to identify the sample and will be recorded in the bound field notebook along with information descriptive of the sampling conditions for that particular sample.

Sample custody in the field will be retained by the sampling team member(s) who collected the samples. The sample will remain in the actual possession or in view of the team member(s) until they have been placed in a designated secure area.

Chain-of-custody forms will be filled out and signed by the sampling team member(s) who collected the sample whenever custody is transferred to another sampling team member, a project team

member, or a shipping company. The individual who receives the sample for the laboratory will sign and date the form to complete the chain-of-custody. In the case of custody transfer to a shipping company, the bill of lading will be attached to the chain-of-custody form accompanying the sample in lieu of a recipient's signature.

A chain-of-custody seal will be completed by the sampling team and affixed to the outside of each cooler if the samples are to be shipped by a bonded shipping company. It will be placed over the cooler seam and then signed and dated. Nylon reinforced tape will be placed over the seal to reduce the potential for accidental tearing.

All shipping bills will be saved by the Field Team Leader and will become part of the project documentation. Shipping bill numbers will be recorded on the chain-of-custody form accompanying the respective samples in lieu of a signature from a representative of the shipping company. Personnel authorized to act as laboratory sample custodians will sign for incoming field samples, obtain documents of shipment, and verify data entered onto the sample custody forms. Upon receipt of the samples in the laboratory, the sample custodian will record the date and time the sample was received. A unique sequential laboratory number will be assigned to each sample. Before analyses, the sample will be placed in a

designated secure area. Custody of the samples will be maintained by the laboratory afterward.

SECTION TWO

SITE HEALTH AND SAFETY PLAN

SITE HEALTH AND SAFETY PLAN

The purpose of the contaminant assessment is to assess the extent of contamination, rate of contaminant(s) movement, and remedial measures needed to address the groundwater quality concerns at the Newberry Interstate. This program is in response to the Department of Health and Environmental Control request to assess the extent of groundwater contamination. The specific activities that will be completed as part of this assessment are described in the section entitled "Contaminant Assessment Plan."

This section provides the safety measures that will be observed during the field activities. All personnel involved in project field activities are to follow the guidelines set forth in this document.

SITE DESCRIPTION

Site Features

This site is located on College Street, Newberry, S C. Four underground storage tanks are located at this site. Underground pipelines connect these storage tanks to dispensers at the facility. Storage tank capacities range from 6,000 to 8,000 gallons. Products stored in these tanks are primarily gasoline and diesel fuel.

IDENTIFICATION OF SUSPECTED HAZARDS

There are two types of hazards which field personnel may be exposed to during the field work at the site of the station, these

hazards are chemical and physical. These potential hazards are identified in the following paragraphs.

Chemical Hazards

A chemical exposure may occur by inhalation, physical contact or ingestion. Volatilization of organic compounds may occur as contaminated soil cuttings and fluids are brought to the surface during the drilling operation. Physical contact with contaminated materials, fluids or with the decontamination solutions may cause skin irritation or an exposure by absorption of the contaminants through the skin. Ingestion exposure may occur if contaminated objects are accidentally placed in the mouth (Ex.: smoking a cigarette while wearing contaminated gloves). The potential chemical hazards at the site are presented in Table 1, along with the possible exposure pathways. Exposure prevention is addressed in the "Monitoring," "Standard Operating Procedures" and "Protective Clothing" sections of this plan.

Physical Hazards

Potential physical hazards that may be encountered during the field activities include items such as drilling into buried lines or utilities, boom contact with overhead electrical lines or product pipes, and physical injury due to rig operation.

Trip or slip hazards may be encountered if surfaces are uneven or wet, or if the work area is cluttered with equipment. Head injuries may occur during a fall and from a falling or flying object. The wearing of loose fitting clothing may cause serious injuries if they become caught in rotating equipment.

Heat stress is probably the most common hazard encountered at any job site. Heat stress can cause rashes, cramping, physical exhaustion and even death. Injury prevention is addressed in the "Standard Operating Procedures," "Monitoring" and "Protective Clothing" sections of the plan.

STANDARD OPERATING PROCEDURES

To minimize the possibility of exposure, physical injury or transference of hazardous substances from "contaminated areas" to "clean areas" due to site activities, a number of standard operating procedures (SOPs) will be implemented and maintained throughout field activities.

Training and Medical Fitness

All field personnel, governmental and subcontractor employees, must provide documentation (such as copies of certificates or notarized letters) of having received a minimum of 40 hours, health and safety training or equivalent as required by the OSHA 1910.120 standard.

All supervisory personnel are to provide documentation of having completed a minimum of 8 hours supervisor training. All onsite personnel must also submit documentation of medical fitness. The documentation must be submitted to the site health and safety officer prior to starting onsite work.

Site Control

Fluorescent orange traffic cones will be used as needed to cordon off work areas. The work area will be an area 10 feet

around the drilling rig and a 10-foot radius around the well being sampled. All unauthorized and unprotected personnel are not to enter the work area.

The number of personnel and equipment within designated work areas will be consistent with effective operations. Typically, personnel will be limited to a driller, driller's helper and field geologist/hydrogeologist during well installation, and to a field supervisor and technical personnel during groundwater sampling.

The contaminants present at the site may be flammable. Therefore, a 20A80BC dry chemical fire extinguisher will always be present at each drilling location. Sources of ignition will be minimized while onsite. Smoking will only be allowed in those areas designated by S. Thomas Taylor (following decontamination).

General Procedure

- Eating, drinking, chewing gum or tobacco, smoking, or any practice that increases the probability of hand-to-mouth transfer and ingestion of material is prohibited in any work area or before going through decontamination.

- Hands and face must be thoroughly washed upon leaving the work area and before eating, drinking or any other nonwork activities.

- Contact with contaminated or suspected contaminated surfaces should be avoided.

- Personnel will not be allowed onsite until properly briefed on anticipated hazards, equipment to be worn, safety practices to be followed, emergency procedures and communications.

- Any required protective clothing must be worn by all personnel going into areas designated for wearing protective equipment.

- Personnel will practice unfamiliar operations prior to implementing the actual procedure.

- Personnel must use the buddy system.

- During continual operations, on-site workers act as safety backup to each other.

- Communications capability must be maintained between field personnel at all times while on the work site.

- Visual contact must be maintained between pairs onsite.

- Entrance and exit locations will be designated and emergency escape routes delineated. Warning signals for evacuation will be established.

- All Enmark Stations, Inc. safety rules will be obeyed.

- All personnel will have taken the Enmark Stations, Inc. safety orientation before starting field work.

- Sanitary water for drinking will be stored in insulated coolers and cooled with ice. Disposable cups will be made available for drinking.

Site Specific Procedures

The potential hazards identified in the "Identification of Suspected Hazards" section of this plan are addressed by the following procedures:

- Ambient air will be monitored at regular intervals for total vapor readings. In the event that organic vapors in the breathing space exceeds 10 ppm (TLV of benzene) above background, either the field activities will be discontinued until the level drops or the site will be abandoned and the situation reassessed.

- All field personnel will wear chemical resistant gloves when handling contaminated materials or decontamination solutions.

- All required safety equipment will be worn or used when within the boundaries of the work area.
- Prior to any drilling activity, the well site will be checked for buried utilities and overhead clearance. Well locations in questionable areas will be moved.
- Before the boom on the rig is raised, the driller will again check for overhead clearance. The boom will be lowered every time the rig is moved to a new well location.

EMERGENCY PROCEDURES AND FIRST AID

In the event of an emergency, the following procedures will be initiated.

Emergency Communication

The emergency telephone numbers which will be posted in the field vehicles. These numbers are listed below:

Medical Emergency

EMS Ambulance Dispatch	276-2222
Newberry County Memorial Hospital	276-7570

In the event of a major medical emergency, injured personnel will be stabilized in the field until an ambulance arrives to transport the injured person to Newberry County Memorial Hospital.

Evacuation

In the event that site evacuation is required, the Enmark Stations, Inc. evacuation plan will be followed. Evacuation may be required for fire, security purposes, personnel injury, excessive organic vapor, or lightning hazards.

First Aid

All injuries sustained will be initially treated onsite. If needed, an ambulance will be called for further treatment and transportation. A fully stocked first aid kit will be in the field vehicle onsite at all times. Consult the MSDS sheets in Appendix A of the on-site procedures plan for specific exposure treatment.

Inhalation. If warning signs such as dizziness, headaches, or nausea are experienced, the worker will leave the contaminated air space immediately. If unconscious, the victim will be pulled from the contaminated area immediately by rescuers in appropriate respiratory and protective equipment. If the victim is not breathing, mouth-to-mouth resuscitation or some other form of artificial respiration will be initiated immediately away from the contaminated area. Medical attention will be requested immediately.

Skin Exposure. Contaminated clothing will be removed immediately and the skin washed thoroughly with running water for at least 15 minutes. Repeat wash procedures for complete decontamination. Do not reuse contaminated clothing unless thoroughly cleaned. Medical attention will be requested as needed.

Ingestion. Medical attention will be required for all victims of acute toxicity due to ingestion of materials at the work site.

Eye Contact. Wash eyes with abundant amounts of clean water by holding eye open and flooding with water so that all surfaces are washed thoroughly. Continue washing for at least 15 minutes. The victim will immediately be taken for professional medical attention.

Cuts and Abrasions. Wash injured area with clean water and soap. Apply sterile dressings over wound. Secure with adhesive tape. Professional medical attention will be requested as needed.

Heat Stress. There are three different types of heat stress: heat cramps, heat exhaustion, and heat stroke.

Heat cramps involve muscular pains and spasms due to loss of salt from sweat, or inadequate intake of salts relative to needed intake amounts. Legs and arms are most likely affected. First aid treatment includes gentle massage of cramped tissue, and intake of salty water to re-establish salt balance.

Heat exhaustion is characterized by fatigue, weakness, and collapse due to inadequate water intake relative to sweating. Symptoms include approximately normal body temperature, pale, clammy skin, and profuse perspiration. First aid treatment includes cooling victim in shade and administering cool, salty fluids (e.g., Gatorade), and rest.

Heat stroke is characterized by extremely hot inner body core (greater than 106 F) and the disturbance of the

sweating mechanism for the body. HEAT STROKE IS AN IMMEDIATE LIFE THREATENING SITUATION. MEDICAL CARE IS IMMEDIATELY NEEDED. Symptoms of heat stroke include high body temperature, red, hot and dry skin, rapid and strong pulse, possible unconsciousness. First aid treatment requires rapid and direct methods to cool the body. Cool the body with cool water, fans, air conditioner. Professional medical attention is needed immediately.

PERSONNEL PROTECTION EQUIPMENT

The monitoring well installation and groundwater sampling at this site will be conducted in personal protective equipment Level D. This includes:

- hard hat;
- leather or rubber steel-toed, high top boots;
- long sleeved shirt;
- goggles or safety glasses; and
- rubber gloves

Potable water will be available for washing and decontamination.

DESCRIPTION OF MONITORING

Volatile Organic Compounds

Concentrations of volatile organic compounds in the breathing zone will be monitored with either a Foxboro Organic Vapor Analyzer (OVA) or Photo-ionization Detector (PID). In the event that organic vapor in the breathing space exceed 10 ppm above background level, drilling will either stop to allow dilution of the vapors or

field activities will be re-evaluated by S. Thomas Taylor.

Although the chance of volatile organics reaching explosive levels in the open air is unlikely, the rig will be positioned upwind of the borehole, and the area near the borehole periodically monitored.

Heat Stress

Because the incidence of heat stress depends on a variety of factors, all field personnel will be observed for heat stress. Workers will be instructed to consume liquids before the work day begins (prehydration), during rest periods (rehydration), and after work ends for the day (rehydration).

All workers will be instructed to refrain from the use of alcohol and other diuretics from the time they start work until the project ends and to get an adequate amount of sleep.

ACCIDENT REPORTING AND RECORD KEEPING PROCEDURES

Incident Reports

In the event of any accident, injury, or incident that could have health repercussions, supervisory personnel shall complete an incident report (see Table 1). The completed form shall be sent to S. Thomas Taylor, the contractor and Enmark Stations, Inc. within 48 hours of the incident. A copy of all incidents will be maintained in the project files.

TABLE 1

POTENTIAL CHEMICAL HAZARDS PRESENT

AND MAJOR EXPOSURE PATHWAY

BENZENE	Inhalation, Skin Contact, Ingestion
CYCLOHEXANE	Inhalation, Skin Contact, Ingestion
ETHYL ALCOHOL	Inhalation, Skin Contact, Ingestion
ETHYL BENZENE	Inhalation, Skin Contact, Ingestion
Super High Flash Naphtha (EXXON AROMATIC 100)	Inhalation, Skin Contact, Ingestion
GYCOL (ETHYLENE GLYCOL)	Inhalation, Skin Contact, Ingestion
FUEL OIL NO.'s 2-6	Inhalation, Skin Contact, Ingestion
GASOLINE	Inhalation, Skin Contact, Ingestion
HEPTANE	Inhalation, Skin Contact, Ingestion
HEXANE	Inhalation, Skin Contact, Ingestion
METHYL ALCOHOL	Inhalation, Skin Contact, Ingestion
METHYLENE CHLORIDE (Aerothene MM)	Inhalation, Skin Contact, Ingestion
PHOSPHORIC ACID	Inhalation, Skin Contact, Ingestion
POTASSIUM HYDROXIDE	Inhalation, Skin Contact, Ingestion
SODIUM BOROHYDRIDE	Inhalation, Skin Contact, Ingestion
SODIUM HYDROXIDE	Inhalation, Skin Contact, Ingestion
TETRACHLOROETHYLENE (PERCHLOROETHYLENE)	Inhalation, Skin Contact, Ingestion
1,1,1-TRICHLOROETHANE (Genklene and Aerothene TT)	Inhalation, Skin Contact, Ingestion
TRICHLOROETHYLENE	Inhalation, Skin Contact, Ingestion
TOLUENE	Inhalation, Skin Contact, Ingestion
XYLENE	Inhalation, Skin Contact, Ingestion

SECTION THREE

CONTAMINANT ASSESSMENT REPORT

CONTAMINANT ASSESSMENT REPORT

If any one of the soil samples are found to exceed 20 ppm total BTEX, ENMARK will immediately notify the UST office of the results of the analyses for all soil samples.

If the soil samples do not exceed the limits stated above, then ENMARK will describe (in writing to DHEC) the location where each sample was taken and the laboratory results within thirty days of the completion of the site work. The report with this description and lab results will be retained by ENMARK for three years.

Please notify me in writing if this plan of work is adequate for the site.

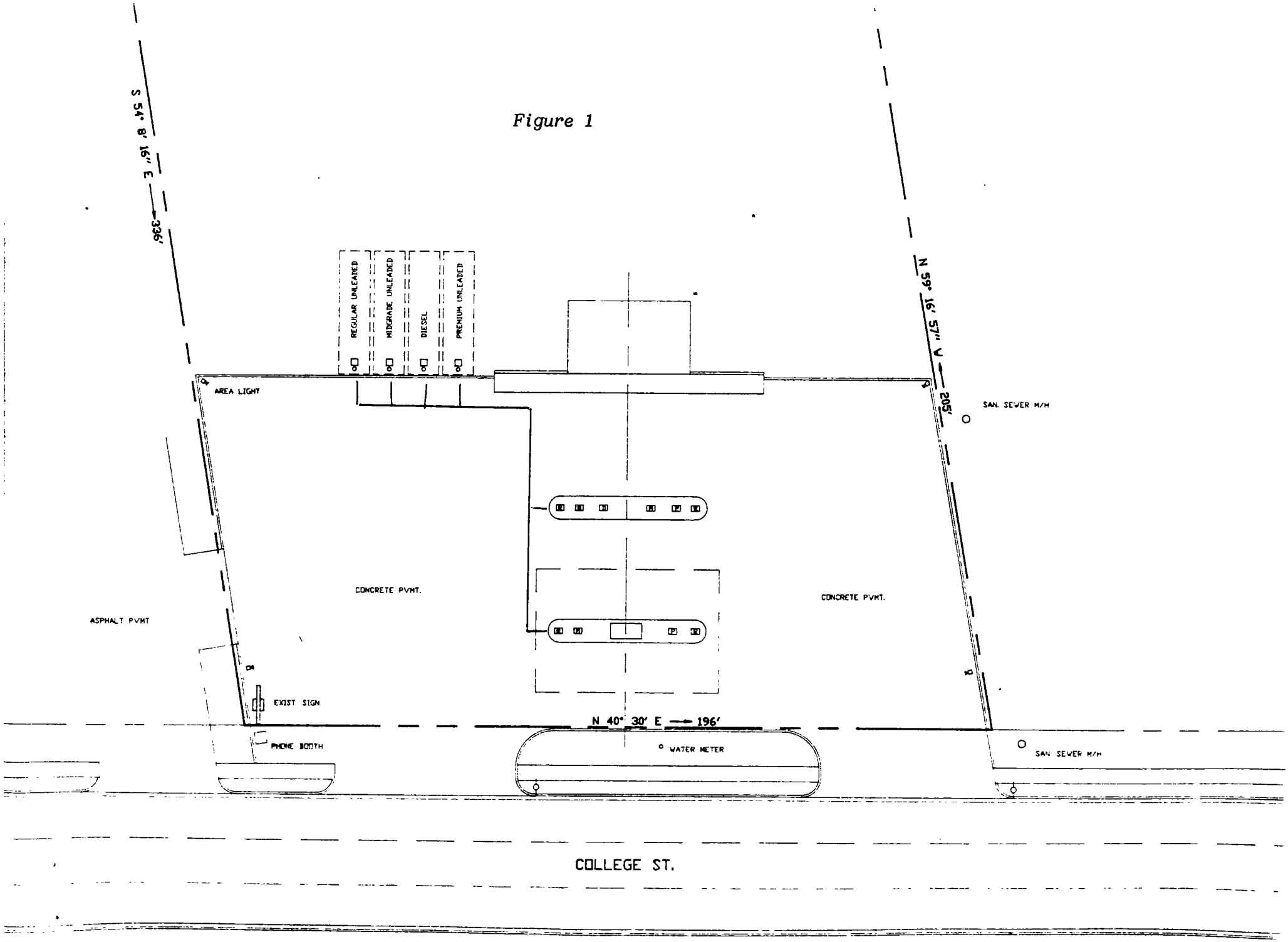
Sincerely,

S Thomas Taylor

S. Thomas Taylor
Hydrogeologist

STT/ddc

Figure 1


S 54° 8' 16" E — 336'
N 59° 16' 57" W — 205'
REGULAR UNLEADED
MIDGRADE UNLEADED
DIESEL
PREMIUM UNLEADED
AREA LIGHT
SAN. SEWER M/H
CONCRETE PVMT.
CONCRETE PVMT.
ASPHALT PVMT
EXIST SIGN
N 40° 30' E — 196'
PHONE BOOTH
WATER METER
SAN. SEWER M/H
COLLEGE ST.

BLE INC.
BUNNELL-LAMMONS ENGINEERING, INC.
GEOTECHNICAL, ENVIRONMENTAL AND CONSTRUCTION MATERIALS CONSULTANTS

UST
JUN 23 2010
PROGRAM

June 18, 2010

South Carolina Department of Health and Environmental Control
Bureau of Land and Waste Management
2600 Bull Street
Columbia, South Carolina 29201

4tech
UST
DOCKET

Attention: Mr. John Skowronek
Hydrogeologist

Subject: **Tier II Plan Proposal**
Spinx 258/Former Enmark 380
UST Permit #06588,
Newberry, South Carolina
BLE Proposal Number P10-0431

Dear Mr. Skowronek:

On behalf of our client, Enmark Stations, Inc., and pursuant to the South Carolina Department of Health and Environmental Control (SCDHEC) Tier II Plan Directive dated May 18, 2010, we have prepared this Tier II Plan and Cost Proposal (attached) for the above referenced facility.

Two petroleum hydrocarbon releases have been reported at the facility in December 1989 and November 1995. Eight groundwater wells have been installed at the site in response to these reported releases. Both releases are still open with SCDHEC; however, to our knowledge, no additional environmental work has been performed at the site since 1999. The extent of the contaminant plume has not been defined horizontally or vertically, and several groundwater drinking water wells are reported to be within 1,000 feet of the release.

If you have any questions concerning this submittal, please contact us at 864-288-1265.

Sincerely,
BUNNELL-LAMMONS ENGINEERING, INC.

PROFESSIONAL GEOLOGIST
REGISTERED
No. 893
SOUTH CAROLINA
THOMAS L. LAMMONS

Trever Z. Slack, G.I.T.
Project Hydrogeologist

Thomas L. Lammons, P.G.
Principal Hydrogeologist
Registered, South Carolina No. 893

Attachment

Cc: Mr. Tom Dolan, Enmark Stations, Inc., P.O. Box 728, Savannah, Georgia 31402

6004 PONDERS COURT
GREENVILLE, SOUTH CAROLINA 29615

PHONE (864) 288-1265
FAX (864) 288-4430

D H E C

PROMOTE PROTECT PROSPER

Tier II Assessment Plan
Underground Storage Tank Program

UST Permit #: 06588 County: Newberry Facility Name: Spinx 258/Former Enmark 380

Facility Address: 2725 College Street City: Newberry State: South Carolina Zipcode:

Responsible Party: Enmark Stations, Inc. Address: P.O. Box 728

City: Savannah State: Georgia Zipcode: 31402

No. USTs: four Removed? (date: MM/DD/YYYY) Replaced? (date: MM/DD/YYYY)

Current use of facility/property:

The subject site currently operates as a petroleum retail facility. Two petroleum hydrocarbon releases have been reported at the facility in December 1989 and November 1995. Eight groundwater monitoring wells have been installed at the site in response to these reported releases. Both releases are still open with SCDHEC; however, to our knowledge, no additional environmental work has been performed at the site since 1999. The extent of the contaminant plume has not been defined.

Current property owner name: The Spinx Company Address: P.O. Box 8624

City: Greenville State: South Carolina Zipcode: 29604

Field Screening Methodology

Specify the field screening methodology to be used. The use of field screening methods to optimize the number and location of permanent wells is required.

Since work has not been performed on-site since 1999, BLE proposes to conduct an initial site-wide groundwater sampling event to obtain concurrent groundwater analytical data. Initial groundwater samples from the 8 existing monitoring wells will be analyzed for BTEX, MTBE, Naphthalene, 1,2-DCA, and EDB. Once current groundwater analytical results are established, a Geoprobe direct push groundwater sampler will be used to screen groundwater samples in the field to optimize the number and location of permanent monitoring wells. 37 shallow Geoprobe groundwater screening locations are proposed to an approximate depth of 25 feet each and 3 deep Geoprobe groundwater screening locations are proposed to an approximate depth of 40 feet each. Proposed Geoprobe screening locations are shown on Figure 2. Groundwater samples will be screened in the field with a properly calibrated organic vapor meter (Photoionization Detector (PID)) and 14 groundwater screening samples will be submitted for laboratory analysis of BTEX, MTBE, Naphthalene, 1,2-DCA, and EDB. Groundwater screening laboratory results will be discussed with the SCDHEC project manager prior to permanent monitoring well installation to determine the optimum number and placement of wells.

Permanent Monitoring Wells (estimate number and total completed depth)

of shallow wells: 23 Total depth: 30 each

# of deep wells: 2 Total depth: 45 each

Comments, if warranted:

Shallow monitoring wells will be installed with 10-foot screens to a depth of approximately 30 feet below ground surface to bracket the water table. The deep wells will be a Type III telescoping well to a depth of approximately 45 feet bgs each with a 5-foot screen. One well pair (deep and shallow well) will be installed upgradient of the source areas to document background concentrations.

Analyses

List the analytical parameters (e.g., BTEX, MTBE) and estimated number.

BTEX + Naphthalene + MTBE + 1,2-DCA + EDB (Initial groundwater sampling event of existing monitoring wells) 8 samples
BTEX + Naphthalene + MTBE + 1,2-DCA + EDB (Geoprobe groundwater screening locations) 14 samples
BTEX + Naphthalene + MTBE + 1,2-DCA + EDB + 8 Oxygenates (Permanent Monitoring Wells) 33 samples
Nitrate, Sulfates, Ferrous Iron, Dissolved Lead (Permanent Monitoring Wells) 33 samples
BTEX + Naphthalene + MTBE + 1,2-DCA + EDB (Drinking Water Wells) 3 samples

Implementation Schedule *(Use MM/DD/YYYY format - Example 01/23/2004)*

Start up date: 07/01/2010 *(MM/DD/YYYY)* Completion date: 09/30/2010 *(MM/DD/YYYY)*

Report submittal date: 10/30/2010 *(MM/DD/YYYY)*

UST Permit #: 06588 Facility Name: Spinx 258/Former Enmark 380

Site Maps

1. Attach a copy of the relevant portion of the USGS topographic map showing the site location.

2. Prepare a site base map. This map must be accurately scaled, but does not need to be surveyed. The map must include the following:

North arrow	Legend with facility name and address, UST Permit number, date, and a bar scale
Location of property lines	Streets or highways (indicate names and numbers)
Location of buildings	Identification of located buildings
Paved areas on or adjacent to site	Location of all present and former ASTs and USTs
Previous soil sampling locations	Underground and above ground utilities on or adjacent to site
Previous monitoring well locations	Location of any other potential receptor

Aquifer Characterization

Pump test: ☐ Slug tests: ☑ (check one and provide explanation for choice)

Two slug tests are to be conducted in one shallow and one deep well cluster to determine aquifer characteristics.

Small Volume Disposal Type and Method

Soil:

Contain in 55-gallon drums until transportation and disposal to a permitted treatment/disposal facility.

Purge water:

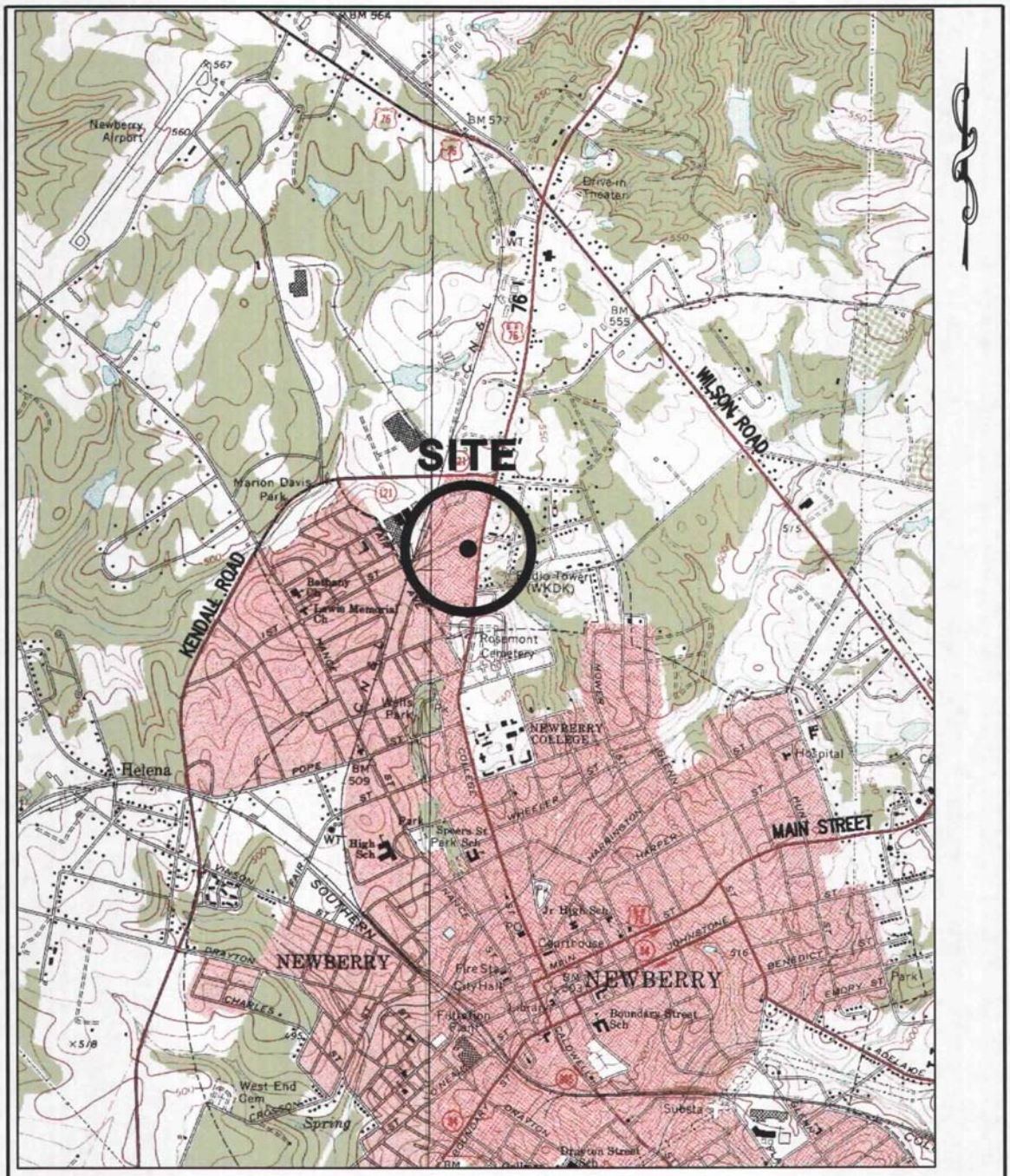
Contain in 55-gallon drums until transportation and disposal to a permitted treatment/disposal facility.

Additional comments:

Shallow monitoring wells will be installed with 10-foot screens to a depth of approximately 30 feet below ground surface to bracket the water table. The deep wells will be a Type III telescoping well to a depth of approximately 45 feet bgs each with a 5-foot screen. One well pair (deep and shallow well) will be installed upgradient of the source areas to document background concentrations.

Conversations with the SCDHEC project manager indicate that three or more private groundwater drinking water wells are located within 1,000 feet of the site. Additionally, a review of historical records indicate that the extent of groundwater and soil contamination has not been defined horizontally or vertically. A Groundwater BTEX Concentration Map drawn by the previous consultant and dated June 26, 1998 is included as Appendix A for historical reference. While on-site, ten Geoprobe macrocore soil borings will be performed to further delineate the vertical and horizontal extent of soil contamination in the vadose zone (Figure 3). Four soil borings (PSB-1 through PSB-4) will be installed to a depth of 25 feet adjacent to and downgradient of the UST basin, three soil borings (PSB-5 through PSB-7) to a depth of 10 feet each adjacent to the product piping lines, and three soil borings (PSB-7 through PSB -10) to a depth of 10 feet each along the perimeter of the dispenser islands. One soil sample from each soil boring with the highest PID field screening value will be submitted for laboratory analysis of BTEX, naphthalene, and PAHs.

Additionally, one 55-gallon drum of petroleum free-product, likely associated with an inactive petroleum free-product recovery system installed in MW-4, will be transported from the site to a permitted treatment/disposal facility.



2000 1000 0 2000 4000

APPROXIMATE SCALE IN FEET

REFERENCE:
USGS TOPOGRAPHIC MAP, 7.5 MINUTE SERIES, NEWBERRY WEST AND NEWBERRY EAST, S.C. QUADRANGLES, 1969 AND 1968.

DRAWN: ACE	DATE: 06-15-10	BLE. BUNNELL-LAMMONS ENGINEERING, INC. 6004 PONDERS COURT GREENVILLE, SOUTH CAROLINA 29615 PHONE: (864)288-1265 FAX: (864)288-4430	SITE LOCATION MAP SPINX 258/ FORMER ENMARK #380 UST PERMIT #06588 NEWBERRY, SOUTH CAROLINA	FIGURE 1
CHECKED: TZS	CAD: SPINX258-SLM			
APPROVED:	JOB NO: P10-0431			

50 25 0 50 100
APPROXIMATE SCALE IN FEET

LEGEND

- APPROXIMATE LOCATION OF EXISTING SHALLOW GROUNDWATER MONITORING WELL
- APPROXIMATE LOCATION OF EXISTING DEEP, TYPE III GROUNDWATER MONITORING WELL
- PROPOSED GROUNDWATER SCREENING LOCATION (37)
- PROPOSED SHALLOW GROUNDWATER MONITORING WELL LOCATION (23)
- PROPOSED DEEP GROUNDWATER SCREENING LOCATION (3)
- PROPOSED DEEP GROUNDWATER MONITORING WELL LOCATION (2)

REFERENCE:
NEWBERRY COUNTY GIS.

DRAWN BY:	ACE	DATE:	06-15-10
CHECKED BY:	TZS	FILE:	SPINX258-PBLP
APPROVED BY:		JOB NO:	P10-0431

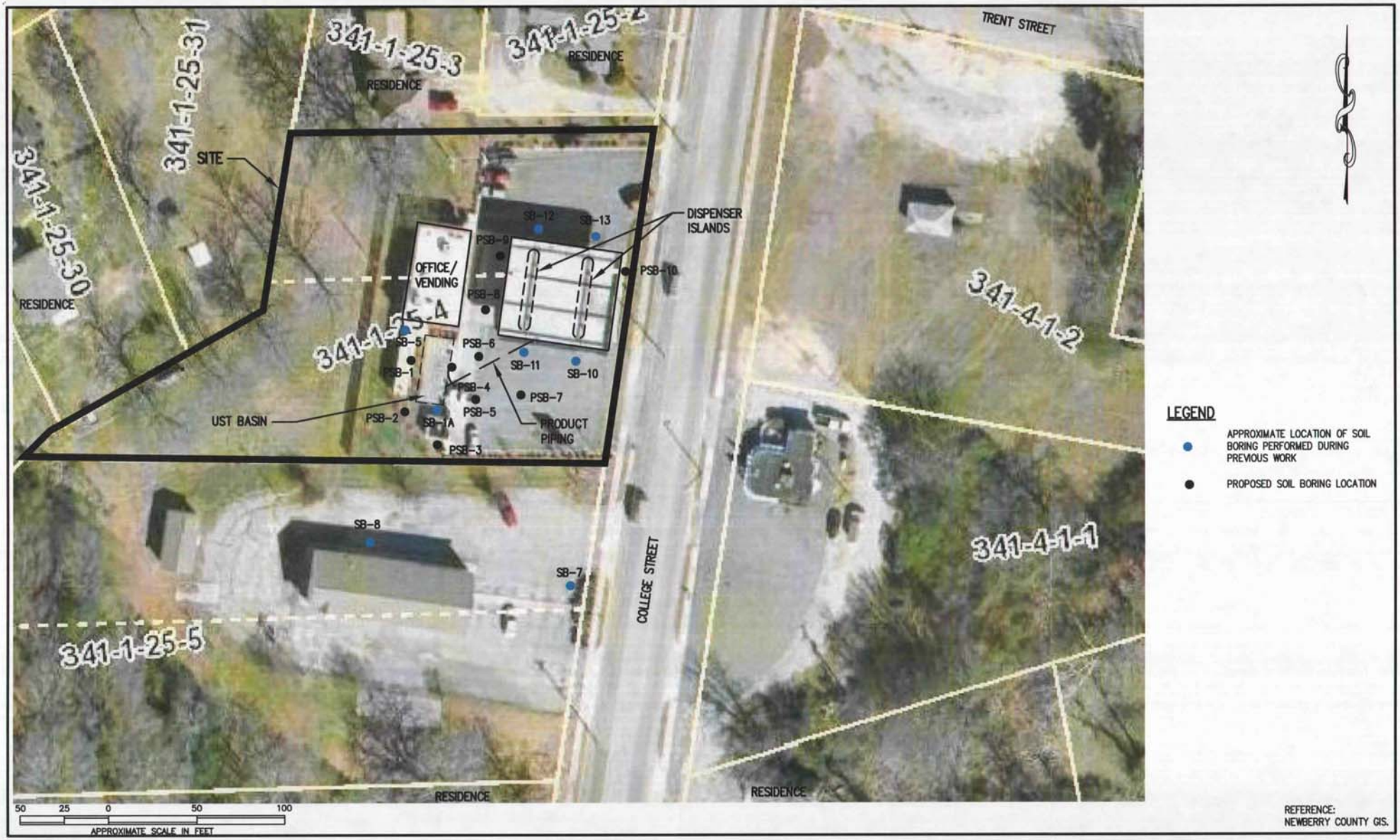
REVISIONS

No.	DESCRIPTION	BY

BLE INC.
BUNNELL-LAMMONS ENGINEERING, INC.
6004 PONDERS COURT
GREENVILLE, SOUTH CAROLINA 29615
PHONE: (864)288-1265 FAX: (864)288-4430

PROPOSED WELL AND SCREENING LOCATION PLAN
SPINX #258/FORMER ENMARK #380
UST PERMIT #06588
NEWBERRY, SOUTH CAROLINA

FIGURE
2



LEGEND

- ● APPROXIMATE LOCATION OF SOIL BORING PERFORMED DURING PREVIOUS WORK
- ● PROPOSED SOIL BORING LOCATION

REFERENCE:
NEWBERRY COUNTY GIS.

DRAWN BY:	ACE	DATE:	06-15-10
CHECKED BY:	TZS	FILE:	SPINX258-PBLP
APPROVED BY:		JOB NO:	P10-0431

REVISIONS

No.	DESCRIPTION	BY

BLE INC.

BUNNELL-LAMMONS ENGINEERING, INC.
8004 PONDERS COURT
GREENVILLE, SOUTH CAROLINA 29615
PHONE: (864)288-1285 FAX: (864)288-4430

PROPOSED SOIL BORING LOCATION PLAN
SPINX #258/FORMER ENMARK #380
UST PERMIT #06588
NEWBERRY, SOUTH CAROLINA

FIGURE
3

D H E C

PROMOTE PROTECT PROSPER

South Carolina Department of Health and Environmental Control

ASSESSMENT COMPONENT COST AGREEMENT
SOUTH CAROLINA
Department of Health and Environmental Control
Underground Storage Tank Program
State Underground Petroleum Environmental Response Bank Account

Facility Name Spinx 258/Former Enmark 380

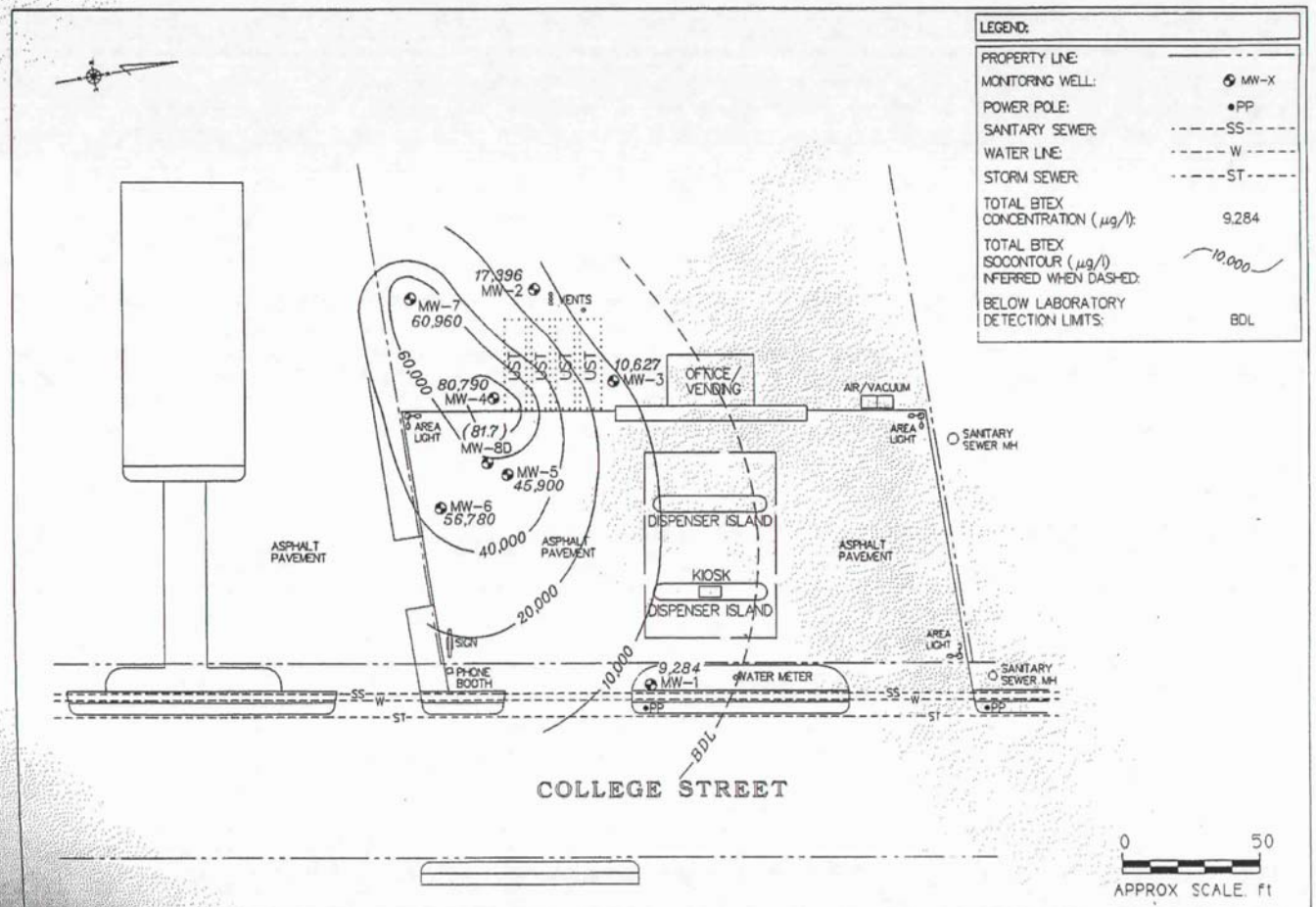
UST Permit # 6588 **Cost Agreement #**

ITEM	QUANTITY	UNIT	UNIT PRICE	TOTAL
1. Plan*				
A. Plan Preparation	1	x	$100.00	$100.00
B. Tax Map	1	x	$50.00	$50.00
2. Receptor Survey *	1	x	$500.00	$500.00
3. Comprehensive Survey	1	x	$1,000.00	$1,000.00
4. Mob/Demob				
A. Equipment	3	x	$575.00	$1,725.00
B. Personnel	5	each x	$290.00	$1,450.00
C. Adverse Train Vehicle		x	$575.00	$0.00
5. Soil Borings (hand auger)*		feet x	$14.00	$0.00
6. Soil Borings (drilled) & Field Screening				
A. Standard	1205	feet x	$17.00	$20,485.00
B. Alternative, on-site		feet x	$12.50	$0.00
C. Fractured Rock		feet x	$27.50	$0.00
7. Soil Leachability Model		each x	$200.00	$0.00
8. Abandonment*	1205	feet x	$5.00	$6,025.00
9. Well Installation*				
A. Water Table (hand auger)		feet x	$20.00	$0.00
B. Water Table (drilled)	690	feet x	$38.00	$26,220.00
C. Telescoping	90	feet x	$58.00	$5,220.00
D. Rock Drilling		feet x	$58.00	$0.00
E. 2" Rock Coring		feet x	$44.10	$0.00
F. 4" Rock Coring		feet x	$50.40	$0.00
G. multi sampling port/screen		feet x	$47.20	$0.00
10. Groundwater Sample Collection				
A.Groundwater	27	samples x	$55.00	$1,485.00
B. Air Vapor		samples x	$90.00	$0.00
C. Water Supply	3	samples x	$25.00	$75.00
D. Groundwater No Purge	14	samples x	$35.00	$490.00
E. Gauge Well only		per well x	$20.00	$0.00
F. Sample Below Product		samples x	$50.00	$0.00
G. Passive Diffusion Bag		each x	$40.00	$0.00
11. Analyses-Groundwater (see Analytical Methodology for site-specific analyses)				
A. BTEX+Naphth.+MTBE	58	samples x	$100.00	$5,800.00
B. Rush BTEX analysis		samples x	$120.00	$0.00
D. PAH's		samples x	$120.00	$0.00
E. Lead		samples x	$20.00	$0.00
F. EDB	58	samples x	$55.00	$3,190.00
G. 8 RCRA Metals		samples x	$140.00	$0.00
H.TPH (9070)		samples x	$55.00	$0.00
J. BOD		samples x	$40.00	$0.00
K. Nitrate	33	samples x	$20.00	$660.00
L. Sulfate	33	samples x	$20.00	$660.00
M. Ferrous Iron	33	samples x	$20.00	$660.00
N. Methane		samples x	$110.00	$0.00
O. Organic Lead		samples x	$100.00	$0.00
P. 8 Oxygenates	33	samples x	$85.00	$2,805.00
AA. Filtered Lead	33	samples x	$46.00	$1,518.00
BB. 1,2-DCA	58	samples x	$10.75	$623.50

11. Analyses-Soil				
Q. BTEX + Naphth.	10	samples x	$100.00	$1,000.00
R. PAH's	10	samples x	$120.00	$1,200.00
S. 8 RCRA Metals		samples x	$150.00	$0.00
T. TPH (9071)		samples x	$60.00	$0.00
U. TPH (3550B/8015B)		samples x	$65.00	$0.00
V. TPH (5030B/8015B)		samples x	$65.00	$0.00
W. Grain size/hydrometer	2	samples x	$75.00	$150.00
X. Total Organic Carbon		samples x	$35.00	$0.00
11. Analyses-Air				
Y. BTEX + Naphthalene		samples x	$247.50	$0.00
Z. Hydrocarbon Fuel Identification		samples x	$620.00	$0.00
12. Aquifer Characterization*				
A. Pumping Test		hours x	$120.00	$0.00
B. Slug Test*	2	tests x	$150.00	$300.00
C. Fractured Rock		tests x	$500.00	$0.00
13. Free Product Recovery Rate Test*		tests x	$120.00	$0.00
14. Fate/Transport Modeling				
A. Mathematical Model		each x	$300.00	$0.00
B. Computer Model		each x	$500.00	$0.00
15. Risk Evaluation				
A. Tier I Risk Evaluation		x	$301.00	$0.00
B. Tier II Risk Evaluation		x	$500.00	$0.00
16. Subsequent Survey*		x	$260.00	$0.00
17. Disposal*				
A. Wastewater				
1. Purging/Sampling	6	drums x	$90.00	$540.00
2. Pumping Test/EFR		gallons x	$0.60	$0.00
B. Free Product	1	drums x	$110.00	$110.00
C. Soil (Treatment/Disposal)	50	drum/ton x	$50.00	$2,500.00
18. Miscellaneous (attach receipts)				
		x		$0.00
		x		$0.00
		x		$0.00
20. Tier I Assessment (Use DHEC 3665 form)				
21. IGWA (Use DHEC 3666 form)				
22. Corrective Action (Use DHEC 3667 form)				
23. EFR				
A. 8-hour Event*		each x	$3,000.00	$0.00
B. Additional Hour		per hour x	$204.00	$0.00
C. Off-gas treatment		per hour x	$35.00	$0.00
24. Granulated Activated Carbon (GAC) filter system installation & service:				
A. New GAC System Installation*		each x	$2,500.00	$0.00
B. Refurbished GAC Sys. Install*		each x	$850.00	$0.00
C. Filter replacement/removal*		each x	$450.00	$0.00
D. System removal, cleaning, & refurbishment*		each x	$450.00	$0.00
E. GAC System housing		each x	$450.00	$0.00
F. In-line particulate filter		each x	$140.00	$0.00
G. Additional piping & fittings		feet x	$4.00	$0.00
25. Well Repair				
A. Additional Copies of Report		each x	$25.00	$0.00
B. Repair 2x2 MW pad		each x	$100.00	$0.00
C. Repair 4x4 MW pad		each x	$150.00	$0.00
D. Repair well vault		each x	$225.00	$0.00
E. Replace well cover & gasket		each x	$30.00	$0.00
F. Replace well cover bolts		each x	$10.00	$0.00
G. Replace locking well cap & lock		each x	$15.00	$0.00
19. Report/Project Management				
and Coordination	15%	x	$86,541.50	$12,981.23
TOTAL				$99,522.73

*The appropriate mobilization cost can be added to complete these tasks, as necessary

APPENDIX A



Handex
HANDEX OF THE CAROLINAS, INC.

ENMARK SS #380
2725 COLLEGE STREET
NEWBERRY, SOUTH CAROLINA

FIGURE 5
GROUNDWATER BTEX CONCENTRATION MAP
DATA DATE: 06-26-98

SCALE: 1" = 50'		PROJ. NO. 110727	
DATE: 05-03-99		REV. BY:	
DWN. BY: D.B.		DWG. NO. 1072720A	
PREP. BY:	DATE:	CHK. BY:	DATE:

Remtech Engineers

06588

Environmental & Hazardous Waste Engineering

October 11, 1991
Remtech Project 234.14

Re: Well Installation Notification

Mr. David Baise
Manager of Assessment and Development Section
Groundwater Protection Division
Department of Health & Environmental Control
State of South Carolina
2600 Bull Street
Columbia, S.C. 29201

UST DOCKETING

Mr. Baise:

This letter transmits Remtech's monitoring well & boring records for activities conducted for:

Enmark Stations, Inc.
P.O. Box 728
Savannah, GA 31402
(404) 236-1331

The work was performed at the following Enmark Facilities:

1. Enmark Service Station
   US 21
   Burton, S.C.

2. Interstate Service Station
   US 1 (Augusta Rd)
   Lexington, S.C.

3. Interstate Service Station
   College St.
   Newberry, S.C.

4. Enmark Service Station
   Highway 52
   Goose Creek, S.C.

5. Enmark Service Station
   Highway 52
   Moncks Corner, S.C.

6. Interstate Service Station
   Highway 200
   Lancaster, S.C.

7. Interstate Service Station
   Intersection Wall & Jones St.
   Fountain Inn, S.C.

RECEIVED
OCT 14 1991
GROUND-WATER PROTECTION

Crossings Center Northwest. 1000 Johnson Ferry Road. Suite D -110. Marietta, Georgia 30068
Phone: (404) 565-9101, Fax: (404) 565-8959

SCANNED

8. Interstate Service Station
   Highway 76 (Intersection
   W. Carolina Ave. & Oak St.)
   Clinton, S.C.

The information requested by Section R.61-71.11 E. 1.2. of South Carolina's Well Standards and Regulations is provided in Remtech's enclosed sample log sheets, boring logs, and site plans.

Please don't hesitate to call if you have any questions.

Respectfully Submitted,

Mark D. Ryckman, P.E., D.E.E.
Remtech Engineers

S.C. Driller Certification # 956
S.C. Professional Engineer # 12833

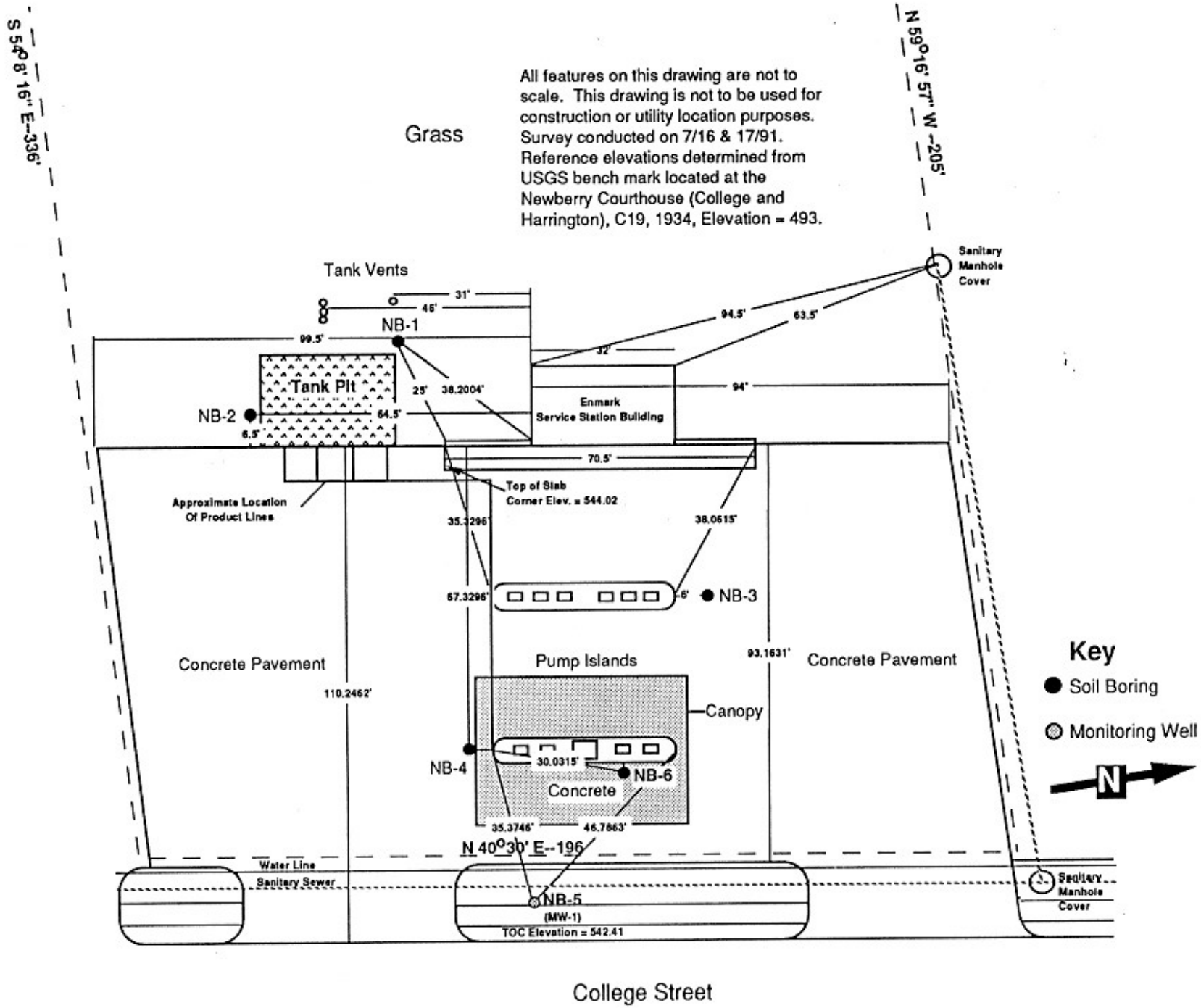
Enclosure

RECEIVED
OCT 14 1991
GROUND WATER
PROTECTION

SITE NAME: NEWBERRY, SC

SAMPLING TEAM: REMTECH ENGINEERS

DATE	TIME	SAMPLE #	DEPTH	MATRIX	HNu READING	OBSERVATIONS
7/16/91	1150	NB1-2.5	2.5	Soil	14	no hydrocarbon odor
7/16/91	1151	NB1-5.0	5.0	Soil	17	no hydrocarbon odor
7/16/91	1215	NB1-7.5	7.5	Soil	18	no hydrocarbon odor
7/16/91	1230	NB1-10.0	10.0	Soil	20	no hydrocarbon odor
7/16/91	1255	NB2-2.5	2.5	Soil	15	no hydrocarbon odor
7/16/91	1320	NB2-5.0	5.0	Soil	17	no hydrocarbon odor
7/16/91	1325	NB2-7.5	7.5	Soil	21	no hydrocarbon odor
7/16/91	1340	NB2-10.0	10.0	Soil	20	no hydrocarbon odor
7/16/91	1440	NB3-2.5	2.5	Soil	31	hydrocarbon odor
7/16/91	1445	NB3-5.0	5.0	Soil	67	hydrocarbon odor
7/16/91	1500	NB3-7.5	7.5	Soil	33	hydrocarbon odor
7/16/91	1515	NB3-10.0	10.0	Soil	19	hydrocarbon odor
7/16/91	1540	NB4-2.5	2.5	Soil	13	hydrocarbon odor
7/16/91	1550	NB4-5.0	5.0	Soil	255	hydrocarbon odor
7/16/91	1600	NB4-7.5	7.5	Soil	255	hydrocarbon odor
7/16/91	1630	NB4-10.0	10.0	Soil	275	strong hydrocarbon odor
7/17/91	1122	NB5-2.5	2.5	Soil	27	no hydrocarbon odor
7/17/91	1155	NB5-5.0	5.0	Soil	17	no hydrocarbon odor
7/17/91	1220	NB5-7.5	7.5	Soil	19	no hydrocarbon odor
7/17/91	1240	NB5-10	10.0	Soil	39	hydrocarbon odor
7/17/91	1300	NB5-12.5	12.5	Soil	53	hydrocarbon odor
7/17/91	1330	NB5-15	15	Soil	69	hydrocarbon odor
7/17/91	1405	NB5-17.5	17.5	Soil	297	hydrocarbon odor
7/17/91	1640	Water Well	-19.36	Water	no reading	hydrocarbon odor
7/17/91	1645	NB6-2.5	2.5	Soil	507	hydrocarbon odor
7/17/91	1655	NB6-5.0	5.0	Soil	437	hydrocarbon odor
7/17/91	1720	NB6-7.5	7.5	Soil	437	strong hydrocarbon odor
7/17/91	1745	NB6-10.0	10.0	Soil	457	strong hydrocarbon odor



Newberry Site Plan With Boring & Well Locations

REMTECH ENGINEERS

SOIL BORING

SC DRILLER NO. 956
SC PE REG. NO. 12833
Mark D. Ryckman

CLIENT: Enmark Stations, Inc.

PROJECT NAME: Interstate Service Station
Newberry, SC

LOCATION: College
Newberry, SC

PROJECT #: 234.12

BORING #: NB-1

DATE: 7-16-91

ELEV. (FEET)	DESCRIPTION	DEPTH (FEET)	SAMPLES #	SAMPLES TYPE	SAMPLES PID READING	SAMPLES DEPTH (FEET)	WELL INFO.	OBSERVATIONS
								Pre-Mix Cement
	brown hard CLAY (no hydrocarbon odor)		NB-1-2.5 ft Soil 1150		14			Grouted with neat cement and 4% bentonite
	red hard CLAY (no hydrocarbon odor)	5	NB-1-5 ft Soil 1151		17	5		Borings with 4-inch continuous flight auger Samples collected with B&K hand auger
	red hard CLAY (no hydrocarbon odor)		NB-1-7.5 ft Soil 1215		18			
	red-yellow hard CLAY (no hydrocarbon odor)	10	NB-1-10 ft Soil 1230		20	10		
	no groundwater encountered							
		15				15		
		20				20		
		25				25		
		30				30		

LEGEND

P.I.D. = PHOTOIONIZATION DETECTOR
SS = SPLIT SPOON (SOIL SAMPLE)
▽ = WATER TABLE AT TIME OF DRILLING
▼ = WATER TABLE AFTER 24 HOURS
= GROUT - 4% BENTONITE
= BENTONITE PELLETS
= WELL SCREEN
= SAND PACK

REMTECH ENGINEERS

SOIL BORING

SC DRILLER NO. 956
SC PE REG. NO. 12833
Mark D. Ryckman

CLIENT: Enmark Stations, Inc.

PROJECT NAME: Interstate Service Station
Newberry, SC

LOCATION: College
Newberry, SC

PROJECT #: 234.12

BORING #: NB-2

DATE: 7-16-91

ELEV. (FEET)	DESCRIPTION	DEPTH (FEET)	SAMPLES #	SAMPLES TYPE	SAMPLES PID READING	SAMPLES DEPTH (FEET)	WELL INFO.	OBSERVATIONS
								Pre-Mix Cement
	brown-red hard CLAY (no hydrocarbon odor)		NB-2-2.5 ft Soil 1255		15			Grouted with neat cement and 4% bentonite
	brown-red hard CLAY (no hydrocarbon odor)	5	NB-2-5 ft Soil 1320		17	5		Borings with 4-inch continuous flight auger Samples collected with B&K hand auger
	yellow-brown sandy CLAY (no hydrocarbon odor)		NB-2-7.5 ft Soil 1325		21			
	brown-yellow sandy CLAY (no hydrocarbon odor)	10	NB-2-10 ft Soil 1340		20	10		
	no groundwater encountered							
		15				15		
		20				20		
		25				25		
		30				30		

LEGEND

P.I.D. = PHOTOIONIZATION DETECTOR
SS = SPLIT SPOON (SOIL SAMPLE)
▽ = WATER TABLE AT TIME OF DRILLING
▼ = WATER TABLE AFTER 24 HOURS
= GROUT - 4% BENTONITE
= BENTONITE PELLETS
= WELL SCREEN
= SAND PACK

REMTECH ENGINEERS

SOIL BORING

SC DRILLER NO. 956
SC PE REG. NO. 12833
Mark D. Ryckman

CLIENT: Enmark Stations, Inc.

PROJECT NAME: Interstate Service Station
Newberry, SC

LOCATION: College
Newberry, SC

PROJECT #: 234.12

BORING #: NB-3

DATE: 7-16-91

ELEV. (FEET)	DESCRIPTION	DEPTH (FEET)	SAMPLES #	SAMPLES TYPE	SAMPLES PID READING	SAMPLES DEPTH (FEET)	WELL INFO.	OBSERVATIONS
								Pre-Mix Cement
	red-brown CLAY (hydrocarbon odor)		NB-3-2.5 ft Soil 1440		31			Grouted with neat cement and 4% bentonite
	sandy red CLAY with trace mica (hydrocarbon odor)	5	NB-3-5 ft Soil 1445		67	5		Borings with 4-inch continuous flight auger Samples collected with B&K hand auger
	brown-yellow sandy CLAY (hydrocarbon odor)		NB-3-7.5 ft Soil 1500		33			
	red CLAY (hydrocarbon odor)	10	NB-3-10 ft Soil 1515		19	10		
	no groundwater encountered							
		15				15		
		20				20		
		25				25		
		30				30		

LEGEND

P.I.D. = PHOTOIONIZATION DETECTOR
SS = SPLIT SPOON (SOIL SAMPLE)
▽ = WATER TABLE AT TIME OF DRILLING
▼ = WATER TABLE AFTER 24 HOURS
= GROUT - 4% BENTONITE
= BENTONITE PELLETS
= WELL SCREEN
= SAND PACK

REMTECH ENGINEERS

SOIL BORING

SC DRILLER NO. 956
SC PE REG. NO. 12833
Mark D. Ryckman

CLIENT: Enmark Stations, Inc.

PROJECT NAME: Interstate Service Station
Newberry, SC

LOCATION: College
Newberry, SC

PROJECT #: 234.12

BORING #: NB-4

DATE: 7-16-91

ELEV. (FEET)	DESCRIPTION	DEPTH (FEET)	SAMPLES #	TYPE	PID READING	DEPTH (FEET)	WELL INFO.	OBSERVATIONS
								Pre-Mix Cement
	brown-red CLAY (no hydrocarbon odor)		NB-4-2.5 ft Soil 1540		13			Grouted with neat cement and 4% bentonite
	red CLAY (hydrocarbon odor)	5	NB-4-5 ft Soil 1550		255	5		Borings with 4-inch continuous flight auger Samples collected with B&K hand auger
	red sandy CLAY (strong hydrocarbon odor)		NB-4-7.5 ft Soil 1600		255			
	tan sandy CLAY (hydrocarbon odor)	10	NB-4-10 ft Soil 1630		275	10		
	no groundwater encountered							
		15				15		
		20				20		
		25				25		
		30				30		

LEGEND

P.I.D. = PHOTOIONIZATION DETECTOR
SS = SPLIT SPOON (SOIL SAMPLE)
▽ = WATER TABLE AT TIME OF DRILLING
▼ = WATER TABLE AFTER 24 HOURS
= GROUT - 4% BENTONITE
= BENTONITE PELLETS
= WELL SCREEN
= SAND PACK

REMTECH ENGINEERS

SOIL BORING & WELL INSTALLATION LOG (2-Inch Diameter Well)

SC DRILLER NO. 956
SC PE REG. NO. 12833
Mark D. Ryckman

CLIENT: Enmark Stations, Inc.

PROJECT NAME: Interstate Service Station
Newberry, SC

PROJECT #: 234.12

BORING #: MW-1/NB-5

LOCATION: College
Newberry, SC

DATE: 7/17/91

ELEV. (FEET)	DESCRIPTION	DEPTH (FEET)	SAMPLES #	TYPE	PID READING	DEPTH (FEET)	WELL INFO.	OBSERVATIONS
			TOC Elevation = 542.41 ft MSL					Flush Mounted Metal Leak Proof Manhole Cover with Locking Cap NPT Converter Pre-Mix Cement Grouted with neat cement and 4% bentonite Bentonite pellets
	red-yellow CLAY (no hydrocarbon odor)		B-5 -2.5 ft Soil 1122		27			
	red-tan sandy CLAY (no hydrocarbon odor)	5	B-5-5 ft Soil 1155		17	5		
	red-tan sandy CLAY (no hydrocarbon odor)		B-5-7.5 ft Soil 1220		19			PVC Well Casing, Schedule 40 4-inch NPT converter 10 ft solid 2-inch riser (0 - 10.5) 15 ft screen (10.5 - 25.5) 6-inch female tip
	red-tan sandy CLAY (hydrocarbon odor)	10	B-5-10 ft Soil 1240		39	10		1 ft grout (0 - 1.0 ft) 1.2 ft geopellets (1.0 - 2.2 ft) 26.2 ft sand pack (2.2 - 28.3 ft)
	tan clayey SAND (hydrocarbon odor)		B-5-12.5 ft Soil 1300		53			Borings with 4-in Continuous Flight Auger Soil samples collected with B&K hand auger Schedule 40 PVC Casing & Screen Screen Size = 0.01 inch
	light brown clayey SAND (hydrocarbon odor)	15	B-5-15 ft Soil 1330		69	15		
	light brown SAND (hydrocarbon odor)		B-5-17.5 ft Soil 1405		297			Water Table Elevation Below TOC = - 19.16 ft Water Table Elevation Below Ground Surface = - 19.36 ft
		20				20		
		25				25		
	bottom of boring - 28 ft and 4 in low producing well (< 5 gpm)	30				30		

LEGEND

P.I.D. = PHOTOIONIZATION DETECTOR
SS = SPLIT SPOON (SOIL SAMPLE)
▽ = WATER TABLE AT TIME OF DRILLING
▼ = WATER TABLE AFTER 24 HOURS
= GROUT WITH 4% BENTONITE
= BENTONITE PELLETS
= WELL SCREEN
= SAND PACK

REMTECH ENGINEERS

SOIL BORING

SC DRILLER NO. 956
SC PE REG. NO. 12833
Mark D. Ryckman

CLIENT: Enmark Stations, Inc.

PROJECT NAME: Interstate Service Station
Newberry, SC

LOCATION: College
Newberry, SC

PROJECT #: 234.12

BORING #: NB-6

DATE: 7-17-91

ELEV. (FEET)	DESCRIPTION	DEPTH (FEET)	SAMPLES #	SAMPLES TYPE	SAMPLES PID READING	SAMPLES DEPTH (FEET)	WELL INFO.	OBSERVATIONS
								Pre-Mix Cement
	red-yellow CLAY (hydrocarbon odor)		NB-6-2.5 ft Soil 1645		507			Grouted with neat cement and 4% bentonite
	red sandy CLAY (hydrocarbon odor)	5	NB-6-5 ft Soil 1655		437	5		Borings with 4-inch continuous flight auger Samples collected with B&K hand auger
	red clayey SAND (strong hydrocarbon odor)		NB-6-7.5 ft Soil 1720		437			
	tan-red clayey SAND (strong hydrocarbon odor)	10	NB-6-10 ft Soil 1745		457	10		
	no groundwater encountered							
		15				15		
		20				20		
		25				25		
		30				30		

LEGEND

P.I.D. = PHOTOIONIZATION DETECTOR
SS = SPLIT SPOON (SOIL SAMPLE)
▽ = WATER TABLE AT TIME OF DRILLING
▼ = WATER TABLE AFTER 24 HOURS
= GROUT - 4% BENTONITE
= BENTONITE PELLETS
= WELL SCREEN
= SAND PACK

INTERSTATE

INTERSTATE STATIONS, INC.

P. O. BOX 728
SAVANNAH, GEORGIA 31402
(912) 236-1331

October 21, 1991

UST DOCKETING

RECEIVED
OCT 22 1991

Mr. Christopher S. Doll, P.G.
Underground Storage Tank Section
Ground-Water Protection Division
Bureau of Drinking Water Protection
2600 Bull St.
Columbia, SC 29201

Re: December 29, 1989 Release Report
Interstate # 380
Newberry, Newberry County
N-36-NO-06588, PCAS-7667

Dear Christopher:

Enclosed are the site plans, boring records, and sample analyses results for the Newberry Interstate Station Number 380, Newberry, South Carolina.

Five boreholes were drilled as described in the assessment plan. These boreholes (NB-1 NB-2, NB-3, NB-4 and NB-6) were completed to depths of approximately 10 feet.

Since groundwater was not encountered in these boreholes, I contacted Stanley Swartzel and obtained permission to extend one borehole to the groundwater. NB-5 was cased and sampled for water quality. However, due to a mistake at the lab, the water sample was not analyzed. The well will be resampled and results will be sent to you under separate cover.

The data gathered during the assessment indicate that there has been soil contamination in the proximity of boreholes NB-4 and NB-6. The result of soil sample analyses are included.

If you need any further information or assistance, please do not hesitate to call me.

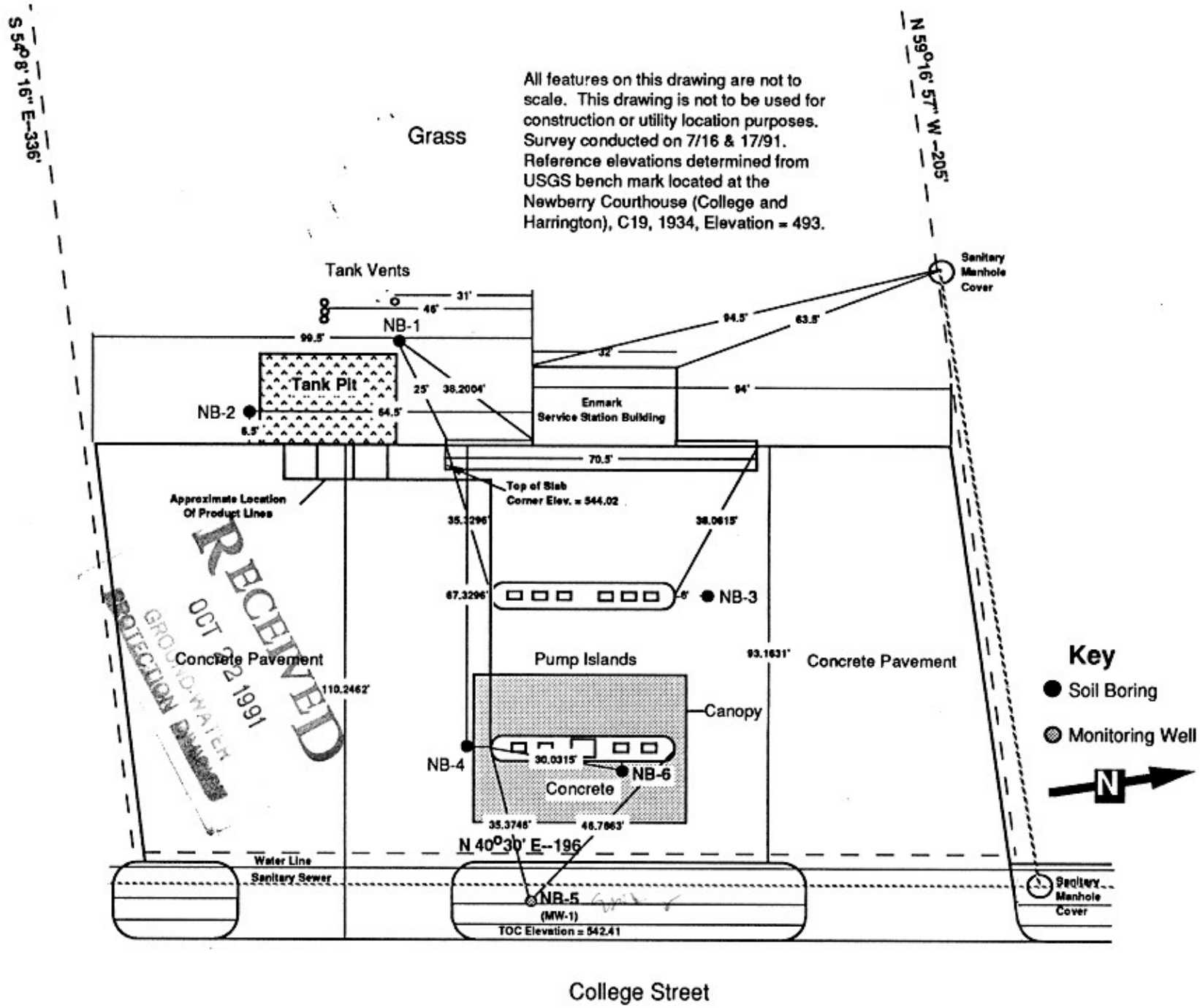
Sincerely,

S. Thomas Taylor

S. Thomas Taylor, P.G.
Principal Hydrogeologist

STT/ddc

Enclosures



College Street

Newberry Site Plan With Boring & Well Locations

REMTECH ENGINEERS

SOIL BORING

SC DRILLER NO. 956
SC PE REG. NO. 12833
Mark D. Ryckman

CLIENT: Enmark Stations, Inc.

PROJECT NAME: Interstate Service Station
Newberry, SC

LOCATION: College
Newberry, SC

PROJECT #: 234.12

BORING #: NB-1

DATE: 7-16-91

ELEV. (FEET)	DESCRIPTION	DEPTH (FEET)	SAMPLES #	SAMPLES TYPE	SAMPLES PID READING	SAMPLES DEPTH (FEET)	WELL INFO.	OBSERVATIONS
								Pre-Mix Cement
	brown hard CLAY (no hydrocarbon odor)		NB-1-2.5 ft Soil 1150		14			Grouted with neat cement and 4% bentonite
	red hard CLAY (no hydrocarbon odor)	5	NB-1-5 ft Soil 1151		17	5		
	red hard CLAY (no hydrocarbon odor)		NB-1-7.5 ft Soil 1215		18			
	red-yellow hard CLAY (no hydrocarbon odor)	10	NB-1-10 ft Soil 1230		20	10		
	no groundwater encountered							
		15				15		
		20				20		
		25				25		
		30				30		

LEGEND

P.I.D. = PHOTOIONIZATION DETECTOR
SS = SPLIT SPOON (SOIL SAMPLE)
▽ = WATER TABLE AT TIME OF DRILLING
▼ = WATER TABLE AFTER 24 HOURS
= GROUT - 4% BENTONITE
= BENTONITE PELLETS
= WELL SCREEN
= SAND PACK

REMTECH ENGINEERS

SOIL BORING

SC DRILLER NO. 956
SC PE REG. NO. 12833
Mark D. Ryckman

CLIENT: Enmark Stations, Inc.

PROJECT NAME: Interstate Service Station
Newberry, SC

LOCATION: College
Newberry, SC

PROJECT #: 234.12

BORING #: NB-2

DATE: 7-16-91

ELEV. (FEET)	DESCRIPTION	DEPTH (FEET)	SAMPLES #	SAMPLES TYPE	SAMPLES PID READING	SAMPLES DEPTH (FEET)	WELL INFO.	OBSERVATIONS
								Pre-Mix Cement
	brown-red hard CLAY (no hydrocarbon odor)		NB-2-2.5 ft Soil 1255		15			Grouted with neat cement and 4% bentonite
	brown-red hard CLAY (no hydrocarbon odor)	5	NB-2-5 ft Soil 1320		17	5		
	yellow-brown sandy CLAY (no hydrocarbon odor)		NB-2-7.5 ft Soil 1325		21			
	brown-yellow sandy CLAY (no hydrocarbon odor)	10	NB-2-10 ft Soil 1340		20	10		
	no groundwater encountered							
		15				15		
		20				20		
		25				25		
		30				30		

LEGEND

P.I.D. = PHOTOIONIZATION DETECTOR
SS = SPLIT SPOON (SOIL SAMPLE)
▽ = WATER TABLE AT TIME OF DRILLING
▼ = WATER TABLE AFTER 24 HOURS
= GROUT - 4% BENTONITE
= BENTONITE PELLETS
= WELL SCREEN
= SAND PACK

REMTECH ENGINEERS

SOIL BORING

SC DRILLER NO. 956
SC PE REG. NO. 12833
Mark D. Ryckman

CLIENT: Enmark Stations, Inc.

PROJECT NAME: Interstate Service Station
Newberry, SC

LOCATION: College
Newberry, SC

PROJECT #: 234.12

BORING #: NB-3

DATE: 7-16-91

ELEV. (FEET)	DESCRIPTION	DEPTH (FEET)	SAMPLES #	SAMPLES TYPE	SAMPLES PID READING	SAMPLES DEPTH (FEET)	WELL INFO.	OBSERVATIONS
								Pre-Mix Cement
	red-brown CLAY (hydrocarbon odor)		NB-3-2.5 ft Soil 1440		31			Grouted with neat cement and 4% bentonite
	sandy red CLAY with trace mica (hydrocarbon odor)	5	NB-3-5 ft Soil 1445		67	5		
	brown-yellow sandy CLAY (hydrocarbon odor)		NB-3-7.5 ft Soil 1500		33			
	red CLAY (hydrocarbon odor)	10	NB-3-10 ft Soil 1515		19	10		
	no groundwater encountered							
		15				15		
		20				20		
		25				25		
		30				30		

LEGEND

P.I.D. = PHOTOIONIZATION DETECTOR
SS = SPLIT SPOON (SOIL SAMPLE)
▽ = WATER TABLE AT TIME OF DRILLING
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= GROUT - 4% BENTONITE
= BENTONITE PELLETS
= WELL SCREEN
= SAND PACK

REMTECH ENGINEERS
SOIL BORING

SC DRILLER NO. 956
SC PE REG. NO. 12833
Mark D. Ryckman

CLIENT: Enmark Stations, Inc.

PROJECT NAME: Interstate Service Station
Newberry, SC

LOCATION: College
Newberry, SC

PROJECT #: 234.12

BORING #: NB-4

DATE: 7-16-91

ELEV. (FEET)	DESCRIPTION	DEPTH (FEET)	SAMPLES #	SAMPLES TYPE	SAMPLES PID READING	SAMPLES DEPTH (FEET)	WELL INFO.	OBSERVATIONS
								Pre-Mix Cement
	brown-red CLAY (no hydrocarbon odor)		NB-4-2.5 ft Soil 1540		15			Grouted with neat cement and 4% bentonite
	red CLAY (hydrocarbon odor)	5	NB-4-5 ft Soil 1550		255	5		
	red sandy CLAY (strong hydrocarbon odor)		NB-4-7.5 ft Soil 1600		255			
	tan sandy CLAY (hydrocarbon odor)	10	NB-4-10 ft Soil 1630		275	10		
	no groundwater encountered							
		15				15		
		20				20		
		25				25		
		30				30		

LEGEND

P.I.D. - PHOTOIONIZATION DETECTOR
SS - SPLIT SPOON (SOIL SAMPLE)
▽ - WATER TABLE AT TIME OF DRILLING
▼ - WATER TABLE AFTER 24 HOURS
- GROUT - 4% BENTONITE
- BENTONITE PELLETS
- WELL SCREEN
- SAND PACK

REMTECH ENGINEERS

SOIL BORING & WELL INSTALLATION LOG (2-Inch Diameter Well)

SC DRILLER NO. 956
SC PE REG. NO. 12833
Mark D. Ryckman

CLIENT: Enmark Stations, Inc.

PROJECT NAME: Interstate Service Station
Newberry, SC

PROJECT #: 234.12

BORING #: MW-1/NB-5

LOCATION: College
Newberry, SC

DATE: 7/17/91

ELEV. (FEET)	DESCRIPTION	DEPTH (FEET)	SAMPLES #	TYPE	PID READING	DEPTH (FEET)	WELL INFO.	OBSERVATIONS
			TOC Elevation = 542.41 ft MSL					Flush Mounted Metal Leak Proof Manhole Cover with Locking Cap NPT Converter Pre Mix Cement Grouted with neat cement and 4% bentonite Bentonite pellets
	red-yellow CLAY (no hydrocarbon odor)		B-5 -2.5 ft Soil 1122		27			
	red-tan sandy CLAY (no hydrocarbon odor)	5	B-5-5 ft Soil 1155		17	5		
	red-tan sandy CLAY (no hydrocarbon odor)		B-5-7.5 ft Soil 1220		19			PVC Well Casing, Schedule 40 4-inch NPT converter 10 ft solid 2-inch riser (0 - 10.5) 15 ft screen (10.5 - 25.5) 6-inch female tip
	red-tan sandy CLAY (hydrocarbon odor)	10	B-5-10 ft Soil 1240		39	10		1 ft grout (0 - 1.0 ft) 1.2 ft geopellets (1.0 - 2.2 ft) 26.2 ft sand pack (2.2 - 28.3 ft)
	tan clayey SAND (hydrocarbon odor)		B-5-12.5 ft Soil 1300		53			Schedule 40 PVC Casing & Screen Screen Size = 0.01 inch
	light brown clayey SAND (hydrocarbon odor)	15	B-5-15 ft Soil 1330		69	15		
	light brown SAND (hydrocarbon odor)		B-5-17.5 ft Soil 1405		297			Water Table Elevation Below TOC = - 19.16 ft Water Table Elevation Below Ground Surface = - 19.36 ft
		20				20		
		25				25		
	bottom of boring - 28 ft and 4 in low producing well (< 5 gpm)	30				30		

LEGEND

P.I.D. = PHOTOIONIZATION DETECTOR
SS = SPLIT SPOON (SOIL SAMPLE)
▽ = WATER TABLE AT TIME OF DRILLING
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= GROUT WITH 4% BENTONITE
= BENTONITE PELLETS
= WELL SCREEN
= SAND PACK

REMTECH ENGINEERS
SOIL BORING

SC DRILLER NO. 956
SC PE REG. NO. 12833
Mark D. Ryckman

CLIENT: Enmark Stations, Inc.

PROJECT NAME: Interstate Service Station
Newberry, SC

LOCATION: College
Newberry, SC

PROJECT #: 234.12

BORING #: NB-6

DATE: 7-17-91

ELEV. (FEET)	DESCRIPTION	DEPTH (FEET)	SAMPLES #	SAMPLES TYPE	SAMPLES PID READING	SAMPLES DEPTH (FEET)	WELL INFO.	OBSERVATIONS
								Pre-Mix Cement
	red-yellow CLAY (hydrocarbon odor)		NB-6-2.5 ft Soil 1645		507			Grouted with neat cement and 4% bentonite
	red sandy CLAY (hydrocarbon odor)	5	NB-6-5 ft Soil 1655		437	5		
	red clayey SAND (strong hydrocarbon odor)		NB-6-7.5 ft Soil 1720		437			
	tan-red clayey SAND (strong hydrocarbon odor)	10	NB-6-10 ft Soil 1745		457	10		
	no groundwater encountered							
		15				15		
		20				20		
		25				25		
		30				30		

LEGEND

P.I.D. = PHOTOIONIZATION DETECTOR
SS = SPLIT SPOON (SOIL SAMPLE)
▽ = WATER TABLE AT TIME OF DRILLING
▼ = WATER TABLE AFTER 24 HOURS
= GROUT - 4% BENTONITE
= BENTONITE PELLETS
= WELL SCREEN
= SAND PACK

SITE NAME: NEWBERRY, SC

SAMPLING TEAM: REMTECH ENGINEERS

DATE	TIME	SAMPLE #	DEPTH	MATRIX	HNu READING	OBSERVATIONS
7/16/91	1150	NB1-2.5	2.5	Soil	14	no hydrocarbon odor
7/16/91	1151	NB1-5.0	5.0	Soil	17	no hydrocarbon odor
7/16/91	1215	NB1-7.5	7.5	Soil	18	no hydrocarbon odor
7/16/91	1230	NB1-10.0	10.0	Soil	20	no hydrocarbon odor
7/16/91	1255	NB2-2.5	2.5	Soil	15	no hydrocarbon odor
7/16/91	1320	NB2-5.0	5.0	Soil	17	no hydrocarbon odor
7/16/91	1325	NB2-7.5	7.5	Soil	21	no hydrocarbon odor
7/16/91	1340	NB2-10.0	10.0	Soil	20	no hydrocarbon odor
7/16/91	1440	NB3-2.5	2.5	Soil	31	hydrocarbon odor
7/16/91	1445	NB3-5.0	5.0	Soil	67	hydrocarbon odor
7/16/91	1500	NB3-7.5	7.5	Soil	33	hydrocarbon odor
7/16/91	1515	NB3-10.0	10.0	Soil	19	hydrocarbon odor
7/16/91	1540	NB4-2.5	2.5	Soil	13	hydrocarbon odor
7/16/91	1550	NB4-5.0	5.0	Soil	255	hydrocarbon odor
7/16/91	1600	NB4-7.5	7.5	Soil	255	hydrocarbon odor
7/16/91	1630	NB4-10.0	10.0	Soil	275	strong hydrocarbon odor
7/17/91	1122	NB5-2.5	2.5	Soil	27	no hydrocarbon odor
7/17/91	1155	NB5-5.0	5.0	Soil	17	no hydrocarbon odor
7/17/91	1220	NB5-7.5	7.5	Soil	19	no hydrocarbon odor
7/17/91	1240	NB5-10	10.0	Soil	39	hydrocarbon odor
7/17/91	1300	NB5-12.5	12.5	Soil	53	hydrocarbon odor
7/17/91	1330	NB5-15	15	Soil	69	hydrocarbon odor
7/17/91	1405	NB5-17.5	17.5	Soil	297	hydrocarbon odor
7/17/91	1640	Water Well	-19.36	Water	no reading	hydrocarbon odor
7/17/91	1645	NB6-2.5	2.5	Soil	507	hydrocarbon odor
7/17/91	1655	NB6-5.0	5.0	Soil	437	hydrocarbon odor
7/17/91	1720	NB6-7.5	7.5	Soil	437	strong hydrocarbon odor
7/17/91	1745	NB6-10.0	10.0	Soil	457	strong hydrocarbon odor

SL SAVANNAH LABORATORIES
& ENVIRONMENTAL SERVICES, INC.

5102 LaRoche Avenue • Savannah, GA 31404 • (912) 354-7858 • Fax (912) 352-0165

LOG NO: S1-34777

Received: 23 JUL 91

Mr. S. Thomas Taylor
Enmark Stations, Inc.
P.O. Box 728
Savannah, GA 31402

Project: 234.12 Newberry SC
Sampled By: Savannah Laboratories

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , SOLID OR SEMISOLID SAMPLES
34777-1	NB1-2.5
34777-2	NB1-10.0
34777-3	NB2-2.5
34777-4	NB2-7.5
34777-5	NB2-10.0

PARAMETER	34777-1	34777-2	34777-3	34777-4	34777-5
Aromatic Volatiles (8020)					
Benzene, ug/kg dw	<5.7	<6.7	<6.0	<6.3	<6.2
Ethylbenzene, ug/kg dw	<5.7	<6.7	<6.0	<6.3	<6.2
Toluene, ug/kg dw	<5.7	<6.7	<6.0	<6.3	<6.2
Xylenes, ug/kg dw	<5.7	<6.7	<6.0	<6.3	<6.2
Percent Solids, %	88	75	83	80	81

SL SAVANNAH LABORATORIES
& ENVIRONMENTAL SERVICES, INC.

5102 LaRoche Avenue • Savannah, GA 31404 • (912) 354-7858 • Fax (912) 352-0165

LOG NO: S1-34777

Received: 23 JUL 91

Mr. S. Thomas Taylor
Enmark Stations, Inc.
P.O. Box 728
Savannah, GA 31402

Project: 234.12 Newberry SC
Sampled By: Savannah Laboratories

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , SOLID OR SEMISOLID SAMPLES
34777-6	NB3-2.5
34777-7	NB3-5.0
34777-8	NB3-7.5
34777-9	NB3-10.0
34777-10	NB4-2.5

PARAMETER	34777-6	34777-7	34777-8	34777-9	34777-10
Aromatic Volatiles (8020)					
Benzene, ug/kg dw	<7.2	<6.1	<5.9	<6.3	<6.2
Ethylbenzene, ug/kg dw	<7.2	<6.1	<5.9	<6.3	<6.2
Toluene, ug/kg dw	<7.2	<6.1	<5.9	<6.3	<6.2
Xylenes, ug/kg dw	<7.2	<6.1	<5.9	<6.3	<6.2
Percent Solids, %	69	82	85	79	81

SL SAVANNAH LABORATORIES
& ENVIRONMENTAL SERVICES, INC.

5102 LaRoche Avenue • Savannah, GA 31404 • (912) 354-7858 • Fax (912) 352-0165

LOG NO: S1-34777

Received: 23 JUL 91

Mr. S. Thomas Taylor
Enmark Stations, Inc.
P.O. Box 728
Savannah, GA 31402

Project: 234.12 Newberry SC
Sampled By: Savannah Laboratories

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , SOLID OR SEMISOLID SAMPLES
34777-11	NB4-5.0
34777-12	NB4-7.5
34777-13	NB4-10.0
34777-14	NB5-2.5
34777-15	NB5-5.0

PARAMETER	34777-11	34777-12	34777-13	34777-14	34777-15
Aromatic Volatiles (8020)					
Benzene, ug/kg dw	1700	<1200	<6.0	<6.2	<6.1
Ethylbenzene, ug/kg dw	11000	8500	<6.0	<6.2	<6.1
Toluene, ug/kg dw	180000	6400	<6.0	<6.2	<6.1
Xylenes, ug/kg dw	510000	54000	<6.0	<6.2	<6.1
Percent Solids, %	76	83	84	81	82

SL SAVANNAH LABORATORIES
& ENVIRONMENTAL SERVICES, INC.

5102 LaRoche Avenue • Savannah, GA 31404 • (912) 354-7858 • Fax (912) 352-0165

LOG NO: S1-34777

Received: 23 JUL 91

Mr. S. Thomas Taylor
Enmark Stations, Inc.
P.O. Box 728
Savannah, GA 31402

Project: 234.12 Newberry SC
Sampled By: Savannah Laboratories

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , SOLID OR SEMISOLID SAMPLES
34777-16	NB5-10.0
34777-17	NB5-12.5
34777-18	NB5-15.0
34777-19	NB5-17.5
34777-20	NB6-2.5

PARAMETER	34777-16	34777-17	34777-18	34777-19	34777-20
Aromatic Volatiles (8020)					
Benzene, ug/kg dw	<5.8	<6.0	<5.8	<6.6	<1300
Ethylbenzene, ug/kg dw	<5.8	<6.0	<5.8	<6.6	3900
Toluene, ug/kg dw	<5.8	<6.0	<5.8	<6.6	4200
Xylenes, ug/kg dw	<5.8	<6.0	<5.8	<6.6	40000
Percent Solids, %	86	84	86	76	80

SL SAVANNAH LABORATORIES
& ENVIRONMENTAL SERVICES, INC.

5102 LaRoche Avenue • Savannah, GA 31404 • (912) 354-7858 • Fax (912) 352-0165

LOG NO: S1-34777

Received: 23 JUL 91

Mr. S. Thomas Taylor
Enmark Stations, Inc.
P.O. Box 728
Savannah, GA 31402

Project: 234.12 Newberry SC
Sampled By: Savannah Laboratories

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , SOLID OR SEMISOLID SAMPLES
34777-21	NB6-5.0
34777-22	NB6-7.5
34777-23	NB6-10.0

PARAMETER	34777-21	34777-22	34777-23
Aromatic Volatiles (8020)			
Benzene, ug/kg dw	9900	9800	1400
Ethylbenzene, ug/kg dw	93000	78000	47000
Toluene, ug/kg dw	180000	140000	67000
Xylenes, ug/kg dw	410000	260000	180000
Percent Solids, %	84	85	86

SL SAVANNAH LABORATORIES
& ENVIRONMENTAL SERVICES, INC.

5102 LaRoche Avenue • Savannah, GA 31404 • (912) 354-7858 • Fax (912) 352-0165

LOG NO: S1-34777

Received: 23 JUL 91

Mr. S. Thomas Taylor
Enmark Stations, Inc.
P.O. Box 728
Savannah, GA 31402

Project: 234.12 Newberry SC
Sampled By: Savannah Laboratories

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , QC REPORT FOR SOLID/SEMISOLID
34777-24	Method Blank-Soil
34777-25	Accuracy (Mean % Recovery)-Soil
34777-26	Precision (% RPD)-Soil
34777-27	Date Analyzed-Soil

PARAMETER	34777-24	34777-25	34777-26	34777-27
Aromatic Volatiles (8020)				
Benzene, ug/kg dw	<5.0	100 %	1.9 %	07.30.91
Ethylbenzene, ug/kg dw	<5.0	---	---	07.30.91
Toluene, ug/kg dw	<5.0	100 %	0 %	07.30.91
Xylenes, ug/kg dw	<5.0	---	---	07.30.91

Methods: EPA SW-846.

William D. Sherrod

William D. Sherrod

Remtech Engineers

Crossings Center Northwest, 1000 Johnson Ferry Road, Suite C-100, Marietta, Georgia 30068
Phone: (404) 565-9101, Fax: (404) 565-8959

Box No. 1

CUSTOMER NAME: Enmark Stations

CHAIN OF CUSTODY RECORD

PROJECT NO. 234.12

PROJECT NAME Newberry SC

SAMPLERS (Signature) Mark D. Ryckman / [signature] PE

I=Iced Only P=Preserved

To: Savannah Laboratories
Attention: Bill Sherrod
5102 LaRoche Ave
Savannah, GA 31404

SAMPLE ID	DATE	TIME	COMP	GRAB	SAMPLE LOCATION	NO. OF CONTAINERS	8021 I-chem 200 EPA Clean	I P	I P	I P	I P	I P	I P	I P	I P	I P	Remarks
NB1-2.5	7-18-91	1150		✓		1	✓										Call Tom Taylor, P.G.
NB1-5.0	7-16	1151		✓		1	✓										Enmark Stations, Inc.
NB1-7.5		1215		✓		1	✓										East Lathrope Ave
NB1-10.0		1230		✓		1	✓										Savannah, GA 31402
NB2-2.5		1255		✓		1	✓										912-236-1331
NB2-5.0		1320		✓		1	✓										for analysis instructions
NB2-7.5		1325		✓		1	✓										
NB2-10.0		1340		✓		1	✓										
NB3-2.5		1440		✓		1	✓										
NB3-5.0		1445		✓		1	✓										

Relinquished by:	Date / Time	Received by:	Relinquished by:	Date / Time	Received by:
[signature]					
Relinquished by:	Date / Time	Received by:	Relinquished by:	Date / Time	Remarks:
Relinquished by:	Date / Time	Received by:	Received for Laboratory by:		DATE / TIME

Remtech Engineers

Crossings Center Northwest, 1000 Johnson Ferry Road, Suite C-100, Marietta, Georgia 30068
Phone: (404) 565-9101, Fax: (404) 565-8959

Box No 1

CUSTOMER NAME: Enmark STATIONS

CHAIN OF CUSTODY RECORD

PROJECT NO. 234.12

PROJECT NAME Newberry SC

SAMPLERS (Signature) MARK D. Ryckman [signature] PE

(I)=Iced Only P=Preserved

SAMPLE ID	DATE	TIME	COMP	GRAB	SAMPLE LOCATION	NO. OF CONTAINERS	8 oz I-clip 200 EPA Clean	I P	I P	I P	I P	I P	I P	I P	I P	Remarks
NB3-7.5	7-16	1500		✓		1	✓									Call Tom Taylor, P.G.
NB3-10.0		1515		✓		1	✓									Enmark Stations
NB4-2.5		1540		✓		1	✓									for Sample Analysis
NB4-5.0		1550		✓		1	✓									Instructions.
NB4-7.5		1600		✓		1	✓									912-236-1338
NB4-10.0		1630		✓		1	✓									
NB5-2.5	7-17	1122		✓		1	✓									
NB5-5.0		1155		✓		1	✓									
NB5-7.5		1220		✓		1	✓									
NB5-10.0		1240		✓		1	✓									

Relinquished by:	Date / Time	Received by:	Relinquished by:	Date / Time	Received by:
[signature]					
Relinquished by:	Date / Time	Received by:	Relinquished by:	Date / Time	Remarks:
Relinquished by:	Date / Time	Received by:	Received for Laboratory by:		DATE / TIME

Remtech Engineers

Crossings Center Northwest, 1000 Johnson Ferry Road, Suite C-100, Marietta, Georgia 30068
Phone: (404) 565-9101, Fax: (404) 565-8959

Box No 1

CUSTOMER NAME: Enmark Stations

CHAIN OF CUSTODY RECORD

PROJECT NO. 134.12

PROJECT NAME Newberry SC

SAMPLERS (Signature) MARK D. Ryckman / [signature], P.E

I=Iced Only P=Preserved

SAMPLE ID	DATE	TIME	COMP	GRAB	SAMPLE LOCATION	NO. OF CONTAINERS	8oz I-chem 200 EPA Chem	I P	I P	I P	I P	I P	I P	I P	I P	I P	Remarks
NB5-12.5	7-17	1300		✓		1	✓										Call Tom Taylor, P.G.
NB5-15.0	7-17	1330		✓		1	✓										Enmark Stations, Inc
NB5-17.5		1405		✓		1	✓										for Sample Analysis
NB5-WW$		1640		✓	NB5 Water well Sample	1	✓										Instructions
NB6-2.5		1645		✓		1	✓										912-236-1337
NB6-5.0		1655		✓		1	✓										
NB6-7.5		1720		✓		1	✓										
NB6-10.0		1745		✓		1	✓										

Relinquished by:	Date / Time	Received by:	Relinquished by:	Date / Time	Received by:
[signature]					
Relinquished by:	Date / Time	Received by:	Relinquished by:	Date / Time	Remarks:
Relinquished by:	Date / Time	Received by:	Received for Laboratory by:		DATE / TIME

INTERSTATE

ENMARK STATIONS, INC.

ENMARK™

P. O. BOX 728
SAVANNAH, GEORGIA 31402
(912) 236-1331

March 20, 1992

UST DOCKETING

Mr. Andrew M. Wilson, PG
ETE, Inc.
Post Office Box 1867
Lexington, SC 29072

Re: December 29, 1989 Release Report
Interstate # 380
Newberry, Newberry County
N-36-NO-06588, PCAS-7667

Dear Andrew:

Enclosed are the analyses results for a water sample taken from the water well installed at the Newberry Interstate Station, Newberry, South Carolina.

We are proceeding with the letters to DHEC concerning the submittal of a letter requesting funding through SUPERB at our individual sites.

Please contact me if you have need of any further information or questions concerning reports.

Sincerely,

S Thomas Taylor

S. Thomas Taylor, P.G.
Principal Hydrogeologist
(SC ID # 938/NC PG # 1137)

STT/ddc

Enclosures

HAZLABS, INC.
2264 Northwest Parkway, Suite F
Marietta, GA 30067
(404) 988-8184

COVER PAGE - ANALYSIS DATA PACKAGE

FL Certificate I.D. 89180
SC Certificate I.D. 98006

CLIENT NAME: Enmark Stations, Inc.

ATTN: Mr. S. Thomas Taylor

LAB NAME: HazLabs, Incorporated **SDG NO.:** 92-0163

ANALYSIS TYPE: BTEX Analysis

CLIENT SAMPLE I.D.

New-1

Release of the data contained in this hardcopy data package has been authorized by the laboratory manager or the manager's designee, as verified by the following signature.

Darrel P. Johnson
Darrel P. Johnson
Laboratory Manager

Date: 3/6/92

HAZLABS, INC.
2264 Northwest Parkway, Suite F
Marietta, GA 30067
(404) 988-8184

VOLATILE ORGANIC ANALYSIS DATA

Client: Enmark Stations

Sample I.D.: New-1 **HLI I.D.:** 920163-1 **SDG NO.:** 92-0163

Sample Description: Liquid

Date Analyzed: 03/02/92 **Date Sample Received:** 02/26/92

COMPOUND	Detection Limits:µg/L	Results: µg/L	Q
Benzene	50	5900	O
Toluene	50	5900	O
Ethylbenzene	50	1800	
Xylenes	50	7200	O

(Q): Qualifiers
B: Found in associated blank as well as sample
J: Estimated value, less than calibration limit
O: Estimated value, greater than calibration limit
U: Analyzed for but not detected
BDL: Below Detection Limit

SL SAVANNAH LABORATORIES & ENVIRONMENTAL SERVICES, INC.

☐ 5102 LaRoche Avenue, Savannah, GA 31404 — Phone: (912) 354-7858 — Fax (912) 352-0165
☐ 2846 Industrial Plaza Drive, Tallahassee, FL 32301 — Phone: (904) 878-3994 — Fax (904) 878-9504
☐ 414 Southwest 12th Avenue, Deerfield Beach, FL 33442 — Phone: (305) 421-7400 — Fax (305) 421-2584
☐ 900 Lakeside Drive, Mobile, AL 36693 — Phone: (205) 666-6633 — Fax (205) 666-6696
☐ 6712 Benjamin Road, Suite 100, Tampa, FL 33634 — Phone: (813) 885-7427 — Fax (813) 885-7049

ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD

P.O. NUMBER	PROJECT NUMBER	PROJECT NAME	PAGE	OF
		WAYNESVILLE		

CLIENT NAME	TELEPHONE/FAX NO.
ENMARK	912 236 1331

CLIENT ADDRESS	CITY, STATE, ZIP CODE
P.O. BOX 728	SAVANNAH GA 31402

SAMPLER(S) NAME(S)	CLIENT PROJECT MANAGER
S. THOMAS TAYLOR	S. T. TAYLOR

☐ STANDARD TAT
☒ EXPEDITED TAT *
REPORT DUE DATE MAR 3
* SUBJECT TO RUSH FEES

MATRIX TYPE: AQUEOUS MATRIX / NONAQUEOUS MATRIX / OIL MATRIX / AIR MATRIX

REQUIRED ANALYSES: BTEX

NUMBER OF CONTAINERS SUBMITTED

SAMPLING DATE	SAMPLING TIME	SAMPLE IDENTIFICATION	AQUEOUS MATRIX	NONAQUEOUS MATRIX	OIL MATRIX	AIR MATRIX	BTEX										
2/24	10:30	NEW-1	X											92-0163-1			regular TAT
		PROJECT NAME=NEWBERRY	ISSUE ON SEPARATE REPORT														
2/24	2:00	INFLUENT												92-0164-1			5 day TAT
2/24	2:10	EFFLUENT													-2		
		PROJECT NAME=WAYNESVILLE															

RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RECEIVED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME
S. Thomas Taylor	2/25	3:50						

RECEIVED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RECEIVED BY: (SIGNATURE)	DATE	TIME

FOR SAVANNAH LABORATORY USE ONLY

RECEIVED FOR LABORATORY BY: (SIGNATURE)	DATE	TIME	CUSTODY INTACT	CUSTODY SEAL NO.	S.L. LOG NO.	LABORATORY REMARKS
Chris Semler	2-26	11:35a	☒ YES ☐ NO			

SAVANNAH LABORATORY COPY

06588

RECEIVED
OCT 0 1 1998
DIVISION OF UNDERGROUND STORAGE TANK MGMT.

Handex®

- FAX TRANSMITTAL SHEET

To: Kimberly Wilson

Fax Number: (803) 734 - 3604

From: Jeffrey Hollis

Date: Thursday, October 01, 1998

UST DOCKETING

This transmission consists of 11 page(s), including this cover sheet.

- COMMENTS -

Regarding: Enmark #380 lab results – 6/97

Ms. Wilson -
Attached please find the lab results previously included as Attachment B in the Assessment Component Invoice, submitted on August 26, 1998. Should you have any questions concerning this site, please do not hesitate to contact me at (704) 598 - 7900, ext 31.

Should you have any questions or comments concerning the above, or if this transmission is unclear, please contact me at (704) 598 - 7900, ext. 31.

3600-G Woodpark Blvd., Charlotte, NC 28206 • (704) 598-7900 • Fax: (704) 598-2248

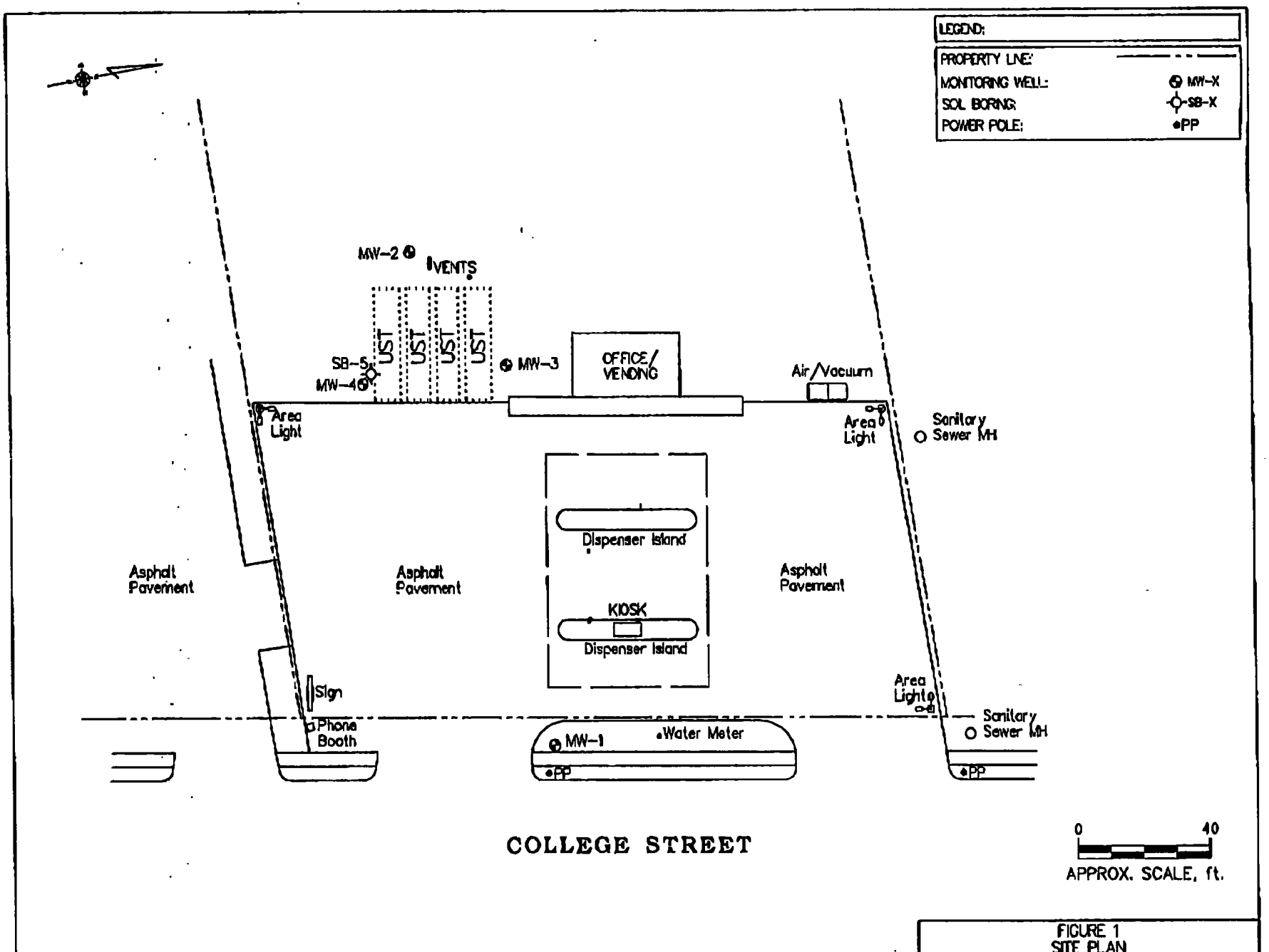

FIGURE 1
SITE PLAN

SCALE:	1" = 40'	PROJ. NO.	110727
DATE:	12-11-95	REV. BY:	
DWN BY:	T. McGovern	DWG. NO.	1072700A
PREP. BY:	DATE:	CHK. BY:	DATE:

Handex
HANDEX OF THE CAROLINAS, INC.

ENMARK SS #380
2725 COLLEGE STREET
NEWBERRY, SOUTH CAROLINA

SPECIALIZED ASSAYS, INC.
2960 Foster Creighton Dr.
P.O. Box 40566
Nashville, TN 37204-0566
Phone 1-615-726-0177

ANALYTICAL REPORT

RECEIVED
JUN 30 1997

HANDEX OF THE CAROLINAS 6145
ATT: EVAN CLARK
3600-G WOODPARK BLVD.
CHARLOTTE, NC 28206

Lab Number: 97-A047396

Sample ID: MW1

Date Collected: 6/11/97

Project:

Time Collected: 12:45

Project Name: EN MARK

Date Received: 6/12/97

Sampler:

Time Received: 9:00

State Certification: 387

Sample Type: Water

Site I.D.:

Analyte	Result	Units	Report Limit	Dwan Limit	Dil Factor	Date	Time	Analyst	Method	Batch
ORGANIC PARAMETERS										
Benzene	5900	ug/l	45.0	1.0	45	6/14/97	12:22	C. Wani	602	7427
Toluene	8010	ug/l	45.0	1.0	45	6/14/97	12:22	C. Wani	602	7427
Ethylbenzene	1530	ug/l	45.0	1.0	45	6/14/97	12:22	C. Wani	602	7427
Xylenes, total	7420	ug/l	45.0	1.0	45	6/14/97	12:22	C. Wani	602	7427
Methyl-t-butylether	135.	ug/l	45.0	1.0	45	6/14/97	12:22	C. Wani	602	7427
Naphthalene	108.	ug/l	5.0	5.0	1	6/16/97	14:45	Carmichael	610	7557

ND = Not detected at the report limit.

Sample Extraction Data

PAH's Extracted 6/13/97 Vol extracted: 1000 ml Extract Volume: 1.00 ml

** SURROGATE RECOVERIES **

Surrogate	% Recovery	Target Range
BTEX/GRO Surr., a,a,a-trifluorotoluene	100.	50. - 150.
PAH Surrogate	64.	22. - 116.

SPECIALIZED ASSAYS, INC.
2960 Foster Creighton Dr.
P.O. Box 40566
Nashville, TN 37204-0566
Phone 1-615-726-0177

ANALYTICAL REPORT

Laboratory Number: 97-A047396
Sample ID: MW1

Page 2

** SURROGATE RECOVERIES **

Surrogate	% Recovery	Target Range

Report Approved By: Michael H. Dunn Report Date: 6/24/97

Theodore J. Duello, Ph.D.
Michael H. Dunn, M.S.
Danny B. Hale, M.S.

SPECIALIZED ASSAYS, INC.
2960 Foster Creighton Dr.
P.O. Box 40566
Nashville, TN 37204-0566
Phone 1-615-726-0177

ANALYTICAL REPORT

HANDEX OF THE CAROLINAS 6163
ATT: EVAN CLARK
3600-G WOODPARK BLVD.
CHARLOTTE, NC 28206

Lab Number: 97-A047397

Sample ID: MW2

Date Collected: 6/11/97

Project:

Time Collected: 12:55

Project Name: EN MARK

Date Received: 6/12/97

Sampler:

Time Received: 9:00

State Certification: 387

Sample Type: Water

Site I.D.:

Analyte	Result	Units	Report Limit	Quan Limit	Dil Factor	Date	Time	Analyst	Method	Batch
ORGANIC PARAMETERS										
Benzene	6750	ug/l	225.	1.0	225	6/15/97	15:17	C. Wani	602	7427
Toluene	13500	ug/l	225.	1.0	225	6/15/97	15:17	C. Wani	602	7427
Ethylbenzene	900.	ug/l	225.	1.0	225	6/15/97	15:17	C. Wani	602	7427
Xylenes, total	5180	ug/l	225.	1.0	225	6/15/97	15:17	C. Wani	602	7427
Methyl-t-butylether	900.	ug/l	225.	1.0	225	6/15/97	15:17	C. Wani	602	7427
Naphthalene	254.	ug/l	5.0	5.0	1	6/16/97	4:34	Carmichael	610	7557

ND = Not detected at the report limit.

Sample Extraction Data

PAH's Extracted 6/13/97 Vol extracted: 1000 ml Extract Volume: 1.00 ml

** SURROGATE RECOVERIES **

Surrogate	% Recovery	Target Range
BTEX/GRO Surr., a,a,a-trifluorotoluene	82.	50. - 150.
PAH Surrogate	60.	22. - 116.

SPECIALIZED ASSAYS, INC.
2960 Foster Creighton Dr.
P.O. Box 40566
Nashville, TN 37204-0566
Phone 1-615-726-0177

ANALYTICAL REPORT

Laboratory Number: 97-A047397
Sample ID: MW2

** SURROGATE RECOVERIES **

Surrogate	% Recovery	Target Range

Report Approved By: Michael H. Dunn Report Date: 6/24/97

Theodore J. Duello, Ph.D.
Michael H. Dunn, M.S.
Danny B. Hale, M.S.

SPECIALIZED ASSAYS, INC.
2960 Foster Creighton Dr.
P.O. Box 40566
Nashville, TN 37204-0566
Phone 1-615-726-0177

ANALYTICAL REPORT

HANDEX OF THE CAROLINAS 6163
ATT: EVAN CLARK
3600-5 WOODPARK BLVD.
CHARLOTTE, NC 28206

Lab Number: 97-A047398

Sample ID: MW3

Date Collected: 6/11/97

Project:

Time Collected: 13:05

Project Name: EN MARK

Date Received: 6/12/97

Sampler:

Time Received: 9:00

State Certification: 387

Sample Type: Water

Site I.D.:

Analyte	Result	Units	Report Limit	Quan Limit	Dil Factor	Date	Time	Analyst	Method	Batch
ORGANIC PARAMETERS										
Benzene	675.	ug/l	225.	1.0	225	6/15/97	15:50	C. Wani	602	7427
Toluene	9000	ug/l	225.	1.0	225	6/15/97	15:50	C. Wani	602	7427
Ethylbenzene	900.	ug/l	225.	1.0	225	6/15/97	15:50	C. Wani	602	7427
Xylenes, total	5400	ug/l	225.	1.0	225	6/15/97	15:50	C. Wani	602	7427
Methyl-t-butylether	5.0	ug/l	1.0	1.0	1	6/15/97	15:50	C. Wani	602	7427
Naphthalene	450.	ug/l	25.0	5.0	5	6/16/97	17:11	Carmichael	610	7557

ND = Not detected at the report limit.

Sample Extraction Data

PAH's Extracted 6/13/97 Vol extracted: 1000 ml Extract Volume: 1.00 ml

** SURROGATE RECOVERIES **

Surrogate	% Recovery	Target Range
BTEX/GRO Surr., a,a,a-trifluorotoluene	101.	50. - 150.
PAH Surrogate	80.	22. - 116.

SPECIALIZED ASSAYS, INC.
2960 Foster Creighton Dr.
P.O. Box 40566
Nashville, TN 37204-0566
Phone 1-615-726-0177

ANALYTICAL REPORT

Laboratory Number: 97-A047398
Sample ID: MW3

** SURROGATE RECOVERIES **

Surrogate	% Recovery	Target Range

Report Approved By: Michael H. Dunn Report Date: 6/24/97

Theodore J. Duello, Ph.D.
Michael H. Dunn, M.S.
Danny B. Hale, M.S.

SPECIALIZED ASSAYS, INC.
2960 Foster Creighton Dr.
P.O. Box 40566
Nashville, TN 37204-0566
Phone 1-615-726-0177

ANALYTICAL REPORT

HANDEX OF THE CAROLINAS 6163
ATT: EVAN CLARK
3600-G WOODPARK BLVD.
CHARLOTTE, NC 28206

Lab Number: 97-A047399

Sample ID: STORAGE TANK

Date Collected: 6/11/97

Project:

Time Collected: 11:45

Project Name: EN MARK

Date Received: 6/12/97

Sampler:

Time Received: 9:00

State Certification: 387

Sample Type: Water

Site I.D.:

Analyte	Result	Units	Report Limit	Quan Limit	Dil Factor	Date	Time	Analyst	Method	Batch
VOLATILE ORGANICS by GC										
Benzene	17200	ug/l	50.0	1.0	50	6/18/97	20:54	E.Smith	602	7176
Chlorobenzene	ND	ug/l	50.0	1.0	50	6/18/97	20:54	E.Smith	602/601	7176
1,2-Dichlorobenzene	ND	ug/l	50.0	1.0	50	6/18/97	20:54	E.Smith	602/601	7176
1,3-Dichlorobenzene	ND	ug/l	50.0	1.0	50	6/18/97	20:54	E.Smith	602/601	7176
1,4-Dichlorobenzene	ND	ug/l	50.0	1.0	50	6/18/97	20:54	E.Smith	602/601	7176
Ethylbenzene	2640	ug/l	50.0	1.0	50	6/18/97	20:54	E.Smith	602	7176
Toluene	31800	ug/l	50.0	1.0	50	6/18/97	20:54	E.Smith	602	7176
m,p-Xylenes	10600	ug/l	50.0	1.0	50	6/18/97	20:54	E.Smith	602	7176
o-Xylene	5400	ug/l	50.0	1.0	50	6/18/97	20:54	E.Smith	602	7176
Bromodichloromethane	ND	ug/l	50.0	1.0	50	6/18/97	20:54	E.Smith	601	7176
Bromoform	ND	ug/l	50.0	1.0	50	6/18/97	20:54	E.Smith	601	7176
Bromomethane	ND	ug/l	50.0	1.0	50	6/18/97	20:54	E.Smith	601	7176
Carbon tetrachloride	ND	ug/l	50.0	1.0	50	6/18/97	20:54	E.Smith	601	7176
Chloroethane	ND	ug/l	50.0	1.0	50	6/18/97	20:54	E.Smith	601	7176
2-Chloroethylvinylether	ND	ug/l	50.0	1.0	50	6/18/97	20:54	E.Smith	601	7176
Chloroform	ND	ug/l	50.0	1.0	50	6/18/97	20:54	E.Smith	601	7176
Chloromethane	ND	ug/l	50.0	1.0	50	6/18/97	20:54	E.Smith	601	7176
Dibromochloromethane	ND	ug/l	50.0	1.0	50	6/18/97	20:54	E.Smith	601	7176
Ethylene Dibromide	ND	ug/l	50.0	1.0	50	6/18/97	20:54	E.Smith	601	7176
Vinyl chloride	ND	ug/l	50.0	1.0	50	6/18/97	20:54	E.Smith	601	7176
Dichlorodifluoromethane	ND	ug/l	50.0	1.0	50	6/18/97	20:54	E.Smith	601	7176
1,1-Dichloroethane	ND	ug/l	50.0	1.0	50	6/18/97	20:54	E.Smith	601	7176
1,2-Dichloroethane	ND	ug/l	50.0	1.0	50	6/18/97	20:54	E.Smith	601	7176
1,1-Dichloroethene	ND	ug/l	50.0	1.0	50	6/18/97	20:54	E.Smith	601	7176
cis-1,2-Dichloroethene	ND	ug/l	50.0	1.0	50	6/18/97	20:54	E.Smith	601	7176

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2960 Foster Creighton Dr.
P.O. Box 40566
Nashville, TN 37204-0566
Phone 1-615-726-0177

ANALYTICAL REPORT

Laboratory Number: 97-A047399
Sample ID: STORAGE TANK

Analyte	Result	Units	Report Limit	Quan Limit	Dil Factor	Date	Time	Analyst	Method	Batch
trans-1,2-Dichloroethene	ND	ug/l	50.0	1.0	50	6/18/97	20:54	E.Smith	601	7176
1,2-Dichloropropane	ND	ug/l	50.0	1.0	50	6/18/97	20:54	E.Smith	601	7176
cis-1,3-Dichloropropene	ND	ug/l	50.0	1.0	50	6/18/97	20:54	E.Smith	601	7176
trans-1,3-Dichloropropene	ND	ug/l	50.0	1.0	50	6/18/97	20:54	E.Smith	601	7176
Methylene chloride	ND	ug/l	50.0	1.0	50	6/18/97	20:54	E.Smith	601	7176
1,1,2,2-Tetrachloroethane	ND	ug/l	50.0	1.0	50	6/18/97	20:54	E.Smith	601	7176
Tetrachloroethene	ND	ug/l	50.0	1.0	50	6/18/97	20:54	E.Smith	601	7176
1,1,1-Trichloroethane	ND	ug/l	50.0	1.0	50	6/18/97	20:54	E.Smith	601	7176
1,1,2-Trichloroethane	ND	ug/l	50.0	1.0	50	6/18/97	20:54	E.Smith	601	7176
Trichloroethene	ND	ug/l	50.0	1.0	50	6/18/97	20:54	E.Smith	601	7176
Trichlorofluoromethane	ND	ug/l	50.0	1.0	50	6/18/97	20:54	E.Smith	601	7176

ND = Not detected at the report limit.

** SURROGATE RECOVERIES **

Surrogate	% Recovery	Target Range
PID Surr., a,a,a-trifluorotoluene	100.	50. - 150.
Hall Surr., 2-chloropropane	90.	70. - 130.
Hall Surr., chloroprene	99.	70. - 130.
Hall Surr., 1-chloro-3-fluorobenzene	102.	70. - 130.

Report Approved By: Michael H. Dunn Report Date: 6/24/97

Theodore J. Duello, Ph.D.
Michael H. Dunn, M.S.
Danny B. Hale, M.S.

SPECIALIZED ASSAYS ENVIRONMENTAL

2960 Foster Creighton Drive
Nashville, TN 37204
615-726-0177
FAX 615/726-3404

Specialized Assays: (800) 765-0980

REFERRING CLIENT

Account: 6163
Handex of the Carolinas
~~Evan Clark~~ Teresa Galvin
3600-G Woodpark Blvd.
Charlotte, NC 28206
Ph: 704-598-7900 Fax: 704-598-2248

LLING CONTROL NUMBER (FOR LAB USE ONLY)

PROJECT # E

P.O. # 114242-01

MPLERS (Signature-Please Print)

PROJECT NAME EnMark

FOR LAB USE ONLY ACC#	SAMPLE DESCRIPTION	DATE	TIME	COMP	GRAB	# OF CONT	ANALYSIS REQUESTED
	MW1	6-11-97	12:45			3	602 BTEX/MTBE 610 NAPHTHALENE ONLY
	MW2	6-11-97	12:55			3	602 BTEX/MTBE 610 NAPHTHALENE ONLY
	MW3	6-11-97	13:05			3	602 BTEX/MTBE 610 NAPHTHALENE ONLY
	MW4						
	MW5						
	STORAGE TANK	6-11-97	11:45			2	601/602

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Received for Laboratory by:	Date / Time
[illegible]	6/11/97 4:00	[illegible]	[illegible]	6/12/97 9:00
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Remarks	
Relinquished by: (Signature)	Date / Time	Received by: (Signature)		
Relinquished by: (Signature)	Date / Time	Received by: (Signature)		

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ANALYTICAL REPORT

HANDEX OF THE CAROLINAS 6163

3600-G WOODPARK BLVD.
CHARLOTTE, NC 28206

Project:
Project Name: EN MARK
Sampler:

Lab Number: 97-A47399
Sample ID: STORAGE TANK
Sample Type: Water
Site ID:

Date Collected: 6/11/97
Time Collected: 11:45
Date Received: 6/12/97
Time Received: 9:00

Analyte	Result	Units	Report Limit	Quan Limit	Dil Factor	Date	Time	Analyst	Method	Batch
VOLATILE ORGANICS by GC										
Benzene	17200	ug/l	50.0	1.0	50	6/18/97	20:54	E.Smith	602	7176
Chlorobenzene	ND	ug/l	50.0	1.0	50	6/18/97	20:54	E.Smith	602/601	7176
1,2-Dichlorobenzene	ND	ug/l	50.0	1.0	50	6/18/97	20:54	E.Smith	602/601	7176
1,3-Dichlorobenzene	ND	ug/l	50.0	1.0	50	6/18/97	20:54	E.Smith	602/601	7176
1,4-Dichlorobenzene	ND	ug/l	50.0	1.0	50	6/18/97	20:54	E.Smith	602/601	7176
Ethylbenzene	2640	ug/l	50.0	1.0	50	6/18/97	20:54	E.Smith	602	7176
Toluene	31800	ug/l	50.0	1.0	50	6/18/97	20:54	E.Smith	602	7176
1,2,4-Trimethylbenzene	3850	ug/l	50.0	1.0	50	6/18/97	20:54	E.Smith	602	7176
1,3,5-Trimethylbenzene	950.	ug/l	50.0	1.0	50	6/18/97	20:54	E.Smith	602	7176
m,p-Xylenes	10600	ug/l	50.0	1.0	50	6/18/97	20:54	E.Smith	602	7176
o-Xylene	5400	ug/l	50.0	1.0	50	6/18/97	20:54	E.Smith	602	7176
Bromodichloromethane	ND	ug/l	50.0	1.0	50	6/18/97	20:54	E.Smith	601	7176
Bromoform	ND	ug/l	50.0	1.0	50	6/18/97	20:54	E.Smith	601	7176
Bromomethane	ND	ug/l	50.0	1.0	50	6/18/97	20:54	E.Smith	601	7176
Carbon tetrachloride	ND	ug/l	50.0	1.0	50	6/18/97	20:54	E.Smith	601	7176
Chloroethane	ND	ug/l	50.0	1.0	50	6/18/97	20:54	E.Smith	601	7176
2-Chloroethylvinylether	ND	ug/l	50.0	1.0	50	6/18/97	20:54	E.Smith	601	7176
Chloroform	ND	ug/l	50.0	1.0	50	6/18/97	20:54	E.Smith	601	7176
Chloromethane	ND	ug/l	50.0	1.0	50	6/18/97	20:54	E.Smith	601	7176
Dibromochloromethane	ND	ug/l	50.0	1.0	50	6/18/97	20:54	E.Smith	601	7176
Ethylene Dibromide	ND	ug/l	50.0	1.0	50	6/18/97	20:54	E.Smith	601	7176
Vinyl chloride	ND	ug/l	50.0	1.0	50	6/18/97	20:54	E.Smith	601	7176
Dichlorodifluoromethane	ND	ug/l	50.0	1.0	50	6/18/97	20:54	E.Smith	601	7176
1,1-Dichloroethane	ND	ug/l	50.0	1.0	50	6/18/97	20:54	E.Smith	601	7176
1,2-Dichloroethane	ND	ug/l	50.0	1.0	50	6/18/97	20:54	E.Smith	601	7176
1,1-Dichloroethene	ND	ug/l	50.0	1.0	50	6/18/97	20:54	E.Smith	601	7176
cis-1,2-Dichloroethene	ND	ug/l	50.0	1.0	50	6/18/97	20:54	E.Smith	601	7176
trans-1,2-Dichloroethene	ND	ug/l	50.0	1.0	50	6/18/97	20:54	E.Smith	601	7176
1,2-Dichloropropane	ND	ug/l	50.0	1.0	50	6/18/97	20:54	E.Smith	601	7176
cis-1,3-Dichloropropene	ND	ug/l	50.0	1.0	50	6/18/97	20:54	E.Smith	601	7176
trans-1,3-Dichloropropene	ND	ug/l	50.0	1.0	50	6/18/97	20:54	E.Smith	601	7176
Methylene chloride	ND	ug/l	50.0	1.0	50	6/18/97	20:54	E.Smith	601	7176

ANALYTICAL REPORT

Laboratory Number: 97-A47399
Sample ID: STORAGE TANK

Page 2

Analyte	Result	Units	Report Limit	Quan Limit	Dil Factor	Date	Time	Analyst	Method	Batch
1,1,2,2-Tetrachloroethane	ND	ug/l	50.0	1.0	50	6/18/97	20:54	E.Smith	601	7176
Tetrachloroethene	ND	ug/l	50.0	1.0	50	6/18/97	20:54	E.Smith	601	7176
1,1,1-Trichloroethane	ND	ug/l	50.0	1.0	50	6/18/97	20:54	E.Smith	601	7176
1,1,2-Trichloroethane	ND	ug/l	50.0	1.0	50	6/18/97	20:54	E.Smith	601	7176
Trichloroethene	ND	ug/l	50.0	1.0	50	6/18/97	20:54	E.Smith	601	7176
Trichlorofluoromethane	ND	ug/l	50.0	1.0	50	6/18/97	20:54	E.Smith	601	7176

ND = Not detected at the report limit.

Surrogate	% Recovery	Target Range
PID Surr., a,a,a-trifluorotoluene	100.	50. - 150.
Hall Surr., 2-chloropropane	90.	61. - 132.
Hall Surr., chloroprene	99.	64. - 130.
Hall Surr., 1-chloro-3-fluorobenzene	102.	65. - 132.

Report Approved By: _____ Report Date: 6/24/97

Theodore J. Duello, Ph.D., Q.A. Officer
Michael H. Dunn, M.S., Technical Director
Danny B. Hale, M.S., Laboratory Director
Johnny A. Mitchell, Dir. Technical Services

Laboratory Certification Number: 387

06588

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STORAGE TANK MGMT.

RISK-BASED CORRECTIVE ACTION
TIER II EVALUATION REPORT

Enmark Service Station No. 380
2725 College Street
Newberry, Newberry County, South Carolina
SC GWPD No. 06588-02

May 27, 1999

UST DOCKETING

Prepared For:
Enmark Stations, Inc.
101 North Lathrop Avenue
Savannah, Georgia 31415

Prepared By:
Handex of the Carolinas, Inc.
3600-G Woodpark Boulevard
Charlotte, North Carolina 28206

Jeffrey Hollis, P.G. 5/27/99 **Date**
Project Hydrogeologist

Christopher J. Ward, P.G. **Date**
Project Manager
SC Registration No. 980

HANDEX®

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Appendix C ..... Slug Test Results/Groundwater Flow Equations
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Appendix H ..... Soil Leachability Model and Calculations

RISK-BASED CORRECTIVE ACTION TIER II EVALUATION REPORT
Enmark Service Station No. 380
2725 College Street
Newberry, Newberry County, South Carolina
SC GWPD No. 06588-02

1.0 INTRODUCTION

In accordance with authorization from Enmark Stations, Inc. (Enmark), Handex of the Carolinas, Inc., (Handex) has completed this Risk-Based Corrective Action (RBCA) Tier II Evaluation Report for Enmark Station #380, located at 2725 College Street, in Newberry, South Carolina (South Carolina GWPD No. 06588-02). The property operates as an active Enmark gas station. The South Carolina Department of Health and Environmental Control (SCDHEC) granted approval to perform the RBCA Evaluation on May 1, 1998. This document has been prepared in general accordance with the SCDHEC Groundwater Protection Division guidance document for the completion of *Risk-Based Corrective Action for Petroleum Releases*, dated January 5, 1998.

1.1 Site Description/History

A topographic location map constructed from the U.S.G.S. Newberry East and Newberry West, South Carolina, 7.5 minute series topographic quadrangles is presented as **Figure 1**. The site property and the area immediately surrounding the site are relatively flat. The site is situated along a major thoroughfare and is bounded by both residential and commercial properties. A detailed description of the land use surrounding the site is provided in **Figure 2**.

The site is occupied by a small station building housing snack vending machines, restrooms, and an office, two canopy-covered dispenser islands with a payment kiosk, and an underground storage tank (UST) system. The existing UST system consists of one 6,000-gallon diesel UST and three 8,000-gallon gasoline USTs. A site plan showing current site features is presented as **Figure 3**.

In November 1995, approximately 1,600 gallons of premium unleaded gasoline were released due to catastrophic failure of that UST. Monitoring wells were installed at the request of Enmark and the SCDHEC in November 1995.

1.2 Previous Assessment Activities

Three monitoring wells (MW-2 through MW-4) and one screened soil boring (SB-1A) were installed on November 27 and 28, 1995, for assessment purposes at the site. The locations of these monitoring wells and a previously installed monitoring well (MW-1) are shown in relation to the USTs on **Figure 3.** Monitoring wells MW-5 through MW-8D were installed on June 17 through 19, 1998, as part of this assessment. Boring logs and well construction diagrams are included in **Appendix A**. The table below lists the environmental reports submitted to the SCDHEC for this site.

Report Title	Prepared By	Date of Submittal to SCDHEC
Suspected Release Report	Interstate Stations, Inc.	December 1989
Initial Assessment Report	Interstate Stations, Inc.	October 21, 1991
Expanded Assessment Plan	Environmental Technology Engineering, Inc.	October 2, 1992
Free Product Removal Report	Enmark Stations, Inc.	March 6, 1996

1.3 Site Geology and Aquifer Characteristics

The site is located in the Eastern Piedmont Physiographic Province of South Carolina. A description of the geology and hydrogeology of the Eastern Piedmont region was provided in the Expanded Assessment Plan prepared by Environmental Technology Engineering, Inc. and submitted to the SCDHEC on October 2, 1992.

Water level measurements relative to the top of the monitor well casing were collected by Handex on June 25, 1998, and are presented in **Table 1**. These data were used to calculate apparent water table elevations (corrected for liquid phase hydrocarbons (LPH), where appropriate), which were then used to prepare the water table contour map presented as **Figure 4**. Based on available groundwater elevation data, groundwater flow direction at the site is generally to the southeast toward College Street. The average depth to groundwater across the site from the June 25, 1998, well gauging event was 15.65 feet.

During this gauging event, liquid phase petroleum (LPH) was encountered in two wells (MW-4 and MW-5) at an apparent thickness of 0.39 feet and 0.02 feet, respectively. On December 14, 1995, an LPH baildown test was performed on MW-4 to determine the relative recovery rate of LPH within the well. The results of the test were tabulated and graphed and are presented in **Appendix B**.

To estimate the hydraulic properties of the surficial aquifer, rising head slug tests were conducted in monitor wells MW-3 and MW-5 through MW-7 on February 26, 1999. The recovery data were evaluated using the Bouwer and Rice (1976) slug test analysis. The average hydraulic conductivity was estimated to be 6.92×10^{-5} feet per day (ft/day). The data, graphs, calculations, and the SCDHEC slug test summary sheet are presented in **Appendix C**.

To estimate the average groundwater flow velocity through the surficial aquifer, the hydraulic conductivity and a modified Darcian flow equation were used. Based on a hydraulic conductivity (k_h) of 6.92×10^{-5} ft/min or 9.97×10^{-2} ft/day, an average hydraulic gradient (i) of 0.018 feet/foot (June 1998), and an estimated effective porosity (n_e) of 25% (Johnson, 1967), the average horizontal groundwater flow velocity (V) through the surficial aquifer at the site is estimated to be 7.18×10^{-3} ft/day or 2.6 ft/year. The actual flow velocity may be more or less depending on flow paths, influences of water recharge, and man-made features. This calculated groundwater flow velocity would likely be greater than

the rate of dissolved hydrocarbon migration because of the effects of adsorption, dispersion, and biodegradation. The equations used for estimating groundwater flow velocity are included in **Appendix C**. According to boring logs provided with the Expanded Assessment Plan (Environmental Technology Engineering, Inc., 1992), neither bedrock nor a confining clay were encountered during drilling activities associated with the installation of monitoring well MW-1. Confining layers were not encountered during drilling activities associated with the installation of monitoring wells MW-2 through MW-4, completed in November 1995. Similarly, confining layers were also not encountered during drilling activities associated with the installation of monitoring wells MW-5 through MW-8D, completed in June 1998 as part of this assessment. The thickness (b) of the saturated surficial aquifer is estimated to be the depth of the deepest well, approximately 45 feet. Based on this aquifer thickness and an average horizontal hydraulic conductivity (k_h) stated previously, the transmissivity (T) of the surficial aquifer is estimated to be 3.11 x 10^{-3} ft^2/dy. The equation used for estimating the transmissivity is shown in **Appendix C**.

1.4 Soil Quality

Based on soil screening activities conducted during monitoring well installation in November 1995, hydrocarbon-impacted soils were identified in the vicinity of the USTs. On June 17, 18, and 19, 1998, Handex completed 13 soil borings (SB-1 through SB-13) at the locations shown in **Figure 3**. The soil borings were completed to determine a site-specific value for total organic carbon (SB-6) and to assess current soil quality in the vicinity of the suspected source area.

On June 17, 18, and 19, 1998, Handex installed three monitoring wells (MW-5 through MW-7) and one deep well (MW-8D) at the locations shown in **Figure 3**. Representative soil samples were collected from above the saturated zone from each of the soil borings and monitoring well borings, and shipped to Specialized Assays Laboratory in Nashville, Tennessee for analysis. A summary of the analytical parameters and the laboratory results are presented in **Table 2**, and the laboratory analytical report is included in **Appendix D**.

1.5 Groundwater Quality

Groundwater sampling and analytical results from June 1997 identified petroleum hydrocarbon impacted groundwater in the area of the USTs. On June 26, 1998, groundwater samples were collected from site monitoring wells (MW-1 through MW-8D) to assess current groundwater hydrocarbon conditions. Each monitoring well sample was analyzed for benzene, toluene, ethylbenzene, xylenes, (BTEX), methyl tertiary butyl ether (MTBE) and naphthalene. Liquid-phase hydrocarbons (LPH) were reported in monitoring wells MW-4 and MW-5 at apparent thicknesses of 0.39 feet and 0.02 feet, respectively, during the June 1998 sampling event. The results of this most recent sampling event, and data from previous groundwater sampling events are presented in **Table 3**. The laboratory analytical reports for the June 1997 and June 1998 sampling events are presented in **Appendix D**. Groundwater concentration maps for total BTEX and MTBE are presented as **Figures 5** and **6.**

2.0 RISK-BASED CORRECTIVE ACTION TIER II EVALUATION

Since RBSLs for COC in groundwater were exceeded on-site, a Tier II evaluation was required to assess whether impact to existing or potential receptors might occur, both on and off site. The Tier II evaluation addresses the migration potential for COC to reach receptor points and compares predicted receptor concentrations to established SCDHEC RBSLs.

2.1 Migration Routes

Results of the June 25, 1998 receptor survey identified only one potable water supply well within 1,000 feet of the subject site. The potable well is located at 2704 Smith Street, approximately 200 feet southeast of the site (see **Figure 2**).

As depicted on Figure 3, water, storm, and sanitary sewer lines are located along the east border of the site (parallel to College Street). From visual evidence, the storm sewer line is located at an approximate depth of 3 to 4 feet below land surface (BLS). All other utilities identified during the field reconnaissance, including the water line, are reportedly buried between 2.5 and 3.5 feet BLS. Since the average depth to water across the site is 15.65 feet, the utilities are not expected to act as preferential conduits for groundwater movement.

Other migration routes evaluated during the study include the inhalation of vapors volatilizing from soils and groundwater to outdoor air (future on-site construction worker exposure scenarios), and ingestion or dermal contact with groundwater (future on-site construction worker).

2.2 Groundwater Transport Modeling

Groundwater transport modeling was performed to evaluate the potential for on-site COCs to impact local receptors at concentrations exceeding SCDHEC RBSLs. The groundwater model developed by P.A. Domenico and G.A. Robbins (1985) was used to evaluate the site data. A detailed description of the model and the required input parameters is included in **Appendix E**.

2.3 Groundwater Model Input Parameters

Model Input parameters were derived from site history and current site conditions. Current maximum dissolved concentrations for COCs in groundwater were used as model input. For the model study, a release from the former UST field was assumed. Based on site history and current groundwater concentrations, the source was assumed to continue for the duration of the model.

Source dimensions used were 700 feet square (the approximate surface area of the UST basin). Depth to water averages 15.65 feet BLS at the site, based on water level

measurements collected in June 1998. The source thickness is normally taken to include the depth interval through which the UST basin penetrates the water table, but since the basin is entirely outside the saturated zone, a conservative value of 10 feet was selected for modeling purposes. This is a conservative estimate, as the entire tank field may not have been acting as a hydrocarbon source to groundwater.

Groundwater elevation, gradient and flow direction data were taken from the June 25, 1998 water table contour map (**Figure 4**). The direction of groundwater flow is generally to the southeast under a natural hydraulic gradient of 0.018.

The total fraction of organic carbon (f_{oc}) in soil was determined from a soil sample collected from soil boring SB-6 on June 16, 1998. The sample was collected from beneath the "A" horizon, at a depth of six to eight feet BLS, and was determined to have an organic matter content of 0.0362 percent. Typical literature values for clean sand sediments range from 0 to 0.1 percent (USEPA, 1986).

Soil bulk density was estimated to be 1.55 grams per milliliter (gm/ml) from literature (Dobrin, 1976). Effective porosity was conservatively estimated from borehole lithologic logs and published literature to be 0.25 (Johnson, 1967). Since bedrock was encountered during the installation of MW-8D at a depth of 42 feet BLS, aquifer saturated thickness is estimated to be 27 feet. Hydraulic conductivity (k) was determined from four rising head

slug tests conducted in monitoring wells MW-3, MW-5, MW-6, and MW-7. The test results yielded an average hydraulic conductivity of 9.96×10^{-2} ft/day.

Longitudinal hydrodynamic dispersivity was estimated from literature to be one-tenth the distance from the source (center of UST field) to the nearest downgradient receptor. The transverse hydrodynamic dispersivity was estimated to be one-third of the longitudinal dispersivity, and the vertical hydrodynamic dispersivity was estimated to be 0.025 of the longitudinal dispersivity (Fetter, 1988). All of the input parameters used in the Domenico solute transport model are summarized on the plume migration calculations spreadsheets located in **Appendix F**.

Degradation of each modeled hydrocarbon compound is handled in the Domenico solute transport equation by a first-order decay constant (λ) which incorporates the effects of biodegradation and chemical retardation. This rate is determined by calculating the natural component degradation trend in wells across the site. For this site, degradation trends for benzene, toluene, ethylbenzene, and naphthalene were calculated using present and historic analytical data. All of the calculated values are conservative when compared to published literature values. The calculations and regression data are included as **Appendix G**. A degradation constant of 0 (*i.e.,* no degradation) was used in modeling MTBE since no site historic data existed for this component.

The biodegradation constants for the COCs were input into the Domenico solute transport equation. Using a constant source term, the model predicts COCs will migrate until the effects of dilution, dispersion, advection, adsorption, and biodegradation reduce the contaminant mass and concentrations to within acceptable regulatory limits. The results from the model simulation are summarized on **Table 4**.

2.4 Groundwater Modeling Results

Groundwater fate and transport models were run to estimate the migration potential for each COC. Each of the modeled hydrocarbon compounds were allowed to migrate along the model's positive x-axis (in the downgradient direction) until the effects of advection, dispersion, dilution and retardation reduced the individual COCs to their respective RBSLs. For modeling purposes, Site-Specific Target Levels (SSTLs) were calculated for the monitoring wells exhibiting the respective greatest hydrocarbon component concentration. SSTLs are the maximum concentrations that can be present in the respective wells before the potential receptor (potable water supply well at 2704 Smith Street) is impacted at levels above RBSLs. The northern property boundary of the residence is located 200 feet southeast of the service station USTs.

Benzene

The maximum on-site benzene concentration was reported in monitoring well MW-4 at 25,300 μg/l. Modeling indicates that an SSTL of 4,420 μg/l cannot be exceeded at MW-4 without impacting the potential receptor at a level above the RBSL of 5 μg/l.

Toluene

The maximum on-site toluene concentration was reported in monitoring well MW-4 at 26,300 μg/l. Modeling indicates that an SSTL of 13,400 μg/l cannot be exceeded at MW-4 without impacting the potential receptor at a level above the RBSL of 1,000 μg/l.

Ethylbenzene

The maximum on-site ethylbenzene concentration was reported in monitoring well MW-4 at 4,290 μg/l. When this maximum concentration is input into the model, ethylbenzene was shown to degrade to concentrations below the RBSL of 700 μg/L within 100 feet; therefore, an SSTL could not be calculated for ethylbenzene.

Xylenes

The maximum on-site xylenes concentration was reported in monitoring well MW-4 at 24,900 μg/l. When this maximum concentration is input into the model, xylenes were shown to degrade to concentrations below the RBSL of 10,000 μg/L within 40 feet; therefore, an SSTL could not be calculated for xylenes.

MTBE

The maximum on-site MTBE concentration was reported in monitoring well MW-5 at 25,300 μg/l. Modeling indicates that an SSTL of 450 μg/l cannot be exceeded at MW-5 without impacting the receptor at levels above the RBSL of 40 μg/l. It should be noted that a zero degradation rate (*i.e.,* no degradation) was used in the modeling for MTBE. This may not be an accurate assumption based on the most current literature concerning the degradation of MTBE. If, in this case, the slightest degradation rate is input into the model, the SSTL for MTBE in monitoring well MW-5 would be somewhat greater.

Naphthalenes

The maximum on-site naphthalenes concentration was reported in monitoring well MW-7 at 6,140 μg/l. Modeling indicates that an SSTL of 5,140 μg/l cannot be exceeded at MW-7 without impacting the potential receptor at levels above the RBSL of 10 μg/l.

2.5 Soil Leachability Modeling

As noted on **Table 2,** concentrations in two of the twelve soil samples collected during the Tier II assessment activities exceed RBSLs for toluene, ethylbenzene, and naphthalenes in sandy soils. Soil samples were not collected during the completion of monitoring wells MW-1 through MW-4 and boring SB-1A, in November 1995. Soil samples collected during

the installation of monitoring wells MW-5 through MW-8D, and borings SB-1 through SB-13 (in June 1998) were collected at depths ranging from 2 to 18 feet.

The equilibrium partitioning equations for hydrocarbons in soil leaching to groundwater, contained in the Tier 2 RBCA Toolkit® software, were used to assess whether current petroleum hydrocarbon concentrations in subsurface soils will leach to groundwater at concentrations exceeding SC RBSLs. SSTLs were not exceeded for the three COCs in subsurface soils. The results from the soil leachability model and the calculations used in the model are presented in **Appendix H**.

2.6 Volatilization of Hydrocarbons from Groundwater

Although LPH is present on the water table at thicknesses of up to 0.39 feet, the depth to groundwater is greater than fifteen feet; therefore, the volatilization of hydrocarbons from groundwater to outdoor air is unlikely, and was not evaluated.

3.0 ESTABLISH SITE-SPECIFIC TARGET LEVELS

Site-specific target levels (SSTLs) were calculated for source wells MW-4, MW-5, and MW-7 (as appropriate) for benzene, toluene, ethylbenzene, xylenes, MTBE, and naphthalenes, since these compounds are above the SC RBSLs. The calculated SSTLs are presented below, in **Table 4**, and are included with the BIOSCREEN output tables in **Appendix F.**

CHEMICALS OF CONCERN	June 26, 1998 On-Site Maximum (µg/l)	SCDHEC RBSL in Groundwater (µg/l)	SSTL at well (µg/l)
Benzene (MW-4)	25,300	5	4,420
Toluene (MW-4)	26,300	1,000	13,400
Ethylbenzene (MW-4)	4,290	700	> 4,290
Xylenes (MW-4)	24,900	10,000	> 24,900
MTBE (MW-5)	25,300	40	450
Naphthalene (MW-7)	6,539	10	5,140

NOTES.
SSTL = Site-Specific Target Level Protective of SCDHEC RBSL at the Receptor
RBSL = SCDHEC Risk-Based Screening Level

4.0 CONCLUSIONS AND RECOMMENDATIONS

Based on the results of the Tier evaluation, the following conclusions are reached:

- Based on the June 1998 gauging data, groundwater flow at the site is toward the southeast under a hydraulic gradient of 0.018.
- LPH was encountered in monitoring wells MW-4 and MW-5 at an apparent thickness of 0.39 feet and 0.02 feet, respectively.
- Due to the average depth to groundwater across the site (15.65 feet), underground utilities were not considered as potential receptors.
- A potable water supply well was identified at 2074 Smith Street, approximately 200 feet southeast of the site. No other potable wells were observed within 1,000 feet of the site. The area surrounding the site is provided with potable water by the local municipality.
- Current on-site groundwater concentrations for benzene, toluene, ethylbenzene, xylenes, MTBE, and naphthalenes are above SCDHEC RBSLs.

- On-site subsurface soil concentrations for COCs are below SCDHEC RBSLs for sandy soil in all recent borings except SB-10 and SB-11. COCs detected in these borings were above SCDHEC RBSLs for toluene, ethylbenzene, and naphthalenes.

The Domenico fate and transport model was used to determine the potential for the COCs to reach the potential receptor (potable well located at 2704 Smith Street). The results of the model predicts that benzene, toluene, MTBE, and naphthalenes will reach the receptor at concentrations above their respective SSTLs.

Based on the above modeling results, Handex recommends that corrective action be implememnted to remove LPH accumulations and reduce COC concentrations to below calculated SSTLs. However, prior to corrective action, additional downgradient monitoring wells should be installed to define the plume in the off-site downgradient direction. In addition, the potential receptor (potable well) should be sampled to insure that petroleum hydrocarbons are not impacting the well.

5.0 REFERENCES

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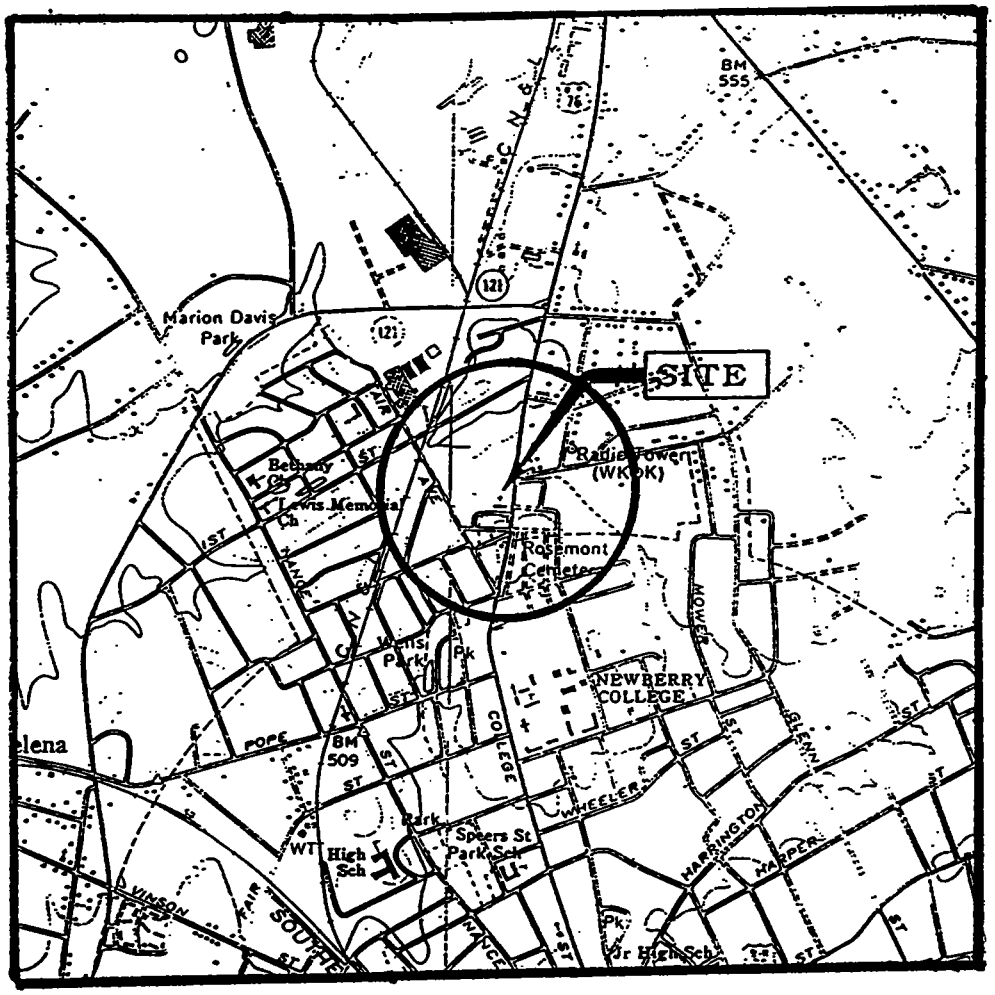
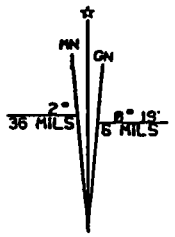
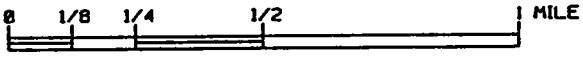
FIGURES





UTM GRID AND 1968 MAGNETIC NORTH DECLINATION AT CENTER OF NEWBERRY EAST QUADRANGLE



CONTOUR INTERVAL 10 FEET
NATIONAL GEODETIC VERTICAL DATUM OF 1929

QUADRANGLE LOCATION

NEWBERRY EAST, S.C.

N3415-W8130/7.5
1968

AMS 4652 I SE-SERIES V846

&

NEWBERRY WEST, S.C.

N3415-W8137/7.5
1969

AMS 4652 I SE-SERIES V846

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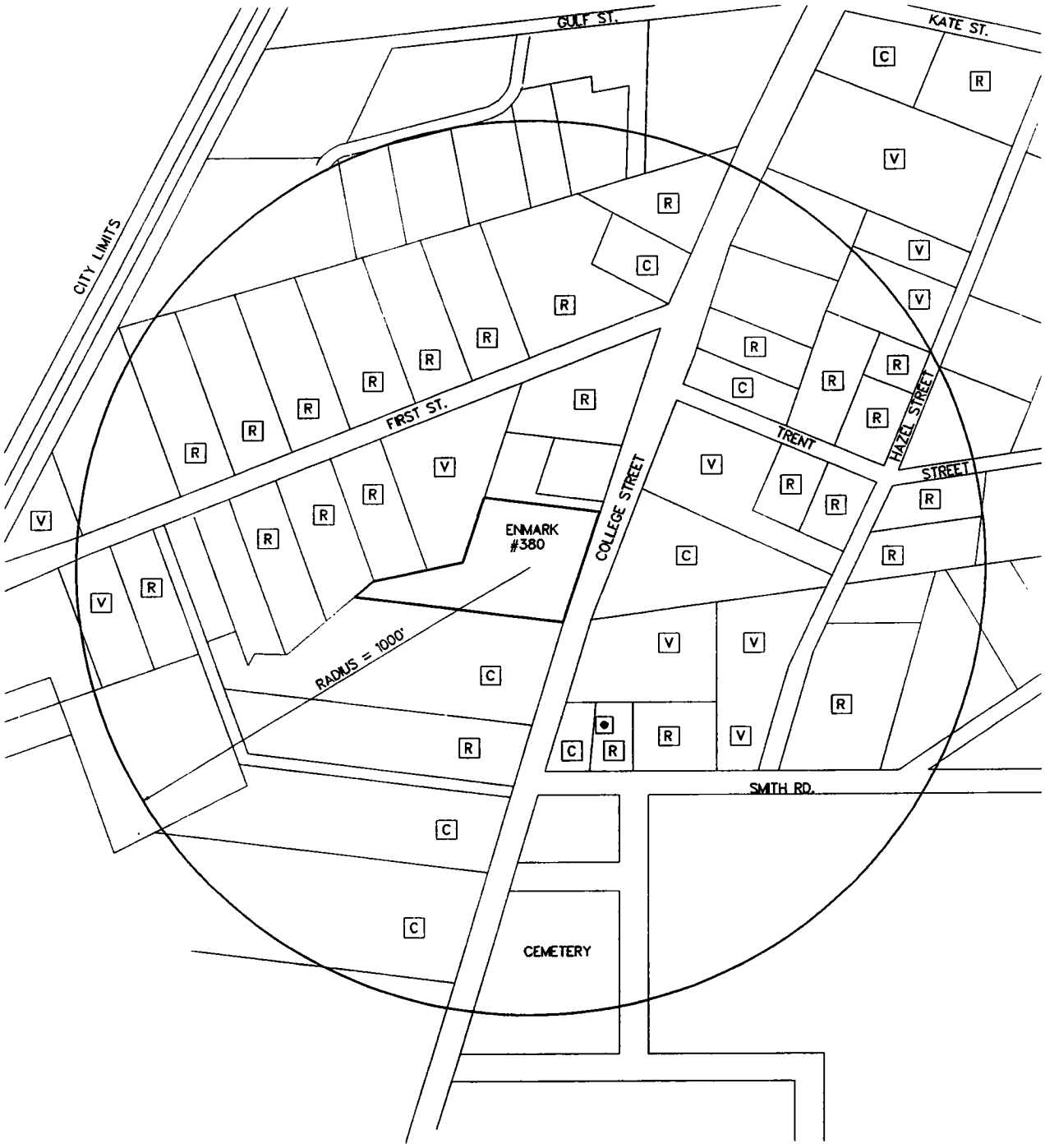
ENMARK SS #380
2725 COLLEGE STREET
NEWBERRY, SOUTH CAROLINA

FIGURE 1
TOPOGRAPHIC LOCATION MAP

SCALE:	1:24000	PROJ. NO.	110727
DATE:	12-21-95	REV. BY:	
DWN. BY:	C. JOHNSON	DWG. NO.	10727SM1
PREP. BY:	DATE:	CHK. BY:	DATE:



LEGEND:

RESIDENTIAL	R
COMMERCIAL	C
VACANT	V
POTABLE WELL	●

0 250

APPROX SCALE ft

FIGURE 2
SITE VICINITY MAP

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2725 COLLEGE STREET
NEWBERRY, SOUTH CAROLINA

SCALE:	1" = 250'	PROJ. NO.	110727
DATE:	05-03-99	REV. BY:	
DWN. BY	D.B.	DWG. NO	1072710A
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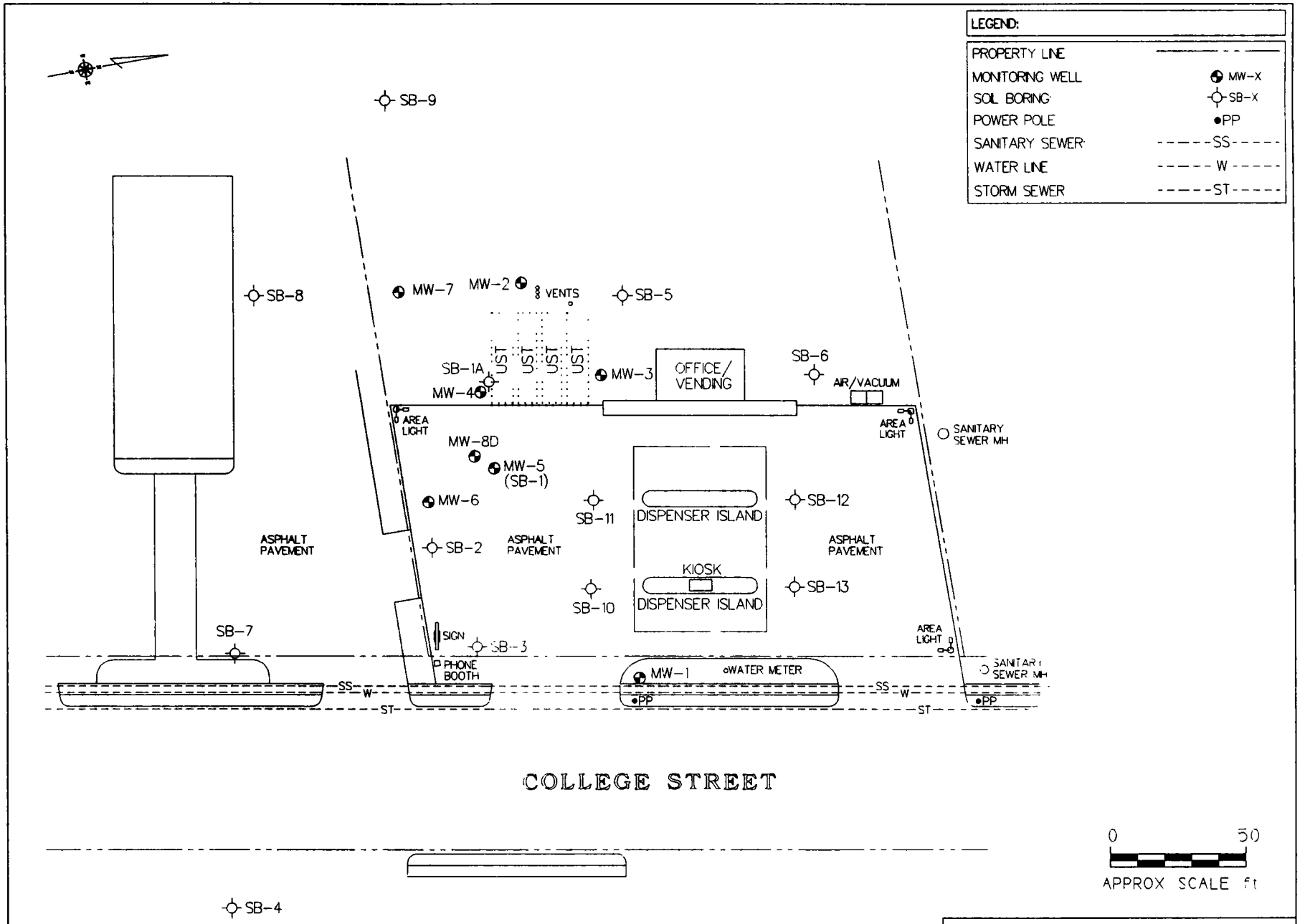

FIGURE 3
SITE PLAN

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NEWBERRY, SOUTH CAROLINA

SCALE:	1" = 50	PROJ. NO	110727
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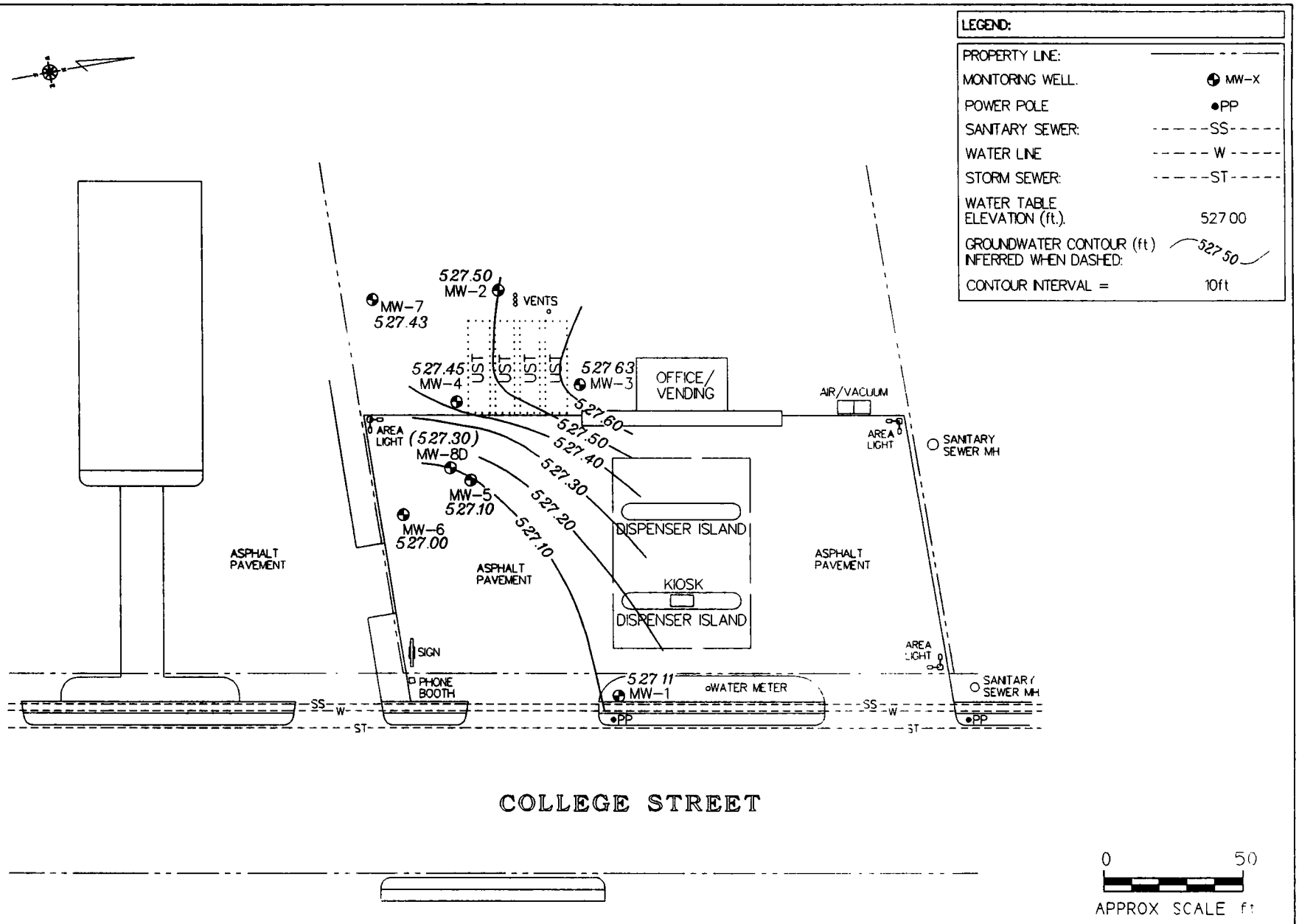
DWN BY	DB	DWG NO.	1072700B
PREP BY	DATE	CHK BY	DATE



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ENMARK SS #380
2725 COLLEGE STREET
NEWBERRY, SOUTH CAROLINA

FIGURE 4
WATER TABLE CONTOUR MAP
DATA DATE: 06-25-98

SCALE	1" = 50'	PROJ. NO	110727
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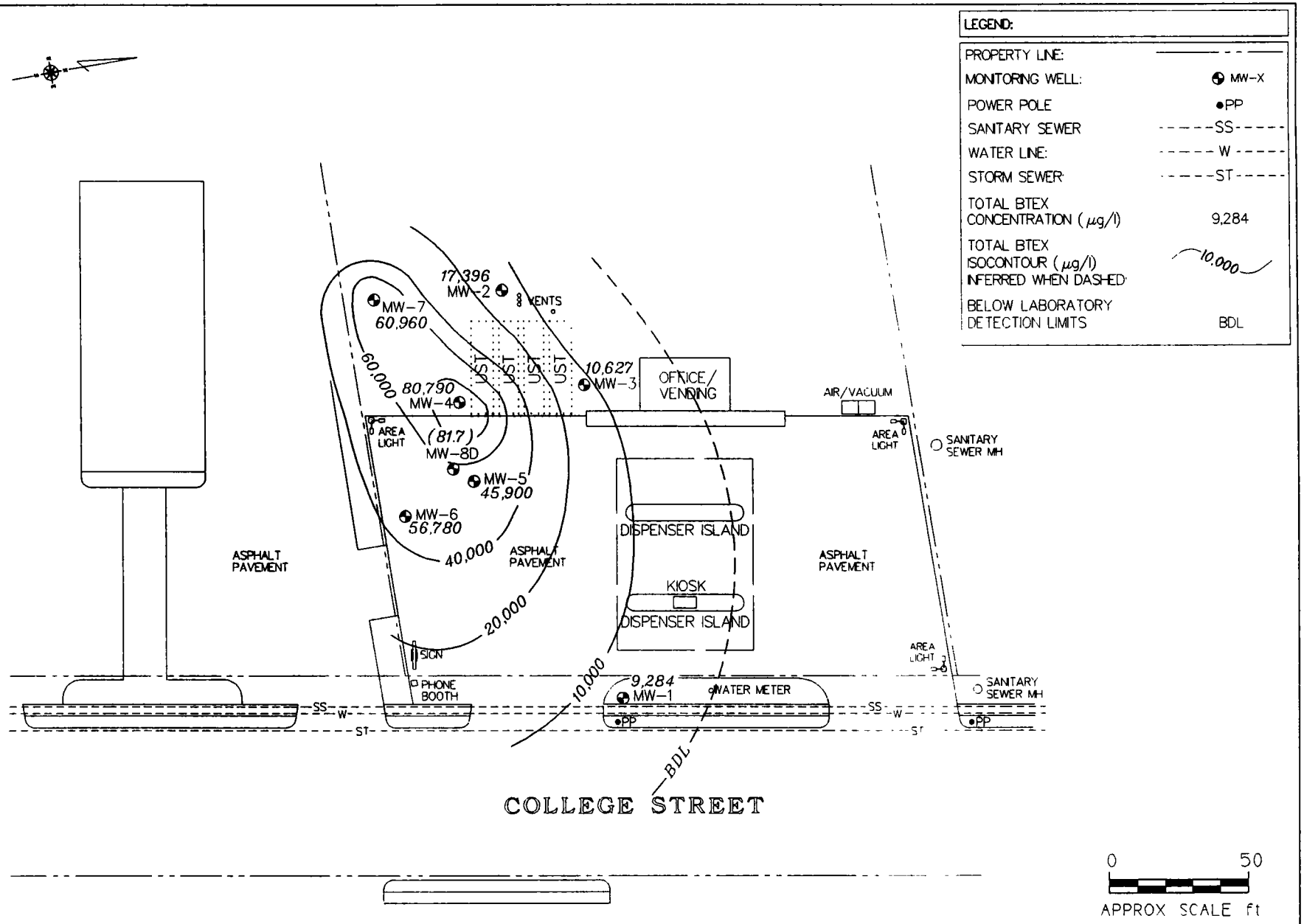
DWN. BY	D.B.	DWG. NO.	1072715A
PREP BY	DATE.	CHK BY	DATE



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ENMARK SS #380
2725 COLLEGE STREET
NEWBERRY, SOUTH CAROLINA

FIGURE 5
GROUNDWATER BTEX CONCENTRATION MAP
DATA DATE: 06-26-98

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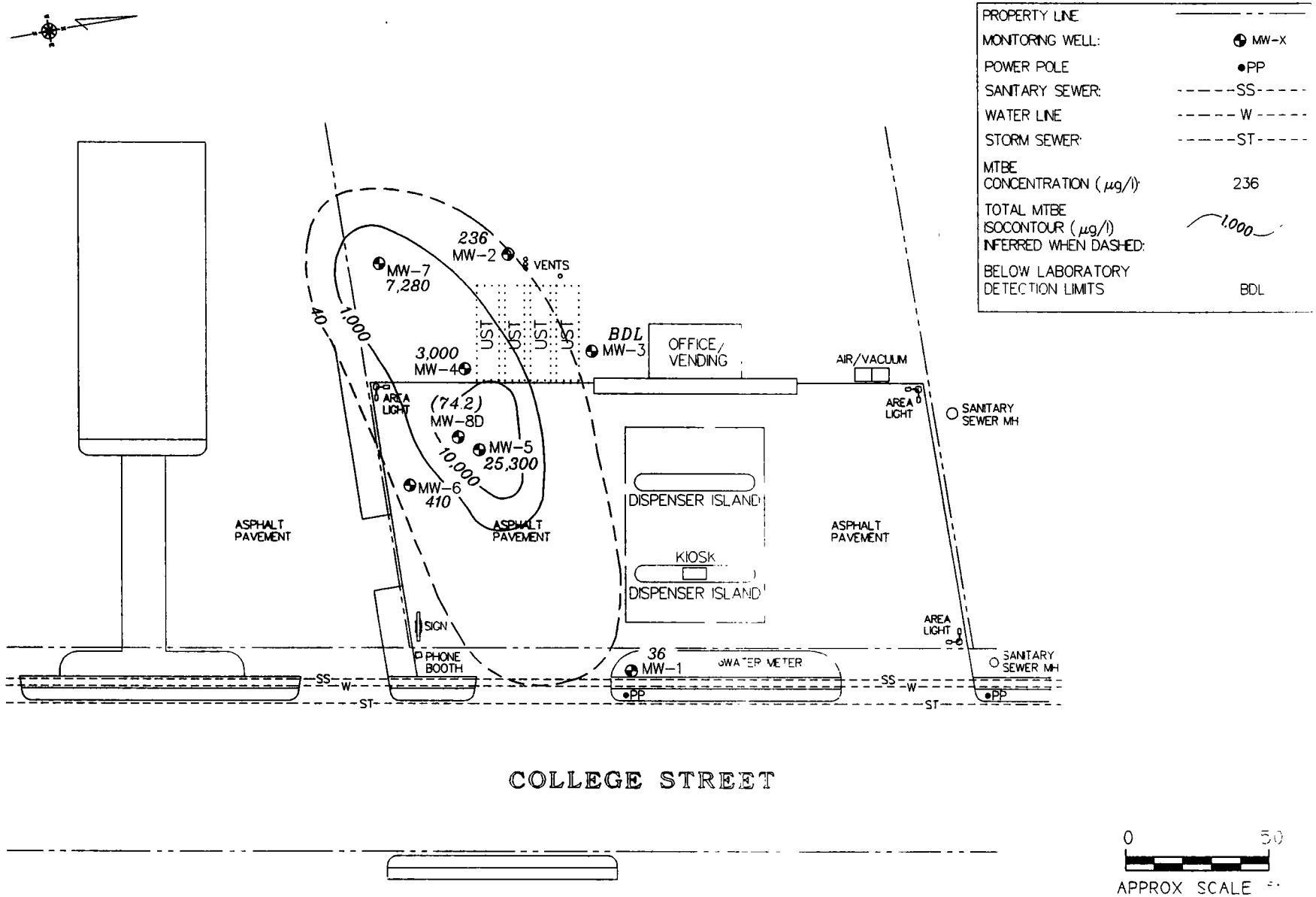
DATE 05-03-99	REV BY
DWN BY DB	DWG. NO. 1072720A
PREP BY DATE	CHK BY DATE



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HANDEX OF THE CAROLINAS, INC.

ENMARK SS #380
2725 COLLEGE STREET
NEWBERRY, SOUTH CAROLINA

FIGURE 6
GROUNDWATER MTBE CONCENTRATIONS
DATA DATE: 06-26-98

SCALE	1" = 50'	PROJ NO	110727
DATE	05-03-99	REV BY	
DWN BY	DB	DWG. NO.	1072735A
PREP BY	DATE	CHK BY	DATE

TABLES

TABLE 1
GROUNDWATER LEVEL MEASUREMENTS
ENMARK SERVICE STATION #380
2725 COLLEGE STREET
NEWBERRY, SOUTH CAROLINA

MONITORING DATE	WELL TYPE-#	C	PRODUCT DEPTH (feet)	WATER DEPTH (feet)	PRODUCT THICK. (feet)	PRODUCT ELEV. (feet)	GW ELEV. (feet)	CORR GW ELEV. (feet)
28-Nov-95	MW-1			18.36			524.05	524.05
28-Nov-95	MW-2		18.66	18.66	F	524.38	524.38	524.38
28-Nov-95	MW-3			19.47			524.44	524.44
28-Nov-95	MW-4		18.62	20.05	1.43	524.69	523.26	524.32
28-Nov-95	SB-1							
7-Dec-95	MW-1			18.40			524.01	524.01
7-Dec-95	MW-2		18.67	18.67	F	524.37	524.37	524.37
7-Dec-95	MW-3			19.48			524.43	524.43
7-Dec-95	MW-4		18.41	20.69	2.28	524.90	522.62	524.31
7-Dec-95	SB-1							
14-Dec-95	MW-1			18.37			524.04	524.04
14-Dec-95	MW-2			18.66			524.38	524.38
14-Dec-95	MW-3			19.45			524.46	524.46
14-Dec-95	MW-4		18.42	20.43	2.01	524.89	522.88	524.37
14-Dec-95	SB-1							
21-Dec-95	MW-1			18.27			524.14	524.14
21-Dec-95	MW-2			18.57			524.47	524.47
21-Dec-95	MW-3			19.38			524.53	524.53
21-Dec-95	MW-4		18.42	20.25	1.83	524.89	523.06	524.41
21-Dec-95	SB-1							
29-Dec-95	MW-1			18.35			524.06	524.06
29-Dec-95	MW-2			18.57			524.47	524.47
29-Dec-95	MW-3			19.37			524.54	524.54
29-Dec-95	MW-4		18.46	20.15	1.69	524.85	523.16	524.41
29-Dec-95	SB-1							
4-Jan-96	MW-1			18.16			524.25	524.25
4-Jan-96	MW-2		18.44	18.44	F	524.60	524.60	524.60
4-Jan-96	MW-3		19.24	19.26	.02	524.67	524.65	524.66
4-Jan-96	MW-4		18.31	19.57	1.26	525.00	523.74	524.67
4-Jan-96	SB-1			13.57			529.63	529.63
10-Jan-96	MW-1			17.98			524.43	524.43
10-Jan-96	MW-2		18.24	18.24	F	524.80	524.80	524.80

"C"omments: [P = Pumping; N = Non-Pumping; B/A = Before/After Adjustment]
[I = Well Inaccessible; # = nth Monitoring Event of Day]
[D = Dry Well; F = Film or Trace of Product]

116416

TABLE 1 (continued)
GROUNDWATER LEVEL MEASUREMENTS

MONITORING DATE	WELL TYPE-#	C	PRODUCT DEPTH (feet)	WATER DEPTH (feet)	PRODUCT THICK. (feet)	PRODUCT ELEV. (feet)	GW ELEV. (feet)	CORR GW ELEV. (feet)
10-Jan-96	MW-3		19.05	19.06	.01	524.86	524.85	524.86
10-Jan-96	MW-4		18.18	19.63	1.45	525.13	523.68	524.75
10-Jan-96	SB-1							
17-Jan-96	MW-1			17.92			524.49	524.49
17-Jan-96	MW-2		18.15	18.15	F	524.89	524.89	524.89
17-Jan-96	MW-3		18.94	18.96	.02	524.97	524.95	524.96
17-Jan-96	MW-4		18.11	19.45	1.34	525.20	523.86	524.85
17-Jan-96	SB-1							
24-Jan-96	MW-1			17.79			524.62	524.62
24-Jan-96	MW-2		17.98	17.98	F	525.06	525.06	525.06
24-Jan-96	MW-3		18.72	18.72	F	525.19	525.19	525.19
24-Jan-96	MW-4		18.15	18.20	.05	525.16	525.11	525.15
24-Jan-96	SB-1							
31-Jan-96	MW-1			17.41			525.00	525.00
31-Jan-96	MW-2			17.60			525.44	525.44
31-Jan-96	MW-3		18.44	18.45	.01	525.47	525.46	525.47
31-Jan-96	MW-4		18.08	18.10	.02	525.23	525.21	525.22
31-Jan-96	SB-1							
20-Feb-96	MW-1			16.83			525.58	525.58
20-Feb-96	MW-2			16.96			526.08	526.08
20-Feb-96	MW-3			17.75			526.16	526.16
20-Feb-96	MW-4		17.29	17.86	.57	526.02	525.45	525.87
20-Feb-96	SB-1							
26-Mar-96	MW-1			16.06			526.35	526.35
26-Mar-96	MW-2			16.13			526.91	526.91
26-Mar-96	MW-3			16.94			526.97	526.97
26-Mar-96	MW-4		16.45	17.08	.63	526.86	526.23	526.70
26-Mar-96	SB-1							
25-Apr-96	MW-1			15.27			527.14	527.14
25-Apr-96	MW-2			15.87			527.17	527.17
25-Apr-96	MW-3			16.64			527.27	527.27
25-Apr-96	MW-4		16.08	16.43	.35	527.23	526.88	527.14
25-Apr-96	SB-1			13.59			529.61	529.61
30-May-96	MW-1			16.42			525.99	525.99
30-May-96	MW-2			16.66			526.38	526.38
30-May-96	MW-3			17.42			526.49	526.49
30-May-96	MW-4		17.00	17.36	.36	526.31	525.95	526.22

"C"omments: [P = Pumping; N = Non-Pumping; B/A = Before/After Adjustment]
[I = Well Inaccessible; # = nth Monitoring Event of Day]
[D = Dry Well; F = Film or Trace of Product]

TABLE 1 (continued)
GROUNDWATER LEVEL MEASUREMENTS

MONITORING DATE	WELL TYPE-#	C	PRODUCT DEPTH (feet)	WATER DEPTH (feet)	PRODUCT THICK. (feet)	PRODUCT ELEV. (feet)	GW ELEV. (feet)	CORR GW ELEV. (feet)
30-May-96	SB-1							
22-Jul-96	MW-1			17.61			524.80	524.80
22-Jul-96	MW-2			17.98			525.06	525.06
22-Jul-96	MW-3			18.73			525.18	525.18
22-Jul-96	MW-4		18.18	18.53	.35	525.13	524.78	525.04
22-Jul-96	SB-1							
20-Aug-96	MW-1			18.22			524.19	524.19
20-Aug-96	MW-2			18.65			524.39	524.39
20-Aug-96	MW-3			19.39			524.52	524.52
20-Aug-96	MW-4		18.79	19.29	.50	524.52	524.02	524.39
20-Aug-96	SB-1							
17-Sep-96	MW-1			18.37			524.04	524.04
17-Sep-96	MW-2			18.83			524.21	524.21
17-Sep-96	MW-3		19.61	19.64	.03	524.30	524.27	524.29
17-Sep-96	MW-4		19.22	19.39	.17	524.09	523.92	524.05
17-Sep-96	MW-5			11.75			530.92	530.92
17-Sep-96	SB-1			11.75			531.45	531.45
21-Oct-96	MW-1			17.83			524.58	524.58
21-Oct-96	MW-2			18.13			524.91	524.91
21-Oct-96	MW-3			18.90			525.01	525.01
21-Oct-96	MW-4		18.50	18.99	.49	524.81	524.32	524.68
21-Oct-96	MW-5							
21-Oct-96	SB-1			13.40			529.80	529.80
11-Jun-97	MW-1			17.24			525.17	525.17
11-Jun-97	MW-2			17.56			525.48	525.48
11-Jun-97	MW-3			18.34			525.57	525.57
11-Jun-97	MW-4		17.80	18.25	.45	525.51	525.06	525.39
11-Jun-97	MW-5			13.38			529.29	529.29
11-Jun-97	SB-1			13.38			529.82	529.82
25-Jun-98	MW-1			15.30			527.11	527.11
25-Jun-98	MW-2			15.54			527.50	527.50
25-Jun-98	MW-3			16.28			527.63	527.63
25-Jun-98	MW-4		15.76	16.15	.39	527.55	527.16	527.45
25-Jun-98	MW-5		15.56	15.58	.02	527.11	527.09	527.10
25-Jun-98	MW-6			15.49			527.00	527.00
25-Jun-98	MW-7			15.42			527.43	527.43
25-Jun-98	MW(D)-8			15.47			527.30	527.30
25-Jun-98	SB-1							

"C"omments: [P = Pumping; N = Non-Pumping; B/A = Before/After Adjustment]
[I = Well Inaccessible; # = nth Monitoring Event of Day]
[D = Dry Well; F = Film or Trace of Product]

TABLE 2
SOIL QUALITY DATA
ENMARK SERVICE STATION #380
2725 COLLEGE STREET
NEWBERRY, SOUTH CAROLINA

SOIL BORING	SAMPLE DEPTH (ft)	DATE	BENZENE	TOLUENE	ETHYLBENZENE	XYLENES	TOTAL BTEX	MTBE	NAPHTHALENES
SB-1	17-19	6/17/98	BDL	BDL	BDL	BDL	BDL	BDL	BDL
SB-2	10-12	6/17/98	BDL	BDL	BDL	BDL	BDL	BDL	BDL
SB-3	10-12	6/17/98	BDL	BDL	BDL	BDL	BDL	BDL	BDL
SB-4	10-12	6/17/98	BDL	BDL	BDL	BDL	BDL	BDL	BDL
SB-5	10-12	6/19/98	BDL	BDL	BDL	BDL	BDL	BDL	BDL
SB-7	16-18	6/19/98	BDL	BDL	BDL	BDL	BDL	BDL	BDL
SB-8	16-18	6/19/98	BDL	BDL	BDL	BDL	BDL	BDL	BDL
SB-9	16-18	6/19/98	BDL	BDL	BDL	BDL	BDL	BDL	BDL
SB-10	2-4	6/19/98	BDL	2,120	2,990	16,400	21,500	BDL	8,720
SB-11	2-4	6/19/98	BDL	BDL	190	1,200	1,390	BDL	734
SB-12	8-10	6/19/98	BDL	BDL	BDL	BDL	BDL	BDL	BDL
SB-13	8-10	6/19/98	BDL	BDL	BDL	BDL	BDL	BDL	BDL
SCDHEC RBSL for Sandy Soils			5	1,622	1,260	42,471	NA	NA	210

Notes: BDL = Below Laboratory Detection Limits
All results presented as µg/kg

TABLE 3
GROUNDWATER QUALITY DATA
ENMARK SERVICE STATION #380
2725 COLLEGE STREET
NEWBERRY, SOUTH CAROLINA

MONITORING WELL	DATE	BENZENE	TOLUENE	ETHYLBENZENE	XYLENES	TOTAL BTEX	MTBE	NAPHTHALENES
MW-1	6/11/97	5900	8010	1530	7420	22,860	135	108
	6/26/98	3550	1910	674	3150	9,284	36	35
MW-2	6/11/97	6750	13,500	900	5180	26,330	900	254
	6/26/98	3780	9380	896	3340	17,396	236	885
MW-3	6/11/97	675	9000	900	5400	15,975	5.0	450
	6/26/98	411	4150	986	5080	10,627	BDL	534
MW-4	6/11/97	NS	NS	NS	NS	NS	NS	NS
	6/26/98	25,300	26,300	4290	24,900	80,790	7000	3050
MW-5	6/26/98	10,100	24,400	2920	8480	45,900	25,300	2800
MW-6	6/26/98	12,800	20,400	3980	19,600	56,780	410	2760
MW-7	6/26/98	17,000	27,500	3660	12,800	60,960	7280	6140
MW-8D	6/26/98	47.6	3.0	1.3	29.8	81.7	74.2	14.0
RBSL		5	1,000	700	10,000	N/A	40	10

Notes: BDL = Below Laboratory Detection Limits
NS = Not Sampled, due to the presence of Liquid Phase Hydrocarbons (LPH)
All results presented as µg/L

TABLE 4
SITE-SPECIFIC TARGET LEVELS FOR COCs IN GROUNDWATER
ENMARK SERVICE STATION #380
2725 COLLEGE STREET
NEWBERRY, SOUTH CAROLINA

CHEMICAL OF CONCERN	JUNE 26, 1998 ON-SITE MAXIMUM CONCENTRATION (µg/L)	SOURCE AREA SSTL (µg/L)	RBSL (µg/L)
Benzene	25,300 (MW-4)	4,420	5
Toluene	26,300 (MW-4)	13,400	1,000
Ethylbenzene	4,290 (MW-4)	> 4,290	700
Xylenes	24,900 (MW-4)	> 24,900	10,000
MTBE	25,300 (MW-5)	450	40
Naphthalene	6,140 (MW-7)	5,140	10

Notes: SSTL = Site-Specific Target Level protective of SCDHEC RBSL at the receptor
RBSL = SCDHEC Risk-Based Screening Level

APPENDICES

APPENDIX A

BORING LOGS

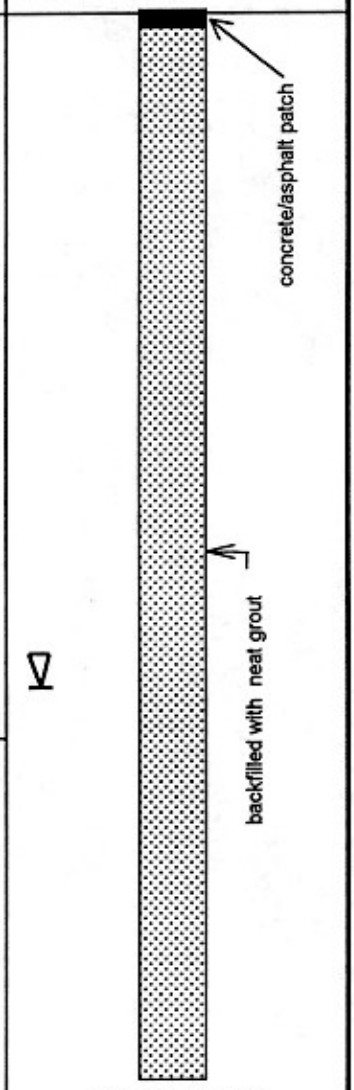
BORING LOG: SB-1

Permit #	*9496*	Drill Date	*06/17/98*	Site	*Enmark S.S #380*
Client *Enmark*		Use	*Soil Sampling*	Handex Loc. #	*116416-01*
Address	*2725 College Street, Newberry, SC*			Total Depth (ft)	*19*
Drilling Method	*HSA*	Boring Depth (ft)	*19*	Boring Diam. (in)	*6*
Backfill Material	*cement grout*			Static Water Level	*~18*
Rmrks		TOC Elevation		Sample Method	*Split Spoon*

Drummed Cuttings.

Depth (ft.)	Sample ID	Sample Depth (ft)	Blows/ 6"	OVA (ppm) unf/fil	Geologic Description
0					0-4" Asphalt
	ss-1 1'-3'	50%	6-7-5-4	22	4"-1' Grey, very fine to fine SAND & GRAVEL, little micaceous silt, damp.
					1'-6.5' Grey, very fine SAND & CLAYEY SILT (micaceous), damp.
5	ss-2 5'-7'	60%	5-4-4-3	52	6.5'-8' Red-brown, very fine SAND & SILT (micaceous) (slight clay content), damp.
					8'-15' Orange brown, very fine SAND, little (+) silt (micaceous), damp.
10	ss-3 10'-12'	50%	5-6-4-8	174	
15	ss-4 14'-16'	50%	3-3-2-4	200	15'-19' Golden to tan brown, very fine SAND & SILT (micaceous), moist.
	ss-5 * 17'-19'	60%	4-5-3-2	220	formation progressively softer with depth.
20					Terminated boring at 19' (close to water table)
25					
30					

Typical Diagram



Not to Scale

Notes: **** Sample submitted for laboratory analysis.***

Geologist: ***J. Hollis*** Driller: ***Richard Simmons Drilling***

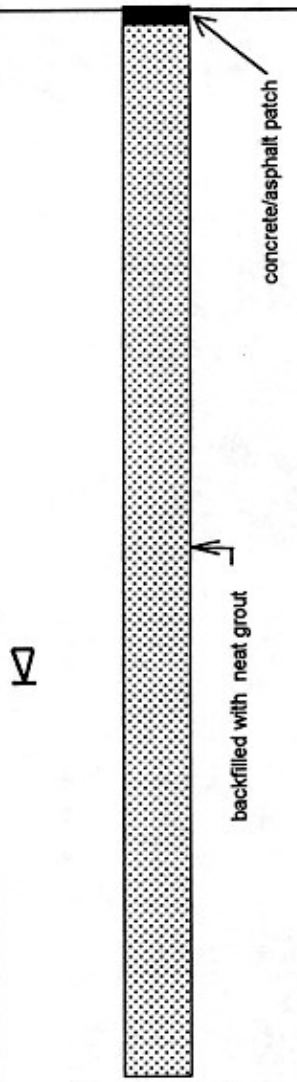
BORING LOG: SB-2

Permit #	*9496*	Drill Date	*06/17/98*	Site	*Enmark S.S #380*
Client *Enmark*		Use	*Soil Sampling*	Handex Loc. #	*116416-01*
Address	*2725 College Street, Newberry, SC*			Total Depth (ft)	*19*
Drilling Method	*HSA*	Boring Depth (ft)	*18*	Boring Diam. (in)	*6*
Backfill Material	*cement grout*			Static Water Level	*~18*
Rmrks		TOC Elevation		Sample Method	*Split Spoon*

Drummed Cuttings.

Depth (ft.)	Sample ID	Sample Depth (ft)	Blows/ 6"	OVA (ppm) unf/fil	Geologic Description
0					0-4" Asphalt
	ss-1 1'-3'	50%	-7-8-1	1.4	4"-1' Grey, very fine to fine SAND & GRAVEL, little micaceous silt, damp.
					1'-4.5' Reddish-brown, very fine to fine SAND & GRAVEL, little (-) micaceous silt, damp.
5	ss-2 5'-7'	30%	5-6-6-9	16	4.5'-17.5' Red-brown, very fine SAND & SILT (micaceous), damp.
10	ss-3 * 10'-12'	70%	4-5-6-8	80	
15	ss-4 16'-18'	70%	5-6-7-4	60	17.5'-18' Red brown to tan brown, very fine to fine SAND, little (-) silt, trace fine gravel, moist.
20					Terminated boring at 18' (close to water table)
25					
30					

Typical Diagram



Not to Scale

Notes: **** Sample submitted for laboratory analysis.***

Geologist: ***J. Hollis*** Driller: ***Richard Simmons Drilling***

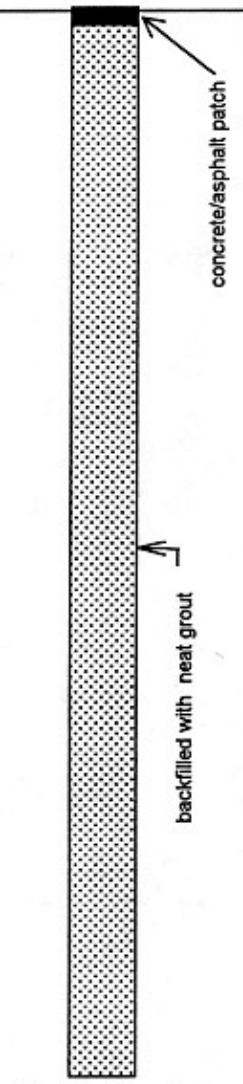
BORING LOG: SB-3

Permit #	*9496*	Drill Date	*06/17/98*	Site	*Enmark S.S #380*
Client *Enmark*		Use	*Soil Sampling*	Handex Loc. #	*116416-01*
Address	*2725 College Street, Newberry, SC*			Total Depth (ft)	*18*
Drilling Method	*HSA*	Boring Depth (ft)	*18*	Boring Diam. (in)	*6*
Backfill Material	*cement grout*			Static Water Level	*~18*
Rmrks		TOC Elevation		Sample Method	*Split Spoon*

Drummed Cuttings.

Depth (ft.)	Sample ID	Sample Depth (ft)	Blows/ 6"	OVA (ppm) unf/fil	Geologic Description
0					0-4" Asphalt
	ss-1 1'-3'	80%	7-8-7 -11	8	4"-1' Grey, very fine to fine SAND & GRAVEL, little micaceous silt, dry.
					1'-4.5' Reddish-brown, very fine SAND & CLAYEY SILT (micaceous), damp.
5	ss-2 5'-7'	80%	5-6-6 -10	13	4.5'-10.5' Red-brown, very fine SAND & SILT (micaceous), trace fine gravel, damp.
10	ss-3 * 10'-12'	70%	5-5-6-8	54	10.5'-17' Reddish brown to tan brown, very fine SAND & SILT, damp to moist.
15	ss-4 16'-18'	70%	4-5-6-7	52	17'-18' Tan brown, very fine SAND & SILT, wet.
20					Terminated boring at 18' (in water table)
25					
30					

Typical Diagram



Not to Scale

Notes: **** Sample submitted for laboratory analysis.***

Geologist: ***J. Hollis*** Driller: ***Richard Simmons Drilling***

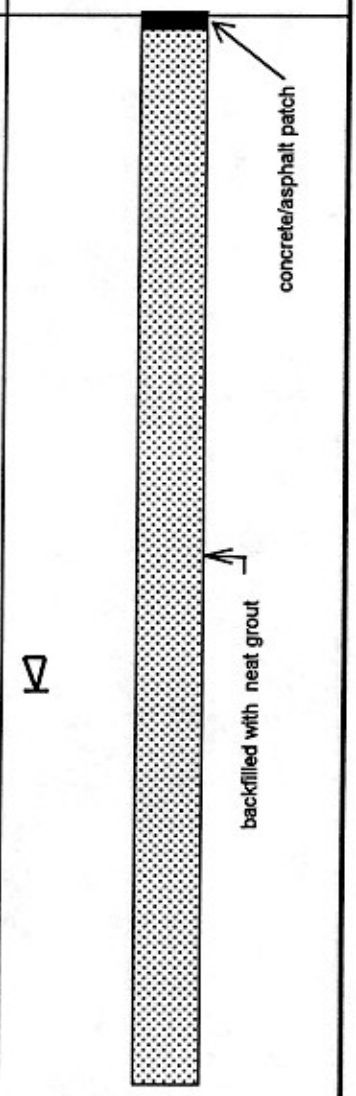
Handex BORING LOG: SB-4

Permit #	*9496*	Drill Date	*06/17/98*	Site	*Enmark S.S #380*
Client *Enmark*		Use	*Soil Sampling*	Handex Loc. #	*116416-01*
Address	*2725 College Street, Newberry, SC*			Total Depth (ft)	*18*
Drilling Method	*HSA*	Boring Depth (ft)	*18*	Boring Diam. (in)	*6*
Backfill Material	*cement grout*			Static Water Level	*~18*
Rmrks		TOC Elevation		Sample Method	*Split Spoon*

Drummed Cuttings.

Depth (ft.)	Sample ID	Sample Depth (ft)	Blows/ 6"	OVA (ppm) unf/fil	Geologic Description
0					0-3" Asphalt
	ss-1 1'-3'	60%	10-8-4 -5	0.4 bkgd=0.3	3"-4' Reddish brown, very fine SAND, little silt, trace gravel, dry.
5					4'-8' Reddish brown, very fine to fine SAND & SILT, dry.
	ss-2 5'-7'	80%	10-11 -12-14	0.4 bkgd=0.2	
10					8'-18' Reddish brown to grey brown, very fine SAND & SILT, damp.
	ss-3 * 10'-12'	70%	7-9-10 -13	0.6 bkgd=0.2	
15					
	ss-4 16'-18'	60%	5-6-6-9	0.2 bkgd=0.2	
20					Terminated boring at 18' (near water table)
25					
30					

Typical Diagram



Not to Scale

Notes: **** Sample submitted for laboratory analysis.***

Geologist: *J. Hollis* | Driller: *Richard Simmons Drilling*

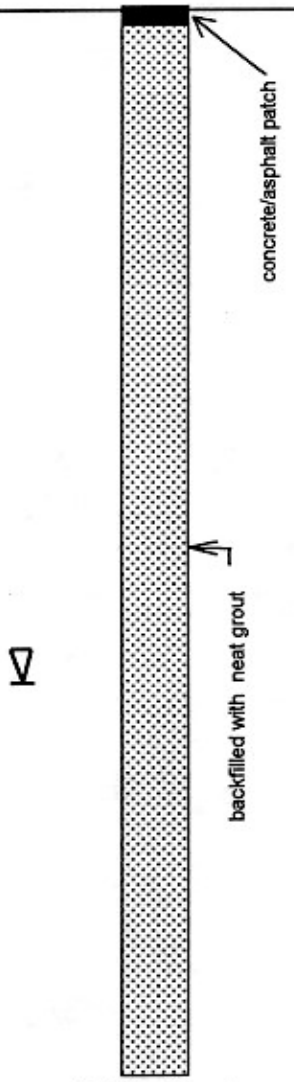
BORING LOG: SB-5

Permit #	*9496*	Drill Date	*06/19/98*	Site	*Enmark S.S #380*
Client *Enmark*		Use	*Soil Sampling*	Handex Loc. #	*116416-01*
Address	*2725 College Street, Newberry, SC*			Total Depth (ft)	*18*
Drilling Method	*HSA*	Boring Depth (ft)	*18*	Boring Diam. (in)	*6*
Backfill Material	*cement grout*			Static Water Level	*~18*
Rmrks		TOC Elevation		Sample Method	*Split Spoon*

Drummed Cuttings.

Depth (ft.)	Sample ID	Sample Depth (ft)	Blows/ 6"	OVA (ppm) unf/fil	Geologic Description
0					0-6" Roots, grass, etc.; very fine to fine SAND & SILT, dry.
	ss-1 1'-3'	25%	6-10 -10-12	ND	6"-2.5' Brown, very fine to fine SAND, little silt, trace roots & organic debris, dry.
					2.5'-6' Dark brown, very fine SAND, trace clayey silt, damp.
5	ss-2 5'-7'	80%	7-6-5-7	2.4	6'-9' Orange Brown, very fine sand, trace clayey silt, damp.
					9'-18' Orange brown, very fine SAND, little (+) silt (micaceous), damp.
10	ss-3 * 10'-12'	90%	5-7-7-8	15.4	
15	ss-4 16'-18'	70%	5-5-6-4	7.2	
20					Terminated boring at 18' (near water table)
25					
30					

Typical Diagram



Not to Scale

Notes: **** Sample submitted for laboratory analysis.***

Geologist: ***J. Hollis*** Driller: ***Richard Simmons Drilling***

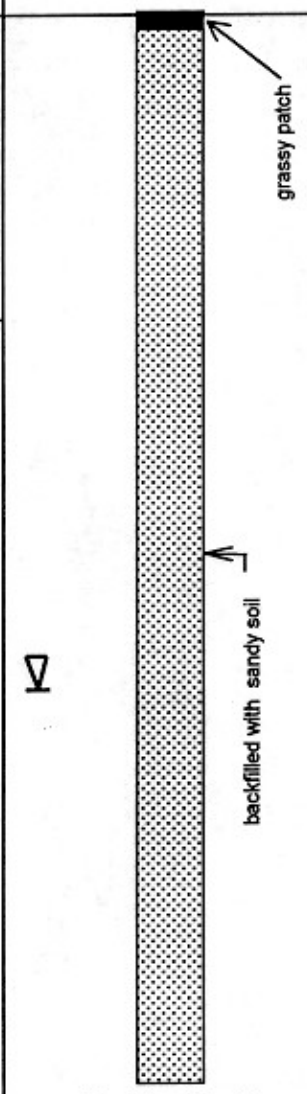
BORING LOG: SB-6

Permit #	*9496*	Drill Date	*06/19/98*	Site	*Enmark S.S #380*
Client *Enmark*		Use	*Soil Sampling*	Handex Loc. #	*116416-01*
Address	*2725 College Street, Newberry, SC*			Total Depth (ft)	*8*
Drilling Method	*HSA*	Boring Depth (ft)	*8*	Boring Diam. (in)	*6*
Backfill Material	*cement grout*		*0*	Static Water Level	
Rmrks		TOC Elevation		Sample Method	*Split Spoon*

Drummed Cuttings.

Depth (ft.)	Sample ID	Sample Depth (ft)	Blows/ 6"	OVA (ppm) unf/fil	Geologic Description
0					0-6" Roots, grass, etc.; very fine to fine SAND & SILT, dry.
					6"-1.5' Brown, very fine SAND, trace silt, dry.
					1.5'-4' Tan brown, very fine SAND, little (+) silt, damp.
5					4'-8' Reddish brown, very fine SAND, little (+) clayey silt, damp.
	ss-1 * 6'-8'	30%	6-8-5-4	ND	
10					Terminated boring at 8' (sample collected below "A" horizon)
15					
20					
25					
30					

Typical Diagram



Not to Scale

Notes: **** Sample submitted for laboratory analysis.***

Geologist:	*J. Hollis*	Driller:	*Richard Simmons Drilling*

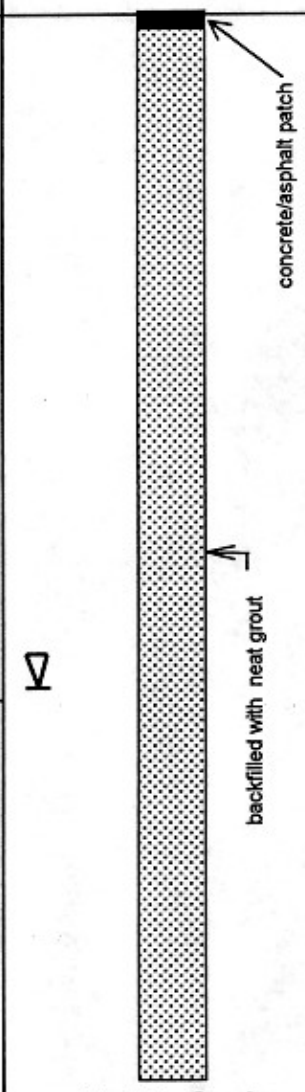
BORING LOG: SB-7

Permit #	*9496*	Drill Date	*06/19/98*	Site	*Enmark S.S #380*
Client *Enmark*		Use	*Soil Sampling*	Handex Loc. #	*116416-01*
Address	*2725 College Street, Newberry, SC*			Total Depth (ft)	*18*
Drilling Method	*HSA*	Boring Depth (ft)	*18*	Boring Diam. (in)	*6*
Backfill Material	*cement grout*			Static Water Level	*~18*
Rmrks		TOC Elevation		Sample Method	*Split Spoon*

Drummed Cuttings.

Depth (ft.)	Sample ID	Sample Depth (ft)	Blows/ 6"	OVA (ppm) unf/fil	Geologic Description
0					0-2" Asphalt.
	ss-1 1'-3'	70%	5-4-4-3	0.2 bkgd=0.2	2"-4' Tan to orange brown, very fine to fine SAND & silty CLAY, damp.
5					4'-17' Tan to orange brown, very fine SAND & silty CLAY (very micaceous), damp.
	ss-2 5'-7'	100%	4-5-7 -11	2.2 bkgd=0.2	
10					
	ss-3 10'-12'	40%	4-5-7-6	3.4 bkgd=0.2	
15					
	ss-4 * 16'-18'	50%	4-5-5-6	3.8 bkgd=0.2	17'-18' Light tan to grey, very fine to medium SAND, some silt, wet.
20					Terminated boring at 18' (in water table)
25					
30					

Typical Diagram



Not to Scale

Notes: **** Sample submitted for laboratory analysis.***

Geologist:	*J. Hollis*	Driller:	*Richard Simmons Drilling*

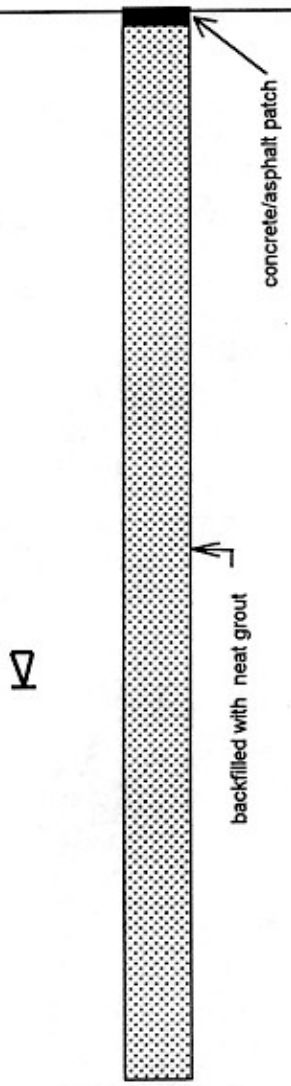
BORING LOG: SB-8

Permit #	*9496*	Drill Date	*06/19/98*	Site	*Enmark S.S #380*
Client *Enmark*		Use	*Soil Sampling*	Handex Loc. #	*116416-01*
Address	*2725 College Street, Newberry, SC*			Total Depth (ft)	*18*
Drilling Method	*HSA*	Boring Depth (ft)	*18*	Boring Diam. (in)	*6*
Backfill Material	*cement grout*			Static Water Level	*~18*
Rmrks		TOC Elevation		Sample Method	*Split Spoon*

Drummed Cuttings.

Depth (ft.)	Sample ID	Sample Depth (ft)	Blows/ 6"	OVA (ppm) unf/fil	Geologic Description
0					0-3" Asphalt.
	ss-1 1'-3'	60%	4-10 -12-13	0.2 bkgd=0.2	3"-2' Brown, very fine to medium SAND & SILT, trace fine gravel, damp.
					2'-4' Orange brown to tan brown, very fine SAND & silty CLAY, damp.
5	ss-2 5'-7'	100%	10-11 -14-1	0.2 bkgd=0.2	4'-16' Orange brown to tan brown, very fine SAND & silty CLAY (micaceous), damp.
10	ss-3 10'-12'	100%	8-10-5 -6	0.2 bkgd=0.2	
15					16'-17' Tannish brown, very fine SAND & silty CLAY, moist.
	ss-4 * 16'-18'	100%	4-4-5-7	0.6 bkgd=0.2	17'-18' Silver brown, very fine SAND & SILT (highly micaceous), wet.
20					Terminated boring at 18' (in water table)
25					
30					

Typical Diagram



Not to Scale

Notes: **** Sample submitted for laboratory analysis.***

Geologist: ***J. Hollis*** Driller: ***Richard Simmons Drilling***

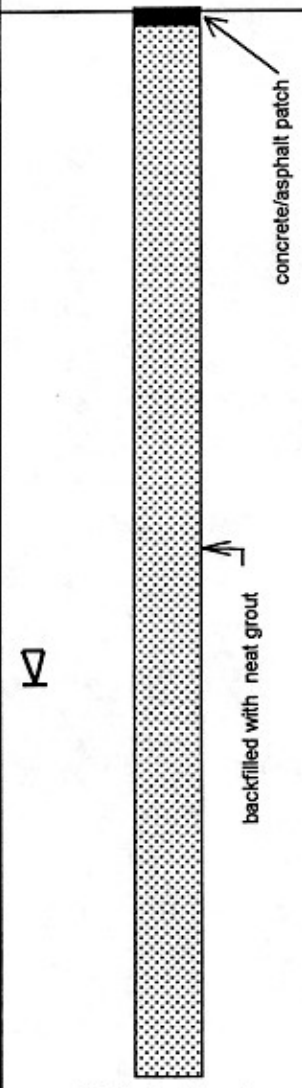
BORING LOG: SB-9

Permit #	*9496*	Drill Date	*06/19/98*	Site	*Enmark S.S #380*
Client *Enmark*		Use	*Soil Sampling*	Handex Loc. #	*116416-01*
Address	*2725 College Street, Newberry, SC*			Total Depth (ft)	*18*
Drilling Method	*HSA*	Boring Depth (ft)	*18*	Boring Diam. (in)	*6*
Backfill Material	*cement grout*			Static Water Level	*~18*
Rmrks		TOC Elevation		Sample Method	*Split Spoon*

Drummed Cuttings.

Depth (ft.)	Sample ID	Sample Depth (ft)	Blows/ 6"	OVA (ppm) unf/fil	Geologic Description
0					0-3" Grass, roots; light tan brown, very fine SAND & SILT, dry.
	ss-1 1'-3'	60%	8-8-6-7	0.5 bkgd=0.2	3"-1.5' Light tan, very fine SAND & SILT, dry.
					1.5'-4' Light brown, very fine SAND & SILT, dry.
5					4'-8' Reddish brown, very fine SAND, trace fine gravel and micaceous silt, dry.
	ss-2 5'-7'	60%	10-6-8 -9	0.5 bkgd=0.2	
					8'-10' Light reddish brown, very fine SAND, little (-) micaceous silt, damp.
10	ss-3 10'-12'	50%	7-8-5-5	0.5 bkgd=0.2	10'-18' Light brown, very fine SAND & SILT, damp.
15					
	ss-4 * 16'-18'	40%	4-5-5-6	0.6 bkgd=0.2	
20					Terminated boring at 18' (near water table)
25					
30					

Typical Diagram



Not to Scale

Notes: **** Sample submitted for laboratory analysis.***

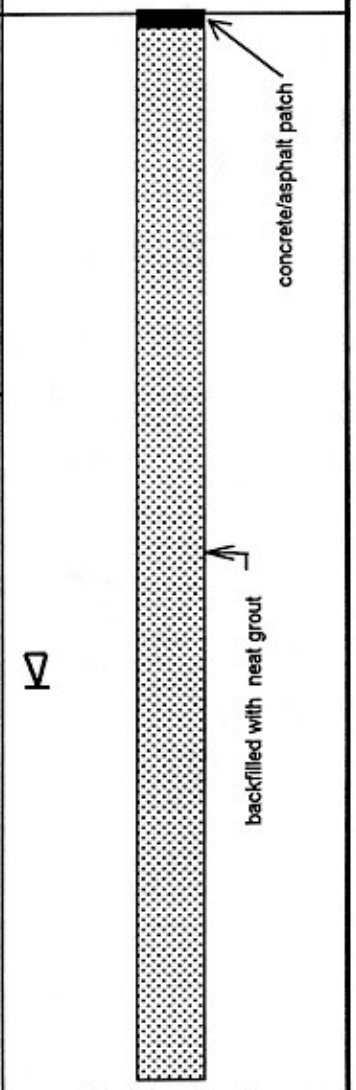
Geologist: *J. Hollis* Driller: *Richard Simmons Drilling*

BORING LOG: SB-10

Permit #	*9496*	Drill Date	*06/19/98*	Site	*Enmark S.S #380*
Client *Enmark*		Use	*Soil Sampling*	Handex Loc. #	*116416-01*
Address	*2725 College Street, Newberry, SC*			Total Depth (ft)	*10*
Drilling Method	*Push*	Boring Depth (ft)	*10*	Boring Diam. (in)	*2*
Backfill Material	*cement grout*			Static Water Level	
Rmrks		TOC Elevation		Sample Method	*Split Spoon*

Depth (ft.)	Sample ID	Sample Depth (ft)	Blows/ 6"	OVA (ppm) unf/fil	Geologic Description
0					0-6" Asphalt 6"-1' Gravel
	ss-1 * 2'-4'	50%	3-5-6-9	180	
5	ss-2 4'-6'	70%	3-6-6 -10	150	
	ss-3 6'-8'	60%	3-5-5-6	150	
	ss-4 8'-10'	60%	4-5-5-7	150	
10					Boring terminated at 10' (req'd depth)
15					
20					
25					
30					

Typical Diagram



Not to Scale

Notes: ***Sample submitted for laboratory analysis.***

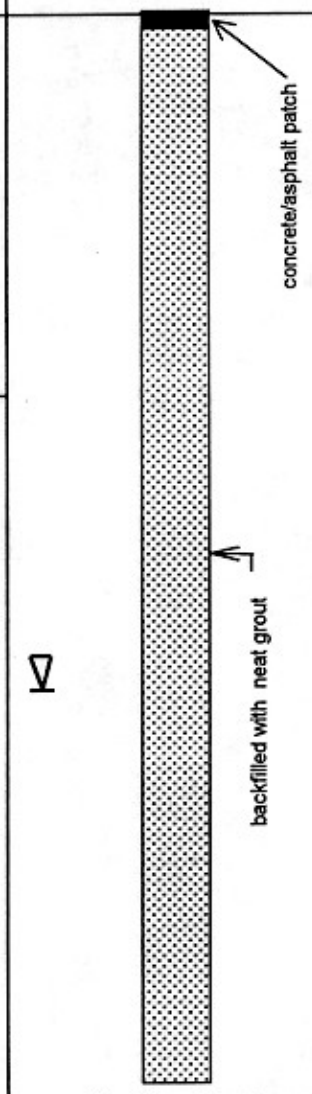
Geologist: *J. Hollis* | Driller: *Richard Simmons Drilling*

BORING LOG: SB-11

Permit #	*9496*	Drill Date	*06/19/98*	Site	*Enmark S.S #380*
Client *Enmark*		Use	*Soil Sampling*	Handex Loc. #	*116416-01*
Address	*2725 College Street, Newberry, SC*			Total Depth (ft)	*10*
Drilling Method	*Push*	Boring Depth (ft)	*10*	Boring Diam. (in)	*2*
Backfill Material	*cement grout*			Static Water Level	
Rmrks		TOC Elevation		Sample Method	*Split Spoon*

Depth (ft.)	Sample ID	Sample Depth (ft)	Blows/ 6"	OVA (ppm) unf/fil	Geologic Description
0					0-6" Asphalt 6"-1' Gravel
	ss-1 * 2'-4'	50%	4-6-10 -12	220	
5	ss-2 4'-6'	100%	8-10 -12-14	150	
	ss-3 6'-8'	80%	4-5-6-8	150	
	ss-4 8'-10'	80%	4-5-4-7	195	
10					Boring terminated at 10' (req'd depth)
15					
20					
25					
30					

Typical Diagram



Not to Scale

Notes: ***Sample submitted for laboratory analysis.***

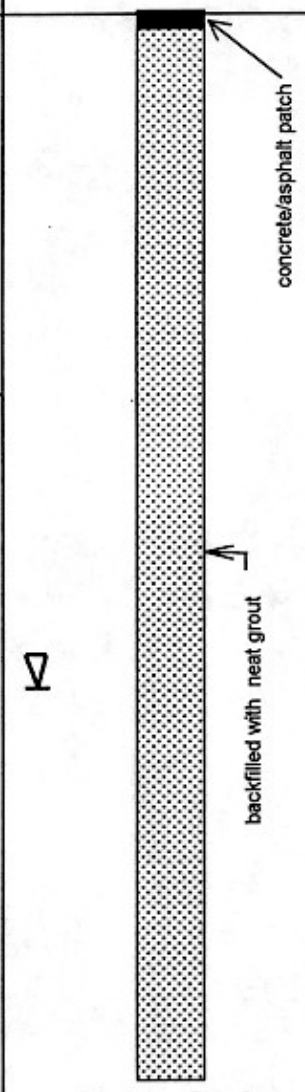
Geologist: *J. Hollis* Driller: *Richard Simmons Drilling*

BORING LOG: SB-12

Permit #	*9496*	Drill Date	*06/19/98*	Site	*Enmark S.S #380*
Client *Enmark*		Use	*Soil Sampling*	Handex Loc. #	*116416-01*
Address	*2725 College Street, Newberry, SC*			Total Depth (ft)	*10*
Drilling Method	*Push*	Boring Depth (ft)	*10*	Boring Diam. (in)	*2*
Backfill Material	*cement grout*			Static Water Level	
Rmrks		TOC Elevation		Sample Method	*Split Spoon*

Depth (ft.)	Sample ID	Sample Depth (ft)	Blows/ 6"	OVA (ppm) unf/fil	Geologic Description
0					0-6" Asphalt 6"-1' Gravel
	ss-1 2'-4'		4-4-6-6	6.2 bkgd=0.4	
5	ss-2 4'-6'		7-4-4-5	6.5 bkgd=0.4	
	ss-3 6'-8'		5-5-6-8	24	
	ss-4 * 8'-10'		6-8-8-7	42	
10					Boring terminated at 10' (req'd depth)
15					
20					
25					
30					

Typical Diagram



Not to Scale

Notes: ***Sample submitted for laboratory analysis.***

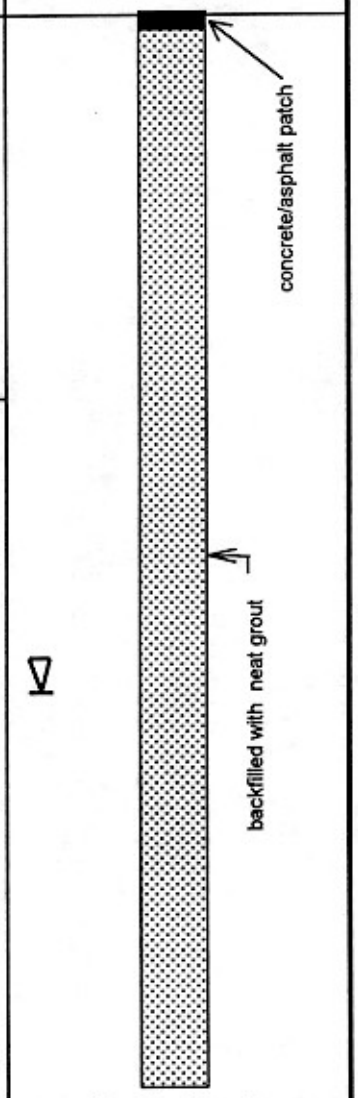
Geologist: *J. Hollis* | Driller: *Richard Simmons Drilling*

BORING LOG: SB-13

Permit #	*9496*	Drill Date	*06/19/98*	Site	*Enmark S.S #380*
Client *Enmark*		Use	*Soil Sampling*	Handex Loc. #	*116416-01*
Address	*2725 College Street, Newberry, SC*			Total Depth (ft)	*10*
Drilling Method	*Push*	Boring Depth (ft)	*10*	Boring Diam. (in)	*2*
Backfill Material	*cement grout*			Static Water Level	
Rmrks		TOC Elevation		Sample Method	*Split Spoon*

Depth (ft.)	Sample ID	Sample Depth (ft)	Blows/ 6"	OVA (ppm) unf/fil	Geologic Description
0					0-6" Asphalt 6"-1' Gravel
	ss-1 2'-4'		7-8-10 -13	1.5 bkgd=0.4	
5	ss-2 4'-6'		7-8-8-9	4.1 bkgd=0.4	
	ss-3 6'-8'		4-5-6-8	11.0 bkgd=0.5	
	ss-4 * 8'-10'		4-6-6-6	13.8 bkgd=0.4	
10					Boring terminated at 10' (req'd depth)
15					
20					
25					
30					

Typical Diagram



Not to Scale

Notes: ***Sample submitted for laboratory analysis.***

Geologist: *J. Hollis* Driller: *Richard Simmons Drilling*

Handex

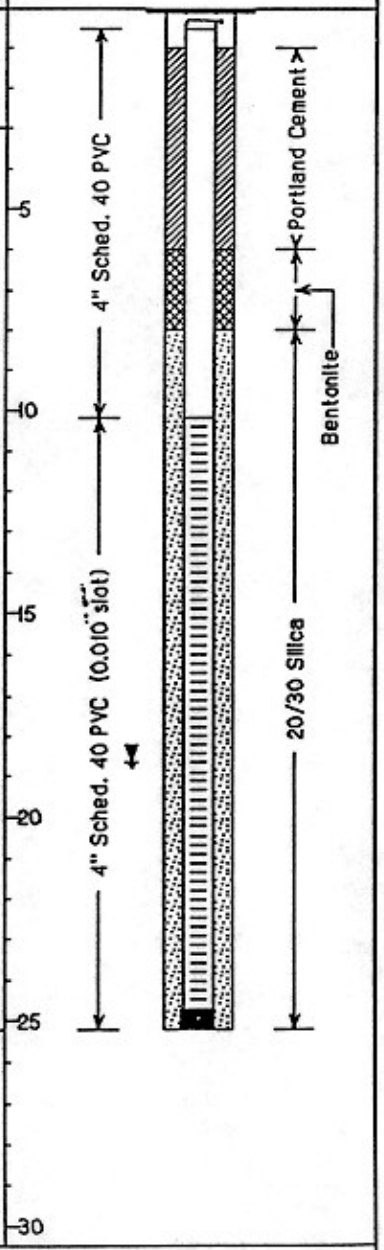
Handex of the Carolinas, Inc.

WELL LOG: MW-2

Permit #: *6651*	Drill Date: *11/27/95*	Use: *Monitoring*
Location: *2725 College Street, Newberry, SC*		Owner Loc #: *380*
Owner: *Enmark Stations, Inc.*		Handex Loc #: *110727-01*
Owner Address: *Savannah, GA*	BORING - Depth: *25.2 ft.*	Diameter: *10 in.*
Drilling Method: *Hollow Stem Auger*	CASING - Length: *9.7 ft.*	Diameter: *4 in.*
Sampling Method: *Split Spoon*	SCREEN - Length: *15 ft.*	Diameter: *4 in.*
Static Water Level: *18.66 ft. (11/28/95)*	WELL - Depth: *25.2 ft.*	

Depth (ft.)	Sample ID	Sample Depth	Blows/6 in.	OVA (ppm)	Graphic Log	Geologic Description
						Brownish-tan, very fine SAND, some (-) silt
5	SS-1		2-1-8-5	2.0		Brownish-red, very fine SAND, some (-) clay and silt (slightly micaceous)
10	SS-2		2-4-4-8	35		Red-gray to red-brown, very fine SAND, some (-) very micaceous silt. Relict feldspar formations present.
15	SS-3		2-4-4-8	300		
20	SS-4		3-4-4-8	>10K		Gray-brown, very fine SAND, some (-) very micaceous silt. Relict feldspar formations present, but harder than those observed above.
25	SS-5		1-1-2-3	81		Light gray-brown to gray-brown, very fine SAND, some (-) very micaceous silt. Relict feldspar formations present.
30						

Well Diagram



NOTES: ☒ = Sample interval/recovery; ▼ = Static Water Level (from TOC)

Handex

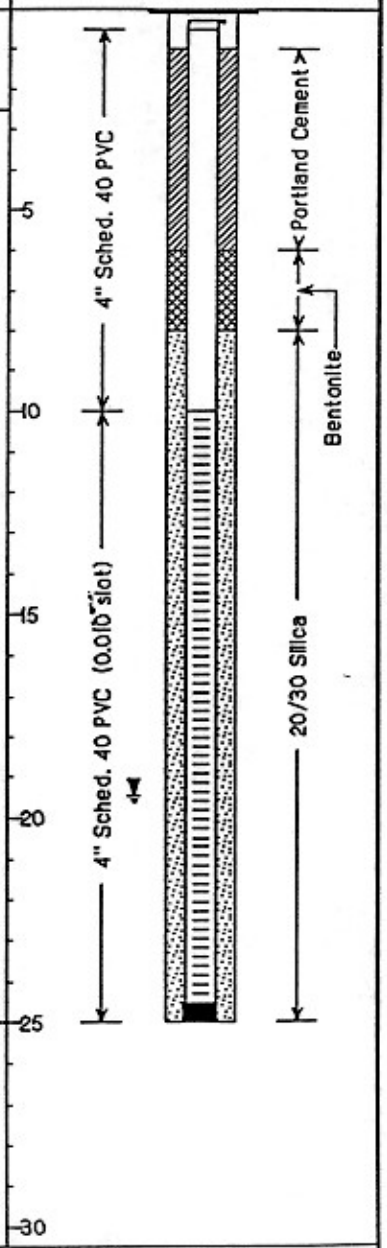
Handex of the Carolinas, Inc.

WELL LOG: MW-3

Permit #: *6651*	Drill Date: *11/27/95*	Use: *Monitoring*
Location: *2725 College Street, Newberry, SC*		Owner Loc #: *380*
Owner: *Enmark Stations, Inc.*		Handex Loc #: *110727-01*
Owner Address: *Savannah, GA*	BORING - Depth: *25 ft.*	Diameter: *10 in.*
Drilling Method: *Hollow Stem Auger*	CASING - Length: *9.5 ft.*	Diameter: *4 in.*
Sampling Method: *Auger Grab*	SCREEN - Length: *15 ft.*	Diameter: *4 in.*
Static Water Level: *19.47 ft. (11/28/95)*	WELL - Depth: *25 ft.*	

Depth (ft.)	Sample ID	Sample Depth	Blows/6 in.	OVA (ppm)	Graphic Log	Geologic Description
						Dark brown, very fine SAND, some (-) silt
						Reddish-brown, very fine SAND, some (-) clay and silt
5	GS-1	☒		ND		
						Red-brown, very fine SAND, some (-) micaceous clayey silt.
10						
15	GS-2	☒		ND		
20						
25						
30						

Well Diagram



NOTES: ☒ = Sample interval/recovery; ▼ = Static Water Level (from TOC)

Handex

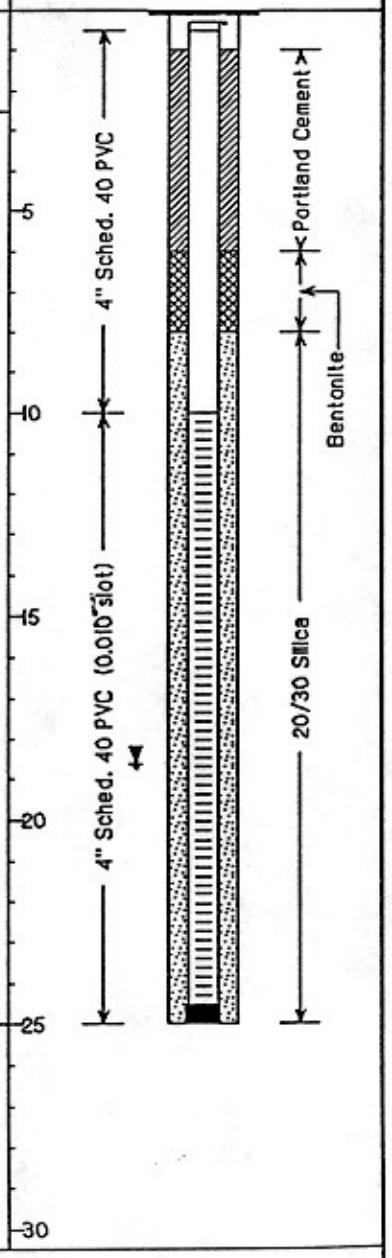
Handex of the Carolinas, Inc.

WELL LOG: MW-4

Permit #: *6651*	Drill Date: *11/27/95*	Use: *Monitoring*
Location: *2725 College Street, Newberry, SC*		Owner Loc #: *380*
Owner: *Enmark Stations, Inc.*		Handex Loc #: *110727-01*
Owner Address: *Savannah, GA*	BORING - Depth: *25 ft.*	Diameter: *10 in.*
Drilling Method: *Hollow Stem Auger*	CASING - Length: *9.5 ft.*	Diameter: *4 in.*
Sampling Method: *Auger Grab*	SCREEN - Length: *15 ft.*	Diameter: *4 in.*
Static Water Level: *18.62 ft. (11/28/95)*	WELL - Depth: *25 ft.*	

Depth (ft.)	Sample ID	Sample Depth	Blows/6 in.	OVA (ppm)	Graphic Log	Geologic Description
						Dark brown, very fine SAND, some (-) silt
						Reddish-brown, very fine SAND, some (-) clay and silt
5						Red-brown, very fine SAND, some (-) micaceous clayey silt.
10						
15						
20	GS-1	☒		>10K		
25						
30						

Well Diagram



NOTES: ☒ = Sample interval/recovery; ▼ = Static Water Level (from TOC)

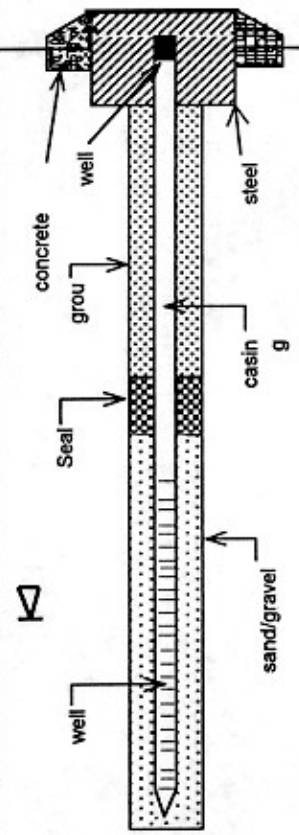
WELL LOG: MW-5

Permit #	9496	Drill Date	06/18/99	Site	Enmark S.S. #380
Client Enmark		Use	Monitoring Well	Handex Loc. #	116416-01
Address	2725 College Street, Newberry, SC			Total Depth (ft)	25
Drilling Method	HSA	Boring Depth (ft)	25	Boring Diam. (in)	6
Casing/Scrn. Mat	Sch. 40 PVC	Csg/Scrn Diam (in)	2	Csg Length(ft)	15
Grout Type	Portland	Grout Interval (ft)	1 to 11	Scrn Length (ft)	10
Csg Seal Type	Bentonite	Seal Interval (ft)	11 to 13	Scrn Slot Size (in)	0.010
Sand Pack Type	#2 Gravel	Sand Interval (ft)	13 to 25	Static Water Level	~18
Rmrks		TOC Elevation	542.67	Sample Method	NA

Drummed cuttings.

Depth (ft.)	Sample ID	Sample Depth (ft)	Blows/ 6"	OVA (ppm) unf/fil	Geologic Description
0					0-4" Asphalt 4"-1' Grey, very fine to fine SAND & SILT, some gravel, dry. 1'-8' Orange brown, very fine to fine SAND & SILT, damp.
10					8'-17' Light orange brown, very fine to fine SAND & SILT, damp.
20					17'-19' Orange to tan brown, very fine to fine SAND & SILT, moist. 19'-25' Brown, very fine to fine SAND & SILT (highly micaceous), wet.
30					
40					
50					

Typical Diagram



Not to Scale

Notes:

Geologist: J. Hollis

Driller: Richard Simmons Drilling

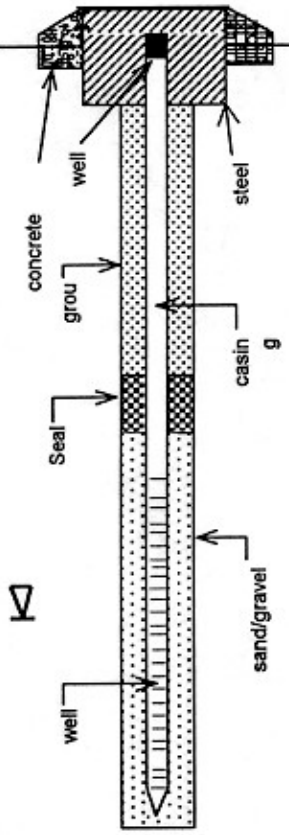
WELL LOG: MW-6

Permit #	9496	Drill Date	06/18/99	Site	Enmark S.S. #380
Client Enmark		Use	Monitoring Well	Handex Loc. #	116416-01
Address	2725 College Street, Newberry, SC			Total Depth (ft)	25
Drilling Method	HSA	Boring Depth (ft)	25	Boring Diam. (in)	6
Casing/Scrn. Mat	Sch. 40 PVC	Csg/Scrn Diam (in)	2	Csg Length(ft)	15
Grout Type	Portland	Grout Interval (ft) 1	to 11	Scrn Length (ft)	10
Csg Seal Type	Bentonite	Seal Interval (ft) 11	to 13	Scrn Slot Size (in)	0.010
Sand Pack Type	#2 Gravel	Sand Interval (ft) 13	to 25	Static Water Level	~18
Rmrks		TOC Elevation	542.49	Sample Method	NA

Drummed cuttings.

Depth (ft.)	Sample ID	Sample Depth (ft)	Blows/ 6"	OVA (ppm) unf/fil	Geologic Description
0					0-4" Asphalt
					4"-1' Grey, very fine to fine SAND & SILT, some gravel, dry.
					1'-17' Orange brown, very fine to fine SAND & SILT, damp.
10					
					17'-19' Orange to tan brown, very fine SAND & SILT, moist
20				120 @18'	19'-25' Brown, very fine to fine SAND & SILT (very micaceous), wet.
30					
40					
50					

Typical Diagram



Not to Scale

Notes:

Geologist: J. Hollis

Driller: Richard Simmons Drilling

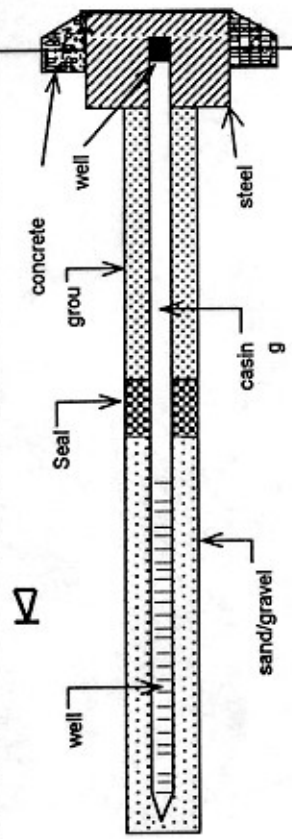
WELL LOG: MW-7

Permit #	9496	Drill Date	06/18/99	Site	Enmark S.S. #380
Client	Enmark	Use	Monitoring Well	Handex Loc. #	116416-01
Address	2725 College Street, Newberry, SC			Total Depth (ft)	25
Drilling Method	HSA	Boring Depth (ft)	25	Boring Diam. (in)	6
Casing/Scrn. Mat	Sch. 40 PVC	Csg/Scrn Diam (in)	2	Csg Length(ft)	15
Grout Type	Portland	Grout Interval (ft)	1 to 11	Scrn Length (ft)	10
Csg Seal Type	Bentonite	Seal Interval (ft)	11 to 13	Scrn Slot Size (in)	0.010
Sand Pack Type	#2 Gravel	Sand Interval (ft)	13 to 25	Static Water Level	~18
Rmrks		TOC Elevation	542.85	Sample Method	NA

Drummed cuttings.

Depth (ft.)	Sample ID	Sample Depth (ft)	Blows/ 6"	OVA (ppm) unf/fil	Geologic Description
0					0-6" Roots, grass, etc., moist.
					6"-3' Brown, very fine to fine SAND, damp.
					3'-10' Brownish red, very fine SAND & SILT, damp.
10					10'-18' Reddish brown, very fine SAND & SILT, damp.
20				200 @18'	18'-25' Brown, very fine SAND & SILT, moist.
30					
40					
50					

Typical Diagram



Not to Scale

Notes:

Geologist: J. Hollis

Driller: Richard Simmons Drilling

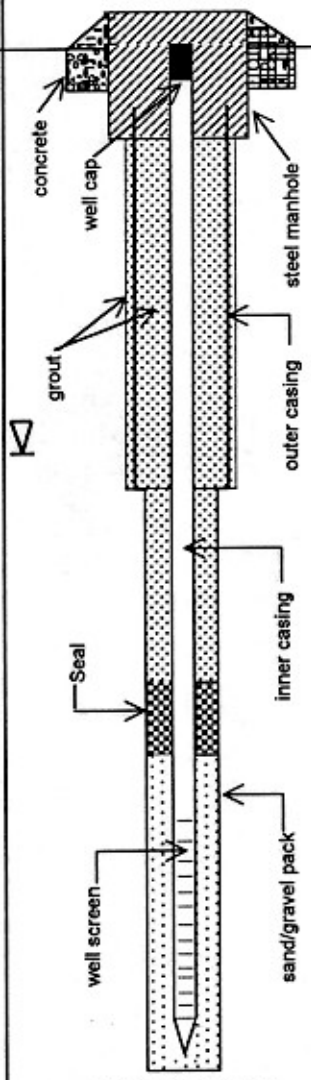
WELL LOG: MW-8D

Permit #	9496	Drill Date	6/17-18/98	Site	Enmark S.S. #380
Client	Enmark	Use	Monitoring Well	Handex Loc. #	116416-01
Address	2725 College Street, Newberery, SC			Total Depth (ft)	45
Drilling Meth. (oute	HSA	Outer Boring Depth (ft	30	Outer Brng Diam (i	10.25
Outer Casing Mat	PVC	Outer Casing Diam (in	6	Outer Csg Length	29.5
Drillin Meth. (inner)	Mud Rotary				
Casing/Scrn. Mat	PVC	Casing/Scrn Diam (in)	2	Casing Length(ft)	40
Grout Type	Neat Portlan	Grout Interval (ft)	1 to 36	Screen Length (ft)	5
Casing Seal Type	Neat Portlan	Seal Interval (ft)	36 to 38	Scrn. Slot Size (in)	0.010
Sand Pack Type	#2 Gravel	Sand Interval (ft)	38 to 45	Static Water Level	~18
Rmrks		TOC Elevation	542.77	Sample Method	N/A

Drummed Cuttings.

Depth (ft.)	Sample ID	Sample Depth (ft)	Blows/ 6"	OVA (ppm) unf/fil	Geologic Description
0					0-4" Asphalt 4"-1' Grey, very fine to fine SAND & SILT, some gravel, dry. 1'-8' Orange brown, very fine to fine SAND & SILT, damp.
5					
					8'-17' Light orange brown, very fine to fine SAND & SILT, damp.
10					
15					
					17'-19' Orange to tan brown, very fine to fine SAND & SILT, moist. 19'-42' Brown, very fine to fine SAND & SILT (highly micaceous), wet.
20					
25					
30					

Typical Diagram



Not to Scale

Notes:

Geologist: J. Hollis

Driller: Richard Simmons Drilling

WELL LOG: MW-8D

Page 2	Drill Date 6/17-18/98	Site	Enmark S.S. #380
Address	2725 College Street, Newberery, SC	Handex Loc. #	116416-01

Depth (ft.)	Sample ID	Sample Depth (ft)	Blows/ 6"	OVA (ppm) unf/fil	Geologic Description	
30						
35						
40					42'-45' Brown, very fine to fine SAND & SILT (highly micaceous), some fine gravel, saturated..	
45					45' Competent bedrock.	
50						
55						
60						
65						
70						

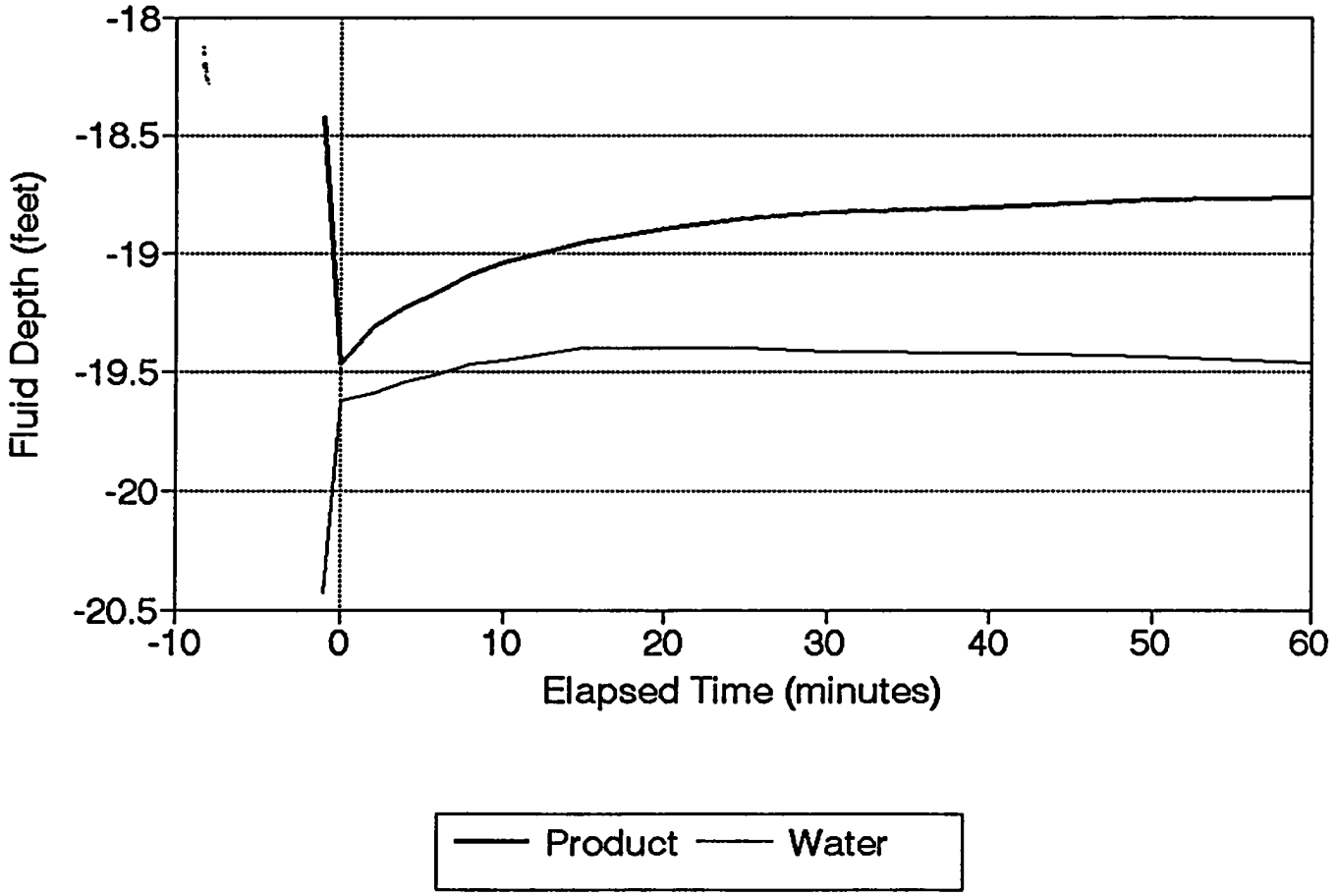
Notes:

APPENDIX B

LPH BAILDOWN TEST

Newberry, SC Enmark

MW-4 Baildown Test, 12/14/95



Newberry, SC Enmark
MW-4 Baildown Test
12/14/95

Elapsed Time	DTP	DTW	PT	Comment
-1	-18.42	-20.43	2.01	Static
0	-19.47	-19.62	0.15	Bailed
2	-19.31	-19.59	0.28	Recovery
4	-19.22	-19.54	0.32	Recovery
6	-19.16	-19.51	0.35	Recovery
8	-19.09	-19.47	0.38	Recovery
10	-19.03	-19.45	0.42	Recovery
15	-18.95	-19.40	0.45	Recovery
20	-18.89	-19.40	0.51	Recovery
25	-18.85	-19.40	0.55	Recovery
30	-18.82	-19.41	0.59	Recovery
40	-18.80	-19.42	0.62	Recovery
50	-18.77	-19.44	0.67	Recovery
60	-18.76	-19.46	0.70	End Test

APPENDIX C

SLUG TEST RESULTS/GROUNDWATER FLOW EQUATIONS

EQUATIONS USED FOR ESTIMATING GROUND-WATER VELOCITY AND TRANSMISSIVITY

To estimate the **average ground-water velocity**, the following modified Darcian flow equation was used:

EQUATION: $$Vh = \frac{(Kh) * (I)}{n_e}$$

WHERE:

Vh	=	Average Horizontal Seepage Velocity (feet/day)
Kh	=	Average Horizontal Hydraulic Conductivity (feet/day)
I	=	Hydraulic Gradient (feet/feet)
n_e	=	Effective Porosity (percentage)

THEREFORE: $$Vh = \frac{(9.97 \times 10^{-2} \text{ feet/day}) * (0.018 \text{ feet/feet})}{0.25}$$

Vh = 0.00718 feet/day or 2.6 feet/year

The **transmissivity** of the surficial aquifer was estimated using the following equation:

EQUATION: **T = Kh * b**

WHERE:

T	=	Transmissivity ($feet^2$/day)
Kh	=	Horizontal Hydraulic Conductivity (feet/day)
b	=	Saturated Thickness of Aquifer (feet)

THEREFORE: $T = (9.97 \times 10^{-2} \text{ feet/day}) * (27 \text{ feet})$

T = 2.69 $feet^2$/day

HANDEX®

SUMMARY of SLUG TEST

SOUTH CAROLINA
Department of Health and Environmental Control (DHEC)

Site Data

SITE ID: # 06588-02 COUNTY NEWBERRY

FACILITY NAME ENMARK SERVICE STATION #380

Slug Data

See Appendix B Table_____ Figure_____ for a list of all data measurements.
(water level logs, etc.) (Complete as appropriate).

Water Level Recovery Data was measured by HERMIT DATA LOGGER.
(Hermit Data Logger, Manually with Water Level Indicator, etc.) (List Method).

Complete the following table for each well tested.
COMPLETE A SECOND SHEET IF MORE THAN FOUR WELLS ARE TESTED

Slug Test Conducted in well(s) number	MW-3	MW-5	MW-6	MW-7
Initial Rise/Drawdown in well (feet)	2.15	0.57	0.75	1.48
Radius of Well Casing (feet)	0.167	0.083	0.083	0.083
Effective Radius of Well (feet)	0.417	0.333	0.333	0.333
Static Saturated Aquifer Thickness (feet)	27	27	27	27
Length of Well Screen (feet)	15	10	10	10
Static Height of Water Column in Well (ft)	7.5	7.3	7.4	7.5

Calculations

See Appendix B Table_____ Figure_____ for calculations. (Complete as appropriate).

The method for aquifer calculations was BOUWER & RICE (i.e. Bouwer-Rice, Cooper, etc.

Calculated values by well were as follows:

Slug Test Conducted in well(s) number	MW-3	MW-5	MW-6	MW-7
Hydraulic Conductivity (ft/min)	6.633×10^{-6}	1.699×10^{-4}	9.878×10^{-5}	1.636×10^{-6}

Thickness of the aquifer used to calculate hydraulic conductivity was 27 feet.

The aquifer is _____ confined _____ semi-confined X water table (Check as appropriate).

The estimated seepage velocity is 2.6 feet per year based on
a hydraulic conductivity of 9.97×10^{-2} ft/day, a hydraulic gradient of 0.018, and
a porosity of 25 per cent for silty sand soil (list type i.e., silty sand ,clay, etc).

SUMMARY of SLUG TEST

MW-3

SE2000
Environmental Logger
03/01 11:43

Unit# 795 Test 2

INPUT 1: Level (F) TOC

Reference 17.490
PSI at Ref. 3.527
SG 1.000
Linearity 0.048
Scale factor 10.006
Offset 0.032
Delay mSEC 50.000

Step 0 02/26 13:45:32

Elapsed Time	INPUT 1
0.0000	19.642
0.0083	19.632
0.0166	19.623
0.0250	19.610
0.0333	19.600
0.0416	19.591
0.0500	19.585
0.0583	19.575
0.0666	19.563
0.0750	19.553
0.0833	19.547
0.0916	19.544
0.1000	19.534
0.1083	19.528
0.1166	19.521
0.1250	19.512
0.1333	19.506
0.1416	19.499
0.1500	19.493
0.1583	19.487
0.1666	19.480
0.1750	19.474
0.1833	19.468
0.1916	19.464
0.2000	19.458
0.2083	19.455
0.2166	19.449
0.2250	19.442
0.2333	19.439
0.2416	19.436
0.2500	19.430
0.2583	19.426
0.2666	19.423
0.2750	19.420
0.2833	19.414
0.2916	19.411
0.3000	19.407
0.3083	19.404
0.3166	19.401
0.3250	19.398
0.3333	19.395
0.3500	19.389
0.3666	19.382
0.3833	19.379
0.4000	19.373
0.4166	19.370
0.4333	19.363
0.4500	19.360
0.4666	19.357
0.4833	19.354
0.5000	19.351
0.5166	19.347
0.5333	19.344
0.5500	19.341
0.5666	19.338
0.5833	19.338
0.6000	19.335
0.6166	19.332
0.6333	19.332
0.6500	19.328
0.6666	19.328
0.6833	19.325
0.7000	19.325
0.7166	19.322
0.7333	19.319
0.7500	19.319
0.7666	19.316
0.7833	19.316
0.8000	19.316
0.8166	19.313
0.8333	19.313
0.8500	19.309
0.8666	19.309
0.8833	19.309
0.9000	19.306
0.9166	19.306
0.9333	19.306
0.9500	19.303
0.9666	19.303
0.9833	19.303
1.0000	19.300
1.2000	19.290
1.4000	19.281
1.6000	19.275
1.8000	19.268
2.0000	19.262
2.2000	19.256
2.4000	19.252
2.6000	19.249
2.8000	19.243
3.0000	19.240
3.2000	19.237
3.4000	19.233
3.6000	19.230
3.8000	19.227
4.0000	19.224
4.2000	19.221
4.4000	19.218
4.6000	19.218
4.8000	19.214
5.0000	19.211
5.2000	19.211
5.4000	19.205
5.6000	19.205
5.8000	19.205
6.0000	19.202
6.2000	19.199
6.4000	19.199
6.6000	19.196
6.8000	19.196
7.0000	19.192
7.2000	19.192
7.4000	19.189
7.6000	19.189
7.8000	19.186
8.0000	19.183
8.2000	19.183
8.4000	19.183
8.6000	19.180
8.8000	19.180
9.0000	19.180
9.2000	19.177
9.4000	19.177
9.6000	19.173
9.8000	19.173
10.0000	19.173
12.0000	19.164
14.0000	19.154
16.0000	19.148
18.0000	19.142
20.0000	19.135
22.0000	19.132
24.0000	19.129
26.0000	19.126
28.0000	19.123

MW-5

SE2000
Environmental Logger
03/01 11:41

Unit# 795 Test 1

INPUT 1: Level (F) TOC

Reference 17.660
PSI at Ref. 3.349
SG 1.000
Linearity 0.048
Scale factor 10.006
Offset 0.032
Delay mSEC 50.000

Step 0 02/26 12:50:34

Elapsed Time	INPUT 1
0.0000	18.229
0.0083	18.185
0.0166	18.153
0.0250	18.122
0.0333	18.099
0.0416	18.077
0.0500	18.055
0.0583	18.039
0.0666	18.027
0.0750	18.014
0.0833	18.001
0.0916	17.992
0.1000	17.986
0.1083	17.976
0.1166	17.970
0.1250	17.963
0.1333	17.957
0.1416	17.951
0.1500	17.948
0.1583	17.941
0.1666	17.938
0.1750	17.932
0.1833	17.929
0.1916	17.922
0.2000	17.919
0.2083	17.916
0.2166	17.913
0.2250	17.910
0.2333	17.906
0.2416	17.903
0.2500	17.900
0.2583	17.897
0.2666	17.894
0.2750	17.894
0.2833	17.891
0.2916	17.887
0.3000	17.887
0.3083	17.884
0.3166	17.881
0.3250	17.881
0.3333	17.878
0.3500	17.875
0.3666	17.872
0.3833	17.865
0.4000	17.865
0.4166	17.862
0.4333	17.859
0.4500	17.856
0.4666	17.853
0.4833	17.849
0.5000	17.846
0.5166	17.843
0.5333	17.843
0.5500	17.840
0.5666	17.837
0.5833	17.837
0.6000	17.834
0.6166	17.834
0.6333	17.830
0.6500	17.827
0.6666	17.824
0.6833	17.824
0.7000	17.821
0.7166	17.821
0.7333	17.818
0.7500	17.818
0.7666	17.818
0.7833	17.818
0.8000	17.815
0.8166	17.811
0.8333	17.811
0.8500	17.808
0.8666	17.808
0.8833	17.805
0.9000	17.805
0.9166	17.805
0.9333	17.802
0.9500	17.802
0.9666	17.802
0.9833	17.799
1.0000	17.796
1.2000	17.783
1.4000	17.773
1.6000	17.764
1.8000	17.754
2.0000	17.748
2.2000	17.742
2.4000	17.735
2.6000	17.732
2.8000	17.726
3.0000	17.723
3.2000	17.720
3.4000	17.716
3.6000	17.713
3.8000	17.710
4.0000	17.707
4.2000	17.704
4.4000	17.704
4.6000	17.701
4.8000	17.697
5.0000	17.697
5.2000	17.697
5.4000	17.694
5.6000	17.694
5.8000	17.691
6.0000	17.691
6.2000	17.688
6.4000	17.688
6.6000	17.688
6.8000	17.688
7.0000	17.685
7.2000	17.685
7.4000	17.685
7.6000	17.682
7.8000	17.682
8.0000	17.682
8.2000	17.682
8.4000	17.678
8.6000	17.678
8.8000	17.678
9.0000	17.678
9.2000	17.678
9.4000	17.678
9.6000	17.675
9.8000	17.675
10.0000	17.675
12.0000	17.672
14.0000	17.669
16.0000	17.666
18.0000	17.666
20.0000	17.666
22.0000	17.666
24.0000	17.663

MW-6

SE2000
Environmental Logger
03/01 11:40

Unit# 795 Test 0

INPUT 1: Level (F) TOC

Reference 17.560
PSI at Ref. 3.442
SG 1.000
Linearity 0.048
Scale factor 10.006
Offset 0.032
Delay mSEC 50.000

Step 0 02/26 11:58:20

Elapsed Time	INPUT 1
0.0000	18.313
0.0083	18.284
0.0166	18.259
0.0250	18.234
0.0333	18.208
0.0416	18.183
0.0500	18.158
0.0583	18.136
0.0666	18.113
0.0750	18.091
0.0833	18.072
0.0916	18.050
0.1000	18.034
0.1083	18.015
0.1166	18.000
0.1250	17.981
0.1333	17.965
0.1416	17.952
0.1500	17.939
0.1583	17.927
0.1666	17.914
0.1750	17.901
0.1833	17.892
0.1916	17.882
0.2000	17.870
0.2083	17.860
0.2166	17.851
0.2250	17.841
0.2333	17.832
0.2416	17.825
0.2500	17.816
0.2583	17.810
0.2666	17.800
0.2750	17.794
0.2833	17.787
0.2916	17.781
0.3000	17.775
0.3083	17.768
0.3166	17.765
0.3250	17.759
0.3333	17.753
0.3500	17.743
0.3666	17.734
0.3833	17.724
0.4000	17.715
0.4166	17.708
0.4333	17.699
0.4500	17.692
0.4666	17.686
0.4833	17.680
0.5000	17.673
0.5166	17.667
0.5333	17.664
0.5500	17.658
0.5666	17.654
0.5833	17.648
0.6000	17.642
0.6166	17.639
0.6333	17.635
0.6500	17.632
0.6666	17.626
0.6833	17.623
0.7000	17.620
0.7166	17.616
0.7333	17.613
0.7500	17.610
0.7666	17.607
0.7833	17.604
0.8000	17.601
0.8166	17.597
0.8333	17.597
0.8500	17.594
0.8666	17.591
0.8833	17.588
0.9000	17.585
0.9166	17.585
0.9333	17.582
0.9500	17.578
0.9666	17.578
0.9833	17.575
1.0000	17.575
1.2000	17.556
1.4000	17.547
1.6000	17.541
1.8000	17.534
2.0000	17.531
2.2000	17.534
2.4000	17.534
2.6000	17.534
2.8000	17.534
3.0000	17.537
3.2000	17.541
3.4000	17.541
3.6000	17.544
3.8000	17.547
4.0000	17.550
4.2000	17.550
4.4000	17.553
4.6000	17.556
4.8000	17.556
5.0000	17.560
5.2000	17.563
5.4000	17.566
5.6000	17.566
5.8000	17.569
6.0000	17.569
6.2000	17.572
6.4000	17.575
6.6000	17.575
6.8000	17.575
7.0000	17.578
7.2000	17.582
7.4000	17.582
7.6000	17.585
7.8000	17.585
8.0000	17.585
8.2000	17.588
8.4000	17.588
8.6000	17.591
8.8000	17.591
9.0000	17.591
9.2000	17.594
9.4000	17.594
9.6000	17.597
9.8000	17.597
10.0000	17.597
12.0000	17.607
14.0000	17.613
16.0000	17.616
18.0000	17.620
20.0000	17.623
22.0000	17.626

MW-7

SE2000
Environmental Logger
03/01 11:45

Unit# 795 Test 3

INPUT 1: Level (F) TOC

Reference 17.490
PSI at Ref. 3.527
SG 1.000
Linearity 0.048
Scale factor 10.006
Offset 0.032
Delay mSEC 50.000

Step 0 02/26 14:32:36

Elapsed Time	INPUT 1
0.0000	18.965
0.0083	18.863
0.0166	18.771
0.0250	18.683
0.0333	18.597
0.0416	18.509
0.0500	18.442
0.0583	18.382
0.0666	18.335
0.0750	18.294
0.0833	18.256
0.0916	18.218
0.1000	18.186
0.1083	18.157
0.1166	18.132
0.1250	18.113
0.1333	18.091
0.1416	18.072
0.1500	18.056
0.1583	18.040
0.1666	18.028
0.1750	18.012
0.1833	18.002
0.1916	17.993
0.2000	17.983
0.2083	17.974
0.2166	17.968
0.2250	17.961
0.2333	17.955
0.2416	17.949
0.2500	17.942
0.2583	17.936
0.2666	17.930
0.2750	17.923
0.2833	17.917
0.2916	17.914
0.3000	17.911
0.3083	17.907
0.3166	17.901
0.3250	17.898
0.3333	17.892
0.3500	17.882
0.3666	17.873
0.3833	17.863
0.4000	17.854
0.4166	17.844
0.4333	17.838
0.4500	17.825
0.4666	17.816
0.4833	17.803
0.5000	17.790
0.5166	17.774
0.5333	17.762
0.5500	17.746
0.5666	17.730
0.5833	17.714
0.6000	17.705
0.6166	17.689
0.6333	17.676
0.6500	17.667
0.6666	17.654
0.6833	17.645
0.7000	17.635
0.7166	17.626
0.7333	17.616
0.7500	17.607
0.7666	17.600
0.7833	17.591
0.8000	17.584
0.8166	17.578
0.8333	17.572
0.8500	17.565
0.8666	17.562
0.8833	17.556
0.9000	17.553
0.9166	17.546
0.9333	17.543
0.9500	17.540
0.9666	17.534
0.9833	17.534
1.0000	17.531
1.2000	17.502
1.4000	17.493
1.6000	17.490
1.8000	17.486
2.0000	17.486
2.2000	17.486
2.4000	17.483
2.6000	17.486
2.8000	17.486
3.0000	17.486
3.2000	17.490
3.4000	17.490
3.6000	17.490
3.8000	17.493
4.0000	17.493
4.2000	17.493
4.4000	17.493
4.6000	17.496
4.8000	17.496
5.0000	17.496
5.2000	17.499
5.4000	17.499
5.6000	17.502
5.8000	17.502
6.0000	17.502
6.2000	17.502
6.4000	17.502
6.6000	17.505
6.8000	17.505
7.0000	17.505
7.2000	17.505
7.4000	17.508
7.6000	17.508
7.8000	17.512
8.0000	17.508
8.2000	17.512
8.4000	17.512
8.6000	17.512
8.8000	17.515
9.0000	17.512
9.2000	17.515
9.4000	17.515
9.6000	17.515
9.8000	17.515
10.0000	17.515
12.0000	17.524
14.0000	17.531
16.0000	17.537
18.0000	17.543
20.0000	17.546
22.0000	17.553
24.0000	17.556
26.0000	17.556

APPENDIX D

LABORATORY ANALYTICAL REPORTS - SOIL

HANDEX®

SPECIALIZED ASSAYS, INC.

2960 Foster Creighton Dr.
P.O. Box 40566
Nashville, TN 37204-0566
Phone 1-615-726-0177

ANALYTICAL REPORT

[illegible] CAROLINAS [illegible]
[illegible] WITTEK
[illegible] WOODPARK BLVD
[illegible]

Lab Number [illegible]
Sample ID [illegible]
Sample Type [illegible]

Project: [illegible]
Project Name: ENMARK 380
Sampler: J HOLLIS

Date Collected: [illegible]
Time Collected
Date Received: [illegible]
Time Received: [illegible]

Analyte	Result	Units	Report Limit	Quan Limit	Dil Factor	Date	Time	Analyst	Method	Batch
ORGANIC PARAMETERS										
Benzene	ND	mg/kg	0.14	0.10	1	[illegible]	[illegible]	Ciesielski	8021B	[illegible]
Toluene	ND	mg/kg	0.14	0.10	1	6/30/98	23:55	Ciesielski	8021B	[illegible]
Ethylbenzene	ND	mg/kg	0.14	0.10	1	6/30/98	23:55	Ciesielski	8021B	[illegible]
Xylenes, total	ND	mg/kg	0.14	0.10	1	6/30/98	23:55	Ciesielski	8021B	[illegible]
TPH (Diesel Range)	ND	mg/kg	13.5	4.00	1	7/ 3/98	[illegible]	K Phelps	8015B/[illegible]	[illegible]
Naphthalene	ND	mg/kg	0.223	0.165	1	7/ 4/98	9:57	M.Goodrich	8270	4724
Naphthalene	ND	mg/kg	0.0068	0.0050	1	6/30/98	23:55	Ciesielski	8021B	[illegible]
Acenapthene	ND	mg/kg	0.223	0.165	1	7/ 4/98	9:57	M.Goodrich	8270	4724
Anthracene	ND	mg/kg	0.223	0.165	1	7/ 4/98	9:57	M.Goodrich	8270	4724
Fluoranthene	ND	mg/kg	0.223	0.165	1	7/ 4/98	9:57	M.Goodrich	8270	4724
Fluorene	ND	mg/kg	0.223	0.165	1	7/ 4/98	9:57	M.Goodrich	8270	4724
Pyrene	ND	mg/kg	0.223	0.165	1	7/ 4/98	9:57	M.Goodrich	8270	4724
Benzo(a)anthracene	ND	mg/kg	0.223	0.165	1	7/ 4/98	9:57	M.Goodrich	8270	4724
Benzo(a)pyrene	ND	mg/kg	0.223	0.165	1	7/ 4/98	9:57	M.Goodrich	8270	4724
Benzo(b)fluoranthene	ND	mg/kg	0.223	0.165	1	7/ 4/98	9:57	M.Goodrich	8270	4724
Benzo(k)fluoranthene	ND	mg/kg	0.223	0.165	1	7/ 4/98	9:57	M.Goodrich	8270	4724
Chrysene	ND	mg/kg	0.223	0.165	1	7/ 4/98	9:57	M.Goodrich	8270	4724
Dibenzo(a,h)anthracene	ND	mg/kg	0.223	0.165	1	7/ 4/98	9:57	M.Goodrich	8270	4724
Indeno(1,2,3-cd)pyrene	ND	mg/kg	0.223	0.165	1	7/ 4/98	9:57	M.Goodrich	8270	4724
Acenapthylene	ND	mg/kg	0.223	0.165	1	7/ 4/98	9:57	M.Goodrich	8270	4724
Benzo(g,h,i)perylene	ND	mg/kg	0.223	0.165	1	7/ 4/98	9:57	M.Goodrich	8270	4724
Phenanthrene	ND	mg/kg	0.223	0.165	1	7/ 4/98	9:57	M.Goodrich	8270	4724
GENERAL CHEMISTRY PARAMETERS										
% Dry Weight	74.	%			1	6/30/98	10:48	Fitzwater	CLP	9362

ND = Not detected at the report limit.

Sample Extraction Data

Parameter	Wt/Vol Extracted	Extract Vol	Date	Analyst	Method
DRA's	30.0 gm	1.0 ml	7/ 1/98	Fitzwater	3550

RECEIVED
JUL 20 1998

SPECIALIZED ASSAYS, INC.

2960 Foster Creighton Dr.
P.O. Box 40566
Nashville, TN 37204-0566
Phone 1-615-726-0177

ANALYTICAL REPORT

Laboratory Number 98-A12106
Sample ID. 98-[illegible] 17-19

Sample Extraction Data

Parameter	Wt/Vol Extracted	Extract Vol	Date	Analyst	Method
EPH/DRO	25.0 gm	1.0 ml	7/ 2/98	Fitzwater	3550

Surrogate	% Recovery	Target Range
Surr-o,4,a-trifluorotoluene	102.	50. - 150.
Surr-o-terphenyl	67	50. - 150
Surr-Nitrobenzene-d5	43	26 - 110
Surr-2-fluorobiphenyl	47.	26 - 111
Surr-terphenyl d14	57.	35 - 132

All samples have been corrected for dry weight.

Report Approved By: Michael H. Dunn Report Date: 7/14/98

Theodore J. Duello, Ph.D., Q.A Officer
Michael H. Dunn, M.S., Technical Director
Danny B. Hale, M.S., Laboratory Director

Laboratory Certification Number. 387

SPECIALIZED ASSAYS, INC.

2960 Foster Creighton Dr.
P.O. Box 40566
Nashville, TN 37204-0566
Phone 1-615-726-0177

ANALYTICAL REPORT

ANCEY OF THE CAROLINAS [illegible]
ILL WITTEK
3500-C WOODPARK BLVD
CHARLOTTE, NC 28206

Lab Number: [illegible]
Sample ID: SB-2 10-12
Sample Type: Soil
Site ID

Date Collected: 6/17/98
Time Collected
Date Received: 6/23/98
Time Received: 9.00

Project: 116416-01
Project Name: ENMARK 380
Sampler: J HOLLIS

Analyte	Result	Units	Report Limit	Scan Limit	Dil Factor	Date	Time	Analyst	Method	Batch
ORGANIC PARAMETERS										
Benzene	ND	mg/kg	0.15	0.10	1	7/ 1/98	9:29	Ciesielski	8020	3119
Toluene	ND	mg/kg	0.15	0.10	1	7/ 1/98	9:29	Ciesielski	8020	3119
Ethylbenzene	ND	mg/kg	0.15	0.10	1	7/ 1/98	9:29	Ciesielski	8020	3119
Xylenes, total	ND	mg/kg	0.15	0.10	1	7/ 1/98	9:29	Ciesielski	8020	3119
Naphthalene	ND	mg/kg	0.243	0.165	1	7/ 4/98	10:34	M.Goodrich	8270	4724
Naphthalene	ND	mg/kg	0.1471	0.0050	1	7/ 1/98	9:29	Ciesielski	8021B	4724
Acenapthene	ND	mg/kg	0.243	0.165	1	7/ 4/98	10:34	M.Goodrich	8270	4724
Anthracene	ND	mg/kg	0.243	0.165	1	7/ 4/98	10:34	M.Goodrich	8270	4724
Fluoranthene	ND	mg/kg	0.243	0.165	1	7/ 4/98	10:34	M.Goodrich	8270	4724
Fluorene	ND	mg/kg	0.243	0.165	1	7/ 4/98	10:34	M.Goodrich	8270	4724
Pyrene	ND	mg/kg	0.243	0.165	1	7/ 4/98	10:34	M.Goodrich	8270	4724
Benzo(a)anthracene	ND	mg/kg	0.243	0.165	1	7/ 4/98	10:34	M.Goodrich	8270	4724
Benzo(a)pyrene	ND	mg/kg	0.243	0.165	1	7/ 4/98	10:34	M.Goodrich	8270	4724
Benzo(b)fluoranthene	ND	mg/kg	0.243	0.165	1	7/ 4/98	10:34	M.Goodrich	8270	4724
Benzo(k)fluoranthene	ND	mg/kg	0.243	0.165	1	7/ 4/98	10:34	M.Goodrich	8270	4724
Chrysene	ND	mg/kg	0.243	0.165	1	7/ 4/98	10:34	M.Goodrich	8270	4724
Dibenzo(a,h)anthracene	ND	mg/kg	0.243	0.165	1	7/ 4/98	10:34	M.Goodrich	8270	4724
Indeno(1,2,3-cd)pyrene	ND	mg/kg	0.243	0.165	1	7/ 4/98	10:34	M.Goodrich	8270	4724
Acenapthylene	ND	mg/kg	0.243	0.165	1	7/ 4/98	10:34	M.Goodrich	8270	4724
Benzo(g,h,i)perylene	ND	mg/kg	0.243	0.165	1	7/ 4/98	10:34	M.Goodrich	8270	4724
Phenanthrene	ND	mg/kg	0.243	0.165	1	7/ 4/98	10:34	M.Goodrich	8270	4724
GENERAL CHEMISTRY PARAMETERS										
% Dry Weight	68.	%			1	6/30/98	10:48	Fitzwater	CLP	9362

ND = Not detected at the report limit.

Sample Extraction Data

Parameter	Wt/Vol Extracted	Extract Vol	Date	Analyst	Method
BNA's	30.0 gm	1.0 ml	7/ 1/98	Fitzwater	3550

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2960 Foster Creighton Dr.
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ANALYTICAL REPORT

Laboratory Number 98-A72133
Sample ID SP-2 10 12

Surrogate	% Recovery	Target Range
Surr-a,a,a-trifluorotoluene	122.	50. - 150
Surr-Nitrobenzene-d5	31.	24. - 110.
Surr-2-fluorobiphenyl	34.	25 - 111.
Surr-terphenyl d14	48.	35 - 132

All samples have been corrected for dry weight.

Report Approved By: Michael H. Dunn Report Date: 7/14/98

Theodore J. Duello, Ph.D., Q.A Officer
Michael H. Dunn, M.S., Technical Director
Danny B Hale, M.S., Laboratory Director

Laboratory Certification Number: 387

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Phone 1-615-726-0177

ANALYTICAL REPORT

HANDEY OF THE CAROLINAS 5163
ATTN WITTER
3600-G WOODPARK BLVD
CHARLOTTE NC 28206

Project: 116416-01
Project Name: ENMARK.380
Sampler: J HOLLIS

Lab Number: NS-A72194
Sample ID: SB-3 10-12
Sample Type: Soil
Site ID:

Date Collected: 6/17/98
Time Collected:
Date Received: 6/23/98
Time Received: 9:00

Analyte	Result	Units	Report Limit	Quan Limit	Dil Factor	Date	Time	Analyst	Method	Batch
ORGANIC PARAMETERS										
Benzene	ND	mg/kg	0.16	0.16	1	7/ 1/98	1:02	Ciesielski	8021B	3119
Toluene	ND	mg/kg	0.16	0.10	1	7/ 1/98	1:02	Ciesielski	8021B	3119
Ethylbenzene	ND	mg/kg	0.16	0.10	1	7/ 1/98	1:02	Ciesielski	8021B	3119
Xylenes, total	ND	mg/kg	0.16	0.10	1	7/ 1/98	1:02	Ciesielski	8021B	3119
Naphthalene	ND	mg/kg	0.270	0.165	1	7/ 4/98	11:10	M.Goodrich	8270	4724
Naphthalene	ND	mg/kg	0.1630	0.0050	1	7/ 1/98	1:02	Ciesielski	8021B	3119
Acenapthene	ND	mg/kg	0.270	0.165	1	7/ 4/98	11:10	M.Goodrich	8270	4724
Anthracene	ND	mg/kg	0.270	0.165	1	7/ 4/98	11:10	M.Goodrich	8270	4724
Fluoranthene	ND	mg/kg	0.270	0.165	1	7/ 4/98	11:10	M.Goodrich	8270	4724
Fluorene	ND	mg/kg	0.270	0.165	1	7/ 4/98	11:10	M.Goodrich	8270	4724
Pyrene	ND	mg/kg	0.270	0.165	1	7/ 4/98	11:10	M.Goodrich	8270	4724
Benzo(a)anthracene	ND	mg/kg	0.270	0.165	1	7/ 4/98	11:10	M.Goodrich	8270	4724
Benzo(a)pyrene	ND	mg/kg	0.270	0.165	1	7/ 4/98	11:10	M.Goodrich	8270	4724
Benzo(b)fluoranthene	ND	mg/kg	0.270	0.165	1	7/ 4/98	11:10	M.Goodrich	8270	4724
Benzo(k)fluoranthene	ND	mg/kg	0.270	0.165	1	7/ 4/98	11:10	M.Goodrich	8270	4724
Chrysene	ND	mg/kg	0.270	0.165	1	7/ 4/98	11:10	M.Goodrich	8270	4724
Dibenzo(a,h)anthracene	ND	mg/kg	0.270	0.165	1	7/ 4/98	11:10	M.Goodrich	8270	4724
Indeno(1,2,3-cd)pyrene	ND	mg/kg	0.270	0.165	1	7/ 4/98	11:10	M.Goodrich	8270	4724
Acenapthylene	ND	mg/kg	0.270	0.165	1	7/ 4/98	11:10	M.Goodrich	8270	4724
Benzo(g,h,i)perylene	ND	mg/kg	0.270	0.165	1	7/ 4/98	11:10	M.Goodrich	8270	4724
Phenanthrene	ND	mg/kg	0.270	0.165	1	7/ 4/98	11:10	M.Goodrich	8270	4724
GENERAL CHEMISTRY PARAMETERS										
% Dry Weight	61.	%			1	6/30/98	10:48	Fitzwater	CLP	9362

ND = Not detected at the report limit.

Sample Extraction Data

Parameter	Wt/Vol Extracted	Extract Vol	Date	Analyst	Method
DRO's	30.0 gm	1.0 ml	7/ 1/98	Fitzwater	3550

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ANALYTICAL REPORT

Laboratory Number 98-472134
Sample ID: SB-3 10 12

Surrogate	% Recovery	Target Range
surr-a,a,a-Trifluorotoluene	108.	50. - 150
surr-Nitrobenzene-d5	35.	26. - 110.
surr-2-Fluorobiphenyl	39.	25. - 111.
surr-Terphenyl d14	46.	35. - 132.

All samples have been corrected for dry weight

Report Approved By. Michael H. Dunn Report Date: 7/14/98

Theodore J Duello, Ph D , Q.A Officer
Michael H Dunn, M.S., Technical Director
Danny B Hale, M.S., Laboratory Director

Laboratory Certification Number: 387

SPECIALIZED ASSAYS, INC.

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ANALYTICAL REPORT

ANDEX OF THE CAROLINAS 6163
ILL WITTEK
3600-C WOODPARK BLVD.
HARLOTTE NC 28204

Lab Number 98-472135
Sample ID 02-4 10-12
Sample Type: Soil
Site ID:

Date Collected 6/17/98
Time Collected
Date Received: 6/23/98
Time Received: 9 00

Project: 116416-01
Project Name: ENMARK 380
Sampler: J HOLLIS

Analyte	Result	Units	Report Limit	Qwan Limit	DIL Factor	Date	Time	Analyst	Method	Batch
ORGANIC PARAMETERS										
Benzene	ND	mg/kg	0.14	0.10	1	7/ 1/98	1:36	Ciesielski	8021B	3119
Toluene	ND	mg/kg	0.14	0.10	1	7/ 1/98	1:36	Ciesielski	8021B	3119
Ethylbenzene	ND	mg/kg	0.14	0.10	1	7/ 1/98	1:36	Ciesielski	8021B	3119
Xylenes, total	ND	mg/kg	0.14	0.10	1	7/ 1/98	1:36	Ciesielski	8021B	3119
Naphthalene	ND	mg/kg	0.226	0.165	1	7/ 4/98	11:47	M.Goodrich	8270	4724
Naphthalene	ND	mg/kg	0.1370	0.0800	1	7/ 1/98	1:36	Ciesielski	8021B	3119
Acenapthene	ND	mg/kg	0.226	0.165	1	7/ 4/98	11:47	M.Goodrich	8270	4724
Anthracene	ND	mg/kg	0.226	0.165	1	7/ 4/98	11:47	M.Goodrich	8270	4724
Fluoranthene	ND	mg/kg	0.226	0.165	1	7/ 4/98	11:47	M.Goodrich	8270	4724
Fluorene	ND	mg/kg	0.226	0.165	1	7/ 4/98	11:47	M.Goodrich	8270	4724
Pyrene	ND	mg/kg	0.226	0.165	1	7/ 4/98	11:47	M.Goodrich	8270	4724
Benzo(a)anthracene	ND	mg/kg	0.226	0.165	1	7/ 4/98	11:47	M.Goodrich	8270	4724
Benzo(a)pyrene	ND	mg/kg	0.226	0.165	1	7/ 4/98	11:47	M.Goodrich	8270	4724
Benzo(b)fluoranthene	ND	mg/kg	0.226	0.165	1	7/ 4/98	11:47	M.Goodrich	8270	4724
Benzo(k)fluoranthene	ND	mg/kg	0.226	0.165	1	7/ 4/98	11:47	M.Goodrich	8270	4724
Chrysene	ND	mg/kg	0.226	0.165	1	7/ 4/98	11:47	M.Goodrich	8270	4724
Dibenzo(a,h)anthracene	ND	mg/kg	0.226	0.165	1	7/ 4/98	11:47	M.Goodrich	8270	4724
Indeno(1,2,3-cd)pyrene	ND	mg/kg	0.226	0.165	1	7/ 4/98	11:47	M.Goodrich	8270	4724
Acenapthylene	ND	mg/kg	0.226	0.165	1	7/ 4/98	11:47	M.Goodrich	8270	4724
Benzo(g,h,i)perylene	ND	mg/kg	0.226	0.165	1	7/ 4/98	11:47	M.Goodrich	8270	4724
Phenanthrene	ND	mg/kg	0.226	0.165	1	7/ 4/98	11:47	M.Goodrich	8270	4724
GENERAL CHEMISTRY PARAMETERS										
% Dry Weight	73.	%			1	6/30/98	10:48	Fitzwater	CLP	9362

ND = Not detected at the report limit.

Sample Extraction Data

Parameter	Wt/Vol Extracted	Extract Vol	Date	Analyst	Method
BNA's	30.0 gm	1.0 ml	7/ 1/98	Fitzwater	3550

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ANALYTICAL REPORT

Laboratory Number: 98-A72135
Sample ID: SB-4 10-12

Surrogate	% Recovery	Target Range
surr-a,a,a-Trifluorotoluene	100.	50. - 150.
surr-Nitrobenzene-d5	53.	26. - 110.
surr-2-Fluorobiphenyl	63.	25 - 111
surr-Terphenyl d14	66.	35. - 137

All samples have been corrected for dry weight

Report Approved By: Michael H. Dunn Report Date: 7/14/98

Theodore J. Duello, Ph.D., Q.A. Officer
Michael H. Dunn, M.S., Technical Director
Danny R. Hale, M.S., Laboratory Director

Laboratory Certification Number: 387

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ANALYTICAL REPORT

ANDEX OF THE CAROLINAS 6163
ILL WITTEK
3600-G WOODPARK BLVD.
CHARLOTTE, NC 28206

Lab Number 98-A72106
Sample ID. SB-5 10-12
Sample Type: Soil
Site ID:

Date Collected: 6/19/98
Time Collected
Date Received: 6/23/98
Time Received: 9:00

Project: 116416-01
Project Name: ENMARK 380
Sampler: J HOLLIS

Analyte	Result	Units	Report Limit	Quan Limit	Dil Factor	Date	Time	Analyst	Method	Batch
ORGANIC PARAMETERS										
Benzene	ND	mg/kg	0.28	0.10	2	7/ 1/98	2:09	Ciesielski	8021B	3119
Toluene	ND	mg/kg	0.28	0.10	2	7/ 1/98	2:09	Ciesielski	8021B	3119
Ethylbenzene	ND	mg/kg	0.28	0.10	2	7/ 1/98	2:09	Ciesielski	8021B	3119
Xylenes, total	ND	mg/kg	0.28	0.10	2	7/ 1/98	2:09	Ciesielski	8021B	3119
Naphthalene	ND	mg/kg	0.229	0.165	1	7/ 4/98	12:23	M Goodrich	8270	4724
Naphthalene	ND	mg/kg	0.2778	0.0050	1	7/ 1/98	2:09	Ciesielski	8021B	4724
Acenapthene	ND	mg/kg	0.229	0.165	1	7/ 4/98	12:23	M.Goodrich	8270	4724
Anthracene	ND	mg/kg	0.229	0.165	1	7/ 4/98	12:23	M.Goodrich	8270	4724
Fluoranthene	ND	mg/kg	0.229	0.165	1	7/ 4/98	12:23	M.Goodrich	8270	4724
Fluorene	ND	mg/kg	0.229	0.165	1	7/ 4/98	12:23	M.Goodrich	8270	4724
Pyrene	ND	mg/kg	0.229	0.165	1	7/ 4/98	12:23	M.Goodrich	8270	4724
Benzo(a)anthracene	ND	mg/kg	0.229	0.165	1	7/ 4/98	12:23	M.Goodrich	8270	4724
Benzo(a)pyrene	ND	mg/kg	0.229	0.165	1	7/ 4/98	12:23	M.Goodrich	8270	4724
Benzo(b)fluoranthene	ND	mg/kg	0.229	0.165	1	7/ 4/98	12:23	M.Goodrich	8270	4724
Benzo(k)fluoranthene	ND	mg/kg	0.229	0.165	1	7/ 4/98	12:23	M.Goodrich	8270	4724
Chrysene	ND	mg/kg	0.229	0.165	1	7/ 4/98	12:23	M.Goodrich	8270	4724
Dibenzo(a,h)anthracene	ND	mg/kg	0.229	0.165	1	7/ 4/98	12:23	M.Goodrich	8270	4724
Indeno(1,2,3-cd)pyrene	ND	mg/kg	0.229	0.165	1	7/ 4/98	12:23	M.Goodrich	8270	4724
Acenapthylene	ND	mg/kg	0.229	0.165	1	7/ 4/98	12:23	M.Goodrich	8270	4724
Benzo(g,h,i)perylene	ND	mg/kg	0.229	0.165	1	7/ 4/98	12:23	M.Goodrich	8270	4724
Phenanthrene	ND	mg/kg	0.229	0.165	1	7/ 4/98	12:23	M.Goodrich	8270	4724
GENERAL CHEMISTRY PARAMETERS										
% Dry Weight	72.	%			1	6/30/98	10:48	Fitzwater	CLP	9362

ND = Not detected at the report limit

Sample Extraction Data

Parameter	Wt/Vol Extracted	Extract Vol	Date	Analyst	Method
BNA's	30.0 gm	1.0 ml	7/ 1/98	Fitzwater	3550

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ANALYTICAL REPORT

Laboratory Number 98-A72136
Sample ID. SB-5 10-12

Surrogate	% Recovery	Target Range
surr-a,a,a-trifluorotoluene	116	50 - 150
surr-Nitrobenzene-d5	44.	26. - 110
surr-2-Fluorobiphenyl	47.	25. - 111
surr-Terphenyl d14	66.	35. 132

All samples have been corrected for dry weight

Report Approved By. Michael H. Dunn Report Date: 7/14/98

Theodore J Duello, Ph.D , Q.A. Officer
Michael H Dunn, M.S - Technical Director
Danny B. Hale, M S - Laboratory Director

Laboratory Certification Number: 387

SPECIALIZED ASSAYS, INC.

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P.O. Box 40566
Nashville, TN 37204-0566
Phone 1-615-726-0177

ANALYTICAL REPORT

ANDEX OF THE CAROLINAS [illegible]
ILL WITTER
3500-G WOODPARK BLVD.
CHARLOTTE, NC 28206

Lab Number 98-472137
Sample ID. SB-A 6-8
Sample Type: Soil
Site ID.

Date Collected: 5/19/98
Time Collected
Date Received: 6/23/98
Time Received: 9:00

Project: 116416-01
Project Name: ENMARK 380
Sampler: J HOLLIS

Analyte	Result	Units	Report Limit	Quan Limit	Dil Factor	Date	Time	Analyst	Method	Batch
GENERAL CHEMISTRY PARAMETERS										
TOC, Walkly-Black	362.	mg/kg	30.0	30.0	1	6/25/98	14:36	K.Mitre	Walk-Blk	377

ND = Not detected at the report limit

Report Approved By: Michael H Dunn Report Date: 7/14/98

Theodore J Duello, Ph.D., Q.A. Officer
Michael H. Dunn, M.S., Technical Director
Danny B. Hale, M.S., Laboratory Director

Laboratory Certification Number: 387

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Phone 1-615-726-0177

ANALYTICAL REPORT

BANDEX OF THE CAROLINAS 6163
BILL WITTEK
3600-G WOODPARK BLVD.
CHARLOTTE NC 28206

Project: 116416-01
Project Name: ENMARK 380
Sampler: J HOLLIS

Lab Number: 98-A72158
Sample ID: 58-7 16-10
Sample Type: Soil
Site ID

Date Collected: 6/19/98
Time Collected:
Date Received: 6/23/98
Time Received: 9:00

Analyte	Result	Units	Report Limit	Quan Limit	Dil Factor	Date	Time	Analyst	Method	Batch
ORGANIC PARAMETERS										
Benzene	ND	mg/kg	0.12	0.10	1	7/ 1/98	3:49	Ciesielski	8021B	3119
Toluene	ND	mg/kg	0.12	0.10	1	7/ 1/98	3:49	Ciesielski	8021B	3119
Ethylbenzene	ND	mg/kg	0.12	0.10	1	7/ 1/98	3:49	Ciesielski	8021B	3119
Xylenes, total	ND	mg/kg	0.12	0.10	1	7/ 1/98	3:49	Ciesielski	8021B	3119
Naphthalene	ND	mg/kg	0.201	0.165	1	7/ 4/98	13:00	M.Goodrich	8270	4724
Naphthalene	ND	mg/kg	0.1220	0.0050	1	7/ 1/98	3:49	Ciesielski	8021B	3119
Acenapthene	ND	mg/kg	0.201	0.165	1	7/ 4/98	13:00	M.Goodrich	8270	4724
Anthracene	ND	mg/kg	0.201	0.165	1	7/ 4/98	13:00	M.Goodrich	8270	4724
Fluoranthene	ND	mg/kg	0.201	0.165	1	7/ 4/98	13:00	M.Goodrich	8270	4724
Fluorene	ND	mg/kg	0.201	0.165	1	7/ 4/98	13:00	M.Goodrich	8270	4724
Pyrene	ND	mg/kg	0.201	0.165	1	7/ 4/98	13:00	M.Goodrich	8270	4724
Benzo(a)anthracene	ND	mg/kg	0.201	0.165	1	7/ 4/98	13:00	M.Goodrich	8270	4724
Benzo(a)pyrene	ND	mg/kg	0.201	0.165	1	7/ 4/98	13:00	M.Goodrich	8270	4724
Benzo(b)fluoranthene	ND	mg/kg	0.201	0.165	1	7/ 4/98	13:00	M.Goodrich	8270	4724
Benzo(k)fluoranthene	ND	mg/kg	0.201	0.165	1	7/ 4/98	13:00	M.Goodrich	8270	4724
Chrysene	ND	mg/kg	0.201	0.165	1	7/ 4/98	13:00	M.Goodrich	8270	4724
Dibenzo(a,h)anthracene	ND	mg/kg	0.201	0.165	1	7/ 4/98	13:00	M.Goodrich	8270	4724
Indeno(1,2,3-cd)pyrene	ND	mg/kg	0.201	0.165	1	7/ 4/98	13:00	M.Goodrich	8270	4724
Acenapthylene	ND	mg/kg	0.201	0.165	1	7/ 4/98	13:00	M.Goodrich	8270	4724
Benzo(g,h,i)perylene	ND	mg/kg	0.201	0.165	1	7/ 4/98	13:00	M.Goodrich	8270	4724
Phenanthrene	ND	mg/kg	0.201	0.165	1	7/ 4/98	13:00	M.Goodrich	8270	4724
GENERAL CHEMISTRY PARAMETERS										
% Dry Weight	82.	%			1	6/30/98	10.48	Fitzwater	CLP	9362

ND = Not detected at the report limit

Sample Extraction Data

Parameter	Wt/Vol Extracted	Extract Vol	Date	Analyst	Method
BNA's	30.0 gm	1.0 ml	7/ 1/98	Fitzwater	3550

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Nashville, TN 37204-0566
Phone 1-615-726-0177

ANALYTICAL REPORT

Laboratory Number 98-A72138
Sample ID: 98-7 1A-1R

Surrogate	% Recovery	Target Range
surr-a,a,a-Trifluorotoluene	101.	50. - 150
surr-Nitrobenzene-d5	48.	28. - 110.
surr-2-Fluorobiphenyl	56.	25. - 111.
surr-Terphenyl d14	68.	35. - 132

All samples have been corrected for dry weight.

Report Approved By: Michael H. Dunn Report Date 7/14/98

Theodore J. Duello, Ph.D., Q.A. Officer
Michael H. Dunn, M.S., Technical Director
Danny B. Hale, M.S., Laboratory Director

Laboratory Certification Number: 387

SPECIALIZED ASSAYS, INC.

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Phone 1-615-726-0177

ANALYTICAL REPORT

ANDEX OF THE CAROLINAS 6163
ILL WITTEK
3600-G WOODPARK BLVD
HARLOTTE, NC 28206

Project 116416-01
Project Name: ENMARK 380
Sampler: J HOLLIS

Lab Number: 98-A/2109
Sample ID: SB-E 16-18
Sample Type: Soil
Site ID

Date Collected: 6/19/98
Time Collected
Date Received: 6/23/98
Time Received: 9:00

Analyte	Result	Units	Report Limit	Room Limit	Dil Factor	Date	Time	Analyst	Method	Batch
ORGANIC PARAMETERS										
Benzene	ND	mg/kg	0.12	0.10	1	7/ 1/98	4:22	Ciesielski	8021B	3119
Toluene	ND	mg/kg	0.12	0.10	1	7/ 1/98	4:22	Ciesielski	8021B	3119
Ethylbenzene	ND	mg/kg	0.12	0.10	1	7/ 1/98	4:22	Ciesielski	8021B	3119
Xylenes, total	ND	mg/kg	0.1.	0.10	1	7/ 1/98	4:22	Ciesielski	8021B	3119
Naphthalene	ND	mg/kg	0.199	0.165	1	7/ 4/98	13:36	M Goodrich	8270	4724
Naphthalene	ND	mg/kg	0.1205	0.0090	1	7/ 1/98	4:22	Ciesielski	8021B	3119
Acenapthene	ND	mg/kg	0.199	0.165	1	7/ 4/98	13:36	M.Goodrich	8270	4724
Anthracene	ND	mg/kg	0.199	0.165	1	7/ 4/98	13:36	M.Goodrich	8270	4724
Fluoranthene	ND	mg/kg	0.199	0.165	1	7/ 4/98	13:36	M.Goodrich	8270	4724
Fluorene	ND	mg/kg	0.199	0.165	1	7/ 4/98	13:36	M.Goodrich	8270	4724
Pyrene	ND	mg/kg	0.199	0.165	1	7/ 4/98	13:36	M.Goodrich	8270	4724
Benzo(a)anthracene	ND	mg/kg	0.199	0.165	1	7/ 4/98	13:36	M.Goodrich	8270	4724
Benzo(a)pyrene	ND	mg/kg	0.199	0.165	1	7/ 4/98	13:36	M.Goodrich	8270	4724
Benzo(b)fluoranthene	ND	mg/kg	0.199	0.165	1	7/ 4/98	13:36	M.Goodrich	8270	4724
Benzo(k)fluoranthene	ND	mg/kg	0.199	0.165	1	7/ 4/98	13:36	M.Goodrich	8270	4724
Chrysene	ND	mg/kg	0.199	0.165	1	7/ 4/98	13:36	M.Goodrich	8270	4724
Dibenzo(a,h)anthracene	ND	mg/kg	0.199	0.165	1	7/ 4/98	13:36	M.Goodrich	8270	4724
Indeno(1,2,3-cd)pyrene	ND	mg/kg	0.199	0.165	1	7/ 4/98	13:36	M Goodrich	8270	4724
Acenapthylene	ND	mg/kg	0.199	0.165	1	7/ 4/98	13:36	M.Goodrich	8270	4724
Benzo(g,h,i)perylene	ND	mg/kg	0.199	0.165	1	7/ 4/98	13:36	M.Goodrich	8270	4724
Phenanthrene	ND	mg/kg	0.199	0.165	1	7/ 4/98	13:36	M.Goodrich	8270	4724
GENERAL CHEMISTRY PARAMETERS										
% Dry Weight	83.	%			1	6/30/98	10:48	Fitzwater	CLP	9362

ND = Not detected at the report limit

Sample Extraction Data

Parameter	Wt/Vol Extracted	Extract Vol	Date	Analyst	Method
BNA's	30.0 gm	1.0 ml	7/ 1/98	Fitzwater	3550

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ANALYTICAL REPORT

Laboratory Number: 98-472139
Sample ID: SB-8 10-15

Surrogate	% Recovery	Target Range
surr-a,a,a-Trifluorotoluene	105.	50 - 150
surr-Nitrobenzene-d5	41.	26. - 110.
surr-2-fluorobiphenyl	46.	25. - 111.
surr-Terphenyl d14	65.	35 - 132

All samples have been corrected for dry weight

Report Approved By: Michael A Dunn Report Date: 7/14/98

Theodore J. Duello, Ph.D., Q.A. Officer
Michael M. Dunn, M.S., Technical Director
Danny B. Hale, M.S., Laboratory Director

Laboratory Certification Number: 387

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ANALYTICAL REPORT

ANDEX OF THE CAROLINAS 5162
ILL WITTER
2600-G WOODPARK BLVD
CHARLOTTE NC 28206

Lab Number 98-A72140
Sample ID: SB-9 16-18
Sample Type: Soil
Site ID

Date Collected 6/19/98
Time Collected
Date Received 6/23/98
Time Received: 9:00

Project 116416-01
roject Name: ENMARK 380
ampler: J HOLLIS

Analyte	Result	Units	Report Limit	Quan Limit	Dil Factor	Date	Time	Analyst	Method	Batch
ORGANIC PARAMETERS										
Benzene	ND	mg/kg	0.11	0.10	1	7/ 1/98	4:56	Ciesielski	8021B	3119
Toluene	ND	mg/kg	0.11	0.10	1	7/ 1/98	4:56	Ciesielski	8021B	3119
Ethylbenzene	ND	mg/kg	0.11	0.10	1	7/ 1/98	4:56	Ciesielski	8021B	3119
Xylenes, total	ND	mg/kg	0.11	0.10	1	7/ 1/98	4:56	Ciesielski	8021B	3119
Naphthalene	ND	mg/kg	0.188	0.165	1	7/ 4/98	14:13	M Goodrich	8270	4724
Naphthalene	ND	mg/kg	0.1136	0.0050	1	7/ 1/98	4:56	Ciesielski	8021B	3119
Acenapthene	ND	mg/kg	0.188	0.165	1	7/ 4/98	14:13	M Goodrich	8270	4724
Anthracene	ND	mg/kg	0.188	0.165	1	7/ 4/98	14:13	M.Goodrich	8270	4724
Fluoranthene	ND	mg/kg	0.188	0.165	1	7/ 4/98	14:13	M Goodrich	8270	4724
Fluorene	ND	mg/kg	0.188	0.165	1	7/ 4/98	14:13	M.Goodrich	8270	4724
Pyrene	ND	mg/kg	0.188	0.165	1	7/ 4/98	14:13	M Goodrich	8270	4724
Benzo(a)anthracene	ND	mg/kg	0.188	0.165	1	7/ 4/98	14:13	M.Goodrich	8270	4724
Benzo(a)pyrene	ND	mg/kg	0.188	0.165	1	7/ 4/98	14:13	M.Goodrich	8270	4724
Benzo(b)fluoranthene	ND	mg/kg	0.188	0.165	1	7/ 4/98	14:13	M Goodrich	8270	4724
Benzo(k)fluoranthene	ND	mg/kg	0.188	0.165	1	7/ 4/98	14:13	M.Goodrich	8270	4724
Chrysene	ND	mg/kg	0.188	0.165	1	7/ 4/98	14:13	M.Goodrich	8270	4724
Dibenzo(a,h)anthracene	ND	mg/kg	0.188	0.165	1	7/ 4/98	14:13	M.Goodrich	8270	4724
Indeno(1,2,3-cd)pyrene	ND	mg/kg	0.188	0.165	1	7/ 4/98	14:13	M.Goodrich	8270	4724
Acenapthylene	ND	mg/kg	0.188	0.165	1	7/ 4/98	14:13	M.Goodrich	8270	4724
Benzo(g,h,i)perylene	ND	mg/kg	0.188	0.165	1	7/ 4/98	14:13	M.Goodrich	8270	4724
Phenanthrene	ND	mg/kg	0.188	0.165	1	7/ 4/98	14:13	M.Goodrich	8270	4724
GENERAL CHEMISTRY PARAMETERS										
% Dry Weight	88.	%			1	6/30/98	10:48	Fitzwater	CLP	9362

ND = Not detected at the report limit.

Sample Extraction Data

Parameter	Wt/Vol Extracted	Extract Vol	Date	Analyst	Method
BNA's	30.0 gm	1.0 ml	7/ 1/98	Fitzwater	3550

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ANALYTICAL REPORT

Laboratory Number: 98-A72140
Sample ID: SB-9 16-18

Page 2

Surrogate	Recovery	Target Range
surr-a,a,a-trifluorotoluene	109	58 - 150.
surr-Nitrobenzene-d5	28.	26. - 118.
surr-2-Fluorobiphenyl	45.	35 - 111
surr-Terphenyl d14	56	30. - 132

All samples have been corrected for dry weight

Report Approved By: Michael A. Dunn Report Date: 7/14/98

Theodore W. Duello, Ph.D., S.A. Officer
Michael A. Dunn, M.S., Technical Director
Danny B. Hale, M.S., Laboratory Director

Laboratory Certification Number: 387

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ANALYTICAL REPORT

ANDCX OF THE CAROLINAS [illegible]
ILL WITTEN
3600-G WOODPARK BLVD
CHARLOTTE NC 28206

Lab Number [illegible]
Sample ID [illegible]
Sample Type Soil
Site ID

Project 116416-01
Project Name: ENMARK 360
Sampler: J HOLLIS

Date Collected: 6/19/98
Time Collected
Date Received: 6/23/98
Time Received: 9:00

Analyte	Result	Units	Report Limit	Quan Limit	Dil Factor	Date	Time	Analyst	Method	Batch
ORGANIC PARAMETERS										
Benzene	ND	mg/kg	0.20	0.10	2	7/ 1/98	5:29	Ciesielski	8021B	[illegible]
Toluene	2.12	mg/kg	0.27	0.10	2	7/ 1/98	5:29	Ciesielski	8021B	3119
Ethylbenzene	2.99	mg/kg	0.27	0.10	2	7/ 1/98	5:29	Ciesielski	8021B	3119
Xylenes, total	16.4	mg/kg	0.27	0.10	2	7/ 1/98	5:29	Ciesielski	8021B	[illegible]
Naphthalene	ND	mg/kg	0.220	0.165	1	7/ 4/98	14:50	M.Goodrich	8270	4724
Naphthalene	8.720	mg/kg	0.2667	0.0850	3	7/ 1/98	5:29	Ciesielski	8021B	3119
Acenapthene	ND	mg/kg	0.220	0.165	1	7/ 4/98	14:50	M.Goodrich	8270	4724
Anthracene	ND	mg/kg	0.220	0.165	1	7/ 4/98	14:50	M.Goodrich	8270	4724
Fluoranthene	ND	mg/kg	0.220	0.165	1	7/ 4/98	14:50	M.Goodrich	8270	4724
Fluorene	ND	mg/kg	0.220	0.165	1	7/ 4/98	14:50	M.Goodrich	8270	4724
Pyrene	ND	mg/kg	0.220	0.165	1	7/ 4/98	14:50	M.Goodrich	8270	4724
Benzo(a)anthracene	ND	mg/kg	0.220	0.165	1	7/ 4/98	14:50	M.Goodrich	8270	4724
Benzo(a)pyrene	ND	mg/kg	0.220	0.165	1	7/ 4/98	14:50	M.Goodrich	8270	4724
Benzo(b)fluoranthene	ND	mg/kg	0.220	0.165	1	7/ 4/98	14:50	M.Goodrich	8270	4724
Benzo(k)fluoranthene	ND	mg/kg	0.220	0.165	1	7/ 4/98	14:50	M.Goodrich	8270	4724
Chrysene	ND	mg/kg	0.220	0.165	1	7/ 4/98	14:50	M.Goodrich	8270	4724
Dibenzo(a,h)anthracene	ND	mg/kg	0.220	0.165	1	7/ 4/98	14:50	M.Goodrich	8270	4724
Indeno(1,2,3-cd)pyrene	ND	mg/kg	0.220	0.165	1	7/ 4/98	14:50	M.Goodrich	8270	4724
Acenapthylene	ND	mg/kg	0.220	0.165	1	7/ 4/98	14:50	M.Goodrich	8270	4724
Benzo(g,h,i)perylene	ND	mg/kg	0.220	0.165	1	7/ 4/98	14:50	M.Goodrich	8270	4724
Phenanthrene	ND	mg/kg	0.220	0.165	1	7/ 4/98	14:50	M.Goodrich	8270	4724
GENERAL CHEMISTRY PARAMETERS										
% Dry Weight	75.	%			1	6/30/98	10:48	Fitzwater	CLP	9362

ND = Not detected at the report limit.

Sample Extraction Data

Parameter	Wt/Vol Extracted	Extract Vol	Date	Analyst	Method
BNA's	30.0 gm	1.0 ml	7/ 1/98	Fitzwater	3550

COPY 2

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ANALYTICAL REPORT

Laboratory Number: 98-A72141
Sample ID: SP-10 2-4

Surrogate	% Recovery	Target Range
surr-a,a,a-Trifluorotoluene	96	50 - 150.
surr-Nitrobenzene-d5	32.	26 - 110
surr-2-Fluorobiphenyl	34.	25 - 111
surr-Terphenyl d14	53.	35 - 137

All samples have been corrected for dry weight.

Report Approved By _____ Report Date: 7-14/98

Theodore J. Duello, Ph.D., Q.A. Officer
Michael H. Dunn, M.S., Technical Director
Danny B. Hale, M.S., Laboratory Director

Laboratory Certification Number: 387

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ANALYTICAL REPORT

VANDEX OF THE CAROLINAS 6162
ILL WITTEK
3600-G WOODPARK BLVD
CHARLOTTE, NC 28206

Project: 116416-01
Project Name: ENMARK 380
Sampler: J HOLLIS

Lab Number: 98-472142
Sample ID: SB-11 2-4
Sample Type: Soil
Site ID:

Date Collected: 6/19/98
Time Collected:
Date Received: 6/23/98
Time Received: 9:00

Analyte	Result	Units	Report Limit	Mean Limit	Dil Factor	Date	Time	Analyst	Method	Batch
ORGANIC PARAMETERS										
Benzene	ND	mg/kg	0.12	0.10	1	7/ 1/98	6:01	Ciesielski	8021B	3119
Toluene	ND	mg/kg	0.11	0.19	1	7/ 1/98	6:01	Ciesielski	8021B	3119
Ethylbenzene	0.19	mg/kg	0.12	0.10	1	7/ 1/98	6:01	Ciesielski	8021B	3119
Xylenes, total	1.20	mg/kg	0.13	0.10	1	7/ 1/98	6:01	Ciesielski	8021B	3119
Naphthalene	ND	mg/kg	0.176	0.165	1	7/ 1/98	6:03	Carmichael	8270	2691
Naphthalene	0.7340	mg/kg	0.1064	0.0850	1	7/ 1/98	6:01	Ciesielski	8021B	3119
Acenapthene	ND	mg/kg	0.176	0.165	1	7/ 1/98	6:03	Carmichael	8270	2691
Anthracene	ND	mg/kg	0.176	0.165	1	7/ 1/98	6:03	Carmichael	8270	2691
Fluoranthene	ND	mg/kg	0.176	0.165	1	7/ 1/98	6:03	Carmichael	8270	2691
Fluorene	ND	mg/kg	0.176	0.165	1	7/ 1/98	6:03	Carmichael	8270	2691
Pyrene	ND	mg/kg	0.176	0.165	1	7/ 1/98	6:03	Carmichael	8270	2691
Benzo(a)anthracene	ND	mg/kg	0.176	0.165	1	7/ 1/98	6:03	Carmichael	8270	2691
Benzo(a)pyrene	ND	mg/kg	0.176	0.165	1	7/ 1/98	6:03	Carmichael	8270	2691
Benzo(b)fluoranthene	ND	mg/kg	0.176	0.165	1	7/ 1/98	6:03	Carmichael	8270	2691
Benzo(k)fluoranthene	ND	mg/kg	0.176	0.165	1	7/ 1/98	6:03	Carmichael	8270	2691
Chrysene	ND	mg/kg	0.176	0.165	1	7/ 1/98	6:03	Carmichael	8270	2691
Dibenzo(a,h)anthracene	ND	mg/kg	0.176	0.165	1	7/ 1/98	6:03	Carmichael	8270	2691
Indeno(1,2,3-cd)pyrene	ND	mg/kg	0.176	0.165	1	7/ 1/98	6:03	Carmichael	8270	2691
Acenapthylene	ND	mg/kg	0.176	0.165	1	7/ 1/98	6:03	Carmichael	8270	2691
Benzo(g,h,i)perylene	ND	mg/kg	0.176	0.165	1	7/ 1/98	6:03	Carmichael	8270	2691
Phenanthrene	ND	mg/kg	0.176	0.165	1	7/ 1/98	6:03	Carmichael	8270	2691
GENERAL CHEMISTRY PARAMETERS										
% Dry Weight	94.	%			1	6/30/98	10:48	Fitzwater	CLP	9362

ND = Not detected at the report limit.

Sample Extraction Data

Parameter	Wt/Vol Extracted	Extract Vol	Date	Analyst	Method
BNA's	30.0 gm	1.0 ml	6/30/98	Schweikert	3550

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ANALYTICAL REPORT

Laboratory Number: 93-A72142
Sample ID. SB-13 2-4

Page 4

Surrogate	% Recovery	Target Range
surr-a,a,a-trifluorotoluene	111.	50 - 150.
surr-Nitrobenzene-d5	34	26 - 110.
surr-2-Fluorobiphenyl	42.	29 - 111.
surr-Terphenyl d14	107.	35 - 132

All samples have been corrected for dry weight

Report Approved By: Michael A. Dunn Report Date. 7/14/93

Theodore J. Duello, Ph.D., Q.A. Officer
Michael H. Dunn, M.S., Technical Director
Danny B. Hale, M.S., Laboratory Director

Laboratory Certification Number: 387

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ANALYTICAL REPORT

ANTEX OF THE CAROLINAS 6153
ILL WITTEK
8503-G WOODPARK BLVD
CHARLOTTE, NC 28206

Project 11a416-01
Project Name: ENMARK 380
Sampler: J HOLLIS

Lab Number: 98-A72143
Sample ID: SA-12 8-10
Sample Type: Soil
Site ID:

Date Collected: 6/19/98
Time Collected:
Date Received: 6/23/98
Time Received: 9:00

Analyte	Result	Units	Report Limit	Quan Limit	Dil Factor	Date	Time	Analyst	Method	Batch
ORGANIC PARAMETERS										
Benzene	ND	mg/kg	0.13	0.10	1	7/ 1/98	6:35	Ciesielski	8021B	3119
Toluene	ND	mg/kg	0.13	0.10	1	7/ 1/98	6:35	Ciesielski	8021B	3119
Ethylbenzene	ND	mg/kg	0.13	0.10	1	7/ 1/98	6:35	Ciesielski	8021B	3119
Xylenes, total	ND	mg/kg	0.13	0.10	1	7/ 1/98	6:35	Ciesielski	8021B	3119
Naphthalene	ND	mg/kg	0.220	0.165	1	7/ 1/98	10:16	Carmichael	8270	2691
Naphthalene	ND	mg/kg	0.1333	0.0050	1	7/ 1/98	6:35	Ciesielski	8021B	3119
Acenapthene	ND	mg/kg	0.220	0.165	1	7/ 1/98	10:16	Carmichael	8270	2691
Anthracene	ND	mg/kg	0.220	0.165	1	7/ 1/98	10:16	Carmichael	8270	2691
Fluoranthene	ND	mg/kg	0.220	0.165	1	7/ 1/98	10:16	Carmichael	8270	2691
Fluorene	ND	mg/kg	0.220	0.165	1	7/ 1/98	10:16	Carmichael	8270	2691
Pyrene	ND	mg/kg	0.220	0.165	1	7/ 1/98	10:16	Carmichael	8270	2691
Benzo(a)anthracene	ND	mg/kg	0.220	0.165	1	7/ 1/98	10:16	Carmichael	8270	2691
Benzo(a)pyrene	ND	mg/kg	0.220	0.165	1	7/ 1/98	10:16	Carmichael	8270	2691
Benzo(b)fluoranthene	ND	mg/kg	0.220	0.165	1	7/ 1/98	10:16	Carmichael	8270	2691
Benzo(k)fluoranthene	ND	mg/kg	0.220	0.165	1	7/ 1/98	10:16	Carmichael	8270	2691
Chrysene	ND	mg/kg	0.220	0.165	1	7/ 1/98	10:16	Carmichael	8270	2691
Dibenzo(a,h)anthracene	ND	mg/kg	0.220	0.165	1	7/ 1/98	10:16	Carmichael	8270	2691
Indeno(1,2,3-cd)pyrene	ND	mg/kg	0.220	0.165	1	7/ 1/98	10:16	Carmichael	8270	2691
Acenapthylene	ND	mg/kg	0.220	0.165	1	7/ 1/98	10:16	Carmichael	8270	2691
Benzo(g,h,i)perylene	ND	mg/kg	0.220	0.165	1	7/ 1/98	10:16	Carmichael	8270	2691
Phenanthrene	ND	mg/kg	0.220	0.165	1	7/ 1/98	10:16	Carmichael	8270	2691
GENERAL CHEMISTRY PARAMETERS										
% Dry Weight	75.	%			1	6/30/98	10:48	Fitzwater	CLP	9362

ND = Not detected at the report limit.

Sample Extraction Data

Parameter	Wt/Vol Extracted	Extract Vol	Date	Analyst	Method
BNA's	30.0 gm	1.0 ml	6/30/98	Schueikert	3550

SPECIALIZED ASSAYS, INC.

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ANALYTICAL REPORT

Laboratory Number: 98-A72143
Sample ID: SB-12 8-10

Surrogate	% Recovery	Target Range
surr-a,a,a-Trifluorotoluene	112.	50 - 150
surr-Nitrobenzene-d5	36.	26. - 110.
surr-2-Fluorobiphenyl	45.	35. - 111
surr-Terphenyl d14	117	35. - 132.

All samples have been corrected for dry weight.

Report Approved By: Michael H. Dunn Report Date: 7/14/98

Theodore J. Duello, Ph D., Q.A. Officer
Michael H. Dunn, M.S., Technical Director
Danny B. Hale, M.S., Laboratory Director

Laboratory Certification Number: 387

SPECIALIZED ASSAYS, INC.

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ANALYTICAL REPORT

(ANDE) OF THE CAROLINAS [illegible]
[illegible] WITTEK
3500-G WOODPARK BLVD.
CHARLOTTE, NC 28206

Project: 116416-01
Project Name: ENMARK 380
Sampler: J HOLLIS

Lab Number: 98-A[illegible]144
Sample ID: SB-12 8-10
Sample Type: Soil
Site ID:

Date Collected: 6/19/98
Time Collected:
Date Received: 6/23/98
Time Received: 9:00

Analyte	Result	Units	Report Limit	Quan Limit	Dil Factor	Date	Time	Analyst	Method	Batch
ORGANIC PARAMETERS										
Benzene	ND	mg/kg	0.12	0.10	1	7/ 1/98	7:08	Ciesielski	8021B	3119
Toluene	ND	mg/kg	0.12	0.10	1	7/ 1/98	7:08	Ciesielski	8021B	3119
Ethylbenzene	ND	mg/kg	0.12	0.10	1	7/ 1/98	7:08	Ciesielski	8021B	3119
Xylenes, total	ND	mg/kg	0.12	0.10	1	7/ 1/98	7:08	Ciesielski	8021B	3119
Naphthalene	ND	mg/kg	0.199	0.165	1	7/ 1/98	10:53	Carmichael	8270	2691
Naphthalene	ND	mg/kg	0.1205	0.0050	1	7/ 1/98	7:08	Ciesielski	8021B	3119
Acenapthene	ND	mg/kg	0.199	0.165	1	7/ 1/98	10:53	Carmichael	8270	2691
Anthracene	ND	mg/kg	0.199	0.165	1	7/ 1/98	10:53	Carmichael	8270	2691
Fluoranthene	ND	mg/kg	0.199	0.165	1	7/ 1/98	10:53	Carmichael	8270	2691
Fluorene	ND	mg/kg	0.199	0.165	1	7/ 1/98	10:53	Carmichael	8270	2691
Pyrene	ND	mg/kg	0.199	0.165	1	7/ 1/98	10:53	Carmichael	8270	2691
Benzo(a)anthracene	ND	mg/kg	0.199	0.165	1	7/ 1/98	10:53	Carmichael	8270	2691
Benzo(a)pyrene	ND	mg/kg	0.199	0.165	1	7/ 1/98	10:53	Carmichael	8270	2691
Benzo(b)fluoranthene	ND	mg/kg	0.199	0.165	1	7/ 1/98	10:53	Carmichael	8270	2691
Benzo(k)fluoranthene	ND	mg/kg	0.199	0.165	1	7/ 1/98	10:53	Carmichael	8270	2691
Chrysene	ND	mg/kg	0.199	0.165	1	7/ 1/98	10:53	Carmichael	8270	2691
Dibenzo(a,h)anthracene	ND	mg/kg	0.199	0.165	1	7/ 1/98	10:53	Carmichael	8270	2691
Indeno(1,2,3-cd)pyrene	ND	mg/kg	0.199	0.165	1	7/ 1/98	10:53	Carmichael	8270	2691
Acenapthylene	ND	mg/kg	0.199	0.165	1	7/ 1/98	10:53	Carmichael	8270	2691
Benzo(g,h,i)perylene	ND	mg/kg	0.199	0.165	1	7/ 1/98	10:53	Carmichael	8270	2691
Phenanthrene	ND	mg/kg	0.199	0.165	1	7/ 1/98	10:53	Carmichael	8270	2691
GENERAL CHEMISTRY PARAMETERS										
% Dry Weight	83.	%			1	6/30/98	10:48	Fitzwater	CLP	9362

ND = Not detected at the report limit.

Sample Extraction Data

Parameter	Wt/Vol Extracted	Extract Vol	Date	Analyst	Method
BNA's	30.0 gm	1.0 ml	6/30/98	Schweikert	3550

COPY

SPECIALIZED ASSAYS, INC.

2960 Foster Creighton Dr.
P.O. Box 40566
Nashville, TN 37204-0566
Phone 1-615-726-0177

ANALYTICAL REPORT

Laboratory Number 96-472144
Sample ID SP-13 B-10

Surrogate	% Recovery	Target Range
surr-a,a,a-Trifluorotoluene	109.	50 - 150
surr-Nitrobenzene-d5	46.	26. - 110.
surr-2-Fluorobiphenyl	53.	26. - 111.
surr-Terphenyl d14	73.	35 - 132

All samples have been corrected for dry weight.

Report Approved By: Michael A. Dunn Report Date: 7/14/98

Theodore J. Duello, Ph.D., Q.A. Officer
Michael H. Dunn, M.S., Technical Director
Danny B. Hale, M.S., Laboratory Director

Laboratory Certification Number: 387

SPECIALIZED ASSAYS
ENVIRONMENTAL

7A- 003878

2960 Foster Creighton Drive
Nashville, TN 37204
615-726-0177
FAX 615/726-3404

1 of 2

REFERRING CLIENT

Account: 6163
Handex of the Carolinas
Jeff Hollis
3600-G Woodpark Blvd.,
Charlotte, NC 28206
Ph: 704-598-7900 Fax: 704-598-2248

ING CONTROL NUMBER (FOR LAB USE ONLY): 104623

PROJECT #: 116416-01

P.O. #:

PLERS (Signature-Please Print): J. HOLLIS

PROJECT NAME: ENMARK 380

OR LAB USE ONLY ACC#	SAMPLE DESCRIPTION	DATE	TIME	COMP	GRAB	# OF CONT	ANALYSIS REQUESTED
72132	SB-1, 17'-19'	6/17/98			X	2	BTEX/Naphthalenes/PAH/TPH(3550
33	SB-2, 10'-12'	6/17/98			X	1	BTEX/Naphthalenes/PAH
34	SB-3, 10'-12'	6/17/98			X	1	↓
35	SB-4, 10'-12'	6/17/98			X	1	↓
36	SB-5, 10'-12'	6/19/98			X	1	↓
37	SB-6, 6'-8'	6/19/98			X	1	TOTAL ORGANIC CARBON
38	SB-7, 16'-18'	6/19/98			X	1	BTEX/Naphthalenes/PAH
39	SB-8, 16'-18'	6/19/98			X	1	↓
40	SB-9, 16'-18'	6/19/98			X	1	↓
72141	SB-10, 2'-4'	6/19/98			X	1	↓

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Received for Laboratory by:	Date / Time
[signature]	6/22/98 4PM		[signature]	6/23/98 900
elinquished by: (Signature)	Date / Time	Received by: (Signature)	Remarks: 4°C	
linquished by: (Signature)	Date / Time	Received by: (Signature)	~~QUOTE # 060497KE99~~	
linquished by: (Signature)	Date / Time	Received by: (Signature)		

For further assistance in completing the chain of custody form please refer to the instructions found on the opposite sic

SPECIALIZED ASSAYS
ENVIRONMENTAL

7A- 003879

2960 Foster Creighton Drive
Nashville, TN 37204
615-726-0177
FAX 615/726-3404

2 of 2

REFERRING CLIENT

Account: 6163
Handex of the Carolinas
Jeff Hollis
3600-G Woodpark Blvd.,
Charlotte, NC 28206
Ph: 704-598-7900 Fax: 704-598-2248

ILLING CONTROL NUMBER (FOR LAB USE ONLY): 104623

PROJECT #: 116416-01

P.O. #:

MPLERS (Signature-Please Print): J. HOLLIS

PROJECT NAME: ENMARK 380

FOR LAB USE ONLY ACC#	SAMPLE DESCRIPTION	DATE	TIME	COMP	GRAB	# OF CONT	ANALYSIS REQUESTED
72142	SB-11, 2'-4'	6/19/98			X	1	BTEX/Naphthalenes/PAH
43	SB-12, 8'-10'	6/19/98			X	1	↓
721 41	SB-13, 8'-10'	6/19/98			X	1	↓

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Received for Laboratory by:	Date / Time
[signature]	6/22/98 4PM		[signature]	6/23/98 900
elinquished by: (Signature)	Date / Time	Received by: (Signature)	Remarks	
			4°C	
elinquished by: (Signature)	Date / Time	Received by: (Signature)	~~QUOTE # 060497KE99~~	
elinquished by: (Signature)	Date / Time	Received by: (Signature)		

For further assistance in completing the chain of custody form please refer to the instructions found on the opposite si

APPENDIX E

LABORATORY ANALYTICAL REPORTS – GROUNDWATER

HANDEX®

From: SPECIALIZED ASSAYS ENVIRONMENTAL
2960 Foster Creighton Drive
Nashville, Tennessee 37204

To:
HANDEX OF THE CAROLINAS

To follow are laboratory reports relating to your project .

Please forward these reports to ATT: EVAN CLARK.

If there are problems with the transmission of this data, please call Specialized Assays client services department.

SPECIALIZED ASSAYS ENVIRONMENTAL
2960 Foster Creighton Drive
Nashville, Tennessee 37204

ANALYTICAL REPORT

** Original report and a copy of the chain of custody will follow by mail.

HANDEX OF THE CAROLINAS 6163
ATT: EVAN CLARK
3600-G WOODPARK BLVD.
CHARLOTTE, NC 28206

Lab Number: 97-A047396

Sample ID: MW1

Date Collected: 6/11/97

Project:

Time Collected: 12:45

Project Name: EN MARK

Date Received: 6/12/97

Sampler:

Time Received: 9:00

State Certification: 387

Sample Type: Water

Site I.D.:

Analyte	Result	Units	Report Limit	Quan Limit	Dil Factor	Date	Time	Analyst	Method	Batch
ORGANIC PARAMETERS										
Benzene	5900	ug/L	45.0	1.0	45	6/14/97	12:22	C. Ward	602	7427
Toluene	8010	ug/L	45.0	1.0	45	6/14/97	12:22	C. Ward	602	7427
Ethylbenzene	1530	ug/L	45.0	1.0	45	6/14/97	12:22	C. Ward	602	7427
Xylenes, total	7420	ug/L	45.0	1.0	45	6/14/97	12:22	C. Ward	602	7427
Methyl-t-butylether	135.	ug/L	45.0	1.0	45	6/14/97	12:22	C. Ward	602	7427
Naphthalene	108.	ug/L	5.0	5.0	1	6/16/97	14:45	Carmichael	610	7557

ND = Not detected at the report limit.

Sample Extraction Data

DRH's Extracted 6/13/97 Vol extracted: 1000 ml Extract Volume: 1.00 ml

** SURROGATE RECOVERIES **

Surrogate	% Recovery	Target Range
BTEX/GRO Surr., a,a,a-trifluorotoluene	100.	50. - 150.
DRH Surrogate	64.	22. - 116.

SPECIALIZED ASSAYS ENVIRONMENTAL
2960 Foster Creighton Drive
Nashville, Tennessee 37204

ANALYTICAL REPORT

** Original report and a copy of the chain of custody will follow by mail.

HANDEX OF THE CAROLINAS 6163
ATT: EVAN CLARK
3600-G WOODBARK BLVD.
CHARLOTTE, NC 28206

Lab Number: 97-A047396

Sample ID: MW1

Date Collected: 6/11/97

Project:

Time Collected: 12:45

Project Name: EN MARK

Date Received: 6/12/97

Sampler:

Time Received: 9:00

State Certification: 387

Sample Type: Water

Site I.D.:

** SURROGATE RECOVERIES **

Surrogate	% Recovery	Target Range

Report Approved By: _____ Report Date: 6/24/97

Theodore J. Duello, Ph.D.
Michael H. Dunn, M.S.
Danny B. Hale, M.S.

SPECIALIZED ASSAYS ENVIRONMENTAL
2960 Foster Creighton Drive
Nashville, Tennessee 37204

ANALYTICAL REPORT

** Original report and a copy of the chain of custody will follow by mail.

HANDEX OF THE CAROLINAS 6163
ATT: EVAN CLARK
3600-G WOODPARK BLVD.
CHARLOTTE, NC 28206

Lab Number: 97-A047397

Sample ID: MW2

Date Collected: 6/11/97

Project:

Time Collected: 12:55

Project Name: EN MARK

Date Received: 6/12/97

Sampler:

Time Received: 9:00

State Certification: 387

Sample Type: Water

Site I.D.:

Analyte	Result	Units	Report Limit	Quan Limit	Dil Factor	Date	Time	Analyst	Method	Batch
ORGANIC PARAMETERS										
Benzene	6750	ug/L	225.	1.0	225	6/15/97	15:17	C. Ward	602	7427
Toluene	13500	ug/L	225.	1.0	225	6/15/97	15:17	C. Ward	602	7427
Ethylbenzene	900.	ug/L	225.	1.0	225	6/15/97	15:17	C. Ward	602	7427
Xylenes, total	5180	ug/L	225.	1.0	225	6/15/97	15:17	C. Ward	602	7427
Methyl-t-butylether	900.	ug/L	225.	1.0	225	6/15/97	15:17	C. Ward	602	7427
Naphthalene	254.	ug/L	5.0	5.0	1	6/16/97	4:34	Carmichael	610	7557

ND = Not detected at the report limit.

Sample Extraction Data

PAH's Extracted 6/13/97 Vol. extracted: 1000 ml Extract Volume: 1.00 ml

** SURROGATE RECOVERIES **

Surrogate	% Recovery	Target Range
BTEX/GRO Surr., a,a,a-trifluorotoluene	82.	50. - 150.
PAH Surrogate	60.	22. - 116.

SPECIALIZED ASSAYS ENVIRONMENTAL
2960 Foster Creighton Drive
Nashville, Tennessee 37204

ANALYTICAL REPORT

** Original report and a copy of the chain of custody will follow by mail.

HANDEX OF THE CAROLINAS 6163
ATT: EVAN CLARK
3600-G WOODBARK BLVD.
CHARLOTTE, NC 28206

Lab Number: 97-A047397

Sample ID: MW2

Date Collected: 6/11/97

Project:

Time Collected: 12:55

Project Name: EN MARK

Date Received: 6/12/97

Sampler:

Time Received: 9:00

State Certification: 387

Sample Type: Water

Site I.D.:

** SURROGATE RECOVERIES **

Surrogate	% Recovery	Target Range

Report Approved By: _____ Report Date: 6/24/97

Theodore J. Duello, Ph.D.
Michael H. Dunn, M.S.
Danny B. Hale, M.S.

SPECIALIZED ASSAYS ENVIRONMENTAL
2960 Foster Creighton Drive
Nashville, Tennessee 37204

ANALYTICAL REPORT

** Original report and a copy of the chain of custody will follow by mail.

HANDEX OF THE CAROLINAS 6163
ATT: EVAN CLARK
3600-G WOODPARK BLVD.
CHARLOTTE, NC 28206

Lab Number: 97-A047398

Sample ID: MW3

Date Collected: 6/11/97

Project:

Time Collected: 13:05

Project Name: EN MARK

Date Received: 6/12/97

Sampler:

Time Received: 9:00

State Certification: 387

Sample Type: Water

Site I.D.:

Analyte	Result	Units	Report Limit	Quan Limit	Dil Factor	Date	Time	Analyst	Method	Batch
ORGANIC PARAMETERS										
Benzene	675.	ug/L	225.	1.0	225	6/15/97	15:50	C. Ward	602	7427
Toluene	9000	ug/L	225.	1.0	225	6/15/97	15:50	C. Ward	602	7427
Ethylbenzene	900.	ug/L	225.	1.0	225	6/15/97	15:50	C. Ward	602	7427
Xylenes, total	5400	ug/L	225.	1.0	225	6/15/97	15:50	C. Ward	602	7427
Methyl-t-butylether	5.0	ug/L	1.0	1.0	1	6/15/97	15:50	C. Ward	602	7427
Naphthalene	450.	ug/L	25.0	5.0	5	6/16/97	17:11	Carmichael	610	7557

ND = Not detected at the report limit.

Sample Extraction Data

DRO's Extracted 6/13/97 Vol extracted: 1000 ml Extract Volume: 1.00 ml

** SURROGATE RECOVERIES **

Surrogate	% Recovery	Target Range
BTEX/GRO Surr., a,a,a-trifluorotoluene	101.	50. - 150.
DRO Surrogate	80.	22. - 116.

SPECIALIZED ASSAYS ENVIRONMENTAL
2960 Foster Creighton Drive
Nashville, Tennessee 37204

ANALYTICAL REPORT

** Original report and a copy of the chain of custody will follow by mail.

HANDEX OF THE CAROLINAS 6163
ATT: EVAN CLARK
3600-G WOODPARK BLVD.
CHARLOTTE, NC 28206

Lab Number: 97-A047398

Sample ID: MW3

Date Collected: 6/11/97

Project:

Time Collected: 13:05

Project Name: EN MARK

Date Received: 6/12/97

Sampler:

Time Received: 9:00

State Certification: 387

Sample Type: Water

Site I.D.:

** SURROGATE RECOVERIES **

Surrogate	% Recovery	Target Range

Report Approved By: _____ Report Date: 6/24/97

Theodore J. Duello, Ph.D.
Michael H. Dunn, M.S.
Danny B. Hale, M.S.

SPECIALIZED ASSAYS ENVIRONMENTAL
2960 Foster Creighton Drive
Nashville, Tennessee 37204

ANALYTICAL REPORT

** Original report and a copy of the chain of custody will follow by mail.

HANDEX OF THE CAROLINAS 6163
ATT: EVAN CLARK
3600-G WOODPARK BLVD.
CHARLOTTE, NC 28206

Lab Number: 97-A047399

Sample ID: STORAGE TANK

Date Collected: 6/11/97

Project:

Time Collected: 11:45

Project Name: EN MARK

Date Received: 6/12/97

Sampler:

Time Received: 9:00

State Certification: 387

Sample Type: Water

Site I.D.:

Analyte	Result	Units	Report Limit	Quan Limit	Dil Factor	Date	Time	Analyst	Method	Batch
VOLATILE ORGANICS by GC										
Benzene	17200	ug/L	50.0	1.0	50	6/18/97	20:54	E.Smith	602	7176
Chlorobenzene	ND	ug/L	50.0	1.0	50	6/18/97	20:54	E.Smith	602/601	7176
1,2-Dichlorobenzene	ND	ug/L	50.0	1.0	50	6/18/97	20:54	E.Smith	602/601	7176
1,3-Dichlorobenzene	ND	ug/L	50.0	1.0	50	6/18/97	20:54	E.Smith	602/601	7176
1,4-Dichlorobenzene	ND	ug/L	50.0	1.0	50	6/18/97	20:54	E.Smith	602/601	7176
Ethylbenzene	2640	ug/L	50.0	1.0	50	6/18/97	20:54	E.Smith	602	7176
Toluene	31800	ug/L	50.0	1.0	50	6/18/97	20:54	E.Smith	602	7176
m,p-Xylenes	10600	ug/L	50.0	1.0	50	6/18/97	20:54	E.Smith	602	7176
o-Xylene	5400	ug/L	50.0	1.0	50	6/18/97	20:54	E.Smith	602	7176
Bromodichloromethane	ND	ug/L	50.0	1.0	50	6/18/97	20:54	E.Smith	601	7176
Bromoform	ND	ug/L	50.0	1.0	50	6/18/97	20:54	E.Smith	601	7176
Bromomethane	ND	ug/L	50.0	1.0	50	6/18/97	20:54	E.Smith	601	7176
Carbon tetrachloride	ND	ug/L	50.0	1.0	50	6/18/97	20:54	E.Smith	601	7176
Chloroethane	ND	ug/L	50.0	1.0	50	6/18/97	20:54	E.Smith	601	7176
2-Chloroethylvinylether	ND	ug/L	50.0	1.0	50	6/18/97	20:54	E.Smith	601	7176
Chloroform	ND	ug/L	50.0	1.0	50	6/18/97	20:54	E.Smith	601	7176
Chloromethane	ND	ug/L	50.0	1.0	50	6/18/97	20:54	E.Smith	601	7176
Dibromochloromethane	ND	ug/L	50.0	1.0	50	6/18/97	20:54	E.Smith	601	7176
Ethylene Dibromide	ND	ug/L	50.0	1.0	50	6/18/97	20:54	E.Smith	601	7176
Vinyl chloride	ND	ug/L	50.0	1.0	50	6/18/97	20:54	E.Smith	601	7176
Dichlorodifluoromethane	ND	ug/L	50.0	1.0	50	6/18/97	20:54	E.Smith	601	7176
1,1-Dichloroethane	ND	ug/L	50.0	1.0	50	6/18/97	20:54	E.Smith	601	7176
1,2-Dichloroethane	ND	ug/L	50.0	1.0	50	6/18/97	20:54	E.Smith	601	7176
1,1-Dichloroethene	ND	ug/L	50.0	1.0	50	6/18/97	20:54	E.Smith	601	7176
cis-1,2-Dichloroethene	ND	ug/L	50.0	1.0	50	6/18/97	20:54	E.Smith	601	7176
trans-1,2-Dichloroethene	ND	ug/L	50.0	1.0	50	6/18/97	20:54	E.Smith	601	7176
1,2-Dichloropropane	ND	ug/L	50.0	1.0	50	6/18/97	20:54	E.Smith	601	7176
cis-1,3-Dichloropropene	ND	ug/L	50.0	1.0	50	6/18/97	20:54	E.Smith	601	7176

SPECIALIZED ASSAYS ENVIRONMENTAL
2960 Foster Creighton Drive
Nashville, Tennessee 37204

ANALYTICAL REPORT

** Original report and a copy of the chain of custody will follow by mail.

HANDEX OF THE CAROLINAS 6163
ATT: EVAN CLARK
3600-G WOODBARK BLVD.
CHARLOTTE, NC 28206

Lab Number: 97-A047399

Sample ID: STORAGE TANK

Date Collected: 6/11/97

Project:

Time Collected: 11:45

Project Name: EN MARK

Date Received: 6/12/97

Sampler:

Time Received: 9:00

State Certification: 387

Sample Type: Water

Site I.D.:

Analyte	Result	Units	Report Limit	Quan Limit	Dil Factor	Date	Time	Analyst	Method	Batch
trans-1,3-Dichloropropene	ND	ug/L	50.0	1.0	50	6/18/97	20:54	E.Smith	601	7176
Methylene chloride	ND	ug/L	50.0	1.0	50	6/18/97	20:54	E.Smith	601	7176
1,1,2,2-Tetrachloroethane	ND	ug/L	50.0	1.0	50	6/18/97	20:54	E.Smith	601	7176
Tetrachloroethene	ND	ug/L	50.0	1.0	50	6/18/97	20:54	E.Smith	601	7176
1,1,1-Trichloroethane	ND	ug/L	50.0	1.0	50	6/18/97	20:54	E.Smith	601	7176
1,1,2-Trichloroethane	ND	ug/L	50.0	1.0	50	6/18/97	20:54	E.Smith	601	7176
Trichloroethene	ND	ug/L	50.0	1.0	50	6/18/97	20:54	E.Smith	601	7176
Trichlorofluoromethane	ND	ug/L	50.0	1.0	50	6/18/97	20:54	E.Smith	601	7176

ND = Not detected at the report limit.

** SURROGATE RECOVERIES **

Surrogate	% Recovery	Target Range
PID Surr., a,a,a-trifluorotoluene	100.	50. - 150.
Hall Surr., 2-chloropropane	90.	70. - 130.
Hall Surr., chloroprene	99.	70. - 130.
Hall Surr., 1-chloro-3-fluorobenzene	102.	70. - 130.

Report Approved By: _____ Report Date: 6/24/97

Theodore J. Duello, Ph.D.
Michael H. Dunn, M.S.
Danny B. Hale, M.S.

SPECIALIZED ASSAYS, INC.

2960 Foster Creighton Dr.
P.O. Box 40566
Nashville, TN 37204-0566
Phone 1-615-726-0177

ANALYTICAL REPORT

RECEIVED
JUL 10 1998

ANDER OF THE CAROLINAS 6162
ILL WITTER
3600-G WOODPARK BLVD
CHARLOTTE, NC 28206

Project: 116416-01
Project Name: ENMARK 380
Sampler: TOM SEVER

Lab Number 98-074522
Sample ID: MW-1
Sample Type: Water
Site ID

Date Collected: 6/26/98
Time Collected 10:20
Date Received: 6/27/98
Time Received: 8:30

Analyte	Result	Units	Report Limit	Quan Limit	Dil Factor	Date	Time	Analyst	Method	Batch
ORGANIC PARAMETERS										
Benzene	3550	ug/l	20.0	1.0	20	7/ 4/98	18:14	B.Herford	8021B	4634
Toluene	1920	ug/l	20.0	1.0	20	7/ 4/98	18:14	B.Herford	8021B	4634
Ethylbenzene	674	ug/l	20.0	1.0	20	7/ 4/98	18:14	B.Herford	8021B	4634
Xylenes, total	3150	ug/l	20.0	1.0	20	7/ 4/98	18:14	B.Herford	8021B	4634
Methyl-t-butylether	36.0	ug/l	20.0	1.0	20	7/ 4/98	18:14	B.Herford	8021B	4634
Naphthalene	35.0	ug/l	5.0	5.0	1	7/ 3/98	3:21	M.Goodrich	8270	4006
Naphthalene	ND	ug/l	100.	5.0	20	7/ 4/98	18:14	B.Herford	8021B	4634
Acenapthene	ND	ug/l	5.0	5.0	1	7/ 3/98	3:21	M.Goodrich	8270	4006
Anthracene	ND	ug/l	5.0	5.0	1	7/ 3/98	3:21	M.Goodrich	8270	4006
Fluoranthene	ND	ug/l	5.0	5.0	1	7/ 3/98	3:21	M.Goodrich	8270	4006
Fluorene	ND	ug/l	5.0	5.0	1	7/ 3/98	3:21	M.Goodrich	8270	4006
Pyrene	ND	ug/l	5.0	5.0	1	7/ 3/98	3:21	M.Goodrich	8270	4006
Benzo(a)anthracene	ND	ug/l	5.0	5.0	1	7/ 3/98	3:21	M.Goodrich	8270	4006
Benzo(a)pyrene	ND	ug/l	5.0	5.0	1	7/ 3/98	3:21	M.Goodrich	8270	4006
Benzo(b)fluoranthene	ND	ug/l	5.0	5.0	1	7/ 3/98	3:21	M.Goodrich	8270	4006
Benzo(k)fluoranthene	ND	ug/l	5.0	5.0	1	7/ 3/98	3:21	M.Goodrich	8270	4006
Chrysene	ND	ug/l	5.0	5.0	1	7/ 3/98	3:21	M.Goodrich	8270	4006
Dibenzo(a,h)anthracene	ND	ug/l	5.0	5.0	1	7/ 3/98	3:21	M.Goodrich	8270	4006
Indeno(1,2,3-cd)pyrene	ND	ug/l	5.0	5.0	1	7/ 3/98	3:21	M.Goodrich	8270	4006
Acenapthylene	ND	ug/l	5.0	5.0	1	7/ 3/98	3:21	M.Goodrich	8270	4006
Benzo(g,h,i)perylene	ND	ug/l	5.0	5.0	1	7/ 3/98	3:21	M.Goodrich	8270	4006
Phenanthrene	ND	ug/l	5.0	5.0	1	7/ 3/98	3:21	M.Goodrich	8270	4006
METALS										
Ferrous Iron	151.	mg/l	1.00	0.100	10	6/28/98	13:35	J.Tyree	35000	1604
MISCELLANEOUS CHEMISTRY										
Nitrate-N as N	ND	mg/l	0.10	0.10	1	6/27/98	14:50	J Temple	353.2	1327
Sulfate	ND	mg/l	5.00	5.00	1	6/30/98	8:43	G. Baun	9038	2414

ND = Not detected at the report limit.

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ANALYTICAL REPORT

Laboratory Number: 98-A74522
Sample ID: MW-1

Visible Extraction Data

Parameter	Wt/Vol Extracted	Extract Vol	Date	Analyst	Method
[illegible]	1050 ml	1.0 ml	7/ 2/98	Fitzwater	3510

Surrogate	% Recovery	Target Range
[illegible] Surr., a,a,a-trifluorotoluene	96.	56 - 150
surr-nitrobenzene d5	60	35 - 115.
surr-2-Fluorobiphenyl	64.	43. - 116
surr-Terphenyl d14	40.	20 - 130

Report Approved By: Danny Hale Report Date: 7/ 6/98

Theodore J. Duello, Ph.D., Q.A Officer
Michael H. Dunn, M.S., Technical Director
Danny B. Hale, M.S., Laboratory Director

Laboratory Certification Number: 84009

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ANALYTICAL REPORT

HANDEX OF THE CAROLINAS 6163
BILL WITTEK
3600-G WOODPARK BLVD.
CHARLOTTE, NC 28206

Lab Number V8-874523
Sample ID: MW-2
Sample Type: Water
Site ID:

Date Collected 6/26/98
Time Collected 9:50
Date Received 6/27/98
Time Received 8:30

Project: 116416-01
Project Name: ENMARK 380
Sampler: TOM SEVER

Analyte	Result	Units	Report Limit	Quan Limit	Dil Factor	Date	Time	Analyst	Method	Batch
ORGANIC PARAMETERS										
Benzene	3780	ug/l	100.	1.0	100	7/ 6/98	12:15	B.Herford	8021B	4634
Toluene	9380	ug/l	100.	1.0	100	7/ 6/98	12:15	B.Herford	8021B	4634
Ethylbenzene	896	ug/l	10.0	1.0	10	7/ 4/98	18:44	B.Herford	8021B	4634
Xylenes, total	3340	ug/l	10.0	1.0	10	7/ 4/98	18:44	B.Herford	8021B	4634
Methyl-t-butylether	236.	ug/l	10.0	1.0	10	7/ 4/98	18:44	B.Herford	8021B	4634
Naphthalene	104.	ug/l	5.0	5.0	1	7/ 3/98	3:57	M.Goodrich	8270	4006
Naphthalene	885.	ug/l	50.0	5.0	10	7/ 4/98	18:44	B.Herford	8021B	4634
Acenapthene	ND	ug/l	5.0	5.0	1	7/ 3/98	3:57	M.Goodrich	8270	4006
Anthracene	ND	ug/l	5.0	5.0	1	7/ 3/98	3:57	M.Goodrich	8270	4006
Fluoranthene	ND	ug/l	5.0	5.0	1	7/ 3/98	3:57	M.Goodrich	8270	4006
Fluorene	ND	ug/l	5.0	5.0	1	7/ 3/98	3:57	M.Goodrich	8270	4006
Pyrene	ND	ug/l	5.0	5.0	1	7/ 3/98	3:57	M.Goodrich	8270	4006
Benzo(a)anthracene	ND	ug/l	5.0	5.0	1	7/ 3/98	3:57	M.Goodrich	8270	4006
Benzo(a)pyrene	ND	ug/l	5.0	5.0	1	7/ 3/98	3:57	M.Goodrich	8270	4006
Benzo(b)fluoranthene	ND	ug/l	5.0	5.0	1	7/ 3/98	3:57	M.Goodrich	8270	4006
Benzo(k)fluoranthene	ND	ug/l	5.0	5.0	1	7/ 3/98	3:57	M.Goodrich	8270	4006
Chrysene	ND	ug/l	5.0	5.0	1	7/ 3/98	3:57	M.Goodrich	8270	4006
Dibenzo(a,h)anthracene	ND	ug/l	5.0	5.0	1	7/ 3/98	3:57	M.Goodrich	8270	4006
Indeno(1,2,3-cd)pyrene	ND	ug/l	5.0	5.0	1	7/ 3/98	3:57	M.Goodrich	8270	4006
Acenapthylene	ND	ug/l	5.0	5.0	1	7/ 3/98	3:57	M.Goodrich	8270	4006
Benzo(g,h,i)perylene	ND	ug/l	5.0	5.0	1	7/ 3/98	3:57	M.Goodrich	8270	4006
Phenanthrene	ND	ug/l	5.0	5.0	1	7/ 3/98	3:57	M.Goodrich	8270	4006
METALS										
Ferrous Iron	0.380	mg/l	0.100	0.100	1	6/28/98	13:35	J.Tyree	3500D	1604
MISCELLANEOUS CHEMISTRY										
Nitrate-N as N	ND	mg/l	0.10	0.10	1	6/27/98	14:51	J.Temple	353.2	1327
Sulfate	ND	mg/l	5.00	5.00	1	6/30/98	8:43	G. Baun	9038	2414

ND = Not detected at the report limit.

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Nashville, TN 37204-0566
Phone 1-615-726-0177

ANALYTICAL REPORT

Laboratory Number: 98-A74523
Sample ID: MW-2

Sample Extraction Data

Parameter	Wt/Vol Extracted	Extract Vol	Date	Analyst	Method
BNA's	980. ml	1.0 ml	7/ 2/98	Fitzwater	3510

Surrogate	% Recovery	Target Range
BTEX/GRO Surr , 1,a,a-trifluorotoluene	95	50. - 150
surr-Nitrobenzene-d5	62.	35 - 115.
surr-2-Fluorobiphenyl	71.	43 - 116.
surr-Terphenyl d14	70.	20. - 130.

Report Approved By: _____ Report Date: 7/ 6/98

Theodore J. Duello, Ph.D., Q.A. Officer
Michael H. Dunn, M.S., Technical Director
Danny B. Hale, M.S., Laboratory Director

Laboratory Certification Number: 84009

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ANALYTICAL REPORT

HANDEX OF THE CAROLINAS 6163
BILL WITTER
3600-G WOODPARK BLVD.
CHARLOTTE, NC 28206

Lab Number: 98-A74524
Sample ID: MW-3
Sample Type: Water
Site ID:

Date Collected 6/26/98
Time Collected: 9:25
Date Received: 6/27/98
Time Received. 8:30

Project: 116416-01
Project Name. ENMARK 380
Sampler: TOM SEVER

Analyte	Result	Units	Report Limit	Quan Limit	Dil Factor	Date	Time	Analyst	Method	Batch
ORGANIC PARAMETERS										
Benzene	411.	ug/l	20.0	1.0	20	7/ 6/98	7:38	B.Herford	8021B	4634
Toluene	4150	ug/l	20.0	1.0	20	7/ 6/98	7:38	B.Herford	8021B	4634
Ethylbenzene	986.	ug/l	20.0	1.0	20	7/ 6/98	7:38	B.Herford	8021B	4634
Xylenes, total	5080	ug/l	20.0	1.0	20	7/ 6/98	7:38	B.Herford	8021B	4634
Methyl-t-butylether	ND	ug/l	20.0	1.0	20	7/ 6/98	7:38	B.Herford	8021B	4634
Naphthalene	255.	ug/l	25.0	5.0	5	7/ 3/98	10:31	M.Goodrich	8270	4006
Naphthalene	534.	ug/l	100.	5.0	20	7/ 6/98	7:38	B.Herford	8021B	4634
Acenapthene	ND	ug/l	5.0	5.0	1	7/ 3/98	4:34	M.Goodrich	8270	4006
Anthracene	ND	ug/l	5.0	5.0	1	7/ 3/98	4:34	M.Goodrich	8270	4006
Fluoranthene	ND	ug/l	5.0	5.0	1	7/ 3/98	4:34	M.Goodrich	8270	4006
Fluorene	ND	ug/l	5.0	5.0	1	7/ 3/98	4:34	M.Goodrich	8270	4006
Pyrene	ND	ug/l	5.0	5.0	1	7/ 3/98	4:34	M.Goodrich	8270	4006
Benzo(a)anthracene	ND	ug/l	5.0	5.0	1	7/ 3/98	4:34	M.Goodrich	8270	4006
Benzo(a)pyrene	ND	ug/l	5.0	5.0	1	7/ 3/98	4:34	M.Goodrich	8270	4006
Benzo(b)fluoranthene	ND	ug/l	5.0	5.0	1	7/ 3/98	4:34	M.Goodrich	8270	4006
Benzo(k)fluoranthene	ND	ug/l	5.0	5.0	1	7/ 3/98	4:34	M.Goodrich	8270	4006
Chrysene	ND	ug/l	5.0	5.0	1	7/ 3/98	4:34	M.Goodrich	8270	4006
Dibenzo(a,h)anthracene	ND	ug/l	5.0	5.0	1	7/ 3/98	4:34	M.Goodrich	8270	4006
Indeno(1,2,3-cd)pyrene	ND	ug/l	5.0	5.0	1	7/ 3/98	4:34	M.Goodrich	8270	4006
Acenapthylene	ND	ug/l	5.0	5.0	1	7/ 3/98	4:34	M.Goodrich	8270	4006
Benzo(g,h,i)perylene	ND	ug/l	5.0	5.0	1	7/ 3/98	4:34	M.Goodrich	8270	4006
Phenanthrene	ND	ug/l	5.0	5.0	1	7/ 3/98	4:34	M.Goodrich	8270	4006
METALS										
Ferrous Iron	2.65	mg/l	0.100	0.100	1	6/28/98	13:35	J.Tyree	3500D	1604
MISCELLANEOUS CHEMISTRY										
Nitrate-N as N	0.61	mg/l	0.10	0.10	1	6/27/98	14:51	J.Temple	353.2	1327
Sulfate	ND	mg/l	5.00	5.00	1	6/30/98	8:43	G. Baun	9038	2414

ND = Not detected at the report limit.

COPY 2

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ANALYTICAL REPORT

Laboratory Number: 98-A74524
Sample ID: MW-3

Sample extraction data

Parameter	Wt/Vol Extracted	Extract Vol	Date	Analyst	Method
BNAs	980 ml	1.0 ml	7/ 2/98	Fitzwater	3510

Surrogate	% Recovery	Target Range
BTEX/GRO Surr., 1,4,4-trifluorotoluene-	92	50 - 150
surr-Nitrobenzene-d5	58.	35. - 115.
surr-2-Fluorobiphenyl	59.	43. - 116.
surr-Terphenyl d14	34.	20. - 130.

Report Approved By: _____ Report Date: 7/ 6/98

Theodore J. Duello, Ph.D., Q.A. Officer
Michael H. Dunn, M.S., Technical Director
Danny B. Hale, M.S., Laboratory Director

Laboratory Certification Number: 84009

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ANALYTICAL REPORT

HANDEX OF THE CAROLINAS 6163
BILL WITTEK
3600-G WOODPARK BLVD.
CHARLOTTE, NC 28206

Lab Number: 98-A74525
Sample ID: MW-4
Sample Type: Water
Site ID:

Date Collected 6/26/98
Time Collected: 11:10
Date Received: 6/27/98
Time Received. 8:30

Project. 116416-01
Project Name: ENMARK 380
Sampler: TOM SEVER

Analyte	Result	Units	Report Limit	Quan Limit	Dil Factor	Date	Time	Analyst	Method	Batch
ORGANIC PARAMETERS										
Benzene	25300	ug/l	100.	1.0	100	7/ 6/98	8:08	B.Herford	8021B	4634
Toluene	26300	ug/l	100.	1.0	100	7/ 6/98	8:08	B.Herford	8021B	4634
Ernylbenzene	4290	ug/l	100.	1.0	100	7/ 6/98	8:08	B.Herford	8021B	4634
Xylenes, total	24900	ug/l	100.	1.0	100	7/ 6/98	8:08	B.Herford	8021B	4634
Methyl-t-butyletner	7000	ug/l	100	1.0	100	7/ 6/98	8:08	B.Herford	8021B	4634
Naphthalene	3050	ug/l	250.	5.0	50	7/ 3/98	14:53	M.Goodrich	8270	4006
Naphthalene	1470	ug/l	500.	5.0	100	7/ 6/98	8:08	B.Herford	8021B	4634
Acenapthene	ND	ug/l	100.	5.0	20	7/ 3/00	11:08	M.Goodrich	8270	4006
Anthracene	ND	ug/l	100.	5.0	20	7/ 3/00	11:08	M.Goodrich	8270	4006
Fluoranthene	ND	ug/l	100.	5.0	20	7/ 3/00	11:08	M.Goodrich	8270	4006
Fluorene	ND	ug/l	100.	5.0	20	7/ 3/00	11:08	M.Goodrich	8270	4006
Pyrene	ND	ug/l	100.	5.0	20	7/ 3/00	11:08	M.Goodrich	8270	4006
Benzo(a)anthracene	ND	ug/l	100.	5.0	20	7/ 3/00	11:08	M.Goodrich	8270	4006
Benzo(a)pyrene	ND	ug/l	100.	5.0	20	7/ 3/00	11:08	M.Goodrich	8270	4006
Benzo(b)fluoranthene	ND	ug/l	100.	5.0	20	7/ 3/00	11:08	M.Goodrich	8270	4006
Benzo(k)fluoranthene	ND	ug/l	100.	5.0	20	7/ 3/00	11:08	M.Goodrich	8270	4006
Chrysene	ND	ug/l	100.	5.0	20	7/ 3/00	11:08	M.Goodrich	8270	4006
Dibenzo(a,h)anthracene	ND	ug/l	100.	5.0	20	7/ 3/00	11:08	M.Goodrich	8270	4006
Indeno(1,2,3-cd)pyrene	ND	ug/l	100.	5.0	20	7/ 3/00	11:08	M.Goodrich	8270	4006
Acenapthylene	ND	ug/l	100.	5.0	20	7/ 3/00	11:08	M.Goodrich	8270	4006
Benzo(g,h,i)perylene	ND	ug/l	100.	5.0	20	7/ 3/00	11:08	M.Goodrich	8270	4006
Phenanthrene	ND	ug/l	100.	5.0	20	7/ 3/00	11:08	M.Goodrich	8270	4006
METALS										
Ferrous Iron	ND	mg/l	0.100	0.100	1	6/28/98	13:35	J.Tyree	3500D	1604
MISCELLANEOUS CHEMISTRY										
Nitrate-N as N	ND	mg/l	0.10	0.10	1	6/27/98	14:52	J.Temple	353.2	1327
Sulfate	8.60	mg/l	5.00	5.00	1	6/30/98	8:43	G. Baun	9038	2414

ND = Not detected at the report limit.

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Nashville, TN 37204-0566
Phone 1-615-726-0177

ANALYTICAL REPORT

Laboratory Number 98-A74525
Sample ID. MW-4

Sample Extraction Data

Parameter	Wt/Vol Extracted	Extract Vol	Date	Analyst	Method
BNA's	980. ml	1.0 ml	7/ 2/98	Fitzwater	3510

Surrogate	% Recovery	Target Range
DTBA/BNB Surr , a,a,a-trifluorotoluene	88.	50. - 150

Report Approved By: _____ Report Date: 7/ 6/98

Theodore J. Duello, Ph.D., Q.A Officer
Michael H. Dunn, M.S., Technical Director
Danny B Hale, M.S., Laboratory Director

Laboratory Certification Number: 84009

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ANALYTICAL REPORT

HANDEX OF THE CAROLINAS 6163
BILL WITTEK
3600-G WOODPARK BLVD.
CHARLOTTE, NC 28206

Lab Number: 98-A74526
Sample ID: MW-5
Sample Type: Water
Site ID:

Date Collected: 6/26/98
Time Collected: 11:35
Date Received: 6/27/98
Time Received: 8:30

Project: 116416-01
Project Name: ENMARK 380
Sampler: TOM SEVER

Analyte	Result	Units	Report Limit	Quan Limit	Dil Factor	Date	Time	Analyst	Method	Batch
ORGANIC PARAMETERS										
Benzene	10100	ug/l	200	1.0	200	7/ 6/98	8:37	B.Herford	8021B	4634
Toluene	24400	ug/l	200.	1.0	200	7/ 6/98	8:37	B.Herford	8021B	4634
Ethylbenzene	2920	ug/l	20.0	1.0	20	7/ 4/98	20:14	B.Herford	8021B	4634
Xylenes, total	8480	ug/l	20.0	1.0	20	7/ 4/98	20:14	B.Herford	8021B	4634
Methyl-t-butylether	25300	ug/l	200.	1.0	200	7/ 6/98	8:37	B.Herford	8021B	4634
Naphthalene	645.	ug/l	50.0	5.0	10	7/ 3/98	15:29	M.Goodrich	8270	4006
Naphthalene	2800	ug/l	100.	5.0	20	7/ 4/98	20:14	B.Herford	8021B	4634
Acenapthene	ND	ug/l	5.0	5.0	1	7/ 3/98	7:00	M.Goodrich	8270	4006
Anthracene	ND	ug/l	5.0	5.0	1	7/ 3/98	7:00	M.Goodrich	8270	4006
Fluoranthene	ND	ug/l	5.0	5.0	1	7/ 3/98	7:00	M.Goodrich	8270	4006
Fluorene	ND	ug/l	5.0	5.0	1	7/ 3/98	7:00	M.Goodrich	8270	4006
Pyrene	ND	ug/l	5.0	5.0	1	7/ 3/98	7:00	M.Goodrich	8270	4006
Benzo(a)anthracene	ND	ug/l	5.0	5.0	1	7/ 3/98	7:00	M.Goodrich	8270	4006
Benzo(a)pyrene	ND	ug/l	5.0	5.0	1	7/ 3/98	7:00	M.Goodrich	8270	4006
Benzo(b)fluoranthene	ND	ug/l	5.0	5.0	1	7/ 3/98	7:00	M.Goodrich	8270	4006
Benzo(k)fluoranthene	ND	ug/l	5.0	5.0	1	7/ 3/98	7:00	M.Goodrich	8270	4006
Chrysene	ND	ug/l	5.0	5.0	1	7/ 3/98	7:00	M.Goodrich	8270	4006
Dibenzo(a,h)anthracene	ND	ug/l	5.0	5.0	1	7/ 3/98	7:00	M.Goodrich	8270	4006
Indeno(1,2,3-cd)pyrene	ND	ug/l	5.0	5.0	1	7/ 3/98	7:00	M.Goodrich	8270	4006
Acenapthylene	ND	ug/l	5.0	5.0	1	7/ 3/98	7:00	M.Goodrich	8270	4006
Benzo(g,h,i)perylene	ND	ug/l	5.0	5.0	1	7/ 3/98	7:00	M.Goodrich	8270	4006
Phenanthrene	ND	ug/l	5.0	5.0	1	7/ 3/98	7:00	M.Goodrich	8270	4006
METALS										
Ferrous Iron	0.300	mg/l	0.100	0.100	1	6/28/98	13:35	J.Tyree	35000	1604
MISCELLANEOUS CHEMISTRY										
Nitrate-N as N	0.12	mg/l	0.10	0.10	1	6/27/98	14:52	J.Temple	353.2	1327
Sulfate	ND	mg/l	5.00	5.00	1	6/30/98	8:43	G. Baun	9038	2414

ND = Not detected at the report limit.

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Nashville, TN 37204-0566
Phone 1-615-726-0177

ANALYTICAL REPORT

HANDEX OF THE CAROLINAS 6163
BILL WITTEK
3600-G WOODPARK BLVD.
CHARLOTTE, NC 28206

Lab Number 98-A74527
Sample ID: MW-6
Sample Type: Water
Site ID

Date Collected. 6/26/98
Time Collected. 10:45
Date Received: 6/27/98
Time Received. 8:30

Project: 116416-01
Project Name: ENMARK 380
Sampler: TOM SEVER

Analyte	Result	Units	Report Limit	Quan Limit	Dil Factor	Date	Time	Analyst	Method	Batch
ORGANIC PARAMETERS										
Benzene	12900	ug/l	100.	1.0	100	7/ 4/98	20:44	B.Herford	8021B	4634
Toluene	20400	ug/l	100.	1.0	100	7/ 4/98	20:44	B.Herford	8021B	4634
Ethylbenzene	3980	ug/l	100	1.0	100	7/ 4/98	20:44	B.Herford	8021B	4634
Xylenes, total	19600	ug/l	100.	1.0	100	7/ 4/98	20:44	B.Herford	8021B	4634
Methyl-t-butylether	410.	ug/l	100.	1.0	100	7/ 4/98	20:44	B.Herford	8021B	4634
Naphthalene	490.	ug/l	25.0	5.0	5	7/ 3/98	11:14	M.Goodrich	8270	4006
Naphthalene	2760	ug/l	500.	5.0	100	7/ 4/98	20:44	B.Herford	8021B	4634
Acenapthene	ND	ug/l	5.0	5.0	1	7/ 3/98	7:36	M.Goodrich	8270	4006
Anthracene	ND	ug/l	5.0	5.0	1	7/ 3/98	7:36	M.Goodrich	8270	4006
Fluoranthene	ND	ug/l	5.0	5.0	1	7/ 3/98	7:36	M.Goodrich	8270	4006
Fluorene	ND	ug/l	5.0	5.0	1	7/ 3/98	7:36	M.Goodrich	8270	4006
Pyrene	ND	ug/l	5.0	5.0	1	7/ 3/98	7:36	M.Goodrich	8270	4006
Benzo(a)anthracene	ND	ug/l	5.0	5.0	1	7/ 3/98	7:36	M.Goodrich	8270	4006
Benzo(a)pyrene	ND	ug/l	5.0	5.0	1	7/ 3/98	7:36	M.Goodrich	8270	4006
Benzo(b)fluoranthene	ND	ug/l	5.0	5.0	1	7/ 3/98	7:36	M.Goodrich	8270	4006
Benzo(k)fluoranthene	ND	ug/l	5.0	5.0	1	7/ 3/98	7:36	M.Goodrich	8270	4006
Chrysene	ND	ug/l	5.0	5.0	1	7/ 3/98	7:36	M.Goodrich	8270	4006
Dibenzo(a,h)anthracene	ND	ug/l	5.0	5.0	1	7/ 3/98	7:36	M.Goodrich	8270	4006
Indeno(1,2,3-cd)pyrene	ND	ug/l	5.0	5.0	1	7/ 3/98	7:36	M.Goodrich	8270	4006
Acenapthylene	ND	ug/l	5.0	5.0	1	7/ 3/98	7:36	M.Goodrich	8270	4006
Benzo(g,h,i)perylene	ND	ug/l	5.0	5.0	1	7/ 3/98	7:36	M.Goodrich	8270	4006
Phenanthrene	ND	ug/l	5.0	5.0	1	7/ 3/98	7:36	M.Goodrich	8270	4006
METALS										
Ferrous Iron	ND	mg/l	0.100	0.100	1	6/29/98	11:17	A Hardison	3500D	1605
MISCELLANEOUS CHEMISTRY										
Nitrate-N as N	ND	mg/l	0.10	0.10	1	6/27/98	14:53	J.Temple	353.2	1327
Sulfate	ND	mg/l	5.00	5.00	1	6/30/98	8:43	G. Baun	9038	2414

ND = Not detected at the report limit.

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2960 Foster Creighton Dr.
P.O. Box 40566
Nashville, TN 37204-0566
Phone 1-615-726-0177

ANALYTICAL REPORT

Laboratory Number: 98-A74526
Sample ID: MW-5

Sample Extraction Data

Parameter	Wt/Vol Extracted	Extract Vol	Date	Analyst	Method
BNA's	950 ml	1.0 ml	7/ 2/98	Fitzwater	3510

Surrogate	% Recovery	Target Range
BTEX/8020 Surr. a,a,a-trifluorotoluene	93.	50. - 150
surr-Nitrobenzene-d5	38.	35. - 115.
surr-2-Fluorobiphenyl	107.	43 - 116
surr-Terphenyl d14	60.	20. - 130.

Report Approved By: _____ Report Date: 7/ 6/98

Theodore J. Duello, Ph.D., Q.A. Officer
Michael H. Dunn, M.S., Technical Director
Danny B. Hale, M.S., Laboratory Director

Laboratory Certification Number: 84009

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Nashville, TN 37204-0566
Phone 1-615-726-0177

ANALYTICAL REPORT

Laboratory Number: 98-A74527
Sample ID: MW-6

Sample Extraction Data

Parameter	Wt/Vol Extracted	Extract Vol	Date	Analyst	Method
BNA's	1060 ml	1.0 ml	7/ 2/98	Fitzwater	3510

Surrogate	% Recovery	Target Range
BTEX/GRO Surr., a,a,a-trifluorotoluene	94.	50. - 150
surr-Nitrobenzene-d5	60.	35. - 115.
surr-2-Fluorobiphenyl	52.	43. - 116.
surr-Terphenyl d14	72.	20. - 130.

Report Approved By: _____ Report Date: 7/ 6/98

Theodore J. Duello, Ph.D., Q.A Officer
Michael H. Dunn, M.S., Technical Director
Danny B. Hale, M.S., Laboratory Director

Laboratory Certification Number: 84009

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2960 Foster Creighton Dr.
P.O. Box 40566
Nashville, TN 37204-0566
Phone 1-615-726-0177

ANALYTICAL REPORT

HANDEX OF THE CAROLINAS 6163
ATTN: WITTEK
3600-G WOODPARK BLVD.
CHARLOTTE, NC 28206

Lab Number 98-A74528
Sample ID: MW-7
Sample Type: Water
Site ID:

Date Collected: 6/26/98
Time Collected: 11:50
Date Received: 6/27/98
Time Received: 8:30

Project: 116416-01
Project Name: ENMARK 380
Sampler: TOM SEVER

Analyte	Result	Units	Report Limit	Quan Limit	Dil Factor	Date	Time	Analyst	Method	Batch
ORGANIC PARAMETERS										
Benzene	17000	ug/l	500.	1.0	500	7/ 6/98	9:07	B.Herford	8021B	4634
Toluene	27500	ug/l	500	1.0	500	7/ 6/98	9:07	B.Herford	8021B	4634
Ethylbenzene	3660	ug/l	50.0	1.0	50	7/ 4/98	2:24	B.Herford	8021B	4634
Xylenes, total	12800	ug/l	50.0	1.0	50	7/ 4/98	2:24	B.Herford	8021B	4634
Methyl-t-butylether	7280	ug/l	50.0	1.0	50	7/ 4/98	2:24	B.Herford	8021B	4634
Naphthalene	399.	ug/l	25.0	5.0	5	7/ 3/98	11:51	M.Goodrich	8270	4006
Naphthalene	6140	ug/l	250.	5.0	50	7/ 4/98	2:24	B.Herford	8021B	4634
Acenapthene	ND	ug/l	5.0	5.0	1	7/ 3/98	8:12	M.Goodrich	8270	4006
Anthracene	ND	ug/l	5.0	5.0	1	7/ 3/98	8:12	M.Goodrich	8270	4006
Fluoranthene	ND	ug/l	5.0	5.0	1	7/ 3/98	8:12	M.Goodrich	8270	4006
Fluorene	ND	ug/l	5.0	5.0	1	7/ 3/98	8:12	M.Goodrich	8270	4006
Pyrene	ND	ug/l	5.0	5.0	1	7/ 3/98	8:12	M.Goodrich	8270	4006
Benzo(a)anthracene	ND	ug/l	5.0	5.0	1	7/ 3/98	8:12	M.Goodrich	8270	4006
Benzo(a)pyrene	ND	ug/l	5.0	5.0	1	7/ 3/98	8:12	M.Goodrich	8270	4006
Benzo(b)fluoranthene	ND	ug/l	5.0	5.0	1	7/ 3/98	8:12	M.Goodrich	8270	4006
Benzo(k)fluoranthene	ND	ug/l	5.0	5.0	1	7/ 3/98	8:12	M.Goodrich	8270	4006
Chrysene	ND	ug/l	5.0	5.0	1	7/ 3/98	8:12	M.Goodrich	8270	4006
Dibenzo(a,h)anthracene	ND	ug/l	5.0	5.0	1	7/ 3/98	8:12	M.Goodrich	8270	4006
Indeno(1,2,3-cd)pyrene	ND	ug/l	5.0	5.0	1	7/ 3/98	8:12	M.Goodrich	8270	4006
Acenapthylene	ND	ug/l	5.0	5.0	1	7/ 3/98	8:12	M.Goodrich	8270	4006
Benzo(g,h,i)perylene	ND	ug/l	5.0	5.0	1	7/ 3/98	8:12	M.Goodrich	8270	4006
Phenanthrene	ND	ug/l	5.0	5.0	1	7/ 3/98	8:12	M.Goodrich	8270	4006
METALS										
Ferrous Iron	ND	mg/l	0.100	0.100	1	6/29/98	11:17	A Hardison	3500D	1605
MISCELLANEOUS CHEMISTRY										
Nitrate-N as N	0.67	mg/l	0.10	0.10	1	6/27/98	14:55	J.Temple	353.2	1327
Sulfate	5.00	mg/l	5.00	5.00	1	6/30/98	8:43	G. Baun	9038	2414

ND = Not detected at the report limit.

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2960 Foster Creighton Dr.
P.O. Box 40566
Nashville, TN 37204-0566
Phone 1-615-726-0177

ANALYTICAL REPORT

Laboratory Number: 98-A74528
Sample ID: MW-7

Sample Extraction Data

Parameter	Wt/Vol Extracted	Extract Vol	Date	Analyst	Method
BNA's	980. ml	1.0 ml	7/ 2/98	Fitzwater	3510

Surrogate	% Recovery	Target Range
BTEX/GRO Surr , 1,a,a-trifluorotoluene	87.	58. - 150
surr-Nitrobenzene-d5	54.	35. - 115
surr-2-Fluorobiphenyl	64.	43. - 116.
surr-Terphenyl d14	68.	20. - 130.

Report Approved By: _____ Report Date: 7/ 6/98

Theodore J. Duello, Ph.D., Q.A. Officer
Michael H. Dunn, M.S., Technical Director
Danny B. Hale, M.S., Laboratory Director

Laboratory Certification Number: 84009

SPECIALIZED ASSAYS, INC.

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Nashville, TN 37204-0566
Phone 1-615-726-0177

ANALYTICAL REPORT

IANDEX OF THE CAROLINAS 6163
ILL WITTEK
3600-G WOODPARK BLVD.
HARLOTTE, NC 28206

Lab Number. 98-A74529
Sample ID: MW-8D
Sample Type. Water
Site ID

Date Collected: 6/26/98
Time Collected: 9:00
Date Received: 6/27/98
Time Received: 8:30

Project: 116416-01
Project Name: ENMARK 380
Sampler: TOM SEVER

Analyte	Result	Units	Report Limit	Quan Limit	Dil Factor	Date	Time	Analyst	Method	Batch
ORGANIC PARAMETERS										
Benzene	47.6	ug/l	1.0	1.0	1	7/ 4/98	22:44	B.Herford	8021B	4634
Toluene	3.0	ug/l	1.0	1.0	1	7/ 4/98	22:44	B.Herford	8021B	4634
Ethylbenzene	1.3	ug/l	1.0	1.0	1	7/ 4/98	22:44	B.Herford	8021B	4634
Xylenes, total	29.8	ug/l	1.0	1.0	1	7/ 4/98	22:44	B.Herford	8021B	4634
Methyl-t-butylether	74.2	ug/l	1.0	1.0	1	7/ 4/98	22:44	B.Herford	8021B	4634
Naphthalene	ND	ug/l	5.0	5.0	1	7/ 3/98	9:25	M.Goodrich	8270	4006
Naphthalene	14.0	ug/l	5.0	5.0	1	7/ 4/98	22:44	B.Herford	8021B	4634
Acenapthene	ND	ug/l	5.0	5.0	1	7/ 3/98	9:25	M.Goodrich	8270	4006
Anthracene	ND	ug/l	5.0	5.0	1	7/ 3/98	9:25	M.Goodrich	8270	4006
Fluoranthene	ND	ug/l	5.0	5.0	1	7/ 3/98	9:25	M.Goodrich	8270	4006
Fluorene	ND	ug/l	5.0	5.0	1	7/ 3/98	9:25	M.Goodrich	8270	4006
Pyrene	ND	ug/l	5.0	5.0	1	7/ 3/98	9:25	M.Goodrich	8270	4006
Benzo(a)anthracene	ND	ug/l	5.0	5.0	1	7/ 3/98	9:25	M.Goodrich	8270	4006
Benzo(a)pyrene	ND	ug/l	5.0	5.0	1	7/ 3/98	9:25	M.Goodrich	8270	4006
Benzo(b)fluoranthene	ND	ug/l	5.0	5.0	1	7/ 3/98	9:25	M.Goodrich	8270	4006
Benzo(k)fluoranthene	ND	ug/l	5.0	5.0	1	7/ 3/98	9:25	M.Goodrich	8270	4006
Chrysene	ND	ug/l	5.0	5.0	1	7/ 3/98	9:25	M.Goodrich	8270	4006
Dibenzo(a,h)anthracene	ND	ug/l	5.0	5.0	1	7/ 3/98	9:25	M.Goodrich	8270	4006
Indeno(1,2,3-cd)pyrene	ND	ug/l	5.0	5.0	1	7/ 3/98	9:25	M.Goodrich	8270	4006
Acenapthylene	ND	ug/l	5.0	5.0	1	7/ 3/98	9:25	M.Goodrich	8270	4006
Benzo(g,h,i)perylene	ND	ug/l	5.0	5.0	1	7/ 3/98	9:25	M.Goodrich	8270	4006
Phenanthrene	ND	ug/l	5.0	5.0	1	7/ 3/98	9:25	M.Goodrich	8270	4006
METALS										
Ferrous Iron	ND	mg/l	0.100	0.100	1	6/29/98	11:17	A Hardison	3500D	1605
MISCELLANEOUS CHEMISTRY										
Nitrate-N as N	1.07	mg/l	0.10	0.10	1	6/27/98	14:56	J.Temple	353.2	1327
Sulfate	6.80	mg/l	5.00	5.00	1	6/30/98	8:43	G. Baun	9038	2414

ND = Not detected at the report limit.

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2960 Foster Creighton Dr.
P.O. Box 40566
Nashville, TN 37204-0566
Phone 1-615-726-0177

ANALYTICAL REPORT

Laboratory Number: 98-A74529
Sample ID: MW-8D

Sample Extraction Data

Parameter	Wt/Vol Extracted	Extract Vol	Date	Analyst	Method
BNA's	1000 ml	1.0 ml	7/ 2/98	Fitzwater	3510

Surrogate	% Recovery	Target Range
MTEX/CRB Surr , a,a,a-trifluorotoluene	91.	50 - 150.
surr-Nitrobenzene-d5	54.	35. - 115
surr-2-Fluorobiphenyl	59.	43. - 116.
surr-Terphenyl d14	36.	20. - 130.

Report Approved By: _____ Report Date: 7/ 6/98

Theodore J. Duello, Ph.D., Q.A. Officer
Michael H. Dunn, M.S., Technical Director
Danny B. Hale, M.S., Laboratory Director

Laboratory Certification Number: 84009

SPECIALIZED ASSAYS, INC.

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Nashville, TN 37204-0566
Phone 1-615-726-0177

ANALYTICAL REPORT

HANDEX OF THE CAROLINAS 6165
BILL WITTEK
3600-G WOODPARK BLVD
CHARLOTTE, NC 28206

Lab Number: 98-A74530
Sample ID: EQ BLANK
Sample Type: Water
Site ID:

Date Collected: 6/26/98
Time Collected: 12.00
Date Received: 6/27/98
Time Received: 8:30

Project: 116416-01
Project Name: ENMARK 380
Sampler: TOM SEVER

Analyte	Result	Units	Report Limit	Quan Limit	Dil Factor	Date	Time	Analyst	Method	Batch
ORGANIC PARAMETERS										
Benzene	ND	ug/l	1.0	1.0	1	7/ 5/98	13:31	B.Herford	8021B	4759
Toluene	ND	ug/l	1.0	1.0	1	7/ 5/98	13:31	B.Herford	8021B	4759
Ethylbenzene	ND	ug/l	1.0	1.0	1	7/ 5/98	13:31	B.Herford	8021B	4759
Xylenes, total	ND	ug/l	1.0	1.0	1	7/ 5/98	13:31	B.Herford	8021B	4759

ND = Not detected at the report limit.

Surrogate	% Recovery	Target Range
BTEX/GRO Surr., a,a,a-trifluorotoluene	90.	50. - 150.

Report Approved By: _____ Report Date: 7/ 6/98

Theodore J. Duello, Ph.D., Q.A. Officer
Michael H. Dunn, M.S., Technical Director
Danny B. Hale, M.S., Laboratory Director

Laboratory Certification Number: 84009

SPECIALIZED ASSAYS
ENVIRONMENTAL

7A- 003880

2960 Foster Creighton Drive
Nashville, TN 37204
615-726-0177
FAX 615/726-3404

REFERRING CLIENT

Account: 6163
Handex of the Carolinas
Jeff Hollis
3600-G Woodpark Blvd.,
Charlotte, NC 28206
Ph: 704-598-7900 Fax: 704-598-2248

NG CONTROL NUMBER (FOR LAB USE ONLY): 105175

PROJECT #: 116416-01

P.O. #:

IPLERS (Signature-Please Print): Tom Sever Tom Sever

PROJECT NAME: ENMARK 380

R LAB USE ONLY ACC#	SAMPLE DESCRIPTION	DATE	TIME	COMP	GRAB	# OF CONT	ANALYSIS REQUESTED
74522	MW-1	6/24/98	1020		X	4	BTEX/Naph/MTBE by 8021B PAH by 8270/Nitrate, Sulfate Ferrous Iron
523	MW-2		950				
524	MW-3		9:25				
525	MW-4		1110				
526	MW-5		11:35				
527	MW-6		1045				
528	MW-7		1150				
529	MW-8D		9:00				
74530	Eq. Blank	6/24/98	1200			2	BTEX/Naph/MTBE 8021B Only

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Received for Laboratory by:	Date / Time
Tom Sever	6/24/98 1:30			6/25/98 330
Relinquished by: (Signature)	Date / Time	Received by: (Signature)		
Relinquished by: (Signature)	Date / Time	Received by: (Signature)		
Relinquished by: (Signature)	Date / Time	Received by: (Signature)		

Remarks
DETECTION LIMITS TO SCDHEC REGS FOR A "RAPID ASSESSMENT".
~~[illegible]~~ 4

For further assistance in completing the chain of custody form please refer to the instructions found on the opposite sid

06/29/98 09:13 ☎704 598 2248 HANDEX/CAROLINAS ☑001

SPECIALIZED ASSAYS ENVIRONMENTAL

7A- 003880

2960 Foster Creighton Drive
Nashville, TN 37204
615-726-0177
FAX 615/726-3404

DATE: 6/29/98
TO: JESSICA, CLIENT SVCS.
FROM: JEFFREY HOLLIS
RE: CHANGE TO EQ. BLANK ANALYSIS

REFERRING CLIENT
6163

BC# 105175

NG CONTROL NUMBER (FOR LAB USE ONLY)

PROJECT # 116416-01

P.O. #

LERS (Signature-Please Print) Tom Sever Tom Sever

PROJECT NAME ENMARK 380

OR LAB USE ONLY ACC#	SAMPLE DESCRIPTION	DATE	TIME	COMP	GRAB	# OF CONT	ANALYSIS REQUESTED
98-A74522	MW-1	6/26/98	1020		X	4	BTEX/Naph/MTBE by 8021B PAH by 8270/Nitrate, Sulfate Ferrous Iron
	MW-2		950				
	MW-3		9:25				
	MW-4		1110				
	MW-5		11:35				
	MW-6		1045				
	MW-7		1150				
	MW-8D		9:00				
98-A74530	Eq. Blank	6/26/98	1200			2	BTEX ONLY ~~Naph/MTBE 8021B~~

Inquished by: (Signature)	Date / Time	Received by: (Signature)	Received for Laboratory by:	Date / Time
Tom Sever	6/26/98 1:30			
Inquished by: (Signature)	Date / Time	Received by: (Signature)	Remarks DETECTION LIMITS TO SCDHEC REGS FOR A "RAPID ASSESSMENT"	
Inquished by: (Signature)	Date / Time	Received by: (Signature)		
Inquished by: (Signature)	Date / Time	Received by: (Signature)		

For further assistance in completing the chain of custody form please refer to the instructions found on the opposite sid

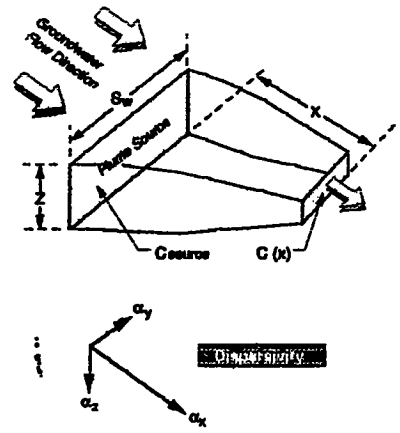
APPENDIX F

DETAILED MODEL DESCRIPTION AND INPUT PARAMETERS

APPENDIX A.1 DOMENICO ANALYTICAL MODEL

The Domenico (1987) analytical model, used by BIOSCREEN, is designed for the multidimensional transport of a decaying contaminant species. The model equation, boundary conditions, assumptions, and limitations are discussed below.

Domenico Model with Instantaneous Reaction Superposition Algorithm



$$\frac{C(x,y,o,t)}{(Co+BC)} = \frac{1}{8}\exp\left[\frac{x}{\alpha_x 2}\left(1-\left(1+4\lambda\alpha_x/v\right)^{1/2}\right)\right]$$

$$erfc\left[\frac{\left(x-vt\left(1+4\lambda\alpha_x/v\right)^{1/2}\right)}{2(\alpha_x vt)^{1/2}}\right]$$

$$\left\{erf\left[\frac{(y+Y/2)}{2(\alpha_y x)^{1/2}}\right]-erf\left[\frac{(y-Y/2)}{2(\alpha_y x)^{1/2}}\right]\right\}$$

$$\left\{erf\left[\frac{(Z)}{2(\alpha_z x)^{1/2}}\right]-erf\left[\frac{(-Z)}{2(\alpha_z x)^{1/2}}\right]\right\}-BC$$

where: $v = \frac{K \cdot i}{\theta_e R}$ $\quad BC = \Sigma \frac{C(ea)_n}{UF_n}$

Definitions

BC	Biodegradation capacity (mg/L)	UF_n	Utilization factor for electron acceptor n (i.e., mass ratio of electron acceptor to hydrocarbon consumed in biodegradation reaction)
C(x,y,z,t)	Concentration at distance x downstream of source and distance y off centerline of plume at time t (mg/L)	α_x	Longitudinal groundwater dispersivity (ft)
C_s	Concentration in Source Zone (mg/L)	α_y	Transverse groundwater dispersivity (ft)
Co	Concentration in Source Zone at t=0 (mg/L)	α_z	Vertical groundwater dispersivity (ft)
x	Distance downgradient of source (ft)	θ_e	Effective Soil Porosity
y	Distance from plume centerline of source (ft)	λ	First-Order Degradation Rate (day^{-1})
z	Distance from surface to measurement point (assumed to be 0; concentration is always assumed to be at top of water table).	υ	Groundwater Seepage Velocity (ft/yr)
$C(ea)_n$	Concentration of electron acceptor n in groundwater (mg/L)	K	Hydraulic Conductivity (ft/yr)
		R	Constituent retardation factor
		i	Hydraulic Gradient (cm/cm)
		Y	Source Width (ft)
		Z	Source Depth (ft)

The initial conditions are:

1) $c(x, y, z, 0) = 0$ (Initial concentration = 0 for x, y, z, > 0)
2) $c(0, Y, Z, 0) = C_0$ (Source concentration for each vertical plane source = C_0 at time 0)

The key assumptions in the model are:

1) The aquifer and flow field are homogenenous and isotropic.
2) The groundwater velocity is fast enough that molecular diffusion in the dispersion terms can be ignored (may not be appropriate for simulation of transport through clays).
3) Adsorption is a reversible process represented by a linear isotherm.

The key limitations to the model are:

1) The model should not be applied where pumping systems create a complicated flow field.
2) The model should not be applied where vertical flow gradients affect contaminant transport.
3) The model should not be applied where hydrogeologic conditions change dramatically over the simulation domain.

The most important modifications to the original Domenico model are:

1) The addition of "layer cake" source terms where three Domenico models are superimposed one on top of another to yield the 5-source term used in BIOSCREEN (see Connor et al., 1994; and the Source Width description in the BIOSCREEN Data Entry Section).
2) Addition of the instantaneous reaction term using the superposition algorithm (see Appendix A.2, below). For the instantaneous reaction assumption, the source concentration is assumed to be an "effective source concentration" (Coe) equal to the observed concentration in the source zone plus the biodegradation capacity (see "Source Concentration" on the BIOSCREEN Data Entry section).

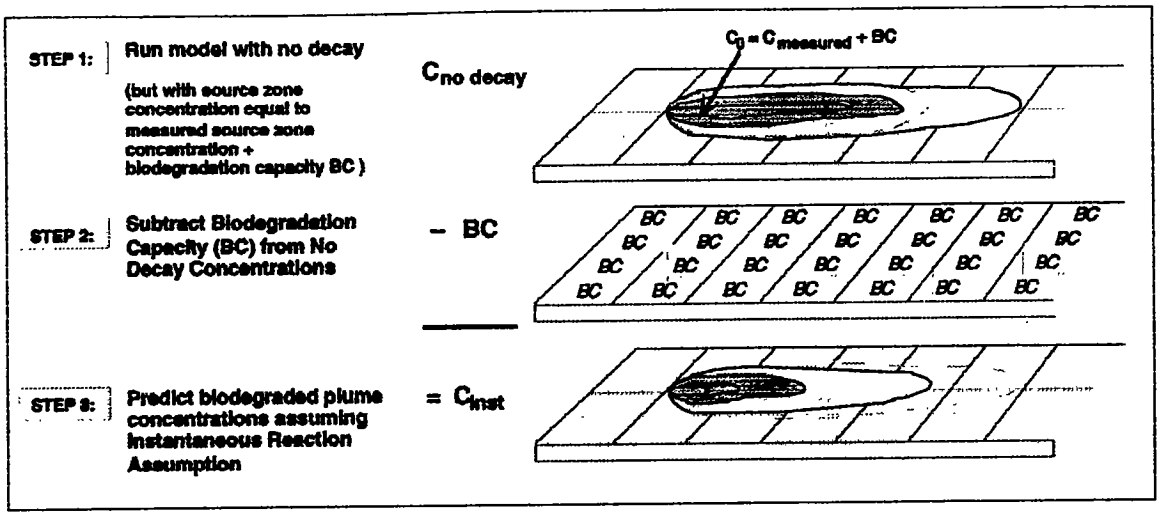
APPENDIX A.2 INSTANTANEOUS REACTION - SUPERPOSITION ALGORITHM

Early biodegradation research focused on the role of dissolved oxygen in controlling the rate of biodegradation in the subsurface (Borden *et al.*, 1986; Lee *et al*, 1987). Because microbial biodegradation kinetics are relatively fast in comparison to the rate of oxygen transport in the groundwater flow system, Borden demonstrated that the biodegradation process can be simulated as an instantaneous reaction between the organic contaminant and oxygen. This simplifying assumption was incorporated into the BIOPLUME I numerical model which calculated organic mass loss by superposition of background oxygen concentrations onto the organic contaminant plume. In BIOPLUME II, a dual-particle mover procedure was incorporated to more accurately simulate the separate transport of oxygen and organic contaminants within the subsurface (Rifai *et al*, 1987; Rifai, *et al*, 1988).

In most analytical modeling applications, contaminant biodegradation is estimated using a first-order decay equation with the biodecay half-life values determined from research literature or site data. However, by ignoring oxygen limitation effects such first-order expressions can significantly overestimate the rate and degree of biodegradation, particularly within low-flow regimes where the rate of oxygen exchange in a groundwater plume is very slow (Rifai, 1994). As a more accurate method of analysis, Newell recommended incorporation of the concept of oxygen superposition into an analytical model (Connor et al., 1994) in a manner similar to that employed in the original BIOPLUME model (Borden *et al.* 1986). By this method, contaminant mass concentrations at any location and time within the flow field are corrected by subtracting 1 mg/L organic mass for each 3 mg/L of background oxygen, in accordance with the instantaneous reaction assumption. Borden *et al* (1986) concluded this simple superposition technique was an exact replacement for more sophisticated oxygen-limited models, as long as the oxygen and the hydrocarbon had the same transport rates (e.g., retardation factor, R = 1).

In their original work, Borden *et al.* (1986) noted that for highly sorptive contaminants the oxygen-superposition method might erroneously characterize biodegradation due to the differing transport rates of dissolved oxygen and the organic contaminant within the aquifer matrix. However, as demonstrated by Connor *et al.* (1994), the oxygen superposition method and BIOPLUME II (dual particle transport) are in reasonable agreement for contaminant retardation factors as high as 6. Therefore, the superposition method can be employed as a reasonable approximation in BIOSCREEN regardless of contaminant sorption characteristics.

BIOSCREEN employs the same superposition approach for all of the aerobic and anaerobic biodegradation reactions (based on evaluation of O_2, NO_3, SO_4, Fe^{2+}, and CH_4). Based on work reported by Newell *et al.* (1995), the anaerobic reactions (nitrate, ferric iron, and sulfate reduction and methanogenesis) are amenable to simulation using the instantaneous reaction assumption. The general approach is presented below:



Based on the biodegradation capacity of electron acceptors present in the groundwater system, this algorithm will correct the non-decayed groundwater plume concentrations predicted by the Domenico model (Appendix A.1) for the effects of organic constituent biodegradation.

To summarize:

1) The original BIOPLUME model (Borden *et al.* 1986) used a superposition method to simulate the fast or "instantaneous" reaction of dissolved hydrocarbons with dissolved oxygen in groundwater.
2) Borden *et al.* (1986) reported that this version of BIOPLUME was mathematically exact for the case where the retardation factor of the contaminant was 1.0.
3) Rifai and Bedient (1990) developed the BIOPLUME II model with a dual-particle tracking routine that expanded the original BIOPLUME model to handle contaminants with retardation factors other than 1.0, in addition to other improvements.
4) Connor et al. (1994) compared the superposition method with the more sophisticated BIOPLUME II model and determined that the two approaches yielded very similar results for readily biodegradable contaminants with retardation factors between 1.0 and 6.0.
5) BIOSCREEN was developed using the superposition approach to simulate the "instantaneous" reaction of aerobic and anaerobic reactions in groundwater. The biodegradation term in BIOSCREEN is mathematically identical to the approach used in the original BIOPLUME model. This mathematical approach (superposition) matches the more sophisticated BIOPLUME II model very closely for readily biodegradable contaminant retardation factors of up to 6.0. BIOSCREEN simulations using the instantaneous reaction assumption at sites with retardation factors greater than 6.0 should be performed with caution and verified using a more sophisticated model such as BIOPLUME III.

APPENDIX G

PLUME MIGRATION CALCULATION SPREADSHEETS

HANDEX®

BIOSCREEN Natural Attenuation Decision Support System

Air Force Center for Environmental Excellence — *Version 1.4*

ENMARK 380
Benzene Fate
Run Name

Data Input Instructions:

115 ↑ or 0.02

1. Enter value directly....or
2. Calculate by filling in grey cells below. (To restore formulas, hit button below).

Variable* — Data used directly in model.
20 — Value calculated by model. (Don't enter any data).

1. HYDROGEOLOGY

Seepage Velocity*	Vs	2.6	(ft/yr)
or		↑ or	
Hydraulic Conductivity	K	3.5E-05	(cm/sec)
Hydraulic Gradient	i	0.018	(ft/ft)
Porosity	n	0.25	(-)

2. DISPERSION

Longitudinal Dispersivity*	alpha x	20.0	(ft)
Transverse Dispersivity*	alpha y	6.7	(ft)
Vertical Dispersivity*	alpha z	0.5	(ft)
or		↑ or	
Estimated Plume Length	Lp	200	(ft)

3. ADSORPTION

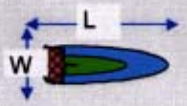
Retardation Factor*	R	1.2	(-)
or		↑ or	
Soil Bulk Density	rho	1.5	(kg/l)
Partition Coefficient	Koc	83	(L/kg)
FractionOrganicCarbon	foc	3.6E-4	(-)

4. BIODEGRADATION

1st Order Decay Coeff*	lambda	1.0E-3	(per yr)
or		↑ or	
Solute Half-Life	t-half	690.00	(year)
or Instantaneous Reaction Model			
Delta Oxygen*	DO	1	(mg/L)
Delta Nitrate*	NO3	0.55	(mg/L)
Observed Ferrous Iron*	Fe2+	1.11	(mg/L)
Delta Sulfate*	SO4	0	(mg/L)
Observed Methane*	CH4	0	(mg/L)

5. GENERAL

Modeled Area Length*	200	(ft)
Modeled Area Width*	100	(ft)
Simulation Time*	500	(yr)



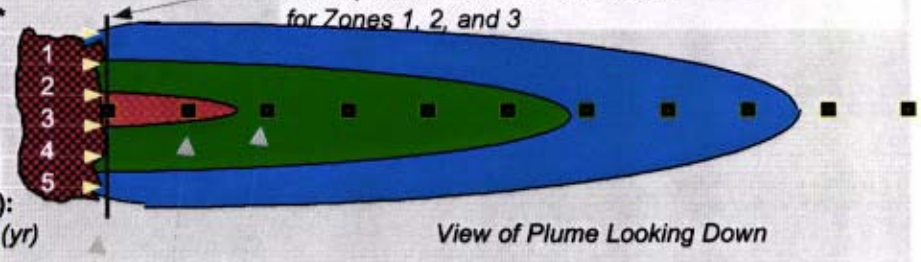
6. SOURCE DATA

Source Thickness in Sat.Zone* 10 (ft)

Source Zones:

Width* (ft)	Conc. (mg/L)*
5	1
10	10
20	25.3
10	10
5	1

Vertical Plane Source: Look at Plume Cross-Section and Input Concentrations & Widths for Zones 1, 2, and 3



View of Plume Looking Down

Source Halflife (see Help):

Infinite	Infinite	(yr)
Inst. React. ↑	↑ 1st Order	
Soluble Mass	infinite	(Kg)
In Source NAPL, Soil		

Observed Centerline Concentrations at Monitoring Wells
If No Data Leave Blank or Enter "0"

7. FIELD DATA FOR COMPARISON

Concentration (mg/L)	25.3										
Dist. from Source (ft)	0	20	40	60	80	100	120	140	160	180	200

8. CHOOSE TYPE OF OUTPUT TO SEE:

RUN CENTERLINE — **View Output**

RUN ARRAY — **View Output**

Help

Recalculate This Sheet

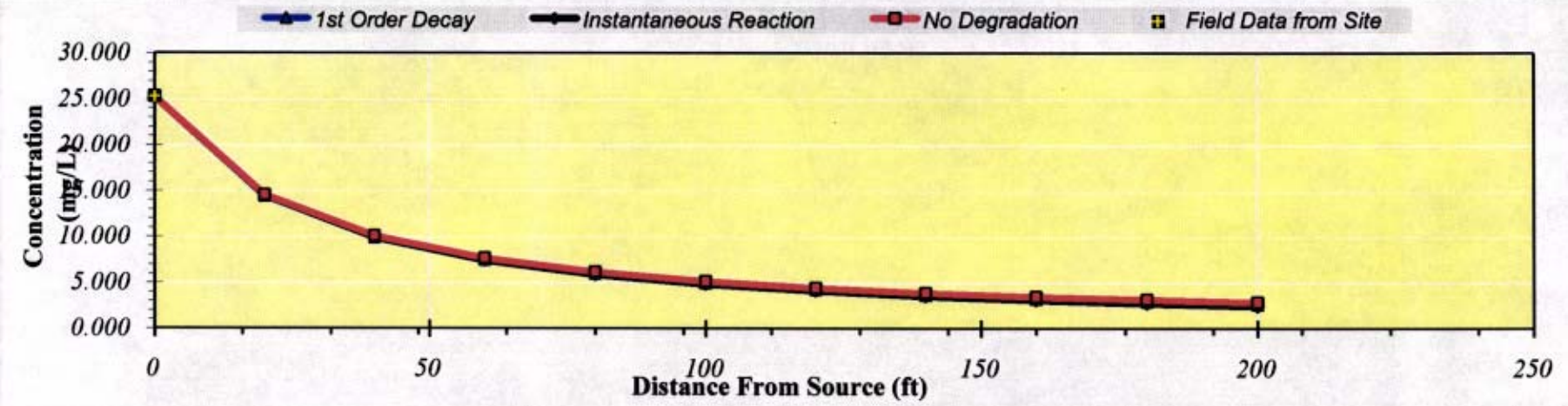
Paste Example Dataset

Restore Formulas for Vs, Dispersivities, R, lambda, other

DISSOLVED HYDROCARBON CONCENTRATION ALONG PLUME CENTERLINE (mg/L at Z=0)

MW-4

TYPE OF MODEL	Distance from Source (ft) 0	20	40	60	80	100	120	140	160	180	200
No Degradation	25.300	14.549	10.078	7.663	6.170	5.159	4.431	3.883	3.455	3.111	2.830
1st Order Decay	25.300	14.419	9.899	7.459	5.952	4.932	4.199	3.646	3.215	2.870	2.587
Inst. Reaction	25.300	14.478	9.904	7.423	5.885	4.844	4.094	3.528	3.086	2.732	2.441
Field Data from Site	25.300										



Calculate Animation

Time:
500 Years

Return to Input

Recalculate This Sheet

BIOSCREEN Natural Attenuation Decision Support System

Air Force Center for Environmental Excellence — *Version 1.4*

ENMARK 380
Benzene SSTL
Run Name

Data Input Instructions:

115 ↑ or 0.02

1. Enter value directly....or
2. Calculate by filling in grey cells below. (To restore formulas, hit button below).

Variable* — Data used directly in model.
20 — Value calculated by model. (Don't enter any data).

1. HYDROGEOLOGY

Seepage Velocity*	Vs	2.6	(ft/yr)
or		↑ or	
Hydraulic Conductivity	K	3.5E-05	(cm/sec)
Hydraulic Gradient	i	0.018	(ft/ft)
Porosity	n	0.25	(-)

2. DISPERSION

Longitudinal Dispersivity*	alpha x	20.0	(ft)
Transverse Dispersivity*	alpha y	6.7	(ft)
Vertical Dispersivity*	alpha z	0.5	(ft)
or		↑ or	
Estimated Plume Length	Lp	200	(ft)

3. ADSORPTION

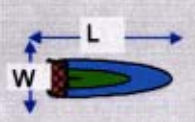
Retardation Factor*	R	1.2	(-)
or		↑ or	
Soil Bulk Density	rho	1.5	(kg/l)
Partition Coefficient	Koc	83	(L/kg)
FractionOrganicCarbon	foc	3.6E-4	(-)

4. BIODEGRADATION

1st Order Decay Coeff*	lambda	1.0E-3	(per yr)
or		↑ or	
Solute Half-Life	t-half	690.00	(year)
or Instantaneous Reaction Model			
Delta Oxygen*	DO	1	(mg/L)
Delta Nitrate*	NO3	0.55	(mg/L)
Observed Ferrous Iron*	Fe2+	1.11	(mg/L)
Delta Sulfate*	SO4	0	(mg/L)
Observed Methane*	CH4	0	(mg/L)

5. GENERAL

Modeled Area Length*	200	(ft)
Modeled Area Width*	100	(ft)
Simulation Time*	500	(yr)



6. SOURCE DATA

Source Thickness in Sat.Zone* 10 (ft)

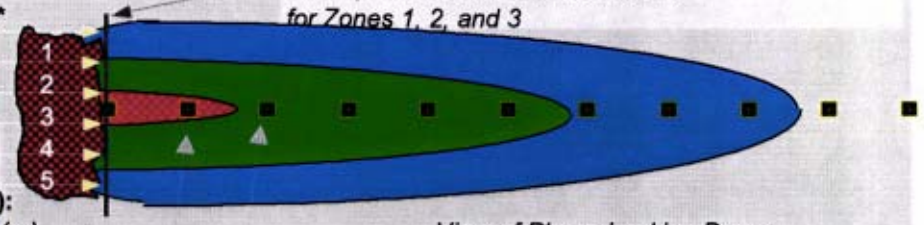
Source Zones:

Width* (ft)	Conc. (mg/L)*
5	0.05
10	0.5
20	4.42
10	0.5
5	0.05

Source Halflife (see Help):

Infinite	Infinite	(yr)
Inst. React.	1st Order	
Soluble Mass	infinite	(Kg)
In Source NAPL, Soil		

Vertical Plane Source: Look at Plume Cross-Section and Input Concentrations & Widths for Zones 1, 2, and 3



View of Plume Looking Down

Observed Centerline Concentrations at Monitoring Wells
If No Data Leave Blank or Enter "0"

7. FIELD DATA FOR COMPARISON

Concentration (mg/L)	4.42										
Dist. from Source (ft)	0	20	40	60	80	100	120	140	160	180	200

8. CHOOSE TYPE OF OUTPUT TO SEE:

RUN CENTERLINE — **View Output**

RUN ARRAY — **View Output**

Help

Recalculate This Sheet

Paste Example Dataset

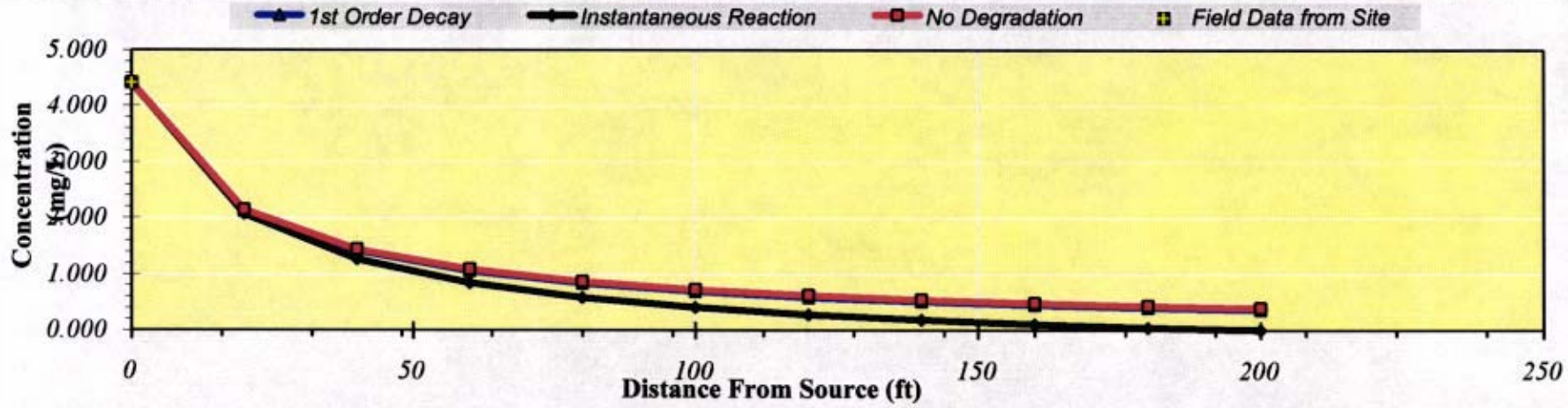
Restore Formulas for Vs, Dispersivities, R, lambda, other

DISSOLVED HYDROCARBON CONCENTRATION ALONG PLUME CENTERLINE (mg/L at Z=0)

MW-4

Distance from Source (ft)

TYPE OF MODEL	0	20	40	60	80	100	120	140	160	180	200
No Degradation	4.420	2.142	1.441	1.084	0.868	0.723	0.620	0.542	0.482	0.433	0.394
1st Order Decay	4.420	2.123	1.415	1.055	0.837	0.691	0.587	0.509	0.448	0.400	0.360
Inst. Reaction	4.420	2.071	1.267	0.843	0.583	0.408	0.282	0.187	0.113	0.054	0.005
Field Data from Site	4.420										



Calculate Animation

Time:
500 Years

Return to Input

Recalculate This Sheet

BIOSCREEN Natural Attenuation Decision Support System

Air Force Center for Environmental Excellence — *Version 1.4*

ENMARK 380
Toluene Fate
Run Name

Data Input Instructions:

115 or 0.02

1. Enter value directly....or
2. Calculate by filling in grey cells below. (To restore formulas, hit button below).

Variable* — Data used directly in model.

20 — Value calculated by model. (Don't enter any data).

1. HYDROGEOLOGY

Seepage Velocity*	Vs	2.6	(ft/yr)
or		or	
Hydraulic Conductivity	K	3.5E-05	(cm/sec)
Hydraulic Gradient	i	0.018	(ft/ft)
Porosity	n	0.25	(-)

2. DISPERSION

Longitudinal Dispersivity*	alpha x	20.0	(ft)
Transverse Dispersivity*	alpha y	6.7	(ft)
Vertical Dispersivity*	alpha z	0.5	(ft)
or		or	
Estimated Plume Length	Lp	200	(ft)

3. ADSORPTION

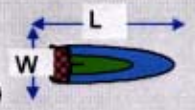
Retardation Factor*	R	1.7	(-)
or		or	
Soil Bulk Density	rho	1.5	(kg/l)
Partition Coefficient	Koc	300	(L/kg)
FractionOrganicCarbon	foc	3.6E-4	(-)

4. BIODEGRADATION

1st Order Decay Coeff*	lambda	3.3E-3	(per yr)
or		or	
Solute Half-Life	t-half	210.00	(year)
or Instantaneous Reaction Model			
Delta Oxygen*	DO	1	(mg/L)
Delta Nitrate*	NO3	0.55	(mg/L)
Observed Ferrous Iron*	Fe2+	1.11	(mg/L)
Delta Sulfate*	SO4	0	(mg/L)
Observed Methane*	CH4	0	(mg/L)

5. GENERAL

Modeled Area Length*	200	(ft)
Modeled Area Width*	100	(ft)
Simulation Time*	500	(yr)



6. SOURCE DATA

Source Thickness in Sat.Zone* 10 (ft)

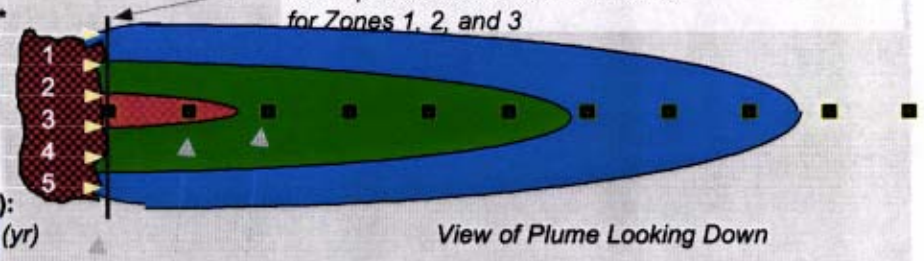
Source Zones:

Width* (ft)	Conc. (mg/L)*
5	1
10	10
20	26.3
10	10
5	1

Source Halflife (see Help):

Infinite	Infinite	(yr)
Inst. React.	1st Order	
Soluble Mass	infinite	(Kg)
In Source NAPL, Soil		

Vertical Plane Source: Look at Plume Cross-Section and Input Concentrations & Widths for Zones 1, 2, and 3



View of Plume Looking Down

Observed Centerline Concentrations at Monitoring Wells
If No Data Leave Blank or Enter "0"

7. FIELD DATA FOR COMPARISON

Concentration (mg/L)	26.3										
Dist. from Source (ft)	0	20	40	60	80	100	120	140	160	180	200

8. CHOOSE TYPE OF OUTPUT TO SEE:

RUN CENTERLINE — **View Output**

RUN ARRAY — **View Output**

Help

Recalculate This Sheet

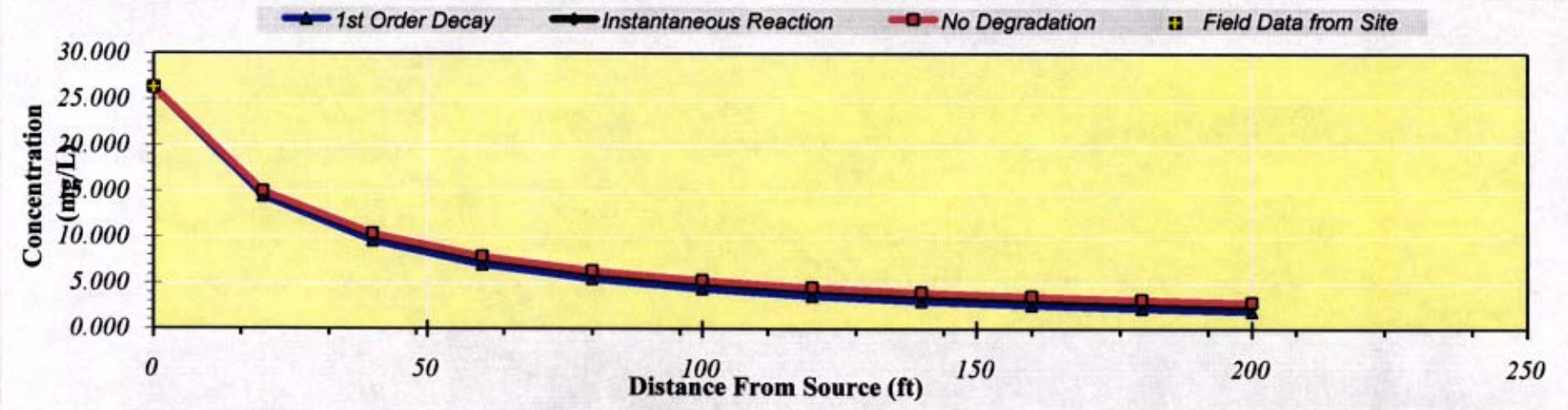
Paste Example Dataset

Restore Formulas for Vs, Dispersivities, R, lambda, other

DISSOLVED HYDROCARBON CONCENTRATION ALONG PLUME CENTERLINE (mg/L at Z=0)

MW-4

TYPE OF MODEL	Distance from Source (ft) 0	20	40	60	80	100	120	140	160	180	200
No Degradation	26.300	14.997	10.375	7.885	6.347	5.306	4.557	3.992	3.552	3.198	2.909
1st Order Decay	26.300	14.408	9.576	6.992	5.407	4.343	3.583	3.016	2.578	2.230	1.949
Inst. Reaction	26.300	14.926	10.201	7.645	6.062	4.991	4.219	3.638	3.183	2.819	2.520
Field Data from Site	26.300										



Calculate Animation

Time:
500 Years

Return to Input

Recalculate This Sheet

BIOSCREEN Natural Attenuation Decision Support System

Air Force Center for Environmental Excellence — *Version 1.4*

ENMARK 380
Toluene SSTL
Run Name

Data Input Instructions:

115 *or* 0.02
1. *Enter value directly....or*
2. *Calculate by filling in grey cells below. (To restore formulas, hit button below).*

Variable* — *Data used directly in model.*
20 — *Value calculated by model. (Don't enter any data).*

1. HYDROGEOLOGY

Seepage Velocity*	*Vs*	2.6	*(ft/yr)*
or		*or*	
Hydraulic Conductivity	*K*	3.5E-05	*(cm/sec)*
Hydraulic Gradient	*i*	0.018	*(ft/ft)*
Porosity	*n*	0.25	*(-)*

2. DISPERSION

Longitudinal Dispersivity*	*alpha x*	20.0	*(ft)*
Transverse Dispersivity*	*alpha y*	6.7	*(ft)*
Vertical Dispersivity*	*alpha z*	0.5	*(ft)*
or		*or*	
Estimated Plume Length	*Lp*	200	*(ft)*

3. ADSORPTION

Retardation Factor*	*R*	1.7	*(-)*
or		*or*	
Soil Bulk Density	*rho*	1.5	*(kg/l)*
Partition Coefficient	*Koc*	300	*(L/kg)*
FractionOrganicCarbon	*foc*	3.6E-4	*(-)*

4. BIODEGRADATION

1st Order Decay Coeff*	*lambda*	3.3E-3	*(per yr)*
or		*or*	
Solute Half-Life	*t-half*	210.00	*(year)*
or Instantaneous Reaction Model			
Delta Oxygen*	*DO*	1	*(mg/L)*
Delta Nitrate*	*NO3*	0.55	*(mg/L)*
Observed Ferrous Iron*	*Fe2+*	1.11	*(mg/L)*
Delta Sulfate*	*SO4*	0	*(mg/L)*
Observed Methane*	*CH4*	0	*(mg/L)*

5. GENERAL

Modeled Area Length*	200	*(ft)*
Modeled Area Width*	100	*(ft)*
Simulation Time*	500	*(yr)*

6. SOURCE DATA

Source Thickness in Sat.Zone* 10 *(ft)*

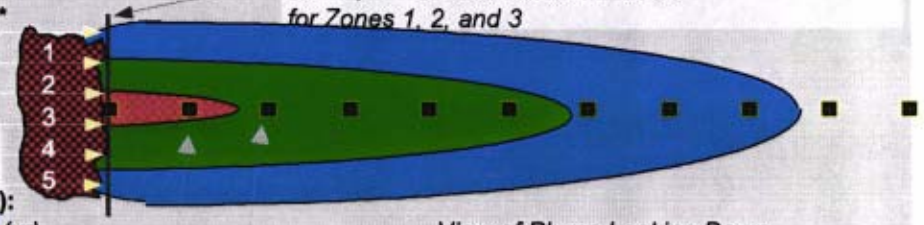
Source Zones:

Width* (ft)	Conc. (mg/L)*
5	1
10	5
20	13.4
10	5
5	1

Source Halflife (see Help):

Infinite	Infinite	*(yr)*
Inst. React.	1st Order	
Soluble Mass	infinite	*(Kg)*
In Source NAPL, Soil		

Vertical Plane Source: Look at Plume Cross-Section and Input Concentrations & Widths for Zones 1, 2, and 3



View of Plume Looking Down

Observed Centerline Concentrations at Monitoring Wells If No Data Leave Blank or Enter "0"

7. FIELD DATA FOR COMPARISON

Concentration (mg/L)	13.4										
Dist. from Source (ft)	0	20	40	60	80	100	120	140	160	180	200

8. CHOOSE TYPE OF OUTPUT TO SEE:

RUN CENTERLINE — **View Output**

RUN ARRAY — **View Output**

Help

Recalculate This Sheet

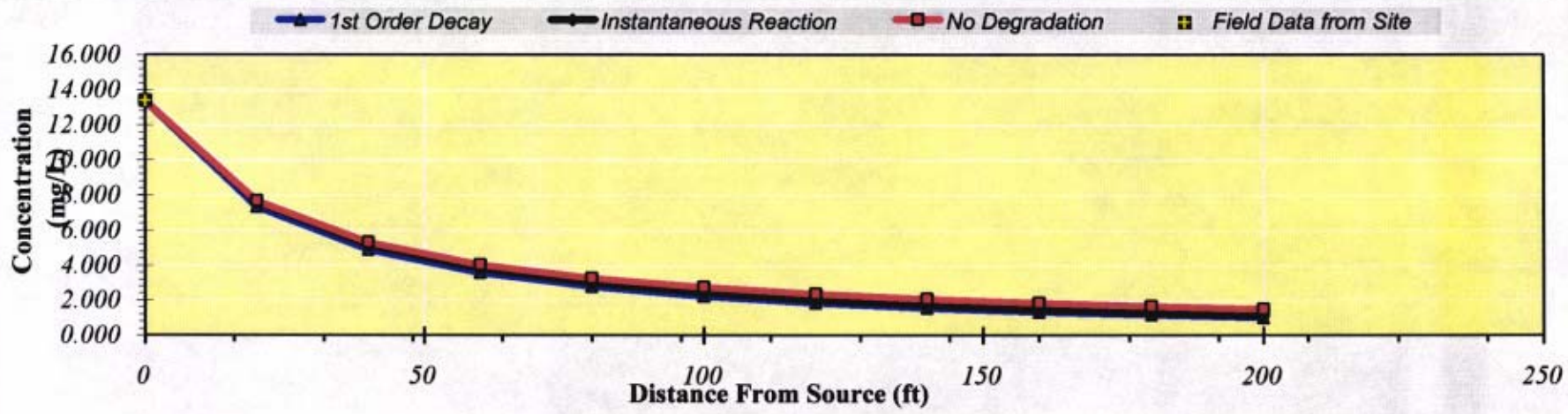
Paste Example Dataset

Restore Formulas for Vs, Dispersivities, R, lambda, other

DISSOLVED HYDROCARBON CONCENTRATION ALONG PLUME CENTERLINE (mg/L at Z=0)

MW-4

TYPE OF MODEL	Distance from Source (ft) 0	20	40	60	80	100	120	140	160	180	200
No Degradation	13.400	7.657	5.309	4.039	3.253	2.721	2.337	2.048	1.822	1.641	1.493
1st Order Decay	13.400	7.356	4.900	3.582	2.771	2.227	1.838	1.547	1.323	1.144	1.000
Inst. Reaction	13.400	7.586	5.136	3.799	2.969	2.406	2.000	1.693	1.454	1.262	1.104
Field Data from Site	13.400										



Calculate Animation

Time: 500 Years

Return to Input

Recalculate This Sheet

BIOSCREEN Natural Attenuation Decision Support System

Air Force Center for Environmental Excellence — *Version 1.4*

ENMARK 380
Ethylbenzene Fate
Run Name

Data Input Instructions:

115 or 0.02
1. Enter value directly....or
2. Calculate by filling in grey cells below. (To restore formulas, hit button below).

Variable* — Data used directly in model.

20 — Value calculated by model. (Don't enter any data).

1. HYDROGEOLOGY

Seepage Velocity*	Vs	2.6	(ft/yr)
or		or	
Hydraulic Conductivity	K	3.5E-05	(cm/sec)
Hydraulic Gradient	i	0.018	(ft/ft)
Porosity	n	0.25	(-)

2. DISPERSION

Longitudinal Dispersivity*	alpha x	20.0	(ft)
Transverse Dispersivity*	alpha y	6.7	(ft)
Vertical Dispersivity*	alpha z	0.5	(ft)
or		or	
Estimated Plume Length	Lp	200	(ft)

3. ADSORPTION

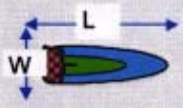
Retardation Factor*	R	3.4	(-)
or		or	
Soil Bulk Density	rho	1.5	(kg/l)
Partition Coefficient	Koc	1100	(L/kg)
FractionOrganicCarbon	foc	3.6E-4	(-)

4. BIODEGRADATION

1st Order Decay Coeff*	lambda	3.0E-3	(per yr)
or		or	
Solute Half-Life	t-half	228.00	(year)
or Instantaneous Reaction Model			
Delta Oxygen*	DO	1	(mg/L)
Delta Nitrate*	NO3	0.55	(mg/L)
Observed Ferrous Iron*	Fe2+	1.11	(mg/L)
Delta Sulfate*	SO4	0	(mg/L)
Observed Methane*	CH4	0	(mg/L)

5. GENERAL

Modeled Area Length*	200	(ft)
Modeled Area Width*	100	(ft)
Simulation Time*	500	(yr)



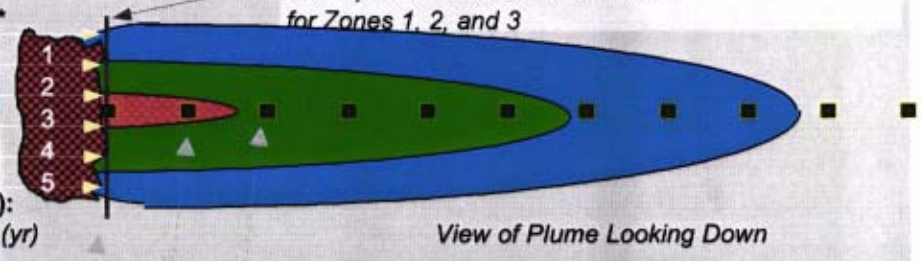
6. SOURCE DATA

Source Thickness in Sat.Zone* 10 (ft)

Source Zones:

Width* (ft)	Conc. (mg/L)*
5	0.5
10	2
20	4.29
10	2
5	0.5

Vertical Plane Source: Look at Plume Cross-Section and Input Concentrations & Widths for Zones 1, 2, and 3



View of Plume Looking Down

Source Halflife (see Help):

Infinite	Infinite	(yr)
Inst. React.	1st Order	
Soluble Mass	infinite	(Kg)
In Source NAPL, Soil		

7. FIELD DATA FOR COMPARISON

Observed Centerline Concentrations at Monitoring Wells
If No Data Leave Blank or Enter "0"

Concentration (mg/L)	4.29										
Dist. from Source (ft)	0	20	40	60	80	100	120	140	160	180	200

8. CHOOSE TYPE OF OUTPUT TO SEE:

RUN CENTERLINE — View Output

RUN ARRAY — View Output

Help

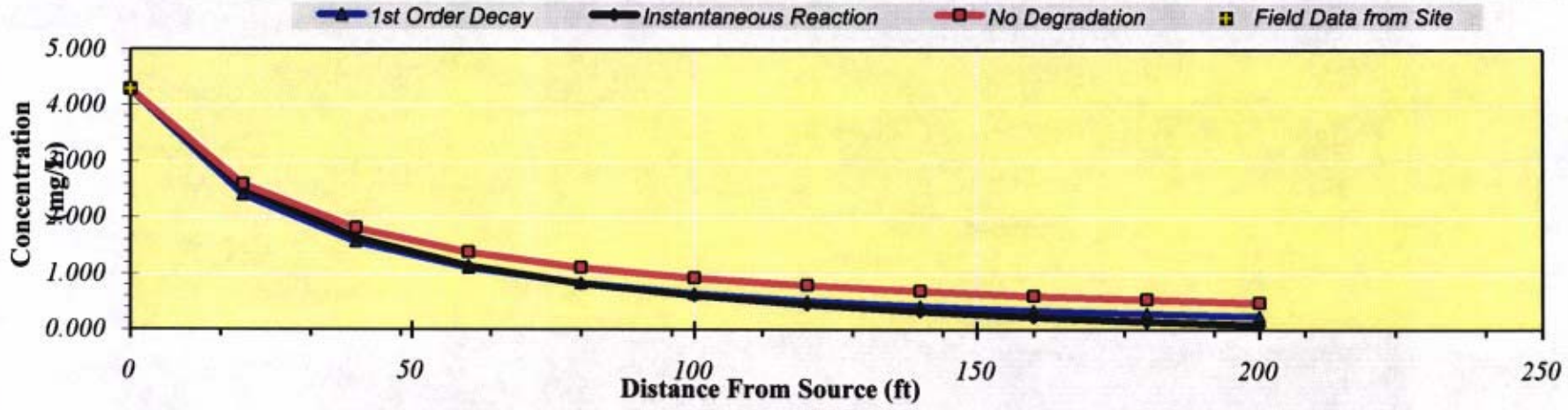
Recalculate This Sheet

Paste Example Dataset

Restore Formulas for Vs, Dispersivities, R, lambda, other

DISSOLVED HYDROCARBON CONCENTRATION ALONG PLUME CENTERLINE (mg/L at Z=0)

	MW-4				*Distance from Source (ft)*						
TYPE OF MODEL	0	20	40	60	80	100	120	140	160	180	200
No Degradation	4.290	2.588	1.811	1.380	1.111	0.927	0.792	0.689	0.607	0.539	0.481
1st Order Decay	4.290	2.408	1.567	1.111	0.833	0.647	0.516	0.419	0.345	0.287	0.241
Inst. Reaction	4.290	2.516	1.636	1.139	0.825	0.610	0.452	0.331	0.235	0.154	0.086
Field Data from Site	4.290										



Calculate Animation

Time: 500 Years

Return to Input

Recalculate This Sheet

BIOSCREEN Natural Attenuation Decision Support System

Air Force Center for Environmental Excellence — *Version 1.4*

ENMARK 380
Xylenes Fate
Run Name

Data Input Instructions:

115 or 0.02
1. Enter value directly....or
2. Calculate by filling in grey cells below. (To restore formulas, hit button below).

Variable* — Data used directly in model.
20 — Value calculated by model. (Don't enter any data).

1. HYDROGEOLOGY

Seepage Velocity*	*Vs*	2.6	*(ft/yr)*
or		or	
Hydraulic Conductivity	*K*	3.5E-05	*(cm/sec)*
Hydraulic Gradient	*i*	0.018	*(ft/ft)*
Porosity	*n*	0.25	*(-)*

2. DISPERSION

Longitudinal Dispersivity*	*alpha x*	20.0	*(ft)*
Transverse Dispersivity*	*alpha y*	6.7	*(ft)*
Vertical Dispersivity*	*alpha z*	0.5	*(ft)*
or		or	
Estimated Plume Length	*Lp*	200	*(ft)*

3. ADSORPTION

Retardation Factor*	*R*	1.5	*(-)*
or		or	
Soil Bulk Density	*rho*	1.5	*(kg/l)*
Partition Coefficient	*Koc*	240	*(L/kg)*
FractionOrganicCarbon	*foc*	3.6E-4	*(-)*

4. BIODEGRADATION

1st Order Decay Coeff*	*lambda*	2.0E-3	*(per yr)*
or		or	
Solute Half-Life	*t-half*	350.00	*(year)*
or Instantaneous Reaction Model			
Delta Oxygen*	*DO*	1	*(mg/L)*
Delta Nitrate*	*NO3*	0.55	*(mg/L)*
Observed Ferrous Iron*	*Fe2+*	1.11	*(mg/L)*
Delta Sulfate*	*SO4*	0	*(mg/L)*
Observed Methane*	*CH4*	0	*(mg/L)*

5. GENERAL

Modeled Area Length*	200	*(ft)*
Modeled Area Width*	100	*(ft)*
Simulation Time*	500	*(yr)*

6. SOURCE DATA

Source Thickness in Sat.Zone* 10 *(ft)*

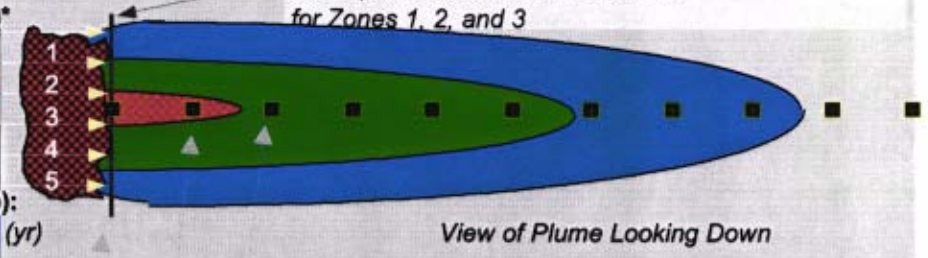
Source Zones:

Width* (ft)	Conc. (mg/L)*
5	5
10	10
20	24.9
10	10
5	5

Source Halflife (see Help):

Infinite	Infinite	*(yr)*
Inst. React.	1st Order	
Soluble Mass	infinite	*(Kg)*
In Source NAPL, Soil		

Vertical Plane Source: Look at Plume Cross-Section and Input Concentrations & Widths for Zones 1, 2, and 3



View of Plume Looking Down

Observed Centerline Concentrations at Monitoring Wells
If No Data Leave Blank or Enter "0"

7. FIELD DATA FOR COMPARISON

Concentration (mg/L)	24.9										
Dist. from Source (ft)	0	20	40	60	80	100	120	140	160	180	200

8. CHOOSE TYPE OF OUTPUT TO SEE:

RUN CENTERLINE — **View Output**

RUN ARRAY — **View Output**

Help

Recalculate This Sheet

Paste Example Dataset

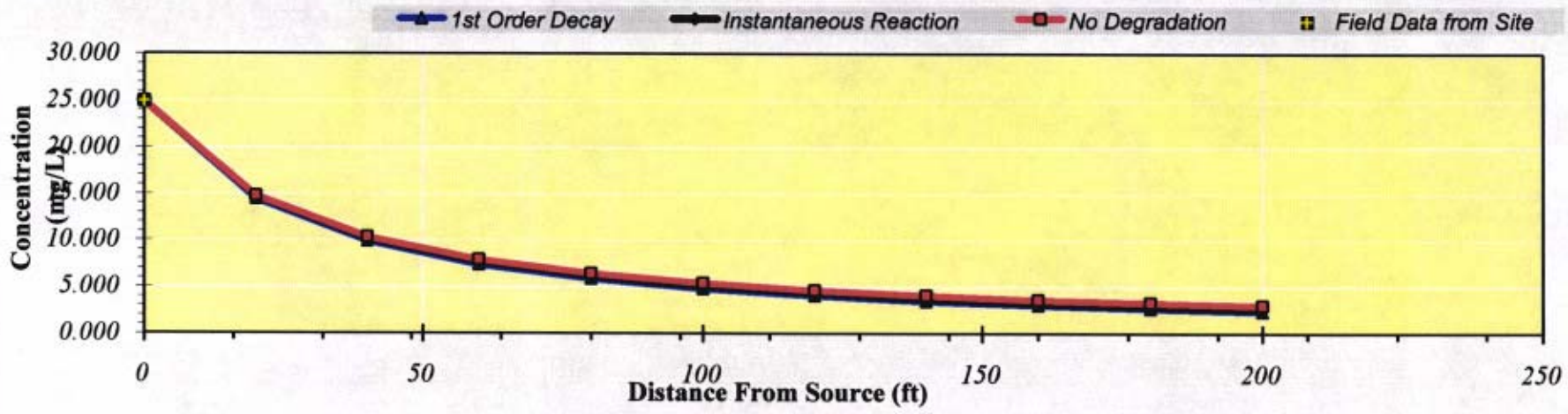
Restore Formulas for Vs, Dispersivities, R, lambda, other

DISSOLVED HYDROCARBON CONCENTRATION ALONG PLUME CENTERLINE (mg/L at Z=0)

MW-4

Distance from Source (ft)

TYPE OF MODEL	0	20	40	60	80	100	120	140	160	180	200
No Degradation	24.900	14.739	10.340	7.905	6.382	5.347	4.598	4.032	3.590	3.235	2.944
1st Order Decay	24.900	14.411	9.885	7.388	5.832	4.777	4.017	3.444	2.998	2.641	2.350
Inst. Reaction	24.900	14.668	10.166	7.664	6.098	5.032	4.261	3.678	3.222	2.856	2.555
Field Data from Site	24.900										



Calculate Animation

Time: 500 Years

Return to Input

Recalculate This Sheet

BIOSCREEN Natural Attenuation Decision Support System

Air Force Center for Environmental Excellence — *Version 1.4*

ENMARK 380
MTBE Fate
Run Name

Data Input Instructions:

115 ↑ or 0.02

1. *Enter value directly,...or*
2. *Calculate by filling in grey cells below. (To restore formulas, hit button below).*

Variable* — *Data used directly in model.*

20 — *Value calculated by model. (Don't enter any data).*

1. HYDROGEOLOGY

Seepage Velocity*	*Vs*	2.6	*(ft/yr)*
or		↑ or	
Hydraulic Conductivity	*K*	3.5E-05	*(cm/sec)*
Hydraulic Gradient	*i*	0.018	*(ft/ft)*
Porosity	*n*	0.25	*(-)*

2. DISPERSION

Longitudinal Dispersivity*	*alpha x*	20.0	*(ft)*
Transverse Dispersivity*	*alpha y*	6.7	*(ft)*
Vertical Dispersivity*	*alpha z*	0.5	*(ft)*
or		↑ or	
Estimated Plume Length	*Lp*	200	*(ft)*

3. ADSORPTION

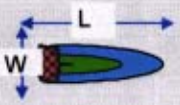
Retardation Factor*	*R*	1.0	*(-)*
or		↑ or	
Soil Bulk Density	*rho*	1.5	*(kg/l)*
Partition Coefficient	*Koc*	12	*(L/kg)*
FractionOrganicCarbon	*foc*	3.6E-4	*(-)*

4. BIODEGRADATION

1st Order Decay Coeff*	*lambda*	0.0E+0	*(per yr)*
or		↑ or	
Solute Half-Life	*t-half*	0.00	*(year)*
or Instantaneous Reaction Model			
Delta Oxygen*	*DO*	0	*(mg/L)*
Delta Nitrate*	*NO3*	0	*(mg/L)*
Observed Ferrous Iron*	*Fe2+*	0	*(mg/L)*
Delta Sulfate*	*SO4*	0	*(mg/L)*
Observed Methane*	*CH4*	0	*(mg/L)*

5. GENERAL

Modeled Area Length*	200	*(ft)*
Modeled Area Width*	100	*(ft)*
Simulation Time*	500	*(yr)*



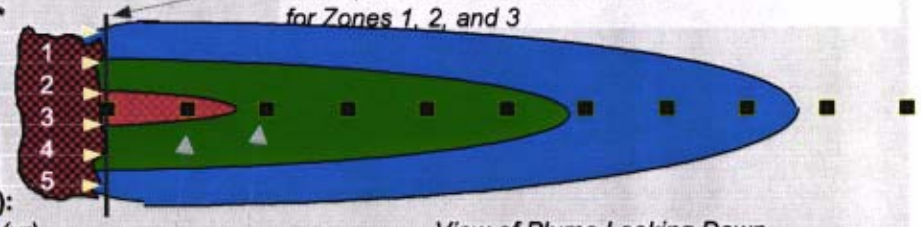
6. SOURCE DATA

Source Thickness in Sat.Zone* 10 *(ft)*

Vertical Plane Source: Look at Plume Cross-Section and Input Concentrations & Widths for Zones 1, 2, and 3

Source Zones:

Width* (ft)	Conc. (mg/L)*
5	1
10	10
20	25.3
10	10
5	1



View of Plume Looking Down

Source Halflife (see Help):

Infinite	Infinite	*(yr)*
Inst. React.	↑ 1st Order	
Soluble Mass In Source NAPL, Soil	infinite	*(Kg)*

Observed Centerline Concentrations at Monitoring Wells If No Data Leave Blank or Enter "0"

7. FIELD DATA FOR COMPARISON

Concentration (mg/L)	25.3										
Dist. from Source (ft)	0	20	40	60	80	100	120	140	160	180	200

8. CHOOSE TYPE OF OUTPUT TO SEE:

RUN CENTERLINE — **View Output**

RUN ARRAY — **View Output**

Help

Recalculate This Sheet

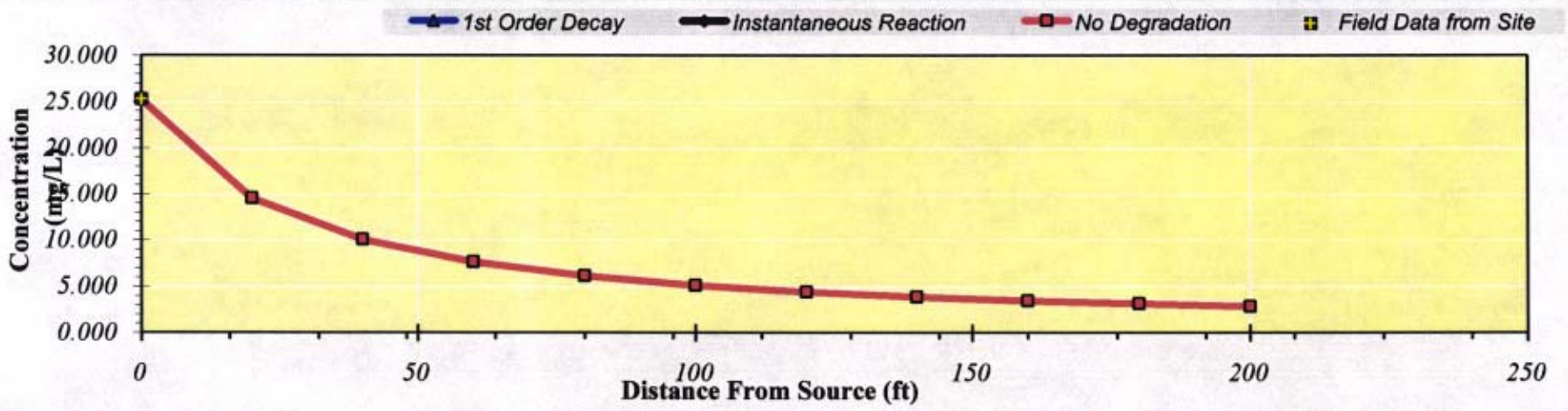
Paste Example Dataset

Restore Formulas for Vs, Dispersivities, R, lambda, other

DISSOLVED HYDROCARBON CONCENTRATION ALONG PLUME CENTERLINE (mg/L at Z=0)

MW-5

TYPE OF MODEL	Distance from Source (ft) 0	20	40	60	80	100	120	140	160	180	200
No Degradation	25.300	14.549	10.078	7.663	6.170	5.159	4.431	3.883	3.455	3.111	2.830
1st Order Decay	25.300	14.549	10.078	7.663	6.170	5.159	4.431	3.883	3.455	3.111	2.830
Inst. Reaction	25.300	14.549	10.078	7.663	6.170	5.159	4.431	3.883	3.455	3.111	2.830
Field Data from Site	25.300										



Calculate Animation

Time: 500 Years

Return to Input

Recalculate This Sheet

BIOSCREEN Natural Attenuation Decision Support System

Air Force Center for Environmental Excellence — *Version 1.4*

ENMARK 380
MTBE SSTL
Run Name

Data Input Instructions:

115 or 0.02
1. Enter value directly....or
2. Calculate by filling in grey cells below. (To restore formulas, hit button below).

Variable* — Data used directly in model.
20 — Value calculated by model. (Don't enter any data).

1. HYDROGEOLOGY

Seepage Velocity*	*Vs*	2.6	*(ft/yr)*
or		or	
Hydraulic Conductivity	*K*	3.5E-05	*(cm/sec)*
Hydraulic Gradient	*i*	0.018	*(ft/ft)*
Porosity	*n*	0.25	*(-)*

2. DISPERSION

Longitudinal Dispersivity*	*alpha x*	20.0	*(ft)*
Transverse Dispersivity*	*alpha y*	6.7	*(ft)*
Vertical Dispersivity*	*alpha z*	0.5	*(ft)*
or		or	
Estimated Plume Length	*Lp*	200	*(ft)*

3. ADSORPTION

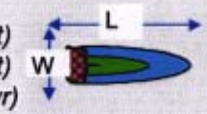
Retardation Factor*	*R*	1.0	*(-)*
or		or	
Soil Bulk Density	*rho*	1.5	*(kg/l)*
Partition Coefficient	*Koc*	12	*(L/kg)*
FractionOrganicCarbon	*foc*	3.6E-4	*(-)*

4. BIODEGRADATION

1st Order Decay Coeff*	*lambda*	0.0E+0	*(per yr)*
or		or	
Solute Half-Life	*t-half*	0.00	*(year)*
or Instantaneous Reaction Model			
Delta Oxygen*	*DO*	0	*(mg/L)*
Delta Nitrate*	*NO3*	0	*(mg/L)*
Observed Ferrous Iron*	*Fe2+*	0	*(mg/L)*
Delta Sulfate*	*SO4*	0	*(mg/L)*
Observed Methane*	*CH4*	0	*(mg/L)*

5. GENERAL

Modeled Area Length*	200	*(ft)*
Modeled Area Width*	100	*(ft)*
Simulation Time*	500	*(yr)*



6. SOURCE DATA

Source Thickness in Sat.Zone* 10 *(ft)*

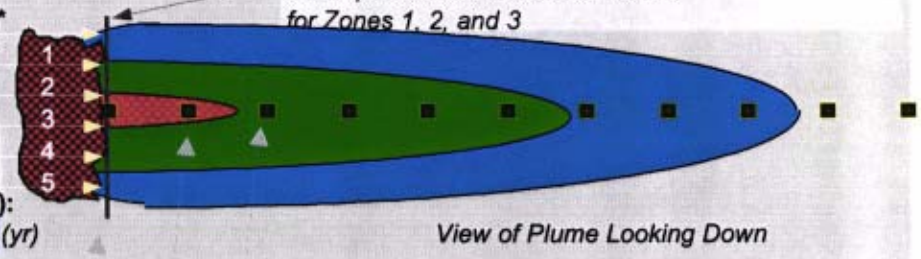
Source Zones:

Width* (ft)	Conc. (mg/L)*
5	0
10	0.05
20	0.45
10	0.05
5	0

Source Halflife (see Help):

Infinite	Infinite	*(yr)*
Inst. React.	1st Order	
Soluble Mass	infinite	*(Kg)*
In Source NAPL, Soil		

Vertical Plane Source: Look at Plume Cross-Section and Input Concentrations & Widths for Zones 1, 2, and 3



View of Plume Looking Down

Observed Centerline Concentrations at Monitoring Wells
If No Data Leave Blank or Enter "0"

7. FIELD DATA FOR COMPARISON

Concentration (mg/L)	.45										
Dist. from Source (ft)	0	20	40	60	80	100	120	140	160	180	200

8. CHOOSE TYPE OF OUTPUT TO SEE:

RUN CENTERLINE — **View Output**

RUN ARRAY — **View Output**

Help

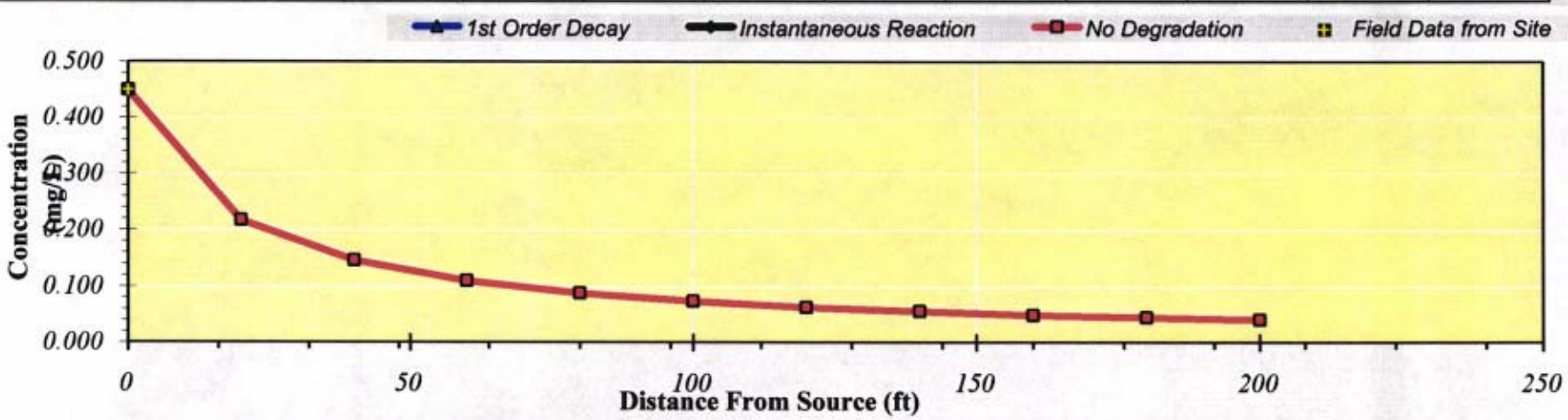
Recalculate This Sheet

Paste Example Dataset

Restore Formulas for Vs, Dispersivities, R, lambda, other

DISSOLVED HYDROCARBON CONCENTRATION ALONG PLUME CENTERLINE (mg/L at Z=0)

TYPE OF MODEL	Distance from Source (ft) 0	20	40	60	80	100	120	140	160	180	200
No Degradation	0.450	0.217	0.146	0.110	0.088	0.073	0.063	0.055	0.049	0.044	0.040
1st Order Decay	0.450	0.217	0.146	0.110	0.088	0.073	0.063	0.055	0.049	0.044	0.040
Inst. Reaction	0.450	0.217	0.146	0.110	0.088	0.073	0.063	0.055	0.049	0.044	0.040
Field Data from Site	0.450										



Calculate Animation

Time: 500 Years

Return to Input

Recalculate This Sheet

BIOSCREEN Natural Attenuation Decision Support System

Air Force Center for Environmental Excellence — *Version 1.4*

ENMARK 380
Naphthalenes Fate
Run Name

Data Input Instructions:

115 ↑ or 0.02

1. Enter value directly....or
2. Calculate by filling in grey cells below. (To restore formulas, hit button below).

Variable* → Data used directly in model.

20 → Value calculated by model. (Don't enter any data).

1. HYDROGEOLOGY

Seepage Velocity*	Vs	2.6	(ft/yr)
or		↑ or	
Hydraulic Conductivity	K	3.5E-05	(cm/sec)
Hydraulic Gradient	i	0.018	(ft/ft)
Porosity	n	0.25	(-)

2. DISPERSION

Longitudinal Dispersivity*	alpha x	20.0	(ft)
Transverse Dispersivity*	alpha y	6.7	(ft)
Vertical Dispersivity*	alpha z	0.5	(ft)
or		↑ or	
Estimated Plume Length	Lp	200	(ft)

3. ADSORPTION

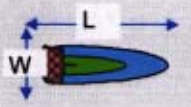
Retardation Factor*	R	4.4	(-)
or		↑ or	
Soil Bulk Density	rho	1.5	(kg/l)
Partition Coefficient	Koc	1543	(L/kg)
FractionOrganicCarbon	foc	3.6E-4	(-)

4. BIODEGRADATION

1st Order Decay Coeff*	lambda	2.7E-3	(per yr)
or		↑ or	
Solute Half-Life	t-half	258.00	(year)
or Instantaneous Reaction Model			
Delta Oxygen*	DO	1	(mg/L)
Delta Nitrate*	NO3	0.55	(mg/L)
Observed Ferrous Iron*	Fe2+	1.11	(mg/L)
Delta Sulfate*	SO4	0	(mg/L)
Observed Methane*	CH4	0	(mg/L)

5. GENERAL

Modeled Area Length*	200	(ft)
Modeled Area Width*	100	(ft)
Simulation Time*	500	(yr)



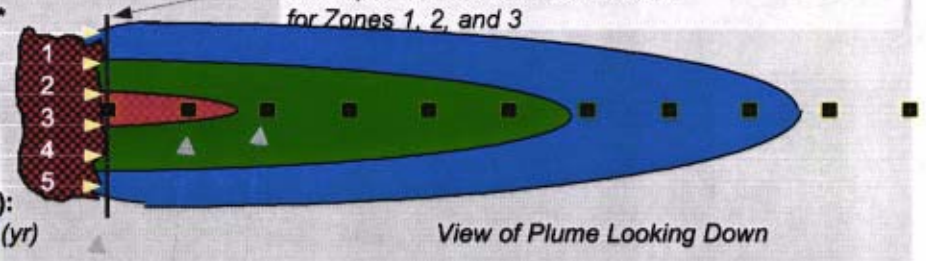
6. SOURCE DATA

Source Thickness in Sat.Zone* 10 (ft)

Source Zones:

Width* (ft)	Conc. (mg/L)*
5	0.5
10	1
20	6.539
10	1
5	0.5

Vertical Plane Source: Look at Plume Cross-Section and Input Concentrations & Widths for Zones 1, 2, and 3



View of Plume Looking Down

Source Halflife (see Help):

Infinite	Infinite	(yr)
Inst. React.	1st Order	
Soluble Mass	infinite	(Kg)
In Source NAPL, Soil		

Observed Centerline Concentrations at Monitoring Wells
If No Data Leave Blank or Enter "0"

7. FIELD DATA FOR COMPARISON

Dist. from Source (ft)	Concentration (mg/L)
0	6.539
20	
40	
60	
80	
100	
120	
140	
160	
180	
200	

8. CHOOSE TYPE OF OUTPUT TO SEE:

RUN CENTERLINE — **View Output**

RUN ARRAY — **View Output**

Help

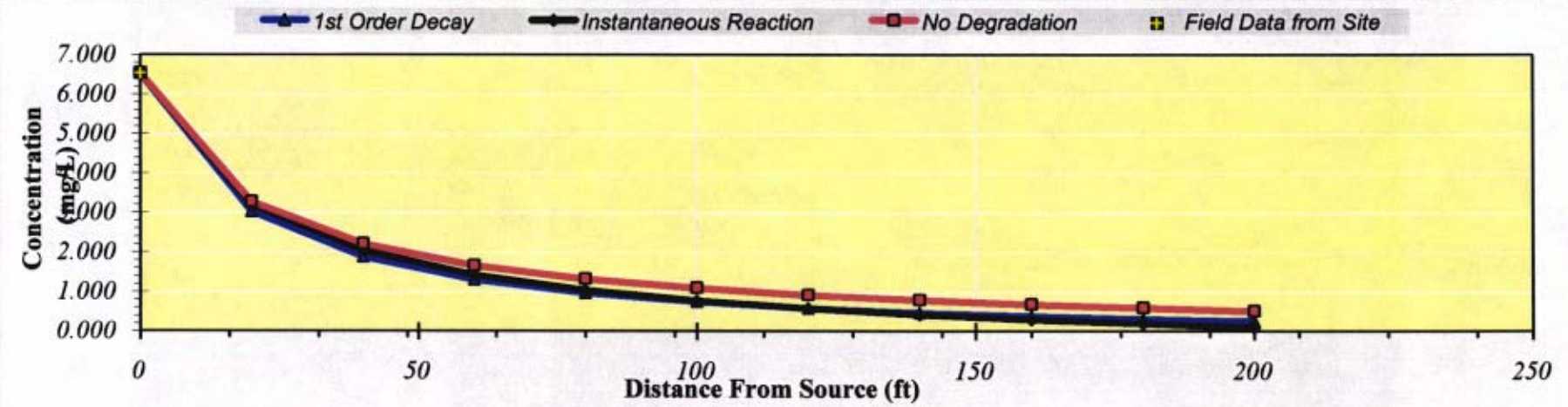
Recalculate This Sheet

Paste Example Dataset

Restore Formulas for Vs, Dispersivities, R, lambda, other

DISSOLVED HYDROCARBON CONCENTRATION ALONG PLUME CENTERLINE (mg/L at Z=0)

	MW-7				*Distance from Source (ft)*						
TYPE OF MODEL	0	20	40	60	80	100	120	140	160	180	200
No Degradation	6.539	3.272	2.217	1.666	1.326	1.093	0.922	0.789	0.680	0.588	0.507
1st Order Decay	6.539	3.024	1.892	1.314	0.968	0.740	0.581	0.463	0.374	0.304	0.248
Inst. Reaction	6.539	3.198	2.040	1.422	1.037	0.773	0.577	0.425	0.300	0.194	0.102
Field Data from Site	6.539										



Calculate Animation

Time:
500 Years

Return to Input

Recalculate This Sheet

BIOSCREEN Natural Attenuation Decision Support System

Air Force Center for Environmental Excellence — *Version 1.4*

ENMARK 380
Naphthalenes SSTL
Run Name

Data Input Instructions:

115 ↑ or 0.02

1. *Enter value directly....or*
2. *Calculate by filling in grey cells below. (To restore formulas, hit button below).*

Variable* — *Data used directly in model.*

20 — *Value calculated by model. (Don't enter any data).*

1. HYDROGEOLOGY

Seepage Velocity*	*Vs*	2.6	*(ft/yr)*
or		↑ or	
Hydraulic Conductivity	*K*	3.5E-05	*(cm/sec)*
Hydraulic Gradient	*i*	0.018	*(ft/ft)*
Porosity	*n*	0.25	*(-)*

2. DISPERSION

Longitudinal Dispersivity*	*alpha x*	20.0	*(ft)*
Transverse Dispersivity*	*alpha y*	6.7	*(ft)*
Vertical Dispersivity*	*alpha z*	0.5	*(ft)*
or		↑ or	
Estimated Plume Length	*Lp*	200	*(ft)*

3. ADSORPTION

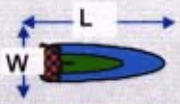
Retardation Factor*	*R*	4.4	*(-)*
or		↑ or	
Soil Bulk Density	*rho*	1.5	*(kg/l)*
Partition Coefficient	*Koc*	1543	*(L/kg)*
FractionOrganicCarbon	*foc*	3.6E-4	*(-)*

4. BIODEGRADATION

1st Order Decay Coeff*	*lambda*	2.7E-3	*(per yr)*
or		↑ or	
Solute Half-Life	*t-half*	258.00	*(year)*
or Instantaneous Reaction Model			
Delta Oxygen*	*DO*	1	*(mg/L)*
Delta Nitrate*	*NO3*	0.55	*(mg/L)*
Observed Ferrous Iron*	*Fe2+*	1.11	*(mg/L)*
Delta Sulfate*	*SO4*	0	*(mg/L)*
Observed Methane*	*CH4*	0	*(mg/L)*

5. GENERAL

Modeled Area Length*	200	*(ft)*
Modeled Area Width*	100	*(ft)*
Simulation Time*	500	*(yr)*



6. SOURCE DATA

Source Thickness in Sat.Zone* 10 *(ft)*

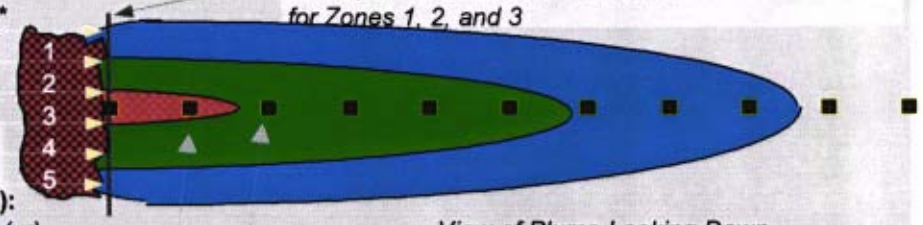
Source Zones:

Width* (ft)	Conc. (mg/L)*
5	0.5
10	1
20	5.14
10	1
5	0.5

Source Halflife (see Help):

Infinite	Infinite	*(yr)*
Inst. React.	↑ 1st Order	
Soluble Mass	infinite	*(Kg)*
In Source NAPL, Soil		

Vertical Plane Source: Look at Plume Cross-Section and Input Concentrations & Widths for Zones 1, 2, and 3



View of Plume Looking Down

Observed Centerline Concentrations at Monitoring Wells
If No Data Leave Blank or Enter "0"

7. FIELD DATA FOR COMPARISON

Concentration (mg/L)	5.6										
Dist. from Source (ft)	0	20	40	60	80	100	120	140	160	180	200

8. CHOOSE TYPE OF OUTPUT TO SEE:

RUN CENTERLINE — **View Output**

RUN ARRAY — **View Output**

Help

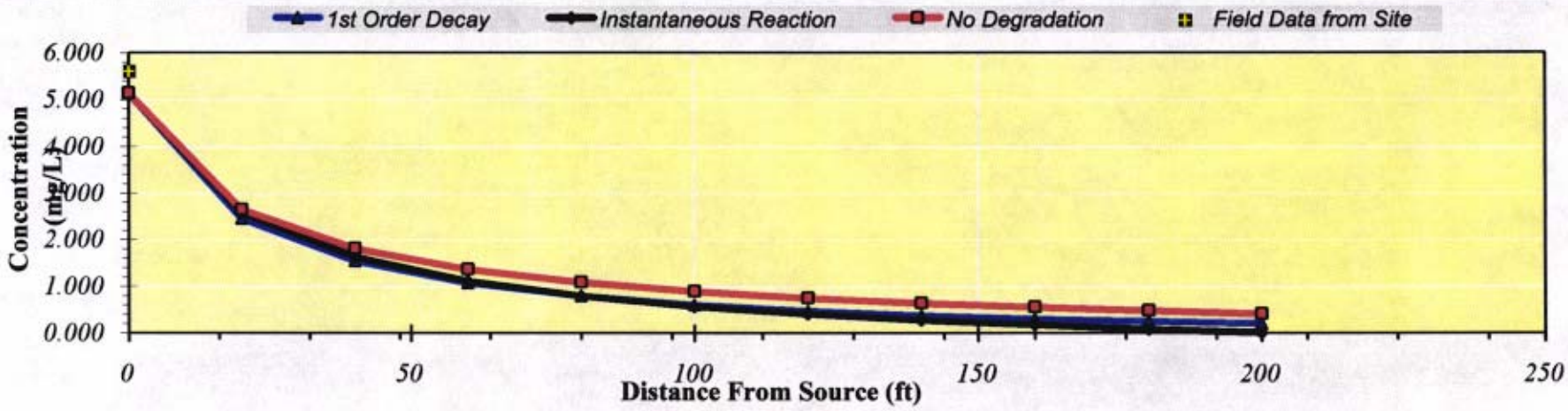
Recalculate This Sheet

Paste Example Dataset

Restore Formulas for Vs, Dispersivities, R, lambda, other

DISSOLVED HYDROCARBON CONCENTRATION ALONG PLUME CENTERLINE (mg/L at Z=0)

	MW-7				*Distance from Source (ft)*						
TYPE OF MODEL	0	20	40	60	80	100	120	140	160	180	200
No Degradation	5.140	2.648	1.805	1.359	1.083	0.894	0.755	0.646	0.557	0.481	0.415
1st Order Decay	5.140	2.448	1.540	1.072	0.791	0.605	0.475	0.379	0.306	0.249	0.203
Inst. Reaction	5.140	2.574	1.629	1.116	0.795	0.573	0.410	0.282	0.177	0.088	0.010
Field Data from Site	5.600										



Calculate Animation

Time:
500 Years

Return to Input

Recalculate This Sheet

APPENDIX H

SOIL LEACHABILITY MODELING

HANDEX®

SCDHEC :: Leachability Model version 3.1

Site ID: 65882 04/29/99 CoC : Toluene

Input Parameters:

foc:	362.000	mg/Kg
TPH:	0.000	mg/Kg
Cs:	2.120	mg/Kg
Koc:	133	ml/g
Phi:	0.450	
Wr:	0.040	
Kf:	0.002800000	cm/s
L:	344.42	cm
Hw:	25	cm
Hf:	-10	cm
Bd:	1.550	g/cc
t 1/2:	22.0000	days
RBSL:	13.40000	mg/L
H':	0.30100	mg/L/mg/L
DAF:	8	

Output Data:

fcs:	0.00036	mg/L
f:	0.41	
t:	38218.5381	seconds
Vw:	9313.4349	ft/year
Kd:	0.048146000	ml/g
Vc:	7988.6306	ft/year
Tc:	0.5	days
Log(Cp):	1.1342	
Cp:	13.6199	mg/L

SSTL is: 16.3122 mg/Kg

Source concentration is below SSTL
Soil Remediation is NOT REQUIRED

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SCDHEC :: Leachability Model version 3.1

Site ID: 65882 04/29/99 CoC : Ethylbenzene

Input Parameters:

foc:	362.000	mg/Kg
TPH:	0.000	mg/Kg
Cs:	2.990	mg/Kg
Koc:	176	ml/g
Phi:	0.450	
Wr:	0.040	
Kf:	0.002800000	cm/s
L:	344.42	cm
Hw:	25	cm
Hf:	-10	cm
Bd:	1.550	g/cc
t 1/2:	10.0000	days
RBSL:	4.29000	mg/L
H':	0.28000	mg/L/mg/L
DAF:	8	

Output Data:

fcs:	0.00036	mg/L
f:	0.41	
t:	38218.5381	seconds
Vw:	9313.4349	ft/year
Kd:	0.063712000	ml/g
Vc:	7637.3908	ft/year
Tc:	0.5	days
Log(Cp):	0.6487	
Cp:	4.4538	mg/L

SSTL is: 5.6819 mg/Kg

Source concentration is below SSTL
Soil Remediation is NOT REQUIRED

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SCDHEC :: Leachability Model version 3.1

Site ID: 65882 04/29/99 CoC : Naphthalenes

Input Parameters:

foc:	362.000	mg/Kg
TPH:	0.000	mg/Kg
Cs:	8.720	mg/Kg
Koc:	1543	ml/g
Phi:	0.450	
Wr:	0.040	
Kf:	0.002800000	cm/s
L:	344.42	cm
Hw:	25	cm
Hf:	-10	cm
Bd:	1.550	g/cc
t 1/2:	48.0000	days
RBSL:	5.60000	mg/L
H':	0.00200	mg/L/mg/L
DAF:	8	

Output Data:

fcs:	0.00036	mg/L
f:	0.41	
t:	38218.5381	seconds
Vw:	9313.4349	ft/year
Kd:	0.558566000	ml/g
Vc:	3185.2242	ft/year
Tc:	1.3	days
Log(Cp):	0.7563	
Cp:	5.7058	mg/L

SSTL is: 26.0269 mg/Kg

Source concentration is below SSTL
Soil Remediation is NOT REQUIRED

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D H E C

PROMOTE PROTECT PROSPER

C. Earl Hunter, Commissioner

Promoting and protecting the health of the public and the environment.

AUG 1 6 2010

5tech UST DOCKET

MR TOM DOLAN
ENMARK STATIONS INC
2112 RANKIN ST
SAVANNAH GA 31415-0144

Re: Tier I Directive
Spinx # 258, Former Enmark #380, 2725 College Street, Newberry, SC
UST Permit # 06588, CA # 39618 and 39622; MWA # UMW-23820
Release # 1 Reported on December 29, 1989
Release # 2 Reported on November 21, 1995
Rapid Assessment Report received June 1, 1999
Tier II Assessment Plan and Associated Cost Agreement received June 23, 2010
Newberry County

Dear Mr. Dolan:

The Underground Storage Tank (UST) Program of the South Carolina Department of Health and Environmental Control (SCDHEC) has reviewed the referenced plan submitted by Bunnell-Lammons Engineering. The Rapid Assessment Report documents benzene, and MtBE, above the Risk Based Screening Levels in groundwater. The assessment should be conducted in accordance with the Tier II Assessment guidance document and must be conducted in compliance with all applicable regulations. The Tier II assessment document and appendices may be obtained from our website at http://www.scdhec.gov/environment/lwm/ html/ ust_ guidance_docs.htm.

Assessment activities at the site should begin immediately upon receipt of this letter. Cost agreement numbers 39618 and 39622 have been approved for the amount shown on the enclosed cost agreement form for installation of up to forty temporary, twenty-three shallow and two deep monitoring wells plus sampling the entire monitoring well network to define the horizontal and vertical extent of dissolved CoC. Please be aware that the February 1, 2006 State Underground Petroleum Environmental Response Bank (SUPERB) Allowable Costs sheet states that "If vertical and horizontal extent of chemicals of concern are not fully defined by this tier report, additional mobilizations may not be approved by the Department." Screening points that are converted to a permanent monitoring well will be reimbursed at the approved well installation rate. Laboratory analyses of groundwater samples from fourteen screening points has been approved for BTEX, naphthalene, MtBE and EDB to ensure the plume is defined. **Please contact the department prior to well installation for concurrence regarding the final well locations. All shallow wells are to be installed with screen intervals that bracket the water table.** Shallow wells should have a 10-foot screen. **The SUPERB Account cannot reimburse costs for any shallow well with a screen that does not properly bracket the water table.**

A groundwater sample from any private wells within 1,000 feet of the facility should be collected and analyzed for BTEX, naphthalene, EDB, and MtBE. Groundwater samples from the eight existing groundwater-monitoring wells with screens that bracket the water table need to be purged before a sample is collected since it has been several years since they were last sampled. Groundwater samples from the entire monitoring well network should be collected and analyzed for BTEX, naphthalene, MtBE, lead, 1,2-DCA, EDB, and 8 oxygenates. Analyses should be in accordance with *Analytical Methodology for Groundwater and Soil Assessment Guidelines* dated August 24, 2005. A copy of this publication is available on line at http://www.scdhec.gov/eqc5Canalmet.pdf.

The Assessment Report and invoice are due within 90 days from the date of this letter. The report (a signed .pdf copy on CD is preferred) submitted at the completion of these activities should include information outlined in the Tier II Guidance document to include the following:

- Geological cross sections that include the shallow and deep monitoring wells.
- Boring logs and well logs (DHEC form 1903) signed by a well driller licensed in the state of South Carolina for each new temporary or permanent monitoring well **in accordance with the South Carolina Well Standards, R.61-71**. 1903 forms are required for field screening borings (whether direct push or drilled) where a sample is extracted for analysis.
- A CoC map based on current groundwater laboratory analytical data. The groundwater data should be adjacent to the relevant monitoring well location.
- Groundwater elevations, depth to groundwater, measurable free product thickness (where applicable), total well depth and screened interval for all monitoring wells associated with the site, unless otherwise directed by the Division, shall be presented in tabular form. Historical groundwater laboratory analytical data and depth to groundwater, and product if applicable, for this and all previous monitoring events for all monitoring wells shall be presented in tabular format.
- A groundwater elevation contour map of the site based on current groundwater potentiometric data. A second contour map will be necessary if three or more deep wells are installed.
- Manifests for any contaminated soil and/or groundwater removed from the site for treatment and/or disposal.
- Signature and seal by a professional geologist or engineer registered in the State of South Carolina.
- According to R.61-98 Section IV.C.1 all plans, reports, invoices, and other documents relating to site rehabilitation activities which have been prepared or approved by a certified contractor shall be signed by the certified contractor and bear his certification number.

Cost agreement numbers 39618 associated with release number one and 39622 associated with release number two have been approved for the amount shown on the enclosed cost agreement. Please note the following changes to the submitted cost agreement:

- The UST Division does not see the value of sampling the eight existing groundwater monitoring more than one time in a four month period, so BLE may purge and sample the eight existing well at any time for all approved parameters (before or after the screening is conducted).
- As it has been over 10 years since groundwater samples have been collected, all wells should be purged before sampling.
- Laboratory analyses of 1,2 DCA for screening points has been deleted.
- Filtered lead analyses have been changed to unfiltered analyses.
- Sulfates, nitrates, and ferrous iron analyses has been deleted.
- Free product recovery test gas been approved for the two wells with the greatest thickness of free phase product.
- Soil PAH analyses has been deleted.
- TPH analyses from two soil samples in the source area have been added for soil modeling.
- TOC analyses from two background soil samples has been approved for modeling.

Bunnell-Lammons Engineering Incorporated can submit an invoice for direct payment from the State Underground Petroleum Environmental Response Bank (SUPERB) Account for preapproved costs. An interim well drilling invoice may be submitted for this scope of work. By law, the SUPERB Account cannot compensate any costs that are not pre-approved. Please note that applicable South Carolina certification

requirements regarding laboratory services, well installation, and report preparation must be satisfied. According to R.61-98 Section IV.C.1 all plans, reports, invoices, and other documents relating to site rehabilitation activities which have been prepared or approved by a certified contractor shall be signed by the certified contractor and bear his certification number. If the invoice is not submitted within 120 days from the date of this letter, monies allocated to pay this invoice will be uncommitted. This means that the invoice will not be processed for payment until all other committed funds are paid or monies become available. The UST Management Division, because of unnecessary dilution, cannot make decisions if the reporting limit of individual petroleum CoC exceeds Risk-Based Screening Levels (RBSLs). Note that the Division may deny payment for any non-detect analysis where the reporting limit exceeds the RBSL.

The UST Management Division encourages the use of 'J' values as necessary so the appropriate action can be determined for a release. Beginning in 2009, the UST Management Division will begin requiring that laboratories be certified through the SCDHEC Office of Environmental Laboratory Certification for the oxygenate compounds.

Please note that you and/or your contractor are responsible for obtaining all off-site access agreements and/or encroachment permits necessary for this scope of work.

The Department grants pre-approval for transportation of virgin petroleum impacted soil and groundwater from the referenced site to a permitted treatment facility. There can be no spillage or leakage in transport. All investigation-derived waste (IDW) must be properly contained and labeled prior to disposal. IDW should not be stored on-site longer than ninety (90) days. A copy of the disposal manifest and/or acceptance letter from the receiving facility that clearly designates the quantity received must be included as an appendix to the report. If the CoC concentrations based on laboratory analysis are below RBSLs, please contact the project manager for approval to dispose of soil and/or groundwater on site. The SUPERB Account will not reimburse for transportation or treatment of soil and/or groundwater with concentrations below RBSLs.

On all correspondence regarding this site, please reference UST permit number 06588. Should you have any questions regarding this correspondence, please feel free to contact me at (803) 896-6648. I can also be reached by email at skowrojt@dhec.sc.gov or by fax at (803) 896-6245.

Sincerely,

John Skowronek

John Skowronek, P.G., Hydrogeologist
Assessment Section
Underground Storage Tank Management Division
Bureau of Land and Waste Management

enc: Monitoring Well Approval (MWA)
Approved Cost Agreement (ACA)

cc: Mr. Baumholser, The Spinx Company, PO Box 8624, Greenville, SC 296-4 (without enc.)
Bunnell-Lammons Engineering, Inc. 6004 Ponders Court, Greenville, SC 29615 (with enc.)
Technical file (with enc.)

D H E C

PROMOTE PROTECT PROSPER

C. Earl Hunter, Commissioner

Promoting and protecting the health of the public and the environment.

Monitoring Well Installation Approval Form

Approval is hereby granted to:	Bunnell-Lammons Engineering
(on behalf of):	Enmark Stations, Incorporated
Facility:	Spinx 258/ Enmark 380, 2725 College Street, Newberry, SC
UST Permit Number:	06588
County:	Newberry

This approval is for the installation of up to forty temporary, twenty-three shallow, and two deep monitoring wells. The monitoring wells are to be installed in the approved locations. The monitoring wells are to be installed following the South Carolina Well Standards, R.61-71, and the applicable guidance documents.

Please note that R.61-71 requires the following:

1. All wells shall be drilled, constructed, and abandoned by a South Carolina certified well driller per R.61-71.D.1.

2. All monitoring wells shall be labeled as required by R.61-71.H.2.c.

3. A Water Well Record Form or other form provided or approved by the Department shall be completed and submitted to the Department within 30 days after well completion or abandonment unless another schedule has been approved by the Department. The form should contain the "as-built" construction details and all other information required by R.61-71.H.1.f

4. All analytical data and water levels obtained from each monitoring well shall be submitted to the Department within 30 days of receipt of laboratory results unless another schedule has been approved by the Department as required by R.61-71.H.1.d.

5. If any of the information provided to the Department changes, notification to John Skowronek (tel: (803) 896-6648 or e-mail: skowrojt@dhec.sc.gov) shall be provided a minimum of twenty-four (24) hours prior to well construction as required by R.61-71.H.1.a.

6. All temporary monitoring wells shall be abandoned within 5 days of borehole completion using appropriate methods as required by R.61-71.H.4.c. All other wells shall be properly developed per R.61-71.H.2.d.

7. Departmental approval is required prior to abandonment of all monitoring wells as required by R.61-71.H.1.a.

This approval is pursuant to the provisions of Section 44-55-40 of the 1976 South Carolina Code of Laws and R.61-71 of the South Carolina Well Standards and Regulations, dated April 26, 2002. A copy of this approval should be on the site during well installation.

Date of Issuance: **August 2, 2010** **Approval #:** **UMW-23820**

John Skowronek

John Skowronek, P.G., Hydrogeologist
Assessment Section
Underground Storage Tank Management Division
Bureau of Land and Waste Management

Approved Cost Agreement 39618

Facility: 06588 SPINX 258
SKOWROJT
PO Number:

Task / Description	Categories	Item Description	Qty / Pct	Unit Price	Amount
01 PLAN					
		A PLAN PREPARATION	0.5000	100.00	50.00
		B TAX MAPS	0.5000	50.00	25.00
02 RECEPTOR SURVEY					
		RECEPTOR SURVEY	0.5000	500.00	250.00
03 COMPREHENSIVE SURVEY					
		COMPREHENSIVE SURVEY	0.5000	1,000.00	500.00
04 MOB/DEMOB					
		A EQUIPMENT	1.0000	575.00	575.00
		B PERSONNEL	2.5000	290.00	725.00
06 SOIL BORINGS (DRILLED)					
		A SOIL BORINGS & FLD SCREENING	610.0000	17.00	10,370.00
08 ABANDONMENT					
		ABANDONMENT	610.0000	5.00	3,050.00
09 WELL INSTALLATION					
		B WATER TABLE (DRILLED)	345.0000	38.00	13,110.00
		C TELESCOPING	45.0000	58.00	2,610.00
10 SAMPLE COLLECTION					
		A GROUND WATER	17.0000	55.00	935.00
		C WATER SUPPLY	2.0000	25.00	50.00
11 ANALYSES					
	GW GROUNDWATER	A BTEX+NAPTH+MTBE	25.5000	100.00	2,550.00
		BB 1,2-DCA	16.5000	10.75	177.38
		E LEAD	16.5000	20.00	330.00
		F EDB	25.5000	55.00	1,402.50
		P 8 OXYGENATES	16.5000	85.00	1,402.50
	SOIL SOIL	Q BTEX+NAPTH	5.0000	100.00	500.00
		U TPH (3550)	2.0000	65.00	130.00
		W GRAIN SIZE/HYDROMETER	1.0000	75.00	75.00
		X TOTAL ORGANIC CARBON	2.0000	35.00	70.00
12 AQUIFER CHARACTERIZATION					
		B SLUG TEST	1.0000	150.00	150.00
17 DISPOSAL					
		A1 WASTEWATER - PURGING/SAMPLING	3.0000	90.00	270.00
		B FREE PRODUCT	0.5000	110.00	55.00
		C SOIL (TREATMENT/DISPOSAL)	25.0000	50.00	1,250.00
19 RPT/PROJECT MNGT & COORDINATIO					
		PCT PERCENT	0.1500	40,612.38	6,091.86
				Total Amount	46,704.24

Approved Cost Agreement 39622

Facility: 06588 SPINX 258
SKOWROJT
PO Number:

Task / Description	Categories	Item Description	Qty / Pct	Unit Price	Amount
01 PLAN					
		A PLAN PREPARATION	0.5000	100.00	50.00
		B TAX MAPS	0.5000	50.00	25.00
02 RECEPTOR SURVEY					
		RECEPTOR SURVEY	0.5000	500.00	250.00
03 COMPREHENSIVE SURVEY					
		COMPREHENSIVE SURVEY	0.5000	1,000.00	500.00
04 MOB/DEMOB					
		A EQUIPMENT	1.0000	575.00	575.00
		B PERSONNEL	2.5000	290.00	725.00
06 SOIL BORINGS (DRILLED)					
		A SOIL BORINGS & FLD SCREENING	610.0000	17.00	10,370.00
08 ABANDONMENT					
		ABANDONMENT	610.0000	5.00	3,050.00
09 WELL INSTALLATION					
		B WATER TABLE (DRILLED)	345.0000	38.00	13,110.00
		C TELESCOPING	45.0000	58.00	2,610.00
10 SAMPLE COLLECTION					
		A GROUND WATER	17.0000	55.00	935.00
		C WATER SUPPLY	2.0000	25.00	50.00
11 ANALYSES					
	GW GROUNDWATER	A BTEX+NAPTH+MTBE	25.5000	100.00	2,550.00
		BB 1,2-DCA	16.5000	10.75	177.38
		E LEAD	16.5000	20.00	330.00
		F EDB	25.5000	55.00	1,402.50
		P 8 OXYGENATES	16.5000	85.00	1,402.50
	SOIL SOIL	Q BTEX+NAPTH	5.0000	100.00	500.00
		U TPH (3550)	2.0000	65.00	130.00
		W GRAIN SIZE/HYDROMETER	1.0000	75.00	75.00
		X TOTAL ORGANIC CARBON	2.0000	35.00	70.00
12 AQUIFER CHARACTERIZATION					
		B SLUG TEST	1.0000	150.00	150.00
17 DISPOSAL					
		A1 WASTEWATER - PURGING/SAMPLING	3.0000	90.00	270.00
		B FREE PRODUCT	0.5000	110.00	55.00
		C SOIL (TREATMENT/DISPOSAL)	25.0000	50.00	1,250.00
19 RPT/PROJECT MNGT & COORDINATIO					
		PCT PERCENT	0.1500	40,612.38	6,091.86
				Total Amount	46,704.24

BUNNELL-LAMMONS ENGINEERING, INC.

GEOTECHNICAL, ENVIRONMENTAL AND CONSTRUCTION MATERIALS CONSULTANTS

TIER II ASSESSMENT REPORT

SPINX 258/FORMER ENMARK 380
2725 COLLEGE STREET
NEWBERRY, NEWBERRY COUNTY, SOUTH CAROLINA
UST PERMIT #06588; COST AGREEMENT #39618 & #39622

Prepared For

Enmark Stations, Inc.
Post Office Box 728
Savannah, Georgia 31402

Prepared By

Bunnell-Lammons Engineering, Inc.
6004 Ponders Court
Greenville, South Carolina 29615
SCDHEC Certified Contractor No. UCC-10

February 2, 2011

BLE Project Number J10-6859-02

B L E INC.
BUNNELL-LAMMONS ENGINEERING, INC.
GEOTECHNICAL, ENVIRONMENTAL AND CONSTRUCTION MATERIALS CONSULTANTS

February 2, 2011

South Carolina Department of Health and Environmental Control
Bureau of Land and Waste Management
Underground Storage Tank Program
2600 Bull Street
Columbia, South Carolina 29201-1708

Attention: Mr. John Skowronek, Hydrogeologist

Subject: **Tier II Assessment Report**
Spinx 258/Former Enmark 380
Newberry, Newberry County, South Carolina
UST Permit #06588; CA #39618 & #39622
BLE Project No. J10-6859-02

Dear Mr. Skowronek:

As authorized, Bunnell-Lammons Engineering, Inc. (BLE) has completed a Tier II Assessment at the subject site. This report describes the work performed and presents the results obtained, along with our comments and recommendations.

We appreciate the opportunity to be of service on behalf of Enmark Stations, Inc. Please do not hesitate to contact us if you have any questions concerning this report.

Sincerely,

BUNNELL-LAMMONS ENGINEERING, INC.

PROFESSIONAL GEOLOGIST REGISTERED No. 893 SOUTH CAROLINA THOMAS L. LAMMONS

Trever Z. Slack, G.I.T.
Project Hydrogeologist

Thomas L. Lammons, P.G., CHMM
Principal Hydrogeologist
Registered, South Carolina No. 893

cc: Mr. Tom Dolan, Enmark Stations, Inc., Post Office Box 728, Savannah, Georgia 31402

6004 PONDERS COURT
GREENVILLE, SOUTH CAROLINA 29615

PHONE (864) 288-1265
FAX (864) 288-4430

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APPENDICES

Appendix A	**Geoprobe® Groundwater Screening and Sampling Procedures, Groundwater Screening Laboratory Data Sheets, and Geoprobe® Boring 1903 Well Records**
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1.0 BACKGROUND INFORMATION

The subject property is located at 2725 College Street in Newberry, South Carolina (Figure 1). The site is currently utilized as an automobile fueling station and retail convenience store and is bordered by commercial properties to the east and south and residential properties to the north and west.

According to the SCDHEC Underground Storage Tank (UST) Registry, four USTs (one 6,000-gallon diesel, one 6,000-gallon regular gasoline, one 8,000-gallon premium gasoline, and one 8,000-gallon regular gasoline) are present on-site. Two petroleum hydrocarbon releases have been reported at the facility in December 1989 and November 1995.

1.1 Site History

In December 1989, MGM Petro Equipment and Environmental Services conducted a soil sampling program at the Enmark 380 site (formerly Interstate 380), and volatile organic compounds were detected in the UST soil backfill material at a concentration of 250 parts per million (ppm) using a HNu Model PI-101 photoionization detector (PID). The results of the soil evaluation were reported to SCDHEC's Mr. Paul Bergstrand in a letter dated December 29, 1989, and Interstate Stations, Inc. (Interstate Stations) requested that the site be included in the SCDHEC Early Detection Incentive Program. A SCDHEC follow-up directive letter dated September 25, 1990 was issued to Interstate Stations requiring an additional investigation to define the horizontal and vertical extent of the contamination in the soil. In response, an assessment plan dated February 4, 1991 and revised May 3, 1991 was submitted to SCDHEC, attention Mr. Joe Bowers and Mr. Christopher Doll, respectively. The revised assessment plan was approved, and five boreholes were drilled in the vicinity of the UST basin, product piping lines, and pump dispensers to depths of 10-feet below ground surface (bgs) to obtain soil samples. Representative soil samples were screened in the field and submitted for laboratory analysis of aromatic volatiles by Method 8020. Additionally, a permanent monitoring well (MW-1) was installed to the east of the pump dispenser islands to obtain a representative groundwater sample. Petroleum compounds were detected above the laboratory method detection limit in numerous soil samples. Additionally, benzene (5,900 ug/l), toluene (5,900 ug/l), ethylbenzene (1,800 ug/l), and xylenes (7,200 ug/l) were detected in the groundwater sample

from MW-1. Details of the assessment are summarized in a *correspondence letter* from Interstate Stations to Mr. Christopher Doll of SCDHEC dated October 21, 1991. To our knowledge, no further work has been conducted at the site to specifically address the December 1989 release.

On November 19, 1995, operators at the Interstate Station 380 site noted inventory discrepancies in the premium gasoline tank and on November 20, 1995 an inspection of the UST noted areas of corrosion. Based upon inventory records, it was determined that approximately 1,400-gallons of premium gasoline were lost. The release was reported to SCDHEC on November 22, 2010, and Handex of the Carolinas, Inc. (Handex) was retained to install three recovery wells (MW-2, MW-3, and MW-4) to serve as recovery points for free-product removal. Handex initiated a weekly well monitoring program which included manual bailing of any wells determined to contain free-phase petroleum product. Approximately 17.34 gallons were manually bailed from the wells, and on January 24, 1996, Handex installed a pneumatic pump in MW-4 which was run by compressed air from the stations tire air compressor. An additional 43-gallons of free-phase petroleum product was recovered with the pneumatic pump through February 20, 1996. Details of the free-product recovery and well monitoring activities conducted by Handex were detailed in a correspondence letter dated March 6, 1996 to Ms. Jan Cook of the SCDHEC.

The groundwater monitoring well and recovery wells located at the site were sampled on June 11, 1997, and it was determined that benzene, toluene, ethylbenzene, and xylenes (BTEX), naphthalenes, and methyl-tert-butyl ether (MTBE) were present in the groundwater above South Carolina Risk-Based Screening Levels (RBSLs). A *Rapid Assessment* was completed at the site, which included the installation of three additional shallow monitoring wells (MW-5, MW-6, and MW-7) and one deep, telescoping monitoring well (MW-8D) at the site. Details of the *Rapid Assessment* can be found in the *Risk-Based Corrective Action Tier II Evaluation Report* by Handex dated May 27, 1999.

In May 2010, SCDHEC issued a directive to Enmark Stations, Inc. (Enmark) requesting a Tier II Assessment Plan. BLE was retained by Enmark to prepare the Tier II Assessment Plan and the plan was submitted to SCDHEC on June 18, 2010. The plan was accepted, with minor modifications,

and a Tier II Assessment directive was issued on August 16, 2010. This report documents our Tier II Assessment activities at the subject site.

2.0 SITE CHARACTERISTICS

2.1 Site Geography

The site is located in the Piedmont Physiographic Province, which generally consists of sloping to moderately steep uplands dissected by branching streams and drainage features. Floodplains are relatively narrow, and ridgetops or stream divides are narrow to medium in width. The rolling hills of the Piedmont range in elevation from about 400 feet to 1,500 feet above mean sea level (AMSL).

2.2 Regional Geology and Hydrogeology

The site is located within the Inner Piedmont belt of South Carolina which consists of thrust sheets containing a variety of gneisses, schists, amphibolites, sparse ultramafic bodies, and intrusive granitoids.

The typical residual soil profile consists of clayey soils near the surface, where soil weathering is more advanced, underlain by sandy silts and silty sands. Residual soil zones which develop by the in-situ chemical weathering of bedrock are referred to as "saprolite." Saprolite usually consists of sand with lesser amounts of silt, clay and large rock fragments. The thickness of saprolite in the Piedmont ranges from a few feet to more than 100 feet.

A transitional zone of partially weathered rock is normally found overlying the parent bedrock. Partially weathered rock is defined, for engineering purposes, as residual material with standard penetration resistances in excess of 100 blows per foot (bpf). Weathering is facilitated by fractures, joints, and the presence of less resistant rock types. Consequently, the profile of the partially weathered rock and hard rock is quite irregular and erratic, even over short horizontal distances. Also, it is not unusual to find lenses and boulders of hard rock and zones of partially weathered rock within the soil mantle, well above the general bedrock level. According to the Geologic Map of the

Crystalline Rocks of South Carolina, the bedrock beneath the site should consist of gray to black, fine to coarse grained, biotite schist or biotite gneiss.

Groundwater in the Piedmont usually occurs under unconfined conditions in three primary zones: 1) residual soil (saprolite); 2) partially weathered rock; and 3) fractured bedrock. These zones are typically interconnected via bedrock fractures, pore spaces, and secondary permeability features of the saprolite. The configuration of the water table aquifer generally resembles the local topography. In the residual soil and partially weathered rock zone, groundwater is stored within the pore spaces and is released to the underlying bedrock through gravity drainage. Groundwater within the bedrock zone occurs primarily in fracture voids.

Seasonal high-water tables are typically observed during the winter and spring months of the year when maximum infiltration capacity occurs due to low intensity, long duration precipitation events and reduced evaporation and transpiration. Seasonal low-water tables are typically observed during the summer and fall months when minimum infiltration capacity occurs due to higher surface runoff caused by high intensity, short duration precipitation events, and greater evaporation and transpiration.

2.3 Receptor Survey

A receptor survey was conducted within 1,000 feet of the site boundaries and consisted of the following:

- A vehicular reconnaissance of roads and private residences within a 1,000-foot radius to identify water supply wells;
- Utility Protection Service to locate underground structures and underground utilities on the site; and
- Review of the Newberry County zoning ordinance records to determine the zoning designation for the site and surrounding properties.

Ten private water supply wells (DW-1 through DW-10) were located within 1,000-feet of the subject site (Figure 2); four of these wells (DW-1, DW-4, DW-7, and DW-8) were located within 500-feet of the site. Wells DW-2, DW-5, and DW-6 appeared to be active residential drinking water supply wells. Wells DW-9 and DW-10 did not have power and wells DW-7 and DW-8 appeared to have been permanently closed, and could not be accessed. Well DW-4 is currently used as a source of irrigation whereas the status/use of wells DW-1 and DW-3 is currently unknown. Well owner information for each of the water supply wells is summarized below.

Water Supply Well	Location	Property Owner	Mailing Address
DW-1	Located approximately 260 feet to the east of the site	Lewie E. Meetze	2334 Vincent Street Newberry, SC 29108
DW-2	Located approximately 600 feet to the northeast of the site	Jason Meyers	1311 Trent Street Newberry, SC 29108
DW-3	Located approximately 970 feet to the northeast of the site	Newberry County Disabilities	P.O. Box 856 Newberry, SC 29108
DW-4	Located approximately 480 feet to the northwest of the site	Hughie McCracken	1617 First Street Newberry, SC 29108
DW-5	Located approximately 800 feet to the southwest of the site	Trustee for Bridget Moody	208 Rollin Road Newberry, SC 29108
DW-6	Located approximately 800 feet to the west of the site	New Beginnings Christian Church	P.O. Box 572 Newberry, SC 29108
DW-7	Located approximately 470 feet to the northwest of the site	Sanjay Jain	1623 First Street Newberry, SC 29108
DW-8	Located approximately 280 feet to the northwest of the site	Harley and Karen Crapps	1618 First Street Newberry, SC 29108
DW-9	Located approximately 1000 feet to the east of the site	Ollie Taylor Werts Estate	1420 Trent Street Newberry, SC 29108
DW-10	Located approximately 700 feet to the east of the site	Dorothy H. Davis	3030 Hazel Street Newberry, SC 29108

In addition to the water supply wells, a creek was also identified approximately 670 feet to the east of the subject property and flows to the north. The approximate locations of the water supply wells and creek in relation to the subject site are shown on Figure 2.

3.0 ASSESSMENT INFORMATION

The completed scope of services was based on BLE's Tier II Assessment Plan dated June 18, 2010. The Plan was prepared pursuant to SCDHEC's Tier II Assessment Guidance Document[1] and was approved by SCDHEC project manager Mr. John Skowronek. During the Tier II Assessment, the following activities were performed: soil and groundwater screening, installation of groundwater monitoring wells to define the extent of the dissolved petroleum chemicals of concern (CoC), slug tests in two shallow and two deep monitoring wells, free-product recovery tests in monitoring wells MW-6 and MW-7, and a comprehensive groundwater sampling event of all wells associated with the site.

3.1 Field Screening of Groundwater Contaminants

Sixty-four Geoprobe borings (GW-1 through GW-61 and GWD-1 through GWD-3) were performed for groundwater screening. However, Geoprobe refusal was encountered in borings GW-54, GW-55, GW-56, GW-57, GW-58, GW-60, and GW-61 at depths ranging from 7 to 19 feet below ground surface (bgs) prior to encountering groundwater. Geoprobe refusal was also encountered in borings GW-52 (13 feet bgs), GW-53 (15 feet bgs), and GWD-1 (32 feet bgs); however, a groundwater sample was able to be collected from the top of partially weathered rock/bedrock (Geoprobe refusal).

The groundwater screening boring locations were established in the field from map-scaled distances, by measuring from site landmarks, and estimating right angles. The Geoprobe groundwater screening locations are shown on Figure 3 and should be considered approximate. Geoprobe field screening procedures are described in Appendix A. Groundwater samples from each boring were collected in the field and screened using a properly calibrated portable MiniRAE® 3000 Photo-

[1] Guidance Document: Tier II Assessment, SCDHEC, Underground Storage Tank Program, Bureau of Land and Waste Management, December 6, 2005.

Ionization Detector (PID). After representative samples were collected from each boring, the resulting borehole was properly abandoned to the ground surface with grout pursuant to South Carolina well standards[2]. Geoprobe groundwater screening boring 1903 Well Records are included in Appendix A. Justification for each boring location is provided below.

GROUNDWATER SCREENING BORING	SAMPLE MEDIA	PID (ppm)	SAMPLE DEPTH (ft)	BORING DEPTH (ft)	LOCATION AND PURPOSE
GW-1	GW	0.0	21-25	25	On-site and upgradient; west-southwest of the UST basin; horizontal delineation boring
GW-2	GW	0.0	21-25	25	On-site and upgradient; west of the UST basin; horizontal delineation boring
GW-3	GW	0.0	21-25	25	On-site and upgradient; west of the UST basin; horizontal delineation boring
GW-4	GW	0.0	21-25	25	On-site and upgradient; northwest of the UST basin; horizontal delineation boring
GW-5	GW	4.0	21-25	25	On-site and upgradient; north-northwest of the UST basin; horizontal delineation boring
GW-6	GW	12.5	21-25	25	On-site and upgradient; northwest of the UST basin; horizontal delineation boring
GW-7	GW	9.9	21-25	25	On-site and upgradient; west of the UST basin; horizontal delineation boring
GW-8	GW	3.5	21-25	25	On-site and upgradient; northwest of the UST basin; horizontal delineation boring
GW-9	GW	134	21-25	25	On-site and upgradient; north of the UST basin; horizontal delineation boring

[2] South Carolina Well Standards and Regulations, SCDHEC, Promulgated Pursuant to Section 44-55-40 of the 1976 South Carolina Code of Laws, R. 61-71, April 26, 2002.

GROUNDWATER SCREENING BORING	SAMPLE MEDIA	PID (ppm)	SAMPLE DEPTH (ft)	BORING DEPTH (ft)	LOCATION AND PURPOSE
GW-10	GW	620	21-25	25	On-site and sidegradient; north of the UST basin; horizontal delineation boring
GW-11	GW	0.0	21-25	25	On-site and sidegradient; north of the UST basin; horizontal delineation boring
GW-12	GW	0.0	26-30	30	On-site and sidegradient; northeast of the UST basin and north of the dispenser islands; horizontal delineation boring
GW-13	GW	0.0	26-30	30	On-site and sidegradient; northeast of the UST basin and dispenser islands; horizontal delineation boring
GW-14	GW	13.7	21-25	25	Off-site and sidegradient; northeast of site; horizontal delineation boring
GW-15	GW	8.0	21-25	25	Off-site and sidegradient; northeast of site; horizontal delineation boring
GW-16	GW	0.0	21-25	25	Off-site and sidegradient; northeast of site; horizontal delineation boring
GW-17	GW	14.4	21-25	25	Off-site and sidegradient; east-northeast of site; horizontal delineation boring
GW-18	GW	0.0	21-25	25	Off-site and downgradient; east of site; horizontal delineation boring
GW-19	GW	0.0	21-25	25	Off-site and downgradient; east of site; horizontal delineation boring
GW-20	GW	632	21-25	25	Off-site and sidegradient; southwest of site; horizontal delineation boring
GW-21	GW	526	21-25	25	Off-site and sidegradient; south-southwest of site; horizontal delineation boring

GROUNDWATER SCREENING BORING	SAMPLE MEDIA	PID (ppm)	SAMPLE DEPTH (ft)	BORING DEPTH (ft)	LOCATION AND PURPOSE
GW-22	GW	527	21-25	25	Off-site and sidegradient; south of site; horizontal delineation boring
GW-23	GW	949	21-25	25	Off-site and downgradient; south-southeast of site; horizontal delineation boring
GW-24	GW	979	21-25	25	Off-site and downgradient; south-southeast of site; horizontal delineation boring
GW-25	GW	58.2	21-25	25	Off-site and sidegradient; south of site; horizontal delineation boring
GW-26	GW	188	21-25	25	Off-site and downgradient; south-southeast of site; horizontal delineation boring
GW-27	GW	1,784	21-25	25	Off-site and downgradient; east of site; horizontal delineation boring
GW-28	GW	835	21-25	25	Off-site and downgradient; southeast of site; horizontal delineation boring
GW-29	GW	599	21-25	25	Off-site and downgradient; southeast of site; horizontal delineation boring
GW-30	GW	967	21-25	25	Off-site and downgradient; southeast of site; horizontal delineation boring
GW-31	GW	38.5	21-25	25	Off-site and downgradient; southeast of site; horizontal delineation boring
GW-32	GW	2,053	21-25	25	On-site and downgradient; southeast corner of site; horizontal delineation boring
GW-33	GW	2,541	21-25	25	On-site and downgradient; east of UST basin and south of dispenser islands; horizontal delineation boring

GROUNDWATER SCREENING BORING	SAMPLE MEDIA	PID (ppm)	SAMPLE DEPTH (ft)	BORING DEPTH (ft)	LOCATION AND PURPOSE
GW-34	GW	2,253	21-25	25	On-site and downgradient; east of UST basin and south of dispenser islands; horizontal delineation boring
GW-35	GW	1,571	21-25	25	On-site and downgradient; northeast of UST basin and southwest of dispenser islands along product piping lines; horizontal delineation boring
GW-36	GW	4.2	21-25	25	On-site and sidegradient; northeast of the UST basin and north of the dispenser islands; horizontal delineation boring
GW-37	GW	0.0	21-25	25	On-site and sidegradient; northeast of the UST basin and north of the dispenser islands; horizontal delineation boring
GW-38	GW	0.0	21-25	25	Off-site and downgradient; south-southeast of site; horizontal delineation boring
GW-39	GW	0.0	21-25	25	Off-site and sidegradient; south of site; horizontal delineation boring
GW-40	GW	0.0	21-25	25	Off-site and sidegradient; southwest of site; horizontal delineation boring
GW-41	GW	0.0	21-25	25	Off-site and sidegradient; southwest of site; horizontal delineation boring
GW-42	GW	0.0	21-25	25	Off-site and sidegradient; south-southwest of site; horizontal delineation boring
GW-43	GW	0.0	20-24	24	Off-site and downgradient; east of site; horizontal delineation boring
GW-44	GW	0.2	11-15	15	Off-site and downgradient; east of site; horizontal delineation boring

GROUNDWATER SCREENING BORING	SAMPLE MEDIA	PID (ppm)	SAMPLE DEPTH (ft)	BORING DEPTH (ft)	LOCATION AND PURPOSE
GW-45	GW	0.0	16-20	20	Off-site and downgradient; east of site; horizontal delineation boring
GW-46	GW	0.1	20-24	24	Off-site and downgradient; east of site; horizontal delineation boring
GW-47	GW	0.6	15-19	19	Off-site and downgradient; east-southeast of site; horizontal delineation boring
GW-48	GW	0.7	20-24	24	Off-site and downgradient; east-southeast of site; horizontal delineation boring
GW-49	GW	10.3	26-30	30	Off-site and downgradient; southeast of site; horizontal delineation boring
GW-50	GW	0.2	19-23	23	Off-site and downgradient; south-southeast of site; horizontal delineation boring
GW-51	GW	0.3	23-27	27	Off-site and downgradient; south-southeast of site; horizontal delineation boring
GW-52	GW	0.7	9-13	13	Off-site and downgradient; south-southeast of site; horizontal delineation boring; Geoprobe refusal encountered at 13 feet bgs
GW-53	GW	0.3	11-15	15	Off-site and downgradient; south-southeast of site; horizontal delineation boring; Geoprobe refusal encountered at 15 feet bgs
GW-54	GW	NS	NS	9	Off-site and downgradient; southeast of the subject site; horizontal delineation boring; Geoprobe refusal encountered at 9 feet bgs prior to encountering groundwater

GROUNDWATER SCREENING BORING	SAMPLE MEDIA	PID (ppm)	SAMPLE DEPTH (ft)	BORING DEPTH (ft)	LOCATION AND PURPOSE
GW-55	GW	NS	NS	7	Off-site and downgradient; southeast of the subject site; horizontal delineation boring; Geoprobe refusal encountered at 7 feet bgs prior to encountering groundwater
GW-56	GW	NS	NS	19	Off-site and downgradient; east-southeast of the subject site; horizontal delineation boring; Geoprobe refusal encountered at 19 feet bgs prior to encountering groundwater
GW-57	GW	NS	NS	16	Off-site and downgradient; east-southeast of the subject site; horizontal delineation boring; Geoprobe refusal encountered at 16 feet bgs prior to encountering groundwater
GW-58	GW	NS	NS	10	Off-site and downgradient; south-southeast of the subject site; horizontal delineation boring; Geoprobe refusal encountered at 10 feet bgs prior to encountering groundwater
GW-59	GW	0.5	15-19	19	Off-site and downgradient; southeast of site; horizontal delineation boring
GW-60	GW	NS	NS	11	Off-site and downgradient; southeast of the subject site; horizontal delineation boring; Geoprobe refusal encountered at 11 feet bgs prior to encountering groundwater
GW-61	GW	NS	NS	8	Off-site and downgradient; southeast of the subject site; horizontal delineation boring; Geoprobe refusal encountered at 8 feet bgs prior to encountering groundwater

GROUNDWATER SCREENING BORING	SAMPLE MEDIA	PID (ppm)	SAMPLE DEPTH (ft)	BORING DEPTH (ft)	LOCATION AND PURPOSE
GWD-1	GW	3.3	28-32	32	On-site and upgradient; northwest of UST basin; vertical delineation boring; Geoprobe refusal encountered at 32 feet bgs
GWD-2	GW	852	40-44	44	On-site; source area adjacent to UST basin; vertical delineation boring
GWD-3	GW	34.9	41-45	45	On-site and downgradient; east of UST basin and south of dispenser islands;

GW – Groundwater; NS – Not Sampled; PID – Photoionization Detector; ppm – parts per million

Selected groundwater samples from sentinel borings were submitted for laboratory analysis of BTEX, naphthalene, and MTBE by EPA Method 8260B and 1,2-Dibromoethane (EDB) by EPA Method 8011.

3.1.1 Groundwater Screening Results

Of the nineteen groundwater screening samples submitted for laboratory analysis (GW-2, GW-6, GW-9, GW-13, GW-16, GW-17, GW-19, GW-28, GW-30, GW-39, GW-41, GW-44, GW-47, GW-49, GW-52, GW-59, GWD-1, GWD-2, and GWD-3), only GW-30, GW-49, and GWD-3 detected petroleum CoCs above the South Carolina established Risk-Based Screening Levels[3] (RBSLs). Petroleum CoCs were also detected above the laboratory method detection limits in GW-28 and GWD-2, but concentrations did not exceed South Carolina RBSLs. Field screening and laboratory analytical results are summarized in Table 1. Groundwater screening laboratory data sheets are provided in Appendix A.

[3] South Carolina Risk-Based Corrective Action for Petroleum Releases, Bureau of Land and Waste Management, Underground Storage Tank Program, May 15, 2001.

3.2 Field Screening of Soil Contaminants

Ten Geoprobe macrocore borings (PSB-1 through PSB-10) were performed for soil screening in the vicinity of the UST basin, piping lines, and pump dispensers. The soil screening boring locations were established in the field from map-scaled distances, by measuring from site landmarks, and estimating right angles. The Geoprobe soil screening locations are shown on Figure 4 and should be considered approximate. Geoprobe soil screening procedures are described in Appendix B.

Continuous macrocore soil samples were collected to the termination depth of each boring. The soil samples were screened at 1-foot intervals in the field using a PID and the soil sample exhibiting the highest organic vapor measurement from each boring location was submitted for laboratory analyses of BTEX and naphthalene by EPA Method 8260B. Additionally, two soil samples from the source area were analyzed for total petroleum hydrocarbons (TPH) for modeling purposes as directed by the SCDHEC. After representative samples were collected from each boring, the resulting borehole was properly abandoned to the ground surface with grout pursuant to South Carolina well standards. Justification for each boring location is provided below.

SOIL SCREENING BORING	SAMPLE MEDIA	PID (ppm)	SAMPLE DEPTH (ft)	BORING DEPTH (ft)	LOCATION AND PURPOSE
PSB-1	Soil	215	16	25	On-site; west and adjacent to the UST basin
PSB-2	Soil	82.7	17	25	On-site; southwest corner of the UST basin
PSB-3	Soil	1,121	16	17	On-site; south of the UST basin
PSB-4	Soil	1,858	17	25	On-site; east and adjacent to the UST basin
PSB-5	Soil	136	9	10	On-site; east-southeast of the UST basin
PSB-6	Soil	1,499	7	10	On-site; east-northeast of the UST basin and adjacent to product piping lines
PSB-7	Soil	1,590	7	10	On-site; downgradient and east-southeast of the UST basin
PSB-8	Soil	321	6	10	On-site; northeast of the UST basin and southwest of pump dispensers

SOIL SCREENING BORING	SAMPLE MEDIA	PID (ppm)	SAMPLE DEPTH (ft)	BORING DEPTH (ft)	LOCATION AND PURPOSE
PSB-9	Soil	15.6	5	10	On-site; northwest of pump dispensers
PSB-10	Soil	19.2	8	10	On-site; northeast of pump dispensers

PID – Photoionization Detector; ppm – parts per million

3.2.1 Soil Screening Results

One soil sample from each boring which exhibited the highest organic vapor measurement was submitted for laboratory analyses of BTEX and naphthalene by EPA Method 8260B. Three soil samples (PSB-4, PSB-6, and PSB-7) detected petroleum CoCs at concentrations that exceeded South Carolina established RBSLs. CoCs detected above RBSLs include benzene in PSB-4, PSB-6, and PSB-7; naphthalene in PSB-4 and PSB-6; and toluene and ethylbenzene in PSB-4. TPH was detected in the soil sample from PSB-4 at 25,000 µg/kg but was not detected in the soil sample from PSB-7 above the laboratory method detection limit of 8,000 µg/kg. No petroleum hydrocarbons were detected above the laboratory method detection limits in PSB-1, PSB-8, and PSB-9. Analytical results are summarized in Table 2, and on Figure 4. Laboratory data sheets and Geoprobe Soil Boring 1903 Well Records are provided in Appendix B.

3.3 Monitoring Well Installation

After completion of field screening activities, thirty-five new groundwater monitoring wells (MW-7D, MW-9 through MW-21, MW-21D, MW-22, MW-22D, MW-23, MW-24, MW-24D, and MW-25 through MW-39) were installed from October 13, 2010 through November 12, 2010 to complete the assessment of petroleum hydrocarbons in groundwater. The well locations were based on the groundwater field screening results and communication with SCDHEC project manager Mr. John Skowronek.

Type II Wells

Monitoring wells MW-9 through MW-39 were installed as Type II monitoring wells with either a Mobile B-59 drill rig (MW-9 through MW-12), CME 750 ATV drill rig (MW-13, MW-16 through MW-36, and MW-39), or Geoprobe 6620DT drill rig (MW-14 and MW-15) employing 4¼-inch inside diameter (ID) hollow stem augers. MW-37 and MW-38 were installed with a Schramm T450WS air rotary hammer drill employing a 6-inch diameter air hammer bit due to auger refusal prior to encountering groundwater. The monitoring wells consist of 2-inch ID, schedule 40 PVC casing with flush-threaded joints. The bottom 10-foot section of each well is a manufactured well screen with 0.010-inch wide machined slots. The well screens were installed to the depth of the borings and bracketed the water table. Standard sand filter pack, bentonite seal and grout were installed to the ground surface. Drilling procedures for Type II wells are described in Appendix C.

Type III Wells

Monitoring wells MW-7D, MW-21D, MW-22D, and MW-24D were installed as Type III, vertical extent (telescoping) monitoring wells. The wells were installed with a Schramm T450WS air rotary hammer drill employing a 6-inch and 8-inch diameter air hammer bit. Monitoring well MW-7D was installed adjacent to MW-7 to the south of the UST basin, monitoring well MW-22D was installed to the southeast of the UST basin, and monitoring well MW-24D was installed to the east of the UST basin. Monitoring well MW-21D was installed adjacent to MW-21 near the water supply well located directly across the street from the site. The telescoping wells were constructed with a 6-inch ID schedule 40 PVC outer casing installed to an approximate depth of 40.0 feet bgs. The casings were then pressure grouted to the ground surface using a grout shoe and allowed to cure for at least 24 hours. After curing, a 6-inch air hammer bit was utilized to advance the boreholes through the outer casing to a termination depth of 46.04 feet bgs (MW-7D), 46.75 feet bgs (MW-21D), 45.82 feet bgs (MW-22D), and 46.03 feet bgs (MW-24D). A 2-inch ID schedule 40 PVC casing with flush-threaded joints was installed in each borehole. The bottom 5-foot section of each well was a manufactured well screen with 0.010-inch machined slots. Standard filter sand pack, bentonite seal and grout were installed to the ground surface. Drilling procedures for Type III wells are described in Appendix C.

General

At assigned intervals, drill cuttings were collected for soil classification. Representative portions of the test samples were visually examined and classified in the field. Additionally, soil samples from background monitoring wells MW-9 and MW-11 were submitted for laboratory analysis of total organic carbon (TOC) as directed by the SCDHEC. TOC was detected at a concentration of 400 mg/kg in the soil sample from MW-9 and 230 mg/kg in the soil sample from MW-11. To help prevent cross-contamination, downhole drilling equipment was steam cleaned between borings. Monitoring well construction diagrams and 1903 Water Well Records are included in Appendix C. Monitoring well construction data is provided in Table 3.

Drill cuttings generated during the installation of the monitoring wells were contained in 55-gallon drums on-site. Seventy-two 55-gallon drums of petroleum impacted soil were transported off-site for disposal. Waste transportation and disposal records are included in Appendix D.

Monitoring well installations were performed by a South Carolina licensed driller from Landprobe Drilling Services, LLC of Greenville, South Carolina while being supervised by a BLE geologist. The monitoring well locations were surveyed by a licensed surveyor (George B. Souther RLS, SC #21232) to establish horizontal control and vertical elevations of the top of PVC casing and ground surface. The results of the comprehensive site survey are shown as Figure 5.

3.3.1 Groundwater Sampling

Twenty groundwater monitoring wells are located on-site (MW-1 through MW-7, MW-7D, MW-8D, MW-9 through MW-11, MW-14, MW-15, MW-23, MW-24, MW-24D, and MW-25 through MW-27) and twenty-three are present off-site (MW-12, MW-13, MW-16 through MW-21, MW-21D, MW-22, MW-22D, and MW-28 through MW-39). Thirty-nine groundwater samples were collected during the current groundwater sampling event. Monitoring well MW-4 appeared to be damaged or obstructed at the time of the groundwater sampling event and could not be sampled. A total depth of 14.01 feet below top of casing was recorded during the field activities, contradicting the reported historical total well depth of 25 feet. Monitoring wells MW-5, MW-6, and MW-7 were

not sampled due to the presence of free-phase petroleum product in the wells at a thickness of 0.02 feet, 0.06 feet, and 0.39 feet respectively.

Groundwater samples were also collected from private water supply wells DW-1 through DW-5 (Figure 2). Water supply wells DW-9 and DW-10 did not have power, and were therefore unable to be sampled during the groundwater sampling event. Wells DW-7 and DW-8 appeared to have been permanently closed and were inaccessible. The owner of water supply well DW-6 could not be contacted and therefore the well was not sampled. Additionally, a surface water sample (SW-1) was collected from the creek.

As directed by SCDHEC, all groundwater monitoring wells associated with the site were developed by purging until it was determined that groundwater flow through the well screen was not inhibited by silt or fine sand. Purge water generated during the monitoring well development and sampling was contained in sealed 55-gallon drums on-site. This waste was transported off-site for disposal. Waste transportation and disposal records are attached in Appendix D. Monitoring well purging and sampling field procedures and sampling logs are included in Appendix E.

Sample containers were marked in the field with identifying numbers, properly preserved, placed into sample coolers, secured, and maintained at less than 4 degrees Celsius. The samples and chain-of-custody records were delivered to Shealy Environmental Services, Inc. in Columbia, South Carolina for analysis of BTEX, naphthalene, MTBE, 8-oxygenates, and 1,2-DCA by EPA Method 8260B, EDB by EPA Method 8011, and total lead by EPA Method 6010B.

4.0 TIER II ASSESSMENT RESULTS

4.1 Subsurface Geology

The soil borings encountered residual soils consisting primarily of sandy silts and silty sands. Bedrock was encountered at approximate depths of 46.5 feet bgs in MW-7D, 47.0 feet bgs in MW-21D, 46.0 feet bgs in MW-22D, and 47.0 feet bgs in MW-24D. Soil boring records are provided in Appendix C.

4.2 Groundwater Occurrence

The uppermost aquifer beneath the site is composed of residual soils and saprolite. Site-wide stabilized groundwater level measurements obtained on December 22, 2010 ranged from 1.52 feet bgs (MW-39) to 22.40 feet bgs (MW-14). A tabulation of the groundwater level data is provided on Table 3. A water table elevation contour map showing the occurrence and direction of groundwater flow is presented as Figure 6. Groundwater flow is to the southeast.

Figures 7A (A-A') and 7B (B-B') provide hydrogeologic cross-sections through the subsurface soils. The cross-sections depict the surveyed ground surface elevation, subsurface lithologies, monitoring wells and their respective screened intervals, and the static groundwater elevation.

4.3 Groundwater and Surface Water Sampling Results

Of the thirty-nine groundwater monitoring wells sampled for laboratory analysis, fifteen wells (MW-1, MW-3, MW-7D, MW-8D, MW-18, MW-19, MW-22, MW-22D, MW-23, MW-24, MW-24D, MW-25, MW-26, MW-30, and MW-33) detected petroleum CoCs above RBSLs. CoCs detected above RBSL concentrations include benzene, toluene, ethylbenzene, xylenes, naphthalene, 1,2-DCA, MTBE, and EDB. Additionally, lead was detected above the established RBSL (15 ug/l) in MW-2, MW-8D, MW-9 through MW-19, MW-21, MW-21D, MW-22 through MW-25, MW-29, MW-30, and MW-32. However, elevated total lead concentrations may be the result of suspended sediment in the groundwater samples. Petroleum CoCs were not detected above laboratory method detection limits in the drinking water wells (DW-1 through DW-5) or in the surface water sample (SW-1). The results of the laboratory analyses are summarized in Table 4 and are shown on Figure 8. Laboratory data sheets are provided in Appendix F. A total BTEX and MTBE isoconcentration map showing the horizontal distribution of the respective contaminants in the shallow groundwater table aquifer is included as Figure 9 and Figure 10, respectively.

4.4 Free-Product Recovery Rate Test Results

Free-phase petroleum product was detected in monitoring wells MW-5, MW-6, and MW-7 and a free product recovery rate test was performed on the two wells with the greatest thickness of free-product (MW-6 and MW-7). The free-product recovery rate tests were performed utilizing a Solinst® Model 122 Oil/Water Interface Probe and a polyethylene bailer. Depth-to-product and depth-to-water in the monitoring wells were measured with the interface probe and measurements were made by employing the integrated measuring tape on the probe and by monitoring audible feedback tones from the interface probe differentiating between free-product and groundwater.

After the initial thickness of free-phase petroleum product in the monitoring well was measured, the free-product was completely bailed from the water column. The rate at which the product recovered was then measured using the interface probe and measurements were recorded for a one-hour time period. Free-phase petroleum product and water were contained in a 55-gallon drum on site. These wastes along with approximately 40-gallons of free-phase petroleum product collected during historical free-product recovery efforts were transported off-site for disposal. Waste transportation and disposal records are included in Appendix D. The results of the free-product recovery rate tests are summarized below:

MW-6	
Initial Free-Product Thickness: 0.06'	
Elapsed Time (min)	Free-Product Recovery (feet)
1	0.00
2	0.00
3	0.00
4	0.02
5	0.01
10	0.02
15	0.03
20	0.04
25	0.05
30	0.05
45	0.06
60	0.06

MW-7	
Initial Free-Product Thickness: 0.39'	
Elapsed Time (min)	Free Product-Recovery (feet)
1	0.00
2	0.04
3	0.04
4	0.04
5	0.08
10	0.09
15	0.14
20	0.14
25	0.14
30	0.15
45	0.15
60	0.16

Graphical representations of the free-product recovery rate tests are shown in Appendix G. The results indicate relatively low free-product mobility for both MW-6 and MW-7 with the free-phase petroleum product thickness in MW-6 recovering 100% in approximately 45 minutes and the free-phase petroleum product thickness in MW-7 achieving only 41% recovery after 60 minutes.

5.0 AQUIFER CHARACTERISTICS

Field permeability (slug) tests were performed in monitoring well pairs MW-22/MW-22D and MW-24/MW-24D to determine the hydraulic conductivity of the formation material exposed to the well screen. The slug tests measured the hydraulic conductivity of the uppermost saprolite aquifer and the shallow bedrock aquifer. A summary of the field procedure and the SCDHEC Summary of Slug Test Form are provided in Appendix H. The data from the tests are presented on Table 5.

5.1 Hydraulic Conductivity

Hydraulic conductivity is defined as the ability of the aquifer material to conduct water under a hydraulic gradient. Four slug tests have been performed at the site to measure the in-situ hydraulic conductivity of the uppermost water-table aquifer and the shallow bedrock aquifer. The slug test results were evaluated using the Bouwer and Rice Method[4] for partially-penetrating wells in an unconfined aquifer (slug testing procedures and results are included in Appendix H). The hydraulic conductivity values measured at the site were 4.07×10^{-3} cm/sec (MW-22) and 3.89×10^{-3} cm/sec (MW-24) in the silty sand saprolite aquifer and 1.35×10^{-2} cm/sec (MW-22D) and 2.63×10^{-3} cm/sec (MW-24D) in the shallow bedrock aquifer. The site-wide geometric mean hydraulic conductivity value is 6.02×10^{-3} cm/sec.

5.2 Hydraulic Gradient

The hydraulic gradient is determined by dividing the difference in groundwater elevations at two locations (MW-2 to MW-19) by the horizontal distance between those locations along the direction

[4] Bouwer, H., and Rice, R., A Slug Test for Determining Conductivity of Unconfined Aquifers with Completely or Partially Penetrating Wells, *Water Resources Research,* v. 12, o. 423-428.

of groundwater flow. The hydraulic gradient across the site is approximately 0.003 ft/ft. However, it should be noted that the hydraulic gradient increases in the downgradient direction to approximately 0.016 ft/ft (MW-31 to MW-37). In the source areas, minor vertical gradients (recharging) were measured in well pairs MW-5/MW-8, MW-7/MW-7D, MW-22/MW-22D, and MW-24/MW-24D.

5.3 Effective Porosity and Specific Yield

Effective porosity is the volume of void spaces through which water or other fluids can travel in a rock or sediment divided by the total volume of the rock or sediment. Effective porosity can be assumed to be approximately equal to specific yield for unconfined (water table) aquifers. Specific yield is defined as the ratio of the volume of water that drains from a saturated rock owing to the attraction of gravity to the total volume of rock. Specific yield measurements of the uppermost saprolite aquifer on-site were derived from grain size analysis data from a sample submitted from the screened interval of monitoring well MW-22. Based on Fetter (1994)[5], using the textural classification triangle for unconsolidated materials showing the relation between particle size and specific yield (adapted from Johnson, 1967)[6], the specific yield of the uppermost saprolite aquifer is approximately 0.18. A copy of the grain size hydrometer test is included in Appendix I. An effective porosity of 0.05 was assumed for MW-22D and MW-24D which were screened in the shallow bedrock aquifer unit based upon the effective mean porosity of fractured crystalline rock as described in Freeze and Cherry (1979)[7].

[5] Fetter, C., 1994, Applied Hydrogeology, Prentice Hall, 598 pp.
[6] Johnson, A., 1967, United States Geological Survey Water-Supply Paper 1662-D.
[7] Freeze, A., and Cherry, J., 1979, Groundwater, Prentice Hall, 589 pp.

5.4 Groundwater Flow Velocity

The velocity of groundwater flow is derived from the equation:

$$V = \frac{Ki}{n_e}$$

Where

V is the flow velocity
K is the hydraulic conductivity
i is the hydraulic gradient; and
$\boldsymbol{n_e}$ is the effective porosity.

Based on these parameters and the data provided above, the geometric mean horizontal movement of groundwater is approximately 162.56 feet/year in the water table aquifer. Table 5 summarizes the groundwater flow velocity calculations.

6.0 CONCLUSIONS

- Thirty-five new groundwater monitoring wells (thirty-one shallow and four deep monitoring wells) were installed to assess the horizontal and vertical extent of the contamination.

- Thirty-nine groundwater monitoring wells, five private water supply/drinking water wells, and one surface water location were sampled for laboratory analysis. Fifteen wells (MW-1, MW-3, MW-7D, MW-8D, MW-18, MW-19, MW-22, MW-22D, MW-23, MW-24, MW-24D, MW-25, MW-26, MW-30, and MW-33) detected petroleum CoCs above RBSLs. CoCs detected above RBSL concentrations include benzene, toluene, ethylbenzene, xylenes, naphthalene, 1,2-DCA, MTBE, and EDB. Petroleum CoCs were not detected above laboratory method detection limits in the drinking water wells (DW-1 through DW-5) or in the surface water sample (SW-1).

- Groundwater flow direction beneath the site is generally to the southeast. Minor recharging gradients were measured in well pairs on site.

7.0 RECOMMENDATIONS

Presently, the contaminant plume appears to be defined horizontally and no CoCs were detected in the downgradient creek or drinking water well. However, the vertical extent of the contaminant plume has not been fully defined and CoCs were detected above RBSLs in MW-7D, MW-8D, MW-22D, and MW-24D. BLE recommends that an additional deep well be installed adjacent to MW-22D and MW-24D to depths of approximately 70 feet bgs to further assess the vertical extent of CoCs at these locations. Additionally, a deep well pair (one well to 45 feet bgs and one well to 70 feet bgs) should be installed adjacent to MW-30 to determine whether a diving plume has impacted downgradient locations. The approximate locations of the proposed groundwater monitoring wells are shown on Figure 11. Following the installation of the deep wells, a comprehensive groundwater sampling event should be conducted on all monitoring wells associated with the site and potential receptors to monitor contaminant migration in the shallow and deep aquifers and to establish trends in CoC concentrations.

According to records, approximately 1,400 gallons of gasoline were released to the subsurface in November 1995. To date, only 60-gallons have been recovered and a considerable volume/mass remains in-situ. Free-phase petroleum product was detected in MW-5 (0.02 feet), MW-6 (0.06 feet), and MW-7 (0.39 feet). Additionally, Total BTEX concentrations detected in monitoring wells MW-19 (59,400 µg/l), MW-23 (77,500 µg/l), and MW-24 (69,100 µg/l) indicate that free-phase petroleum product is present but has not accumulated into the well due to various possible reasons (i.e., low mobility, surface tension, possible well skin effects resulting from the well installation process). BLE recommends that a series of three AFVR events be conducted at the site: one AFVR event should be conducted on MW-6 and MW-7; one event on MW-23 and MW-19; and one event on MW-5 and MW-24. The AFVR events should be spaced approximately 15 days apart. Approximately 30 days after the last AFVR event, free-phase petroleum product levels in the wells should be measured. Based on magnahelic gauge measurements recorded during the AFVR events and the final free-product levels in the wells at the conclusion of the AFVR events, it can be determined whether the installation of 4-inch recovery wells is necessary for enhanced recovery of free-phase petroleum product at the site.

TABLES

TABLE 1

Summary of Groundwater Screening Results
Tier II Assessment
Esmark 380
Newberry, South Carolina
SCDHEC UST Permit #06588
BLE Project Number J10-6859-02

			Geoprobe Groundwater Screening Sample																					
CoC	**Method**	**RBSL (µg/L)**	**GW-1**	**GW-2**	**GW-3**	**GW-4**	**GW-5**	**GW-6**	**GW-7**	**GW-8**	**GW-9**	**GW-10**	**GW-11**	**GW-12**	**GW-13**	**GW-14**	**GW-15**	**GW-16**	**GW-17**	**GW-18**	**GW-19**	**GW-20**	**GW-21**	**GW-22**
Boring Depth (ft bgs)	NA	NA	25	25	25	25	25	25	25	25	25	25	25	30	30	25	25	25	25	25	25	25	25	25
Sample Depth (ft bgs)	NA	NA	21-25	21-25	21-25	21-25	21-25	21-25	21-25	21-25	21-25	21-25	21-25	26-30	26-30	21-25	21-25	21-25	21-25	21-25	21-25	21-25	21-25	21-25
PID Reading (ppm)	NA	NA	0.0	0.0	0.0	0.0	4.0	12.5	9.9	3.5	134	620	0.0	0.0	0.0	13.7	8.0	0.0	14.4	0.0	0.0	632	526	527
Benzene (µg/L)	8260B	5	NT	<1.0	NT	NT	NT	<1.0	NT	NT	<1.0	NT	NT	NT	<1.0	NT	NT	<1.0	<1.0	NT	<1.0	NT	NT	NT
Toluene (µg/L)	8260B	1,000	NT	<1.0	NT	NT	NT	<1.0	NT	NT	<1.0	NT	NT	NT	<1.0	NT	NT	<1.0	<1.0	NT	<1.0	NT	NT	NT
Ethylbenzene (µg/L)	8260B	700	NT	<1.0	NT	NT	NT	<1.0	NT	NT	<1.0	NT	NT	NT	<1.0	NT	NT	<1.0	<1.0	NT	<1.0	NT	NT	NT
Xylenes (µg/L)	8260B	10,000	NT	<1.0	NT	NT	NT	<1.0	NT	NT	<1.0	NT	NT	NT	<1.0	NT	NT	<1.0	<1.0	NT	<1.0	NT	NT	NT
Naphthalene (µg/L)	8260B	25	NT	<1.0	NT	NT	NT	<1.0	NT	NT	<1.0	NT	NT	NT	<1.0	NT	NT	<1.0	<1.0	NT	<1.0	NT	NT	NT
MTBE (µg/L)	8260B	40	NT	<1.0	NT	NT	NT	<1.0	NT	NT	<1.0	NT	NT	NT	<1.0	NT	NT	<1.0	<1.0	NT	<1.0	NT	NT	NT
EDB (µg/L)	8011	0.05	NT	<0.023	NT	NT	NT	<0.023	NT	NT	<0.021	NT	NT	NT	<0.023	NT	NT	<0.022	<0.020	NT	<0.021	NT	NT	NT

			Geoprobe Groundwater Screening Sample																					
CoC	**Method**	**RBSL (µg/L)**	**GW-23**	**GW-24**	**GW-25**	**GW-26**	**GW-27**	**GW-28**	**GW-29**	**GW-30**	**GW-31**	**GW-32**	**GW-33**	**GW-34**	**GW-35**	**GW-36**	**GW-37**	**GW-38**	**GW-39**	**GW-40**	**GW-41**	**GW-42**	**GW-43**	**GW-44**
Boring Depth (ft bgs)	NA	NA	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	24	15
Sample Depth (ft bgs)	NA	NA	21-25	21-25	21-25	21-25	21-25	21-25	21-25	21-25	21-25	21-25	21-25	21-25	21-25	21-25	21-25	21-25	21-25	21-25	21-25	21-25	20-24	11-15
PID Reading (ppm)	NA	NA	949	979	58.2	188	1,784	835	599	967	38.5	2,053	2,541	2,253	1,571	4.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2
Benzene (µg/L)	8260B	5	NT	NT	NT	NT	NT	<1.0	NT	**3.6**	NT	NT	NT	NT	NT	NT	NT	NT	<1.0	NT	<1.0	NT	NT	<5.0
Toluene (µg/L)	8260B	1,000	NT	NT	NT	NT	NT	<1.0	NT	<1.0	NT	NT	NT	NT	NT	NT	NT	NT	<1.0	NT	<1.0	NT	NT	<5.0
Ethylbenzene (µg/L)	8260B	700	NT	NT	NT	NT	NT	<1.0	NT	**1.7**	NT	NT	NT	NT	NT	NT	NT	NT	<1.0	NT	<1.0	NT	NT	<5.0
Xylenes (µg/L)	8260B	10,000	NT	NT	NT	NT	NT	<1.0	NT	**2.8**	NT	NT	NT	NT	NT	NT	NT	NT	<1.0	NT	<1.0	NT	NT	<5.0
Naphthalene (µg/L)	8260B	25	NT	NT	NT	NT	NT	<1.0	NT	<1.0	NT	NT	NT	NT	NT	NT	NT	NT	<1.0	NT	<1.0	NT	NT	<5.0
MTBE (µg/L)	8260B	40	NT	NT	NT	NT	NT	**9.5**	NT	**260**	NT	NT	NT	NT	NT	NT	NT	NT	<1.0	NT	<1.0	NT	NT	<5.0
EDB (µg/L)	8011	0.05	NT	NT	NT	NT	NT	<0.022	NT	<0.023	NT	NT	NT	NT	NT	NT	NT	NT	<0.021	NT	<0.021	NT	NT	NT

			Geoprobe Groundwater Screening Sample																			
CoC	**Method**	**RBSL (µg/L)**	**GW-45**	**GW-46**	**GW-47**	**GW-48**	**GW-49**	**GW-50**	**GW-51**	**GW-52**	**GW-53**	**GW-54**	**GW-55**	**GW-56**	**GW-57**	**GW-58**	**GW-59**	**GW-60**	**GW-61**	**GWD-1**	**GWD-2**	**GWD-3**
Boring Depth (ft bgs)	NA	NA	20	24	19	24	30	23	27	13	15	9	7	19	16	10	19	11	8	32	44	45
Sample Depth (ft bgs)	NA	NA	16-20	20-24	15-19	20-24	26-30	19-23	23-27	9-13	11-15	NS	NS	NS	NS	NS	15-19	NS	NS	28-32	39-44	41-45
PID Reading (ppm)	NA	NA	0.0	0.1	0.6	0.7	10.3	0.2	0.3	0.7	0.3	NS	NS	NS	NS	NS	0.5	NS	NS	3.3	852	34.9
Benzene (µg/L)	8260B	5	NT	NT	<5.0	NT	<5.0	NT	NT	<5.0	NT	Geoprobe Refusal	Geoprobe Refusal	Geoprobe Refusal	Geoprobe Refusal	Geoprobe Refusal	<5.0	Geoprobe Refusal	Geoprobe Refusal	<1.0	**4.6**	**170**
Toluene (µg/L)	8260B	1,000	NT	NT	<5.0	NT	<5.0	NT	NT	<5.0	NT						<5.0			<1.0	**35**	**37**
Ethylbenzene (µg/L)	8260B	700	NT	NT	<5.0	NT	<5.0	NT	NT	<5.0	NT						<5.0			<1.0	**7.1**	**7.9**
Xylenes (µg/L)	8260B	10,000	NT	NT	<5.0	NT	<5.0	NT	NT	<5.0	NT						<5.0			<1.0	**38**	**39**
Naphthalene (µg/L)	8260B	25	NT	NT	<5.0	NT	<5.0	NT	NT	<5.0	NT						<5.0			<1.0	<1.0	**9.6**
MTBE (µg/L)	8260B	40	NT	NT	<5.0	NT	**120**	NT	NT	<5.0	NT						<5.0			<1.0	<1.0	**28**
EDB (µg/L)	8011	0.05	NT	NT	NT	NT	NT	NT	NT	NT	NT						NT			<0.021	<0.021	**0.035**

NOTES:
CoC - Chemical of Concern
RBSL - Risk Based Screening Level
Bold values indicate concentrations detected above the laboratory method detection limit.
Shaded values indicate concentrations exceeding RBSLs.
PID - MiniRae 2000 Photoionization Detector
ppm - parts per million
ft bgs - feet below ground surface
NA - Not Applicable
NT - Not Tested. Sample not submitted for laboratory analysis
J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit
Groundwater screening samples GW-44, GW-47, GW-49, GW-52, and GW-59 were mislabeled in the field and laboratory data report dated 11/3/10 as GW-39, GW-42, GW-44, GW-47, and GW-54, respectively.

Prepared By: TZS
Checked By: RAD

TABLE 2

Summary of Soil Screening Results
Tier II Assessment
Enmark 380
Newberry, South Carolina
SCDHEC UST Permit #06588
BLE Project Number J10-6859-02

CoC	Method	RBSL (µg/kg)	PSB-1	PSB-2	PSB-3	PSB-4	PSB-5	PSB-6	PSB-7	PSB-8	PSB-9	PSB-10
Boring Depth (ft bgs)	NA	NA	25	25	17	25	10	10	10	10	10	10
Sample Depth (ft bgs)	NA	NA	16	17	16	17	9	7	7	6	5	8
PID Reading (ppm)	NA	NA	215	82.7	1,121	1,858	136	1,499	1,590	321	15.6	19.2
Benzene (µg/kg)	8260B	7	<5.3	<6.3	<4.5	**67**	<4.8	**11**	**24**	<5.3	<5.2	<5.0
Toluene (µg/kg)	8260B	1,450	<5.3	<6.3	<4.5	**1,500**	<4.8	**51**	**83**	<5.3	<5.2	<5.0
Ethylbenzene (µg/kg)	8260B	1,150	<5.3	<6.3	<4.5	**1,800**	<4.8	**17**	**15**	<5.3	<5.2	<5.0
Xylenes (µg/kg)	8260B	14,500	<5.3	**11**	**5.1**	**12,000**	**6.5**	**100**	**130**	<5.3	<5.2	**5.3**
Naphthalene (µg/kg)	8260B	36	<5.3	<6.3	**22**	**2,900**	**16**	**230**	**21**	<5.3	<5.2	<5.0
TPH -DRO (µg/kg)	8015C	NE	NT	NT	NT	**25,000**	NT	NT	<8,000	NT	NT	NT

NOTES:
Soil samples exhibiting the highest PID field screening reading during well installation were collected for laboratory analysis.
For borings where no volatile organic vapors were detected, a soil sample from the deepest portion of the vadose zone was collected.
Bold values indicate concentrations detected above the laboratory method detection limit.
Shaded values indicate concentrations exceeding RBSLs.
CoC - Chemical of Concern
RBSL - Risk-Based Screening Level for sandy soils.
PID - MiniRae 2000 Photoionization Detector
ppm - parts per million
ft bgs - feet below ground surface
NA - Not Applicable

Prepared By: TZS
Checked By: RAD

TABLE 3

Monitoring Well and Groundwater Surface Elevation Data
Tier II Assessment
Enmark 380
Newberry, South Carolina
SCDHEC UST Permit #06588
BLE Project Number J10-6859-02

Monitoring Well	Ground Surface Elev.	TOC Elev.	GW Depth BTOC	GW Elev.	Well Depth	Screened Interval Depth	Screened Interval Elev.
MW-1	542.43	542.17	20.35	521.82	28.30	13.05 - 28.05	529.38 - 514.38
MW-2	543.01	542.83	20.82	522.01	25.20	10.20 - 25.20	532.81 - 517.81
MW-3	543.98	543.63	21.25	522.38	25.00	10.00 - 25.00	533.98 - 518.98
MW-4*	543.58	542.96	Damaged	Damaged	25.00	10.00 - 25.00	533.58 - 518.58
MW-5	542.69	542.43	21.10	521.33	25.00	15.00 - 25.00	527.69 - 517.69
MW-6	542.43	542.24	20.85	521.39	25.00	15.00 - 25.00	527.43 - 517.43
MW-7	542.79	542.63	20.90	521.73	25.00	15.00 - 25.00	527.79 - 517.79
MW-7D	542.25	541.75	19.80	521.95	46.04	40.84 - 45.84	501.41 - 496.41
MW-8D	542.76	542.54	21.80	520.74	45.00	40.00 - 45.00	502.76 - 497.76
MW-9	544.20	543.91	21.70	522.21	28.74	18.54 - 28.54	525.66 - 515.66
MW-10	543.29	542.98	20.91	522.07	28.00	17.80 - 27.80	525.49 - 515.49
MW-11	541.88	541.6	19.15	522.45	28.30	18.10 - 28.10	523.78 - 513.78
MW-12	541.90	541.67	19.10	522.57	27.61	17.41 - 27.41	524.49 - 514.49
MW-13	541.19	540.96	19.00	521.96	26.46	16.26 - 26.26	524.93 - 514.93
MW-14	545.14	544.81	22.40	522.41	29.32	19.12 - 29.12	526.02 - 516.02
MW-15	544.11	543.81	21.45	522.36	28.62	18.42 - 28.42	525.69 - 515.69
MW-16	539.55	539.35	17.96	521.39	26.02	15.82 - 25.82	523.73 - 513.73
MW-17	541.46	541.24	19.40	521.84	26.54	16.34 - 26.34	525.12 - 515.12
MW-18	541.42	541.24	19.60	521.64	26.28	16.08 - 26.08	525.34 - 515.34
MW-19	540.98	540.82	19.26	521.56	25.52	15.32 - 25.32	525.66 - 515.66
MW-20	542.61	542.24	20.52	521.72	27.24	17.04 - 27.04	525.57 - 515.57
MW-21	541.95	541.73	20.50	521.23	27.16	16.96 - 26.96	524.99 - 514.99
MW-21D	542.43	542.23	20.00	522.23	46.75	41.55 - 46.55	500.88 495.88
MW-22	541.08	540.89	19.30	521.59	26.25	16.05 - 26.05	525.03 - 515.03
MW-22D	541.22	540.87	19.30	521.57	45.82	40.62 - 45.62	500.60 495.60
MW-23	541.44	541.19	19.60	521.59	25.25	15.05 - 25.05	526.39 - 516.39
MW-24	542.50	542.17	20.42	521.75	25.42	15.22 - 25.22	527.28 - 517.28
MW-24D	542.37	542.14	20.40	521.74	46.03	40.83 - 45.83	501.54 496.54
MW-25	542.98	542.72	20.76	521.96	25.38	15.18 - 25.18	527.80 - 517.80
MW-26	543.01	542.87	20.72	522.15	27.00	16.80 - 26.80	526.21 - 516.21
MW-27	543.72	543.45	21.20	522.25	27.25	17.05 - 27.05	526.67 - 516.67
MW-28	540.32	540.03	18.44	521.59	25.50	15.30 - 25.30	525.02 - 515.02
MW-29	538.80	538.56	17.60	520.96	25.00	14.80 - 24.80	524.00 - 514.00
MW-30	537.42	537.15	16.54	520.61	24.00	13.80 - 23.80	523.62 - 513.62
MW-31	538.87	538.63	17.68	520.95	25.25	15.05 - 25.05	523.82 - 513.82
MW-32	539.18	538.94	17.70	521.24	25.25	15.05 - 25.05	524.13 - 514.13
MW-33	540.16	539.95	18.66	521.29	26.25	16.05 - 26.05	524.11 - 514.11
MW-34	533.67	533.42	12.30	521.12	18.25	8.05 - 18.05	525.62 - 515.62
MW-35	528.00	527.70	6.88	520.82	14.25	4.05 - 14.05	523.95 - 513.95
MW-36	525.24	528.05	12.65	515.40	31.00	20.80 - 30.80	504.44 - 494.44
MW-37	519.24	522.30	3.70	518.60	21.69	11.49 - 21.49	507.75 - 497.75
MW-38	536.16	535.96	15.55	520.41	25.00	14.80 - 24.80	521.36 - 511.36
MW-39	518.80	518.57	1.52	517.05	12.00	1.80 - 11.80	517.00 - 507.00

NOTES:

Groundwater levels were measured on December 22, 2010.

Well construction data for MW-1 obtained from *REMTECH Engineers Soil Boring & Well Installation Log* dated July 17, 1991.

Well construction data for MW-2 through MW-7 and MW-8D obtained from *Risk-Based Corrective Action Tier II Evaluation Report* by Handex of the Carolinas, Inc. dated May 27, 1999.

* - A total well depth of 14.01 feet btoc for MW-4 was recorded during the groundwater sampling event. MW-4 is assumed to be damaged or obstructed.

0.02 feet, 0.06 feet, and 0.39 feet of free-phase petroleum product were detected in MW-5, MW-6, and MW-7, respectively. Depth to groundwater mesurements for these wells have been corrected for the presence of free-product using the specific gravity value of 0.70.

Measurements are in feet

BTOC - below top of casing

BGS - below ground surface

Elevations are NAVD 88

Prepared By: TZS
Checked By: RAD

TABLE 4

Summary of Groundwater Analytical Results
Tier II Assessment
Enmark 380
Newberry, South Carolina
SCDHEC UST Permit #06588
BLE Project Number J10-6859-02

CoC	Method	RBSL (µg/L)	MW-1				MW-2			MW-3			MW-4			MW-5		MW-6	
Sampling Date	NA	NA	2/24/1992	6/11/1997	6/26/1998	11/2/2010	6/11/1997	6/26/1998	11/2/2010	6/11/1997	6/26/1998	11/15/22010	6/11/1997	6/26/1998	11/2/2010	6/26/1998	11/2/2010	6/26/1998	11/15/2010
Free-Product Thickness	Interface Probe	NA	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.45	0.39	DRY	0.02	0.02	0.00	0.06
Benzene (µg/L)	8260B	5	**5,900**	**5,900**	**3,550**	**4,400**	**6,750**	**3,780**	**1.9**	**675**	**411**	**68**	NS	**25,300**	DRY	**10,100**	NS	**12,800**	NS
Toluene (µg/L)	8260B	1,000	**5,900**	**8,010**	**1,910**	**2,100**	**13,500**	**9,380**	**1.8**	**9,000**	**4,150**	**11**	NS	**26,300**	DRY	**24,400**	NS	**20,400**	NS
Ethylbenzene (µg/L)	8260B	700	**1,800**	**1,530**	**674**	**1,600**	**900**	**896**	**11**	**900**	**986**	**8.7**	NS	**4,290**	DRY	**2,920**	NS	**3,980**	NS
Xylenes (µg/L)	8260B	10,000	**7,200**	**7,420**	**3,150**	**7,200**	**5,180**	**3,340**	**39**	**5,400**	**5,080**	**89**	NS	**24,900**	DRY	**8,480**	NS	**19,600**	NS
Methyl-tert-butyl ether (MTBE) (µg/L)	8260B	40	NT	**135**	**36**	<20	**900**	**236**	<1.0	**5.0**	40	<1.0	NS	**7,000**	DRY	**25,300**	NS	**410**	NS
Naphthalene (µg/L)	8260B	25	NT	**108**	**35**	**170**	**254**	**885**	**15**	**450**	**534**	**21**	NS	**3,050**	DRY	**2,800**	NS	**2,760**	NS
1,2-Dibromoethane (EDB) (µg/L)	8011	0.05	NT	NT	NT	**1.9**	NT	NT	<0.021	NT	NT	<0.020	NS	NT	DRY	NT	NS	NT	NS
1,2-Dichloroethane (1,2 DCA) (µg/L)	8260B	5	NT	NT	NT	**160**	NT	NT	<1.0	NT	NT	<1.0	NS	NT	DRY	NT	NS	NT	NS
Acenaphthene (µg/L)	8270C	NE	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NS	NT	DRY	NT	NS	NT	NS
Acenaphthylene (µg/L)	8270C	NE	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NS	NT	DRY	NT	NS	NT	NS
Anthracene (µg/L)	8270C	NE	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NS	NT	DRY	NT	NS	NT	NS
Benzo (a) anthracene (µg/L)	8270C	10	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NS	NT	DRY	NT	NS	NT	NS
Benzo (a) pyrene (µg/L)	8270C	NE	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NS	NT	DRY	NT	NS	NT	NS
Benzo (b) fluoranthene (µg/L)	8270C	10	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NS	NT	DRY	NT	NS	NT	NS
Benzo (g,h,i) perylene (µg/L)	8270C	NE	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NS	NT	DRY	NT	NS	NT	NS
Benzo (k) fluoroanthene (µg/L)	8270C	10	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NS	NT	DRY	NT	NS	NT	NS
Chrysene (µg/L)	8270C	10	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NS	NT	DRY	NT	NS	NT	NS
Debenz (a,h) anthracene (µg/L)	8270C	10	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NS	NT	DRY	NT	NS	NT	NS
Fluoranthene (µg/L)	8270C	NE	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NS	NT	DRY	NT	NS	NT	NS
Fluorene (µg/L)	8270C	NE	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NS	NT	DRY	NT	NS	NT	NS
Indeno (1,2,3-cd) pyrene (µg/L)	8270C	NE	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NS	NT	DRY	NT	NS	NT	NS
1-Methylnaphthalene (µg/L)	8270C	25	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NS	NT	DRY	NT	NS	NT	NS
2-Methylnaphthalene (µg/L)	8270C	25	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NS	NT	DRY	NT	NS	NT	NS
Naphthalene (PAH range) (µg/L)	8270C	25	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NS	NT	DRY	NT	NS	NT	NS
Phenanthrene (µg/L)	8270C	NE	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NS	NT	DRY	NT	NS	NT	NS
Pyrene (µg/L)	8270C	NE	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NS	NT	DRY	NT	NS	NT	NS
Ethyl-tert-butyl ether (ETBE) (µg/L)	8260B	47	NT	NT	NT	<20	NT	NT	<1.0	NT	NT	<1.0	NS	NT	DRY	NT	NS	NT	NS
Ethyl-tert-butyl alcohol (ETBA) (µg/L)	8260B	NE	NT	NT	NT	<400	NT	NT	<20	NT	NT	<20	NS	NT	DRY	NT	NS	NT	NS
Tert-amyl methyl ether (TAME) (µg/L)	8260B	128	NT	NT	NT	<200	NT	NT	<10	NT	NT	<10	NS	NT	DRY	NT	NS	NT	NS
Diisopropyl ether (DIPE) (µg/L)	8260B	150	NT	NT	NT	<100	NT	NT	<5.0	NT	NT	<5.0	NS	NT	DRY	NT	NS	NT	NS
Ethanol (µg/L)	8260B	10,000	NT	NT	NT	<2,000	NT	NT	<100	NT	NT	<100	NS	NT	DRY	NT	NS	NT	NS
Tert-butyl formate (TBF) (µg/L)	8260B	NE	NT	NT	NT	<100	NT	NT	<5.0	NT	NT	<5.0	NS	NT	DRY	NT	NS	NT	NS
Tert-butyl alcohol (TBA) (µg/L)	8260B	1,400	NT	NT	NT	<400	NT	NT	**59**	NT	NT	**58**	NS	NT	DRY	NT	NS	NT	NS
Tert-amyl alcohol (TAA) (µg/L)	8260B	240	NT	NT	NT	<400	NT	NT	<20	NT	NT	**100**	NS	NT	DRY	NT	NS	NT	NS
Lead (µg/L)	6010B	15	NT	NT	NT	<10	NT	NT	**38**	NT	NT	<10	NS	NT	DRY	NT	NS	NT	NS
Ferrous Iron (mg/L)	SM 3500-FeD	NE	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NS	NT	DRY	NT	NS	NT	NS
Nitrates (mg/L)	8094	NE	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NS	NT	DRY	NT	NS	NT	NS
Sulfates (mg/L)	SW9056A	NE	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NS	NT	DRY	NT	NS	NT	NS

NOTES:
CoC - Chemical of Concern
RBSL - Risk Based Screening Level
Bold values indicate concentrations detected above the laboratory method detection limit.
Shaded values indicate concentrations exceeding RBSLs.
NA - Not Applicable
ND - Not Detected
NE - Not Established
NT - Not Tested

Prepared By: TZS
Checked By: RAD

TABLE 4 - CONTINUED

Groundwater Analytical Data
Tier II Assessment
Enmark 380
Newberry, South Carolina
SCDHEC UST Permit #06588
BLE Project Number J10-6859-02

CoC	Method	RBSL (µg/L)	MW-7		MW-7D	MW-8D		MW-9	MW-10	MW-11	MW-12	MW-13	MW-14	MW-15	MW-16	MW-17	MW-18	MW-19	MW-20
Sampling Date	NA	NA	6/26/1998	11/15/2010	11/4/2010	6/26/1998	11/4/2010	11/2/2010	11/2/2010	11/2/2010	11/2/2010	11/2/2010	11/3/2010	11/3/2010	11/2/2010	11/2/2010	11/2/2010	11/2/2010	11/4/2010
Free-Product Thickness	Interface Probe	NA	0.00	0.39	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Benzene (µg/L)	8260B	5	**17,000**	NS	**19**	**47.6**	**13**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**20**	**8,300**	<1.0
Toluene (µg/L)	8260B	1,000	**27,500**	NS	**3.4**	**3.0**	**12**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**170**	**29,000**	<1.0
Ethylbenzene (µg/L)	8260B	700	**3,660**	NS	**2.3**	**1.3**	**4.7**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**1,700**	**3,100**	<1.0
Xylenes (µg/L)	8260B	10,000	**12,800**	NS	**16**	**29.8**	**29**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**6,200**	**19,000**	<1.0
Methyl-tert-butyl ether (MTBE) (µg/L)	8260B	40	**7,280**	NS	<1.0	**74.2**	**5.7**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<20	**320**	<1.0
Naphthalene (µg/L)	8260B	25	**6,140**	NS	**2.8**	**14.0**	**4.4**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**490**	**850**	<1.0
1,2-Dibromoethane (EDB) (µg/L)	8011	0.05	NT	NS	<0.019	NT	<0.020	<0.022	<0.020	<0.020	<0.021	<0.021	<0.020	<0.020	<0.020	<0.020	<0.020	**28**	<0.020
1,2-Dichloroethane (1,2 DCA) (µg/L)	8260B	5	NT	NS	<1.0	NT	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<20	<200	<1.0
Acenaphthene (µg/L)	8270C	NE	NT	NS	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Acenaphthylene (µg/L)	8270C	NE	NT	NS	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Anthracene (µg/L)	8270C	NE	NT	NS	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Benzo (a) anthracene (µg/L)	8270C	10	NT	NS	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Benzo (a) pyrene (µg/L)	8270C	NE	NT	NS	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Benzo (b) fluoranthene (µg/L)	8270C	10	NT	NS	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Benzo (g,h,i) perylene (µg/L)	8270C	NE	NT	NS	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Benzo (k) fluoroanthene (µg/L)	8270C	10	NT	NS	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Chrysene (µg/L)	8270C	10	NT	NS	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Debenz (a,h) anthracene (µg/L)	8270C	10	NT	NS	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Fluoranthene (µg/L)	8270C	NE	NT	NS	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Fluorene (µg/L)	8270C	NE	NT	NS	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Indeno (1,2,3-cd) pyrene (µg/L)	8270C	NE	NT	NS	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
1-Methylnaphthalene (µg/L)	8270C	25	NT	NS	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
2-Methylnaphthalene (µg/L)	8270C	25	NT	NS	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Naphthalene (PAH range) (µg/L)	8270C	25	NT	NS	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Phenanthrene (µg/L)	8270C	NE	NT	NS	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Pyrene (µg/L)	8270C	NE	NT	NS	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Ethyl-tert-butyl ether (ETBE) (µg/L)	8260B	47	NT	NS	<1.0	NT	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<20	<200	<1.0
Ethyl-tert-butyl alcohol (ETBA) (µg/L)	8260B	NE	NT	NS	<20	NT	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<400	<4,000	<20
Tert-amyl methyl ether (TAME) (µg/L)	8260B	128	NT	NS	<10	NT	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<200	<2,000	<10
Diisopropyl ether (DIPE) (µg/L)	8260B	150	NT	NS	<5.0	NT	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<100	<1,000	<5.0
Ethanol (µg/L)	8260B	10,000	NT	NS	<100	NT	**1,700**	**330**	<100	<100	<100	<100	<100	<100	**220**	**260**	<2,000	<20,000	<100
Tert-butyl formate (TBF) (µg/L)	8260B	NE	NT	NS	<5.0	NT	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<100	<1,000	<5.0
Tert-butyl alcohol (TBA) (µg/L)	8260B	1,400	NT	NS	<20	NT	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<400	<4,000	<20
Tert-amyl alcohol (TAA) (µg/L)	8260B	240	NT	NS	<20	NT	**37**	<20	<20	<20	<20	<20	<20	<20	<20	<20	<400	<4,000	<20
Lead (µg/L)	6010B	15	NT	NS	<10	NT	**17**	**350**	**480**	**220**	**290**	**420**	**96**	**70**	**180**	**31**	**270**	**480**	**10**
Ferrous Iron (mg/L)	SM 3500-FeD	NE	NT	NS	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Nitrates (mg/L)	8094	NE	NT	NS	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Sulfates (mg/L)	SW9056A	NE	NT	NS	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT

NOTES:
CoC - Chemical of Concern
RBSL - Risk Based Screening Level
Bold values indicate concentrations detected above the laboratory method detection limit.
Shaded values indicate concentrations exceeding RBSLs.
NA - Not Applicable
ND - Not Detected
NE - Not Established
NT - Not Tested

Prepared By: TZS
Checked By: RAD

TABLE 4 - CONTINUED

Groundwater Analytical Data
Tier II Assessment
Enmark 380
Newberry, South Carolina
SCDHEC UST Permit #06588
BLE Project Number J10-6859-02

CoC	Method	RBSL (µg/L)	MW-21	MW-21D	MW-22	MW-22D	MW-23	MW-24	MW-24D	MW-25	MW-26	MW-27	MW-28	MW-29	MW-30	MW-31	MW-32	MW-33	MW-34
Sampling Date	NA	NA	11/4/2010	11/4/2010	11/2/2010	11/4/2010	11/3/2010	11/3/2010	11/4/2010	11/3/2010	11/3/2010	11/3/2010	11/4/2010	11/3/2010	11/3/2010	11/3/2010	11/3/2010	11/4/2010	11/4/2010
Free-Product Thickness	Interface Probe	NA	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Benzene (µg/L)	8260B	5	<1.0	<1.0	**3,200**	**220**	**19,000**	**17,000**	**110**	**6,100**	**27**	<1.0	<1.0	<1.0	**3.6**	<1.0	<1.0	<1.0	<1.0
Toluene (µg/L)	8260B	1,000	<1.0	<1.0	**1,000**	<1.0	**30,000**	**23,000**	**23**	**3,600**	<1.0	<1.0	<1.0	<1.0	**19**	<1.0	<1.0	<1.0	<1.0
Ethylbenzene (µg/L)	8260B	700	<1.0	<1.0	**2,400**	<1.0	**4,500**	**5,100**	**9.2**	**1,500**	**2.2**	<1.0	<1.0	<1.0	**8.3**	<1.0	<1.0	<1.0	<1.0
Xylenes (µg/L)	8260B	10,000	<1.0	<1.0	**7,900**	**2.0**	**24,000**	**24,000**	**33**	**7,900**	**8.5**	<1.0	<1.0	<1.0	**53**	<1.0	<1.0	<1.0	<1.0
Methyl-tert-butyl ether (MTBE) (µg/L)	8260B	40	<1.0	<1.0	**610**	**9.2**	**2,300**	**2,400**	**10**	**1,000**	<1.0	<1.0	<1.0	<1.0	**350**	**12**	**15**	**43**	<1.0
Naphthalene (µg/L)	8260B	25	<1.0	<1.0	**630**	**15**	**1,000**	**840**	**14**	**520**	<1.0	<1.0	<1.0	<1.0	**9.0**	<1.0	<1.0	<1.0	<1.0
1,2-Dibromoethane (EDB) (µg/L)	8011	0.05	<0.019	<0.020	**0.28**	<0.019	**40**	**55**	**0.041**	**3.5**	<0.021	<0.021	<0.020	<0.021	<0.020	<0.020	<0.020	<0.020	<0.019
1,2-Dichloroethane (1,2 DCA) (µg/L)	8260B	5.0	<1.0	<1.0	<20	<1.0	**910**	**630**	<1.0	<20	<1.0	<1.0	<1.0	<1.0	**11**	<1.0	<1.0	<1.0	<1.0
Acenaphthene (µg/L)	8270C	NE	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Acenaphthylene (µg/L)	8270C	NE	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Anthracene (µg/L)	8270C	NE	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Benzo (a) anthracene (µg/L)	8270C	10	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Benzo (a) pyrene (µg/L)	8270C	NE	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Benzo (b) fluoranthene (µg/L)	8270C	10	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Benzo (g,h,i) perylene (µg/L)	8270C	NE	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Benzo (k) fluoroanthene (µg/L)	8270C	10	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Chrysene (µg/L)	8270C	10	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Debenz (a,h) anthracene (µg/L)	8270C	10	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Fluoranthene (µg/L)	8270C	NE	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Fluorene (µg/L)	8270C	NE	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Indeno (1,2,3-cd) pyrene (µg/L)	8270C	NE	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
1-Methylnaphthalene (µg/L)	8270C	25	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
2-Methylnaphthalene (µg/L)	8270C	25	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Naphthalene (PAH range) (µg/L)	8270C	25	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Phenanthrene (µg/L)	8270C	NE	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Pyrene (µg/L)	8270C	NE	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Ethyl-tert-butyl ether (ETBE) (µg/L)	8260B	47	<1.0	<1.0	<20	<1.0	<200	<100	<1.0	<20	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Ethyl-tert-butyl alcohol (ETBA) (µg/L)	8260B	NE	<20	<20	<400	<20	<4,000	<2,000	<20	<400	<20	<20	<20	<20	<20	<20	<20	<20	<20
Tert-amyl methyl ether (TAME) (µg/L)	8260B	128	<10	<10	**360**	<10	<2,000	<1,000	<10	<200	<10	<10	<10	<10	**13**	<10	<10	<10	<10
Diisopropyl ether (DIPE) (µg/L)	8260B	150	<5.0	<5.0	<100	<5.0	<1,000	<500	<5.0	<100	<5.0	<5.0	<5.0	<5.0	**47**	<5.0	<5.0	<5.0	<5.0
Ethanol (µg/L)	8260B	10,000	<100	<100	<2,000	<100	<20,000	<10,000	<100	<2,000	<100	**1,200**	<100	<100	<100	<100	<100	<100	<100
Tert-butyl formate (TBF) (µg/L)	8260B	NE	<5.0	<5.0	<100	<5.0	<1,000	<500	<5.0	<100	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Tert-butyl alcohol (TBA) (µg/L)	8260B	1,400	<20	<20	<400	**24**	**14,000**	<2,000	<20	<400	<20	<20	<20	<20	**680**	<20	<20	**23**	<20
Tert-amyl alcohol (TAA) (µg/L)	8260B	240	<20	<20	<400	<20	<4,000	<2,000	**55**	**2,800**	**64**	<20	<20	<20	**1,000**	**30**	<20	**62**	<20
Lead (µg/L)	6010B	15	**22**	**69**	**520**	**15**	**640**	**120**	<10	**110**	<10	<10	<10	**720**	**170**	<10	**1,800**	**11**	<10
Ferrous Iron (mg/L)	SM 3500-FeD	NE	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Nitrates (mg/L)	8094	NE	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Sulfates (mg/L)	SW9056A	NE	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT

NOTES:
CoC - Chemical of Concern
RBSL - Risk Based Screening Level
Bold values indicate concentrations detected above the laboratory method detection limit.
Shaded values indicate concentrations exceeding RBSLs.
NA - Not Applicable
ND - Not Detected
NE - Not Established
NT - Not Tested

Prepared By: TZS
Checked By: RAD

TABLE 4 - CONTINUED

Groundwater Analytical Data
Tier II Assessment
Enmark 380
Newberry, South Carolina
SCDHEC UST Permit #06588
BLE Project Number J10-6859-02

CoC	Method	RBSL (µg/L)	MW-35	MW-36	MW-37	MW-38	MW-39	SW-1	DW-1	DW-2	DW-3	DW-4	DW-5	DW-6	DW-7	DW-8	DW-9	DW-10
Sampling Date	NA	NA	11/4/2010	11/4/2010	11/4/2010	11/4/2010	11/12/2010	11/12/2010	11/5/2010	11/5/2010	11/5/2010	11/5/2010	11/5/2010	11/5/2010	11/5/2010	11/5/2010	11/5/2010	11/5/2010
Free-Product Thickness	Interface Probe	NA	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	0.00	0.00
Benzene (µg/L)	8260B	5	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	NS	NS	NS	NS	NS
Toluene (µg/L)	8260B	1,000	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	NS	NS	NS	NS	NS
Ethylbenzene (µg/L)	8260B	700	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	NS	NS	NS	NS	NS
Xylenes (µg/L)	8260B	10,000	<1.0	<1.0	<1.0	<1.0	**1.2**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	NS	NS	NS	NS	NS
Methyl-tert-butyl ether (MTBE) (µg/L)	8260B	40	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	NS	NS	NS	NS	NS
Naphthalene (µg/L)	8260B	25	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	NS	NS	NS	NS	NS
1,2-Dibromoethane (EDB) (µg/L)	8011	0.05	<0.020	<0.020	<0.020	<0.020	<0.019	<0.019	<0.020	<0.019	<0.020	<0.020	<0.020	NS	NS	NS	NS	NS
1,2-Dichloroethane (1,2 DCA) (µg/L)	8260B	5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	NS	NS	NS	NS	NS
Acenaphthene (µg/L)	8270C	NE	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NS	NS	NS	NS	NS
Acenaphthylene (µg/L)	8270C	NE	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NS	NS	NS	NS	NS
Anthracene (µg/L)	8270C	NE	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NS	NS	NS	NS	NS
Benzo (a) anthracene (µg/L)	8270C	10	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NS	NS	NS	NS	NS
Benzo (a) pyrene (µg/L)	8270C	NE	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NS	NS	NS	NS	NS
Benzo (b) fluoranthene (µg/L)	8270C	10	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NS	NS	NS	NS	NS
Benzo (g,h,i) perylene (µg/L)	8270C	NE	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NS	NS	NS	NS	NS
Benzo (k) fluoroanthene (µg/L)	8270C	10	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NS	NS	NS	NS	NS
Chrysene (µg/L)	8270C	10	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NS	NS	NS	NS	NS
Debenz (a,h) anthracene (µg/L)	8270C	10	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NS	NS	NS	NS	NS
Fluoranthene (µg/L)	8270C	NE	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NS	NS	NS	NS	NS
Fluorene (µg/L)	8270C	NE	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NS	NS	NS	NS	NS
Indeno (1,2,3-cd) pyrene (µg/L)	8270C	NE	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NS	NS	NS	NS	NS
1-Methylnaphthalene (µg/L)	8270C	25	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NS	NS	NS	NS	NS
2-Methylnaphthalene (µg/L)	8270C	25	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NS	NS	NS	NS	NS
Naphthalene (PAH range) (µg/L)	8270C	25	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NS	NS	NS	NS	NS
Phenanthrene (µg/L)	8270C	NE	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NS	NS	NS	NS	NS
Pyrene (µg/L)	8270C	NE	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NS	NS	NS	NS	NS
Ethyl-tert-butyl ether (ETBE) (µg/L)	8260B	47	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	NS	NS	NS	NS	NS
Ethyl-tert-butyl alcohol (ETBA) (µg/L)	8260B	NE	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	NS	NS	NS	NS	NS
Tert-amyl methyl ether (TAME) (µg/L)	8260B	128	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	NS	NS	NS	NS	NS
Diisopropyl ether (DIPE) (µg/L)	8260B	150	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	NS	NS	NS	NS	NS
Ethanol (µg/L)	8260B	10,000	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	NS	NS	NS	NS	NS
Tert-butyl formate (TBF) (µg/L)	8260B	NE	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	NS	NS	NS	NS	NS
Tert-butyl alcohol (TBA) (µg/L)	8260B	1,400	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	NS	NS	NS	NS	NS
Tert-amyl alcohol (TAA) (µg/L)	8260B	240	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	NS	NS	NS	NS	NS
Lead (µg/L)	6010B	15	<10	**310**	**10**	**35**	**150**	NT	NT	NT	NT	NT	NT	NS	NS	NS	NS	NS
Ferrous Iron (mg/L)	SM 3500-FeD	NE	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NS	NS	NS	NS	NS
Nitrates (mg/L)	8094	NE	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NS	NS	NS	NS	NS
Sulfates (mg/L)	SW9056A	NE	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NS	NS	NS	NS	NS

NOTES:
CoC - Chemical of Concern
RBSL - Risk Based Screening Level
Bold values indicate concentrations detected above the laboratory method detection limit.
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NA - Not Applicable
ND - Not Detected
NE - Not Established
NT - Not Tested

Prepared By: TZS
Checked By: RAD

TABLE 5

Interstitial Groundwater Velocity
Enmark 380
Newberry, South Carolina
SCDHEC UST Permit #06588
BLE Project Number J10-6859-02

VELOCITY CALCULATION	Hydraulic Conductivity (K) (centimeters/second)	Hydraulic Conductivity (K) (feet/day)	Hydraulic Conductivity (K) (feet/year)	Hydraulic Gradient (i) (unitless)	Effective Porosity (n) (unitless)	Groundwater Velocity (V) (feet/day)	Groundwater Velocity (V) (feet/year)	Groundwater Velocity (V) (meters/second)
MW-22	4.07E-03	11.54	4.21E+03	0.003	0.18	1.92E-01	70.19	6.78E-07
MW-22D	1.35E-02	38.27	1.40E+04	0.003	0.05	2.30E+00	838.10	8.10E-06
MW-24	3.89E-03	11.03	4.02E+03	0.003	0.18	1.84E-01	67.08	6.48E-07
MW-24D	2.63E-03	7.46	2.72E+03	0.003	0.05	4.47E-01	163.28	1.58E-06
Mathematical Mean	6.02E-03	17.07	6.23E+03	0.003	0.12	4.45E-01	162.56	1.57E-06

Notes:

Hydraulic conductivity values were obtained from slug tests performed by BLE on November 15, 2010 and January 4, 2011.

Effective porosity for MW-22 and MW-24 was estimated from specific yield as described by Fetter (1994), using laboratory grain size data from the screened interval of MW-22 (20'-25').

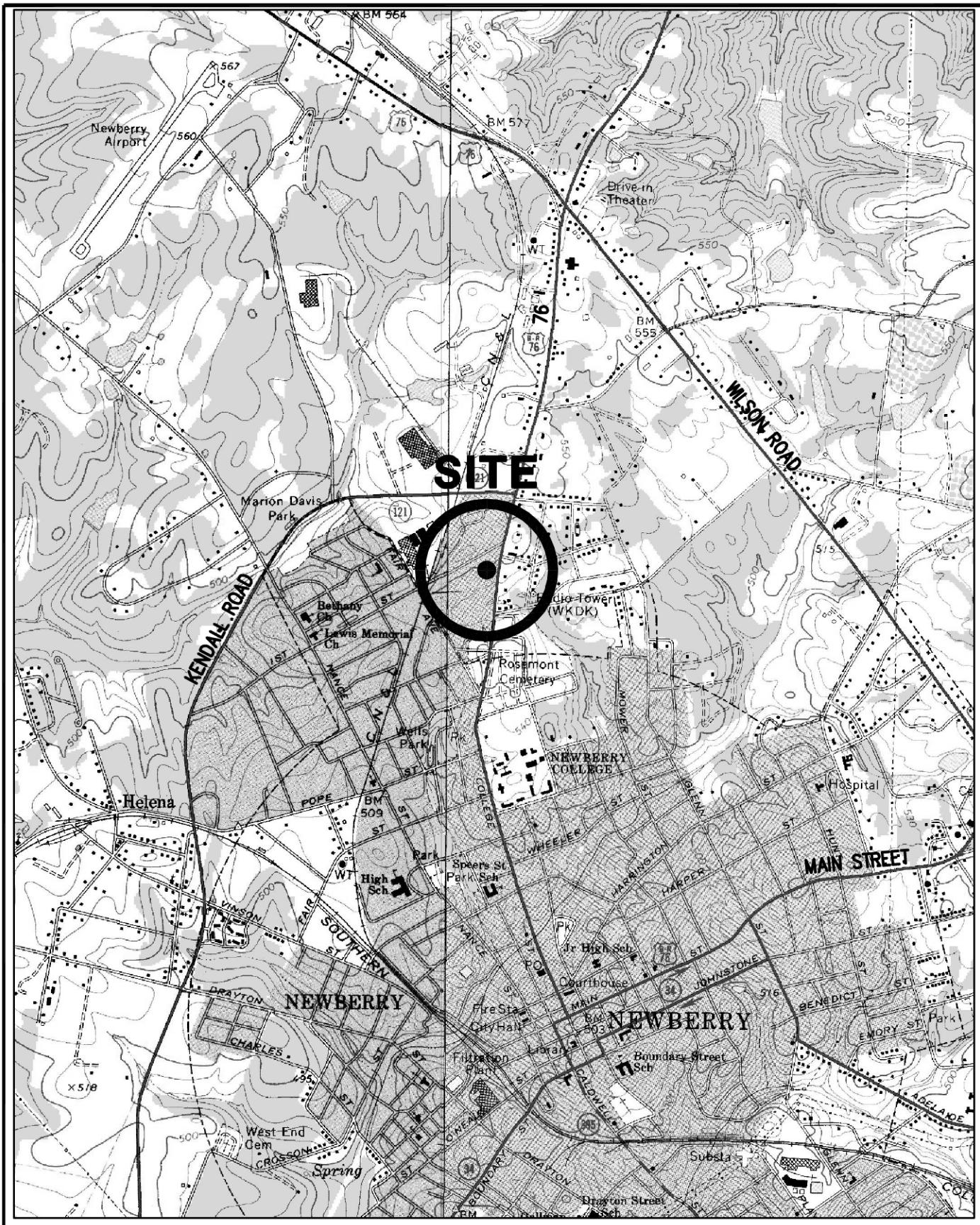
An effective mean porosity of 0.05 for fractured crystalline bedrock was estimated for MW-22D and MW-24D. The effective porosity was based upon representative porosity as described in Freeze, R.A. and Cherry, J.A., 1979, Groundwater, Prentice-Hall, Inc., New Jersey, 604 pp.

The site-wide hydraulic gradient is based on groundwater elevations and distances from MW-2 to MW-19. Water level data was measured on December 22, 2010.

Groundwater velocity derived from the equation V = Ki/n.

Prepared By: TZS
Checked By: ___

FIGURES



2000 1000 0 2000 4000

APPROXIMATE SCALE IN FEET

REFERENCE:
USGS TOPOGRAPHIC MAP, 7.5 MINUTE SERIES, NEWBERRY WEST AND NEWBERRY EAST, S.C. QUADRANGLES, 1969 AND 1968.

DRAWN: ACE	DATE: 02-04-10	BLE INC. BUNNELL-LAMMONS ENGINEERING, INC. 6004 PONDERS COURT GREENVILLE, SOUTH CAROLINA 29615 PHONE: (864)288-1265 FAX: (864)288-4430	SITE LOCATION MAP ENMARK #380 UST PERMIT #06588 NEWBERRY, SOUTH CAROLINA	FIGURE
CHECKED: TJB	CAD: ENMARK380-SLM			1
APPROVED:	JOB NO: J10-6859-01			

REFERENCE:
NEWBERRY COUNTY GIS IMAGE DATED 2008.

DRAWN: ACE	DATE: 10-14-10	BLE INC. BUNNELL-LAMMONS ENGINEERING, INC. 6004 PONDERS COURT GREENVILLE, SOUTH CAROLINA 29615 PHONE: (864)288-1265 FAX: (864)288-4430	RECEPTOR SURVEY MAP SPINX 258/FORMER ENMARK 380 UST PERMIT #06588 NEWBERRY, SOUTH CAROLINA	FIGURE
CHECKED: TZS	CAD: SPINX258-RSM			2
APPROVED:	JOB NO: J10-6859-02			

LEGEND

- APPROXIMATE LOCATION OF EXISTING SHALLOW, TYPE II GROUNDWATER MONITORING WELL
- APPROXIMATE LOCATION OF EXISTING DEEP, TYPE III GROUNDWATER MONITORING WELL
- APPROXIMATE LOCATION OF SHALLOW GROUNDWATER SCREENING POINT
- APPROXIMATE LOCATION OF DEEP GROUNDWATER SCREENING POINT
- APPROXIMATE LOCATION OF PRIVATE WATER SUPPLY WELL
- 3.5 PHOTO-IONIZATION DETECTOR (PID) SCREENING FIELD VALUE; ppm
- NS NOT SAMPLED. GEOPROBE REFUSAL WAS ENCOUNTERED PRIOR TO ENCOUNTERING GROUNDWATER

NOTE:
LABORATORY SAMPLE ANALYSIS FOR SELECTED LOCATIONS ARE SHOWN ON TABLE 1.

60 30 0 60 120
APPROXIMATE SCALE IN FEET

REFERENCE:
NEWBERRY COUNTY GIS.

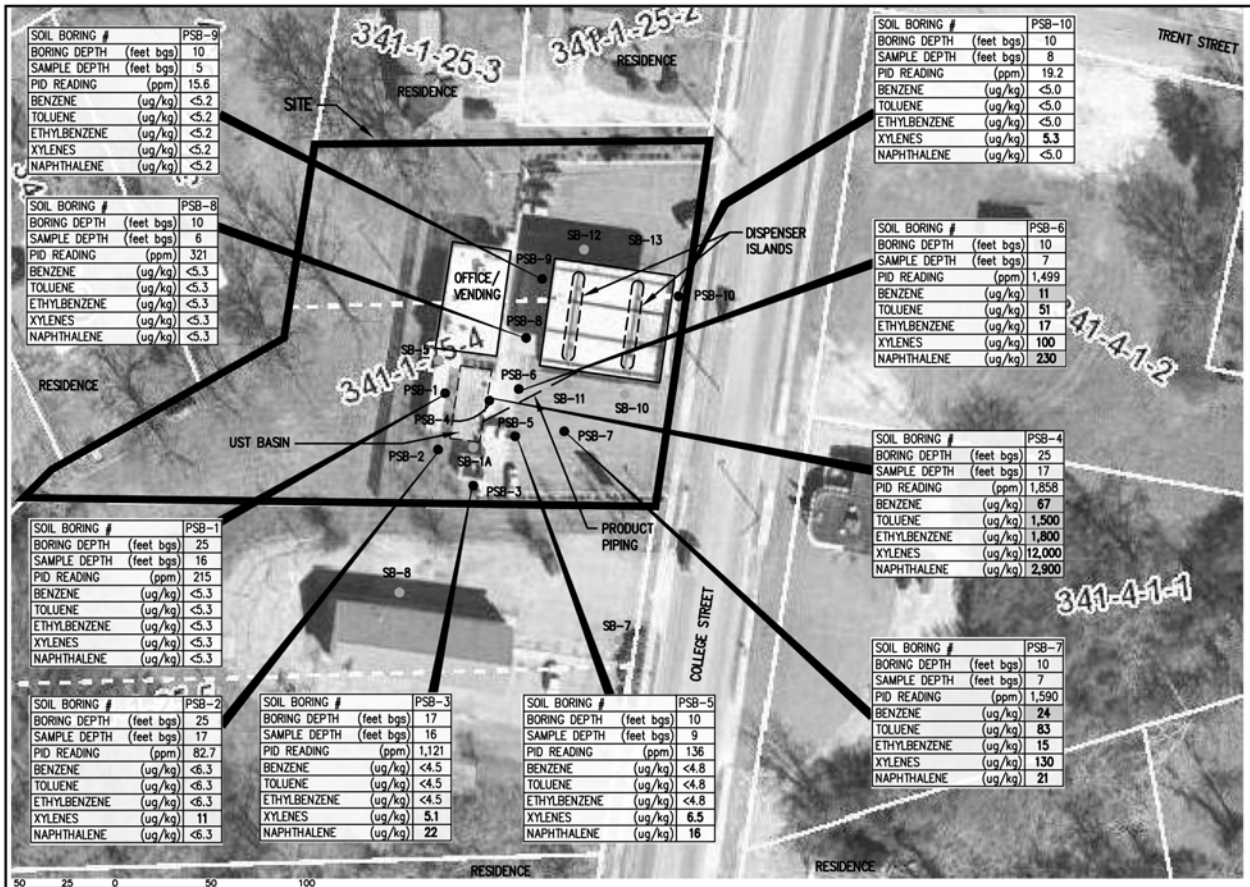
REVISIONS		
No.	DESCRIPTION	BY

DRAWN:	ACE	DATE:	11-3-10
CHECKED:	TZS	CAD FILE:	SPINX258-GCWLM
APPROVED:		JOB NO:	J10-6859-02

BLE INC.
BUNNELL-LAMMONS ENGINEERING, INC.
6004 PONDERS COURT
GREENVILLE, SOUTH CAROLINA 29615
PHONE: (864)288-1265 FAX: (864)288-4430

GEOPROBE GROUNDWAER SCREENING LOCATION MAP - PID FIELD VALUES
SPINX 258/FORMER ENMARK 380
UST PERMIT #06588
NEWBERRY, SOUTH CAROLINA

FIGURE NO.
3



SOIL BORING #		PSB-9
BORING DEPTH	(feet bgs)	10
SAMPLE DEPTH	(feet bgs)	5
PID READING	(ppm)	15.6
BENZENE	(ug/kg)	<5.2
TOLUENE	(ug/kg)	<5.2
ETHYLBENZENE	(ug/kg)	<5.2
XYLENES	(ug/kg)	<5.2
NAPHTHALENE	(ug/kg)	<5.2

SOIL BORING #		PSB-8
BORING DEPTH	(feet bgs)	10
SAMPLE DEPTH	(feet bgs)	6
PID READING	(ppm)	321
BENZENE	(ug/kg)	<5.3
TOLUENE	(ug/kg)	<5.3
ETHYLBENZENE	(ug/kg)	<5.3
XYLENES	(ug/kg)	<5.3
NAPHTHALENE	(ug/kg)	<5.3

SOIL BORING #		PSB-1
BORING DEPTH	(feet bgs)	25
SAMPLE DEPTH	(feet bgs)	16
PID READING	(ppm)	215
BENZENE	(ug/kg)	<5.3
TOLUENE	(ug/kg)	<5.3
ETHYLBENZENE	(ug/kg)	<5.3
XYLENES	(ug/kg)	<5.3
NAPHTHALENE	(ug/kg)	<5.3

SOIL BORING #		PSB-2
BORING DEPTH	(feet bgs)	25
SAMPLE DEPTH	(feet bgs)	17
PID READING	(ppm)	82.7
BENZENE	(ug/kg)	<6.3
TOLUENE	(ug/kg)	<6.3
ETHYLBENZENE	(ug/kg)	<6.3
XYLENES	(ug/kg)	11
NAPHTHALENE	(ug/kg)	<6.3

SOIL BORING #		PSB-3
BORING DEPTH	(feet bgs)	17
SAMPLE DEPTH	(feet bgs)	16
PID READING	(ppm)	1,121
BENZENE	(ug/kg)	<4.5
TOLUENE	(ug/kg)	<4.5
ETHYLBENZENE	(ug/kg)	<4.5
XYLENES	(ug/kg)	5.1
NAPHTHALENE	(ug/kg)	22

SOIL BORING #		PSB-5
BORING DEPTH	(feet bgs)	10
SAMPLE DEPTH	(feet bgs)	9
PID READING	(ppm)	136
BENZENE	(ug/kg)	<4.8
TOLUENE	(ug/kg)	<4.8
ETHYLBENZENE	(ug/kg)	<4.8
XYLENES	(ug/kg)	6.5
NAPHTHALENE	(ug/kg)	16

SOIL BORING #		PSB-10
BORING DEPTH	(feet bgs)	10
SAMPLE DEPTH	(feet bgs)	8
PID READING	(ppm)	19.2
BENZENE	(ug/kg)	<5.0
TOLUENE	(ug/kg)	<5.0
ETHYLBENZENE	(ug/kg)	<5.0
XYLENES	(ug/kg)	5.3
NAPHTHALENE	(ug/kg)	<5.0

SOIL BORING #		PSB-6
BORING DEPTH	(feet bgs)	10
SAMPLE DEPTH	(feet bgs)	7
PID READING	(ppm)	1,499
BENZENE	(ug/kg)	11
TOLUENE	(ug/kg)	51
ETHYLBENZENE	(ug/kg)	17
XYLENES	(ug/kg)	100
NAPHTHALENE	(ug/kg)	230

SOIL BORING #		PSB-4
BORING DEPTH	(feet bgs)	25
SAMPLE DEPTH	(feet bgs)	17
PID READING	(ppm)	1,858
BENZENE	(ug/kg)	67
TOLUENE	(ug/kg)	1,500
ETHYLBENZENE	(ug/kg)	1,800
XYLENES	(ug/kg)	12,000
NAPHTHALENE	(ug/kg)	2,900

SOIL BORING #		PSB-7
BORING DEPTH	(feet bgs)	10
SAMPLE DEPTH	(feet bgs)	7
PID READING	(ppm)	1,590
BENZENE	(ug/kg)	24
TOLUENE	(ug/kg)	83
ETHYLBENZENE	(ug/kg)	15
XYLENES	(ug/kg)	130
NAPHTHALENE	(ug/kg)	21

LEGEND

- APPROXIMATE LOCATION OF SOIL BORING PERFORMED DURING PREVIOUS WORK
- SOIL BORING LOCATION PERFORMED DURING CURRENT SCOPE OF WORK

NOTES:

1. BOLD VALUES INDICATE CONCENTRATIONS DETECTED ABOVE THE LABORATORY METHOD DETECTON LIMITS
2. SHADED VALUES INDICATE CONCENTRATIONS EXCEEDING RBSLs.

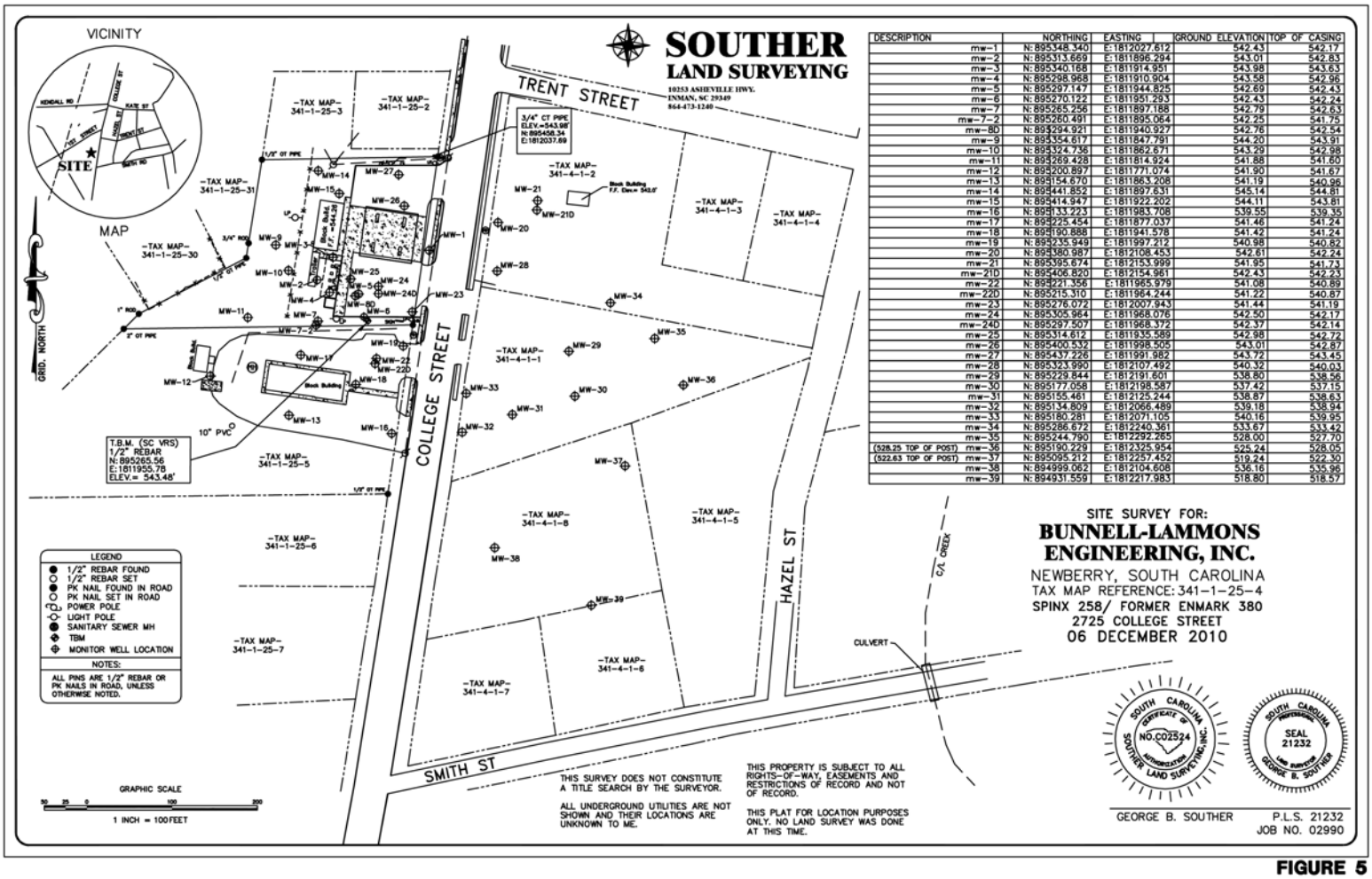
REFERENCE:
NEWBERRY COUNTY GIS.

DRAWN BY: ACE	DATE: 06-15-10	REVISIONS	
CHECKED BY: TZS	FILE: SPINX258-02BLP	No. / DESCRIPTION / BY	
APPROVED BY:	JOB NO: J10-6859-02		

BLE INC.
BUNNELL-LAMMONS ENGINEERING, INC.
6004 PONDERS COURT
GREENVILLE, SOUTH CAROLINA 29615
PHONE: (864)288-1265 FAX: (864)288-4430

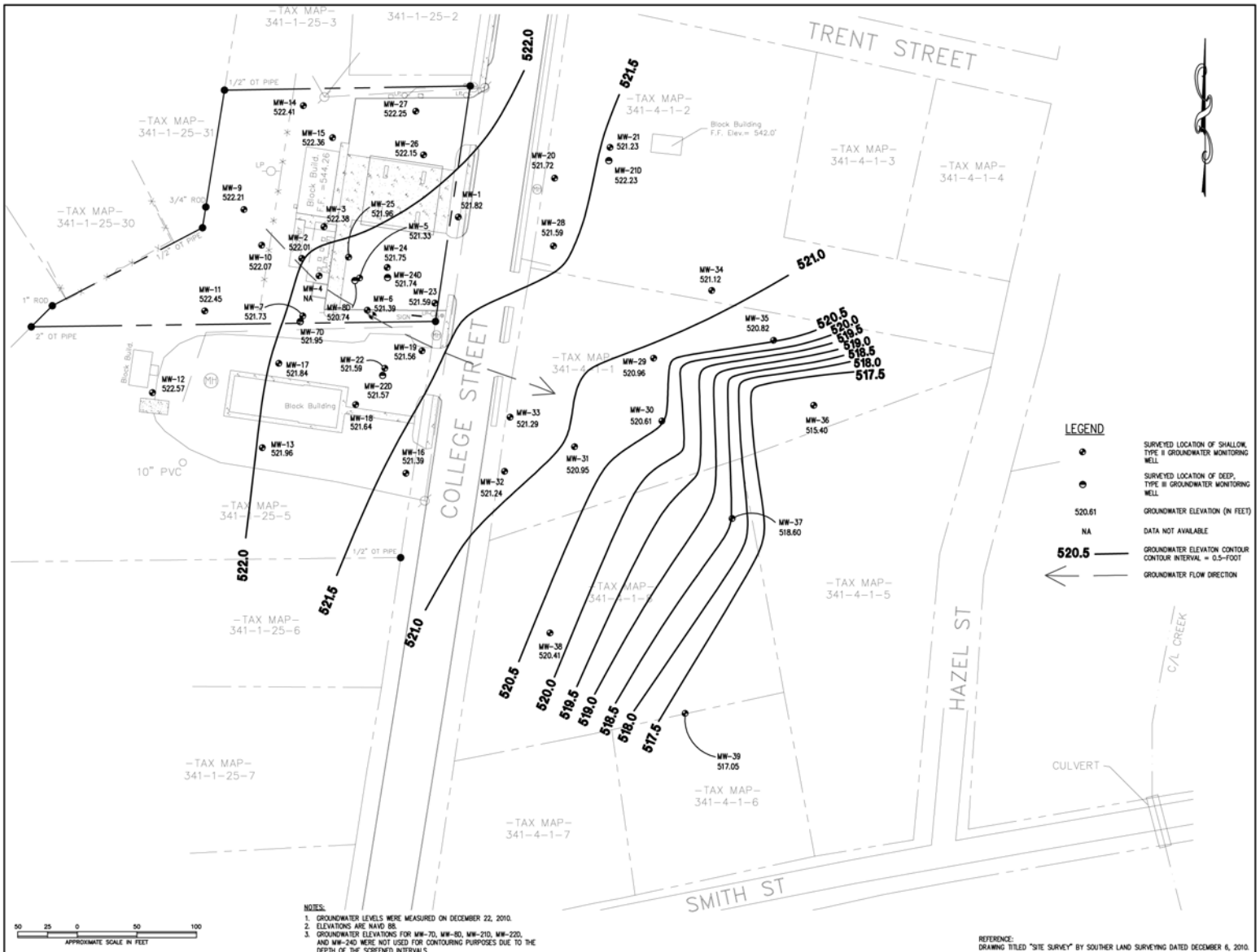
SOIL SCREENING COC MAP
SPINX 258/FORMER ENMARK 380
UST PERMIT #06588
NEWBERRY, SOUTH CAROLINA

FIGURE 4



DESCRIPTION	NORTHING	EASTING	GROUND ELEVATION	TOP OF CASING
mw-1	N: 895348.340	E: 1812027.612	542.43	542.17
mw-2	N: 895313.669	E: 1811896.294	543.01	542.83
mw-3	N: 895340.168	E: 1811914.951	543.98	543.63
mw-4	N: 895298.968	E: 1811910.904	543.58	542.96
mw-5	N: 895297.147	E: 1811944.825	542.69	542.43
mw-6	N: 895270.122	E: 1811951.293	542.43	542.24
mw-7	N: 895265.256	E: 1811897.188	542.79	542.63
mw-7-2	N: 895260.491	E: 1811895.064	542.25	541.75
mw-8D	N: 895294.921	E: 1811940.927	542.76	542.54
mw-9	N: 895354.617	E: 1811847.791	544.20	543.91
mw-10	N: 895324.736	E: 1811862.671	543.29	542.98
mw-11	N: 895269.428	E: 1811814.924	541.88	541.60
mw-12	N: 895200.897	E: 1811771.074	541.90	541.67
mw-13	N: 895154.670	E: 1811863.208	541.19	540.96
mw-14	N: 895441.852	E: 1811897.631	545.14	544.81
mw-15	N: 895414.947	E: 1811922.202	544.11	543.81
mw-16	N: 895133.223	E: 1811983.708	539.55	539.35
mw-17	N: 895225.454	E: 1811877.037	541.46	541.24
mw-18	N: 895190.888	E: 1811941.578	541.42	541.24
mw-19	N: 895235.949	E: 1811997.212	540.98	540.82
mw-20	N: 895380.987	E: 1812108.453	542.61	542.24
mw-21	N: 895395.674	E: 1812153.999	541.95	541.73
mw-21D	N: 895406.820	E: 1812154.961	542.43	542.23
mw-22	N: 895221.356	E: 1811965.979	541.08	540.89
mw-22D	N: 895215.310	E: 1811964.244	541.22	540.87
mw-23	N: 895276.072	E: 1812007.943	541.44	541.19
mw-24	N: 895305.984	E: 1811968.076	542.50	542.17
mw-24D	N: 895297.507	E: 1811968.372	542.37	542.14
mw-25	N: 895314.612	E: 1811935.589	542.98	542.72
mw-26	N: 895400.532	E: 1811998.505	543.01	542.87
mw-27	N: 895437.226	E: 1811991.982	543.72	543.45
mw-28	N: 895323.990	E: 1812107.492	540.32	540.03
mw-29	N: 895229.844	E: 1812191.601	538.80	538.56
mw-30	N: 895177.058	E: 1812198.587	537.42	537.15
mw-31	N: 895155.461	E: 1812125.244	538.87	538.63
mw-32	N: 895134.809	E: 1812066.489	539.18	538.94
mw-33	N: 895180.281	E: 1812071.105	540.16	539.95
mw-34	N: 895286.672	E: 1812240.361	533.67	533.42
mw-35	N: 895244.790	E: 1812292.265	528.00	527.70
(528.25 TOP OF POST) mw-36	N: 895190.229	E: 1812325.954	525.24	528.05
(522.63 TOP OF POST) mw-37	N: 895095.212	E: 1812257.452	519.24	522.30
mw-38	N: 894999.062	E: 1812104.608	536.16	535.96
mw-39	N: 894931.559	E: 1812217.983	518.80	518.57

FIGURE 5



NOTES:
1. GROUNDWATER LEVELS WERE MEASURED ON DECEMBER 22, 2010.
2. ELEVATIONS ARE NAVD 88.
3. GROUNDWATER ELEVATIONS FOR MW-7D, MW-8D, MW-21D, MW-22D, AND MW-24D WERE NOT USED FOR CONTOURING PURPOSES DUE TO THE DEPTH OF THE SCREENED INTERVALS.

REFERENCE:
DRAWING TITLED "SITE SURVEY" BY SOUTHER LAND SURVEYING DATED DECEMBER 6, 2010.

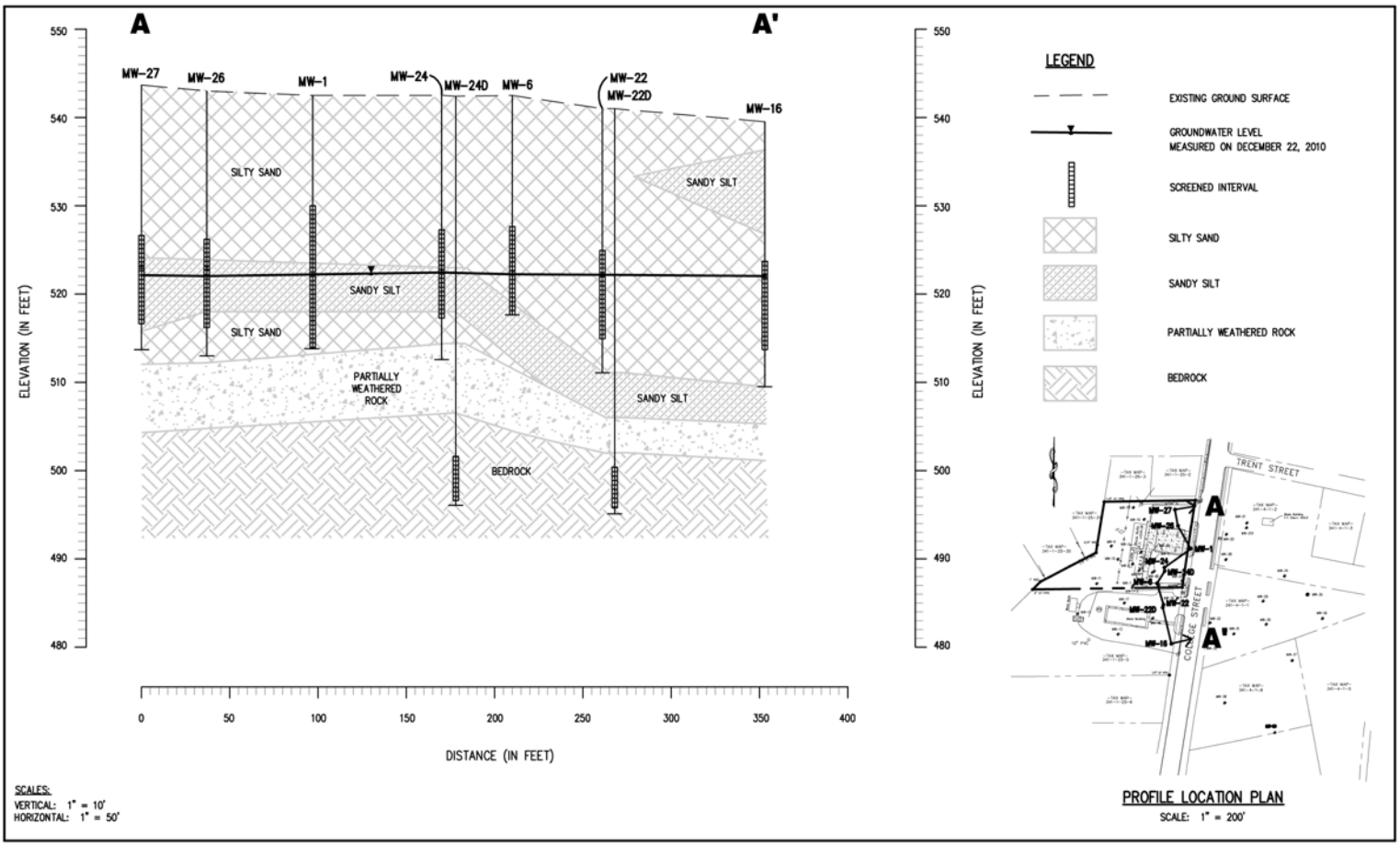
REVISIONS		
No.	DESCRIPTION	BY

DRAWN: ACE	DATE: 12-14-10	
CHECKED: TZS	CAD FILE: SPINX258-02WTM	
APPROVED:	JOB NO: J10-6859-02	

BLE INC.
BUNNELL-LAMMONS ENGINEERING, INC.
6004 PONDERS COURT
GREENVILLE, SOUTH CAROLINA 29615
PHONE: (864)288-1265 FAX: (864)288-4430

GROUNDWATER POTENTIOMETRIC MAP - DECEMBER 22, 2010
SPINX 258/FORMER EMMARK 380
UST PERMIT #06588
NEWBERRY, SOUTH CAROLINA

FIGURE NO.
6



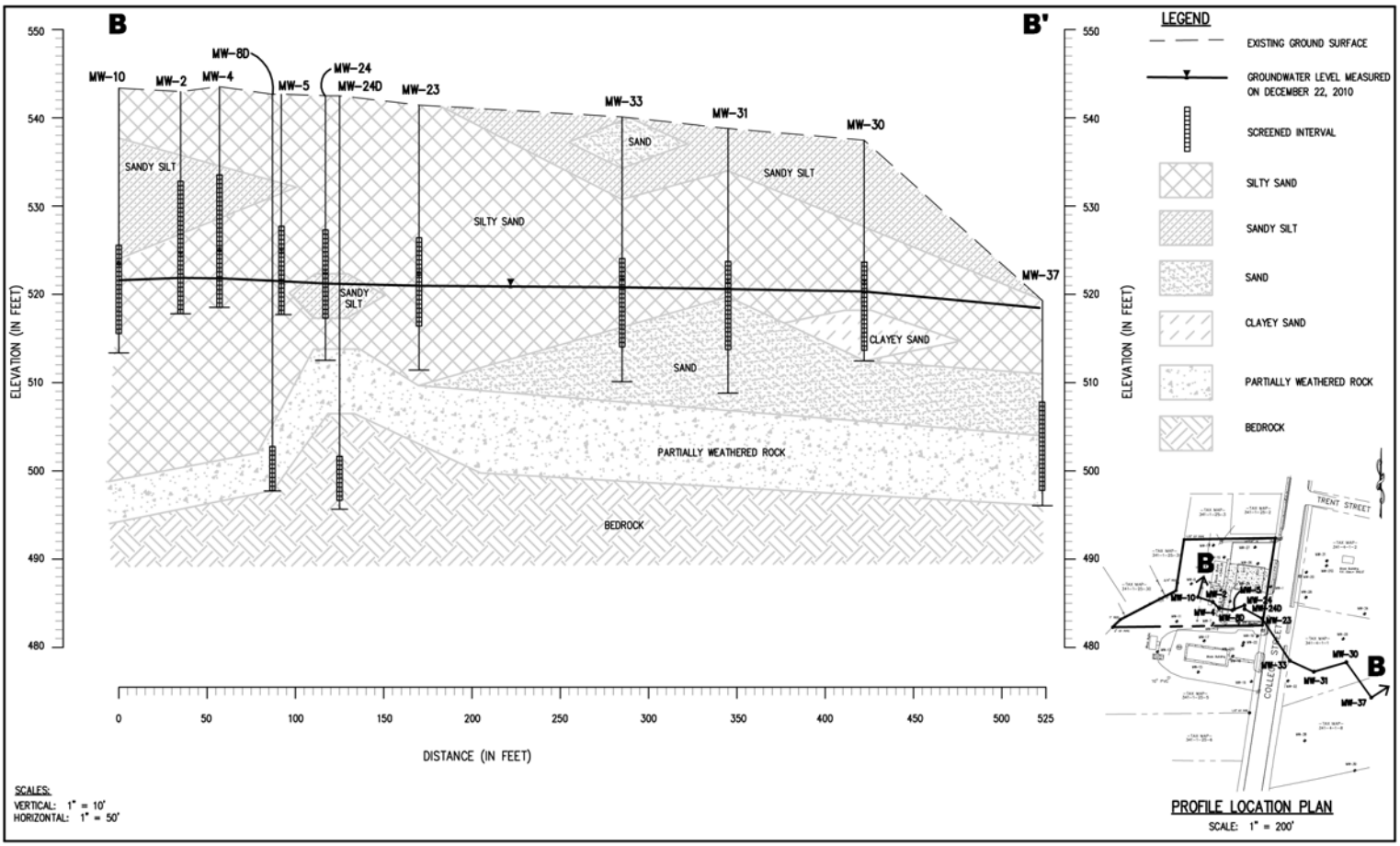
SCALES:
VERTICAL: 1" = 10'
HORIZONTAL: 1" = 50'

DRAWN BY: ACE	DATE: 01-03-11	REVISIONS	
CHECKED BY: TZS	FILE: SPINX258-APROF	No. / DESCRIPTION / BY	
APPROVED BY:	JOB NO: J10-6859-02		

BUNNELL-LAMMONS ENGINEERING, INC.
6004 PONDERS COURT
GREENVILLE, SOUTH CAROLINA 29615
PHONE: (864)288-1265 FAX: (864)288-4430

SUBSURFACE GEOLOGIC PROFILE A-A'
SPINX 258/FORMER ENMARK 380
UST PERMIT #06588
NEWBERRY, SOUTH CAROLINA

FIGURE
7A



SCALES:
VERTICAL: 1" = 10'
HORIZONTAL: 1" = 50'

DRAWN BY:	ACE	DATE:	01-03-11
CHECKED BY:	TZS	FILE:	SPINX258-BPROF
APPROVED BY:		JOB NO:	J10-6859-02

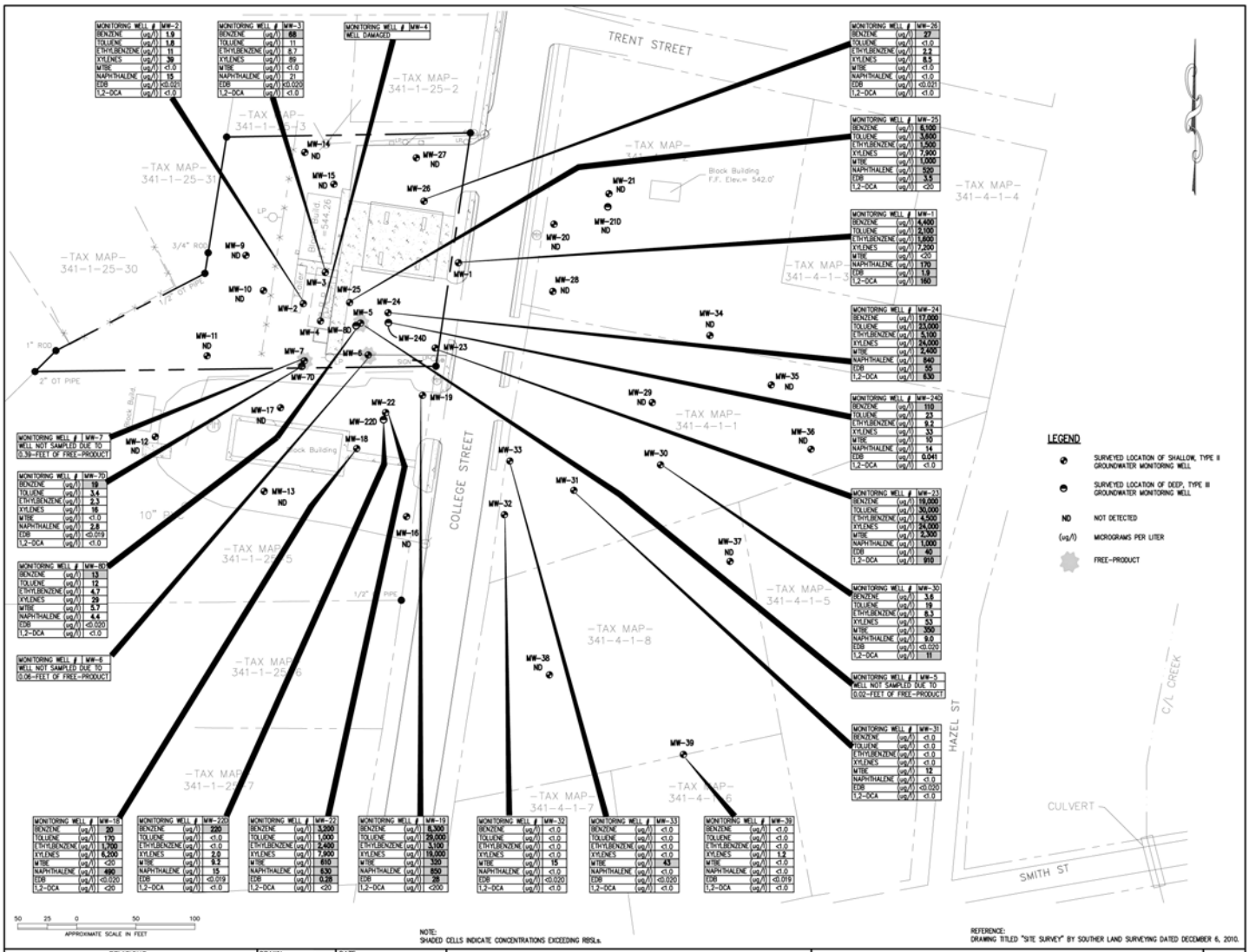
REVISIONS

No.	DESCRIPTION	BY

BLE INC.
BUNNELL-LAMMONS ENGINEERING, INC.
6004 PONDERS COURT
GREENVILLE, SOUTH CAROLINA 29615
PHONE: (864)288-1265 FAX: (864)288-4430

SUBSURFACE GEOLOGIC PROFILE B-B'
SPINX 258/FORMER ENMARK 380
UST PERMIT #06588
NEWBERRY, SOUTH CAROLINA

FIGURE
7B



MONITORING WELL #	MW-2
BENZENE (ug/l)	1.9
TOLUENE (ug/l)	1.9
ETHYLBENZENE (ug/l)	11
XYLENES (ug/l)	39
MTBE (ug/l)	<1.0
NAPHTHALENE (ug/l)	15
EDB (ug/l)	<0.021
1,2-DCA (ug/l)	<1.0

MONITORING WELL #	MW-3
BENZENE (ug/l)	68
TOLUENE (ug/l)	11
ETHYLBENZENE (ug/l)	8.7
XYLENES (ug/l)	89
MTBE (ug/l)	<1.0
NAPHTHALENE (ug/l)	21
EDB (ug/l)	<0.020
1,2-DCA (ug/l)	<1.0

MONITORING WELL # MW-4
WELL DAMAGED

MONITORING WELL #	MW-26
BENZENE (ug/l)	27
TOLUENE (ug/l)	<1.0
ETHYLBENZENE (ug/l)	2.2
XYLENES (ug/l)	8.5
MTBE (ug/l)	<1.0
NAPHTHALENE (ug/l)	<1.0
EDB (ug/l)	<0.021
1,2-DCA (ug/l)	<1.0

MONITORING WELL #	MW-25
BENZENE (ug/l)	8,100
TOLUENE (ug/l)	3,600
ETHYLBENZENE (ug/l)	1,500
XYLENES (ug/l)	7,900
MTBE (ug/l)	1,000
NAPHTHALENE (ug/l)	520
EDB (ug/l)	3.5
1,2-DCA (ug/l)	<20

MONITORING WELL #	MW-1
BENZENE (ug/l)	4,400
TOLUENE (ug/l)	2,100
ETHYLBENZENE (ug/l)	1,600
XYLENES (ug/l)	7,200
MTBE (ug/l)	<20
NAPHTHALENE (ug/l)	170
EDB (ug/l)	1.9
1,2-DCA (ug/l)	160

MONITORING WELL #	MW-24
BENZENE (ug/l)	17,000
TOLUENE (ug/l)	23,000
ETHYLBENZENE (ug/l)	5,100
XYLENES (ug/l)	24,000
MTBE (ug/l)	2,400
NAPHTHALENE (ug/l)	840
EDB (ug/l)	55
1,2-DCA (ug/l)	630

MONITORING WELL #	MW-240
BENZENE (ug/l)	110
TOLUENE (ug/l)	23
ETHYLBENZENE (ug/l)	9.2
XYLENES (ug/l)	33
MTBE (ug/l)	10
NAPHTHALENE (ug/l)	14
EDB (ug/l)	0.041
1,2-DCA (ug/l)	<1.0

MONITORING WELL #	MW-33
BENZENE (ug/l)	19,000
TOLUENE (ug/l)	30,000
ETHYLBENZENE (ug/l)	4,500
XYLENES (ug/l)	34,000
MTBE (ug/l)	2,300
NAPHTHALENE (ug/l)	1,000
EDB (ug/l)	40
1,2-DCA (ug/l)	910

MONITORING WELL #	MW-30
BENZENE (ug/l)	3.6
TOLUENE (ug/l)	19
ETHYLBENZENE (ug/l)	8.3
XYLENES (ug/l)	53
MTBE (ug/l)	350
NAPHTHALENE (ug/l)	9.0
EDB (ug/l)	<0.020
1,2-DCA (ug/l)	11

MONITORING WELL # MW-5
WELL NOT SAMPLED DUE TO
0.02-FEET OF FREE-PRODUCT

MONITORING WELL #	MW-31
BENZENE (ug/l)	<1.0
TOLUENE (ug/l)	<1.0
ETHYLBENZENE (ug/l)	<1.0
XYLENES (ug/l)	<1.0
MTBE (ug/l)	12
NAPHTHALENE (ug/l)	<1.0
EDB (ug/l)	<0.020
1,2-DCA (ug/l)	<1.0

MONITORING WELL # MW-7
WELL NOT SAMPLED DUE TO
0.39-FEET OF FREE-PRODUCT

MONITORING WELL #	MW-70
BENZENE (ug/l)	19
TOLUENE (ug/l)	3.4
ETHYLBENZENE (ug/l)	2.3
XYLENES (ug/l)	16
MTBE (ug/l)	<1.0
NAPHTHALENE (ug/l)	2.8
EDB (ug/l)	<0.019
1,2-DCA (ug/l)	<1.0

MONITORING WELL #	MW-8D
BENZENE (ug/l)	13
TOLUENE (ug/l)	12
ETHYLBENZENE (ug/l)	4.7
XYLENES (ug/l)	29
MTBE (ug/l)	5.7
NAPHTHALENE (ug/l)	4.4
EDB (ug/l)	<0.020
1,2-DCA (ug/l)	<1.0

MONITORING WELL # MW-6
WELL NOT SAMPLED DUE TO
0.06-FEET OF FREE-PRODUCT

MONITORING WELL #	MW-10
BENZENE (ug/l)	20
TOLUENE (ug/l)	170
ETHYLBENZENE (ug/l)	1,700
XYLENES (ug/l)	6,500
MTBE (ug/l)	<20
NAPHTHALENE (ug/l)	490
EDB (ug/l)	<0.020
1,2-DCA (ug/l)	<20

MONITORING WELL #	MW-22D
BENZENE (ug/l)	220
TOLUENE (ug/l)	<1.0
ETHYLBENZENE (ug/l)	<1.0
XYLENES (ug/l)	2.0
MTBE (ug/l)	9.2
NAPHTHALENE (ug/l)	15
EDB (ug/l)	<0.019
1,2-DCA (ug/l)	<1.0

MONITORING WELL #	MW-22
BENZENE (ug/l)	3,260
TOLUENE (ug/l)	1,000
ETHYLBENZENE (ug/l)	2,400
XYLENES (ug/l)	7,900
MTBE (ug/l)	610
NAPHTHALENE (ug/l)	630
EDB (ug/l)	0.28
1,2-DCA (ug/l)	<20

MONITORING WELL #	MW-19
BENZENE (ug/l)	6,300
TOLUENE (ug/l)	25,000
ETHYLBENZENE (ug/l)	3,100
XYLENES (ug/l)	19,000
MTBE (ug/l)	320
NAPHTHALENE (ug/l)	850
EDB (ug/l)	28
1,2-DCA (ug/l)	<200

MONITORING WELL #	MW-32
BENZENE (ug/l)	<1.0
TOLUENE (ug/l)	<1.0
ETHYLBENZENE (ug/l)	<1.0
XYLENES (ug/l)	<1.0
MTBE (ug/l)	15
NAPHTHALENE (ug/l)	<1.0
EDB (ug/l)	<0.020
1,2-DCA (ug/l)	<1.0

MONITORING WELL #	MW-33
BENZENE (ug/l)	<1.0
TOLUENE (ug/l)	<1.0
ETHYLBENZENE (ug/l)	<1.0
XYLENES (ug/l)	<1.0
MTBE (ug/l)	43
NAPHTHALENE (ug/l)	<1.0
EDB (ug/l)	<0.020
1,2-DCA (ug/l)	<1.0

MONITORING WELL #	MW-39
BENZENE (ug/l)	<1.0
TOLUENE (ug/l)	<1.0
ETHYLBENZENE (ug/l)	<1.0
XYLENES (ug/l)	1.2
MTBE (ug/l)	<1.0
NAPHTHALENE (ug/l)	<1.0
EDB (ug/l)	<0.019
1,2-DCA (ug/l)	<1.0

NOTE:
SHADED CELLS INDICATE CONCENTRATIONS EXCEEDING RBSLs.

REFERENCE:
DRAWING TITLED "SITE SURVEY" BY SOUTHER LAND SURVEYING DATED DECEMBER 6, 2010.

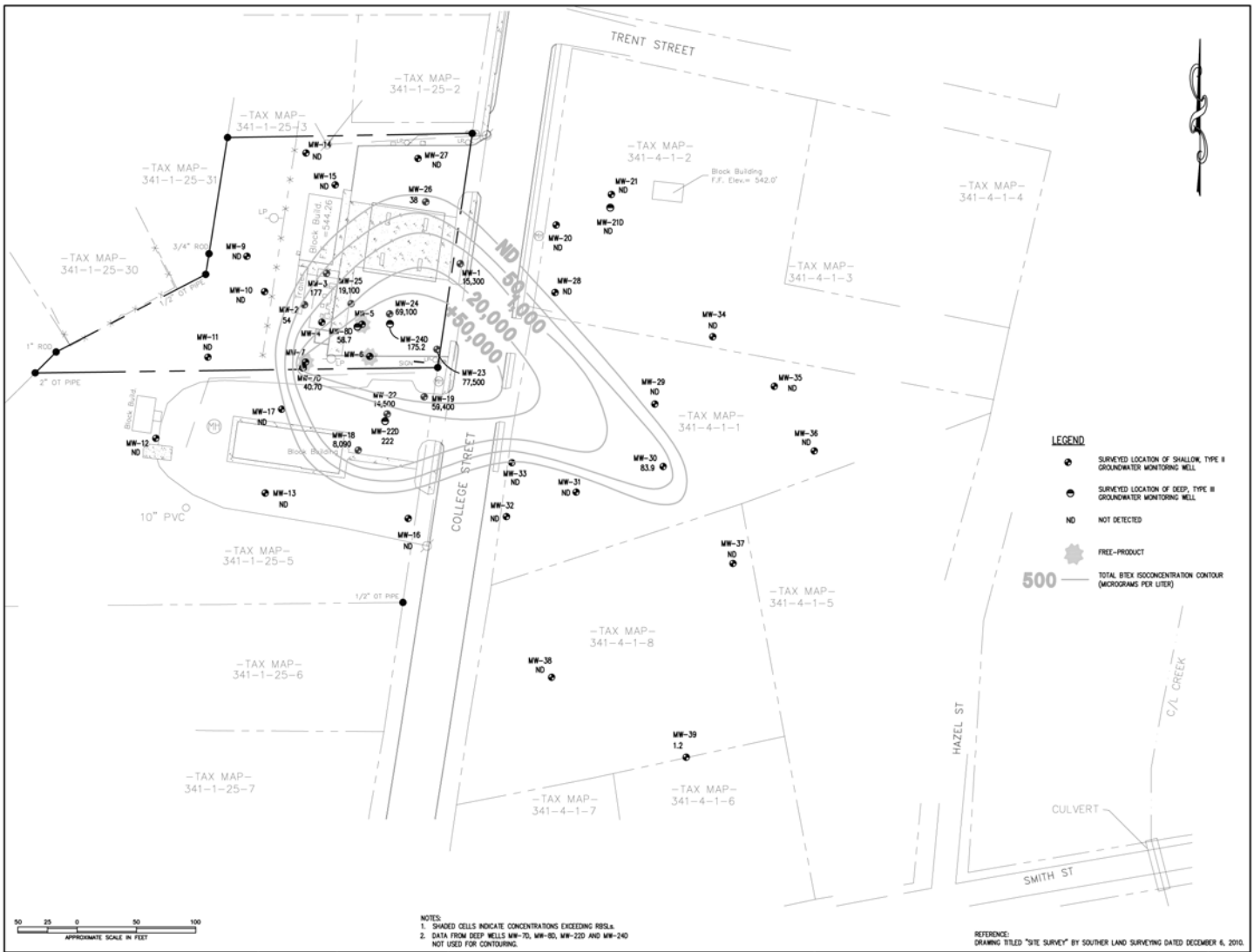
REVISIONS		
No.	DESCRIPTION	BY

DRAWN: ACE
CHECKED: TZS
APPROVED: RAD
DATE: 12-13-10
CAD FILE: SPINX258-GWCOC
JOB NO: J10-6859-02

BLE INC.
BUNNELL-LAMMONS ENGINEERING, INC.
6004 PONDERS COURT
GREENVILLE, SOUTH CAROLINA 29615
PHONE: (864)288-1265 FAX: (864)288-4430

GROUNDWATER COC MAP - NOVEMBER 2010
SPINX 258/FORMER EMMARK 380
UST PERMIT #06588
NEWBERRY, SOUTH CAROLINA

FIGURE NO.
8



NOTES:
1. SHADED CELLS INDICATE CONCENTRATIONS EXCEEDING RBSLs.
2. DATA FROM DEEP WELLS MW-7D, MW-8D, MW-22D AND MW-24D NOT USED FOR CONTOURING.

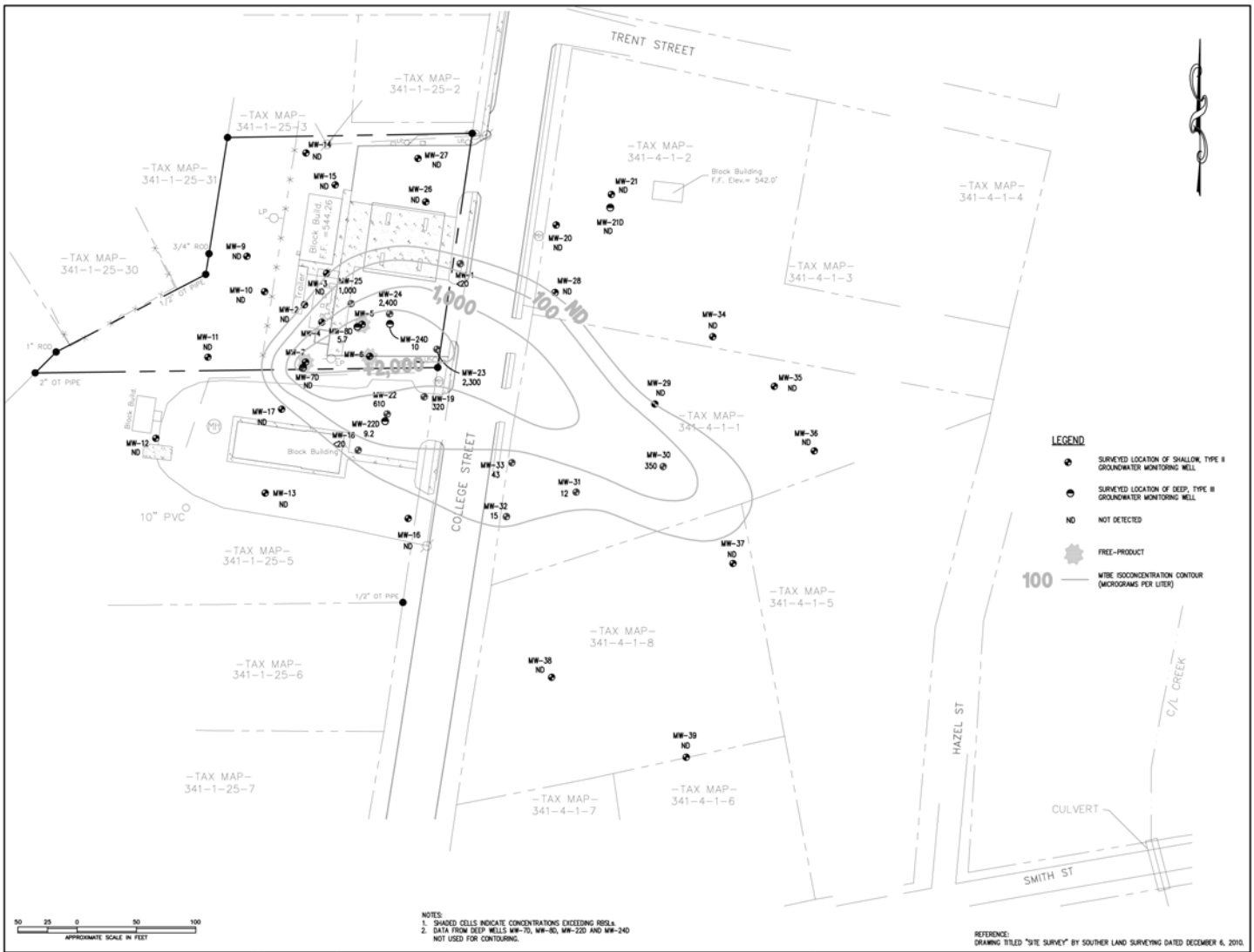
REFERENCE:
DRAWING TITLED "SITE SURVEY" BY SOUTHER LAND SURVEYING DATED DECEMBER 6, 2010.

REVISIONS					
No.	DESCRIPTION	BY	DRAWN: ACE	DATE: 01-15-1	
			CHECKED: TZS	CAD FILE: SPINX258-02TBTEX	
			APPROVED: RAD	JOB NO: J10-6859-02	

BLE INC.
BUNNELL-LAMMONS ENGINEERING, INC.
6004 PONDERS COURT
GREENVILLE, SOUTH CAROLINA 29615
PHONE: (864)288-1265 FAX: (864)288-4430

TOTAL BTEX ISOCONCENTRATION MAP - SHALLOW WATER TABLE AQUIFER
SPINX 258/FORMER ENMARK 380
UST PERMIT #06588
NEWBERRY, SOUTH CAROLINA

FIGURE NO.
9



NOTES:
1. SHADED CELLS INDICATE CONCENTRATIONS EXCEEDING RBSLs.
2. DATA FROM DEEP WELLS MW-7D, MW-8D, MW-22D AND MW-24D NOT USED FOR CONTOURING.

REFERENCE:
DRAWING TITLED "SITE SURVEY" BY SOUTHER LAND SURVEYING DATED DECEMBER 6, 2010.

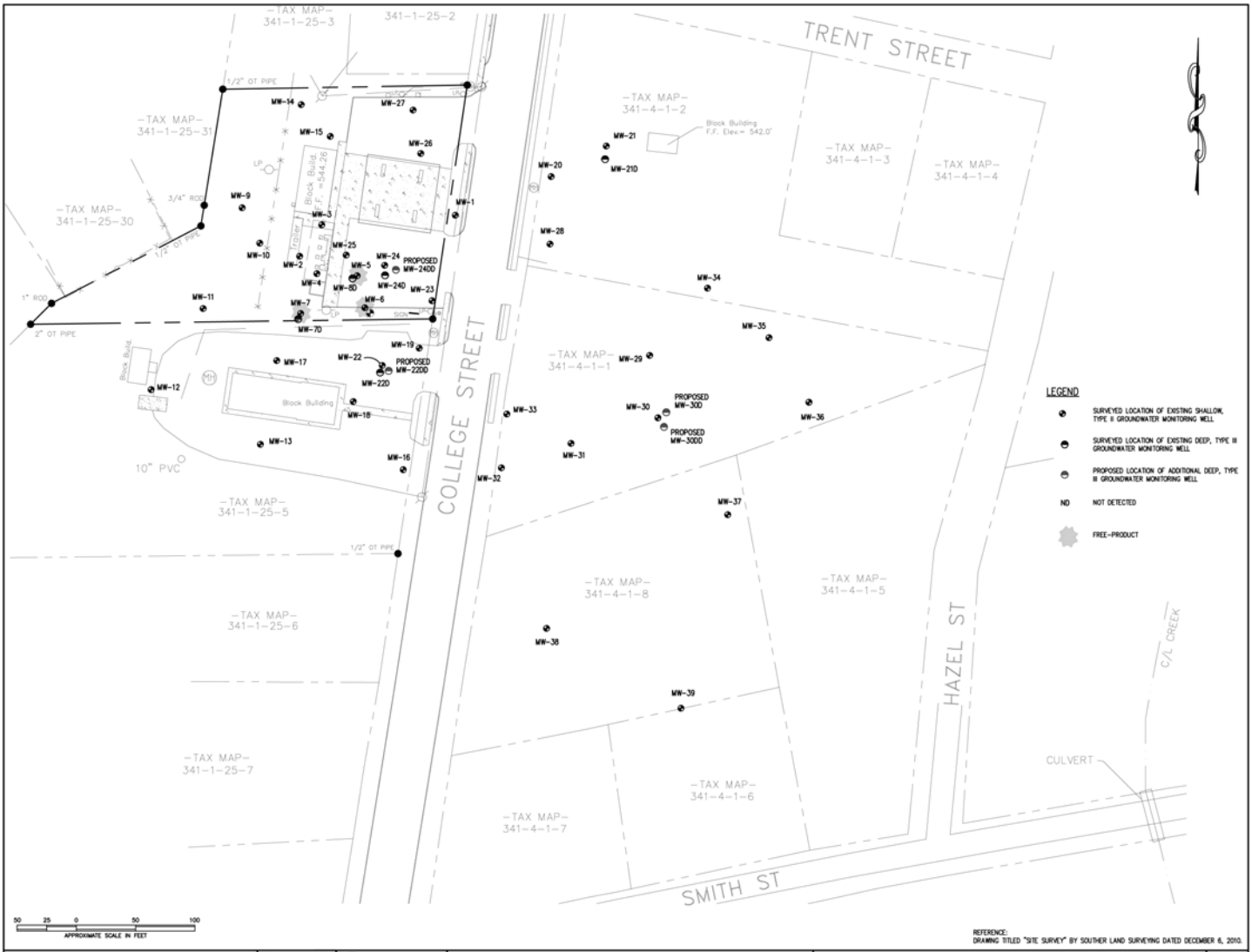
REVISIONS		
No.	DESCRIPTION	BY

DRAWN:	ACE	DATE:	01-15-1
CHECKED:	TZS	CAD FILE:	SPINX258-02MTBE
APPROVED:	RAD	JOB NO:	J10-6859-02

BLE INC.
BUNNELL-LAMMONS ENGINEERING, INC.
6004 PONDERS COURT
GREENVILLE, SOUTH CAROLINA 29615
PHONE: (864)288-1265 FAX: (864)288-4430

MTBE ISOCONCENTRATION MAP - SHALLOW WATER TABLE AQUIFER
SPINX 258/FORMER ENMARK 380
UST PERMIT #06588
NEWBERRY, SOUTH CAROLINA

FIGURE NO.
10



REFERENCE:
DRAWING TITLED "SITE SURVEY" BY SOUTHER LAND SURVEYING DATED DECEMBER 6, 2010.

REVISIONS		
No.	DESCRIPTION	BY

DRAWN:	ACE	DATE:	01-15-11
CHECKED:	TZS	CAD FILE:	SPINX258-02PMWLP
APPROVED:		JOB NO:	J10-6859-02

BLE INC. BUNNELL-LAMMONS ENGINEERING, INC.
6004 PONDERS COURT
GREENVILLE, SOUTH CAROLINA 29615
PHONE: (864)288-1265 FAX: (864)288-4430

PROPOSED MONITORING WELL LOCATION MAP
SPINX 258/FORMER ENMARK 380
UST PERMIT #06588
NEWBERRY, SOUTH CAROLINA

FIGURE NO.
11

APPENDICES

APPENDIX A

GEOPROBE® GROUNDWATER SCREENING AND SAMPLING PROCEDURES, GROUNDWATER SCREENING LABORATORY DATA SHEETS, AND GEOPROBE® BORING 1903 WELL RECORDS

APPENDIX A

GEOPROBE® GROUNDWATER SCREENING AND SAMPLING PROCEDURES

Groundwater Screening and Sampling

Groundwater samples were collected using a GeoProbe Systems® Screen Point Groundwater Sampler. The assembled sampler had a 1.5-inch outside diameter (OD) and was 48-inches long. The sampler consisted of a 48-inch sealed stainless steel screen encased in a perforated stainless steel sleeve. The sampler was advanced to the desired sampling depth using 5-foot long sections of alloy steel probe rods driven with a portable automatic hammer. At the desired sampling depth, an extension ramrod was attached to extension rods and inserted inside the probe rods. The screen was enclosed in a sampling sheath until it was advanced into the formation at the desired sampling depth. For groundwater screening and sampling, a post-run tubing adapter attached to polypropylene tubing was threaded into the screen connector and groundwater was evacuated using a check valve system. Representative groundwater samples were placed in 100-milliliter glass jars, covered with aluminum foil and sealed. The sample containers were allowed to sit undisturbed for approximately 10-15 minutes allowing volatile organic carbons (VOCs) in solution to escape into the open headspace of the sample jars. The aluminum foil was punctured and the headspace in the jar was scanned using a photo-ionization detector (PID). Groundwater samples collected for chemical analysis were placed into laboratory prepared sample jars.

Samples were marked with identifying numbers, placed immediately in sample coolers, secured, and maintained at $\leq 4^{\circ}$ C. Preservatives were added to the samples as required. Samples were shipped to Shealy Environmental Services, Inc. in Columbia, South Carolina for analysis. Appropriate chain-of-custody records were maintained.

SHEALY ENVIRONMENTAL SERVICES, INC.

Report of Analysis

Bunnell-Lammons Engineering, Inc.
6004 Ponders Court
Greenville, SC 29615
Attention: Trever Slack

Project Name: **Enmark #380**

Project Number: **J10-6859-02**

Lot Number: **LJ05051**

Date Completed: **10/08/2010**

Lucas Odom
Project Manager

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Case Narrative
Bunnell-Lammons Engineering, Inc.
Lot Number: LJ05051

This Report of Analysis contains the analytical result(s) for the sample(s) listed on the Sample Summary following this Case Narrative. The sample receiving date is documented in the header information associated with each sample.

Sample receipt, sample analysis, and data review have been performed in accordance with the most current approved NELAC standards, the Shealy Environmental Services, Inc. ("Shealy") Quality Assurance Management Plan (QAMP), standard operating procedures (SOPs), and Shealy policies. Any exceptions to the NELAC standards, the QAMP, SOPs or policies are qualified on the results page or discussed below.

If you have any questions regarding this report please contact the Shealy Project Manager listed on the cover page.

Sample Summary
Bunnell-Lammons Engineering, Inc.
Lot Number: LJ05051

Sample Number	Sample ID	Matrix	Date Sampled	Date Received
001	GW-2	Aqueous	09/28/2010 1320	10/05/2010
002	GW-6	Aqueous	09/28/2010 1627	10/05/2010
003	GW-9	Aqueous	09/29/2010 0938	10/05/2010
004	GW-13	Aqueous	09/29/2010 1141	10/05/2010
005	GW-17	Aqueous	09/29/2010 1418	10/05/2010
006	GW-19	Aqueous	09/29/2010 1457	10/05/2010
007	GW-16	Aqueous	09/29/2010 1424	10/05/2010
008	GW-28	Aqueous	09/30/2010 0802	10/05/2010
009	GW-30	Aqueous	09/30/2010 0847	10/05/2010
010	GW-39	Aqueous	09/30/2010 1540	10/05/2010
011	GW-41	Aqueous	09/30/2010 1725	10/05/2010
012	GWD-1	Aqueous	09/28/2010 1500	10/05/2010
013	GWD-2	Aqueous	09/29/2010 1555	10/05/2010
014	GWD-3	Aqueous	09/28/2010 1146	10/05/2010

(14 samples)

Executive Summary
Bunnell-Lammons Engineering, Inc.
Lot Number: LJ05051

Sample	Sample ID	Matrix	Parameter	Method	Result	Q	Units	Page
008	GW-28	Aqueous	Methyl tertiary butyl ether (MTBE)	8260B	9.5		ug/L	12
009	GW-30	Aqueous	Benzene	8260B	3.6		ug/L	13
009	GW-30	Aqueous	1,2-Dichloroethane	8260B	5.3		ug/L	13
009	GW-30	Aqueous	Ethylbenzene	8260B	1.7		ug/L	13
009	GW-30	Aqueous	Methyl tertiary butyl ether (MTBE)	8260B	260		ug/L	13
009	GW-30	Aqueous	Xylenes (total)	8260B	2.8		ug/L	13
013	GWD-2	Aqueous	Benzene	8260B	4.6		ug/L	17
013	GWD-2	Aqueous	Ethylbenzene	8260B	7.1		ug/L	17
013	GWD-2	Aqueous	Toluene	8260B	35		ug/L	17
013	GWD-2	Aqueous	Xylenes (total)	8260B	38		ug/L	17
014	GWD-3	Aqueous	Benzene	8260B	170		ug/L	18
014	GWD-3	Aqueous	Ethylbenzene	8260B	7.9		ug/L	18
014	GWD-3	Aqueous	Methyl tertiary butyl ether (MTBE)	8260B	28		ug/L	18
014	GWD-3	Aqueous	Naphthalene	8260B	9.6		ug/L	18
014	GWD-3	Aqueous	Toluene	8260B	37		ug/L	18
014	GWD-3	Aqueous	Xylenes (total)	8260B	39		ug/L	18
014	GWD-3	Aqueous	1,2-Dibromoethane (EDB)	8011	0.035		ug/L	18

(17 detections)

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **GW-2**
Date Sampled: **09/28/2010 1320**
Date Received: **10/05/2010**

Laboratory ID: **LJ05051-001**
Matrix: **Aqueous**

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	10/06/2010 1222	DLB		43866

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
Benzene	71-43-2	8260B	ND		1.0	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		1.0	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		1.0	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		1.0	ug/L	1
Naphthalene	91-20-3	8260B	ND		1.0	ug/L	1
Toluene	108-88-3	8260B	ND		1.0	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		1.0	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		93	70-130
Bromofluorobenzene		94	70-130
Toluene-d8		96	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	10/06/2010 1752	MPM	10/06/2010 0900	43764

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0.023	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		100	57-137

PQL = Practical quantitation limit
ND = Not detected at or above the PQL
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
H = Out of holding time

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **GW-6**
Date Sampled: **09/28/2010 1627**
Date Received: **10/05/2010**

Laboratory ID: **LJ05051-002**
Matrix: **Aqueous**

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	10/06/2010 1243	DLB		43866

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
Benzene	71-43-2	8260B	ND		1.0	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		1.0	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		1.0	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		1.0	ug/L	1
Naphthalene	91-20-3	8260B	ND		1.0	ug/L	1
Toluene	108-88-3	8260B	ND		1.0	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		1.0	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		94	70-130
Bromofluorobenzene		92	70-130
Toluene-d8		97	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	10/06/2010 1813	MPM	10/06/2010 0900	43764

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0.023	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		106	57-137

PQL = Practical quantitation limit
ND = Not detected at or above the PQL
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
H = Out of holding time

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **GW-9**
Date Sampled: **09/29/2010 0938**
Date Received: **10/05/2010**

Laboratory ID: **LJ05051-003**
Matrix: **Aqueous**

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	10/06/2010 1303	DLB		43866

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
Benzene	71-43-2	8260B	ND		1.0	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		1.0	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		1.0	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		1.0	ug/L	1
Naphthalene	91-20-3	8260B	ND		1.0	ug/L	1
Toluene	108-88-3	8260B	ND		1.0	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		1.0	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		93	70-130
Bromofluorobenzene		92	70-130
Toluene-d8		99	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	10/06/2010 1835	MPM	10/06/2010 0900	43764

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0.021	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		92	57-137

PQL = Practical quantitation limit
ND = Not detected at or above the PQL
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
H = Out of holding time
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Client: **Bunnell-Lammons Engineering, Inc.**	Laboratory ID: **LJ05051-004**
Description: **GW-13**	Matrix: **Aqueous**
Date Sampled: **09/29/2010 1141**	
Date Received: **10/05/2010**	

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	10/06/2010 1324	DLB		43866

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
Benzene	71-43-2	8260B	ND		1.0	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		1.0	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		1.0	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		1.0	ug/L	1
Naphthalene	91-20-3	8260B	ND		1.0	ug/L	1
Toluene	108-88-3	8260B	ND		1.0	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		1.0	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		93	70-130
Bromofluorobenzene		93	70-130
Toluene-d8		98	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	10/06/2010 1856	MPM	10/06/2010 0900	43764

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0.023	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		105	57-137

PQL = Practical quantitation limit
ND = Not detected at or above the PQL
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
H = Out of holding time

Client: **Bunnell-Lammons Engineering, Inc.** Laboratory ID: **LJ05051-005**
Description: **GW-17** Matrix: **Aqueous**
Date Sampled: **09/29/2010 1418**
Date Received: **10/05/2010**

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	10/06/2010 1345	DLB		43866

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
Benzene	71-43-2	8260B	ND		1.0	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		1.0	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		1.0	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		1.0	ug/L	1
Naphthalene	91-20-3	8260B	ND		1.0	ug/L	1
Toluene	108-88-3	8260B	ND		1.0	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		1.0	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		92	70-130
Bromofluorobenzene		94	70-130
Toluene-d8		98	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	10/06/2010 1917	MPM	10/06/2010 0900	43764

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0.020	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		94	57-137

PQL = Practical quantitation limit
ND = Not detected at or above the PQL
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
H = Out of holding time

Client: **Bunnell-Lammons Engineering, Inc.**	Laboratory ID: **LJ05051-006**
Description: **GW-19**	Matrix: **Aqueous**
Date Sampled: **09/29/2010 1457**	
Date Received: **10/05/2010**	

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	10/06/2010 1405	DLB		43866

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
Benzene	71-43-2	8260B	ND		1.0	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		1.0	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		1.0	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		1.0	ug/L	1
Naphthalene	91-20-3	8260B	ND		1.0	ug/L	1
Toluene	108-88-3	8260B	ND		1.0	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		1.0	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		91	70-130
Bromofluorobenzene		94	70-130
Toluene-d8		97	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	10/06/2010 1939	MPM	10/06/2010 0900	43764

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0.021	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		95	57-137

PQL = Practical quantitation limit
ND = Not detected at or above the PQL
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
H = Out of holding time

Client: **Bunnell-Lammons Engineering, Inc.**	Laboratory ID: **LJ05051-007**
Description: **GW-16**	Matrix: **Aqueous**
Date Sampled: **09/29/2010 1424**	
Date Received: **10/05/2010**	

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	10/06/2010 1426	DLB		43866

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
Benzene	71-43-2	8260B	ND		1.0	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		1.0	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		1.0	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		1.0	ug/L	1
Naphthalene	91-20-3	8260B	ND		1.0	ug/L	1
Toluene	108-88-3	8260B	ND		1.0	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		1.0	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		89	70-130
Bromofluorobenzene		92	70-130
Toluene-d8		96	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	10/06/2010 2000	MPM	10/06/2010 0900	43764

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0.022	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		101	57-137

PQL = Practical quantitation limit
ND = Not detected at or above the PQL
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
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J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
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N = Recovery is out of criteria
H = Out of holding time

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **GW-28**
Date Sampled: **09/30/2010 0802**
Date Received: **10/05/2010**

Laboratory ID: **LJ05051-008**
Matrix: **Aqueous**

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	10/06/2010 1446	DLB		43866

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
Benzene	71-43-2	8260B	ND		1.0	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		1.0	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		1.0	ug/L	1
Methyl tertiary butyl ether (MTBE)	**1634-04-4**	**8260B**	**9.5**		**1.0**	**ug/L**	**1**
Naphthalene	91-20-3	8260B	ND		1.0	ug/L	1
Toluene	108-88-3	8260B	ND		1.0	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		1.0	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		87	70-130
Bromofluorobenzene		95	70-130
Toluene-d8		98	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	10/06/2010 2021	MPM	10/06/2010 0900	43764

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0.022	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		96	57-137

PQL = Practical quantitation limit
ND = Not detected at or above the PQL
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
N = Recovery is out of criteria
H = Out of holding time

Client: **Bunnell-Lammons Engineering, Inc.**	Laboratory ID: **LJ05051-009**
Description: **GW-30**	Matrix: **Aqueous**
Date Sampled: **09/30/2010 0847**	
Date Received: **10/05/2010**	

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	10/06/2010 1854	DLB		43866

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
Benzene	**71-43-2**	**8260B**	**3.6**		**1.0**	**ug/L**	**1**
1,2-Dichloroethane	**107-06-2**	**8260B**	**5.3**		**1.0**	**ug/L**	**1**
Ethylbenzene	**100-41-4**	**8260B**	**1.7**		**1.0**	**ug/L**	**1**
Methyl tertiary butyl ether (MTBE)	**1634-04-4**	**8260B**	**260**		**1.0**	**ug/L**	**1**
Naphthalene	91-20-3	8260B	ND		1.0	ug/L	1
Toluene	108-88-3	8260B	ND		1.0	ug/L	1
Xylenes (total)	**1330-20-7**	**8260B**	**2.8**		**1.0**	**ug/L**	**1**

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		87	70-130
Bromofluorobenzene		95	70-130
Toluene-d8		97	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	10/06/2010 2043	MPM	10/06/2010 0900	43764

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0.023	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		98	57-137

PQL = Practical quantitation limit
ND = Not detected at or above the PQL
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
N = Recovery is out of criteria
H = Out of holding time

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **GW-39**
Date Sampled: **09/30/2010 1540**
Date Received: **10/05/2010**

Laboratory ID: **LJ05051-010**
Matrix: **Aqueous**

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	10/06/2010 1507	DLB		43866

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
Benzene	71-43-2	8260B	ND		1.0	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		1.0	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		1.0	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		1.0	ug/L	1
Naphthalene	91-20-3	8260B	ND		1.0	ug/L	1
Toluene	108-88-3	8260B	ND		1.0	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		1.0	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		87	70-130
Bromofluorobenzene		93	70-130
Toluene-d8		97	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	10/06/2010 2104	MPM	10/06/2010 0900	43764

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0.021	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		99	57-137

PQL = Practical quantitation limit
ND = Not detected at or above the PQL
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
H = Out of holding time

Client: **Bunnell-Lammons Engineering, Inc.**	Laboratory ID: **LJ05051-011**
Description: **GW-41**	Matrix: **Aqueous**
Date Sampled: **09/30/2010 1725**	
Date Received: **10/05/2010**	

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	10/06/2010 1528	DLB		43866

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
Benzene	71-43-2	8260B	ND		1.0	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		1.0	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		1.0	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		1.0	ug/L	1
Naphthalene	91-20-3	8260B	ND		1.0	ug/L	1
Toluene	108-88-3	8260B	ND		1.0	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		1.0	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		87	70-130
Bromofluorobenzene		92	70-130
Toluene-d8		97	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	10/06/2010 2125	MPM	10/06/2010 0900	43764

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0.021	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		102	57-137

PQL = Practical quantitation limit
ND = Not detected at or above the PQL
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
H = Out of holding time

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **GWD-1**
Date Sampled: **09/28/2010 1500**
Date Received: **10/05/2010**

Laboratory ID: **LJ05051-012**
Matrix: **Aqueous**

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	10/06/2010 1548	DLB		43866

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
Benzene	71-43-2	8260B	ND		1.0	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		1.0	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		1.0	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		1.0	ug/L	1
Naphthalene	91-20-3	8260B	ND		1.0	ug/L	1
Toluene	108-88-3	8260B	ND		1.0	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		1.0	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		83	70-130
Bromofluorobenzene		92	70-130
Toluene-d8		97	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	10/06/2010 2146	MPM	10/06/2010 0900	43764

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0.021	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		100	57-137

PQL = Practical quantitation limit
ND = Not detected at or above the PQL
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
H = Out of holding time

Client: **Bunnell-Lammons Engineering, Inc.**	Laboratory ID: **LJ05051-013**
Description: **GWD-2**	Matrix: **Aqueous**
Date Sampled: **09/29/2010 1555**	
Date Received: **10/05/2010**	

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	10/06/2010 1609	DLB		43866

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
Benzene	**71-43-2**	**8260B**	**4.6**		**1.0**	**ug/L**	**1**
1,2-Dichloroethane	107-06-2	8260B	ND		1.0	ug/L	1
Ethylbenzene	**100-41-4**	**8260B**	**7.1**		**1.0**	**ug/L**	**1**
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		1.0	ug/L	1
Naphthalene	91-20-3	8260B	ND		1.0	ug/L	1
Toluene	**108-88-3**	**8260B**	**35**		**1.0**	**ug/L**	**1**
Xylenes (total)	**1330-20-7**	**8260B**	**38**		**1.0**	**ug/L**	**1**

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		81	70-130
Bromofluorobenzene		94	70-130
Toluene-d8		98	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	10/06/2010 2207	MPM	10/06/2010 0900	43764

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0.021	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		100	57-137

PQL = Practical quantitation limit
ND = Not detected at or above the PQL
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
H = Out of holding time

Client: **Bunnell-Lammons Engineering, Inc.**	Laboratory ID: **LJ05051-014**
Description: **GWD-3**	Matrix: **Aqueous**
Date Sampled: **09/28/2010 1146**	
Date Received: **10/05/2010**	

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	10/07/2010 0505	DLB		43870

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
Benzene	**71-43-2**	**8260B**	**170**		**1.0**	**ug/L**	**1**
1,2-Dichloroethane	107-06-2	8260B	ND		1.0	ug/L	1
Ethylbenzene	**100-41-4**	**8260B**	**7.9**		**1.0**	**ug/L**	**1**
Methyl tertiary butyl ether (MTBE)	**1634-04-4**	**8260B**	**28**		**1.0**	**ug/L**	**1**
Naphthalene	**91-20-3**	**8260B**	**9.6**		**1.0**	**ug/L**	**1**
Toluene	**108-88-3**	**8260B**	**37**		**1.0**	**ug/L**	**1**
Xylenes (total)	**1330-20-7**	**8260B**	**39**		**1.0**	**ug/L**	**1**

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		99	70-130
Bromofluorobenzene		100	70-130
Toluene-d8		93	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	10/06/2010 2228	MPM	10/06/2010 0900	43764

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
1,2-Dibromoethane (EDB)	**106-93-4**	**8011**	**0.035**		**0.020**	**ug/L**	**1**

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		97	57-137

PQL = Practical quantitation limit
ND = Not detected at or above the PQL
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
H = Out of holding time

SHEALY **Chain of Custody Record**

SHEALY ENVIRONMENTAL SERVICES, INC.
106 Vantage Point Drive
West Columbia, South Carolina 29172
Telephone No. (803) 791-9700 Fax No. (803) 791-9111

Number 106966

Client: Bunnell-Lammons Engineering, Inc.	Report to Contact: Trever Slack	Telephone No. / Fax No. / E-mail: (864) 288-1265	Quote No.
Address: 6004 Ponders Court	Sampler's Signature: X [signature]	Waybill No.: tslack@blecorp.com	Page 1 of 2
City: Greenville; State: SC; Zip Code: 29615	Printed Name: Ivan A. Irizarry	Analysis (Attach list if more space is needed.)	
Project Name: Enmark # 380			
Project No.: J10-6859-02	P.O. No.		Lot No.: W05051

Sample ID / Description (Containers for each sample may be combined on one line.)	Date	Time	Q Grab Composite	Matrix: Aqueous	Matrix: Solid	Matrix: Non-Aqueous	No. of Containers by Preservative Type: Unpres	HNO3	H2SO4	HCl	NaOH	5000 Na	STEX (8260B)	EDD (8011)	Remarks / Cooler I.D.
GW-2	9/28/10	1320	G	X						X			X	X	
GW-6	9/28/10	1627													
GW-9	9/29/10	0938													
GW-13	9/29/10	1141													
GW-17	9/29/10	1418													
GW-19	9/29/10	1457													
GW-16	9/29/10	1424													
GW-28	9/30/10	0802													
GW-30	9/30/10	0847													
GW-39	9/30/10	1540													

Possible Hazard Identification: ☑ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison ☐ Unknown

Sample Disposal: ☐ Return to Client ☑ Disposal by Lab

Note: All samples are retained for six weeks from receipt unless other arrangements are made.

Turn Around Time Required (Prior lab approval required for expedited TAT.): ☑ Standard ☐ Rush (Specify)

QC Requirements (Specify)

	Date	Time		Date	Time
1. Relinquished by: Reid A. Doherty	10/4/10	1500	1. Received by: [signature]	10/5/10	1050
2. Relinquished by			2. Received by		
3. Relinquished by: [signature]	10/5/10	1450	3. Laboratory received by: [signature]	10/5/10	1450

Comments

LAB USE ONLY: Received on ice (Circle) Yes No Ice Pack — Receipt Temp. 1.0 °C

DISTRIBUTION: WHITE & YELLOW-Return to laboratory with Sample(s); PINK-Field/Client Copy

Document Number: F-AD-012 Effective Date: 08-04-02

SHEALY Chain of Custody Record

SHEALY ENVIRONMENTAL SERVICES, INC.
106 Vantage Point Drive
West Columbia, South Carolina 29172
Telephone No. (803) 791-9700 Fax No. (803) 791-9111

Number 106967

Client: Burnell-Lemmon Engineering, Inc.	Report to Contact: Trevor Slack	Telephone No. / Fax No. / E-mail: (864) 288-1265	Quote No.
Address: 6004 Pocahos Court	Sampler's Signature: X	Waybill No.: tslack@blecorp.com	Page 2 of 2
City: Greenville; State: SC; Zip Code: 29615	Printed Name: Ivan Irizarry	Analysis (Attach list if more space is needed.)	
Project Name: Ennis # 380			
Project No.: TIO-6859-02	P.O. No.:		Lot No.: LJ0505

Sample ID / Description (Containers for each sample may be combined on one line.)	Date	Time	No. of Containers	Aqueous	Solid	Non-Aqueous	Oil	Unpres.	H2SO4	HNO3	HCl	NaOH	ZnO/NaOH	Other	Phenol 2 mg/kg, Lt Oil (Lab only)	PAH (8310)	Remarks / Cooler I.D.
GW-41	9/30/10	1725	6	X							X				X	X	
GWD-1	9/28/10	1500	↓	↓							↓				↓	↓	
GWD-2	9/29/10	1555															
GWD-3	9/28/10	1146															

Possible Hazard Identification: ☑ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison ☐ Unknown

Sample Disposal: ☐ Return to Client ☑ Disposal by Lab

Note: All samples are retained for six weeks from receipt unless other arrangements are made.

Turn Around Time Required (Prior lab approval required for expedited TAT.): ☑ Standard ☐ Rush (Specify)

QC Requirements (Specify)

1. Relinquished by: Reid A. Doherty	Date: 10/1/10	Time: 1500	1. Received by: Cory Hicks	Date: 10/5/10	Time: 1050
2. Relinquished by:	Date:	Time:	2. Received by:	Date:	Time:
3. Relinquished by: Cory Hicks	Date: 10/5/10	Time: 1430	3. Laboratory received by:	Date: 10/5/10	Time: 1430

Comments:

LAB USE ONLY
Received on ice (Circle) Yes No Ice Pack
Receipt Temp. 1.0 °C

DISTRIBUTION: WHITE & YELLOW-Return to laboratory with Sample(s); PINK-Field/Client Copy

Document Number: F-4D-012 Effective Date: 08-04-09

Shealy Environmental Services, Inc.
Document Number: F-AD-018
Revision Number: 8

Page 1 of 1
Replaces Date: 09/22/06
Effective Date: 03/29/07

Sample Receipt Checklist (SRC)

Client: BLE Cooler Inspected by/date: CAL 10/5/10 Lot #: LJ6505J

Means of receipt: ☑ SESI ☐ Client ☐ UPS ☐ FedEx ☐ Airborne Exp ☐ Other

Yes ☐	No ☑	NA ☐	1. Were custody seals present on the cooler?
Yes ☐	No ☐	NA ☑	2. If custody seals were present, were they intact and unbroken?

Cooler ID/temperature upon receipt 1-6 °C ___/___ °C ___/___ °C ___/___ °C ___/___ °C ___/___ °C ___/___ °C ___/___ °C

Method: ☐ Temperature Blank ☐ Against Bottles
Method of coolant: ☑ Wet Ice ☐ Blue Ice ☐ Dry Ice ☐ None

If response is No (or Yes for 14, 15, 16), an explanation/resolution must be provided.

Yes ☐	No ☐	NA ☑	3. If temperature of any cooler exceeded 6.0°C, was Project Manager notified? PM notified by SRC, phone, note (circle one), other: ___. (For coolers received via commercial courier, PMs are to be notified immediately)
Yes ☐	No ☐	NA ☑	4. Is the commercial courier's packing slip attached to this form?
Yes ☑	No ☐	NA ☐	5. Were proper custody procedures (relinquished/received) followed?
Yes ☑	No ☐	NA ☐	6. Were sample IDs listed?
Yes ☑	No ☐	NA ☐	7. Was collection date & time listed?
Yes ☑	No ☐	NA ☐	8. Were tests to be performed listed on the COC or was quote # provided?
Yes ☑	No ☐	NA ☐	9. Did all samples arrive in the proper containers for each test?
Yes ☑	No ☐	NA ☐	10. Did all container label information (ID, date, time) agree with COC?
Yes ☑	No ☐	NA ☐	11. Did all containers arrive in good condition (unbroken, lids on, etc.)?
Yes ☑	No ☐	NA ☐	12. Was adequate sample volume available?
Yes ☐	No ☑	NA ☐	13. Were all samples received within ½ the holding time or 48 hours, whichever comes first?
Yes ☐	No ☑	NA ☐	14. Were any sample containers missing?
Yes ☐	No ☑	NA ☐	15. Were there any excess samples not listed on COC?
Yes ☐	No ☑	NA ☐	16. Were bubbles present 5 "pea-size" (¼" or 6mm in diameter) in any VOA vials?
Yes ☐	No ☐	NA ☑	17. Were all metals/O&G/HSM/nutrient samples received at a pH of <2?
Yes ☐	No ☐	NA ☑	18. Were all cyanide and/or sulfide samples received at a pH >12?
Yes ☐	No ☐	NA ☑	19. Were all applicable NH3/TKN/cyanide/phenol/BNA/pest/PCB/herb (<0.2mg/L) and toxicity (<0.1mg/L) samples free of residual chlorine?
Yes ☐	No ☐	NA ☑	20. Were collection temperatures documented on the COC for NC samples?

Sample Preservation (Must be completed for any sample(s) incorrectly preserved or with headspace.)

Sample(s) ___ were received incorrectly preserved and were adjusted accordingly in sample receiving with ___ (H_2SO_4,HNO_3,HCl,NaOH) with the SR # (number)

Sample(s) ___ were received with bubbles >6 mm in diameter.

Sample(s) ___ were received with TRC >0.2 mg/L for NH3/TKN/cyanide/BNA/pest/PCB/herb.

Toxicity sample(s) ___ were received with TRC >0.1 mg/L and were analyzed by method 330.5.

Corrective Action taken, if necessary:

Was client notified: Yes ☐ No ☐ Did client respond: Yes ☐ No ☐

SESI employee: ___ Date of response: ___

Comments: ___

SHEALY ENVIRONMENTAL SERVICES, INC.

Report of Analysis

Bunnell-Lammons Engineering, Inc.
6004 Ponders Court
Greenville, SC 29615
Attention: Trever Slack

Project Name: **Former Enmark #380**

Project Number: **J10-6859-02**

Lot Number: **LJ27074**

Date Completed: **11/03/2010**

Lucas Odom
Project Manager

This report shall not be reproduced, except in its entirety, without the written approval of Shealy Environmental Services, Inc.

The following non-paginated documents are considered part of this report: Chain of Custody Record and Sample Receipt Checklist.

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Case Narrative
Bunnell-Lammons Engineering, Inc.
Lot Number: LJ27074

This Report of Analysis contains the analytical result(s) for the sample(s) listed on the Sample Summary following this Case Narrative. The sample receiving date is documented in the header information associated with each sample.

Sample receipt, sample analysis, and data review have been performed in accordance with the most current approved NELAC standards, the Shealy Environmental Services, Inc. ("Shealy") Quality Assurance Management Plan (QAMP), standard operating procedures (SOPs), and Shealy policies. Any exceptions to the NELAC standards, the QAMP, SOPs or policies are qualified on the results page or discussed below.

If you have any questions regarding this report please contact the Shealy Project Manager listed on the cover page.

SHEALY ENVIRONMENTAL SERVICES, INC.

Sample Summary
Bunnell-Lammons Engineering, Inc.
Lot Number: LJ27074

Sample Number	Sample ID	Matrix	Date Sampled	Date Received
001	GW-54	Aqueous	10/21/2010 1622	10/27/2010
002	GW-39	Aqueous	10/19/2010 1532	10/27/2010
003	GW-47	Aqueous	10/21/2010 1316	10/27/2010
004	GW-44	Aqueous	10/21/2010 0915	10/27/2010
005	GW-42	Aqueous	10/20/2010 1552	10/27/2010
006	MW-9 (20)	Solid	10/13/2010 1557	10/27/2010
007	MW-11 (15)	Solid	10/14/2010 1215	10/27/2010

(7 samples)

Executive Summary
Bunnell-Lammons Engineering, Inc.
Lot Number: LJ27074

Sample	Sample ID	Matrix	Parameter	Method	Result	Q	Units	Page
004	GW-44	Aqueous	Methyl tertiary butyl ether (MTBE)	8260B	120		ug/L	8
006	MW-9 (20)	Solid	TOC	Walkley-Black	400		mg/kg	10
007	MW-11 (15)	Solid	TOC	Walkley-Black	230		mg/kg	11

(3 detections)

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **GW-54**
Date Sampled: **10/21/2010 1622**
Date Received: **10/27/2010**

Laboratory ID: **LJ27074-001**
Matrix: **Aqueous**

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	10/30/2010 0338	DLB		45483

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
Benzene	71-43-2	8260B	ND		5.0	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		5.0	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		5.0	ug/L	1
Naphthalene	91-20-3	8260B	ND		5.0	ug/L	1
Toluene	108-88-3	8260B	ND		5.0	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		5.0	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		86	70-130
Bromofluorobenzene		103	70-130
Toluene-d8		112	70-130

PQL = Practical quantitation limit
ND = Not detected at or above the PQL
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL

E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
H = Out of holding time

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **GW-39**
Date Sampled: **10/19/2010 1532**
Date Received: **10/27/2010**

Laboratory ID: **LJ27074-002**
Matrix: **Aqueous**

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	10/30/2010 0400	DLB		45483

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
Benzene	71-43-2	8260B	ND		5.0	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		5.0	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		5.0	ug/L	1
Naphthalene	91-20-3	8260B	ND		5.0	ug/L	1
Toluene	108-88-3	8260B	ND		5.0	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		5.0	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		86	70-130
Bromofluorobenzene		101	70-130
Toluene-d8		111	70-130

PQL = Practical quantitation limit
ND = Not detected at or above the PQL
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL

E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
H = Out of holding time

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **GW-47**
Date Sampled: **10/21/2010 1316**
Date Received: **10/27/2010**

Laboratory ID: **LJ27074-003**
Matrix: **Aqueous**

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	10/30/2010 0421	DLB		45483

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
Benzene	71-43-2	8260B	ND		5.0	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		5.0	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		5.0	ug/L	1
Naphthalene	91-20-3	8260B	ND		5.0	ug/L	1
Toluene	108-88-3	8260B	ND		5.0	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		5.0	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		89	70-130
Bromofluorobenzene		103	70-130
Toluene-d8		112	70-130

PQL = Practical quantitation limit
ND = Not detected at or above the PQL
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL

E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
H = Out of holding time

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **GW-44**
Date Sampled: **10/21/2010 0915**
Date Received: **10/27/2010**

Laboratory ID: **LJ27074-004**
Matrix: **Aqueous**

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	10/30/2010 0443	DLB		45483

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
Benzene	71-43-2	8260B	ND		5.0	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		5.0	ug/L	1
Methyl tertiary butyl ether (MTBE)	**1634-04-4**	**8260B**	**120**		**5.0**	**ug/L**	**1**
Naphthalene	91-20-3	8260B	ND		5.0	ug/L	1
Toluene	108-88-3	8260B	ND		5.0	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		5.0	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		88	70-130
Bromofluorobenzene		103	70-130
Toluene-d8		111	70-130

PQL = Practical quantitation limit
ND = Not detected at or above the PQL
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL

E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
H = Out of holding time

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **GW-42**
Date Sampled: **10/20/2010 1552**
Date Received: **10/27/2010**

Laboratory ID: **LJ27074-005**
Matrix: **Aqueous**

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	10/30/2010 0504	DLB		45483

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
Benzene	71-43-2	8260B	ND		5.0	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		5.0	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		5.0	ug/L	1
Naphthalene	91-20-3	8260B	ND		5.0	ug/L	1
Toluene	108-88-3	8260B	ND		5.0	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		5.0	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		88	70-130
Bromofluorobenzene		101	70-130
Toluene-d8		111	70-130

PQL = Practical quantitation limit
ND = Not detected at or above the PQL
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL

E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
H = Out of holding time

Client: **Bunnell-Lammons Engineering, Inc.**	Laboratory ID: **LJ27074-006**
Description: **MW-9 (20)**	Matrix: **Solid**
Date Sampled: **10/13/2010 1557**	% Solids: **87.0** **10/27/2010 2140**
Date Received: **10/27/2010**	

Inorganic non-metals

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1		(TOC) Walkley-Black	1	11/02/2010 0757	SMH		45628

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
TOC		**Walkley-Black**	**400**		**200**	**mg/kg**	**1**

PQL = Practical quantitation limit
ND = Not detected at or above the PQL
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
H = Out of holding time

Client: **Bunnell-Lammons Engineering, Inc.**	Laboratory ID: **LJ27074-007**
Description: **MW-11 (15)**	Matrix: **Solid**
Date Sampled: **10/14/2010 1215**	% Solids: **80.7** **10/27/2010 2140**
Date Received: **10/27/2010**	

Inorganic non-metals

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1		(TOC) Walkley-Black	1	11/02/2010 0757	SMH		45628

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
TOC		**Walkley-Black**	**230**		**200**	**mg/kg**	**1**

PQL = Practical quantitation limit
ND = Not detected at or above the PQL
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
H = Out of holding time

SHEALY ENVIRONMENTAL SERVICES, INC.

106 Vantage Point Drive
Cayce, South Carolina 29033
Telephone No. (803) 791-9700 Fax No. (803) 791-9111

SHEALY Chain of Custody Record

Number 63445

Client: BLE	Report to Contact: tslack@blecorp.com	Telephone No. / Fax No. / E-mail: 864 288 1265	Quote No.
Address: 6004 Pendens Ct	Sampler's Signature:	Waybill No.	Page 1 of 1
City: Newberry, SC; State; Zip Code	Printed Name: Trevor Z. Slack	Analysis (Attach list if more space is needed.)	
Project Name: Former Enmark #380			
Project No.: J10-6859-02	P.O. No.		Lot No.: L27024

Sample ID / Description (Containers for each sample may be combined on one line.)	Date	Time	C=Comp G=Grab	Matrix: Aqueous	Solid	Non Aqueous	No. of Containers by Preservative Type: Unpres.	H2SO4	HNO3	HCl	NaOH	Other	8260b (BTEX+MTBE)	TOC	Remarks / Cooler I.D.
GW-54	10/21/10	1622		✓						✓			X		
GW-39	10/19/10	1530		✓						✓			X		
GW-47	10/21/10	1316		✓						✓			X		
GW-44	10/21/10	0915		✓						✓			X		
GW-42	10/20/10	1558		✓						✓			X		
MW-9 (20)	10/13/10	1557					X							X	
MW-11 (15)	10/14/10	1215					X							X	

Possible Hazard Identification: X Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison ☐ Unknown

Sample Disposal: ☐ Return to Client X Disposal by Lab

Note: All samples are retained for six weeks from receipt unless other arrangements are made.

Turn Around Time Required (Prior lab approval required for expedited TAT.): X Standard ☐ Rush (Specify)

QC Requirements (Specify)

	Date	Time		Date	Time
1. Relinquished by	10/26/10	1415	1. Received by	10/27/10	1330
2. Relinquished by			2. Received by		
3. Relinquished by	10/27/10	1700	3. Laboratory received by	10/27/10	1708

Comments

LAB USE ONLY
Received on ice (Circle) Yes No Ice Pack
Receipt Temp. 4.8 °C

DISTRIBUTION: WHITE & YELLOW-Return to laboratory with Sample(s); PINK-Field/Client Copy

Document Number F-AD-012 Effective Date 08-04-02

Shealy Environmental Services, Inc.
Document Number: F-AD-016
Revision Number: 6

Page 1 of 1
Replaces Date: 09/22/06
Effective Date: 05/29/07

Sample Receipt Checklist (SRC)

Client: BLE Cooler Inspected by/date: WAC 10/27/06 Lot #: LT27074

Means of receipt: ☑ SESI ☐ Client ☐ UPS ☐ FedEx ☐ Airborne Exp ☐ Other

Yes ☐	No ☐	NA ☑	1. Were custody seals present on the cooler?
Yes ☐	No ☐	NA ☑	2. If custody seals were present, were they intact and unbroken?

Cooler ID/temperature upon receipt 4.8 °C / °C / °C / °C / °C / °C / °C / °C

Method: ☐ Temperature Blank ☑ Against Bottles
Method of coolant: ☑ Wet Ice ☐ Blue Ice ☐ Dry Ice ☐ None

If response is No (or Yes for 14, 15, 16), an explanation/resolution must be provided.

Yes ☐	No ☐	NA ☑	3. If temperature of any cooler exceeded 6.0°C, was Project Manager notified? PM notified by SRC, phone, note (circle one), other: _____. (For coolers received via commercial courier, PMs are to be notified immediately.
Yes ☐	No ☐	NA ☑	4. Is the commercial courier's packing slip attached to this form?
Yes ☑	No ☐	NA ☐	5. Were proper custody procedures (relinquished/received) followed?
Yes ☑	No ☐	NA ☐	6. Were sample IDs listed?
Yes ☑	No ☐	NA ☐	7. Was collection date & time listed?
Yes ☑	No ☐	NA ☐	8. Were tests to be performed listed on the COC or was quote # provided?
Yes ☑	No ☐	NA ☐	9. Did all samples arrive in the proper containers for each test?
Yes ☑	No ☐	NA ☐	10. Did all container label information (ID, date, time) agree with COC?
Yes ☑	No ☐	NA ☐	11. Did all containers arrive in good condition (unbroken, lids on, etc.)?
Yes ☑	No ☐	NA ☐	12. Was adequate sample volume available?
Yes ☐	No ☑	NA ☐	13. Were all samples received within ½ the holding time or 48 hours, whichever comes first?
Yes ☐	No ☑	NA ☐	14. Were any samples containers missing?
Yes ☐	No ☑	NA ☐	15. Were there any excess samples not listed on COC?
Yes ☐	No ☑	NA ☐	16. Were bubbles present >"pea-size" (¼" or 6mm in diameter) in any VOA vials?
Yes ☐	No ☐	NA ☑	17. Were all metals/O&G/HEM/nutrient samples received at a pH of <2?
Yes ☐	No ☐	NA ☑	18. Were all cyanide and/or sulfide samples received at a pH >12?
Yes ☐	No ☐	NA ☑	19. Were all applicable NH3/TKN/cyanide/phenol/BNA/pest/PCB/herb (<0.2mg/L) and toxicity (<0.1mg/L) samples free of residual chlorine?
Yes ☐	No ☐	NA ☑	20. Were collection temperatures documented on the COC for NC samples?

Sample Preservation (Must be completed for any sample(s) incorrectly preserved or with headspace.)

Sample(s) _____ were received incorrectly preserved and were adjusted accordingly in sample receiving with _____ (H_2SO_4, HNO_3, HCl, NaOH) with the SR # (number)

Sample(s) _____ were received with bubbles >6 mm in diameter.

Sample(s) _____ were received with TRC >0.2 mg/L for NH3/TKN/cyanide/BNA/pest/PCB/herb.

Toxicity sample(s) _____ were received with TRC >0.1 mg/L and were analyzed by method 330.5.

Corrective Action taken, if necessary:

Was client notified: Yes ☐ No ☐ Did client respond: Yes ☐ No ☐

SESI employee: _____ Date of response: _____

Comments: _____

Water Well Record
Bureau of Water
2600 Bull Street, Columbia, SC 29201-1708; (803) 898-4300

1. Well Owner Information:
Name: **Enmark Station, Inc.**
Dolan (last) **Tom** (first)
Address: **Post Office Box 728**
City: **Savannah** State: **GA** zip: **31402**
Phone: Work:
Home:

2. Location of Well: County: **Newberry**
Name: **Enmark 380**
Address: **2725 College Street**
City: **Newberry, SC** Zip: **29108**
Latitude: Longitude:

3. Public System Name: **Public System Number:**

4. Abandonment: (yes/ no) **Yes**
Grouted Depth: from 0.00 to 25.00 ft.

Formation Description	Thickness of Stratum	Depth to Bottom of Stratum

5. Remarks:
GW-1

6. Type:

Mud Rotary	Jetted	Bored
Dug	Air Rotary	Driven
Cable tool	Auger	

7. Permit Number: **06588**

8. Use:

Residential	Public Supply	Process
Irrigation	Air Conditioning	Emergency
Test Well	Monitor Well	Replacement

9. Well Depth (completed)
ft. Date Started:
Date Completed:

10. Casing: Threaded Welded
Diameter:
Type:
in. to ft. depth
in. to ft. depth
Height: Below
Surface: ft. Weight: lb./ft.
Drive Shoe:

11. Screen:
Type: Diameter:
Slot/Gauge: Length:
Set Between: ft. and ft.
ft. and ft.
Sieve Analysis: Y/N

12. Static Water Level: ft. below land surface after 24 hours.

13. Pumping Level below land surface.
ft. after hrs Pumping GPM
Pumping Test:
Yield: gpm

14. Water Quality:
Chemical Analysis: No Bacterial Analysis: No

15. Artificial Filter (filter pack) Y/N
Installed from: ft. to ft.
Effective Size: Uniformity Coefficient

16. Well Grouted?
Neat Cement Bentonite Bentonite/Cement other
Depth: from ft. to 0 ft.

17. Nearest Source of Possible Contamination: ft. direction
Type:
Well disinfected Type: Amount:

18. Pump: Date installed: N/A
Mfr. Name: Model no.:
H.P.: Volts: Length of pipe: ft.
Capacity: gpm
TYPE:
Submersible Jet (shallow) Turbine
Jet (deep) Reciprocating Centrifugal

19. Well Driller Marshall Burnett **Cert No. 1671**
Address: 6004 Ponders Court **Level C**
Greenville SC 29615
Telephone: 864-527-9324 Fax: 864-288-4430

20. Water Well Driller's Certification: This well was drilled under my direction and this report is true to the best of my knowledge and belief.

Signed: Richard M Burnett

Date: 9/28/2010

If D Level Driller, provide supervising driller's name.

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Name: **Enmark 380**
Address: **2725 College Street**
City: **Newberry, SC** Zip: **29108**
Latitude: Longitude:

3. Public System Name: **Public System Number:**

4. Abandonment: (yes/ no) **Yes**
Grouted Depth: from 0.00 to 25.00 ft.

Formation Description	Thickness of Stratum	Depth to Bottom of Stratum

5. Remarks:
GW-2

6. Type:

Mud Rotary	Jetted	Bored
Dug	Air Rotary	Driven
Cable tool	Auger	

7. Permit Number: **06588**

8. Use:

Residential	Public Supply	Process
Irrigation	Air Conditioning	Emergency
Test Well	Monitor Well	Replacement

9. Well Depth (completed)
ft. Date Started:
Date Completed:

10. Casing: Threaded Welded
Diameter:
Type:
in. to ft. depth
in. to ft. depth
Height: Below
Surface: ft. Weight: lb./ft.
Drive Shoe:

11. Screen:
Type: Diameter:
Slot/Gauge: Length:
Set Between: ft. and ft.
ft. and ft.
Sieve Analysis: Y/N

12. Static Water Level: ft. below land surface after 24 hours.

13. Pumping Level below land surface.
ft. after hrs Pumping GPM
Pumping Test:
Yield: gpm

14. Water Quality:
Chemical Analysis: No Bacterial Analysis: No

15. Artificial Filter (filter pack) Y/N
Installed from: ft. to ft.
Effective Size: Uniformity Coefficient

16. Well Grouted?
Neat Cement Bentonite Bentonite/Cement other
Depth: from ft. to 0 ft.

17. Nearest Source of Possible Contamination: ft. direction
Type:
Well disinfected Type: Amount:

18. Pump: Date installed: N/A
Mfr. Name: Model no.:
H.P.: Volts: Length of pipe: ft.
Capacity: gpm
TYPE:
Submersible Jet (shallow) Turbine
Jet (deep) Reciprocating Centrifugal

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Phone: Work:
Home:

2. Location of Well: County: **Newberry**
Name: **Enmark 380**
Address: **2725 College Street**
City: **Newberry, SC** Zip: **29108**
Latitude: Longitude:

3. Public System Name: **Public System Number:**

4. Abandonment: (yes/ no) **Yes**
Grouted Depth: from 0.00 to 25.00 ft.

Formation Description	Thickness of Stratum	Depth to Bottom of Stratum

5. Remarks:
GW-3

6. Type:

Mud Rotary	Jetted	Bored
Dug	Air Rotary	Driven
Cable tool	Auger	

7. Permit Number: **06588**

8. Use:

Residential	Public Supply	Process
Irrigation	Air Conditioning	Emergency
Test Well	Monitor Well	Replacement

9. Well Depth (completed)
ft. Date Started:
Date Completed:

10. Casing: Threaded Welded
Diameter:
Type:
in. to ft. depth
in. to ft. depth
Height: Below
Surface: ft. Weight: lb./ft.
Drive Shoe:

11. Screen:
Type: Diameter:
Slot/Gauge: Length:
Set Between: ft. and ft.
ft. and ft.
Sieve Analysis: Y/N

12. Static Water Level: ft. below land surface after 24 hours.

13. Pumping Level below land surface.
ft. after hrs Pumping GPM
Pumping Test:
Yield: gpm

14. Water Quality:
Chemical Analysis: No Bacterial Analysis: No

15. Artificial Filter (filter pack) Y/N
Installed from: ft. to ft.
Effective Size: Uniformity Coefficient

16. Well Grouted?
Neat Cement Bentonite Bentonite/Cement other
Depth: from ft. to 0 ft.

17. Nearest Source of Possible Contamination: ft. direction
Type:
Well disinfected Type: Amount:

18. Pump: Date installed: N/A
Mfr. Name: Model no.:
H.P.: Volts: Length of pipe: ft.
Capacity: gpm
TYPE:
Submersible Jet (shallow) Turbine
Jet (deep) Reciprocating Centrifugal

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Date: 9/28/2010

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Home:

2. Location of Well: County: **Newberry**
Name: **Enmark 380**
Address: **2725 College Street**
City: **Newberry, SC** Zip: **29108**
Latitude: Longitude:

3. Public System Name: **Public System Number:**

4. Abandonment: (yes/ no) **Yes**
Grouted Depth: from 0.00 to 25.00 ft.

Formation Description	Thickness of Stratum	Depth to Bottom of Stratum

5. Remarks:
GW-4

6. Type:

Mud Rotary	Jetted	Bored
Dug	Air Rotary	Driven
Cable tool	Auger	

7. Permit Number: **06588**

8. Use:

Residential	Public Supply	Process
Irrigation	Air Conditioning	Emergency
Test Well	Monitor Well	Replacement

9. Well Depth (completed)
ft. Date Started:
Date Completed:

10. Casing: Threaded Welded
Diameter:
Type:
in. to ft. depth
in. to ft. depth
Height: Below
Surface: ft. Weight: lb./ft.
Drive Shoe:

11. Screen:
Type: Diameter:
Slot/Gauge: Length:
Set Between: ft. and ft.
ft. and ft.
Sieve Analysis: Y/N

12. Static Water Level: ft. below land surface after 24 hours.

13. Pumping Level below land surface.
ft. after hrs Pumping GPM
Pumping Test:
Yield: gpm

14. Water Quality:
Chemical Analysis: No Bacterial Analysis: No

15. Artificial Filter (filter pack) Y/N
Installed from: ft. to ft.
Effective Size: Uniformity Coefficient

16. Well Grouted?
Neat Cement Bentonite Bentonite/Cement other
Depth: from ft. to 0 ft.

17. Nearest Source of Possible Contamination: ft. direction
Type:
Well disinfected Type: Amount:

18. Pump: Date installed: N/A
Mfr. Name: Model no.:
H.P.: Volts: Length of pipe: ft.
Capacity: gpm
TYPE:
Submersible Jet (shallow) Turbine
Jet (deep) Reciprocating Centrifugal

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20. Water Well Driller's Certification: This well was drilled under my direction and this report is true to the best of my knowledge and belief.

Signed: Richard M Burnett

Date: 9/28/2010

If D Level Driller, provide supervising driller's name.

Water Well Record
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Phone: Work:
Home:

2. Location of Well: County: **Newberry**
Name: **Enmark 380**
Address: **2725 College Street**
City: **Newberry, SC** Zip: **29108**
Latitude: Longitude:

3. Public System Name: **Public System Number:**

4. Abandonment: (yes/ no) **Yes**
Grouted Depth: from 0.00 to 25.00 ft.

Formation Description	Thickness of Stratum	Depth to Bottom of Stratum

5. Remarks:
GW-5

6. Type:

Mud Rotary	Jetted	Bored
Dug	Air Rotary	Driven
Cable tool	Auger	

7. Permit Number: **06588**

8. Use:

Residential	Public Supply	Process
Irrigation	Air Conditioning	Emergency
Test Well	Monitor Well	Replacement

9. Well Depth (completed)
ft. Date Started:
Date Completed:

10. Casing: Threaded Welded
Diameter:
Type:
in. to ft. depth
in. to ft. depth
Height: Below
Surface: ft. Weight: lb./ft.
Drive Shoe:

11. Screen:
Type: Diameter:
Slot/Gauge: Length:
Set Between: ft. and ft.
ft. and ft.
Sieve Analysis: Y/N

12. Static Water Level: ft. below land surface after 24 hours.

13. Pumping Level below land surface.
ft. after hrs Pumping GPM
Pumping Test:
Yield: gpm

14. Water Quality:
Chemical Analysis: No Bacterial Analysis: No

15. Artificial Filter (filter pack) Y/N
Installed from: ft. to ft.
Effective Size: Uniformity Coefficient

16. Well Grouted?
Neat Cement Bentonite Bentonite/Cement other
Depth: from ft. to 0 ft.

17. Nearest Source of Possible Contamination: ft. direction
Type:
Well disinfected Type: Amount:

18. Pump: Date installed: N/A
Mfr. Name: Model no.:
H.P.: Volts: Length of pipe: ft.
Capacity: gpm
TYPE:
Submersible Jet (shallow) Turbine
Jet (deep) Reciprocating Centrifugal

19. Well Driller Marshall Burnett **Cert No. 1671**
Address: 6004 Ponders Court **Level C**
Greenville SC 29615
Telephone: 864-527-9324 Fax: 864-288-4430

20. Water Well Driller's Certification: This well was drilled under my direction and this report is true to the best of my knowledge and belief.

Signed: Richard M Burnett

Date: 9/28/2010

If D Level Driller, provide supervising driller's name.

Water Well Record
Bureau of Water
2600 Bull Street, Columbia, SC 29201-1708; (803) 898-4300

1. Well Owner Information:
Name: **Enmark Station, Inc.**
Dolan (last) **Tom** (first)
Address: **Post Office Box 728**
City: **Savannah** State: **GA** zip: **31402**
Phone: Work:
Home:

2. Location of Well: County: **Newberry**
Name: **Enmark 380**
Address: **2725 College Street**
City: **Newberry, SC** Zip: **29108**
Latitude: Longitude:

3. Public System Name: **Public System Number:**

4. Abandonment: (yes/ no) **Yes**
Grouted Depth: from 0.00 to 25.00 ft.

Formation Description	Thickness of Stratum	Depth to Bottom of Stratum

5. Remarks:
GW-6

6. Type:

Mud Rotary	Jetted	Bored
Dug	Air Rotary	Driven
Cable tool	Auger	

7. Permit Number: **06588**

8. Use:

Residential	Public Supply	Process
Irrigation	Air Conditioning	Emergency
Test Well	Monitor Well	Replacement

9. Well Depth (completed)
ft. Date Started:
Date Completed:

10. Casing: Threaded Welded
Diameter:
Type:
in. to ft. depth
in. to ft. depth
Height: Below
Surface: ft. Weight: lb./ft.
Drive Shoe:

11. Screen:
Type: Diameter:
Slot/Gauge: Length:
Set Between: ft. and ft.
ft. and ft.
Sieve Analysis: Y/N

12. Static Water Level: ft. below land surface after 24 hours.

13. Pumping Level below land surface.
ft. after hrs Pumping GPM
Pumping Test:
Yield: gpm

14. Water Quality:
Chemical Analysis: No Bacterial Analysis: No

15. Artificial Filter (filter pack) Y/N
Installed from: ft. to ft.
Effective Size: Uniformity Coefficient

16. Well Grouted?
Neat Cement Bentonite Bentonite/Cement other
Depth: from ft. to 0 ft.

17. Nearest Source of Possible Contamination: ft. direction
Type:
Well disinfected Type: Amount:

18. Pump: Date installed: N/A
Mfr. Name: Model no.:
H.P.: Volts: Length of pipe: ft.
Capacity: gpm
TYPE:
Submersible Jet (shallow) Turbine
Jet (deep) Reciprocating Centrifugal

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Date: 9/28/2010

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Name: **Enmark 380**
Address: **2725 College Street**
City: **Newberry, SC** Zip: **29108**
Latitude: Longitude:

3. Public System Name: **Public System Number:**

4. Abandonment: (yes/ no) **Yes**
Grouted Depth: from 0.00 to 25.00 ft.

Formation Description	Thickness of Stratum	Depth to Bottom of Stratum

5. Remarks:
GW-7

6. Type:

Mud Rotary	Jetted	Bored
Dug	Air Rotary	(Driven)
Cable tool	Auger	

7. Permit Number: **06588**

8. Use:

Residential	Public Supply	Process
Irrigation	Air Conditioning	Emergency
Test Well	Monitor Well	Replacement

9. Well Depth (completed)
ft. Date Started:
Date Completed:

10. Casing: Threaded Welded
Diameter:
Type:
in. to ft. depth
in. to ft. depth
Height: Below
Surface: ft. Weight: lb./ft.
Drive Shoe:

11. Screen:
Type: Diameter:
Slot/Gauge: Length:
Set Between: ft. and ft.
ft. and ft.
Sieve Analysis: Y/N

12. Static Water Level: ft. below land surface after 24 hours.

13. Pumping Level below land surface.
ft. after hrs Pumping GPM
Pumping Test:
Yield: gpm

14. Water Quality:
Chemical Analysis: No Bacterial Analysis: No

15. Artificial Filter (filter pack) Y/N
Installed from: ft. to ft.
Effective Size: Uniformity Coefficient

16. Well Grouted?
(Neat Cement) Bentonite Bentonite/Cement other
Depth: from ft. to 0 ft.

17. Nearest Source of Possible Contamination: ft. direction
Type:
Well disinfected Type: Amount:

18. Pump: Date installed: N/A
Mfr. Name: Model no.:
H.P.: Volts: Length of pipe: ft.
Capacity: gpm
TYPE:
Submersible Jet (shallow) Turbine
Jet (deep) Reciprocating Centrifugal

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Home:

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Name: **Enmark 380**
Address: **2725 College Street**
City: **Newberry, SC** Zip: **29108**
Latitude: Longitude:

3. Public System Name: **Public System Number:**

4. Abandonment: (yes/ no) **Yes**
Grouted Depth: from 0.00 to 25.00 ft.

Formation Description	Thickness of Stratum	Depth to Bottom of Stratum

5. Remarks:
GW-8

6. Type:

Mud Rotary	Jetted	Bored
Dug	Air Rotary	(Driven)
Cable tool	Auger	

7. Permit Number: **06588**

8. Use:

Residential	Public Supply	Process
Irrigation	Air Conditioning	Emergency
Test Well	Monitor Well	Replacement

9. Well Depth (completed)
ft. Date Started:
Date Completed:

10. Casing: Threaded Welded
Diameter:
Type:
in. to ft. depth
in. to ft. depth
Height: Below
Surface: ft. Weight: lb./ft.
Drive Shoe:

11. Screen:
Type: Diameter:
Slot/Gauge: Length:
Set Between: ft. and ft.
ft. and ft.
Sieve Analysis: Y/N

12. Static Water Level: ft. below land surface after 24 hours.

13. Pumping Level below land surface.
ft. after hrs Pumping GPM
Pumping Test:
Yield: gpm

14. Water Quality:
Chemical Analysis: No Bacterial Analysis: No

15. Artificial Filter (filter pack) Y/N
Installed from: ft. to ft.
Effective Size: Uniformity Coefficient

16. Well Grouted?

(Neat Cement)	Bentonite	Bentonite/Cement	other

Depth: from ft. to 0 ft.

17. Nearest Source of Possible Contamination: ft. direction
Type:
Well disinfected Type: Amount:

18. Pump: Date installed: N/A
Mfr. Name: Model no.:
H.P.: Volts: Length of pipe: ft.
Capacity: gpm
TYPE:
Submersible Jet (shallow) Turbine
Jet (deep) Reciprocating Centrifugal

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Address: **2725 College Street**
City: **Newberry, SC** Zip: **29108**
Latitude: Longitude:

3. Public System Name: **Public System Number:**

4. Abandonment: (yes/ no) **Yes**
Grouted Depth: from 0.00 to 25.00 ft.

Formation Description	Thickness of Stratum	Depth to Bottom of Stratum

5. Remarks:
GW-9

6. Type:

Mud Rotary	Jetted	Bored
Dug	Air Rotary	Driven
Cable tool	Auger	

7. Permit Number: **06588**

8. Use:

Residential	Public Supply	Process
Irrigation	Air Conditioning	Emergency
Test Well	Monitor Well	Replacement

9. Well Depth (completed)
ft. Date Started:
Date Completed:

10. Casing: Threaded Welded
Diameter:
Type:
in. to ft. depth
in. to ft. depth
Height: Below
Surface: ft. Weight: lb./ft.
Drive Shoe:

11. Screen:
Type: Diameter:
Slot/Gauge: Length:
Set Between: ft. and ft.
ft. and ft.
Sieve Analysis: Y/N

12. Static Water Level: ft. below land surface after 24 hours.

13. Pumping Level below land surface.
ft. after hrs Pumping GPM
Pumping Test:
Yield: gpm

14. Water Quality:
Chemical Analysis: No Bacterial Analysis: No

15. Artificial Filter (filter pack) Y/N
Installed from: ft. to ft.
Effective Size: Uniformity Coefficient

16. Well Grouted?

Neat Cement	Bentonite	Bentonite/Cement	other

Depth: from ft. to 0 ft.

17. Nearest Source of Possible Contamination: ft. direction
Type:
Well disinfected Type: Amount:

18. Pump: Date installed: N/A
Mfr. Name: Model no.:
H.P.: Volts: Length of pipe: ft.
Capacity: gpm
TYPE:
Submersible Jet (shallow) Turbine
Jet (deep) Reciprocating Centrifugal

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Name: **Enmark 380**
Address: **2725 College Street**
City: **Newberry, SC** Zip: **29108**
Latitude: Longitude:

3. Public System Name: **Public System Number:**

4. Abandonment: (yes/ no) **Yes**
Grouted Depth: from 0.00 to 25.00 ft.

Formation Description	Thickness of Stratum	Depth to Bottom of Stratum

5. Remarks:
GW-10

6. Type:

Mud Rotary	Jetted	Bored
Dug	Air Rotary	Driven
Cable tool	Auger	

7. Permit Number: **06588**

8. Use:

Residential	Public Supply	Process
Irrigation	Air Conditioning	Emergency
Test Well	Monitor Well	Replacement

9. Well Depth (completed)
ft. Date Started:
Date Completed:

10. Casing: Threaded Welded
Diameter:
Type:
in. to ft. depth
in. to ft. depth
Height: Below
Surface: ft. Weight: lb./ft.
Drive Shoe:

11. Screen:
Type: Diameter:
Slot/Gauge: Length:
Set Between: ft. and ft.
ft. and ft.
Sieve Analysis: Y/N

12. Static Water Level: ft. below land surface after 24 hours.

13. Pumping Level below land surface.
ft. after hrs Pumping GPM
Pumping Test:
Yield: gpm

14. Water Quality:
Chemical Analysis: No Bacterial Analysis: No

15. Artificial Filter (filter pack) Y/N
Installed from: ft. to ft.
Effective Size: Uniformity Coefficient

16. Well Grouted?

Neat Cement	Bentonite	Bentonite/Cement	other

Depth: from ft. to 0 ft.

17. Nearest Source of Possible Contamination: ft. direction
Type:
Well disinfected Type: Amount:

18. Pump: Date installed: N/A
Mfr. Name: Model no.:
H.P.: Volts: Length of pipe: ft.
Capacity: gpm
TYPE:

Submersible	Jet (shallow)	Turbine
Jet (deep)	Reciprocating	Centrifugal

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Name: **Enmark 380**
Address: **2725 College Street**
City: **Newberry, SC** Zip: **29108**
Latitude: Longitude:

3. Public System Name: **Public System Number:**

4. Abandonment: (yes/ no) **Yes**
Grouted Depth: from 0.00 to 25.00 ft.

Formation Description	Thickness of Stratum	Depth to Bottom of Stratum

5. Remarks:
GW-11

6. Type:

Mud Rotary	Jetted	Bored
Dug	Air Rotary	Driven
Cable tool	Auger	

7. Permit Number: **06588**

8. Use:

Residential	Public Supply	Process
Irrigation	Air Conditioning	Emergency
Test Well	Monitor Well	Replacement

9. Well Depth (completed)
ft. Date Started:
Date Completed:

10. Casing: Threaded Welded
Diameter:
Type:
in. to ft. depth
in. to ft. depth
Height: Below
Surface: ft. Weight: lb./ft.
Drive Shoe:

11. Screen:
Type: Diameter:
Slot/Gauge: Length:
Set Between: ft. and ft.
ft. and ft.
Sieve Analysis: Y/N

12. Static Water Level: ft. below land surface after 24 hours.

13. Pumping Level below land surface.
ft. after hrs Pumping GPM
Pumping Test:
Yield: gpm

14. Water Quality:
Chemical Analysis: No Bacterial Analysis: No

15. Artificial Filter (filter pack) Y/N
Installed from: ft. to ft.
Effective Size: Uniformity Coefficient

16. Well Grouted?
Neat Cement Bentonite Bentonite/Cement other
Depth: from ft. to 0 ft.

17. Nearest Source of Possible Contamination: ft. direction
Type:
Well disinfected Type: Amount:

18. Pump: Date installed: N/A
Mfr. Name: Model no.:
H.P.: Volts: Length of pipe: ft.
Capacity: gpm
TYPE:
Submersible Jet (shallow) Turbine
Jet (deep) Reciprocating Centrifugal

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City: **Newberry, SC** Zip: **29108**
Latitude: Longitude:

3. Public System Name: **Public System Number:**

4. Abandonment: (yes/ no) **Yes**
Grouted Depth: from 0.00 to 30.00 ft.

Formation Description	Thickness of Stratum	Depth to Bottom of Stratum

5. Remarks:
GW-12

6. Type:

Mud Rotary	Jetted	Bored
Dug	Air Rotary	Driven
Cable tool	Auger	

7. Permit Number: **06588**

8. Use:

Residential	Public Supply	Process
Irrigation	Air Conditioning	Emergency
Test Well	Monitor Well	Replacement

9. Well Depth (completed)
ft. Date Started:
Date Completed:

10. Casing: Threaded Welded
Diameter:
Type:
in. to ft. depth
in. to ft. depth
Height: Below
Surface: ft. Weight: lb./ft.
Drive Shoe:

11. Screen:
Type: Diameter:
Slot/Gauge: Length:
Set Between: ft. and ft.
ft. and ft.
Sieve Analysis: Y/N

12. Static Water Level: ft. below land surface after 24 hours.

13. Pumping Level below land surface.
ft. after hrs Pumping GPM
Pumping Test:
Yield: gpm

14. Water Quality:
Chemical Analysis: No Bacterial Analysis: No

15. Artificial Filter (filter pack) Y/N
Installed from: ft. to ft.
Effective Size: Uniformity Coefficient

16. Well Grouted?
Neat Cement Bentonite Bentonite/Cement other
Depth: from ft. to 0 ft.

17. Nearest Source of Possible Contamination: ft. direction
Type:
Well disinfected Type: Amount:

18. Pump: Date installed: N/A
Mfr. Name: Model no.:
H.P.: Volts: Length of pipe: ft.
Capacity: gpm
TYPE:
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Jet (deep) Reciprocating Centrifugal

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Latitude: Longitude:

3. Public System Name: **Public System Number:**

4. Abandonment: (yes/ no) **Yes**
Grouted Depth: from 0.00 to 30.00 ft.

Formation Description	Thickness of Stratum	Depth to Bottom of Stratum

5. Remarks:
GW-13

6. Type:

Mud Rotary	Jetted	Bored
Dug	Air Rotary	Driven
Cable tool	Auger	

7. Permit Number: **06588**

8. Use:

Residential	Public Supply	Process
Irrigation	Air Conditioning	Emergency
Test Well	Monitor Well	Replacement

9. Well Depth (completed)
ft. Date Started:
Date Completed:

10. Casing: Threaded Welded
Diameter:
Type:
in. to ft. depth
in. to ft. depth
Height: Below
Surface: ft. Weight: lb./ft.
Drive Shoe:

11. Screen:
Type: Diameter:
Slot/Gauge: Length:
Set Between: ft. and ft.
ft. and ft.
Sieve Analysis: Y/N

12. Static Water Level: ft. below land surface after 24 hours.

13. Pumping Level below land surface.
ft. after hrs Pumping GPM
Pumping Test:
Yield: gpm

14. Water Quality:
Chemical Analysis: No Bacterial Analysis: No

15. Artificial Filter (filter pack) Y/N
Installed from: ft. to ft.
Effective Size: Uniformity Coefficient

16. Well Grouted?
Neat Cement Bentonite Bentonite/Cement other
Depth: from ft. to 0 ft.

17. Nearest Source of Possible Contamination: ft. direction
Type:
Well disinfected Type: Amount:

18. Pump: Date installed: N/A
Mfr. Name: Model no.:
H.P.: Volts: Length of pipe: ft.
Capacity: gpm
TYPE:
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Jet (deep) Reciprocating Centrifugal

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Latitude: Longitude:

3. Public System Name: **Public System Number:**

4. Abandonment: (yes/ no) **Yes**
Grouted Depth: from 0.00 to 25.00 ft.

Formation Description	Thickness of Stratum	Depth to Bottom of Stratum

5. Remarks:
GW-14

6. Type:

Mud Rotary	Jetted	Bored
Dug	Air Rotary	Driven
Cable tool	Auger	

7. Permit Number: **06588**

8. Use:

Residential	Public Supply	Process
Irrigation	Air Conditioning	Emergency
Test Well	Monitor Well	Replacement

9. Well Depth (completed)
ft. Date Started:
Date Completed:

10. Casing: Threaded Welded
Diameter:
Type:
in. to ft. depth
in. to ft. depth
Height: Below
Surface: ft. Weight: lb./ft.
Drive Shoe:

11. Screen:
Type: Diameter:
Slot/Gauge: Length:
Set Between: ft. and ft.
ft. and ft.
Sieve Analysis: Y/N

12. Static Water Level: ft. below land surface after 24 hours.

13. Pumping Level below land surface.
ft. after hrs Pumping GPM
Pumping Test:
Yield: gpm

14. Water Quality:
Chemical Analysis: No Bacterial Analysis: No

15. Artificial Filter (filter pack) Y/N
Installed from: ft. to ft.
Effective Size: Uniformity Coefficient

16. Well Grouted?

Neat Cement	Bentonite	Bentonite/Cement	other

Depth: from ft. to 0 ft.

17. Nearest Source of Possible Contamination: ft. direction
Type:
Well disinfected Type: Amount:

18. Pump: Date installed: N/A
Mfr. Name: Model no.:
H.P.: Volts: Length of pipe: ft.
Capacity: gpm
TYPE:

Submersible	Jet (shallow)	Turbine
Jet (deep)	Reciprocating	Centrifugal

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Latitude: Longitude:

3. Public System Name: **Public System Number:**

4. Abandonment: (yes/ no) **Yes**
Grouted Depth: from 0.00 to 25.00 ft.

Formation Description	Thickness of Stratum	Depth to Bottom of Stratum

5. Remarks:
GW-15

6. Type:

Mud Rotary	Jetted	Bored
Dug	Air Rotary	Driven
Cable tool	Auger	

7. Permit Number: **06588**

8. Use:

Residential	Public Supply	Process
Irrigation	Air Conditioning	Emergency
Test Well	Monitor Well	Replacement

9. Well Depth (completed)
ft. Date Started:
Date Completed:

10. Casing: Threaded Welded
Diameter:
Type:
in. to ft. depth
in. to ft. depth
Height: Below
Surface: ft. Weight: lb./ft.
Drive Shoe:

11. Screen:
Type: Diameter:
Slot/Gauge: Length:
Set Between: ft. and ft.
ft. and ft.
Sieve Analysis: Y/N

12. Static Water Level: ft. below land surface after 24 hours.

13. Pumping Level below land surface.
ft. after hrs Pumping GPM
Pumping Test:
Yield: gpm

14. Water Quality:
Chemical Analysis: No Bacterial Analysis: No

15. Artificial Filter (filter pack) Y/N
Installed from: ft. to ft.
Effective Size: Uniformity Coefficient

16. Well Grouted?
Neat Cement Bentonite Bentonite/Cement other
Depth: from ft. to 0 ft.

17. Nearest Source of Possible Contamination: ft. direction
Type:
Well disinfected Type: Amount:

18. Pump: Date installed: N/A
Mfr. Name: Model no.:
H.P.: Volts: Length of pipe: ft.
Capacity: gpm
TYPE:
Submersible Jet (shallow) Turbine
Jet (deep) Reciprocating Centrifugal

19. Well Driller Marshall Burnett **Cert No. 1671**
Address: 6004 Ponders Court **Level C**
Greenville SC 29615
Telephone: 864-527-9324 Fax: 864-288-4430

20. Water Well Driller's Certification: This well was drilled under my direction and this report is true to the best of my knowledge and belief.

Signed: Richard M Burnett

Date: 9/28/2010

If D Level Driller, provide supervising driller's name.

Water Well Record
Bureau of Water
2600 Bull Street, Columbia, SC 29201-1708; (803) 898-4300

1. Well Owner Information:
Name: **Enmark Station, Inc.**
Dolan (last) **Tom** (first)
Address: **Post Office Box 728**
City: **Savannah** State: **GA** zip: **31402**
Phone: Work:
Home:

2. Location of Well: County: **Newberry**
Name: **Enmark 380**
Address: **2725 College Street**
City: **Newberry, SC** Zip: **29108**
Latitude: Longitude:

3. Public System Name: **Public System Number:**

4. Abandonment: (yes/ no) **Yes**
Grouted Depth: from 0.00 to 25.00 ft.

Formation Description	Thickness of Stratum	Depth to Bottom of Stratum

5. Remarks:
GW-16

6. Type:

Mud Rotary	Jetted	Bored
Dug	Air Rotary	Driven
Cable tool	Auger	

7. Permit Number: **06588**

8. Use:

Residential	Public Supply	Process
Irrigation	Air Conditioning	Emergency
Test Well	Monitor Well	Replacement

9. Well Depth (completed)
ft. Date Started:
Date Completed:

10. Casing: Threaded Welded
Diameter:
Type:
in. to ft. depth
in. to ft. depth
Height: Below
Surface: ft. Weight: lb./ft.
Drive Shoe:

11. Screen:
Type: Diameter:
Slot/Gauge: Length:
Set Between: ft. and ft.
ft. and ft.
Sieve Analysis: Y/N

12. Static Water Level: ft. below land surface after 24 hours.

13. Pumping Level below land surface.
ft. after hrs Pumping GPM
Pumping Test:
Yield: gpm

14. Water Quality:
Chemical Analysis: No Bacterial Analysis: No

15. Artificial Filter (filter pack) Y/N
Installed from: ft. to ft.
Effective Size: Uniformity Coefficient

16. Well Grouted?
Neat Cement Bentonite Bentonite/Cement other
Depth: from ft. to 0 ft.

17. Nearest Source of Possible Contamination: ft. direction
Type:
Well disinfected Type: Amount:

18. Pump: Date installed: N/A
Mfr. Name: Model no.:
H.P.: Volts: Length of pipe: ft.
Capacity: gpm
TYPE:
Submersible Jet (shallow) Turbine
Jet (deep) Reciprocating Centrifugal

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Date: 9/28/2010

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Phone: Work:
Home:

2. Location of Well: County: **Newberry**
Name: **Enmark 380**
Address: **2725 College Street**
City: **Newberry, SC** Zip: **29108**
Latitude: Longitude:

3. Public System Name: **Public System Number:**

4. Abandonment: (yes/ no) **Yes**
Grouted Depth: from 0.00 to 25.00 ft.

Formation Description	Thickness of Stratum	Depth to Bottom of Stratum

5. Remarks:
GW-17

6. Type:

Mud Rotary	Jetted	Bored
Dug	Air Rotary	Driven
Cable tool	Auger	

7. Permit Number: **06588**

8. Use:

Residential	Public Supply	Process
Irrigation	Air Conditioning	Emergency
Test Well	Monitor Well	Replacement

9. Well Depth (completed)
ft. Date Started:
Date Completed:

10. Casing: Threaded Welded
Diameter:
Type:
in. to ft. depth
in. to ft. depth
Height: Below
Surface: ft. Weight: lb./ft.
Drive Shoe:

11. Screen:
Type: Diameter:
Slot/Gauge: Length:
Set Between: ft. and ft.
ft. and ft.
Sieve Analysis: Y/N

12. Static Water Level: ft. below land surface after 24 hours.

13. Pumping Level below land surface.
ft. after hrs Pumping GPM
Pumping Test:
Yield: gpm

14. Water Quality:
Chemical Analysis: No Bacterial Analysis: No

15. Artificial Filter (filter pack) Y/N
Installed from: ft. to ft.
Effective Size: Uniformity Coefficient

16. Well Grouted?
Neat Cement Bentonite Bentonite/Cement other
Depth: from ft. to 0 ft.

17. Nearest Source of Possible Contamination: ft. direction
Type:
Well disinfected Type: Amount:

18. Pump: Date installed: N/A
Mfr. Name: Model no.:
H.P.: Volts: Length of pipe: ft.
Capacity: gpm
TYPE:
Submersible Jet (shallow) Turbine
Jet (deep) Reciprocating Centrifugal

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Date: 9/28/2010

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Phone: Work:
Home:

2. Location of Well: County: **Newberry**
Name: **Enmark 380**
Address: **2725 College Street**
City: **Newberry, SC** Zip: **29108**
Latitude: Longitude:

3. Public System Name: **Public System Number:**

4. Abandonment: (yes/ no) **Yes**
Grouted Depth: from 0.00 to 25.00 ft.

Formation Description	Thickness of Stratum	Depth to Bottom of Stratum

5. Remarks:
GW-18

6. Type:

Mud Rotary	Jetted	Bored
Dug	Air Rotary	Driven
Cable tool	Auger	

7. Permit Number: **06588**

8. Use:

Residential	Public Supply	Process
Irrigation	Air Conditioning	Emergency
Test Well	Monitor Well	Replacement

9. Well Depth (completed)
ft. Date Started:
Date Completed:

10. Casing: Threaded Welded
Diameter:
Type:
in. to ft. depth
in. to ft. depth
Height: Below
Surface: ft. Weight: lb./ft.
Drive Shoe:

11. Screen:
Type: Diameter:
Slot/Gauge: Length:
Set Between: ft. and ft.
ft. and ft.
Sieve Analysis: Y/N

12. Static Water Level: ft. below land surface after 24 hours.

13. Pumping Level below land surface.
ft. after hrs Pumping GPM
Pumping Test:
Yield: gpm

14. Water Quality:
Chemical Analysis: No Bacterial Analysis: No

15. Artificial Filter (filter pack) Y/N
Installed from: ft. to ft.
Effective Size: Uniformity Coefficient

16. Well Grouted?
Neat Cement Bentonite Bentonite/Cement other
Depth: from ft. to 0 ft.

17. Nearest Source of Possible Contamination: ft. direction
Type:
Well disinfected Type: Amount:

18. Pump: Date installed: N/A
Mfr. Name: Model no.:
H.P.: Volts: Length of pipe: ft.
Capacity: gpm
TYPE:
Submersible Jet (shallow) Turbine
Jet (deep) Reciprocating Centrifugal

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Name: **Enmark 380**
Address: **2725 College Street**
City: **Newberry, SC** Zip: **29108**
Latitude: Longitude:

3. Public System Name: **Public System Number:**

4. Abandonment: (yes/ no) **Yes**
Grouted Depth: from 0.00 to 25.00 ft.

Formation Description	Thickness of Stratum	Depth to Bottom of Stratum

5. Remarks:
GW-19

6. Type:

Mud Rotary	Jetted	Bored
Dug	Air Rotary	Driven
Cable tool	Auger	

7. Permit Number: **06588**

8. Use:

Residential	Public Supply	Process
Irrigation	Air Conditioning	Emergency
Test Well	Monitor Well	Replacement

9. Well Depth (completed)
ft. Date Started:
Date Completed:

10. Casing: Threaded Welded
Diameter:
Type:
in. to ft. depth
in. to ft. depth
Height: Below
Surface: ft. Weight: lb./ft.
Drive Shoe:

11. Screen:
Type: Diameter:
Slot/Gauge: Length:
Set Between: ft. and ft.
ft. and ft.
Sieve Analysis: Y/N

12. Static Water Level: ft. below land surface after 24 hours.

13. Pumping Level below land surface.
ft. after hrs Pumping GPM
Pumping Test:
Yield: gpm

14. Water Quality:
Chemical Analysis: No Bacterial Analysis: No

15. Artificial Filter (filter pack) Y/N
Installed from: ft. to ft.
Effective Size: Uniformity Coefficient

16. Well Grouted?
Neat Cement Bentonite Bentonite/Cement other
Depth: from ft. to 0 ft.

17. Nearest Source of Possible Contamination: ft. direction
Type:
Well disinfected Type: Amount:

18. Pump: Date installed: N/A
Mfr. Name: Model no.:
H.P.: Volts: Length of pipe: ft.
Capacity: gpm
TYPE:
Submersible Jet (shallow) Turbine
Jet (deep) Reciprocating Centrifugal

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2. Location of Well: County: **Newberry**
Name: **Enmark 380**
Address: **2725 College Street**
City: **Newberry, SC** Zip: **29108**
Latitude: Longitude:

3. Public System Name: **Public System Number:**

4. Abandonment: (yes/ no) **Yes**
Grouted Depth: from 0.00 to 25.00 ft.

Formation Description	Thickness of Stratum	Depth to Bottom of Stratum

5. Remarks:
GW-20

6. Type:

Mud Rotary	Jetted	Bored
Dug	Air Rotary	Driven
Cable tool	Auger	

7. Permit Number: **06588**

8. Use:

Residential	Public Supply	Process
Irrigation	Air Conditioning	Emergency
Test Well	Monitor Well	Replacement

9. Well Depth (completed)
ft. Date Started:
Date Completed:

10. Casing: Threaded Welded
Diameter:
Type:
in. to ft. depth
in. to ft. depth
Height: Below
Surface: ft. Weight: lb./ft.
Drive Shoe:

11. Screen:
Type: Diameter:
Slot/Gauge: Length:
Set Between: ft. and ft.
ft. and ft.
Sieve Analysis: Y/N

12. Static Water Level: ft. below land surface after 24 hours.

13. Pumping Level below land surface.
ft. after hrs Pumping GPM
Pumping Test:
Yield: gpm

14. Water Quality:
Chemical Analysis: No Bacterial Analysis: No

15. Artificial Filter (filter pack) Y/N
Installed from: ft. to ft.
Effective Size: Uniformity Coefficient

16. Well Grouted?
Neat Cement Bentonite Bentonite/Cement other
Depth: from ft. to 0 ft.

17. Nearest Source of Possible Contamination: ft. direction
Type:
Well disinfected Type: Amount:

18. Pump: Date installed: N/A
Mfr. Name: Model no.:
H.P.: Volts: Length of pipe: ft.
Capacity: gpm
TYPE:
Submersible Jet (shallow) Turbine
Jet (deep) Reciprocating Centrifugal

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Home:

2. Location of Well: County: **Newberry**
Name: **Enmark 380**
Address: **2725 College Street**
City: **Newberry, SC** Zip: **29108**
Latitude: Longitude:

3. Public System Name: **Public System Number:**

4. Abandonment: (yes/ no) **Yes**
Grouted Depth: from 0.00 to 25.00 ft.

Formation Description	Thickness of Stratum	Depth to Bottom of Stratum

5. Remarks:
GW-21

6. Type:

Mud Rotary	Jetted	Bored
Dug	Air Rotary	Driven
Cable tool	Auger	

7. Permit Number: **06588**

8. Use:

Residential	Public Supply	Process
Irrigation	Air Conditioning	Emergency
Test Well	Monitor Well	Replacement

9. Well Depth (completed)
ft. Date Started:
Date Completed:

10. Casing: Threaded Welded
Diameter:
Type:
in. to ft. depth
in. to ft. depth
Height: Below
Surface: ft. Weight: lb./ft.
Drive Shoe:

11. Screen:
Type: Diameter:
Slot/Gauge: Length:
Set Between: ft. and ft.
ft. and ft.
Sieve Analysis: Y/N

12. Static Water Level: ft. below land surface after 24 hours.

13. Pumping Level below land surface.
ft. after hrs Pumping GPM
Pumping Test:
Yield: gpm

14. Water Quality:
Chemical Analysis: No Bacterial Analysis: No

15. Artificial Filter (filter pack) Y/N
Installed from: ft. to ft.
Effective Size: Uniformity Coefficient

16. Well Grouted?
Neat Cement Bentonite Bentonite/Cement other
Depth: from ft. to 0 ft.

17. Nearest Source of Possible Contamination: ft. direction
Type:
Well disinfected Type: Amount:

18. Pump: Date installed: N/A
Mfr. Name: Model no.:
H.P.: Volts: Length of pipe: ft.
Capacity: gpm
TYPE:
Submersible Jet (shallow) Turbine
Jet (deep) Reciprocating Centrifugal

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Home:

2. Location of Well: County: **Newberry**
Name: **Enmark 380**
Address: **2725 College Street**
City: **Newberry, SC** Zip: **29108**
Latitude: Longitude:

3. Public System Name: **Public System Number:**

4. Abandonment: (yes/ no) **Yes**
Grouted Depth: from 0.00 to 25.00 ft.

Formation Description	Thickness of Stratum	Depth to Bottom of Stratum

5. Remarks:
GW-22

6. Type:

Mud Rotary	Jetted	Bored
Dug	Air Rotary	Driven
Cable tool	Auger	

7. Permit Number: **06588**

8. Use:

Residential	Public Supply	Process
Irrigation	Air Conditioning	Emergency
Test Well	Monitor Well	Replacement

9. Well Depth (completed)
ft. Date Started:
Date Completed:

10. Casing: Threaded Welded
Diameter:
Type:
in. to ft. depth
in. to ft. depth
Height: Below
Surface: ft. Weight: lb./ft.
Drive Shoe:

11. Screen:
Type: Diameter:
Slot/Gauge: Length:
Set Between: ft. and ft.
ft. and ft.
Sieve Analysis: Y/N

12. Static Water Level: ft. below land surface after 24 hours.

13. Pumping Level below land surface.
ft. after hrs Pumping GPM
Pumping Test:
Yield: gpm

14. Water Quality:
Chemical Analysis: No Bacterial Analysis: No

15. Artificial Filter (filter pack) Y/N
Installed from: ft. to ft.
Effective Size: Uniformity Coefficient

16. Well Grouted?
Neat Cement Bentonite Bentonite/Cement other
Depth: from ft. to 0 ft.

17. Nearest Source of Possible Contamination: ft. direction
Type:
Well disinfected Type: Amount:

18. Pump: Date installed: N/A
Mfr. Name: Model no.:
H.P.: Volts: Length of pipe: ft.
Capacity: gpm
TYPE:
Submersible Jet (shallow) Turbine
Jet (deep) Reciprocating Centrifugal

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Name: **Enmark 380**
Address: **2725 College Street**
City: **Newberry, SC** Zip: **29108**
Latitude: Longitude:

3. Public System Name: **Public System Number:**

4. Abandonment: (yes/ no) **Yes**
Grouted Depth: from 0.00 to 25.00 ft.

Formation Description	Thickness of Stratum	Depth to Bottom of Stratum

5. Remarks:
GW-23

6. Type:

Mud Rotary	Jetted	Bored
Dug	Air Rotary	Driven
Cable tool	Auger	

7. Permit Number: **06588**

8. Use:

Residential	Public Supply	Process
Irrigation	Air Conditioning	Emergency
Test Well	Monitor Well	Replacement

9. Well Depth (completed)
ft. Date Started:
Date Completed:

10. Casing: Threaded Welded
Diameter:
Type:
in. to ft. depth
in. to ft. depth
Height: Below
Surface: ft. Weight: lb./ft.
Drive Shoe:

11. Screen:
Type: Diameter:
Slot/Gauge: Length:
Set Between: ft. and ft.
ft. and ft.
Sieve Analysis: Y/N

12. Static Water Level: ft. below land surface after 24 hours.

13. Pumping Level below land surface.
ft. after hrs Pumping GPM
Pumping Test:
Yield: gpm

14. Water Quality:
Chemical Analysis: No Bacterial Analysis: No

15. Artificial Filter (filter pack) Y/N
Installed from: ft. to ft.
Effective Size: Uniformity Coefficient

16. Well Grouted?
Neat Cement Bentonite Bentonite/Cement other
Depth: from ft. to 0 ft.

17. Nearest Source of Possible Contamination: ft. direction
Type:
Well disinfected Type: Amount:

18. Pump: Date installed: N/A
Mfr. Name: Model no.:
H.P.: Volts: Length of pipe: ft.
Capacity: gpm
TYPE:
Submersible Jet (shallow) Turbine
Jet (deep) Reciprocating Centrifugal

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Name: **Enmark 380**
Address: **2725 College Street**
City: **Newberry, SC** Zip: **29108**
Latitude: Longitude:

3. Public System Name: **Public System Number:**

4. Abandonment: (yes/ no) **Yes**
Grouted Depth: from 0.00 to 25.00 ft.

Formation Description	Thickness of Stratum	Depth to Bottom of Stratum

5. Remarks:
GW-24

6. Type:

Mud Rotary	Jetted	Bored
Dug	Air Rotary	(Driven)
Cable tool	Auger	

7. Permit Number: **06588**

8. Use:

Residential	Public Supply	Process
Irrigation	Air Conditioning	Emergency
Test Well	Monitor Well	Replacement

9. Well Depth (completed)
ft. Date Started:
Date Completed:

10. Casing: Threaded Welded
Diameter:
Type:
in. to ft. depth
in. to ft. depth
Height: Below
Surface: ft. Weight: lb./ft.
Drive Shoe:

11. Screen:
Type: Diameter:
Slot/Gauge: Length:
Set Between: ft. and ft.
ft. and ft.
Sieve Analysis: Y/N

12. Static Water Level: ft. below land surface after 24 hours.

13. Pumping Level below land surface.
ft. after hrs Pumping GPM
Pumping Test:
Yield: gpm

14. Water Quality:
Chemical Analysis: No Bacterial Analysis: No

15. Artificial Filter (filter pack) Y/N
Installed from: ft. to ft.
Effective Size: Uniformity Coefficient

16. Well Grouted?

(Neat Cement)	Bentonite	Bentonite/Cement	other

Depth: from ft. to 0 ft.

17. Nearest Source of Possible Contamination: ft. direction
Type:
Well disinfected Type: Amount:

18. Pump: Date installed: N/A
Mfr. Name: Model no.:
H.P.: Volts: Length of pipe: ft.
Capacity: gpm
TYPE:
Submersible Jet (shallow) Turbine
Jet (deep) Reciprocating Centrifugal

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Name: **Enmark 380**
Address: **2725 College Street**
City: **Newberry, SC** Zip: **29108**
Latitude: Longitude:

3. Public System Name: **Public System Number:**

4. Abandonment: (yes/ no) **Yes**
Grouted Depth: from 0.00 to 25.00 ft.

Formation Description	Thickness of Stratum	Depth to Bottom of Stratum

5. Remarks:
GW-25

6. Type:

Mud Rotary	Jetted	Bored
Dug	Air Rotary	Driven
Cable tool	Auger	

7. Permit Number: **06588**

8. Use:

Residential	Public Supply	Process
Irrigation	Air Conditioning	Emergency
Test Well	Monitor Well	Replacement

9. Well Depth (completed)
ft. Date Started:
Date Completed:

10. Casing: Threaded Welded
Diameter:
Type:
in. to ft. depth
in. to ft. depth
Height: Below
Surface: ft. Weight: lb./ft.
Drive Shoe:

11. Screen:
Type: Diameter:
Slot/Gauge: Length:
Set Between: ft. and ft.
ft. and ft.
Sieve Analysis: Y/N

12. Static Water Level: ft. below land surface after 24 hours.

13. Pumping Level below land surface.
ft. after hrs Pumping GPM
Pumping Test:
Yield: gpm

14. Water Quality:
Chemical Analysis: No Bacterial Analysis: No

15. Artificial Filter (filter pack) Y/N
Installed from: ft. to ft.
Effective Size: Uniformity Coefficient

16. Well Grouted?
Neat Cement Bentonite Bentonite/Cement other
Depth: from ft. to 0 ft.

17. Nearest Source of Possible Contamination: ft. direction
Type:
Well disinfected Type: Amount:

18. Pump: Date installed: N/A
Mfr. Name: Model no.:
H.P.: Volts: Length of pipe: ft.
Capacity: gpm
TYPE:
Submersible Jet (shallow) Turbine
Jet (deep) Reciprocating Centrifugal

19. Well Driller Marshall Burnett **Cert No. 1671**
Address: 6004 Ponders Court **Level C**
Greenville SC 29615
Telephone: 864-527-9324 Fax: 864-288-4430

20. Water Well Driller's Certification: This well was drilled under my direction and this report is true to the best of my knowledge and belief.

Signed: Richard M Burnett

Date: 9/28/2010

If D Level Driller, provide supervising driller's name.

Water Well Record
Bureau of Water
2600 Bull Street, Columbia, SC 29201-1708; (803) 898-4300

1. Well Owner Information:
Name: **Enmark Station, Inc.**
Dolan (last) **Tom** (first)
Address: **Post Office Box 728**
City: **Savannah** State: **GA** zip: **31402**
Phone: Work:
Home:

2. Location of Well: County: **Newberry**
Name: **Enmark 380**
Address: **2725 College Street**
City: **Newberry, SC** Zip: **29108**
Latitude: Longitude:

3. Public System Name: **Public System Number:**

4. Abandonment: (yes/ no) **Yes**
Grouted Depth: from 0.00 to 25.00 ft.

Formation Description	Thickness of Stratum	Depth to Bottom of Stratum

5. Remarks:
GW-26

6. Type:

Mud Rotary	Jetted	Bored
Dug	Air Rotary	Driven
Cable tool	Auger	

7. Permit Number: **06588**

8. Use:

Residential	Public Supply	Process
Irrigation	Air Conditioning	Emergency
Test Well	Monitor Well	Replacement

9. Well Depth (completed)
ft. Date Started:
Date Completed:

10. Casing: Threaded Welded
Diameter:
Type:
in. to ft. depth
in. to ft. depth
Height: Below
Surface: ft. Weight: lb./ft.
Drive Shoe:

11. Screen:
Type: Diameter:
Slot/Gauge: Length:
Set Between: ft. and ft.
ft. and ft.
Sieve Analysis: Y/N

12. Static Water Level: ft. below land surface after 24 hours.

13. Pumping Level below land surface.
ft. after hrs Pumping GPM
Pumping Test:
Yield: gpm

14. Water Quality:
Chemical Analysis: No Bacterial Analysis: No

15. Artificial Filter (filter pack) Y/N
Installed from: ft. to ft.
Effective Size: Uniformity Coefficient

16. Well Grouted?
Neat Cement Bentonite Bentonite/Cement other
Depth: from ft. to 0 ft.

17. Nearest Source of Possible Contamination: ft. direction
Type:
Well disinfected Type: Amount:

18. Pump: Date installed: N/A
Mfr. Name: Model no.:
H.P.: Volts: Length of pipe: ft.
Capacity: gpm
TYPE:
Submersible Jet (shallow) Turbine
Jet (deep) Reciprocating Centrifugal

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Greenville SC 29615
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Date: 9/28/2010

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Phone: Work:
Home:

2. Location of Well: County: **Newberry**
Name: **Enmark 380**
Address: **2725 College Street**
City: **Newberry, SC** Zip: **29108**
Latitude: Longitude:

3. Public System Name: **Public System Number:**

4. Abandonment: (yes/ no) **Yes**
Grouted Depth: from 0.00 to 25.00 ft.

Formation Description	Thickness of Stratum	Depth to Bottom of Stratum

5. Remarks:
GW-27

6. Type:

Mud Rotary	Jetted	Bored
Dug	Air Rotary	Driven
Cable tool	Auger	

7. Permit Number: **06588**

8. Use:

Residential	Public Supply	Process
Irrigation	Air Conditioning	Emergency
Test Well	Monitor Well	Replacement

9. Well Depth (completed)
ft. Date Started:
Date Completed:

10. Casing: Threaded Welded
Diameter:
Type:
in. to ft. depth
in. to ft. depth
Height: Below
Surface: ft. Weight: lb./ft.
Drive Shoe:

11. Screen:
Type: Diameter:
Slot/Gauge: Length:
Set Between: ft. and ft.
ft. and ft.
Sieve Analysis: Y/N

12. Static Water Level: ft. below land surface after 24 hours.

13. Pumping Level below land surface.
ft. after hrs Pumping GPM
Pumping Test:
Yield: gpm

14. Water Quality:
Chemical Analysis: No Bacterial Analysis: No

15. Artificial Filter (filter pack) Y/N
Installed from: ft. to ft.
Effective Size: Uniformity Coefficient

16. Well Grouted?
Neat Cement Bentonite Bentonite/Cement other
Depth: from ft. to 0 ft.

17. Nearest Source of Possible Contamination: ft. direction
Type:
Well disinfected Type: Amount:

18. Pump: Date installed: N/A
Mfr. Name: Model no.:
H.P.: Volts: Length of pipe: ft.
Capacity: gpm
TYPE:
Submersible Jet (shallow) Turbine
Jet (deep) Reciprocating Centrifugal

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Signed: Richard M Burnett

Date: 9/28/2010

If D Level Driller, provide supervising driller's name.

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Phone: Work:
Home:

2. Location of Well: County: **Newberry**
Name: **Enmark 380**
Address: **2725 College Street**
City: **Newberry, SC** Zip: **29108**
Latitude: Longitude:

3. Public System Name: **Public System Number:**

4. Abandonment: (yes/ no) **Yes**
Grouted Depth: from 0.00 to 25.00 ft.

Formation Description	Thickness of Stratum	Depth to Bottom of Stratum

5. Remarks:
GW-28

6. Type:

Mud Rotary	Jetted	Bored
Dug	Air Rotary	Driven
Cable tool	Auger	

7. Permit Number: **06588**

8. Use:

Residential	Public Supply	Process
Irrigation	Air Conditioning	Emergency
Test Well	Monitor Well	Replacement

9. Well Depth (completed)
ft. Date Started:
Date Completed:

10. Casing: Threaded Welded
Diameter:
Type:
in. to ft. depth
in. to ft. depth
Height: Below
Surface: ft. Weight: lb./ft.
Drive Shoe:

11. Screen:
Type: Diameter:
Slot/Gauge: Length:
Set Between: ft. and ft.
ft. and ft.
Sieve Analysis: Y/N

12. Static Water Level: ft. below land surface after 24 hours.

13. Pumping Level below land surface.
ft. after hrs Pumping GPM
Pumping Test:
Yield: gpm

14. Water Quality:
Chemical Analysis: No Bacterial Analysis: No

15. Artificial Filter (filter pack) Y/N
Installed from: ft. to ft.
Effective Size: Uniformity Coefficient

16. Well Grouted?

Neat Cement	Bentonite	Bentonite/Cement	other

Depth: from ft. to 0 ft.

17. Nearest Source of Possible Contamination: ft. direction
Type:
Well disinfected Type: Amount:

18. Pump: Date installed: N/A
Mfr. Name: Model no.:
H.P.: Volts: Length of pipe: ft.
Capacity: gpm
TYPE:
Submersible Jet (shallow) Turbine
Jet (deep) Reciprocating Centrifugal

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2. Location of Well: County: **Newberry**
Name: **Enmark 380**
Address: **2725 College Street**
City: **Newberry, SC** Zip: **29108**
Latitude: Longitude:

3. Public System Name: **Public System Number:**

4. Abandonment: (yes/ no) **Yes**
Grouted Depth: from 0.00 to 25.00 ft.

Formation Description	Thickness of Stratum	Depth to Bottom of Stratum

5. Remarks:
GW-29

6. Type:

Mud Rotary	Jetted	Bored
Dug	Air Rotary	Driven
Cable tool	Auger	

7. Permit Number: **06588**

8. Use:

Residential	Public Supply	Process
Irrigation	Air Conditioning	Emergency
Test Well	Monitor Well	Replacement

9. Well Depth (completed)
ft. Date Started:
Date Completed:

10. Casing: Threaded Welded
Diameter:
Type:
in. to ft. depth
in. to ft. depth
Height: Below
Surface: ft. Weight: lb./ft.
Drive Shoe:

11. Screen:
Type: Diameter:
Slot/Gauge: Length:
Set Between: ft. and ft.
ft. and ft.
Sieve Analysis: Y/N

12. Static Water Level: ft. below land surface after 24 hours.

13. Pumping Level below land surface.
ft. after hrs Pumping GPM
Pumping Test:
Yield: gpm

14. Water Quality:
Chemical Analysis: No Bacterial Analysis: No

15. Artificial Filter (filter pack) Y/N
Installed from: ft. to ft.
Effective Size: Uniformity Coefficient

16. Well Grouted?
Neat Cement Bentonite Bentonite/Cement other
Depth: from ft. to 0 ft.

17. Nearest Source of Possible Contamination: ft. direction
Type:
Well disinfected Type: Amount:

18. Pump: Date installed: N/A
Mfr. Name: Model no.:
H.P.: Volts: Length of pipe: ft.
Capacity: gpm
TYPE:
Submersible Jet (shallow) Turbine
Jet (deep) Reciprocating Centrifugal

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Signed: Richard M Burnett

Date: 9/28/2010

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Phone: Work:
Home:

2. Location of Well: County: **Newberry**
Name: **Enmark 380**
Address: **2725 College Street**
City: **Newberry, SC** Zip: **29108**
Latitude: Longitude:

3. Public System Name: **Public System Number:**

4. Abandonment: (yes/ no) **Yes**
Grouted Depth: from 0.00 to 25.00 ft.

Formation Description	Thickness of Stratum	Depth to Bottom of Stratum

5. Remarks:
GW-30

6. Type:

Mud Rotary	Jetted	Bored
Dug	Air Rotary	Driven
Cable tool	Auger	

7. Permit Number: **06588**

8. Use:

Residential	Public Supply	Process
Irrigation	Air Conditioning	Emergency
Test Well	Monitor Well	Replacement

9. Well Depth (completed)
ft. Date Started:
Date Completed:

10. Casing: Threaded Welded
Diameter:
Type:
in. to ft. depth
in. to ft. depth
Height: Below
Surface: ft. Weight: lb./ft.
Drive Shoe:

11. Screen:
Type: Diameter:
Slot/Gauge: Length:
Set Between: ft. and ft.
ft. and ft.
Sieve Analysis: Y/N

12. Static Water Level: ft. below land surface after 24 hours.

13. Pumping Level below land surface.
ft. after hrs Pumping GPM
Pumping Test:
Yield: gpm

14. Water Quality:
Chemical Analysis: No Bacterial Analysis: No

15. Artificial Filter (filter pack) Y/N
Installed from: ft. to ft.
Effective Size: Uniformity Coefficient

16. Well Grouted?
Neat Cement Bentonite Bentonite/Cement other
Depth: from ft. to 0 ft.

17. Nearest Source of Possible Contamination: ft. direction
Type:
Well disinfected Type: Amount:

18. Pump: Date installed: N/A
Mfr. Name: Model no.:
H.P.: Volts: Length of pipe: ft.
Capacity: gpm
TYPE:
Submersible Jet (shallow) Turbine
Jet (deep) Reciprocating Centrifugal

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Date: 9/28/2010

If D Level Driller, provide supervising driller's name.

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Phone: Work:
Home:

2. Location of Well: County: **Newberry**
Name: **Enmark 380**
Address: **2725 College Street**
City: **Newberry, SC** Zip: **29108**
Latitude: Longitude:

3. Public System Name: **Public System Number:**

4. Abandonment: (yes/ no) **Yes**
Grouted Depth: from 0.00 to 25.00 ft.

Formation Description	Thickness of Stratum	Depth to Bottom of Stratum

5. Remarks:
GW-31

6. Type:

Mud Rotary	Jetted	Bored
Dug	Air Rotary	Driven
Cable tool	Auger	

7. Permit Number: **06588**

8. Use:

Residential	Public Supply	Process
Irrigation	Air Conditioning	Emergency
Test Well	Monitor Well	Replacement

9. Well Depth (completed)
ft. Date Started:
Date Completed:

10. Casing: Threaded Welded
Diameter:
Type:
in. to ft. depth
in. to ft. depth
Height: Below
Surface: ft. Weight: lb./ft.
Drive Shoe:

11. Screen:
Type: Diameter:
Slot/Gauge: Length:
Set Between: ft. and ft.
ft. and ft.
Sieve Analysis: Y/N

12. Static Water Level: ft. below land surface after 24 hours.

13. Pumping Level below land surface.
ft. after hrs Pumping GPM
Pumping Test:
Yield: gpm

14. Water Quality:
Chemical Analysis: No Bacterial Analysis: No

15. Artificial Filter (filter pack) Y/N
Installed from: ft. to ft.
Effective Size: Uniformity Coefficient

16. Well Grouted?
Neat Cement Bentonite Bentonite/Cement other
Depth: from ft. to 0 ft.

17. Nearest Source of Possible Contamination: ft. direction
Type:
Well disinfected Type: Amount:

18. Pump: Date installed: N/A
Mfr. Name: Model no.:
H.P.: Volts: Length of pipe: ft.
Capacity: gpm
TYPE:
Submersible Jet (shallow) Turbine
Jet (deep) Reciprocating Centrifugal

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Name: **Enmark 380**
Address: **2725 College Street**
City: **Newberry, SC** Zip: **29108**
Latitude: Longitude:

3. Public System Name: **Public System Number:**

4. Abandonment: (yes/ no) **Yes**
Grouted Depth: from 0.00 to 25.00 ft.

Formation Description	Thickness of Stratum	Depth to Bottom of Stratum

5. Remarks:
GW-32

6. Type:

Mud Rotary	Jetted	Bored
Dug	Air Rotary	Driven
Cable tool	Auger	

7. Permit Number: **06588**

8. Use:

Residential	Public Supply	Process
Irrigation	Air Conditioning	Emergency
Test Well	Monitor Well	Replacement

9. Well Depth (completed)
ft. Date Started:
Date Completed:

10. Casing: Threaded Welded
Diameter:
Type:
in. to ft. depth
in. to ft. depth
Height: Below
Surface: ft. Weight: lb./ft.
Drive Shoe:

11. Screen:
Type: Diameter:
Slot/Gauge: Length:
Set Between: ft. and ft.
ft. and ft.
Sieve Analysis: Y/N

12. Static Water Level: ft. below land surface after 24 hours.

13. Pumping Level below land surface.
ft. after hrs Pumping GPM
Pumping Test:
Yield: gpm

14. Water Quality:
Chemical Analysis: No Bacterial Analysis: No

15. Artificial Filter (filter pack) Y/N
Installed from: ft. to ft.
Effective Size: Uniformity Coefficient

16. Well Grouted?
Neat Cement Bentonite Bentonite/Cement other
Depth: from ft. to 0 ft.

17. Nearest Source of Possible Contamination: ft. direction
Type:
Well disinfected Type: Amount:

18. Pump: Date installed: N/A
Mfr. Name: Model no.:
H.P.: Volts: Length of pipe: ft.
Capacity: gpm
TYPE:
Submersible Jet (shallow) Turbine
Jet (deep) Reciprocating Centrifugal

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Name: **Enmark 380**
Address: **2725 College Street**
City: **Newberry, SC** Zip: **29108**
Latitude: Longitude:

3. Public System Name: **Public System Number:**

4. Abandonment: (yes/ no) **Yes**
Grouted Depth: from 0.00 to 25.00 ft.

Formation Description	Thickness of Stratum	Depth to Bottom of Stratum

5. Remarks:
GW-33

6. Type:

Mud Rotary	Jetted	Bored
Dug	Air Rotary	Driven
Cable tool	Auger	

7. Permit Number: **06588**

8. Use:

Residential	Public Supply	Process
Irrigation	Air Conditioning	Emergency
Test Well	Monitor Well	Replacement

9. Well Depth (completed)
ft. Date Started:
Date Completed:

10. Casing: Threaded Welded
Diameter:
Type:
in. to ft. depth
in. to ft. depth
Height: Below
Surface: ft. Weight: lb./ft.
Drive Shoe:

11. Screen:
Type: Diameter:
Slot/Gauge: Length:
Set Between: ft. and ft.
ft. and ft.
Sieve Analysis: Y/N

12. Static Water Level: ft. below land surface after 24 hours.

13. Pumping Level below land surface.
ft. after hrs Pumping GPM
Pumping Test:
Yield: gpm

14. Water Quality:
Chemical Analysis: No Bacterial Analysis: No

15. Artificial Filter (filter pack) Y/N
Installed from: ft. to ft.
Effective Size: Uniformity Coefficient

16. Well Grouted?
Neat Cement Bentonite Bentonite/Cement other
Depth: from ft. to 0 ft.

17. Nearest Source of Possible Contamination: ft. direction
Type:
Well disinfected Type: Amount:

18. Pump: Date installed: N/A
Mfr. Name: Model no.:
H.P.: Volts: Length of pipe: ft.
Capacity: gpm
TYPE:
Submersible Jet (shallow) Turbine
Jet (deep) Reciprocating Centrifugal

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Phone: Work:
Home:

2. Location of Well: County: **Newberry**
Name: **Enmark 380**
Address: **2725 College Street**
City: **Newberry, SC** Zip: **29108**
Latitude: Longitude:

3. Public System Name: **Public System Number:**

4. Abandonment: (yes/ no) **Yes**
Grouted Depth: from 0.00 to 25.00 ft.

Formation Description	Thickness of Stratum	Depth to Bottom of Stratum

5. Remarks:
GW-34

6. Type:

Mud Rotary	Jetted	Bored
Dug	Air Rotary	Driven
Cable tool	Auger	

7. Permit Number: **06588**

8. Use:

Residential	Public Supply	Process
Irrigation	Air Conditioning	Emergency
Test Well	Monitor Well	Replacement

9. Well Depth (completed)
ft. Date Started:
Date Completed:

10. Casing: Threaded Welded
Diameter:
Type:
in. to ft. depth
in. to ft. depth
Height: Below
Surface: ft. Weight: lb./ft.
Drive Shoe:

11. Screen:
Type: Diameter:
Slot/Gauge: Length:
Set Between: ft. and ft.
ft. and ft.
Sieve Analysis: Y/N

12. Static Water Level: ft. below land surface after 24 hours.

13. Pumping Level below land surface.
ft. after hrs Pumping GPM
Pumping Test:
Yield: gpm

14. Water Quality:
Chemical Analysis: No Bacterial Analysis: No

15. Artificial Filter (filter pack) Y/N
Installed from: ft. to ft.
Effective Size: Uniformity Coefficient

16. Well Grouted?
Neat Cement Bentonite Bentonite/Cement other
Depth: from ft. to 0 ft.

17. Nearest Source of Possible Contamination: ft. direction
Type:
Well disinfected Type: Amount:

18. Pump: Date installed: N/A
Mfr. Name: Model no.:
H.P.: Volts: Length of pipe: ft.
Capacity: gpm
TYPE:
Submersible Jet (shallow) Turbine
Jet (deep) Reciprocating Centrifugal

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Home:

2. Location of Well: County: **Newberry**
Name: **Enmark 380**
Address: **2725 College Street**
City: **Newberry, SC** Zip: **29108**
Latitude: Longitude:

3. Public System Name: **Public System Number:**

4. Abandonment: (yes/ no) **Yes**
Grouted Depth: from 0.00 to 25.00 ft.

Formation Description	Thickness of Stratum	Depth to Bottom of Stratum

5. Remarks:
GW-35

6. Type:

Mud Rotary	Jetted	Bored
Dug	Air Rotary	Driven
Cable tool	Auger	

7. Permit Number: **06588**

8. Use:

Residential	Public Supply	Process
Irrigation	Air Conditioning	Emergency
Test Well	Monitor Well	Replacement

9. Well Depth (completed)
ft. Date Started:
Date Completed:

10. Casing: Threaded Welded
Diameter:
Type:
in. to ft. depth
in. to ft. depth
Height: Below
Surface: ft. Weight: lb./ft.
Drive Shoe:

11. Screen:
Type: Diameter:
Slot/Gauge: Length:
Set Between: ft. and ft.
ft. and ft.
Sieve Analysis: Y/N

12. Static Water Level: ft. below land surface after 24 hours.

13. Pumping Level below land surface.
ft. after hrs Pumping GPM
Pumping Test:
Yield: gpm

14. Water Quality:
Chemical Analysis: No Bacterial Analysis: No

15. Artificial Filter (filter pack) Y/N
Installed from: ft. to ft.
Effective Size: Uniformity Coefficient

16. Well Grouted?
Neat Cement Bentonite Bentonite/Cement other
Depth: from ft. to 0 ft.

17. Nearest Source of Possible Contamination: ft. direction
Type:
Well disinfected Type: Amount:

18. Pump: Date installed: N/A
Mfr. Name: Model no.:
H.P.: Volts: Length of pipe: ft.
Capacity: gpm
TYPE:
Submersible Jet (shallow) Turbine
Jet (deep) Reciprocating Centrifugal

19. Well Driller Marshall Burnett **Cert No. 1671**
Address: 6004 Ponders Court **Level C**
Greenville SC 29615
Telephone: 864-527-9324 Fax: 864-288-4430

20. Water Well Driller's Certification: This well was drilled under my direction and this report is true to the best of my knowledge and belief.

Signed: Richard M Burnett

Date: 9/28/2010

If D Level Driller, provide supervising driller's name.

Water Well Record
Bureau of Water
2600 Bull Street, Columbia, SC 29201-1708; (803) 898-4300

1. Well Owner Information:
Name: **Enmark Station, Inc.**
Dolan (last) **Tom** (first)
Address: **Post Office Box 728**
City: **Savannah** State: **GA** zip: **31402**
Phone: Work:
Home:

2. Location of Well: County: **Newberry**
Name: **Enmark 380**
Address: **2725 College Street**
City: **Newberry, SC** Zip: **29108**
Latitude: Longitude:

3. Public System Name: **Public System Number:**

4. Abandonment: (yes/ no) **Yes**
Grouted Depth: from 0.00 to 25.00 ft.

Formation Description	Thickness of Stratum	Depth to Bottom of Stratum

5. Remarks:
GW-36

6. Type:

Mud Rotary	Jetted	Bored
Dug	Air Rotary	Driven
Cable tool	Auger	

7. Permit Number: **06588**

8. Use:

Residential	Public Supply	Process
Irrigation	Air Conditioning	Emergency
Test Well	Monitor Well	Replacement

9. Well Depth (completed)
ft. Date Started:
Date Completed:

10. Casing: Threaded Welded
Diameter:
Type:
in. to ft. depth
in. to ft. depth
Height: Below
Surface: ft. Weight: lb./ft.
Drive Shoe:

11. Screen:
Type: Diameter:
Slot/Gauge: Length:
Set Between: ft. and ft.
ft. and ft.
Sieve Analysis: Y/N

12. Static Water Level: ft. below land surface after 24 hours.

13. Pumping Level below land surface.
ft. after hrs Pumping GPM
Pumping Test:
Yield: gpm

14. Water Quality:
Chemical Analysis: No Bacterial Analysis: No

15. Artificial Filter (filter pack) Y/N
Installed from: ft. to ft.
Effective Size: Uniformity Coefficient

16. Well Grouted?
Neat Cement Bentonite Bentonite/Cement other
Depth: from ft. to 0 ft.

17. Nearest Source of Possible Contamination: ft. direction
Type:
Well disinfected Type: Amount:

18. Pump: Date installed: N/A
Mfr. Name: Model no.:
H.P.: Volts: Length of pipe: ft.
Capacity: gpm
TYPE:
Submersible Jet (shallow) Turbine
Jet (deep) Reciprocating Centrifugal

19. Well Driller Marshall Burnett **Cert No. 1671**
Address: 6004 Ponders Court **Level C**
Greenville SC 29615
Telephone: 864-527-9324 Fax: 864-288-4430

20. Water Well Driller's Certification: This well was drilled under my direction and this report is true to the best of my knowledge and belief.

Signed: Roland M Burnett

Date: 9/28/2010

If D Level Driller, provide supervising driller's name.

Water Well Record
Bureau of Water
2600 Bull Street, Columbia, SC 29201-1708; (803) 898-4300

1. Well Owner Information:
Name: **Enmark Station, Inc.**
Dolan (last) **Tom** (first)
Address: **Post Office Box 728**
City: **Savannah** State: **GA** zip: **31402**
Phone: Work:
Home:

2. Location of Well: County: **Newberry**
Name: **Enmark 380**
Address: **2725 College Street**
City: **Newberry, SC** Zip: **29108**
Latitude: Longitude:

3. Public System Name: **Public System Number:**

4. Abandonment: (yes/ no) **Yes**
Grouted Depth: from 0.00 to 25.00 ft.

Formation Description	Thickness of Stratum	Depth to Bottom of Stratum

5. Remarks:
GW-37

6. Type:

Mud Rotary	Jetted	Bored
Dug	Air Rotary	Driven
Cable tool	Auger	

7. Permit Number: **06588**

8. Use:

Residential	Public Supply	Process
Irrigation	Air Conditioning	Emergency
Test Well	Monitor Well	Replacement

9. Well Depth (completed)
ft. Date Started:
Date Completed:

10. Casing: Threaded Welded
Diameter:
Type:
in. to ft. depth
in. to ft. depth
Height: Below
Surface: ft. Weight: lb./ft.
Drive Shoe:

11. Screen:
Type: Diameter:
Slot/Gauge: Length:
Set Between: ft. and ft.
ft. and ft.
Sieve Analysis: Y/N

12. Static Water Level: ft. below land surface after 24 hours.

13. Pumping Level below land surface.
ft. after hrs Pumping GPM
Pumping Test:
Yield: gpm

14. Water Quality:
Chemical Analysis: No Bacterial Analysis: No

15. Artificial Filter (filter pack) Y/N
Installed from: ft. to ft.
Effective Size: Uniformity Coefficient

16. Well Grouted?
Neat Cement Bentonite Bentonite/Cement other
Depth: from ft. to 0 ft.

17. Nearest Source of Possible Contamination: ft. direction
Type:
Well disinfected Type: Amount:

18. Pump: Date installed: N/A
Mfr. Name: Model no.:
H.P.: Volts: Length of pipe: ft.
Capacity: gpm
TYPE:
Submersible Jet (shallow) Turbine
Jet (deep) Reciprocating Centrifugal

19. Well Driller Marshall Burnett **Cert No. 1671**
Address: 6004 Ponders Court **Level C**
Greenville SC 29615
Telephone: 864-527-9324 Fax: 864-288-4430

20. Water Well Driller's Certification: This well was drilled under my direction and this report is true to the best of my knowledge and belief.

Signed: Richard M Burnett

Date: 9/28/2010

If D Level Driller, provide supervising driller's name.

Water Well Record
Bureau of Water
2600 Bull Street, Columbia, SC 29201-1708; (803) 898-4300

1. Well Owner Information:
Name: **Enmark Station, Inc.**
Dolan (last) **Tom** (first)
Address: **Post Office Box 728**
City: **Savannah** State: **GA** zip: **31402**
Phone: Work:
Home:

2. Location of Well: County: **Newberry**
Name: **Enmark 380**
Address: **2725 College Street**
City: **Newberry, SC** Zip: **29108**
Latitude: Longitude:

3. Public System Name: **Public System Number:**

4. Abandonment: (yes/ no) **Yes**
Grouted Depth: from 0.00 to 25.00 ft.

Formation Description	Thickness of Stratum	Depth to Bottom of Stratum

5. Remarks:
GW-38

6. Type:

Mud Rotary	Jetted	Bored
Dug	Air Rotary	Driven
Cable tool	Auger	

7. Permit Number: **06588**

8. Use:

Residential	Public Supply	Process
Irrigation	Air Conditioning	Emergency
Test Well	Monitor Well	Replacement

9. Well Depth (completed)
ft. Date Started:
Date Completed:

10. Casing: Threaded Welded
Diameter:
Type:
in. to ft. depth
in. to ft. depth
Height: Below
Surface: ft. Weight: lb./ft.
Drive Shoe:

11. Screen:
Type: Diameter:
Slot/Gauge: Length:
Set Between: ft. and ft.
ft. and ft.
Sieve Analysis: Y/N

12. Static Water Level: ft. below land surface after 24 hours.

13. Pumping Level below land surface.
ft. after hrs Pumping GPM
Pumping Test:
Yield: gpm

14. Water Quality:
Chemical Analysis: No Bacterial Analysis: No

15. Artificial Filter (filter pack) Y/N
Installed from: ft. to ft.
Effective Size: Uniformity Coefficient

16. Well Grouted?
Neat Cement Bentonite Bentonite/Cement other
Depth: from ft. to 0 ft.

17. Nearest Source of Possible Contamination: ft. direction
Type:
Well disinfected Type: Amount:

18. Pump: Date installed: N/A
Mfr. Name: Model no.:
H.P.: Volts: Length of pipe: ft.
Capacity: gpm
TYPE:
Submersible Jet (shallow) Turbine
Jet (deep) Reciprocating Centrifugal

19. Well Driller Marshall Burnett **Cert No. 1671**
Address: 6004 Ponders Court **Level C**
Greenville SC 29615
Telephone: 864-527-9324 Fax: 864-288-4430

20. Water Well Driller's Certification: This well was drilled under my direction and this report is true to the best of my knowledge and belief.

Signed: Richard M Burnett

Date: 9/28/2010

If D Level Driller, provide supervising driller's name.

Water Well Record
Bureau of Water
2600 Bull Street, Columbia, SC 29201-1708; (803) 898-4300

1. Well Owner Information:
Name: **Enmark Station, Inc.**
Dolan (last) **Tom** (first)
Address: **Post Office Box 728**
City: **Savannah** State: **GA** zip: **31402**
Phone: Work:
Home:

2. Location of Well: County: **Newberry**
Name: **Enmark 380**
Address: **2725 College Street**
City: **Newberry, SC** Zip: **29108**
Latitude: Longitude:

3. Public System Name: **Public System Number:**

4. Abandonment: (yes/ no) **Yes**
Grouted Depth: from 0.00 to 25.00 ft.

Formation Description	Thickness of Stratum	Depth to Bottom of Stratum

5. Remarks:
GW-39

6. Type:

Mud Rotary	Jetted	Bored
Dug	Air Rotary	Driven
Cable tool	Auger	

7. Permit Number: **06588**

8. Use:

Residential	Public Supply	Process
Irrigation	Air Conditioning	Emergency
Test Well	Monitor Well	Replacement

9. Well Depth (completed)
ft. Date Started:
Date Completed:

10. Casing: Threaded Welded
Diameter:
Type:
in. to ft. depth
in. to ft. depth
Height: Below
Surface: ft. Weight: lb./ft.
Drive Shoe:

11. Screen:
Type: Diameter:
Slot/Gauge: Length:
Set Between: ft. and ft.
ft. and ft.
Sieve Analysis: Y/N

12. Static Water Level: ft. below land surface after 24 hours.

13. Pumping Level below land surface.
ft. after hrs Pumping GPM
Pumping Test:
Yield: gpm

14. Water Quality:
Chemical Analysis: No Bacterial Analysis: No

15. Artificial Filter (filter pack) Y/N
Installed from: ft. to ft.
Effective Size: Uniformity Coefficient

16. Well Grouted?
Neat Cement Bentonite Bentonite/Cement other
Depth: from ft. to 0 ft.

17. Nearest Source of Possible Contamination: ft. direction
Type:
Well disinfected Type: Amount:

18. Pump: Date installed: N/A
Mfr. Name: Model no.:
H.P.: Volts: Length of pipe: ft.
Capacity: gpm
TYPE:
Submersible Jet (shallow) Turbine
Jet (deep) Reciprocating Centrifugal

19. Well Driller Marshall Burnett **Cert No. 1671**
Address: 6004 Ponders Court **Level C**
Greenville SC 29615
Telephone: 864-527-9324 Fax: 864-288-4430

20. Water Well Driller's Certification: This well was drilled under my direction and this report is true to the best of my knowledge and belief.

Signed: Richard M Burnett

Date: 9/28/2010

If D Level Driller, provide supervising driller's name.

Water Well Record
Bureau of Water
2600 Bull Street, Columbia, SC 29201-1708; (803) 898-4300

1. Well Owner Information:
Name: **Enmark Station, Inc.**
Dolan (last) **Tom** (first)
Address: **Post Office Box 728**
City: **Savannah** State: **GA** zip: **31402**
Phone: Work:
Home:

2. Location of Well: County: **Newberry**
Name: **Enmark 380**
Address: **2725 College Street**
City: **Newberry, SC** Zip: **29108**
Latitude: Longitude:

3. Public System Name: **Public System Number:**

4. Abandonment: (yes/ no) **Yes**
Grouted Depth: from 0.00 to 25.00 ft.

Formation Description	Thickness of Stratum	Depth to Bottom of Stratum

5. Remarks:
GW-40

6. Type:

Mud Rotary	Jetted	Bored
Dug	Air Rotary	Driven
Cable tool	Auger	

7. Permit Number: **06588**

8. Use:

Residential	Public Supply	Process
Irrigation	Air Conditioning	Emergency
Test Well	Monitor Well	Replacement

9. Well Depth (completed)
ft. Date Started:
Date Completed:

10. Casing: Threaded Welded
Diameter:
Type:
in. to ft. depth
in. to ft. depth
Height: Below
Surface: ft. Weight: lb./ft.
Drive Shoe:

11. Screen:
Type: Diameter:
Slot/Gauge: Length:
Set Between: ft. and ft.
ft. and ft.
Sieve Analysis: Y/N

12. Static Water Level: ft. below land surface after 24 hours.

13. Pumping Level below land surface.
ft. after hrs Pumping GPM
Pumping Test:
Yield: gpm

14. Water Quality:
Chemical Analysis: No Bacterial Analysis: No

15. Artificial Filter (filter pack) Y/N
Installed from: ft. to ft.
Effective Size: Uniformity Coefficient

16. Well Grouted?
Neat Cement Bentonite Bentonite/Cement other
Depth: from ft. to 0 ft.

17. Nearest Source of Possible Contamination: ft. direction
Type:
Well disinfected Type: Amount:

18. Pump: Date installed: N/A
Mfr. Name: Model no.:
H.P.: Volts: Length of pipe: ft.
Capacity: gpm
TYPE:
Submersible Jet (shallow) Turbine
Jet (deep) Reciprocating Centrifugal

19. Well Driller Marshall Burnett **Cert No. 1671**
Address: 6004 Ponders Court **Level C**
Greenville SC 29615
Telephone: 864-527-9324 Fax: 864-288-4430

20. Water Well Driller's Certification: This well was drilled under my direction and this report is true to the best of my knowledge and belief.

Signed: Roland M Burnett

Date: 9/28/2010

If D Level Driller, provide supervising driller's name.

Water Well Record
Bureau of Water
2600 Bull Street, Columbia, SC 29201-1708; (803) 898-4300

1. Well Owner Information:
Name: **Enmark Station, Inc.**
Dolan (last) **Tom** (first)
Address: **Post Office Box 728**
City: **Savannah** State: **GA** zip: **31402**
Phone: Work:
Home:

2. Location of Well: County: **Newberry**
Name: **Enmark 380**
Address: **2725 College Street**
City: **Newberry, SC** Zip: **29108**
Latitude: Longitude:

3. Public System Name: **Public System Number:**

4. Abandonment: (yes/ no) **Yes**
Grouted Depth: from 0.00 to 25.00 ft.

Formation Description	Thickness of Stratum	Depth to Bottom of Stratum

5. Remarks:
GW-41

6. Type:

Mud Rotary	Jetted	Bored
Dug	Air Rotary	Driven
Cable tool	Auger	

7. Permit Number: **06588**

8. Use:

Residential	Public Supply	Process
Irrigation	Air Conditioning	Emergency
Test Well	Monitor Well	Replacement

9. Well Depth (completed)
ft. Date Started:
Date Completed:

10. Casing: Threaded Welded
Diameter:
Type:
in. to ft. depth
in. to ft. depth
Height: Below
Surface: ft. Weight: lb./ft.
Drive Shoe:

11. Screen:
Type: Diameter:
Slot/Gauge: Length:
Set Between: ft. and ft.
ft. and ft.
Sieve Analysis: Y/N

12. Static Water Level: ft. below land surface after 24 hours.

13. Pumping Level below land surface.
ft. after hrs Pumping GPM
Pumping Test:
Yield: gpm

14. Water Quality:
Chemical Analysis: No Bacterial Analysis: No

15. Artificial Filter (filter pack) Y/N
Installed from: ft. to ft.
Effective Size: Uniformity Coefficient

16. Well Grouted?
Neat Cement Bentonite Bentonite/Cement other
Depth: from ft. to 0 ft.

17. Nearest Source of Possible Contamination: ft. direction
Type:
Well disinfected Type: Amount:

18. Pump: Date installed: N/A
Mfr. Name: Model no.:
H.P.: Volts: Length of pipe: ft.
Capacity: gpm
TYPE:
Submersible Jet (shallow) Turbine
Jet (deep) Reciprocating Centrifugal

19. Well Driller Marshall Burnett **Cert No. 1671**
Address: 6004 Ponders Court **Level C**
Greenville SC 29615
Telephone: 864-527-9324 Fax: 864-288-4430

20. Water Well Driller's Certification: This well was drilled under my direction and this report is true to the best of my knowledge and belief.

Signed: Richard M Burnett

Date: 9/28/2010

If D Level Driller, provide supervising driller's name.

Water Well Record
Bureau of Water
2600 Bull Street, Columbia, SC 29201-1708; (803) 898-4300

1. Well Owner Information:
Name: **Enmark Station, Inc.**
Dolan (last) **Tom** (first)
Address: **Post Office Box 728**
City: **Savannah** State: **GA** zip: **31402**
Phone: Work:
Home:

2. Location of Well: County: **Newberry**
Name: **Enmark 380**
Address: **2725 College Street**
City: **Newberry, SC** Zip: **29108**
Latitude: Longitude:

3. Public System Name: **Public System Number:**

4. Abandonment: (yes/ no) **Yes**
Grouted Depth: from 0.00 to 25.00 ft.

Formation Description	Thickness of Stratum	Depth to Bottom of Stratum

5. Remarks:
GW-42

6. Type:

Mud Rotary	Jetted	Bored
Dug	Air Rotary	Driven
Cable tool	Auger	

7. Permit Number: **06588**

8. Use:

Residential	Public Supply	Process
Irrigation	Air Conditioning	Emergency
Test Well	Monitor Well	Replacement

9. Well Depth (completed)
ft. Date Started:
Date Completed:

10. Casing: Threaded Welded
Diameter:
Type:
in. to ft. depth
in. to ft. depth
Height: Below
Surface: ft. Weight: lb./ft.
Drive Shoe:

11. Screen:
Type: Diameter:
Slot/Gauge: Length:
Set Between: ft. and ft.
ft. and ft.
Sieve Analysis: Y/N

12. Static Water Level: ft. below land surface after 24 hours.

13. Pumping Level below land surface.
ft. after hrs Pumping GPM
Pumping Test:
Yield: gpm

14. Water Quality:
Chemical Analysis: No Bacterial Analysis: No

15. Artificial Filter (filter pack) Y/N
Installed from: ft. to ft.
Effective Size: Uniformity Coefficient

16. Well Grouted?
Neat Cement Bentonite Bentonite/Cement other
Depth: from ft. to 0 ft.

17. Nearest Source of Possible Contamination: ft. direction
Type:
Well disinfected Type: Amount:

18. Pump: Date installed: N/A
Mfr. Name: Model no.:
H.P.: Volts: Length of pipe: ft.
Capacity: gpm
TYPE:
Submersible Jet (shallow) Turbine
Jet (deep) Reciprocating Centrifugal

19. Well Driller Marshall Burnett **Cert No. 1671**
Address: 6004 Ponders Court **Level C**
Greenville SC 29615
Telephone: 864-527-9324 Fax: 864-288-4430

20. Water Well Driller's Certification: This well was drilled under my direction and this report is true to the best of my knowledge and belief.

Signed: Richard M Burnett

Date: 9/28/2010

If D Level Driller, provide supervising driller's name.

Water Well Record
Bureau of Water
2600 Bull Street, Columbia, SC 29201-1708; (803) 898-4300

1. Well Owner Information:
Name: **Enmark Station, Inc.**
Dolan (last) **Tom** (first)
Address: **Post Office Box 728**
City: **Savannah** State: **GA** zip: **31402**
Phone: Work:
Home:

2. Location of Well: County: **Newberry**
Name: **Enmark 380**
Address: **2725 College Street**
City: **Newberry, SC** Zip: **29108**
Latitude: Longitude:

3. Public System Name: **Public System Number:**

4. Abandonment: (yes/ no) **Yes**
Grouted Depth: from 0.00 to 24.00 ft.

Formation Description	Thickness of Stratum	Depth to Bottom of Stratum

5. Remarks: **GW-43**
Probe Hole

6. Type:

Mud Rotary	Jetted	Bored
Dug	Air Rotary	Driven
Cable tool	Auger	

7. Permit Number: **06588**

8. Use:

Residential	Public Supply	Process
Irrigation	Air Conditioning	Emergency
Test Well	Monitor Well	Replacement

9. Well Depth (completed) ft. Date Started: Date Completed:

10. Casing: Threaded Welded
Diameter:
Type:
in. to ft. depth
in. to ft. depth
Height: Below
Surface: ft. Weight: lb./ft.
Drive Shoe:

11. Screen:
Type: Diameter:
Slot/Gauge: Length:
Set Between: ft. and ft.
ft. and ft.
Sieve Analysis: Y/N

12. Static Water Level: ft. below land surface after 24 hours.

13. Pumping Level below land surface.
ft. after hrs Pumping GPM
Pumping Test:
Yield: gpm

14. Water Quality:
Chemical Analysis: No Bacterial Analysis: No

15. Artificial Filter (filter pack) Y/N
Installed from: ft. to ft.
Effective Size: Uniformity Coefficient

16. Well Grouted?
Neat Cement Bentonite Bentonite/Cement other
Depth: from ft. to 0 ft.

17. Nearest Source of Possible Contamination: ft. direction
Type:
Well disinfected Type: Amount:

18. Pump: Date installed: N/A
Mfr. Name: Model no.:
H.P.: Volts: Length of pipe: ft.
Capacity: gpm
TYPE:
Submersible Jet (shallow) Turbine
Jet (deep) Reciprocating Centrifugal

19. Well Driller Joe Smith **Cert No. 1648**
Address: 6004 Ponders Court **Level B**
Greenville SC 29615
Telephone: 864-527-9324 Fax: 864-288-4430

20. Water Well Driller's Certification: This well was drilled under my direction and this report is true to the best of my knowledge and belief.

Signed: Joseph A. Smith

Date: 10/30/2010

If D Level Driller, provide supervising driller's name.

Water Well Record
Bureau of Water
2600 Bull Street, Columbia, SC 29201-1708; (803) 898-4300

1. Well Owner Information:
Name: **Enmark Station, Inc.**
Dolan (last) **Tom** (first)
Address: **Post Office Box 728**
City: **Savannah** State: **GA** zip: **31402**
Phone: Work:
Home:

2. Location of Well: County: **Newberry**
Name: **Enmark 380**
Address: **2725 College Street**
City: **Newberry, SC** Zip: **29108**
Latitude: Longitude:

3. Public System Name: **Public System Number:**

4. Abandonment: (yes/ no) **Yes**
Grouted Depth: from 0.00 to 15.00 ft.

Formation Description	Thickness of Stratum	Depth to Bottom of Stratum

5. Remarks: **GW-44**
Probe Hole

6. Type:

Mud Rotary	Jetted	Bored
Dug	Air Rotary	Driven
Cable tool	Auger	

7. Permit Number: **06588**

8. Use:

Residential	Public Supply	Process
Irrigation	Air Conditioning	Emergency
Test Well	Monitor Well	Replacement

9. Well Depth (completed)
ft. Date Started:
Date Completed:

10. Casing: Threaded Welded
Diameter:
Type:
in. to ft. depth
in. to ft. depth
Height: Below
Surface: ft. Weight: lb./ft.
Drive Shoe:

11. Screen:
Type: Diameter:
Slot/Gauge: Length:
Set Between: ft. and ft.
ft. and ft.
Sieve Analysis: Y/N

12. Static Water Level: ft. below land surface after 24 hours.

13. Pumping Level below land surface.
ft. after hrs Pumping GPM
Pumping Test:
Yield: gpm

14. Water Quality:
Chemical Analysis: No Bacterial Analysis: No

15. Artificial Filter (filter pack) Y/N
Installed from: ft. to ft.
Effective Size: Uniformity Coefficient

16. Well Grouted?
Neat Cement Bentonite Bentonite/Cement other
Depth: from ft. to 0 ft.

17. Nearest Source of Possible Contamination: ft. direction
Type:
Well disinfected Type: Amount:

18. Pump: Date installed: N/A
Mfr. Name: Model no.:
H.P.: Volts: Length of pipe: ft.
Capacity: gpm
TYPE:
Submersible Jet (shallow) Turbine
Jet (deep) Reciprocating Centrifugal

19. Well Driller Joe Smith **Cert No. 1648**
Address: 6004 Ponders Court **Level B**
Greenville SC 29615
Telephone: 864-527-9324 Fax: 864-288-4430

20. Water Well Driller's Certification: This well was drilled under my direction and this report is true to the best of my knowledge and belief.

Signed: Joseph A. Smith

Date: 10/30/2010

If D Level Driller, provide supervising driller's name.

Water Well Record
Bureau of Water
2600 Bull Street, Columbia, SC 29201-1708; (803) 898-4300

1. Well Owner Information:
Name: **Enmark Station, Inc.**
Dolan (last) **Tom** (first)
Address: **Post Office Box 728**
City: **Savannah** State: **GA** zip: **31402**
Phone: Work:
Home:

2. Location of Well: County: **Newberry**
Name: **Enmark 380**
Address: **2725 College Street**
City: **Newberry, SC** Zip: **29108**
Latitude: Longitude:

3. Public System Name: **Public System Number:**

4. Abandonment: (yes/ no) **Yes**
Grouted Depth: from 0.00 to 20.00 ft.

Formation Description	Thickness of Stratum	Depth to Bottom of Stratum

5. Remarks: **GW-45**
Probe Hole

6. Type:

Mud Rotary	Jetted	Bored
Dug	Air Rotary	Driven
Cable tool	Auger	

7. Permit Number: **06588**

8. Use:

Residential	Public Supply	Process
Irrigation	Air Conditioning	Emergency
Test Well	Monitor Well	Replacement

9. Well Depth (completed) ft. Date Started: Date Completed:

10. Casing: Threaded Welded
Diameter:
Type:
in. to ft. depth
in. to ft. depth
Height: Below
Surface: ft. Weight: lb./ft.
Drive Shoe:

11. Screen:
Type: Diameter:
Slot/Gauge: Length:
Set Between: ft. and ft.
ft. and ft.
Sieve Analysis: Y/N

12. Static Water Level: ft. below land surface after 24 hours.

13. Pumping Level below land surface.
ft. after hrs Pumping GPM
Pumping Test:
Yield: gpm

14. Water Quality:
Chemical Analysis: No Bacterial Analysis: No

15. Artificial Filter (filter pack) Y/N
Installed from: ft. to ft.
Effective Size: Uniformity Coefficient

16. Well Grouted?
Neat Cement Bentonite Bentonite/Cement other
Depth: from ft. to 0 ft.

17. Nearest Source of Possible Contamination: ft. direction
Type:
Well disinfected Type: Amount:

18. Pump: Date installed: N/A
Mfr. Name: Model no.:
H.P.: Volts: Length of pipe: ft.
Capacity: gpm
TYPE:
Submersible Jet (shallow) Turbine
Jet (deep) Reciprocating Centrifugal

19. Well Driller Joe Smith **Cert No. 1648**
Address: 6004 Ponders Court **Level B**
Greenville SC 29615
Telephone: 864-527-9324 Fax: 864-288-4430

20. Water Well Driller's Certification: This well was drilled under my direction and this report is true to the best of my knowledge and belief.

Signed: Joseph A. Smith

Date: 11/1/2010

If D Level Driller, provide supervising driller's name.

Water Well Record
Bureau of Water
2600 Bull Street, Columbia, SC 29201-1708; (803) 898-4300

1. Well Owner Information:
Name: **Enmark Station, Inc.**
Dolan (last) **Tom** (first)
Address: **Post Office Box 728**
City: **Savannah** State: **GA** zip: **31402**
Phone: Work:
Home:

2. Location of Well: County: **Newberry**
Name: **Enmark 380**
Address: **2725 College Street**
City: **Newberry, SC** Zip: **29108**
Latitude: Longitude:

3. Public System Name: **Public System Number:**

4. Abandonment: (yes/ no) **Yes**
Grouted Depth: from 0.00 to 24.00 ft.

Formation Description	Thickness of Stratum	Depth to Bottom of Stratum

5. Remarks: **GW-46**
Probe Hole

6. Type:

Mud Rotary	Jetted	Bored
Dug	Air Rotary	(Driven)
Cable tool	Auger	

7. Permit Number: **06588**

8. Use:

Residential	Public Supply	Process
Irrigation	Air Conditioning	Emergency
Test Well	Monitor Well	Replacement

9. Well Depth (completed)
ft. Date Started:
Date Completed:

10. Casing: Threaded Welded
Diameter:
Type:
in. to ft. depth
in. to ft. depth
Height: Below
Surface: ft. Weight: lb./ft.
Drive Shoe:

11. Screen:
Type: Diameter:
Slot/Gauge: Length:
Set Between: ft. and ft.
ft. and ft.
Sieve Analysis: Y/N

12. Static Water Level: ft. below land surface after 24 hours.

13. Pumping Level below land surface.
ft. after hrs Pumping GPM
Pumping Test:
Yield: gpm

14. Water Quality:
Chemical Analysis: No Bacterial Analysis: No

15. Artificial Filter (filter pack) Y/N
Installed from: ft. to ft.
Effective Size: Uniformity Coefficient

16. Well Grouted?

(Neat Cement)	Bentonite	Bentonite/Cement	other

Depth: from ft. to 0 ft.

17. Nearest Source of Possible Contamination: ft. direction
Type:
Well disinfected Type: Amount:

18. Pump: Date installed: N/A
Mfr. Name: Model no.:
H.P.: Volts: Length of pipe: ft.
Capacity: gpm
TYPE:
Submersible Jet (shallow) Turbine
Jet (deep) Reciprocating Centrifugal

19. Well Driller Joe Smith **Cert No. 1648**
Address: 6004 Ponders Court **Level B**
Greenville SC 29615
Telephone: 864-527-9324 Fax: 864-288-4430

20. Water Well Driller's Certification: This well was drilled under my direction and this report is true to the best of my knowledge and belief.

Signed: Joseph A. Smith

Date: 11/1/2010

If D Level Driller, provide supervising driller's name.

Water Well Record
Bureau of Water
2600 Bull Street, Columbia, SC 29201-1708; (803) 898-4300

1. Well Owner Information:
Name: **Enmark Station, Inc.**
Dolan (last) **Tom** (first)
Address: **Post Office Box 728**
City: **Savannah** State: **GA** zip: **31402**
Phone: Work:
Home:

2. Location of Well: County: **Newberry**
Name: **Enmark 380**
Address: **2725 College Street**
City: **Newberry, SC** Zip: **29108**
Latitude: Longitude:

3. Public System Name: **Public System Number:**

4. Abandonment: (yes/ no) **Yes**
Grouted Depth: from 0.00 to 19.00 ft.

Formation Description	Thickness of Stratum	Depth to Bottom of Stratum

5. Remarks: **GW-47**
Probe Hole

6. Type:

Mud Rotary	Jetted	Bored
Dug	Air Rotary	Driven
Cable tool	Auger	

7. Permit Number: **06588**

8. Use:

Residential	Public Supply	Process
Irrigation	Air Conditioning	Emergency
Test Well	Monitor Well	Replacement

9. Well Depth (completed) ft. Date Started: Date Completed:

10. Casing: Threaded Welded
Diameter:
Type:
in. to ft. depth
in. to ft. depth
Height: Below
Surface: ft. Weight: lb./ft.
Drive Shoe:

11. Screen:
Type: Diameter:
Slot/Gauge: Length:
Set Between: ft. and ft.
ft. and ft.
Sieve Analysis: Y/N

12. Static Water Level: ft. below land surface after 24 hours.

13. Pumping Level below land surface.
ft. after hrs Pumping GPM
Pumping Test:
Yield: gpm

14. Water Quality:
Chemical Analysis: No Bacterial Analysis: No

15. Artificial Filter (filter pack) Y/N
Installed from: ft. to ft.
Effective Size: Uniformity Coefficient

16. Well Grouted?
Neat Cement Bentonite Bentonite/Cement other
Depth: from ft. to 0 ft.

17. Nearest Source of Possible Contamination: ft. direction
Type:
Well disinfected Type: Amount:

18. Pump: Date installed: N/A
Mfr. Name: Model no.:
H.P.: Volts: Length of pipe: ft.
Capacity: gpm
TYPE:
Submersible Jet (shallow) Turbine
Jet (deep) Reciprocating Centrifugal

19. Well Driller Joe Smith **Cert No. 1648**
Address: 6004 Ponders Court **Level B**
Greenville SC 29615
Telephone: 864-527-9324 Fax: 864-288-4430

20. Water Well Driller's Certification: This well was drilled under my direction and this report is true to the best of my knowledge and belief.

Signed: Joseph A. Smith

Date: 11/1/2010

If D Level Driller, provide supervising driller's name.

Water Well Record
Bureau of Water
2600 Bull Street, Columbia, SC 29201-1708; (803) 898-4300

1. Well Owner Information:
Name: **Enmark Station, Inc.**
Dolan (last) **Tom** (first)
Address: **Post Office Box 728**
City: **Savannah** State: **GA** zip: **31402**
Phone: Work:
Home:

2. Location of Well: County: **Newberry**
Name: **Enmark 380**
Address: **2725 College Street**
City: **Newberry, SC** Zip: **29108**
Latitude: Longitude:

3. Public System Name: **Public System Number:**

4. Abandonment: (yes/ no) **Yes**
Grouted Depth: from 0.00 to 24.00 ft.

Formation Description	Thickness of Stratum	Depth to Bottom of Stratum

5. Remarks: **GW-48**
Probe Hole

6. Type:

Mud Rotary	Jetted	Bored
Dug	Air Rotary	Driven
Cable tool	Auger	

7. Permit Number: **06588**

8. Use:

Residential	Public Supply	Process
Irrigation	Air Conditioning	Emergency
Test Well	Monitor Well	Replacement

9. Well Depth (completed)
ft. Date Started:
Date Completed:

10. Casing: Threaded Welded
Diameter:
Type:
in. to ft. depth
in. to ft. depth
Height: Below
Surface: ft. Weight: lb./ft.
Drive Shoe:

11. Screen:
Type: Diameter:
Slot/Gauge: Length:
Set Between: ft. and ft.
ft. and ft.
Sieve Analysis: Y/N

12. Static Water Level: ft. below land surface after 24 hours.

13. Pumping Level below land surface.
ft. after hrs Pumping GPM
Pumping Test:
Yield: gpm

14. Water Quality:
Chemical Analysis: No Bacterial Analysis: No

15. Artificial Filter (filter pack) Y/N
Installed from: ft. to ft.
Effective Size: Uniformity Coefficient

16. Well Grouted?
Neat Cement Bentonite Bentonite/Cement other
Depth: from ft. to 0 ft.

17. Nearest Source of Possible Contamination: ft. direction
Type:
Well disinfected Type: Amount:

18. Pump: Date installed: N/A
Mfr. Name: Model no.:
H.P.: Volts: Length of pipe: ft.
Capacity: gpm
TYPE:
Submersible Jet (shallow) Turbine
Jet (deep) Reciprocating Centrifugal

19. Well Driller Joe Smith **Cert No. 1648**
Address: 6004 Ponders Court **Level B**
Greenville SC 29615
Telephone: 864-527-9324 Fax: 864-288-4430

20. Water Well Driller's Certification: This well was drilled under my direction and this report is true to the best of my knowledge and belief.

Signed: Joseph A. Smith

Date: 11/1/2010

If D Level Driller, provide supervising driller's name.

Water Well Record
Bureau of Water
2600 Bull Street, Columbia, SC 29201-1708; (803) 898-4300

1. Well Owner Information:
Name: **Enmark Station, Inc.**
Dolan (last) **Tom** (first)
Address: **Post Office Box 728**
City: **Savannah** State: **GA** zip: **31402**
Phone: Work:
Home:

2. Location of Well: County: **Newberry**
Name: **Enmark 380**
Address: **2725 College Street**
City: **Newberry, SC** Zip: **29108**
Latitude: Longitude:

3. Public System Name: **Public System Number:**

4. Abandonment: (yes/ no) **Yes**
Grouted Depth: from 0.00 to 30.00 ft.

Formation Description	Thickness of Stratum	Depth to Bottom of Stratum

5. Remarks: **GW-49**
Probe Hole

6. Type:

Mud Rotary	Jetted	Bored
Dug	Air Rotary	Driven
Cable tool	Auger	

7. Permit Number: **06588**

8. Use:

Residential	Public Supply	Process
Irrigation	Air Conditioning	Emergency
Test Well	Monitor Well	Replacement

9. Well Depth (completed) ft. Date Started: Date Completed:

10. Casing: Threaded Welded
Diameter:
Type:
in. to ft. depth
in. to ft. depth
Height: Below
Surface: ft. Weight: lb./ft.
Drive Shoe:

11. Screen:
Type: Diameter:
Slot/Gauge: Length:
Set Between: ft. and ft.
ft. and ft.
Sieve Analysis: Y/N

12. Static Water Level: ft. below land surface after 24 hours.

13. Pumping Level below land surface.
ft. after hrs Pumping GPM
Pumping Test:
Yield: gpm

14. Water Quality:
Chemical Analysis: No Bacterial Analysis: No

15. Artificial Filter (filter pack) Y/N
Installed from: ft. to ft.
Effective Size: Uniformity Coefficient

16. Well Grouted?
Neat Cement Bentonite Bentonite/Cement other
Depth: from ft. to 0 ft.

17. Nearest Source of Possible Contamination: ft. direction
Type:
Well disinfected Type: Amount:

18. Pump: Date installed: N/A
Mfr. Name: Model no.:
H.P.: Volts: Length of pipe: ft.
Capacity: gpm
TYPE:
Submersible Jet (shallow) Turbine
Jet (deep) Reciprocating Centrifugal

19. Well Driller Joe Smith **Cert No. 1648**
Address: 6004 Ponders Court **Level B**
Greenville SC 29615
Telephone: 864-527-9324 Fax: 864-288-4430

20. Water Well Driller's Certification: This well was drilled under my direction and this report is true to the best of my knowledge and belief.

Signed: Joseph A. Smith

Date: 11/1/2010

If D Level Driller, provide supervising driller's name.

Water Well Record
Bureau of Water
2600 Bull Street, Columbia, SC 29201-1708; (803) 898-4300

1. Well Owner Information:
Name: **Enmark Station, Inc.**
Dolan (last) **Tom** (first)
Address: **Post Office Box 728**
City: **Savannah** State: **GA** zip: **31402**
Phone: Work:
Home:

2. Location of Well: County: **Newberry**
Name: **Enmark 380**
Address: **2725 College Street**
City: **Newberry, SC** Zip: **29108**
Latitude: Longitude:

3. Public System Name: **Public System Number:**

4. Abandonment: (yes/ no) **Yes**
Grouted Depth: from 0.00 to 23.00 ft.

Formation Description	Thickness of Stratum	Depth to Bottom of Stratum

5. Remarks: **GW-50**
Probe Hole

6. Type:

Mud Rotary	Jetted	Bored
Dug	Air Rotary	Driven
Cable tool	Auger	

7. Permit Number: **06588**

8. Use:

Residential	Public Supply	Process
Irrigation	Air Conditioning	Emergency
Test Well	Monitor Well	Replacement

9. Well Depth (completed) ft. Date Started: Date Completed:

10. Casing: Threaded Welded
Diameter:
Type:
in. to ft. depth
in. to ft. depth
Height: Below
Surface: ft. Weight: lb./ft.
Drive Shoe:

11. Screen:
Type: Diameter:
Slot/Gauge: Length:
Set Between: ft. and ft.
ft. and ft.
Sieve Analysis: Y/N

12. Static Water Level: ft. below land surface after 24 hours.

13. Pumping Level below land surface.
ft. after hrs Pumping GPM
Pumping Test:
Yield: gpm

14. Water Quality:
Chemical Analysis: No Bacterial Analysis: No

15. Artificial Filter (filter pack) Y/N
Installed from: ft. to ft.
Effective Size: Uniformity Coefficient

16. Well Grouted?
Neat Cement Bentonite Bentonite/Cement other
Depth: from ft. to 0 ft.

17. Nearest Source of Possible Contamination: ft. direction
Type:
Well disinfected Type: Amount:

18. Pump: Date installed: N/A
Mfr. Name: Model no.:
H.P.: Volts: Length of pipe: ft.
Capacity: gpm
TYPE:
Submersible Jet (shallow) Turbine
Jet (deep) Reciprocating Centrifugal

19. Well Driller Joe Smith **Cert No. 1648**
Address: 6004 Ponders Court **Level B**
Greenville SC 29615
Telephone: 864-527-9324 Fax: 864-288-4430

20. Water Well Driller's Certification: This well was drilled under my direction and this report is true to the best of my knowledge and belief.

Signed: Joseph A. Smith

Date: 11/1/2010

If D Level Driller, provide supervising driller's name.

Water Well Record
Bureau of Water
2600 Bull Street, Columbia, SC 29201-1708; (803) 898-4300

1. Well Owner Information:
Name: **Enmark Station, Inc.**
Dolan (last) **Tom** (first)
Address: **Post Office Box 728**
City: **Savannah** State: **GA** zip: **31402**
Phone: Work:
Home:

2. Location of Well: County: **Newberry**
Name: **Enmark 380**
Address: **2725 College Street**
City: **Newberry, SC** Zip: **29108**
Latitude: Longitude:

3. Public System Name: **Public System Number:**

4. Abandonment: (yes/ no) **Yes**
Grouted Depth: from 0.00 to 27.00 ft.

Formation Description	Thickness of Stratum	Depth to Bottom of Stratum

5. Remarks: **GW-51**
Probe Hole

6. Type:

Mud Rotary	Jetted	Bored
Dug	Air Rotary	Driven
Cable tool	Auger	

7. Permit Number: **06588**

8. Use:

Residential	Public Supply	Process
Irrigation	Air Conditioning	Emergency
Test Well	Monitor Well	Replacement

9. Well Depth (completed)
ft. Date Started:
Date Completed:

10. Casing: Threaded Welded
Diameter:
Type:
in. to ft. depth
in. to ft. depth
Height: Below
Surface: ft. Weight: lb./ft.
Drive Shoe:

11. Screen:
Type: Diameter:
Slot/Gauge: Length:
Set Between: ft. and ft.
ft. and ft.
Sieve Analysis: Y/N

12. Static Water Level: ft. below land surface after 24 hours.

13. Pumping Level below land surface.
ft. after hrs Pumping GPM
Pumping Test:
Yield: gpm

14. Water Quality:
Chemical Analysis: No Bacterial Analysis: No

15. Artificial Filter (filter pack) Y/N
Installed from: ft. to ft.
Effective Size: Uniformity Coefficient

16. Well Grouted?
Neat Cement Bentonite Bentonite/Cement other
Depth: from ft. to 0 ft.

17. Nearest Source of Possible Contamination: ft. direction
Type:
Well disinfected Type: Amount:

18. Pump: Date installed: N/A
Mfr. Name: Model no.:
H.P.: Volts: Length of pipe: ft.
Capacity: gpm
TYPE:
Submersible Jet (shallow) Turbine
Jet (deep) Reciprocating Centrifugal

19. Well Driller Joe Smith **Cert No. 1648**
Address: 6004 Ponders Court **Level B**
Greenville SC 29615
Telephone: 864-527-9324 Fax: 864-288-4430

20. Water Well Driller's Certification: This well was drilled under my direction and this report is true to the best of my knowledge and belief.

Signed: Joseph A. Smith

Date: 10/30/2010

If D Level Driller, provide supervising driller's name.

Water Well Record
Bureau of Water
2600 Bull Street, Columbia, SC 29201-1708; (803) 898-4300

1. Well Owner Information:
Name: **Enmark Station, Inc.**
Dolan (last) **Tom** (first)
Address: **Post Office Box 728**
City: **Savannah** State: **GA** zip: **31402**
Phone: Work:
Home:

2. Location of Well: County: **Newberry**
Name: **Enmark 380**
Address: **2725 College Street**
City: **Newberry, SC** Zip: **29108**
Latitude: Longitude:

3. Public System Name: **Public System Number:**

4. Abandonment: (yes/ no) **Yes**
Grouted Depth: from 0.00 to 30.00 ft.

Formation Description	Thickness of Stratum	Depth to Bottom of Stratum

5. Remarks: **GW-52**
Probe Hole

6. Type:

Mud Rotary	Jetted	Bored
Dug	Air Rotary	Driven
Cable tool	Auger	

7. Permit Number: **06588**

8. Use:

Residential	Public Supply	Process
Irrigation	Air Conditioning	Emergency
Test Well	Monitor Well	Replacement

9. Well Depth (completed) ft. Date Started: Date Completed:

10. Casing: Threaded Welded
Diameter:
Type:
in. to ft. depth
in. to ft. depth
Height: Below
Surface: ft. Weight: lb./ft.
Drive Shoe:

11. Screen:
Type: Diameter:
Slot/Gauge: Length:
Set Between: ft. and ft.
ft. and ft.
Sieve Analysis: Y/N

12. Static Water Level: ft. below land surface after 24 hours.

13. Pumping Level below land surface.
ft. after hrs Pumping GPM
Pumping Test:
Yield: gpm

14. Water Quality:
Chemical Analysis: No Bacterial Analysis: No

15. Artificial Filter (filter pack) Y/N
Installed from: ft. to ft.
Effective Size: Uniformity Coefficient

16. Well Grouted?
Neat Cement Bentonite Bentonite/Cement other
Depth: from ft. to 0 ft.

17. Nearest Source of Possible Contamination: ft. direction
Type:
Well disinfected Type: Amount:

18. Pump: Date installed: N/A
Mfr. Name: Model no.:
H.P.: Volts: Length of pipe: ft.
Capacity: gpm
TYPE:
Submersible Jet (shallow) Turbine
Jet (deep) Reciprocating Centrifugal

19. Well Driller Joe Smith **Cert No. 1648**
Address: 6004 Ponders Court **Level B**
Greenville SC 29615
Telephone: 864-527-9324 Fax: 864-288-4430

20. Water Well Driller's Certification: This well was drilled under my direction and this report is true to the best of my knowledge and belief.

Signed: Joseph A. Smith

Date: 10/30/2010

If D Level Driller, provide supervising driller's name.

Water Well Record
Bureau of Water
2600 Bull Street, Columbia, SC 29201-1708; (803) 898-4300

1. Well Owner Information:
Name: **Enmark Station, Inc.**
Dolan (last) **Tom** (first)
Address: **Post Office Box 728**
City: **Savannah** State: **GA** zip: **31402**
Phone: Work:
Home:

2. Location of Well: County: **Newberry**
Name: **Enmark 380**
Address: **2725 College Street**
City: **Newberry, SC** Zip: **29108**
Latitude: Longitude:

3. Public System Name: **Public System Number:**

4. Abandonment: (yes/ no) **Yes**
Grouted Depth: from 0.00 to 15.00 ft.

Formation Description	Thickness of Stratum	Depth to Bottom of Stratum

5. Remarks: **GW-53**
Probe Hole

6. Type:

Mud Rotary	Jetted	Bored
Dug	Air Rotary	(Driven)
Cable tool	Auger	

7. Permit Number: **06588**

8. Use:

Residential	Public Supply	Process
Irrigation	Air Conditioning	Emergency
Test Well	Monitor Well	Replacement

9. Well Depth (completed)
ft. Date Started:
Date Completed:

10. Casing: Threaded Welded
Diameter:
Type:
in. to ft. depth
in. to ft. depth
Height: Below
Surface: ft. Weight: lb./ft.
Drive Shoe:

11. Screen:
Type: Diameter:
Slot/Gauge: Length:
Set Between: ft. and ft.
ft. and ft.
Sieve Analysis: Y/N

12. Static Water Level: ft. below land surface after 24 hours.

13. Pumping Level below land surface.
ft. after hrs Pumping GPM
Pumping Test:
Yield: gpm

14. Water Quality:
Chemical Analysis: No Bacterial Analysis: No

15. Artificial Filter (filter pack) Y/N
Installed from: ft. to ft.
Effective Size: Uniformity Coefficient

16. Well Grouted?

(Neat Cement)	Bentonite	Bentonite/Cement	other

Depth: from ft. to 0 ft.

17. Nearest Source of Possible Contamination: ft. direction
Type:
Well disinfected Type: Amount:

18. Pump: Date installed: N/A
Mfr. Name: Model no.:
H.P.: Volts: Length of pipe: ft.
Capacity: gpm
TYPE:
Submersible Jet (shallow) Turbine
Jet (deep) Reciprocating Centrifugal

19. Well Driller Joe Smith **Cert No. 1648**
Address: 6004 Ponders Court **Level B**
Greenville SC 29615
Telephone: 864-527-9324 Fax: 864-288-4430

20. Water Well Driller's Certification: This well was drilled under my direction and this report is true to the best of my knowledge and belief.

Signed: Joseph A. Smith

Date: 10/30/2010

If D Level Driller, provide supervising driller's name.

Water Well Record
Bureau of Water
2600 Bull Street, Columbia, SC 29201-1708; (803) 898-4300

1. Well Owner Information:
Name: **Enmark Station, Inc.**
Dolan (last) **Tom** (first)
Address: **Post Office Box 728**
City: **Savannah** State: **GA** zip: **31402**
Phone: Work:
Home:

2. Location of Well: County: **Newberry**
Name: **Enmark 380**
Address: **2725 College Street**
City: **Newberry, SC** Zip: **29108**
Latitude: Longitude:

3. Public System Name: **Public System Number:**

4. Abandonment: (yes/ no) **Yes**
Grouted Depth: from 0.00 to 9.00 ft.

Formation Description	Thickness of Stratum	Depth to Bottom of Stratum
Refusal at 9' No Groundwater		

5. Remarks: **GW-54**
Probe Hole

6. Type:

Mud Rotary	Jetted	Bored
Dug	Air Rotary	Driven
Cable tool	Auger	

7. Permit Number: **06588**

8. Use:

Residential	Public Supply	Process
Irrigation	Air Conditioning	Emergency
Test Well	Monitor Well	Replacement

9. Well Depth (completed)
ft. Date Started:
Date Completed:

10. Casing: Threaded Welded
Diameter:
Type:
in. to ft. depth
in. to ft. depth
Height: Below
Surface: ft. Weight: lb./ft.
Drive Shoe:

11. Screen:
Type: Diameter:
Slot/Gauge: Length:
Set Between: ft. and ft.
ft. and ft.
Sieve Analysis: Y/N

12. Static Water Level: ft. below land surface after 24 hours.

13. Pumping Level below land surface.
ft. after hrs Pumping GPM
Pumping Test:
Yield: gpm

14. Water Quality:
Chemical Analysis: No Bacterial Analysis: No

15. Artificial Filter (filter pack) Y/N
Installed from: ft. to ft.
Effective Size: Uniformity Coefficient

16. Well Grouted?
Neat Cement Bentonite Bentonite/Cement other
Depth: from ft. to 0 ft.

17. Nearest Source of Possible Contamination: ft. direction
Type:
Well disinfected Type: Amount:

18. Pump: Date installed: N/A
Mfr. Name: Model no.:
H.P.: Volts: Length of pipe: ft.
Capacity: gpm
TYPE:
Submersible Jet (shallow) Turbine
Jet (deep) Reciprocating Centrifugal

19. Well Driller Joe Smith **Cert No. 1648**
Address: 6004 Ponders Court **Level B**
Greenville SC 29615
Telephone: 864-527-9324 Fax: 864-288-4430

20. Water Well Driller's Certification: This well was drilled under my direction and this report is true to the best of my knowledge and belief.

Signed: Joseph A. Smith

Date: 10/30/2010

If D Level Driller, provide supervising driller's name.

Water Well Record
Bureau of Water
2600 Bull Street, Columbia, SC 29201-1708; (803) 898-4300

1. Well Owner Information:
Name: **Enmark Station, Inc.**
Dolan (last) **Tom** (first)
Address: **Post Office Box 728**
City: **Savannah** State: **GA** zip: **31402**
Phone: Work:
Home:

2. Location of Well: County: **Newberry**
Name: **Enmark 380**
Address: **2725 College Street**
City: **Newberry, SC** Zip: **29108**
Latitude: Longitude:

3. Public System Name: **Public System Number:**

4. Abandonment: (yes/ no) **Yes**
Grouted Depth: from 0.00 to 7.00 ft.

Formation Description	Thickness of Stratum	Depth to Bottom of Stratum
Refusal at 7'		
No Groundwater		

5. Remarks: **GW-55**
Probe Hole

6. Type:

Mud Rotary	Jetted	Bored
Dug	Air Rotary	Driven
Cable tool	Auger	

7. Permit Number: **06588**

8. Use:

Residential	Public Supply	Process
Irrigation	Air Conditioning	Emergency
Test Well	Monitor Well	Replacement

9. Well Depth (completed) ft. Date Started: Date Completed:

10. Casing: Threaded Welded
Diameter:
Type:
in. to ft. depth
in. to ft. depth
Height: Below
Surface: ft. Weight: lb./ft.
Drive Shoe:

11. Screen:
Type: Diameter:
Slot/Gauge: Length:
Set Between: ft. and ft.
ft. and ft.
Sieve Analysis: Y/N

12. Static Water Level: ft. below land surface after 24 hours.

13. Pumping Level below land surface.
ft. after hrs Pumping GPM
Pumping Test:
Yield: gpm

14. Water Quality:
Chemical Analysis: No Bacterial Analysis: No

15. Artificial Filter (filter pack) Y/N
Installed from: ft. to ft.
Effective Size: Uniformity Coefficient

16. Well Grouted?
Neat Cement Bentonite Bentonite/Cement other
Depth: from ft. to 0 ft.

17. Nearest Source of Possible Contamination: ft. direction
Type:
Well disinfected Type: Amount:

18. Pump: Date installed: N/A
Mfr. Name: Model no.:
H.P.: Volts: Length of pipe: ft.
Capacity: gpm
TYPE:
Submersible Jet (shallow) Turbine
Jet (deep) Reciprocating Centrifugal

19. Well Driller Joe Smith **Cert No. 1648**
Address: 6004 Ponders Court **Level B**
Greenville SC 29615
Telephone: 864-527-9324 Fax: 864-288-4430

20. Water Well Driller's Certification: This well was drilled under my direction and this report is true to the best of my knowledge and belief.

Signed: Joseph A. Smith

Date: 10/30/2010

If D Level Driller, provide supervising driller's name.

Water Well Record
Bureau of Water
2600 Bull Street, Columbia, SC 29201-1708; (803) 898-4300

1. Well Owner Information:
Name: **Enmark Station, Inc.**
Dolan (last) **Tom** (first)
Address: **Post Office Box 728**
City: **Savannah** State: **GA** zip: **31402**
Phone: Work:
Home:

2. Location of Well: County: **Newberry**
Name: **Enmark 380**
Address: **2725 College Street**
City: **Newberry, SC** Zip: **29108**
Latitude: Longitude:

3. Public System Name: **Public System Number:**

4. Abandonment: (yes/ no) **Yes**
Grouted Depth: from 0.00 to 19.00 ft.

Formation Description	Thickness of Stratum	Depth to Bottom of Stratum
Refusal at 19' No Groundwater		

5. Remarks: **GW-56**
Probe Hole

6. Type:

Mud Rotary	Jetted	Bored
Dug	Air Rotary	(Driven)
Cable tool	Auger	

7. Permit Number: **06588**

8. Use:

Residential	Public Supply	Process
Irrigation	Air Conditioning	Emergency
Test Well	Monitor Well	Replacement

9. Well Depth (completed) ft. Date Started: Date Completed:

10. Casing: Threaded Welded
Diameter:
Type:
in. to ft. depth
in. to ft. depth
Height: Below
Surface: ft. Weight: lb./ft.
Drive Shoe:

11. Screen:
Type: Diameter:
Slot/Gauge: Length:
Set Between: ft. and ft.
ft. and ft.
Sieve Analysis: Y/N

12. Static Water Level: ft. below land surface after 24 hours.

13. Pumping Level below land surface.
ft. after hrs Pumping GPM
Pumping Test:
Yield: gpm

14. Water Quality:
Chemical Analysis: No Bacterial Analysis: No

15. Artificial Filter (filter pack) Y/N
Installed from: ft. to ft.
Effective Size: Uniformity Coefficient

16. Well Grouted?

(Neat Cement)	Bentonite	Bentonite/Cement	other

Depth: from ft. to 0 ft.

17. Nearest Source of Possible Contamination: ft. direction
Type:
Well disinfected Type: Amount:

18. Pump: Date installed: N/A
Mfr. Name: Model no.:
H.P.: Volts: Length of pipe: ft.
Capacity: gpm
TYPE:
Submersible Jet (shallow) Turbine
Jet (deep) Reciprocating Centrifugal

19. Well Driller Joe Smith **Cert No. 1648**
Address: 6004 Ponders Court **Level B**
Greenville SC 29615
Telephone: 864-527-9324 Fax: 864-288-4430

20. Water Well Driller's Certification: This well was drilled under my direction and this report is true to the best of my knowledge and belief.

Signed: Joseph A. Smith

Date: 10/30/2010

If D Level Driller, provide supervising driller's name.

Water Well Record
Bureau of Water
2600 Bull Street, Columbia, SC 29201-1708; (803) 898-4300

1. Well Owner Information:
Name: **Enmark Station, Inc.**
Dolan (last) **Tom** (first)
Address: **Post Office Box 728**
City: **Savannah** State: **GA** zip: **31402**
Phone: Work:
Home:

2. Location of Well: County: **Newberry**
Name: **Enmark 380**
Address: **2725 College Street**
City: **Newberry, SC** Zip: **29108**
Latitude: Longitude:

3. Public System Name: **Public System Number:**

4. Abandonment: (yes/ no) **Yes**
Grouted Depth: from 0.00 to 16.00 ft.

Formation Description	Thickness of Stratum	Depth to Bottom of Stratum
Refusal at 16' bgs No Groundwater		

5. Remarks: **GW-57**
Probe Hole

6. Type:

Mud Rotary	Jetted	Bored
Dug	Air Rotary	Driven
Cable tool	Auger	

7. Permit Number: **06588**

8. Use:

Residential	Public Supply	Process
Irrigation	Air Conditioning	Emergency
Test Well	Monitor Well	Replacement

9. Well Depth (completed) ft. Date Started: Date Completed:

10. Casing: Threaded Welded
Diameter:
Type:
in. to ft. depth
in. to ft. depth
Height: Below
Surface: ft. Weight: lb./ft.
Drive Shoe:

11. Screen:
Type: Diameter:
Slot/Gauge: Length:
Set Between: ft. and ft.
ft. and ft.
Sieve Analysis: Y/N

12. Static Water Level: ft. below land surface after 24 hours.

13. Pumping Level below land surface.
ft. after hrs Pumping GPM
Pumping Test:
Yield: gpm

14. Water Quality:
Chemical Analysis: No Bacterial Analysis: No

15. Artificial Filter (filter pack) Y/N
Installed from: ft. to ft.
Effective Size: Uniformity Coefficient

16. Well Grouted?
Neat Cement Bentonite Bentonite/Cement other
Depth: from ft. to 0 ft.

17. Nearest Source of Possible Contamination: ft. direction
Type:
Well disinfected Type: Amount:

18. Pump: Date installed: N/A
Mfr. Name: Model no.:
H.P.: Volts: Length of pipe: ft.
Capacity: gpm
TYPE:
Submersible Jet (shallow) Turbine
Jet (deep) Reciprocating Centrifugal

19. Well Driller Joe Smith **Cert No. 1648**
Address: 6004 Ponders Court **Level B**
Greenville SC 29615
Telephone: 864-527-9324 Fax: 864-288-4430

20. Water Well Driller's Certification: This well was drilled under my direction and this report is true to the best of my knowledge and belief.

Signed: Joseph A. Smith

Date: 10/30/2010

If D Level Driller, provide supervising driller's name.

Water Well Record
Bureau of Water
2600 Bull Street, Columbia, SC 29201-1708; (803) 898-4300

1. Well Owner Information:
Name: **Enmark Station, Inc.**
Dolan (last) **Tom** (first)
Address: **Post Office Box 728**
City: **Savannah** State: **GA** zip: **31402**
Phone: Work:
Home:

2. Location of Well: County: **Newberry**
Name: **Enmark 380**
Address: **2725 College Street**
City: **Newberry, SC** Zip: **29108**
Latitude: Longitude:

3. Public System Name: **Public System Number:**

4. Abandonment: (yes/ no) **Yes**
Grouted Depth: from 0.00 to 10.00 ft.

Formation Description	Thickness of Stratum	Depth to Bottom of Stratum
Refusal at 10' bgs No Groundwater		

5. Remarks: **GW-58**
Probe Hole

6. Type:

Mud Rotary	Jetted	Bored
Dug	Air Rotary	Driven
Cable tool	Auger	

7. Permit Number: **06588**

8. Use:

Residential	Public Supply	Process
Irrigation	Air Conditioning	Emergency
Test Well	Monitor Well	Replacement

9. Well Depth (completed)
ft. Date Started:
Date Completed:

10. Casing: Threaded Welded
Diameter:
Type:
in. to ft. depth
in. to ft. depth
Height: Below
Surface: ft. Weight: lb./ft.
Drive Shoe:

11. Screen:
Type: Diameter:
Slot/Gauge: Length:
Set Between: ft. and ft.
ft. and ft.
Sieve Analysis: Y/N

12. Static Water Level: ft. below land surface after 24 hours.

13. Pumping Level below land surface.
ft. after hrs Pumping GPM
Pumping Test:
Yield: gpm

14. Water Quality:
Chemical Analysis: No Bacterial Analysis: No

15. Artificial Filter (filter pack) Y/N
Installed from: ft. to ft.
Effective Size: Uniformity Coefficient

16. Well Grouted?
Neat Cement Bentonite Bentonite/Cement other
Depth: from ft. to 0 ft.

17. Nearest Source of Possible Contamination: ft. direction
Type:
Well disinfected Type: Amount:

18. Pump: Date installed: N/A
Mfr. Name: Model no.:
H.P.: Volts: Length of pipe: ft.
Capacity: gpm
TYPE:
Submersible Jet (shallow) Turbine
Jet (deep) Reciprocating Centrifugal

19. Well Driller Joe Smith **Cert No. 1648**
Address: 6004 Ponders Court **Level B**
Greenville SC 29615
Telephone: 864-527-9324 Fax: 864-288-4430

20. Water Well Driller's Certification: This well was drilled under my direction and this report is true to the best of my knowledge and belief.

Signed: Joseph A. Smith

Date: 10/30/2010

If D Level Driller, provide supervising driller's name.

Water Well Record
Bureau of Water
2600 Bull Street, Columbia, SC 29201-1708; (803) 898-4300

1. Well Owner Information:
Name: **Enmark Station, Inc.**
Dolan (last) **Tom** (first)
Address: **Post Office Box 728**
City: **Savannah** State: **GA** zip: **31402**
Phone: Work:
Home:

2. Location of Well: County: **Newberry**
Name: **Enmark 380**
Address: **2725 College Street**
City: **Newberry, SC** Zip: **29108**
Latitude: Longitude:

3. Public System Name: **Public System Number:**

4. Abandonment: (yes/ no) **Yes**
Grouted Depth: from 0.00 to 19.00 ft.

Formation Description	Thickness of Stratum	Depth to Bottom of Stratum

5. Remarks: **GW-59**
Probe Hole

6. Type:

Mud Rotary	Jetted	Bored
Dug	Air Rotary	Driven
Cable tool	Auger	

7. Permit Number: **06588**

8. Use:

Residential	Public Supply	Process
Irrigation	Air Conditioning	Emergency
Test Well	Monitor Well	Replacement

9. Well Depth (completed)
ft. Date Started:
Date Completed:

10. Casing: Threaded Welded
Diameter:
Type:
in. to ft. depth
in. to ft. depth
Height: Below
Surface: ft. Weight: lb./ft.
Drive Shoe:

11. Screen:
Type: Diameter:
Slot/Gauge: Length:
Set Between: ft. and ft.
ft. and ft.
Sieve Analysis: Y/N

12. Static Water Level: ft. below land surface after 24 hours.

13. Pumping Level below land surface.
ft. after hrs Pumping GPM
Pumping Test:
Yield: gpm

14. Water Quality:
Chemical Analysis: No Bacterial Analysis: No

15. Artificial Filter (filter pack) Y/N
Installed from: ft. to ft.
Effective Size: Uniformity Coefficient

16. Well Grouted?
Neat Cement Bentonite Bentonite/Cement other
Depth: from ft. to 0 ft.

17. Nearest Source of Possible Contamination: ft. direction
Type:
Well disinfected Type: Amount:

18. Pump: Date installed: N/A
Mfr. Name: Model no.:
H.P.: Volts: Length of pipe: ft.
Capacity: gpm
TYPE:
Submersible Jet (shallow) Turbine
Jet (deep) Reciprocating Centrifugal

19. Well Driller Joe Smith **Cert No. 1648**
Address: 6004 Ponders Court **Level B**
Greenville SC 29615
Telephone: 864-527-9324 Fax: 864-288-4430

20. Water Well Driller's Certification: This well was drilled under my direction and this report is true to the best of my knowledge and belief.

Signed: Joseph A. Smith

Date: 10/30/2010

If D Level Driller, provide supervising driller's name.

Water Well Record
Bureau of Water
2600 Bull Street, Columbia, SC 29201-1708; (803) 898-4300

1. Well Owner Information:
Name: **Enmark Station, Inc.**
Dolan (last) **Tom** (first)
Address: **Post Office Box 728**
City: **Savannah** State: **GA** zip: **31402**
Phone: Work:
Home:

2. Location of Well: County: **Newberry**
Name: **Enmark 380**
Address: **2725 College Street**
City: **Newberry, SC** Zip: **29108**
Latitude: Longitude:

3. Public System Name: **Public System Number:**

4. Abandonment: (yes/ no) **Yes**
Grouted Depth: from 0.00 to 11.00 ft.

Formation Description	Thickness of Stratum	Depth to Bottom of Stratum

5. Remarks: **GW-60**
Probe Hole

6. Type:

Mud Rotary	Jetted	Bored
Dug	Air Rotary	Driven
Cable tool	Auger	

7. Permit Number: **06588**

8. Use:

Residential	Public Supply	Process
Irrigation	Air Conditioning	Emergency
Test Well	Monitor Well	Replacement

9. Well Depth (completed)
ft. Date Started:
Date Completed:

10. Casing: Threaded Welded
Diameter:
Type:
in. to ft. depth
in. to ft. depth
Height: Below
Surface: ft. Weight: lb./ft.
Drive Shoe:

11. Screen:
Type: Diameter:
Slot/Gauge: Length:
Set Between: ft. and ft.
ft. and ft.
Sieve Analysis: Y/N

12. Static Water Level: ft. below land surface after 24 hours.

13. Pumping Level below land surface.
ft. after hrs Pumping GPM
Pumping Test:
Yield: gpm

14. Water Quality:
Chemical Analysis: No Bacterial Analysis: No

15. Artificial Filter (filter pack) Y/N
Installed from: ft. to ft.
Effective Size: Uniformity Coefficient

16. Well Grouted?
Neat Cement Bentonite Bentonite/Cement other
Depth: from ft. to 0 ft.

17. Nearest Source of Possible Contamination: ft. direction
Type:
Well disinfected Type: Amount:

18. Pump: Date installed: N/A
Mfr. Name: Model no.:
H.P.: Volts: Length of pipe: ft.
Capacity: gpm
TYPE:
Submersible Jet (shallow) Turbine
Jet (deep) Reciprocating Centrifugal

19. Well Driller Joe Smith **Cert No. 1648**
Address: 6004 Ponders Court **Level B**
Greenville SC 29615
Telephone: 864-527-9324 Fax: 864-288-4430

20. Water Well Driller's Certification: This well was drilled under my direction and this report is true to the best of my knowledge and belief.

Signed: Joseph A. Smith

Date: 10/30/2010

If D Level Driller, provide supervising driller's name.

Water Well Record
Bureau of Water
2600 Bull Street, Columbia, SC 29201-1708; (803) 898-4300

1. Well Owner Information:
Name: **Enmark Station, Inc.**
Dolan (last) **Tom** (first)
Address: **Post Office Box 728**
City: **Savannah** State: **GA** zip: **31402**
Phone: Work:
Home:

2. Location of Well: County: **Newberry**
Name: **Enmark 380**
Address: **2725 College Street**
City: **Newberry, SC** Zip: **29108**
Latitude: Longitude:

3. Public System Name: **Public System Number:**

4. Abandonment: (yes/ no) **Yes**
Grouted Depth: from 0.00 to 8.00 ft.

Formation Description	Thickness of Stratum	Depth to Bottom of Stratum

5. Remarks: **GW-61**
Probe Hole

6. Type:

Mud Rotary	Jetted	Bored
Dug	Air Rotary	Driven
Cable tool	Auger	

7. Permit Number: **06588**

8. Use:

Residential	Public Supply	Process
Irrigation	Air Conditioning	Emergency
Test Well	Monitor Well	Replacement

9. Well Depth (completed)
ft. Date Started:
Date Completed:

10. Casing: Threaded Welded
Diameter:
Type:
in. to ft. depth
in. to ft. depth
Height: Below
Surface: ft. Weight: lb./ft.
Drive Shoe:

11. Screen:
Type: Diameter:
Slot/Gauge: Length:
Set Between: ft. and ft.
ft. and ft.
Sieve Analysis: Y/N

12. Static Water Level: ft. below land surface after 24 hours.

13. Pumping Level below land surface.
ft. after hrs Pumping GPM
Pumping Test:
Yield: gpm

14. Water Quality:
Chemical Analysis: No Bacterial Analysis: No

15. Artificial Filter (filter pack) Y/N
Installed from: ft. to ft.
Effective Size: Uniformity Coefficient

16. Well Grouted?
Neat Cement Bentonite Bentonite/Cement other
Depth: from ft. to 0 ft.

17. Nearest Source of Possible Contamination: ft. direction
Type:
Well disinfected Type: Amount:

18. Pump: Date installed: N/A
Mfr. Name: Model no.:
H.P.: Volts: Length of pipe: ft.
Capacity: gpm
TYPE:
Submersible Jet (shallow) Turbine
Jet (deep) Reciprocating Centrifugal

19. Well Driller Joe Smith **Cert No. 1648**
Address: 6004 Ponders Court **Level B**
Greenville SC 29615
Telephone: 864-527-9324 Fax: 864-288-4430

20. Water Well Driller's Certification: This well was drilled under my direction and this report is true to the best of my knowledge and belief.

Signed: Joseph A. Smith

Date: 10/30/2010

If D Level Driller, provide supervising driller's name.

Water Well Record
Bureau of Water
2600 Bull Street, Columbia, SC 29201-1708; (803) 898-4300

1. Well Owner Information:
Name: **Enmark Station, Inc.**
Dolan (last) **Tom** (first)
Address: **Post Office Box 728**
City: **Savannah** State: **GA** zip: **31402**
Phone: Work:
Home:

2. Location of Well: County: **Newberry**
Name: **Enmark 380**
Address: **2725 College Street**
City: **Newberry, SC** Zip: **29108**
Latitude: Longitude:

3. Public System Name: **Public System Number:**

4. Abandonment: (yes/ no) **Yes**
Grouted Depth: from 0.00 to 32.00 ft.

Formation Description	Thickness of Stratum	Depth to Bottom of Stratum

5. Remarks: **GWD-1**

6. Type:

Mud Rotary	Jetted	Bored
Dug	Air Rotary	Driven
Cable tool	Auger	

7. Permit Number: **06588**

8. Use:

Residential	Public Supply	Process
Irrigation	Air Conditioning	Emergency
Test Well	Monitor Well	Replacement

9. Well Depth (completed) ft. Date Started: Date Completed:

10. Casing: Threaded Welded
Diameter:
Type:
in. to ft. depth
in. to ft. depth
Height: Below
Surface: ft. Weight: lb./ft.
Drive Shoe:

11. Screen:
Type: Diameter:
Slot/Gauge: Length:
Set Between: ft. and ft.
ft. and ft.
Sieve Analysis: Y/N

12. Static Water Level: ft. below land surface after 24 hours.

13. Pumping Level below land surface.
ft. after hrs Pumping GPM
Pumping Test:
Yield: gpm

14. Water Quality:
Chemical Analysis: No Bacterial Analysis: No

15. Artificial Filter (filter pack) Y/N
Installed from: ft. to ft.
Effective Size: Uniformity Coefficient

16. Well Grouted?
Neat Cement Bentonite Bentonite/Cement other
Depth: from ft. to 0 ft.

17. Nearest Source of Possible Contamination: ft. direction
Type:
Well disinfected Type: Amount:

18. Pump: Date installed: N/A
Mfr. Name: Model no.:
H.P.: Volts: Length of pipe: ft.
Capacity: gpm
TYPE:
Submersible Jet (shallow) Turbine
Jet (deep) Reciprocating Centrifugal

19. Well Driller Marshall Burnett **Cert No. 1671**
Address: 6004 Ponders Court **Level C**
Greenville SC 29615
Telephone: 864-527-9324 Fax: 864-288-4430

20. Water Well Driller's Certification: This well was drilled under my direction and this report is true to the best of my knowledge and belief.

Signed: Roland M Burnett

Date: 9/28/2010

If D Level Driller, provide supervising driller's name.

Water Well Record
Bureau of Water
2600 Bull Street, Columbia, SC 29201-1708; (803) 898-4300

1. Well Owner Information:
Name: **Enmark Station, Inc.**
Dolan (last) **Tom** (first)
Address: **Post Office Box 728**
City: **Savannah** State: **GA** zip: **31402**
Phone: Work:
Home:

2. Location of Well: County: **Newberry**
Name: **Enmark 380**
Address: **2725 College Street**
City: **Newberry, SC** Zip: **29108**
Latitude: Longitude:

3. Public System Name: **Public System Number:**

4. Abandonment: (yes/ no) **Yes**
Grouted Depth: from 0.00 to 44.00 ft.

Formation Description	Thickness of Stratum	Depth to Bottom of Stratum

5. Remarks: **GWD-2**

6. Type:

Mud Rotary	Jetted	Bored
Dug	Air Rotary	Driven
Cable tool	Auger	

7. Permit Number: **06588**

8. Use:

Residential	Public Supply	Process
Irrigation	Air Conditioning	Emergency
Test Well	Monitor Well	Replacement

9. Well Depth (completed) ft. Date Started: Date Completed:

10. Casing: Threaded Welded
Diameter:
Type:
in. to ft. depth
in. to ft. depth
Height: Below
Surface: ft. Weight: lb./ft.
Drive Shoe:

11. Screen:
Type: Diameter:
Slot/Gauge: Length:
Set Between: ft. and ft.
ft. and ft.
Sieve Analysis: Y/N

12. Static Water Level: ft. below land surface after 24 hours.

13. Pumping Level below land surface.
ft. after hrs Pumping GPM
Pumping Test:
Yield: gpm

14. Water Quality:
Chemical Analysis: No Bacterial Analysis: No

15. Artificial Filter (filter pack) Y/N
Installed from: ft. to ft.
Effective Size: Uniformity Coefficient

16. Well Grouted?
Neat Cement Bentonite Bentonite/Cement other
Depth: from ft. to 0 ft.

17. Nearest Source of Possible Contamination: ft. direction
Type:
Well disinfected Type: Amount:

18. Pump: Date installed: N/A
Mfr. Name: Model no.:
H.P.: Volts: Length of pipe: ft.
Capacity: gpm
TYPE:
Submersible Jet (shallow) Turbine
Jet (deep) Reciprocating Centrifugal

19. Well Driller Marshall Burnett **Cert No. 1671**
Address: 6004 Ponders Court **Level C**
Greenville SC 29615
Telephone: 864-527-9324 Fax: 864-288-4430

20. Water Well Driller's Certification: This well was drilled under my direction and this report is true to the best of my knowledge and belief.

Signed: Roland M Burnett

Date: 9/29/2010

If D Level Driller, provide supervising driller's name.

Water Well Record
Bureau of Water
2600 Bull Street, Columbia, SC 29201-1708; (803) 898-4300

1. Well Owner Information:
Name: **Enmark Station, Inc.**
Dolan (last) **Tom** (first)
Address: **Post Office Box 728**
City: **Savannah** State: **GA** zip: **31402**
Phone: Work:
Home:

2. Location of Well: County: **Newberry**
Name: **Enmark 380**
Address: **2725 College Street**
City: **Newberry, SC** Zip: **29108**
Latitude: Longitude:

3. Public System Name: **Public System Number:**

4. Abandonment: (yes/ no) **Yes**
Grouted Depth: from 0.00 to 45.00 ft.

Formation Description	Thickness of Stratum	Depth to Bottom of Stratum

5. Remarks: **GWD-3**

6. Type:

Mud Rotary	Jetted	Bored
Dug	Air Rotary	(Driven)
Cable tool	Auger	

7. Permit Number: **06588**

8. Use:

Residential	Public Supply	Process
Irrigation	Air Conditioning	Emergency
Test Well	Monitor Well	Replacement

9. Well Depth (completed)
ft. Date Started:
Date Completed:

10. Casing: Threaded Welded
Diameter:
Type:
in. to ft. depth
in. to ft. depth
Height: Below
Surface: ft. Weight: lb./ft.
Drive Shoe:

11. Screen:
Type: Diameter:
Slot/Gauge: Length:
Set Between: ft. and ft.
ft. and ft.
Sieve Analysis: Y/N

12. Static Water Level: ft. below land surface after 24 hours.

13. Pumping Level below land surface.
ft. after hrs Pumping GPM
Pumping Test:
Yield: gpm

14. Water Quality:
Chemical Analysis: No Bacterial Analysis: No

15. Artificial Filter (filter pack) Y/N
Installed from: ft. to ft.
Effective Size: Uniformity Coefficient

16. Well Grouted?

(Neat Cement)	Bentonite	Bentonite/Cement	other

Depth: from ft. to 0 ft.

17. Nearest Source of Possible Contamination: ft. direction
Type:
Well disinfected Type: Amount:

18. Pump: Date installed: N/A
Mfr. Name: Model no.:
H.P.: Volts: Length of pipe: ft.
Capacity: gpm
TYPE:
Submersible Jet (shallow) Turbine
Jet (deep) Reciprocating Centrifugal

19. Well Driller Marshall Burnett **Cert No. 1671**
Address: 6004 Ponders Court **Level C**
Greenville SC 29615
Telephone: 864-527-9324 Fax: 864-288-4430

20. Water Well Driller's Certification: This well was drilled under my direction and this report is true to the best of my knowledge and belief.

Signed: Roland M Burnett

Date: 9/30/2010

If D Level Driller, provide supervising driller's name.

APPENDIX B

GEOPROBE® SOIL SCREENING AND SAMPLING PROCEDURES, SOIL SCREENING LABORATORY DATA SHEETS, AND GEOPROBE® BORING 1903 WELL RECORDS

APPENDIX B

GEOPROBE® SOIL SCREENING AND SAMPLING PROCEDURES

Soil Screening

Soil samples were collected using a GeoProbe® 6620 DT track-mounted drilling rig employing a Macro-Core Soil Sampler. The assembled Macro-Core Soil Sampler was attached to the leading end of a probe rod and driven into the subsurface using the Geoprobe rig by static force and percussion. Additional probe rods were connected in succession to advance the sampler to depth in five-foot increments. The open-tube sampler was inserted back down the same hole to obtain the next core. The samples were removed from the Macro-Core Sampler by unscrewing the cutting shoe and pulling out the polyvinyl chloride (PVC) liner. The soil samples were screened in 1-foot increments by puncturing a small hole in the PVC liner and immediately scanning the headspace in the liner using a PID.

A. General

Samples were marked with identifying numbers, placed immediately in sample coolers, secured, and maintained at $\leq 4^{o}$ C. Preservatives were added to the samples as required. Samples were shipped to Shealy Environmental Services., Inc. in Columbia, South Carolina for analysis. Appropriate chain-of-custody records were maintained.

BLE INC.

BUNNELL-LAMMONS ENGINEERING, INC.

GEOTECHNICAL AND ENVIRONMENTAL CONSULTANTS

GEOPROBE BORING NO. PSB-1

PROJECT: Spinx #258 / Former Enmark #380 — PROJECT NO.: J10-6859-02

CLIENT: Enmark Stations, Inc. — START: 10-1-10 END: 10-1-10

LOCATION: Newberry, South Carolina — ELEVATION:

DRILLER: Landprobe, M. Burnett — LOGGED BY: R. Doherty

DRILLING METHOD: Geoprobe 6620 DT Track Mounted Direct Push

DEPTH TO - WATER> INITIAL: ▽ _____ AFTER 24 HOURS: ▼ _____ CAVING> _____

ELEVATION/ DEPTH (FT)	DESCRIPTION	SOIL TYPE	SAMPLES	PID (ppm) READING
	GRASS			0.0
	Slightly yellowish, reddish-brown, dry, silty, fine SAND with bands of yellowish-brown, dry, clayey sand			0.0
				0.0
	Reddish-yellowish-brown, dry, slightly silty, fine SAND			0.0
				0.0
5				0.0
				0.0
				0.0
				0.0
10				0.0
				0.0
				0.0
	Light reddish, yellowish, grayish-brown, slightly moist SAND			0.0
				0.0
15	Yellowish, reddish-brown, slightly moist, micaceous, slightly silty, medium to fine SAND			0.0
				215
				4.8
				76.0
	Dark yellowish-brown, moist SAND			0.0
20	Reddish, yellowish-brown, moist, silty SAND			0.0
	Dark reddish, yellowish-brown, wet, slightly clayey, silty, fine SAND			430
	Slightly reddish, yellowish-brown, wet, slightly silty, fine SAND			1.2
				184
				54
25	Dark yellowish-brown, wet, medium to fine SAND			0.0
	Boring terminated at 25 feet below ground surface. No groundwater encountered at time of drilling.			
30				
35				

ENVNOWELL_PIDONLY 6859-02.GPJ 12/12/10

Water Well Record
Bureau of Water
2600 Bull Street, Columbia, SC 29201-1708; (803) 898-4300

1. Well Owner Information:
Name: **Enmark Station, Inc.**
Dolan (last) **Tom** (first)
Address: **Post Office Box 728**
City: **Savannah** State: **GA** zip: **31402**
Phone: Work:
Home:

2. Location of Well: County: **Newberry**
Name: **Enmark 380**
Address: **2725 College Street**
City: **Newberry, SC** Zip: **29108**
Latitude: Longitude:

3. Public System Name: **Public System Number:**

4. Abandonment: (yes/ no) **Yes**
Grouted Depth: from 0.00 to 25.00 ft.

Formation Description	Thickness of Stratum	Depth to Bottom of Stratum

5. Remarks:
PSB-1

6. Type:

Mud Rotary	Jetted	Bored
Dug	Air Rotary	Driven
Cable tool	Auger	

7. Permit Number: **06588**

8. Use:

Residential	Public Supply	Process
Irrigation	Air Conditioning	Emergency
Test Well	Monitor Well	Replacement

9. Well Depth (completed) ft. Date Started: Date Completed:

10. Casing: Threaded Welded
Diameter:
Type:
in. to ft. depth
in. to ft. depth
Height: Below
Surface: ft. Weight: lb./ft.
Drive Shoe:

11. Screen:
Type: Diameter:
Slot/Gauge: Length:
Set Between: ft. and ft.
ft. and ft.
Sieve Analysis: Y/N

12. Static Water Level: ft. below land surface after 24 hours.

13. Pumping Level below land surface.
ft. after hrs Pumping GPM
Pumping Test:
Yield: gpm

14. Water Quality:
Chemical Analysis: No Bacterial Analysis: No

15. Artificial Filter (filter pack) Y/N
Installed from: ft. to ft.
Effective Size: Uniformity Coefficient

16. Well Grouted? **Yes**
Neat Cement Bentonite Bentonite/Cement other
Depth: from ft. to 0 ft.

17. Nearest Source of Possible Contamination: ft. direction
Type:
Well disinfected Type: Amount:

18. Pump: Date installed: N/A
Mfr. Name: Model no.:
H.P.: Volts: Length of pipe: ft.
Capacity: gpm
TYPE:
Submersible Jet (shallow) Turbine
Jet (deep) Reciprocating Centrifugal

19. Well Driller Marshall Burnett **Cert No. 1671**
Address: 6004 Ponders Court **Level C**
Greenville SC 29615
Telephone: 864-527-9324 Fax: 864-288-4430

20. Water Well Driller's Certification: This well was drilled under my direction and this report is true to the best of my knowledge and belief.

Signed: Richard M Burnett

Date: 10/1/2010

If D Level Driller, provide supervising driller's name.

BLE INC.

BUNNELL-LAMMONS ENGINEERING, INC.

GEOTECHNICAL AND ENVIRONMENTAL CONSULTANTS

GEOPROBE BORING NO. PSB-2

PROJECT: Spinx #258 / Former Enmark #380 — PROJECT NO.: J10-6859-02

CLIENT: Enmark Stations, Inc. — START: 10-1-10 END: 10-1-10

LOCATION: Newberry, South Carolina — ELEVATION:

DRILLER: Landprobe, M. Burnett — LOGGED BY: R. Doherty

DRILLING METHOD: Geoprobe 6620 DT Track Mounted Direct Push

DEPTH TO - WATER> INITIAL: ▽ _____ AFTER 24 HOURS: ▼ _____ CAVING> _____

ELEVATION/ DEPTH (FT)	DESCRIPTION	SOIL TYPE	SAMPLES	PID (ppm) READING
	GRASS			0.0
	Slightly reddish, yellowish-brown, dry, slightly silty, clayey, fine SAND			0.0
				0.0
				0.0
	Yellowish, reddish-brown, dry, silty, fine SAND			0.0
5				0.0
	Slightly reddish, yellowish-brown, dry, medium to fine SAND			0.0
				0.0
				0.0
				1.6
10				0.0
				0.0
				0.0
				0.0
	Slightly reddish, yellowish-brown, moist, medium to fine SAND			0.0
15				0.0
				22.7
				82.7
				0.0
				0.5
20	Slightly reddish, yellowish-brown, moist, coarse SAND			92.3
				409
				1,118
				229
				546
25				7.4
	Boring terminated at 25 feet below ground surface. No groundwater encountered at time of drilling.			
30				
35				

ENVNOWELL_PIDONLY 6859-02.GPJ 12/12/10

Water Well Record
Bureau of Water
2600 Bull Street, Columbia, SC 29201-1708; (803) 898-4300

1. Well Owner Information:
Name: **Enmark Station, Inc.**
Dolan (last) **Tom** (first)
Address: **Post Office Box 728**
City: **Savannah** State: **GA** zip: **31402**
Phone: Work:
Home:

2. Location of Well: County: **Newberry**
Name: **Enmark 380**
Address: **2725 College Street**
City: **Newberry, SC** Zip: **29108**
Latitude: Longitude:

3. Public System Name: **Public System Number:**

4. Abandonment: (yes/ no) **Yes**
Grouted Depth: from 0.00 to 25.00 ft.

Formation Description	Thickness of Stratum	Depth to Bottom of Stratum

5. Remarks:
PSB-2

6. Type:

Mud Rotary	Jetted	Bored
Dug	Air Rotary	(Driven)
Cable tool	Auger	

7. Permit Number: **06588**

8. Use:

Residential	Public Supply	Process
Irrigation	Air Conditioning	Emergency
Test Well	Monitor Well	Replacement

9. Well Depth (completed)
ft. Date Started:
Date Completed:

10. Casing: Threaded Welded
Diameter:
Type:
in. to ft. depth
in. to ft. depth
Height: Below
Surface: ft. Weight: lb./ft.
Drive Shoe:

11. Screen:
Type: Diameter:
Slot/Gauge: Length:
Set Between: ft. and ft.
ft. and ft.
Sieve Analysis: Y/N

12. Static Water Level: ft. below land surface after 24 hours.

13. Pumping Level below land surface.
ft. after hrs Pumping GPM
Pumping Test:
Yield: gpm

14. Water Quality:
Chemical Analysis: No Bacterial Analysis: No

15. Artificial Filter (filter pack) Y/N
Installed from: ft. to ft.
Effective Size: Uniformity Coefficient

16. Well Grouted? **Yes**

(Neat Cement)	Bentonite	Bentonite/Cement	other

Depth: from ft. to 0 ft.

17. Nearest Source of Possible Contamination: ft. direction
Type:
Well disinfected Type: Amount:

18. Pump: Date installed: N/A
Mfr. Name: Model no.:
H.P.: Volts: Length of pipe: ft.
Capacity: gpm
TYPE:

Submersible	Jet (shallow)	Turbine
Jet (deep)	Reciprocating	Centrifugal

19. Well Driller Marshall Burnett **Cert No. 1671**
Address: 6004 Ponders Court **Level C**
Greenville SC 29615
Telephone: 864-527-9324 Fax: 864-288-4430

20. Water Well Driller's Certification: This well was drilled under my direction and this report is true to the best of my knowledge and belief.

Signed: Richard M Burnett

Date: 10/1/2010

If D Level Driller, provide supervising driller's name.

BLE INC.

BUNNELL-LAMMONS ENGINEERING, INC.

GEOTECHNICAL AND ENVIRONMENTAL CONSULTANTS

GEOPROBE BORING NO. PSB-3

PROJECT: Spinx #258 / Former Enmark #380 — PROJECT NO.: J10-6859-02

CLIENT: Enmark Stations, Inc. — START: 10-1-10 END: 10-1-10

LOCATION: Newberry, South Carolina — ELEVATION:

DRILLER: Landprobe, M. Burnett — LOGGED BY: R. Doherty

DRILLING METHOD: Geoprobe 6620 DT Track Mounted Direct Push

DEPTH TO - WATER> INITIAL: ▽ _____ AFTER 24 HOURS: ▼ _____ CAVING> _____

ELEVATION/ DEPTH (FT)	DESCRIPTION	SOIL TYPE	SAMPLES	PID (ppm) READING
	GRASS			0.0
	Slightly yellowish, reddish-brown, dry, silty, medium to fine SAND			0.0
	Slightly reddish, yellowish-brown, dry, slightly clayey, silty, medium to fine SAND			0.0
				0.0
	Yellowish, reddish-brown, dry, slightly silty, medium to fine SAND			0.0
5				1.1
				13.2
				9.5
	Reddish, yellowish-brown, dry, slightly silty, medium to fine SAND			60.2
				0.0
10				177
				194
	Light yellowish-brown, slightly moist, medium to fine SAND			46.1
	Slightly reddish, yellowish-brown, slightly moist, medium to fine SAND			23.9
				11.3
15				1,121
				516
	Geoprobe refusal encountered at 17 feet below ground surface. No groundwater encountered at time of drilling.			
20				
25				
30				
35				

ENV\NOWELL_PIDONLY 6859-02.GPJ 12/18/10

Water Well Record
Bureau of Water
2600 Bull Street, Columbia, SC 29201-1708; (803) 898-4300

1. Well Owner Information:
Name: **Enmark Station, Inc.**
Dolan (last) **Tom** (first)
Address: **Post Office Box 728**
City: **Savannah** State: **GA** zip: **31402**
Phone: Work:
Home:

2. Location of Well: County: **Newberry**
Name: **Enmark 380**
Address: **2725 College Street**
City: **Newberry, SC** Zip: **29108**
Latitude: Longitude:

3. Public System Name: **Public System Number:**

4. Abandonment: (yes/ no) **Yes**
Grouted Depth: from 0.00 to 17.00 ft.

Formation Description	Thickness of Stratum	Depth to Bottom of Stratum

5. Remarks:
PSB-3

6. Type:

Mud Rotary	Jetted	Bored
Dug	Air Rotary	(Driven)
Cable tool	Auger	

7. Permit Number: **06588**

8. Use:

Residential	Public Supply	Process
Irrigation	Air Conditioning	Emergency
Test Well	Monitor Well	Replacement

9. Well Depth (completed)
ft. Date Started:
Date Completed:

10. Casing: Threaded Welded
Diameter:
Type:
in. to ft. depth
in. to ft. depth
Height: Below
Surface: ft. Weight: lb./ft.
Drive Shoe:

11. Screen:
Type: Diameter:
Slot/Gauge: Length:
Set Between: ft. and ft.
ft. and ft.
Sieve Analysis: Y/N

12. Static Water Level: ft. below land surface after 24 hours.

13. Pumping Level below land surface.
ft. after hrs Pumping GPM
Pumping Test:
Yield: gpm

14. Water Quality:
Chemical Analysis: No Bacterial Analysis: No

15. Artificial Filter (filter pack) Y/N
Installed from: ft. to ft.
Effective Size: Uniformity Coefficient

16. Well Grouted? **Yes**

(Neat Cement)	Bentonite	Bentonite/Cement	other

Depth: from ft. to 0 ft.

17. Nearest Source of Possible Contamination: ft. direction
Type:
Well disinfected Type: Amount:

18. Pump: Date installed: N/A
Mfr. Name: Model no.:
H.P.: Volts: Length of pipe: ft.
Capacity: gpm
TYPE:
Submersible Jet (shallow) Turbine
Jet (deep) Reciprocating Centrifugal

19. Well Driller Marshall Burnett **Cert No. 1671**
Address: 6004 Ponders Court **Level C**
Greenville SC 29615
Telephone: 864-527-9324 Fax: 864-288-4430

20. Water Well Driller's Certification: This well was drilled under my direction and this report is true to the best of my knowledge and belief.

Signed: Richard M Burnett

Date: 10/1/2010

If D Level Driller, provide supervising driller's name.

BLE INC.

BUNNELL-LAMMONS ENGINEERING, INC.

GEOTECHNICAL AND ENVIRONMENTAL CONSULTANTS

GEOPROBE BORING NO. PSB-4

PROJECT: Spinx #258 / Former Enmark #380 — PROJECT NO.: J10-6859-02

CLIENT: Enmark Stations, Inc. — START: 10-1-10 END: 10-1-10

LOCATION: Newberry, South Carolina — ELEVATION:

DRILLER: Landprobe, M. Burnett — LOGGED BY: R. Doherty

DRILLING METHOD: Geoprobe 6620DT Track Mounted Direct Push

DEPTH TO - WATER> INITIAL: ▽ _____ AFTER 24 HOURS: ▼ _____ CAVING> _____

ELEVATION/ DEPTH (FT)	DESCRIPTION	SOIL TYPE	SAMPLES	PID (ppm) READING
	ASPHALT and GRAVEL			0.0
	Yellow, dry, medium to coarse SAND			0.0
	Yellowish, reddish-brown, dry, clayey, silty, medium to fine SAND			0.0
				70.5
	Slightly yellowish, reddish-brown, dry, micaceous, silty, medium to fine SAND			49.5
5				39.5
				1,053
				1,494
	Reddish, yellowish-brown, dry, silty, medium to fine SAND			1,343
				108
10				13.5
				294
				214
				801
				440
15	Light yellowish-brown, slightly moist, medium to fine SAND			847
				1,858
				1,010
	Dark yellowish-brown, moist, micaceous, slightly silty, medium to fine SAND			102.6
				132
20				2,176
	Dark, slightly reddish, yellowish-brown, wet, slightly silty, medium to fine SAND			1,245
				2,566
				25.1
				0.0
25	Boring terminated at 25 feet below ground surface. No groundwater encountered at time of drilling.			
30				
35				

ENVNOWELL_PIDONLY 6859-02.GPJ 12/18/10

Water Well Record
Bureau of Water
2600 Bull Street, Columbia, SC 29201-1708; (803) 898-4300

1. Well Owner Information:
Name: **Enmark Station, Inc.**
Dolan (last) **Tom** (first)
Address: **Post Office Box 728**
City: **Savannah** State: **GA** zip: **31402**
Phone: Work:
Home:

2. Location of Well: County: **Newberry**
Name: **Enmark 380**
Address: **2725 College Street**
City: **Newberry, SC** Zip: **29108**
Latitude: Longitude:

3. Public System Name: **Public System Number:**

4. Abandonment: (yes/ no) **Yes**
Grouted Depth: from 0.00 to 25.00 ft.

Formation Description	Thickness of Stratum	Depth to Bottom of Stratum

5. Remarks:
PSB-4

6. Type:

Mud Rotary	Jetted	Bored
Dug	Air Rotary	(Driven)
Cable tool	Auger	

7. Permit Number: **06588**

8. Use:

Residential	Public Supply	Process
Irrigation	Air Conditioning	Emergency
Test Well	Monitor Well	Replacement

9. Well Depth (completed)
ft. Date Started:
Date Completed:

10. Casing: Threaded Welded
Diameter:
Type:
in. to ft. depth
in. to ft. depth
Height: Below
Surface: ft. Weight: lb./ft.
Drive Shoe:

11. Screen:
Type: Diameter:
Slot/Gauge: Length:
Set Between: ft. and ft.
ft. and ft.
Sieve Analysis: Y/N

12. Static Water Level: ft. below land surface after 24 hours.

13. Pumping Level below land surface.
ft. after hrs Pumping GPM
Pumping Test:
Yield: gpm

14. Water Quality:
Chemical Analysis: No Bacterial Analysis: No

15. Artificial Filter (filter pack) Y/N
Installed from: ft. to ft.
Effective Size: Uniformity Coefficient

16. Well Grouted? **Yes**

(Neat Cement)	Bentonite	Bentonite/Cement	other

Depth: from ft. to 0 ft.

17. Nearest Source of Possible Contamination: ft. direction
Type:
Well disinfected Type: Amount:

18. Pump: Date installed: N/A
Mfr. Name: Model no.:
H.P.: Volts: Length of pipe: ft.
Capacity: gpm
TYPE:

Submersible	Jet (shallow)	Turbine
Jet (deep)	Reciprocating	Centrifugal

19. Well Driller Marshall Burnett **Cert No. 1671**
Address: 6004 Ponders Court **Level C**
Greenville SC 29615
Telephone: 864-527-9324 Fax: 864-288-4430

20. Water Well Driller's Certification: This well was drilled under my direction and this report is true to the best of my knowledge and belief.

Signed: Richard M Burnett

Date: 10/1/2010

If D Level Driller, provide supervising driller's name.

BLE INC.

BUNNELL-LAMMONS ENGINEERING, INC.

GEOTECHNICAL AND ENVIRONMENTAL CONSULTANTS

GEOPROBE BORING NO. PSB-5

PROJECT: Spinx #258 / Former Enmark #380 — PROJECT NO.: J10-6859-02

CLIENT: Enmark Stations, Inc. — START: 10-1-10 END: 10-1-10

LOCATION: Newberry, South Carolina — ELEVATION:

DRILLER: Landprobe, M. Burnett — LOGGED BY: R. Doherty

DRILLING METHOD: Geoprobe 6620DT Track Mounted Direct Push

DEPTH TO - WATER> INITIAL: ▽ _____ AFTER 24 HOURS: ▼ _____ CAVING> _____

ELEVATION/ DEPTH (FT)	DESCRIPTION	SOIL TYPE	SAMPLES	PID (ppm) READING
	ASPHALT			59.7
	Yellowish, reddish-brown, dry, slightly clayey, silty, fine SAND			56.0
				64.0
				4.7
	Reddish, yellowish-brown, dry, slightly silty, fine SAND			17.1
5				57.1
				22.6
				0.0
				2.6
	Light yellowish-brown, dry, micaceous, medium to fine SAND			136
10	Boring terminated at 10 feet below ground surface. No groundwater encountered at time of drilling.			23.0
15				
20				
25				
30				
35				

ENVNOWELL_PIDONLY 6859-02.GPJ 1/20/11

Water Well Record
Bureau of Water
2600 Bull Street, Columbia, SC 29201-1708; (803) 898-4300

1. Well Owner Information:
Name: **Enmark Station, Inc.**
Dolan (last) **Tom** (first)
Address: **Post Office Box 728**
City: **Savannah** State: **GA** zip: **31402**
Phone: Work:
Home:

2. Location of Well: County: **Newberry**
Name: **Enmark 380**
Address: **2725 College Street**
City: **Newberry, SC** Zip: **29108**
Latitude: Longitude:

3. Public System Name: **Public System Number:**

4. Abandonment: (yes/ no) **Yes**
Grouted Depth: from 0.00 to 10.00 ft.

Formation Description	Thickness of Stratum	Depth to Bottom of Stratum

5. Remarks:
PSB-5

6. Type:

Mud Rotary	Jetted	Bored
Dug	Air Rotary	Driven
Cable tool	Auger	

7. Permit Number: **06588**

8. Use:

Residential	Public Supply	Process
Irrigation	Air Conditioning	Emergency
Test Well	Monitor Well	Replacement

9. Well Depth (completed)
ft. Date Started:
Date Completed:

10. Casing: Threaded Welded
Diameter:
Type:
in. to ft. depth
in. to ft. depth
Height: Below
Surface: ft. Weight: lb./ft.
Drive Shoe:

11. Screen:
Type: Diameter:
Slot/Gauge: Length:
Set Between: ft. and ft.
ft. and ft.
Sieve Analysis: Y/N

12. Static Water Level: ft. below land surface after 24 hours.

13. Pumping Level below land surface.
ft. after hrs Pumping GPM
Pumping Test:
Yield: gpm

14. Water Quality:
Chemical Analysis: No Bacterial Analysis: No

15. Artificial Filter (filter pack) Y/N
Installed from: ft. to ft.
Effective Size: Uniformity Coefficient

16. Well Grouted? **Yes**

Neat Cement	Bentonite	Bentonite/Cement	other

Depth: from ft. to 0 ft.

17. Nearest Source of Possible Contamination: ft. direction
Type:
Well disinfected Type: Amount:

18. Pump: Date installed: N/A
Mfr. Name: Model no.:
H.P.: Volts: Length of pipe: ft.
Capacity: gpm
TYPE:
Submersible Jet (shallow) Turbine
Jet (deep) Reciprocating Centrifugal

19. Well Driller Marshall Burnett **Cert No. 1671**
Address: 6004 Ponders Court **Level C**
Greenville SC 29615
Telephone: 864-527-9324 Fax: 864-288-4430

20. Water Well Driller's Certification: This well was drilled under my direction and this report is true to the best of my knowledge and belief.

Signed: Richard M Burnett

Date: 10/1/2010

If D Level Driller, provide supervising driller's name.

BLE INC.

BUNNELL-LAMMONS ENGINEERING, INC.

GEOTECHNICAL AND ENVIRONMENTAL CONSULTANTS

GEOPROBE BORING NO. PSB-6

PROJECT: Spinx #258 / Former Enmark #380 — PROJECT NO.: J10-6859-02

CLIENT: Enmark Stations, Inc. — START: 10-1-10 END: 10-1-10

LOCATION: Newberry, South Carolina — ELEVATION:

DRILLER: Landprobe, M. Burnett — LOGGED BY: R. Doherty

DRILLING METHOD: Geoprobe 6620DT Track Mounted Direct Push

DEPTH TO - WATER> INITIAL: ▽ _____ AFTER 24 HOURS: ▼ _____ CAVING> _____

ELEVATION/ DEPTH (FT)	DESCRIPTION	SOIL TYPE	SAMPLES	PID (ppm) READING
	ASPHALT			404
	Yellowish, reddish-brown, dry, slightly clayey, silty, medium to fine SAND			237
				3.9
	Reddish, yellowish-brown, dry, slightly silty, medium to fine SAND			203
5	Light, slightly reddish, yellowish-brown, dry, micaceous, medium to fine SAND			335
				66.3
				930
				1,499
				1,133
	Dark reddish, yellowish-brown, dry, slightly silty, medium to fine SAND			216
10	Boring terminated at 10 feet below ground surface. No groundwater encountered at time of drilling.			18.5
15				
20				
25				
30				
35				

ENV/NOWELL_PIDONLY 6859-02.GPJ 12/12/10

Water Well Record
Bureau of Water
2600 Bull Street, Columbia, SC 29201-1708; (803) 898-4300

1. Well Owner Information:
Name: **Enmark Station, Inc.**
Dolan (last) **Tom** (first)
Address: **Post Office Box 728**
City: **Savannah** State: **GA** zip: **31402**
Phone: Work:
Home:

2. Location of Well: County: **Newberry**
Name: **Enmark 380**
Address: **2725 College Street**
City: **Newberry, SC** Zip: **29108**
Latitude: Longitude:

3. Public System Name: **Public System Number:**

4. Abandonment: (yes/ no) **Yes**
Grouted Depth: from 0.00 to 10.00 ft.

Formation Description	Thickness of Stratum	Depth to Bottom of Stratum

5. Remarks:
PSB-6

6. Type:

Mud Rotary	Jetted	Bored
Dug	Air Rotary	(Driven)
Cable tool	Auger	

7. Permit Number: **06588**

8. Use:

Residential	Public Supply	Process
Irrigation	Air Conditioning	Emergency
Test Well	Monitor Well	Replacement

9. Well Depth (completed)
ft. Date Started:
Date Completed:

10. Casing: Threaded Welded
Diameter:
Type:
in. to ft. depth
in. to ft. depth
Height: Below
Surface: ft. Weight: lb./ft.
Drive Shoe:

11. Screen:
Type: Diameter:
Slot/Gauge: Length:
Set Between: ft. and ft.
ft. and ft.
Sieve Analysis: Y/N

12. Static Water Level: ft. below land surface after 24 hours.

13. Pumping Level below land surface.
ft. after hrs Pumping GPM
Pumping Test:
Yield: gpm

14. Water Quality:
Chemical Analysis: No Bacterial Analysis: No

15. Artificial Filter (filter pack) Y/N
Installed from: ft. to ft.
Effective Size: Uniformity Coefficient

16. Well Grouted? **Yes**

(Neat Cement)	Bentonite	Bentonite/Cement	other

Depth: from ft. to 0 ft.

17. Nearest Source of Possible Contamination: ft. direction
Type:
Well disinfected Type: Amount:

18. Pump: Date installed: N/A
Mfr. Name: Model no.:
H.P.: Volts: Length of pipe: ft.
Capacity: gpm
TYPE:

Submersible	Jet (shallow)	Turbine
Jet (deep)	Reciprocating	Centrifugal

19. Well Driller Marshall Burnett **Cert No. 1671**
Address: 6004 Ponders Court **Level C**
Greenville SC 29615
Telephone: 864-527-9324 Fax: 864-288-4430

20. Water Well Driller's Certification: This well was drilled under my direction and this report is true to the best of my knowledge and belief.

Signed: Richard M Burnett

Date: 10/1/2010

If D Level Driller, provide supervising driller's name.

BLE INC.

BUNNELL-LAMMONS ENGINEERING, INC.

GEOTECHNICAL AND ENVIRONMENTAL CONSULTANTS

GEOPROBE BORING NO. PSB-7

PROJECT: Spinx #258 / Former Enmark #380 — PROJECT NO.: J10-6859-02

CLIENT: Enmark Stations, Inc. — START: 10-1-10 END: 10-1-10

LOCATION: Newberry, South Carolina — ELEVATION:

DRILLER: Landprobe, M. Burnett — LOGGED BY: R. Doherty

DRILLING METHOD: Geoprobe 6620DT Track Mounted Direct Push

DEPTH TO - WATER> INITIAL: ▽ AFTER 24 HOURS: ▼ CAVING>

ELEVATION/ DEPTH (FT)	DESCRIPTION	SOIL TYPE	SAMPLES	PID (ppm) READING
	ASPHALT			19.7
	Yellowish, reddish-brown, dry, slightly clayey, silty, medium to fine SAND			38.7
				144
	Yellowish, reddish-brown, dry, micaceous, silty, medium to fine SAND			416
5				350
				704
				1,590
				247
				22.1
10				20.6
	Boring terminated at 10 feet below ground surface. No groundwater encountered at time of drilling.			
15				
20				
25				
30				
35				

ENVNOWELL_PIDONLY 6859-02.GPJ 12/12/10

Water Well Record
Bureau of Water
2600 Bull Street, Columbia, SC 29201-1708; (803) 898-4300

1. Well Owner Information:
Name: **Enmark Station, Inc.**
Dolan (last) **Tom** (first)
Address: **Post Office Box 728**
City: **Savannah** State: **GA** zip: **31402**
Phone: Work:
Home:

2. Location of Well: County: **Newberry**
Name: **Enmark 380**
Address: **2725 College Street**
City: **Newberry, SC** Zip: **29108**
Latitude: Longitude:

3. Public System Name: **Public System Number:**

4. Abandonment: (yes/ no) **Yes**
Grouted Depth: from 0.00 to 10.00 ft.

Formation Description	Thickness of Stratum	Depth to Bottom of Stratum

5. Remarks:
PSB-7

6. Type:

Mud Rotary	Jetted	Bored
Dug	Air Rotary	(Driven)
Cable tool	Auger	

7. Permit Number: **06588**

8. Use:

Residential	Public Supply	Process
Irrigation	Air Conditioning	Emergency
Test Well	Monitor Well	Replacement

9. Well Depth (completed)
ft. Date Started:
Date Completed:

10. Casing: Threaded Welded
Diameter:
Type:
in. to ft. depth
in. to ft. depth
Height: Below
Surface: ft. Weight: lb./ft.
Drive Shoe:

11. Screen:
Type: Diameter:
Slot/Gauge: Length:
Set Between: ft. and ft.
ft. and ft.
Sieve Analysis: Y/N

12. Static Water Level: ft. below land surface after 24 hours.

13. Pumping Level below land surface.
ft. after hrs Pumping GPM
Pumping Test:
Yield: gpm

14. Water Quality:
Chemical Analysis: No Bacterial Analysis: No

15. Artificial Filter (filter pack) Y/N
Installed from: ft. to ft.
Effective Size: Uniformity Coefficient

16. Well Grouted? **Yes**

(Neat Cement)	Bentonite	Bentonite/Cement	other

Depth: from ft. to 0 ft.

17. Nearest Source of Possible Contamination: ft. direction
Type:
Well disinfected Type: Amount:

18. Pump: Date installed: N/A
Mfr. Name: Model no.:
H.P.: Volts: Length of pipe: ft.
Capacity: gpm
TYPE:

Submersible	Jet (shallow)	Turbine
Jet (deep)	Reciprocating	Centrifugal

19. Well Driller Marshall Burnett **Cert No. 1671**
Address: 6004 Ponders Court **Level C**
Greenville SC 29615
Telephone: 864-527-9324 Fax: 864-288-4430

20. Water Well Driller's Certification: This well was drilled under my direction and this report is true to the best of my knowledge and belief.

Signed: Richard M Burnett

Date: 10/1/2010

If D Level Driller, provide supervising driller's name.

BLE INC.

BUNNELL-LAMMONS ENGINEERING, INC.

GEOTECHNICAL AND ENVIRONMENTAL CONSULTANTS

GEOPROBE BORING NO. PSB-8

PROJECT: Spinx #258 / Former Enmark #380 — PROJECT NO.: J10-6859-02

CLIENT: Enmark Stations, Inc. — START: 10-1-10 END: 10-1-10

LOCATION: Newberry, South Carolina — ELEVATION:

DRILLER: Landprobe, M. Burnett — LOGGED BY: R. Doherty

DRILLING METHOD: Geoprobe 6620DT Track Mounted Direct Push

DEPTH TO - WATER> INITIAL: ▽ _____ AFTER 24 HOURS: ▼ _____ CAVING> _____

ELEVATION/ DEPTH (FT)	DESCRIPTION	SOIL TYPE	SAMPLES	PID (ppm) READING
	CONCRETE			11.8
	Yellowish, reddish-brown, dry, slightly clayey, silty, fine SAND			6.3
				0.0
	Yellowish, reddish-brown, dry, silty, medium to fine SAND			0.0
5				22.9
				321
				205
				162
				173
				0.0
10	Boring terminated at 10 feet below ground surface. No groundwater encountered at time of drilling.			
15				
20				
25				
30				
35				

ENVNOWELL_PIDONLY 6859-02.GPJ 12/12/10

Water Well Record
Bureau of Water
2600 Bull Street, Columbia, SC 29201-1708; (803) 898-4300

1. Well Owner Information:
Name: **Enmark Station, Inc.**
Dolan (last) **Tom** (first)
Address: **Post Office Box 728**
City: **Savannah** State: **GA** zip: **31402**
Phone: Work:
Home:

2. Location of Well: County: **Newberry**
Name: **Enmark 380**
Address: **2725 College Street**
City: **Newberry, SC** Zip: **29108**
Latitude: Longitude:

3. Public System Name: **Public System Number:**

4. Abandonment: (yes/ no) **Yes**
Grouted Depth: from 0.00 to 10.00 ft.

Formation Description	Thickness of Stratum	Depth to Bottom of Stratum

5. Remarks:
PSB-8

6. Type:

Mud Rotary	Jetted	Bored
Dug	Air Rotary	(Driven)
Cable tool	Auger	

7. Permit Number: **06588**

8. Use:

Residential	Public Supply	Process
Irrigation	Air Conditioning	Emergency
Test Well	Monitor Well	Replacement

9. Well Depth (completed)
ft. Date Started:
Date Completed:

10. Casing: Threaded Welded
Diameter:
Type:
in. to ft. depth
in. to ft. depth
Height: Below
Surface: ft. Weight: lb./ft.
Drive Shoe:

11. Screen:
Type: Diameter:
Slot/Gauge: Length:
Set Between: ft. and ft.
ft. and ft.
Sieve Analysis: Y/N

12. Static Water Level: ft. below land surface after 24 hours.

13. Pumping Level below land surface.
ft. after hrs Pumping GPM
Pumping Test:
Yield: gpm

14. Water Quality:
Chemical Analysis: No Bacterial Analysis: No

15. Artificial Filter (filter pack) Y/N
Installed from: ft. to ft.
Effective Size: Uniformity Coefficient

16. Well Grouted? **Yes**

(Neat Cement)	Bentonite	Bentonite/Cement	other

Depth: from ft. to 0 ft.

17. Nearest Source of Possible Contamination: ft. direction
Type:
Well disinfected Type: Amount:

18. Pump: Date installed: N/A
Mfr. Name: Model no.:
H.P.: Volts: Length of pipe: ft.
Capacity: gpm
TYPE:

Submersible	Jet (shallow)	Turbine
Jet (deep)	Reciprocating	Centrifugal

19. Well Driller Marshall Burnett **Cert No. 1671**
Address: 6004 Ponders Court **Level C**
Greenville SC 29615
Telephone: 864-527-9324 Fax: 864-288-4430

20. Water Well Driller's Certification: This well was drilled under my direction and this report is true to the best of my knowledge and belief.

Signed: Richard M Burnett

Date: 10/1/2010

If D Level Driller, provide supervising driller's name.

BLE INC.

BUNNELL-LAMMONS ENGINEERING, INC.

GEOTECHNICAL AND ENVIRONMENTAL CONSULTANTS

GEOPROBE BORING NO. PSB-9

PROJECT: Spinx #258 / Former Enmark #380 — PROJECT NO.: J10-6859-02

CLIENT: Enmark Stations, Inc. — START: 10-1-10 END: 10-1-10

LOCATION: Newberry, South Carolina — ELEVATION:

DRILLER: Landprobe, M. Burnett — LOGGED BY: R. Doherty

DRILLING METHOD: Geoprobe 6620DT Track Mounted Direct Push

DEPTH TO - WATER> INITIAL: ▽ _____ AFTER 24 HOURS: ▼ _____ CAVING> _____

ELEVATION/ DEPTH (FT)	DESCRIPTION	SOIL TYPE	SAMPLES	PID (ppm) READING
	CONCRETE			0.0
	Yellowish, reddish-brown, dry, slightly clayey, silty, medium to fine SAND			0.0
				0.0
	Reddish, yellowish-brown, dry, silty, medium to fine SAND			0.0
				0.0
5				15.6
	Reddish, yellowish-brown, dry, silty SAND			0.0
				0.0
				5.5
				0.9
10				0.0
	Boring terminated at 10 feet below ground surface. No groundwater encountered at time of drilling.			
15				
20				
25				
30				
35				

ENV/NOWELL_PIDONLY 6859-02.GPJ 12/18/10

Water Well Record
Bureau of Water
2600 Bull Street, Columbia, SC 29201-1708; (803) 898-4300

1. Well Owner Information:
Name: **Enmark Station, Inc.**
Dolan (last) **Tom** (first)
Address: **Post Office Box 728**
City: **Savannah** State: **GA** zip: **31402**
Phone: Work:
Home:

2. Location of Well: County: **Newberry**
Name: **Enmark 380**
Address: **2725 College Street**
City: **Newberry, SC** Zip: **29108**
Latitude: Longitude:

3. Public System Name: **Public System Number:**

4. Abandonment: (yes/ no) **Yes**
Grouted Depth: from 0.00 to 10.00 ft.

Formation Description	Thickness of Stratum	Depth to Bottom of Stratum

5. Remarks:
PSB-9

6. Type:

Mud Rotary	Jetted	Bored
Dug	Air Rotary	Driven
Cable tool	Auger	

7. Permit Number: **06588**

8. Use:

Residential	Public Supply	Process
Irrigation	Air Conditioning	Emergency
Test Well	Monitor Well	Replacement

9. Well Depth (completed)
ft. Date Started:
Date Completed:

10. Casing: Threaded Welded
Diameter:
Type:
in. to ft. depth
in. to ft. depth
Height: Below
Surface: ft. Weight: lb./ft.
Drive Shoe:

11. Screen:
Type: Diameter:
Slot/Gauge: Length:
Set Between: ft. and ft.
ft. and ft.
Sieve Analysis: Y/N

12. Static Water Level: ft. below land surface after 24 hours.

13. Pumping Level below land surface.
ft. after hrs Pumping GPM
Pumping Test:
Yield: gpm

14. Water Quality:
Chemical Analysis: No Bacterial Analysis: No

15. Artificial Filter (filter pack) Y/N
Installed from: ft. to ft.
Effective Size: Uniformity Coefficient

16. Well Grouted? **Yes**

Neat Cement	Bentonite	Bentonite/Cement	other

Depth: from ft. to 0 ft.

17. Nearest Source of Possible Contamination: ft. direction
Type:
Well disinfected Type: Amount:

18. Pump: Date installed: N/A
Mfr. Name: Model no.:
H.P.: Volts: Length of pipe: ft.
Capacity: gpm
TYPE:
Submersible Jet (shallow) Turbine
Jet (deep) Reciprocating Centrifugal

19. Well Driller Marshall Burnett **Cert No. 1671**
Address: 6004 Ponders Court **Level C**
Greenville SC 29615
Telephone: 864-527-9324 Fax: 864-288-4430

20. Water Well Driller's Certification: This well was drilled under my direction and this report is true to the best of my knowledge and belief.

Signed: Richard M Burnett

Date: 10/1/2010

If D Level Driller, provide supervising driller's name.

BLE INC.

BUNNELL-LAMMONS ENGINEERING, INC.

GEOTECHNICAL AND ENVIRONMENTAL CONSULTANTS

GEOPROBE BORING NO. PSB-10

PROJECT: Spinx #258 / Former Enmark #380 — PROJECT NO.: J10-6859-02

CLIENT: Enmark Stations, Inc. — START: 10-1-10 END: 10-1-10

LOCATION: Newberry, South Carolina — ELEVATION:

DRILLER: Landprobe, M. Burnett — LOGGED BY: R. Doherty

DRILLING METHOD: Geoprobe 6620DT Track Mounted Direct Push

DEPTH TO - WATER> INITIAL: ▽ ____ AFTER 24 HOURS: ▼ ____ CAVING> ____

ELEVATION/ DEPTH (FT)	DESCRIPTION	SOIL TYPE	SAMPLES	PID (ppm) READING
	ASPHALT			0.0
	Yellowish, reddish-brown, dry, slightly clayey, silty, medium to fine SAND			0.0
	Reddish, yellowish-brown, dry, slightly silty, medium to fine SAND			0.0
				0.0
				0.0
5				0.0
				0.0
				19.2
				0.0
10				2.5
	Boring terminated at 10 feet below ground surface. No groundwater encountered at time of drilling.			
15				
20				
25				
30				
35				

ENVNOWELL_PIDONLY 6859-02.GPJ 12/12/10

Water Well Record
Bureau of Water
2600 Bull Street, Columbia, SC 29201-1708; (803) 898-4300

1. Well Owner Information:
Name: **Enmark Station, Inc.**
Dolan (last) **Tom** (first)
Address: **Post Office Box 728**
City: **Savannah** State: **GA** zip: **31402**
Phone: Work:
Home:

2. Location of Well: County: **Newberry**
Name: **Enmark 380**
Address: **2725 College Street**
City: **Newberry, SC** Zip: **29108**
Latitude: Longitude:

3. Public System Name: **Public System Number:**

4. Abandonment: (yes/ no) **Yes**
Grouted Depth: from 0.00 to 10.00 ft.

Formation Description	Thickness of Stratum	Depth to Bottom of Stratum

5. Remarks:
PSB-10

6. Type:

Mud Rotary	Jetted	Bored
Dug	Air Rotary	Driven
Cable tool	Auger	

7. Permit Number: **06588**

8. Use:

Residential	Public Supply	Process
Irrigation	Air Conditioning	Emergency
Test Well	Monitor Well	Replacement

9. Well Depth (completed)
ft. Date Started:
Date Completed:

10. Casing: Threaded Welded
Diameter:
Type:
in. to ft. depth
in. to ft. depth
Height: Below
Surface: ft. Weight: lb./ft.
Drive Shoe:

11. Screen:
Type: Diameter:
Slot/Gauge: Length:
Set Between: ft. and ft.
ft. and ft.
Sieve Analysis: Y/N

12. Static Water Level: ft. below land surface after 24 hours.

13. Pumping Level below land surface.
ft. after hrs Pumping GPM
Pumping Test:
Yield: gpm

14. Water Quality:
Chemical Analysis: No Bacterial Analysis: No

15. Artificial Filter (filter pack) Y/N
Installed from: ft. to ft.
Effective Size: Uniformity Coefficient

16. Well Grouted? **Yes**

Neat Cement	Bentonite	Bentonite/Cement	other

Depth: from ft. to 0 ft.

17. Nearest Source of Possible Contamination: ft. direction
Type:
Well disinfected Type: Amount:

18. Pump: Date installed: N/A
Mfr. Name: Model no.:
H.P.: Volts: Length of pipe: ft.
Capacity: gpm
TYPE:
Submersible Jet (shallow) Turbine
Jet (deep) Reciprocating Centrifugal

19. Well Driller Marshall Burnett **Cert No. 1671**
Address: 6004 Ponders Court **Level C**
Greenville SC 29615
Telephone: 864-527-9324 Fax: 864-288-4430

20. Water Well Driller's Certification: This well was drilled under my direction and this report is true to the best of my knowledge and belief.

Signed: Richard M Burnett

Date: 10/1/2010

If D Level Driller, provide supervising driller's name.

SHEALY ENVIRONMENTAL SERVICES, INC.

Report of Analysis

Bunnell-Lammons Engineering, Inc.
6004 Ponders Court
Greenville, SC 29615
Attention: Trever Slack

Project Name: **Enmark #380**

Project Number: **J10-6859-02**

Lot Number: **LJ05052**

Date Completed: **10/13/2010**

Lucas Odom
Project Manager

This report shall not be reproduced, except in its entirety, without the written approval of Shealy Environmental Services, Inc.

The following non-paginated documents are considered part of this report: Chain of Custody Record and Sample Receipt Checklist.

• • • • • • • • •

Case Narrative
Bunnell-Lammons Engineering, Inc.
Lot Number: LJ05052

This Report of Analysis contains the analytical result(s) for the sample(s) listed on the Sample Summary following this Case Narrative. The sample receiving date is documented in the header information associated with each sample.

Sample receipt, sample analysis, and data review have been performed in accordance with the most current approved NELAC standards, the Shealy Environmental Services, Inc. ("Shealy") Quality Assurance Management Plan (QAMP), standard operating procedures (SOPs), and Shealy policies. Any exceptions to the NELAC standards, the QAMP, SOPs or policies are qualified on the results page or discussed below.

If you have any questions regarding this report please contact the Shealy Project Manager listed on the cover page.

TPH-DRO

Sample -011 was flagged with an I11 as the detection is associated with an unknown hydrocarbon pattern.

SHEALY ENVIRONMENTAL SERVICES, INC.

Sample Summary
Bunnell-Lammons Engineering, Inc.
Lot Number: LJ05052

Sample Number	Sample ID	Matrix	Date Sampled	Date Received
001	PSB-1 (16')	Solid	10/04/2010 1112	10/05/2010
002	PSB-2 (17')	Solid	10/04/2010 1147	10/05/2010
003	PSB-3 (16')	Solid	10/04/2010 1150	10/05/2010
004	PSB-4 (17')	Solid	10/04/2010 1154	10/05/2010
005	PSB-5 (9')	Solid	10/04/2010 1158	10/05/2010
006	PSB-6 (7')	Solid	10/04/2010 1202	10/05/2010
007	PSB-7 (7')	Solid	10/04/2010 1205	10/05/2010
008	PSB-8 (6')	Solid	10/04/2010 1207	10/05/2010
009	PSB-9 (5')	Solid	10/04/2010 1209	10/05/2010
010	PSB-10 (8')	Solid	10/04/2010 1211	10/05/2010
011	PSB-4	Solid	10/04/2010 1154	10/05/2010
012	PSB7	Solid	10/04/2010 1205	10/05/2010

(12 samples)

Executive Summary
Bunnell-Lammons Engineering, Inc.
Lot Number: LJ05052

Sample	Sample ID	Matrix	Parameter	Method	Result	Q	Units	Page
002	PSB-2 (17')	Solid	Xylenes (total)	8260B	11		ug/kg	6
003	PSB-3 (16')	Solid	Naphthalene	8260B	22		ug/kg	7
003	PSB-3 (16')	Solid	Xylenes (total)	8260B	5.1		ug/kg	7
004	PSB-4 (17')	Solid	Benzene	8260B	67		ug/kg	8
004	PSB-4 (17')	Solid	Ethylbenzene	8260B	1800		ug/kg	8
004	PSB-4 (17')	Solid	Naphthalene	8260B	2900		ug/kg	8
004	PSB-4 (17')	Solid	Toluene	8260B	1500		ug/kg	8
004	PSB-4 (17')	Solid	Xylenes (total)	8260B	12000		ug/kg	8
005	PSB-5 (9')	Solid	Naphthalene	8260B	16		ug/kg	9
005	PSB-5 (9')	Solid	Xylenes (total)	8260B	6.5		ug/kg	9
006	PSB-6 (7')	Solid	Benzene	8260B	11		ug/kg	10
006	PSB-6 (7')	Solid	Ethylbenzene	8260B	17		ug/kg	10
006	PSB-6 (7')	Solid	Naphthalene	8260B	230		ug/kg	10
006	PSB-6 (7')	Solid	Toluene	8260B	51		ug/kg	10
006	PSB-6 (7')	Solid	Xylenes (total)	8260B	100		ug/kg	10
007	PSB-7 (7')	Solid	Benzene	8260B	24		ug/kg	11
007	PSB-7 (7')	Solid	Ethylbenzene	8260B	15		ug/kg	11
007	PSB-7 (7')	Solid	Naphthalene	8260B	21		ug/kg	11
007	PSB-7 (7')	Solid	Toluene	8260B	83		ug/kg	11
007	PSB-7 (7')	Solid	Xylenes (total)	8260B	130		ug/kg	11
010	PSB-10 (8')	Solid	Xylenes (total)	8260B	5.3		ug/kg	14
011	PSB-4	Solid	TPH-DRO	8015C	25000	I11	ug/kg	15

(22 detections)

Client: **Bunnell-Lammons Engineering, Inc.**	Laboratory ID: **LJ05052-001**
Description: **PSB-1 (16')**	Matrix: **Solid**
Date Sampled: **10/04/2010 1112**	% Solids: **85.3** **10/05/2010 2141**
Date Received: **10/05/2010**	

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch	Sample Wt.(g)
1	5035	8260B	1	10/07/2010 2225	SJS1		43966	5.50

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
Benzene	71-43-2	8260B	ND		5.3	ug/kg	1
Ethylbenzene	100-41-4	8260B	ND		5.3	ug/kg	1
Naphthalene	91-20-3	8260B	ND		5.3	ug/kg	1
Toluene	108-88-3	8260B	ND		5.3	ug/kg	1
Xylenes (total)	1330-20-7	8260B	ND		5.3	ug/kg	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		97	53-142
Bromofluorobenzene		115	47-138
Toluene-d8		112	68-124

PQL = Practical quantitation limit
ND = Not detected at or above the PQL
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
H = Out of holding time
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Client: **Bunnell-Lammons Engineering, Inc.**	Laboratory ID: **LJ05052-002**
Description: **PSB-2 (17')**	Matrix: **Solid**
Date Sampled: **10/04/2010 1147**	% Solids: **70.2** **10/05/2010 2141**
Date Received: **10/05/2010**	

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch	Sample Wt.(g)
1	5035	8260B	1	10/07/2010 2246	SJS1		43966	5.69

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
Benzene	71-43-2	8260B	ND		6.3	ug/kg	1
Ethylbenzene	100-41-4	8260B	ND		6.3	ug/kg	1
Naphthalene	91-20-3	8260B	ND		6.3	ug/kg	1
Toluene	108-88-3	8260B	ND		6.3	ug/kg	1
Xylenes (total)	**1330-20-7**	**8260B**	**11**		**6.3**	**ug/kg**	**1**

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		90	53-142
Bromofluorobenzene		108	47-138
Toluene-d8		105	68-124

PQL = Practical quantitation limit
ND = Not detected at or above the PQL
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL

E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
H = Out of holding time

Client: **Bunnell-Lammons Engineering, Inc.**	Laboratory ID: **LJ05052-003**
Description: **PSB-3 (16')**	Matrix: **Solid**
Date Sampled: **10/04/2010 1150**	% Solids: **88.6** **10/05/2010 2141**
Date Received: **10/05/2010**	

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch	Sample Wt.(g)
2	5035	8260B	1	10/10/2010 2355	SJS1		44167	6.24

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
Benzene	71-43-2	8260B	ND		4.5	ug/kg	2
Ethylbenzene	100-41-4	8260B	ND		4.5	ug/kg	2
Naphthalene	**91-20-3**	**8260B**	**22**		**4.5**	**ug/kg**	**2**
Toluene	108-88-3	8260B	ND		4.5	ug/kg	2
Xylenes (total)	**1330-20-7**	**8260B**	**5.1**		**4.5**	**ug/kg**	**2**

Surrogate	Q	Run 2 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		86	53-142
Bromofluorobenzene		107	47-138
Toluene-d8		107	68-124

PQL = Practical quantitation limit
ND = Not detected at or above the PQL
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL

E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
H = Out of holding time

Client: **Bunnell-Lammons Engineering, Inc.**	Laboratory ID: **LJ05052-004**
Description: **PSB-4 (17')**	Matrix: **Solid**
Date Sampled: **10/04/2010 1154**	% Solids: **83.5** **10/05/2010 2141**
Date Received: **10/05/2010**	

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch	Sample Wt.(g)
1	5035	8260B	1	10/11/2010 0016	SJS1		44167	6.65
2	5035	8260B	50	10/12/2010 2025	LBS		44229	7.00

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
Benzene	**71-43-2**	**8260B**	**67**		**4.5**	**ug/kg**	**1**
Ethylbenzene	**100-41-4**	**8260B**	**1800**		**210**	**ug/kg**	**2**
Naphthalene	**91-20-3**	**8260B**	**2900**		**210**	**ug/kg**	**2**
Toluene	**108-88-3**	**8260B**	**1500**		**210**	**ug/kg**	**2**
Xylenes (total)	**1330-20-7**	**8260B**	**12000**		**210**	**ug/kg**	**2**

Surrogate	Q	Run 1 % Recovery	Acceptance Limits	Q	Run 2 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		89	53-142		86	53-142
Bromofluorobenzene		111	47-138		88	47-138
Toluene-d8		109	68-124		88	68-124

PQL = Practical quantitation limit
ND = Not detected at or above the PQL
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
H = Out of holding time

Client: **Bunnell-Lammons Engineering, Inc.**	Laboratory ID: **LJ05052-005**
Description: **PSB-5 (9')**	Matrix: **Solid**
Date Sampled: **10/04/2010 1158**	% Solids: **79.4** **10/05/2010 2141**
Date Received: **10/05/2010**	

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch	Sample Wt.(g)
1	5035	8260B	1	10/07/2010 2329	SJS1		43966	6.57

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
Benzene	71-43-2	8260B	ND		4.8	ug/kg	1
Ethylbenzene	100-41-4	8260B	ND		4.8	ug/kg	1
Naphthalene	**91-20-3**	**8260B**	**16**		**4.8**	**ug/kg**	**1**
Toluene	108-88-3	8260B	ND		4.8	ug/kg	1
Xylenes (total)	**1330-20-7**	**8260B**	**6.5**		**4.8**	**ug/kg**	**1**

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		96	53-142
Bromofluorobenzene		113	47-138
Toluene-d8		108	68-124

PQL = Practical quantitation limit
ND = Not detected at or above the PQL
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
N = Recovery is out of criteria
H = Out of holding time

Client: **Bunnell-Lammons Engineering, Inc.**	Laboratory ID: **LJ05052-006**
Description: **PSB-6 (7')**	Matrix: **Solid**
Date Sampled: **10/04/2010 1202**	% Solids: **80.0** **10/05/2010 2141**
Date Received: **10/05/2010**	

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch	Sample Wt.(g)
2	5035	8260B	1	10/11/2010 0038	SJS1		44167	5.22

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
Benzene	**71-43-2**	**8260B**	**11**		**6.0**	**ug/kg**	**2**
Ethylbenzene	**100-41-4**	**8260B**	**17**		**6.0**	**ug/kg**	**2**
Naphthalene	**91-20-3**	**8260B**	**230**		**6.0**	**ug/kg**	**2**
Toluene	**108-88-3**	**8260B**	**51**		**6.0**	**ug/kg**	**2**
Xylenes (total)	**1330-20-7**	**8260B**	**100**		**6.0**	**ug/kg**	**2**

Surrogate	Q	Run 2 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		85	53-142
Bromofluorobenzene		109	47-138
Toluene-d8		106	68-124

PQL = Practical quantitation limit
ND = Not detected at or above the PQL
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
H = Out of holding time

Client: **Bunnell-Lammons Engineering, Inc.**	Laboratory ID: **LJ05052-007**
Description: **PSB-7 (7')**	Matrix: **Solid**
Date Sampled: **10/04/2010 1205**	% Solids: **81.1** **10/05/2010 2141**
Date Received: **10/05/2010**	

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch	Sample Wt.(g)
1	5035	8260B	1	10/08/2010 0012	SJS1		43966	6.34

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
Benzene	**71-43-2**	**8260B**	**24**		**4.9**	**ug/kg**	**1**
Ethylbenzene	**100-41-4**	**8260B**	**15**		**4.9**	**ug/kg**	**1**
Naphthalene	**91-20-3**	**8260B**	**21**		**4.9**	**ug/kg**	**1**
Toluene	**108-88-3**	**8260B**	**83**		**4.9**	**ug/kg**	**1**
Xylenes (total)	**1330-20-7**	**8260B**	**130**		**4.9**	**ug/kg**	**1**

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		106	53-142
Bromofluorobenzene		123	47-138
Toluene-d8		120	68-124

PQL = Practical quantitation limit
ND = Not detected at or above the PQL
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
H = Out of holding time

Client: **Bunnell-Lammons Engineering, Inc.**	Laboratory ID: **LJ05052-008**
Description: **PSB-8 (6')**	Matrix: **Solid**
Date Sampled: **10/04/2010 1207**	% Solids: **79.9** **10/05/2010 2141**
Date Received: **10/05/2010**	

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch	Sample Wt.(g)
1	5035	8260B	1	10/08/2010 0033	SJS1		43966	5.86

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
Benzene	71-43-2	8260B	ND		5.3	ug/kg	1
Ethylbenzene	100-41-4	8260B	ND		5.3	ug/kg	1
Naphthalene	91-20-3	8260B	ND		5.3	ug/kg	1
Toluene	108-88-3	8260B	ND		5.3	ug/kg	1
Xylenes (total)	1330-20-7	8260B	ND		5.3	ug/kg	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		94	53-142
Bromofluorobenzene		111	47-138
Toluene-d8		107	68-124

PQL = Practical quantitation limit
ND = Not detected at or above the PQL
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL

E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
H = Out of holding time

Client: **Bunnell-Lammons Engineering, Inc.**	Laboratory ID: **LJ05052-009**
Description: **PSB-9 (5')**	Matrix: **Solid**
Date Sampled: **10/04/2010 1209**	% Solids: **81.1** **10/05/2010 2141**
Date Received: **10/05/2010**	

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch	Sample Wt.(g)
1	5035	8260B	1	10/08/2010 0055	SJS1		43966	5.97

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
Benzene	71-43-2	8260B	ND		5.2	ug/kg	1
Ethylbenzene	100-41-4	8260B	ND		5.2	ug/kg	1
Naphthalene	91-20-3	8260B	ND		5.2	ug/kg	1
Toluene	108-88-3	8260B	ND		5.2	ug/kg	1
Xylenes (total)	1330-20-7	8260B	ND		5.2	ug/kg	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		92	53-142
Bromofluorobenzene		109	47-138
Toluene-d8		108	68-124

PQL = Practical quantitation limit
ND = Not detected at or above the PQL
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
H = Out of holding time

Client: **Bunnell-Lammons Engineering, Inc.**	Laboratory ID: **LJ05052-010**
Description: **PSB-10 (8')**	Matrix: **Solid**
Date Sampled: **10/04/2010 1211**	% Solids: **84.4** **10/05/2010 2141**
Date Received: **10/05/2010**	

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch	Sample Wt.(g)
1	5035	8260B	1	10/08/2010 1909	DLB		44040	5.97

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
Benzene	71-43-2	8260B	ND		5.0	ug/kg	1
Ethylbenzene	100-41-4	8260B	ND		5.0	ug/kg	1
Naphthalene	91-20-3	8260B	ND		5.0	ug/kg	1
Toluene	108-88-3	8260B	ND		5.0	ug/kg	1
Xylenes (total)	**1330-20-7**	**8260B**	**5.3**		**5.0**	**ug/kg**	**1**

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		88	53-142
Bromofluorobenzene		100	47-138
Toluene-d8		103	68-124

PQL = Practical quantitation limit
ND = Not detected at or above the PQL
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
N = Recovery is out of criteria
H = Out of holding time

Client: **Bunnell-Lammons Engineering, Inc.**	Laboratory ID: **LJ05052-011**
Description: **PSB-4**	Matrix: **Solid**
Date Sampled: **10/04/2010 1154**	% Solids: **80.2** **10/05/2010 2141**
Date Received: **10/05/2010**	

TPH - DRO

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	3550C	8015C	1	10/07/2010 1047	PMS	10/06/2010 1718	43801

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
TPH-DRO		**8015C**	**25000**	**I11**	**8200**	**ug/kg**	**1**

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
o - Terphenyl		76	55-120

PQL = Practical quantitation limit
ND = Not detected at or above the PQL
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL

E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
H = Out of holding time

Client: **Bunnell-Lammons Engineering, Inc.**	Laboratory ID: **LJ05052-012**
Description: **PSB7**	Matrix: **Solid**
Date Sampled: **10/04/2010 1205**	% Solids: **81.9** **10/05/2010 2141**
Date Received: **10/05/2010**	

TPH - DRO

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	3550C	8015C	1	10/07/2010 1151	PMS	10/06/2010 1718	43801

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
TPH-DRO		8015C	ND		8000	ug/kg	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
o - Terphenyl		89	55-120

PQL = Practical quantitation limit
ND = Not detected at or above the PQL
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL

E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
H = Out of holding time

SHEALY **Chain of Custody Record**

SHEALY ENVIRONMENTAL SERVICES, INC.
106 Vantage Point Drive
West Columbia, South Carolina 29172
Telephone No. (803) 791-9700 Fax No. (803) 791-9111

Number 106965

Client: Burnell-Lammons Engineering, Inc.	Report to Contact: Trevor Slack	Telephone No. / Fax No. / E-mail: (864) 288-1265	Quote No.
Address: 6004 Ponders Court	Sampler's Signature: X [signature]	Waybill No.: tslack@blecorp.com	Page 1 of 2
City: Greenville; State: SC; Zip Code: 29615	Printed Name: Reid A. Doherty	Analysis (Attach list if more space is needed.)	
Project Name: Enmark # 380			
Project No.: J10-6859-02; P.O. No.:			Lot No.: W05052

Sample ID / Description (Containers for each sample may be combined on one line.)	Date	Time	Grab / Composite	Matrix: Aqueous	Matrix: Solid	Matrix: Non-Aqueous	No. of Containers by Preservative Type: Unpres	HNO3	HNO3	HCl	NaOH	SO4	BTEX & Naphthalene (8260B)	Remarks / Cooler I.D.
PSB-1 (16')	10/4/10	1112	G		X		X			X		X	X	
PSB-2 (17')		1147					X			X		X	X	
PSB-3 (16')		1150					X			X		X	X	
PSB-4 (17')		1154					X			X		X	X	
PSB-5 (9')		1158					X			X		X	X	
PSB-6 (7')		1202					X			X		X	X	
PSB-7 (7')		1205					X			X		X	X	
PSB-8 (6')		1207					X			X		X	X	
PSB-9 (5')		1209					X			X		X	X	
PSB-10 (8')		1211					X			X		X	X	

Possible Hazard Identification: ☑ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison ☐ Unknown

Sample Disposal: ☐ Return to Client ☑ Disposal by Lab

Note: All samples are retained for six weeks from receipt unless other arrangements are made.

Turn Around Time Required (Prior lab approval required for expedited TAT.): ☑ Standard ☐ Rush (Specify)

QC Requirements (Specify):

	Date	Time		Date	Time
1. Relinquished by: Reid A. Doherty	10/4/10	1430	1. Received by: Cory Fuchs	10/5/10	1050
2. Relinquished by:			2. Received by:		
3. Relinquished by: Cory Fuchs	10/5/10	1452	3. Laboratory received by: [signature]	10/5/10	1452

Comments: Soil volatiles contain methanol (not HCl, as marked on VOA)

LAB USE ONLY: Received on ice (Circle) Yes No Ice Pack

Receipt Temp. 1.0 °C

DISTRIBUTION: WHITE & YELLOW-Return to laboratory with Sample(s); PINK-Field/Client Copy

Document Number: F-AD-012 Effective Date: 08-04-02

SHEALY **Chain of Custody Record**

SHEALY ENVIRONMENTAL SERVICES, INC.
106 Vantage Point Drive
West Columbia, South Carolina 29172
Telephone No. (803) 791-9700 Fax No. (803) 791-9111

Number 106968

Client: Burnell-Lemmons Engineering, Inc.	Report to Contact: Trevor Slack	Telephone No. / Fax No. / E-mail: (864) 288-1265	Quote No.
Address: 6004 Ponders Court	Sampler's Signature: X [signature]	Waybill No.: tslack@blecorp.com	Page 2 of 2
City: Greenville; State: SC; Zip Code: 29615	Printed Name: Reid A. Doherty	Analysis (Attach list if more space is needed.)	
Project Name: Enmark #380			
Project No.: J10-6859-02; P.O. No.:			Lot No.: LJ05052

Sample ID / Description (Containers for each sample may be combined on one line.)	Date	Time	Grab/Composite	Matrix: Aqueous	Matrix: Solid	Matrix: Non-Aqueous	No. of Containers by Preservative Type: Unpres.	H2SO4	HNO3	HCl	NaOH	NaOH/ZnAc	TPH-DRO	Remarks / Cooler I.D.
PSB-4	10/4/10	1154	G		X		X						X	
PSB-7	10/4/10	1205	G		X		X						X	

Possible Hazard Identification: ☒ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison ☐ Unknown

Sample Disposal: ☐ Return to Client ☒ Disposal by Lab

Note: All samples are retained for six weeks from receipt unless other arrangements are made.

Turn Around Time Required (Prior lab approval required for expedited TAT.): ☒ Standard ☐ Rush (Specify)

QC Requirements (Specify)

	Date	Time		Date	Time
1. Relinquished by: Reid A. Doherty	10/4/10	1430	1. Received by: Cory Fuchs	10/5/10	1050
2. Relinquished by:			2. Received by:		
3. Relinquished by: Cory Fuchs	10/5/10	1450	3. Laboratory received by: [signature]	10/5/10	1450

Comments:

LAB USE ONLY: Received on Ice (Circle) (Yes) No Ice Pack — Receipt Temp. 1.0 °C

DISTRIBUTION: WHITE & YELLOW-Return to laboratory with Sample(s); PINK-Field/Client Copy

Document Number: F AD 012 Effective Date: 08-04-02

Shealy Environmental Services, Inc
Document Number: F-AD-016
Revision Number: 5

Replaces Date: 09/22/06
Effective Date: 05/29/07

Sample Receipt Checklist (SRC)

Client: BLE Cooler Inspected by/date: WHL 10/5/10 Lot #: L105052

Means of receipt: ☑ SESI ☐ Client ☐ UPS ☐ FedEx ☐ Airborne Exp ☐ Other

Yes ☐	No ☑	NA ☐	1. Were custody seals present on the cooler?
Yes ☐	No ☐	NA ☑	2. If custody seals were present, were they intact and unbroken?

Cooler ID/temperature upon receipt 1-0 °C / °C / °C / °C / °C / °C / °C / °C

Method: ☐ Temperature Blank ☑ Against Bottles
Method of coolant: ☑ Wet Ice ☐ Blue Ice ☐ Dry Ice ☐ None

If response is No (or Yes for 14, 15, 16), an explanation/resolution must be provided.

Yes ☐	No ☐	NA ☑	3. If temperature of any cooler exceeded 6.0°C, was Project Manager notified? PM notified by SRC, phone, note (circle one), other _____. (For coolers received via commercial courier, PMs are to be notified immediately.
Yes ☐	No ☐	NA ☑	4. Is the commercial courier's packing slip attached to this form?
Yes ☑	No ☐	NA ☐	5. Were proper custody procedures (relinquished/received) followed?
Yes ☑	No ☐	NA ☐	6. Were sample IDs listed?
Yes ☑	No ☐	NA ☐	7. Was collection date & time listed?
Yes ☑	No ☐	NA ☐	8. Were tests to be performed listed on the COC or was quote # provided?
Yes ☑	No ☐	NA ☐	9. Did all samples arrive in the proper containers for each test?
Yes ☑	No ☐	NA ☐	10. Did all container label information (ID, date, time) agree with COC?
Yes ☑	No ☐	NA ☐	11. Did all containers arrive in good condition (unbroken, lids on, etc.)?
Yes ☑	No ☐	NA ☐	12. Was adequate sample volume available?
Yes ☑	No ☐	NA ☐	13. Were all samples received within ½ the holding time or 48 hours, whichever comes first?
Yes ☐	No ☑	NA ☐	14. Were any samples containers missing?
Yes ☐	No ☑	NA ☐	15. Were there any excess samples not listed on COC?
Yes ☐	No ☐	NA ☑	16. Were bubbles present >"pea-size" (¼" or 6mm in diameter) in any VOA vials?
Yes ☐	No ☐	NA ☑	17. Were all metals/O&G/HEM/nutrient samples received at a pH of <2?
Yes ☐	No ☐	NA ☑	18. Were all cyanide and/or sulfide samples received at a pH >12?
Yes ☐	No ☐	NA ☑	19. Were all applicable NH3/TKN/cyanide/phenol/BNA/pest/PCB/herb (<0.2mg/L) and toxicity (<0.1mg/L) samples free of residual chlorine?
Yes ☐	No ☐	NA ☑	20. Were collection temperatures documented on the COC for NC samples?

Sample Preservation (Must be completed for any sample(s) incorrectly preserved or with headspace.)

Sample(s)* _____ were received incorrectly preserved and were adjusted accordingly in sample receiving with: _____ (H_2SO_4,HNO_3,HCL,NaOH) with the SR # (number)

Sample(s) _____ were received with bubbles >6 mm in diameter.

Sample(s) _____ were received with TRC >0.2 mg/L for NH3/TKN/cyanide/BNA/pest/PCB/herb.

Toxicity sample(s)* _____ were received with TRC >0.1 mg/L and were analyzed by method 330.5

Corrective Action taken, if necessary:

Was client notified: Yes ☐ No ☐ Did client respond: Yes ☐ No ☐

SESI employee: _____ Date of response: _____

Comments: _____

APPENDIX C

MONITORING WELL CONSTRUCTION PROCEDURES, MONITORING WELL CONSTRUCTION DIAGRAMS, AND 1903 WATER WELL RECORDS

APPENDIX C

MONITORING WELL CONSTRUCTION PROCEDURES

Type II Well

Type II groundwater monitoring wells consist of 2-inch diameter Schedule 40 polyvinyl chloride (PVC) casing with flush-threaded joints. The bottom 10-foot section of each well is a manufactured well screen with 0.010-inch wide machined slots. The well screen was installed to the depth of the boring and bracketed the water table.

Type III Well

Type III wells were constructed with a 6-inch diameter Schedule 40 PVC outer casing installed to the termination depth of each borehole. The annular space between the borehole and the 6-inch casing was pressure grouted with a cement/bentonite grout mixture to the ground surface using a grout shoe. After curing, a 4-inch diameter air hammer bit was utilized to advance the boreholes through the outer casing to the desired termination depth. A monitoring well was installed, constructed of 2-inch PVC Schedule 40 casing with flush-threaded joints and a manufactured well screen with 0.010-inch wide machined slots. The well screen was 5 feet in length.

A. General

In the Type II and Type III wells, a washed sand filter pack was emplaced around the outside of the pipe from the bottom of the well casing to approximately two feet above the top of the well screen. The sand filter pack was used to stabilize the formation and to help yield a less turbid groundwater sample.

An approximate two-foot thick bentonite seal was installed on top of the sand filter pack to seal the monitoring well at the desired level. The well annulus was then grouted to the surface with a cement/bentonite grout mixture. A PVC cap and flush mount steel, bolted manhole cover or standup steel protective cover was secured over each wellhead.

BLE INC.

BUNNELL-LAMMONS ENGINEERING, INC.
GEOTECHNICAL AND ENVIRONMENTAL CONSULTANTS

GROUNDWATER MONITORING WELL NO. MW-7D

PROJECT: Spinx #258 / Former Enmark #380 — PROJECT NO.: J10-6859-02
CLIENT: Enmark Stations, Inc. — START: 11-2-10 END: 11-3-10
LOCATION: Newberry, South Carolina — ELEVATION: 542.25
DRILLER: Landprobe, M. King — LOGGED BY: I. Irizarry
DRILLING METHOD: Schramm T450WS; 6-inch and 8-inch air hammer
DEPTH TO - WATER> INITIAL: 19.0 AFTER 24 HOURS: 19.21 CAVING>

ELEVATION/ DEPTH (FT)	DESCRIPTION	SOIL TYPE	MONITOR WELL INSTALLATION DETAILS
	GRASS and organic TOPSOIL		SURFACE COMPLETION Flush-mount below ground surface secured with an 8-inch diameter steel, bolted manhole cover in a 2' x 2' concrete pad
540	Yellowish-brown, dry, silty, medium to fine SAND with gravel		
	Reddish-brown and yellowish-brown, silty, medium to fine SAND		Ground surface elev. = 542.25 feet
5			Top of PVC casing elev. = 541.75 feet
535	Reddish-brown and slightly yellowish-brown, dry, medium to fine sandy SILT		Northing = 895,260.491' Easting = 1,811,895.064'
10			Elevations are NAVD 88
530	Yellowish-brown, slightly moist, silty, medium to fine SAND		
15	Yellowish-brown, moist, silty, medium to fine SAND		Neat cement, 0.5 to 37.5 feet
525			
	Yellowish-brown, wet, silty, medium to fine SAND		
20			6-inch diameter outer casing installed to 40.0 feet below ground surface
520			
25			
515			
30			
510			
35			
505	PARTIALLY WEATHERED ROCK which sampled as yellowish-brown, wet, silty, medium to coarse SAND with		Bentonite seal, 37.5 to 40.5 feet

GEOT_WELLNB 6859-02.GPJ 1/14/11

BLE INC.

BUNNELL-LAMMONS ENGINEERING, INC.

GEOTECHNICAL AND ENVIRONMENTAL CONSULTANTS

GROUNDWATER MONITORING WELL NO. MW-7D

PROJECT: Spinx #258 / Former Enmark #380 — PROJECT NO.: J10-6859-02

CLIENT: Enmark Stations, Inc. — START: 11-2-10 END: 11-3-10

LOCATION: Newberry, South Carolina — ELEVATION: 542.25

DRILLER: Landprobe, M. King — LOGGED BY: I. Irizarry

DRILLING METHOD: Schramm T450WS; 6-inch and 8-inch air hammer

DEPTH TO - WATER> INITIAL: 19.0 AFTER 24 HOURS: 19.21 CAVING>

ELEVATION/ DEPTH (FT)	DESCRIPTION	SOIL TYPE	MONITOR WELL INSTALLATION DETAILS
	gravel		Filter pack, sand 40.5 to 47.0 feet
500			2-inch diameter, 0.010-inch slotted Schedule 40 PVC well screen, 40.84 to 45.84 feet
45			
	BEDROCK		Pipe cap
495			Total well depth, 46.04 feet
	Boring terminated at 47.0 feet below ground surface. Groundwater encountered at 19.0 feet below ground surface at time of drilling and at 19.21 feet below ground surface after 24 hours.		
50			
490			
55			
485			
60			
480			
65			
475			
70			
470			
75			
465			

GEOT_WELLNB 6859-02.GPJ 1/14/11

Water Well Record
Bureau of Water
2600 Bull Street, Columbia, SC 29201-1708; (803) 898-4300

1. WELL OWNER INFORMATION:
Name: Enmark Station, Inc.
Dolan (last) Tom (first)
Address: Post Office Box 728
City: Savannah State: GA zip: 31402
Phone: Work:
Home:

2. LOCATION OF WELL: COUNTY: Newberry
Name: Enmark 380
Address: 2725 College Street
City: Newberry, SC Zip: 29108
Latitude: Longitude:

3. PUBLIC SYSTEM NAME MW-7D **PUBLIC SYSTEM NUMBER:**

4. ABANDONMENT: No
Grouted Depth: from to ft.

Formation Description	Thickness of Stratum	Depth to Bottom of Stratum

SEE BORING LOGS

5. REMARKS:
Holeplug: 40.5 - 37.5

6. TYPE: Mud Rotary, Jetted, Bored, Dug, **Air Rotary**, Driven, Cable tool, Auger, Other

7. PERMIT NUMBER: 06588

8. USE:
Residential, Public Supply, Process, Irrigation, Air Conditioning, Emergency, Test Well, **Monitor Well**, Replacement

9. WELL DEPTH (completed)
46.04 ft. Date Started: 11/2/2010 Date Completed: 11/3/2010

10. CASING: **Threaded** Welded
Diameter: 2" & 6"
Type: PVC
2.0 in. to 40.84 ft. depth
6.0 in. to 40.0 ft. depth
Height: Below
Surface: ft. Weight: lb./ft.
Drive Shoe: No

11. SCREEN:
Type: PVC Diameter: 2"
Slot/Gauge: 0.010 Length: 5'
Set Between: 40.84 ft. and 45.84 ft.
ft. and ft.
Sieve Analysis: Y/N No

12. STATIC WATER LEVEL 19.21 ft. below land surface after 24 hours.

13. PUMPING LEVEL Below Land Surface.
ft. after hrs Pumping GPM
Pumping Test: No
Yield:

14. WATER QUALITY
Chemical Analysis: No Bacterial Analysis: No

15. ARTIFICIAL FILTER (filter pack) Yes
Installed from: 47.0 ft. to 40.5 ft.
Effective Size: #2 Uniformity Coefficient: Sand

16. WELL GROUTED? Yes
Neat Cement Bentonite Bentonite/Cement Other
Depth: From 37.5 ft. to 0.5 ft.

17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: ft. direction
Type: N/A
Well Disinfected: Type: Amount:

18. PUMP: Date installed: N/A
Mfr. Name: Model no.:
H.P.: Volts: Length of pipe: ft.
Capacity: gpm
TYPE:
Submersible Jet (shallow) Turbine
Jet (deep) Reciprocating Centrifugal

19. WELL DRILLER: Brunson (Marty) King **CERT NO.:** 1089
Address: 6004 Ponders Court Level: A B C D
Greenville SC 29615 (circle one)
Telephone: 864-527-9324 Fax: 864-288-4430

20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief.

Signed: Marty King

Date: 11/18/10

If D Level Driller, provide supervising driller's name.

BLE INC.

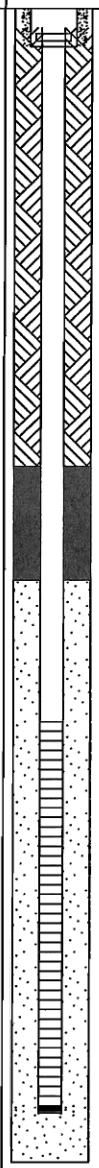
BUNNELL-LAMMONS ENGINEERING, INC.
GEOTECHNICAL AND ENVIRONMENTAL CONSULTANTS

GROUNDWATER MONITORING WELL NO. MW-9

PROJECT: Spinx #258 / Former Enmark #380 — PROJECT NO.: J10-6859-02
CLIENT: Enmark Stations, Inc. — START: 10-13-10 END: 10-13-10
LOCATION: Newberry, South Carolina — ELEVATION: 544.20
DRILLER: Landprobe, R. Banks — LOGGED BY: I. Irizarry
DRILLING METHOD: Mobile B59; 4-1/4 inch ID hollow stem auger
DEPTH TO - WATER> INITIAL: 20.0 AFTER 24 HOURS: 20.65 CAVING>

ELEVATION/ DEPTH (FT)	DESCRIPTION	SOIL TYPE	SAMPLES	PID (ppm) READING
	6-inches of GRASS and TOPSOIL			
	Yellowish-brown, dry, silty, medium to fine SAND with gravel			
540 / 5				0.0
	Yellowish-brown and reddish-brown, dry, silty, medium to fine SAND			
535 / 10				3.2
	Yellowish-brown, dry to slightly moist, medium to fine sandy SILT			
530 / 15				4.0
525 / 20	Brown, moist, medium to fine sandy SILT			2.9
	Brown to yellowish-brown, wet, silty, medium to fine SAND			
520 / 25				2.7
515 / 30				2.3
	Boring terminated at 30.0 feet below ground surface. Groundwater encountered at 20.0 feet below ground surface at time of drilling and at 20.65 feet below ground surface after 24 hours.			
510 / 35				
505				

MONITOR WELL INSTALLATION DETAILS



SURFACE COMPLETION
Flush-mount below ground surface secured with an 8-inch diameter steel, bolted manhole cover in a 2' x 2' concrete pad

Neat cement, 0.5 to 11.9 feet

Bentonite seal, 11.9 to 14.9 feet

Filter pack, sand 14.9 to 30.0 feet

2-inch diameter, 0.010-inch slotted Schedule 40 PVC well screen, 18.54 to 28.54 feet

Pipe cap

Total well depth, 28.74 feet

Ground surface elev. = 544.20 feet

Top of PVC casing elev. = 543.91 feet

Northing = 895,354.617'

Easting = 1,811,847.791'

Elevations are NAVD 88

ENV_WELL_ONLY_PID 6859-02.GPJ 12/18/10

Water Well Record
Bureau of Water
2600 Bull Street, Columbia, SC 29201-1708; (803) 898-4300

1. WELL OWNER INFORMATION:
Name: Enmark Station, Inc.
Dolan (last) Tom (first)
Address: Post Office Box 728
City: Savannah State: GA Zip: 31402
Phone: Work:
Home:

2. LOCATION OF WELL: COUNTY: Newberry
Name: Enmark 380
Address: 2725 College Street
City: Newberry, SC Zip: 29108
Latitude: Longitude:

3. PUBLIC SYSTEM NAME: MW-9 PUBLIC SYSTEM NUMBER:

4. ABANDONMENT: No
Grouted Depth: from to ft.

Formation Description	Thickness of Stratum	Depth to Bottom of Stratum

SEE BORING LOGS

5. REMARKS:

6. TYPE: Mud Rotary, Jetted, Bored, Dug, Air Rotary, Driven, Cable tool, Auger (circled), Other

7. PERMIT NUMBER: 06588

8. USE: Residential, Public Supply, Process, Irrigation, Air Conditioning, Emergency, Test Well, Monitor Well (circled), Replacement

9. WELL DEPTH (completed)
28.74 ft. Date Started: 10/13/2010
Date Completed: 10/13/2010

10. CASING: Threaded (circled) Welded
Diameter:
Type: PVC
2.0 in. to 18.54 ft. depth
in. to ft. depth
Height: Below
Surface: ft. Weight: lb./ft.
Drive Shoe:

11. SCREEN:
Type: PVC Diameter: 2"
Slot/Gauge: 0.010 Length: 10'
Set Between: 28.54 ft. and 18.54 ft.
ft. and ft.
Sieve Analysis: Y/N No

12. STATIC WATER LEVEL 20.65 ft. below land surface after 24 hours.

13. PUMPING LEVEL Below Land Surface.
ft. after hrs Pumping GPM
Pumping Test: No
Yield:

14. WATER QUALITY
Chemical Analysis: No Bacterial Analysis:

15. ARTIFICIAL FILTER (filter pack) Yes
Installed from: 30.0 ft. to 14.9 ft.
Effective Size: #2 Uniformity Coefficient: Sand

16. WELL GROUTED? Yes
Neat Cement, Bentonite, Bentonite/Cement (circled), Other
Depth: 11.9 ft. to 0.5 ft.

17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: ft. direction
Type:
Well Disinfected: No Type: Amount:

18. PUMP: Date installed: N/A
Mfr. Name: Model no.:
H.P.: Volts: Length of pipe: ft.
Capacity: gpm
TYPE:
Submersible, Jet (shallow), Turbine
Jet (deep), Reciprocating, Centrifugal

19. WELL DRILLER: Robert Banks CERT NO.: 400
Address: 6004 Ponders Court Level: A B C D
Greenville SC 29615 (circle one)
Telephone: 864-288-1255 Fax: 864-288-4430

20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief.

Signed: Robert Banks

Date: 10/13/10

If D Level Driller, provide supervising driller's name.

BLE INC.

BUNNELL-LAMMONS ENGINEERING, INC.
GEOTECHNICAL AND ENVIRONMENTAL CONSULTANTS

GROUNDWATER MONITORING WELL NO. MW-10

PROJECT: Spinx #258 / Former Enmark #380 — PROJECT NO.: J10-6859-02
CLIENT: Enmark Stations, Inc. — START: 10-13-10 END: 10-13-10
LOCATION: Newberry, South Carolina — ELEVATION: 543.29
DRILLER: Landprobe, R. Banks — LOGGED BY: I. Irizarry
DRILLING METHOD: Mobile B59; 4-1/4 inch ID hollow stem auger
DEPTH TO - WATER> INITIAL: 19.5 AFTER 24 HOURS: 19.96 CAVING>

ELEVATION/ DEPTH (FT)	DESCRIPTION	SOIL TYPE	SAMPLES	PID (ppm) READING	MONITOR WELL INSTALLATION DETAILS
	GRASS and organic TOPSOIL				SURFACE COMPLETION: Flush-mount below ground surface secured with an 8-inch diameter steel, bolted manhole cover in a 2' x 2' concrete pad
	Yellowish-brown, dry, silty, medium to fine SAND				
540 / 5				0.3	Neat cement, 0.5 to 13.7 feet
	Yellowish-brown to brown, dry, medium to fine sandy SILT				
535 / 10				0.1	
530 / 15				1.2	Bentonite seal, 13.7 to 16.9 feet
					Filter pack, sand 16.9 to 30.0 feet
525 / 20	Brown, wet, silty, medium to fine SAND			1.6	
520 / 25				0.2	2-inch diameter, 0.010-inch slotted Schedule 40 PVC well screen, 17.80 to 27.80 feet
515 / 30				0.3	Pipe cap
	Boring terminated at 30.0 feet below ground surface. Groundwater encountered at 19.5 feet below ground surface at time of drilling and at 19.96 feet below ground surface after 24 hours.				Total well depth, 28.00 feet
510 / 35					Ground surface elev. = 543.29 feet
					Top of PVC casing elev. = 542.98 feet
					Northing = 895,324.736'
					Easting = 1,811,862.671'
					Elevations are NAVD 88
505					

ENV_WELL_ONLY_PID 6859-02.GPJ 12/18/10

Water Well Record
Bureau of Water
2600 Bull Street, Columbia, SC 29201-1708; (803) 898-4300

1. WELL OWNER INFORMATION:
Name: Enmark Station, Inc.
Dolan (last) Tom (first)
Address: Post Office Box 728
City: Savannah State: GA Zip: 31402
Phone: Work:
Home:

2. LOCATION OF WELL: COUNTY: Newberry
Name: Enmark 380
Address: 2725 College Street
City: Newberry, SC Zip: 29108
Latitude: Longitude:

3. PUBLIC SYSTEM NAME: MW-10 **PUBLIC SYSTEM NUMBER:**

4. ABANDONMENT: No
Grouted Depth: from to ft.

Formation Description	Thickness of Stratum	Depth to Bottom of Stratum

SEE BORING LOGS

5. REMARKS:

6. TYPE: Mud Rotary, Jetted, Bored, Dug, Air Rotary, Driven, Cable tool, Auger (circled), Other

7. PERMIT NUMBER: 06588

8. USE:
Residential, Public Supply, Process, Irrigation, Air Conditioning, Emergency, Test Well, Monitor Well (circled), Replacement

9. WELL DEPTH (completed)
28.0 ft. Date Started: 10/13/2010 Date Completed: 10/13/2010

10. CASING: Threaded (circled) Welded
Diameter:
Type: PVC
2.0 in. to 17.8 ft. depth
in. to ft. depth
Height: Below
Surface: ft. Weight: lb./ft.
Drive Shoe: No

11. SCREEN:
Type: PVC Diameter: 2"
Slot/Gauge: 0.010 Length: 10'
Set Between: 27.8 ft. and 17.8 ft.
ft. and ft.
Sieve Analysis: Y/N No

12. STATIC WATER LEVEL 19.96 ft. below land surface after 24 hours.

13. PUMPING LEVEL Below Land Surface.
ft. after hrs Pumping GPM
Pumping Test: No
Yield:

14. WATER QUALITY
Chemical Analysis: No Bacterial Analysis: No

15. ARTIFICIAL FILTER (filter pack) Yes
Installed from: 30 ft. to 16.9 ft.
Effective Size: #2 Uniformity Coefficient: Sand

16. WELL GROUTED? Yes
Neat Cement, Bentonite, Bentonite/Cement (circled), Other
Depth: 13.7 ft. to 0.5 ft.

17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: ft. direction
Type:
Well Disinfected: No Type: Amount:

18. PUMP: Date installed: N/A
Mfr. Name: Model no.:
H.P.: Volts: Length of pipe: ft.
Capacity: gpm
TYPE:
Submersible, Jet (shallow), Turbine
Jet (deep), Reciprocating, Centrifugal

19. WELL DRILLER: Robert Banks CERT NO.: 400
Address: 6004 Ponders Court Level: A B (circled) C D
Greenville SC 29615 (circle one)
Telephone: 864-288-1265 Fax: 864-288-4430

20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief.

Signed: Robert Banks

Date: 10/13/10

If D Level Driller, provide supervising driller's name.

BLE INC.

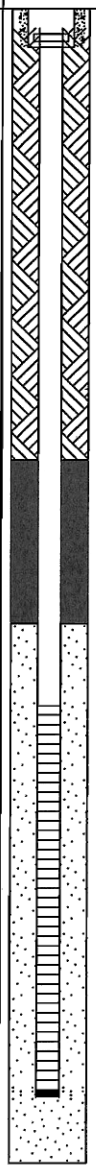
BUNNELL-LAMMONS ENGINEERING, INC.
GEOTECHNICAL AND ENVIRONMENTAL CONSULTANTS

GROUNDWATER MONITORING WELL NO. MW-11

PROJECT: Spinx #258 / Former Enmark #380 — PROJECT NO.: J10-6859-02
CLIENT: Enmark Stations, Inc. — START: 10-14-10 END: 10-14-10
LOCATION: Newberry, South Carolina — ELEVATION: 541.88
DRILLER: Landprobe, R. Banks — LOGGED BY: I. Irizarry
DRILLING METHOD: Mobile B-59; 4-1/4 inch ID hollow stem auger
DEPTH TO - WATER> INITIAL: 19.5 AFTER 24 HOURS: 18.97 CAVING>

ELEVATION/ DEPTH (FT)	DESCRIPTION	SOIL TYPE	SAMPLES	PID (ppm) READING
	GRASS and organic TOPSOIL			
540	Yellowish-brown to reddish-brown, dry, silty, medium to fine SAND			
5	Yellowish-brown, dry, medium to fine sandy SILT			0.7
535				
10				0.8
530				
	Reddish-brown to brown, moist, medium to fine sandy SILT			
15				2.0
525				
20	Brown, wet, silty, medium to fine SAND			0.8
520				
25				0.2
515				
30				0.2
510	Boring terminated at 30.0 feet below ground surface. Groundwater encountered at 19.5 feet below ground surface at time of drilling and at 18.97 feet below ground surface after 24 hours.			
35				
505				

MONITOR WELL INSTALLATION DETAILS



SURFACE COMPLETION
Flush-mount below ground surface secured with an 8-inch diameter steel, bolted manhole cover in a 2' x 2' concrete pad

Neat cement, 0.5 to 11.7 feet

Bentonite seal, 11.7 to 16.0 feet

Filter pack, sand 16.0 to 30.0 feet

2-inch diameter, 0.010-inch slotted Schedule 40 PVC well screen, 18.10 to 28.10 feet

Pipe cap

Total well depth, 28.30 feet

Ground surface elev. = 541.88 feet

Top of PVC casing elev. = 541.60 feet

Northing = 895,269.428'

Easting = 1,811,814.924'

Elevations are NAVD 88

ENV_WELL_ONLY_PID 6859-02.GPJ 12/18/10

Water Well Record
Bureau of Water

2600 Bull Street, Columbia, SC 29201-1708; (803) 898-4300

1. WELL OWNER INFORMATION:

Name: Enmark Station, Inc.
Dolan (last) Tom (first)
Address: Post Office Box 728
City: Savannah State: GA Zip: 31402
Phone: Work:
Home:

2. LOCATION OF WELL: COUNTY: Newberry

Name: Enmark 380
Address: 2725 College Street
City: Newberry, SC Zip: 29108
Latitude: Longitude:

3. PUBLIC SYSTEM NAME: MW-11 **PUBLIC SYSTEM NUMBER:**

4. ABANDONMENT: No

Grouted Depth: from to ft.

Formation Description	Thickness of Stratum	Depth to Bottom of Stratum

SEE BORING LOGS

5. REMARKS:

6. TYPE: Mud Rotary, Jetted, Bored, Dug, Air Rotary, Driven, Cable tool, **Auger**, Other

7. PERMIT NUMBER: 06588

8. USE: Residential, Public Supply, Process, Irrigation, Air Conditioning, Emergency, Test Well, **Monitor Well**, Replacement

9. WELL DEPTH (completed)
28.30 ft. Date Started: 10/14/2010 Date Completed: 10/14/2010

10. CASING: **Threaded** Welded
Diameter: 2"
Type: PVC
2.0 in. to 18.1 ft. depth
in. to ft. depth
Height: Below Surface: ft. Weight: lb./ft.
Drive Shoe: No

11. SCREEN:
Type: PVC Diameter: 2"
Slot/Gauge: 0.010 Length: 10'
Set Between: 28.1 ft. and 18.1 ft.
ft. and ft.
Sieve Analysis: Y/N No

12. STATIC WATER LEVEL 18.97 ft. below land surface after 24 hours.

13. PUMPING LEVEL Below Land Surface.
ft. after hrs Pumping GPM
Pumping Test: No
Yield:

14. WATER QUALITY
Chemical Analysis: No Bacterial Analysis:

15. ARTIFICIAL FILTER (filter pack) Yes
Installed from: 30.0 ft. to 16.0 ft.
Effective Size: #2 Uniformity Coefficient: Sand

16. WELL GROUTED? Yes
Neat Cement, Bentonite, **Bentonite/Cement**, Other
Depth: 11.70 ft. to 0.5 ft.

17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: ft. direction
Type:
Well Disinfected: No Type: Amount:

18. PUMP: Date installed: N/A
Mfr. Name: Model no.:
H.P.: Volts: Length of pipe: ft.
Capacity: gpm
TYPE:
Submersible, Jet (shallow), Turbine
Jet (deep), Reciprocating, Centrifugal

19. WELL DRILLER: Robert Banks **CERT NO.:** 400
Address: 6004 Ponders Court, Greenville SC 29615
Level: A B C D (circle one)
Telephone: 864-288-1265 Fax: 864-288-4430

20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief.

Signed: Robert Banks

Date: 10/14/10

If D Level Driller, provide supervising driller's name.

BLE INC.

BUNNELL-LAMMONS ENGINEERING, INC.

GEOTECHNICAL AND ENVIRONMENTAL CONSULTANTS

GROUNDWATER MONITORING WELL NO. MW-12

PROJECT: Spinx #258 / Former Enmark #380 — PROJECT NO.: J10-6859-02

CLIENT: Enmark Stations, Inc. — START: 10-14-10 END: 10-14-10

LOCATION: Newberry, South Carolina — ELEVATION: 541.90

DRILLER: Landprobe, R. Banks — LOGGED BY: I. Irizarry

DRILLING METHOD: Mobile B59; 4-1/4 inch ID hollow stem auger

DEPTH TO - WATER> INITIAL: 18.2 AFTER 24 HOURS: 18.57 CAVING>

ELEVATION/ DEPTH (FT)	DESCRIPTION	SOIL TYPE	SAMPLES	PID (ppm) READING	MONITOR WELL INSTALLATION DETAILS
	6-inches of TOPSOIL with GRASS				SURFACE COMPLETION: Flush-mount below ground surface secured with an 8-inch diameter steel, bolted manhole cover in a 2' x 2' concrete pad
540	Yellowish-brown to reddish-brown, dry to slightly moist, silty, medium to fine SAND				Neat cement, 0.5 to 9.5 feet
5				0.3	
535					
10				0.4	Bentonite seal, 9.5 to 12.4 feet
530	Yellowish-brown to reddish-brown, moist, silty, medium to fine SAND				Filter pack, sand 12.4 to 30.0 feet
15				0.5	
525					
	Reddish-brown, moist, medium to fine sandy SILT				
20	Brown, wet, silty, medium to fine SAND			0.7	
520					2-inch diameter, 0.010-inch slotted Schedule 40 PVC well screen, 17.41 to 27.41 feet
25				1.0	
515					Pipe cap
					Total well depth, 27.61 feet
30	Boring terminated at 30.0 feet below ground surface. Groundwater encountered at 18.2 feet below ground surface at time of drilling and at 18.57 feet below ground surface after 24 hours.				Ground surface elev. = 541.90 feet
510					Top of PVC casing elev. = 541.67 feet
					Northing = 895,200.897'
35					Easting = 1,811,771.074'
505					Elevations are NAVD 88

ENV_WELL_ONLY_PID 6859-02.GPJ 12/18/10

Water Well Record
Bureau of Water
2600 Bull Street, Columbia, SC 29201-1708; (803) 898-4300

1. WELL OWNER INFORMATION:
Name: Enmark Station, Inc.
Dolan (last) Tom (first)
Address: Post Office Box 728
City: Savannah State: GA Zip: 31402
Phone: Work:
Home:

2. LOCATION OF WELL: COUNTY: Newberry
Name: Enmark 380
Address: 2725 College Street
City: Newberry, SC Zip: 29108
Latitude: Longitude:

3. PUBLIC SYSTEM NAME: MW-12 **PUBLIC SYSTEM NUMBER:**

4. ABANDONMENT: No
Grouted Depth: from to ft.

Formation Description	Thickness of Stratum	Depth to Bottom of Stratum

SEE BORING LOGS

5. REMARKS:

6. TYPE: Mud Rotary, Jetted, Bored, Dug, Air Rotary, Driven, Cable tool, **Auger**, Other

7. PERMIT NUMBER: 06588

8. USE:
Residential, Public Supply, Process, Irrigation, Air Conditioning, Emergency, Test Well, **Monitor Well**, Replacement

9. WELL DEPTH (completed)
27.61 ft. Date Started: 10/14/2010 Date Completed: 10/14/2010

10. CASING: **Threaded** Welded
Diameter: 2"
Type: PVC
2.0 in. to 17.41 ft. depth
in. to ft. depth
Height: Below Surface: ft. Weight: lb./ft.
Drive Shoe: No

11. SCREEN:
Type: PVC Diameter: 2"
Slot/Gauge: 0.010 Length: 10'
Set Between: 27.41 ft. and 17.41 ft.
ft. and ft.
Sieve Analysis: Y/N No

12. STATIC WATER LEVEL 18.57 ft. below land surface after 24 hours.

13. PUMPING LEVEL Below Land Surface.
ft. after hrs Pumping GPM
Pumping Test: No
Yield:

14. WATER QUALITY
Chemical Analysis: No Bacterial Analysis:

15. ARTIFICIAL FILTER (filter pack) Yes
Installed from: 30.0 ft. to 12.4 ft.
Effective Size: #2 Uniformity Coefficient: Sand

16. WELL GROUTED? Yes
Neat Cement, Bentonite, **Bentonite/Cement**, Other
Depth: 9.5 ft. to 0.5 ft.

17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: ft. direction
Type:
Well Disinfected: No Type: Amount:

18. PUMP: Date installed: N/A
Mfr. Name: Model no.:
H.P.: Volts: Length of pipe: ft.
Capacity: gpm
TYPE:
Submersible, Jet (shallow), Turbine
Jet (deep), Reciprocating, Centrifugal

19. WELL DRILLER: Robert Banks CERT NO.: 400
Address: 6004 Ponders Court Level: A B C D
Greenville SC 29615 (circle one)
Telephone: 864-288-1265 Fax: 864-288-4430

20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief.

Signed: Robert Banks

Date: 10/14/11

If D Level Driller, provide supervising driller's name.

BLE INC.

BUNNELL-LAMMONS ENGINEERING, INC.
GEOTECHNICAL AND ENVIRONMENTAL CONSULTANTS

GROUNDWATER MONITORING WELL NO. MW-13

PROJECT: Spinx #258 / Former Enmark #380 — PROJECT NO.: J10-6859-02
CLIENT: Enmark Stations, Inc. — START: 10-19-10 END: 10-19-10
LOCATION: Newberry, South Carolina — ELEVATION: 541.19
DRILLER: Landprobe, R. Banks — LOGGED BY: R. Doherty
DRILLING METHOD: CME 750; 4-1/4 inch ID hollow stem auger
DEPTH TO - WATER> INITIAL: 18.4 AFTER 24 HOURS: 18.69 CAVING>

ELEVATION/ DEPTH (FT)	DESCRIPTION	SOIL TYPE	SAMPLES	PID (ppm) READING
	6-inches of ASPHALT and GRAVEL			
540	Yellowish-brown, dry, silty, medium to fine SAND			
5 / 535	Reddish-brown, slightly yellowish-brown, dry, medium to fine sandy SILT			0.1
10 / 530	Yellowish-brown, dry, silty, medium to fine SAND			0.3
15 / 525	Yellowish-brown, slightly moist, medium to fine SAND			0.2
20 / 520	Brown and yellowish-brown, moist to wet, silty, medium to fine SAND			0.5
25 / 515	Brown, wet, silty, medium to fine SAND			0.2
30 / 510	Boring terminated at 30.0 feet below ground surface. Groundwater encountered at 18.4 feet below ground surface at time of drilling and at 18.69 feet below ground surface after 24 hours.			0.1
35 / 505				

MONITOR WELL INSTALLATION DETAILS

SURFACE COMPLETION
Flush-mount below ground surface secured with an 8-inch diameter steel, bolted manhole cover in a 2' x 2' concrete pad

Neat cement, 0.5 to 10.6 feet

Bentonite seal, 10.6 to 13.1 feet

Filter pack, sand 13.1 to 30.0 feet

2-inch diameter, 0.010-inch slotted Schedule 40 PVC well screen, 16.26 to 26.26 feet

Pipe cap

Total well depth 26.46 feet

Ground surface elev. = 541.19 feet

Top of PVC casing elev. = 540.96 feet

Northing = 895,154.670'

Easting = 1,811,863.208'

Elevations are NAVD 88

ENV_WELL_ONLY_PID 6859-02.GPJ 12/12/10

Water Well Record
Bureau of Water
2600 Bull Street, Columbia, SC 29201-1708; (803) 898-4300

1. WELL OWNER INFORMATION:
Name: Enmark Station, Inc.
Dolan (last) Tom (first)
Address: Post Office Box 728
City: Savannah State: GA Zip: 31402
Phone: Work:
Home:

2. LOCATION OF WELL: COUNTY: Newberry
Name: Enmark 380
Address: 2725 College Street
City: Newberry, SC Zip: 29108
Latitude: Longitude:

3. PUBLIC SYSTEM NAME: MW-13 **PUBLIC SYSTEM NUMBER:**

4. ABANDONMENT: No
Grouted Depth: from to ft.

Formation Description	Thickness of Stratum	Depth to Bottom of Stratum

SEE BORING LOGS

5. REMARKS:

6. TYPE: Mud Rotary, Jetted, Bored, Dug, Air Rotary, Driven, Cable tool, **Auger**

7. PERMIT NUMBER: 06588

8. USE:
Residential, Public Supply, Process, Irrigation, Air Conditioning, Emergency, Test Well, **Monitor Well**, Replacement

9. WELL DEPTH (completed)
26.46 ft. Date Started: 10/19/2010 Date Completed: 10/19/2010

10. CASING: **Threaded** Welded
Diameter: 2"
Type: PVC
2.0 in. to 16.26 ft. depth
in. to ft. depth
Height: Below
Surface: ft. Weight: lb./ft.
Drive Shoe: No

11. SCREEN:
Type: PVC Diameter: 2"
Slot/Gauge: 0.010 Length: 10'
Set Between: 26.26 ft. and 16.26 ft.
ft. and ft.
Sieve Analysis: Y/N No

12. STATIC WATER LEVEL 18.69 ft. below land surface after 24 hours.

13. PUMPING LEVEL Below Land Surface.
ft. after hrs Pumping GPM
Pumping Test: No
Yield: gpm

14. WATER QUALITY
Chemical Analysis: No Bacterial Analysis:

15. ARTIFICIAL FILTER (filter pack) Yes
Installed from: 30.0 ft. to 13.1 ft.
Effective Size: #2 Uniformity Coefficient: Sand

16. WELL GROUTED? Yes
Neat Cement Bentonite Bentonite/Cement Other
Depth: 10.6 ft. to 0.5 ft.

17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: ft. direction
Type:
Well Disinfected: No Type: Amount:

18. PUMP: Date installed: N/A
Mfr. Name: Model no.:
H.P.: Volts: Length of pipe: ft.
Capacity: gpm
TYPE:
Submersible Jet (shallow) Turbine
Jet (deep) Reciprocating Centrifugal

19. WELL DRILLER: Robert Banks **CERT NO.:** 400
Address: 6004 Ponders Court Level: A B C D
Greenville SC 29615 (circle one)
Telephone: 864-527-9324 Fax: 864-288-4430

20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief.

Signed: Robert Banks

Date: 10/19/10

If D Level Driller, provide supervising driller's name.

GROUNDWATER MONITORING WELL NO. MW-14

BUNNELL-LAMMONS ENGINEERING, INC.
GEOTECHNICAL AND ENVIRONMENTAL CONSULTANTS

PROJECT: Spinx #258 / Former Enmark #380 — PROJECT NO.: J10-6859-02
CLIENT: Enmark Stations, Inc. — START: 10-18-10 END: 10-19-10
LOCATION: Newberry, South Carolina — ELEVATION: 545.14
DRILLER: Landprobe, J. Smith — LOGGED BY: R. Doherty
DRILLING METHOD: Geoprobe 6620 DT Track Mount; 4-1/4 inch ID hollow stem auger
DEPTH TO - WATER> INITIAL: 21.0 AFTER 24 HOURS: 22.0 CAVING>

ELEVATION/ DEPTH (FT)	DESCRIPTION	SOIL TYPE	SAMPLES	PID (ppm) READING	MONITOR WELL INSTALLATION DETAILS
	6-inches of GRASS and TOPSOIL				SURFACE COMPLETION: Flush-mount below ground surface secured with an 8-inch diameter steel, bolted manhole cover in a 2' x 2' concrete pad
	Yellowish-brown, dry, silty, medium to fine SAND				
	Yellowish, reddish-brown, dry, silty, medium to fine SAND				
540 — 5				0.6	Neat cement, 0.5 to 14.4 feet
535 — 10				1.0	
530 — 15	Yellowish, reddish-brown, slightly moist, silty, medium to fine SAND			2.0	Bentonite seal, 14.4 to 16.9 feet
					Filter pack, sand 16.9 to 30.0 feet
	Brown, moist, medium to fine sandy SILT				
525 — 20				0.6	
	Brown, slightly yellowish-brown, wet, silty, medium to fine SAND				
520 — 25				0.2	2-inch diameter, 0.010-inch slotted Schedule 40 PVC well screen, 19.12 to 29.12 feet
515 — 30				0.6	Pipe cap
	Boring terminated at 30.0 feet below ground surface. Groundwater encountered at 21.0 feet below ground surface at time of drilling and at 22.00 feet below ground surface after 24 hours.				Total well depth, 29.32 feet
					Ground surface elev. = 545.14 feet
					Top of PVC casing elev. = 544.81 feet
510 — 35					Northing = 895,441.852'
					Easting = 1,811,897.631'
					Elevations are NAVD 88

ENV_WELL_ONLY_PID 6859-02.GPJ 12/18/10

Water Well Record
Bureau of Water
2600 Bull Street, Columbia, SC 29201-1708; (803) 898-4300

1. WELL OWNER INFORMATION:
Name: Enmark Station, Inc.
Dolan (last) Tom (first)
Address: Post Office Box 728
City: Savannah State: GA Zip: 31402
Phone: Work:
Home:

2. LOCATION OF WELL: COUNTY: Newberry
Name: Enmark 380
Address: 2725 College Street
City: Newberry, SC Zip: 29108
Latitude: Longitude:

3. PUBLIC SYSTEM NAME: MW-14 **PUBLIC SYSTEM NUMBER:**

4. ABANDONMENT: No
Grouted Depth: from to ft.

Formation Description	Thickness of Stratum	Depth to Bottom of Stratum

SEE BORING LOGS

5. REMARKS: MW-14
Bentonite Seal 14.4' to 16.9'

6. TYPE: Mud Rotary Jetted Bored
Dug Air Rotary Driven
Cable tool (Auger)

7. PERMIT NUMBER: 06588

8. USE:
Residential Public Supply Process
Irrigation Air Conditioning Emergency
Test Well (Monitor Well) Replacement

9. WELL DEPTH (completed)
29.32 ft. Date Started: 10/18/2010
Date Completed: 10/19/2010

10. CASING: (Threaded) Welded
Diameter: 2"
Type: PVC
0.0 in. to 19.12 ft. depth
in. to ft. depth
Height: Below
Surface: ft. Weight: lb./ft.
Drive Shoe: No

11. SCREEN:
Type: PVC Diameter: 2"
Slot/Gauge: 0.010 Length: 10'
Set Between: 19.12 ft. and 29.12 ft.
ft. and ft.
Sieve Analysis: Y/N No

12. STATIC WATER LEVEL 22.0 ft. below land surface after 24 hours.

13. PUMPING LEVEL Below Land Surface.
ft. after hrs Pumping GPM
Pumping Test: No
Yield: gpm

14. WATER QUALITY
Chemical Analysis: No Bacterial Analysis: No

15. ARTIFICIAL FILTER (filter pack) Yes
Installed from: 16.9 ft. to 30 ft.
Effective Size: 20-40 Uniformity Coefficient:

16. WELL GROUTED? Yes
(Neat Cement) Bentonite Bentonite/Cement Other
Depth: 14.4 ft. to 0.0 ft.

17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: ft. direction
Type:
Well Disinfected: No Type: Amount:

18. PUMP: Date installed: N/A
Mfr. Name: Model no.:
H.P.: Volts: Length of pipe: ft.
Capacity: gpm
TYPE:
Submersible Jet (shallow) Turbine
Jet (deep) Reciprocating Centrifugal

19. WELL DRILLER: Joe Smith **CERT NO.:** 1648
Address: 6004 Ponders Court Level: A (B) C D
Greenville SC 29615 (circle one)
Telephone: 864-527-9324 Fax: 864-288-4430

20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief.

Signed: Joseph G. Smith

Date: 10/19/10

If D Level Driller, provide supervising driller's name.

BLE INC.

BUNNELL-LAMMONS ENGINEERING, INC.

GEOTECHNICAL AND ENVIRONMENTAL CONSULTANTS

GROUNDWATER MONITORING WELL NO. MW-15

PROJECT: Spinx #258 / Former Enmark #380 — PROJECT NO.: J10-6859-02

CLIENT: Enmark Stations, Inc. — START: 10-18-10 END: 10-18-10

LOCATION: Newberry, South Carolina — ELEVATION: 544.11

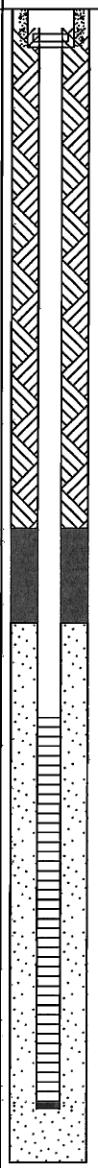
DRILLER: Landprobe, J. Smith — LOGGED BY: R. Doherty

DRILLING METHOD: Geoprobe 6620DT Track Mount; 4-1/4 inch ID hollow stem auger

DEPTH TO - WATER> INITIAL: 20.6 AFTER 24 HOURS: 21.04 CAVING>

ELEVATION/ DEPTH (FT)	DESCRIPTION	SOIL TYPE	SAMPLES	PID (ppm) READING
	6-inches of GRASS and ORGANIC TOPSOIL			
	Yellowish-brown, dry, silty, medium to fine SAND			
540 / 5	Reddish-brown and yellowish-brown, dry, silty, medium to fine SAND			1.9
535 / 10	Slightly reddish-brown and yellowish-brown, dry, silty, medium to fine SAND			2.0
530 / 15	Slightly reddish-brown and yellowish-brown, moist, silty, medium to fine SAND			1.6
525 / 20	Brown to yellowish-brown, moist, slightly silty, medium to fine SAND			2.1
520 / 25	Brown, wet, medium to fine SAND			0.6
515 / 30				0.3
510 / 35	Boring terminated at 30.0 feet below ground surface. Groundwater encountered at 20.6 feet below ground surface at time of drilling and at 21.04 feet below ground surface after 24 hours.			
505				

MONITOR WELL INSTALLATION DETAILS



SURFACE COMPLETION
Flush-mount below ground surface secured with an 8-inch diameter steel, bolted manhole cover in a 2' x 2' concrete pad

Neat cement, 0.5 to 13.5 feet

Bentonite seal, 13.5 to 16.0 feet

Filter pack, sand 16.0 to 30.0 feet

2-inch diameter, 0.010-inch slotted Schedule 40 PVC well screen, 18.42 to 28.42 feet

Pipe cap

Total well depth, 28.62 feet

Ground surface elev. = 544.11 feet

Top of PVC casing elev. = 543.81 feet

Northing = 895,414,947'

Easting = 1,811,922.202'

Elevations are NAVD 88

ENV_WELL_ONLY_PID 6859-02.GPJ 12/23/10

Water Well Record
Bureau of Water
2600 Bull Street, Columbia, SC 29201-1708; (803) 898-4300

1. WELL OWNER INFORMATION:
Name: Enmark Station, Inc.
Dolan (last) Tom (first)
Address: Post Office Box 728
City: Savannah State: GA Zip: 31402
Phone: Work:
Home:

2. LOCATION OF WELL: COUNTY: Newberry
Name: Enmark 380
Address: 2725 College Street
City: Newberry, SC Zip: 29108
Latitude: Longitude:

3. PUBLIC SYSTEM NAME MW-15 **PUBLIC SYSTEM NUMBER:**

4. ABANDONMENT: No
Grouted Depth: from to ft.

Formation Description	Thickness of Stratum	Depth to Bottom of Stratum

SEE BORING LOGS

5. REMARKS: MW-15
Bentonite Seal 13.5' to 16.0'

6. TYPE: Mud Rotary, Jetted, Bored, Dug, Air Rotary, Driven, Cable tool, Auger

7. PERMIT NUMBER: 06588

8. USE: Residential, Public Supply, Process, Irrigation, Air Conditioning, Emergency, Test Well, Monitor Well, Replacement

9. WELL DEPTH (completed)
28.62 ft. Date Started: 10/18/2010
Date Completed: 10/18/2010

10. CASING: Threaded Welded
Diameter: 2"
Type: PVC
0.0 in. to 18.42 ft. depth
in. to ft. depth
Height: Below
Surface: ft. Weight: lb./ft.
Drive Shoe: No

11. SCREEN:
Type: PVC Diameter: 2"
Slot/Gauge: 0.010 Length: 10'
Set Between: 18.42 ft. and 28.42 ft.
ft. and ft.
Sieve Analysis: Y/N No

12. STATIC WATER LEVEL 21.04 ft. below land surface after 24 hours.

13. PUMPING LEVEL Below Land Surface.
ft. after hrs Pumping GPM
Pumping Test: No
Yield: gpm

14. WATER QUALITY
Chemical Analysis: No Bacterial Analysis: No

15. ARTIFICIAL FILTER (filter pack) Yes
Installed from: 16.0 ft. to 3.0 ft.
Effective Size: 20-40 Uniformity Coefficient:

16. WELL GROUTED? Yes
Neat Cement, Bentonite, Bentonite/Cement, Other
Depth: 0.5 ft. to 13.5 ft.

17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: ft. direction
Type:
Well Disinfected: No Type: Amount:

18. PUMP: Date installed: N/A
Mfr. Name: Model no.:
H.P.: Volts: Length of pipe: ft.
Capacity: gpm
TYPE:
Submersible, Jet (shallow), Turbine, Jet (deep), Reciprocating, Centrifugal

19. WELL DRILLER: Joe Smith **CERT NO.:** 1648
Address: 6004 Ponders Court
Greenville SC 29615
Level: A B C D (circle one)
Telephone: 864-527-9324 Fax: 864-288-4430

20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief.

Signed: Joseph A. Smith

Date: 10/19/10

If D Level Driller, provide supervising driller's name.

BLE INC.

BUNNELL-LAMMONS ENGINEERING, INC.

GEOTECHNICAL AND ENVIRONMENTAL CONSULTANTS

GROUNDWATER MONITORING WELL NO. MW-16

PROJECT: Spinx #258 / Former Enmark #380 — PROJECT NO.: J10-6859-02

CLIENT: Enmark Stations, Inc. — START: 10-19-10 END: 10-19-10

LOCATION: Newberry, South Carolina — ELEVATION: 539.55

DRILLER: Landprobe, R. Banks — LOGGED BY: R. Doherty

DRILLING METHOD: CME 750; 4-1/4 inch ID hollow stem auger

DEPTH TO - WATER> INITIAL: 14.8 AFTER 24 HOURS: 17.60 CAVING>

ELEVATION/ DEPTH (FT)	DESCRIPTION	SOIL TYPE	SAMPLES	PID (ppm) READING	MONITOR WELL INSTALLATION DETAILS
	6-inches of ASPHALT				SURFACE COMPLETION: Flush-mount below ground surface secured with an 8-inch diameter steel, bolted manhole cover in a 2' x 2' concrete pad
	Yellowish-brown, dry, silty, medium to fine SAND				
	Reddish-brown and yellowish-brown, dry, medium to fine sandy SILT				
535 / 5				0.3	Neat cement, 0.5 to 11.0 feet
530 / 10				0.7	
					Bentonite seal, 11.0 to 13.5 feet
	Yellowish-brown, moist, silty, medium to fine SAND				Filter pack, sand 13.5 to 30.0 feet
525 / 15				1.6	
	Yellowish-brown, wet, silty, medium to fine SAND				2-inch diameter, 0.010-inch slotted Schedule 40 PVC well screen, 15.82 to 25.82 feet
520 / 20				1.4	
515 / 25				1.5	Pipe cap
					Total well depth, 26.02 feet
					Ground surface elev. = 539.55 feet
510 / 30				1.4	Top of PVC casing elev. = 539.35 feet
	Boring terminated at 30.0 feet below ground surface. Groundwater encountered at 17.8 feet below ground surface at time of drilling and at 17.60 feet below ground surface after 24 hours.				Northing = 895,133.223'
					Easting = 1,811,983.708'
505 / 35					Elevations are NAVD 88
500					

ENV_WELL_ONLY_PID 6859-02.GPJ 12/18/10

Water Well Record
Bureau of Water
2600 Bull Street, Columbia, SC 29201-1708; (803) 898-4300

1. WELL OWNER INFORMATION:
Name: Enmark Station, Inc.
Dolan (last) Tom (first)
Address: Post Office Box 728
City: Savannah State: GA Zip: 31402
Phone: Work:
Home:

2. LOCATION OF WELL: COUNTY: Newberry
Name: Enmark 380
Address: 2725 College Street
City: Newberry, SC Zip: 29108
Latitude: Longitude:

3. PUBLIC SYSTEM NAME: MW-16 **PUBLIC SYSTEM NUMBER:**

4. ABANDONMENT: No
Grouted Depth: from to ft.

Formation Description	Thickness of Stratum	Depth to Bottom of Stratum

SEE BORING LOGS

5. REMARKS:

6. TYPE: Mud Rotary, Jetted, Bored, Dug, Air Rotary, Driven, Cable tool, **Auger**

7. PERMIT NUMBER: 06588

8. USE:
Residential, Public Supply, Process, Irrigation, Air Conditioning, Emergency, Test Well, **Monitor Well**, Replacement

9. WELL DEPTH (completed)
Date Started: 10/19/2010
26.02 ft. Date Completed: 10/19/2010

10. CASING: **Threaded** Welded
Diameter:
Type: PVC
0.0 in. to 15.82 ft. depth
in. to ft. depth
Height: Below
Surface: ft. Weight: lb./ft.
Drive Shoe: No

11. SCREEN:
Type: PVC Diameter: 2"
Slot/Gauge: 0.010 Length: 10'
Set Between: 25.82 ft. and 25.82 ft.
ft. and ft.
Sieve Analysis: Y/N

12. STATIC WATER LEVEL 17.6 ft. below land surface after 24 hours.

13. PUMPING LEVEL Below Land Surface.
ft. after hrs Pumping GPM
Pumping Test: No
Yield: gpm

14. WATER QUALITY
Chemical Analysis: No Bacterial Analysis:

15. ARTIFICIAL FILTER (filter pack) Yes
Installed from: 30.0 ft. to 13.5 ft.
Effective Size: #2 Uniformity Coefficient: Sand

16. WELL GROUTED? Yes
Neat Cement Bentonite Bentonite/Cement Other
Depth: From 11.0 ft. to 0.5 ft.

17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: ft. direction
Type:
Well Disinfected: No Type: Amount:

18. PUMP: Date installed: N/A
Mfr. Name: Model no.:
H.P.: Volts: Length of pipe: ft.
Capacity: gpm
TYPE:
Submersible Jet (shallow) Turbine
Jet (deep) Reciprocating Centrifugal

19. WELL DRILLER: Robert Banks **CERT NO.:** 400
Address: 6004 Ponders Court Level: A B C D
Greenville SC 29615 (circle one)
Telephone: 864-527-9324 Fax: 864-288-4430

20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief.

Signed: Robert Banks

Date: 10/19/11

If D Level Driller, provide supervising driller's name.

BLE INC.

BUNNELL-LAMMONS ENGINEERING, INC.

GEOTECHNICAL AND ENVIRONMENTAL CONSULTANTS

GROUNDWATER MONITORING WELL NO. MW-17

PROJECT: Spinx #258 / Former Enmark #380 — PROJECT NO.: J10-6859-02

CLIENT: Enmark Stations, Inc. — START: 10-20-10 END: 10-20-10

LOCATION: Newberry, South Carolina — ELEVATION: 541.46

DRILLER: Landprobe, R. Banks — LOGGED BY: R. Doherty

DRILLING METHOD: CME 750; 4-1/4 inch ID hollow stem auger

DEPTH TO - WATER> INITIAL: 18.7 AFTER 24 HOURS: 18.96 CAVING>

ELEVATION/ DEPTH (FT)	DESCRIPTION	SOIL TYPE	SAMPLES	PID (ppm) READING	MONITOR WELL INSTALLATION DETAILS
	6-inches of ASPHALT				SURFACE COMPLETION: Flush-mount below ground surface secured with an 8-inch diameter steel, bolted manhole cover in a 2' x 2' concrete pad
540	Yellowish-brown, dry, silty, medium to fine SAND with some gravel				
	Reddish-brown and yellowish-brown, silty, medium to fine SAND				
5				0.5	Neat cement, 0.5 to 11.3 feet
535					
	Reddish-brown and slightly yellowish-brown, dry, medium to fine sandy SILT				
10				0.4	
530					Bentonite seal, 11.3 to 13.5 feet
	Yellowish-brown, slightly moist, silty, medium to fine SAND				Filter pack, sand 13.5 to 30.0 feet
15				0.8	
525					
	Yellowish-brown, wet, silty, medium to fine SAND				
20				0.9	2-inch diameter, 0.010-inch slotted Schedule 40 PVC well screen, 16.34 to 26.34 feet
520					
25				0.4	
515					Pipe cap
					Total well depth, 26.54 feet
					Ground surface elev. = 541.46 feet
				0.7	
30					Top of PVC casing elev. = 541.24 feet
510	Boring terminated at 30.0 feet below ground surface. Groundwater encountered at 18.7 feet below ground surface at time of drilling and at 18.96 feet below ground surface after 24 hours.				Northing = 895,225.454'
					Easting = 1,811,877.037'
35					Elevations are NAVD 88
505					

ENV_WELL_ONLY_PID 6859-02.GPJ 12/18/10

Water Well Record
Bureau of Water
2600 Bull Street, Columbia, SC 29201-1708; (803) 898-4300

1. WELL OWNER INFORMATION:
Name: Enmark Station, Inc.
Dolan (last) Tom (first)
Address: Post Office Box 728
City: Savannah State: GA Zip: 31402
Phone: Work:
Home:

2. LOCATION OF WELL: COUNTY: Newberry
Name: Enmark 380
Address: 2725 College Street
City: Newberry, SC Zip: 29108
Latitude: Longitude:

3. PUBLIC SYSTEM NAME: MW-17 **PUBLIC SYSTEM NUMBER:**

4. ABANDONMENT: No
Grouted Depth: from to ft.

Formation Description	Thickness of Stratum	Depth to Bottom of Stratum

SEE BORING LOGS

5. REMARKS:

6. TYPE: Mud Rotary, Jetted, Bored, Dug, Air Rotary, Driven, Cable tool, **Auger**

7. PERMIT NUMBER: 06588

8. USE:
Residential, Public Supply, Process, Irrigation, Air Conditioning, Emergency, Test Well, **Monitor Well**, Replacement

9. WELL DEPTH (completed)
Date Started: 10/20/2010
26.54 ft. Date Completed: 10/20/2010

10. CASING: **Threaded** Welded
Diameter:
Type: PVC
2.0 in. to 16.34 ft. depth
in. to ft. depth
Height: Below
Surface: ft. Weight: lb./ft.
Drive Shoe: No

11. SCREEN:
Type: PVC Diameter: 2"
Slot/Gauge: 0.010 Length: 10'
Set Between: 26.34 ft. and 16.34 ft.
ft. and ft.
Sieve Analysis: Y/N No

12. STATIC WATER LEVEL 18.96 ft. below land surface after 24 hours.

13. PUMPING LEVEL Below Land Surface.
ft. after hrs Pumping GPM
Pumping Test: No
Yield: gpm

14. WATER QUALITY
Chemical Analysis: No Bacterial Analysis:

15. ARTIFICIAL FILTER (filter pack) Yes
Installed from: 30.0 ft. to 13.5 ft.
Effective Size: #2 Uniformity Coefficient: Sand

16. WELL GROUTED? Yes
Neat Cement Bentonite Bentonite/Cement Other
Depth: 11.3 ft. to 0.0 ft.

17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: ft. direction
Type:
Well Disinfected: No Type: Amount:

18. PUMP: Date installed: N/A
Mfr. Name: Model no.:
H.P.: Volts: Length of pipe: ft.
Capacity: gpm
TYPE:
Submersible Jet (shallow) Turbine
Jet (deep) Reciprocating Centrifugal

19. WELL DRILLER: Robert Banks **CERT NO.:** 400
Address: 6004 Ponders Court Level: A **B** C D
Greenville SC 29615 (circle one)
Telephone: 864-527-9324 Fax: 864-288-4430

20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief.

Signed: Robert Banks

Date: 10/20/10

If D Level Driller, provide supervising driller's name.

BLE INC.

BUNNELL-LAMMONS ENGINEERING, INC.
GEOTECHNICAL AND ENVIRONMENTAL CONSULTANTS

GROUNDWATER MONITORING WELL NO. MW-18

PROJECT: Spinx #258 / Former Enmark #380
PROJECT NO.: J10-6859-02
CLIENT: Enmark Stations, Inc.
START: 10-20-10 END: 10-20-10
LOCATION: Newberry, South Carolina
ELEVATION: 541.42
DRILLER: Landprobe, R. Banks
LOGGED BY: R. Doherty
DRILLING METHOD: CME 750; 4-1/4 inch ID hollow stem auger
DEPTH TO - WATER> INITIAL: 18.9 AFTER 24 HOURS: 19.27 CAVING>

ELEVATION/ DEPTH (FT)	DESCRIPTION	SOIL TYPE	SAMPLES	PID (ppm) READING	MONITOR WELL INSTALLATION DETAILS
540	6-inches of ASPHALT Yellowish-brown, dry, silty, medium to fine SAND				SURFACE COMPLETION Flush-mount below ground surface secured with an 8-inch diameter steel, bolted manhole cover in a 2' x 2' concrete pad
5	Reddish-brown and yellowish-brown, medium to fine sandy SILT				
535	Reddish-brown, dry, medium to fine sandy SILT			0.5	Neat cement, 0.5 to 11.5 feet
10	Yellowish-brown and reddish-brown, silty, medium to fine SAND			0.3	
530	Yellowish-brown, moist, silty, medium to fine SAND				Bentonite seal, 11.5 to 13.7 feet Filter pack, sand 13.7 to 28.0 feet
15				0.6	
525	Yellowish-brown, wet, silty, medium to fine SAND				
20				0.7	2-inch diameter, 0.010-inch slotted Schedule 40 PVC well screen, 16.08 to 26.08 feet
520	Brown, wet, silty, medium to fine SAND				
25				2.3	
515					Pipe cap Total well depth, 26.28 feet
30	Boring terminated at 28.0 feet below ground surface. Groundwater encountered at 18.9 feet below ground surface at time of drilling and at 19.27 feet below ground surface after 24 hours.				Ground surface elev. = 541.42 feet Top of PVC casing elev. = 541.24 feet
510					Northing = 895,190.888' Easting = 1,811,941.578'
35					Elevations are NAVD 88
505					

ENV_WELL_ONLY_PID 6859-02.GPJ 12/12/10

Water Well Record
Bureau of Water
2600 Bull Street, Columbia, SC 29201-1708; (803) 898-4300

1. WELL OWNER INFORMATION:
Name: Enmark Station, Inc.
Dolan (last) Tom (first)
Address: Post Office Box 728
City: Savannah State: GA Zip: 31402
Phone: Work:
Home:

2. LOCATION OF WELL: COUNTY: Newberry
Name: Enmark 380
Address: 2725 College Street
City: Newberry, SC Zip: 29108
Latitude: Longitude:

3. PUBLIC SYSTEM NAME: MW-18 PUBLIC SYSTEM NUMBER:

4. ABANDONMENT: No
Grouted Depth: from to ft.

Formation Description	Thickness of Stratum	Depth to Bottom of Stratum

SEE BORING LOGS

5. REMARKS:

6. TYPE: Mud Rotary, Jetted, Bored, Dug, Air Rotary, Driven, Cable tool, Auger

7. PERMIT NUMBER: 06588

8. USE: Residential, Public Supply, Process, Irrigation, Air Conditioning, Emergency, Test Well, Monitor Well, Replacement

9. WELL DEPTH (completed)
26.28 ft. Date Started: 10/20/2010
Date Completed: 10/20/2010

10. CASING: Threaded Welded
Diameter:
Type: PVC
2.0 in. to 16.08 ft. depth
in. to ft. depth
Height: Below
Surface: ft. Weight: lb./ft.
Drive Shoe: No

11. SCREEN:
Type: PVC Diameter: 2"
Slot/Gauge: 0.010 Length: 10'
Set Between: 26.08 ft. and 16.08 ft.
ft. and ft.
Sieve Analysis: Y/N No

12. STATIC WATER LEVEL 19.27 ft. below land surface after 24 hours.

13. PUMPING LEVEL Below Land Surface.
ft. after hrs Pumping GPM
Pumping Test: No
Yield: gpm

14. WATER QUALITY
Chemical Analysis: No Bacterial Analysis:

15. ARTIFICIAL FILTER (filter pack) Yes
Installed from: 28.0 ft. to 13.7 ft.
Effective Size: #2 Uniformity Coefficient: Sand

16. WELL GROUTED? Yes
Neat Cement Bentonite Bentonite/Cement Other
Depth: 11.5 ft. to 0.5 ft.

17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: ft. direction
Type:
Well Disinfected: No Type: Amount:

18. PUMP: Date installed: N/A
Mfr. Name: Model no.:
H.P.: Volts: Length of pipe: ft.
Capacity: gpm
TYPE:
Submersible Jet (shallow) Turbine
Jet (deep) Reciprocating Centrifugal

19. WELL DRILLER: Robert Banks CERT NO.: 400
Address: 6004 Ponders Court Level: A B C D
Greenville SC 29615 (circle one)
Telephone: 864-527-9324 Fax: 864-288-4430

20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief.

Signed: Robert Banks

Date: 10/20/10

If D Level Driller, provide supervising driller's name.

BLE INC.

BUNNELL-LAMMONS ENGINEERING, INC.

GEOTECHNICAL AND ENVIRONMENTAL CONSULTANTS

GROUNDWATER MONITORING WELL NO. MW-19

PROJECT: Spinx #258 / Former Enmark #380 — PROJECT NO.: J10-6859-02

CLIENT: Enmark Stations, Inc. — START: 10-20-10 END: 10-20-10

LOCATION: Newberry, South Carolina — ELEVATION: 540.98

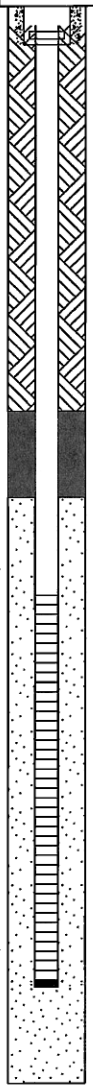
DRILLER: Landprobe, R. Banks — LOGGED BY: R. Doherty

DRILLING METHOD: CME 750; 4-1/4 inch ID hollow stem auger

DEPTH TO - WATER> INITIAL: 18.5 AFTER 24 HOURS: 18.89 CAVING>

ELEVATION/ DEPTH (FT)	DESCRIPTION	SOIL TYPE	SAMPLES	PID (ppm) READING
	6-inches of ASPHALT			
540	Yellowish-brown, dry, silty, medium to fine SAND			
	Reddish-yellowish-brown, dry, medium to fine sandy SILT			
5 / 535				0.6
	Reddish-brown and yellowish-brown, dry, silty, medium to fine SAND			
10 / 530				0.8
	Yellowish-brown, moist, silty, medium to fine SAND			
15 / 525				4.2
	Brown, wet, silty, medium to fine SAND with strong petroleum odor			
20 / 520				142.3
25 / 515	Dark grayish-brown, wet, silty, medium to fine SAND with strong petroleum odor			297.6
				72.0
30 / 510	Boring terminated at 28.0 feet below ground surface. Groundwater encountered at 18.5 feet below ground surface at time of drilling and at 18.89 feet below ground surface after 24 hours.			
35 / 505				

MONITOR WELL INSTALLATION DETAILS



SURFACE COMPLETION
Flush-mount below ground surface secured with an 8-inch diameter steel, bolted manhole cover in a 2' x 2' concrete pad

Neat cement, 0.5 to 10.5 feet

Bentonite seal, 10.5 to 12.8 feet

Filter pack, sand 12.8 to 28.0 feet

2-inch diameter, 0.010-inch slotted Schedule 40 PVC well screen, 15.32 to 25.32 feet

Pipe cap

Total well depth, 25.52 feet

Ground surface elev. = 540.98 feet

Top of PVC casing elev. = 540.82 feet

Northing = 895,235.949'

Easting = 1,811,997.212'

Elevations are NAVD 88

ENV_WELL_ONLY_PID 6859-02.GPJ 12/18/10

Water Well Record
Bureau of Water
2600 Bull Street, Columbia, SC 29201-1708; (803) 898-4300

1. WELL OWNER INFORMATION:
Name: Enmark Station, Inc.
Dolan (last) Tom (first)
Address: Post Office Box 728
City: Savannah State: GA Zip: 31402
Phone: Work:
Home:

2. LOCATION OF WELL: COUNTY: Newberry
Name: Enmark 380
Address: 2725 College Street
City: Newberry, SC Zip: 29108
Latitude: Longitude:

3. PUBLIC SYSTEM NAME: MW-19 **PUBLIC SYSTEM NUMBER:**

4. ABANDONMENT: No
Grouted Depth: from to ft.

Formation Description	Thickness of Stratum	Depth to Bottom of Stratum

SEE BORING LOGS

5. REMARKS:

6. TYPE: Mud Rotary, Jetted, Bored, Dug, Air Rotary, Driven, Cable tool, **Auger**

7. PERMIT NUMBER: 06588

8. USE:
Residential, Public Supply, Process, Irrigation, Air Conditioning, Emergency, Test Well, **Monitor Well**, Replacement

9. WELL DEPTH (completed)
Date Started: 10/20/2010
25.52 ft. Date Completed: 10/20/2010

10. CASING: **Threaded** Welded
Diameter:
Type: PVC
2.0 in. to 15.32 ft. depth
in. to ft. depth
Height: Below
Surface: ft. Weight: lb./ft.
Drive Shoe: No

11. SCREEN:
Type: PVC Diameter: 2"
Slot/Gauge: 0.010 Length: 10'
Set Between: 25.32 ft. and 15.32 ft.
ft. and ft.
Sieve Analysis: Y/N No

12. STATIC WATER LEVEL 18.89 ft. below land surface after 24 hours.

13. PUMPING LEVEL Below Land Surface.
ft. after hrs Pumping GPM
Pumping Test: No
Yield: gpm

14. WATER QUALITY
Chemical Analysis: No Bacterial Analysis:

15. ARTIFICIAL FILTER (filter pack) Yes
Installed from: 28.0 ft. to 12.8 ft.
Effective Size: #2 Uniformity Coefficient: Sand

16. WELL GROUTED? Yes
Neat Cement Bentonite Bentonite/Cement Other
Depth: 10.5 ft. to 0.5 ft.

17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: ft. direction
Type:
Well Disinfected: No Type: Amount:

18. PUMP: Date installed: N/A
Mfr. Name: Model no.:
H.P.: Volts: Length of pipe: ft.
Capacity: gpm
TYPE:
Submersible Jet (shallow) Turbine
Jet (deep) Reciprocating Centrifugal

19. WELL DRILLER: Robert Banks **CERT NO.:** 400
Address: 6004 Ponders Court Level: A **B** C D
Greenville SC 29615 (circle one)
Telephone: 864-527-9324 Fax: 864-288-4430

20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief.

Signed: Robert Banks

Date: 10/20/10

If D Level Driller, provide supervising driller's name.

BLE INC.

BUNNELL-LAMMONS ENGINEERING, INC.

GEOTECHNICAL AND ENVIRONMENTAL CONSULTANTS

GROUNDWATER MONITORING WELL NO. MW-20

PROJECT: Spinx #258 / Former Enmark #380 — PROJECT NO.: J10-6859-02

CLIENT: Enmark Stations, Inc. — START: 10-20-10 END: 10-20-10

LOCATION: Newberry, South Carolina — ELEVATION: 542.61

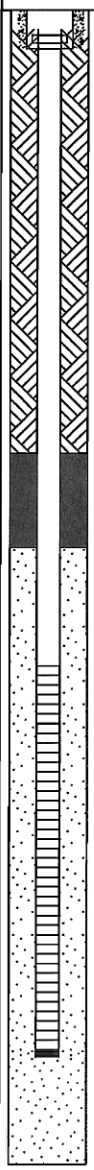
DRILLER: Landprobe, R. Banks — LOGGED BY: R. Doherty

DRILLING METHOD: CME 750; 4-1/4 inch ID hollow stem auger

DEPTH TO - WATER> INITIAL: 19.7 AFTER 24 HOURS: 20.26 CAVING>

ELEVATION/ DEPTH (FT)	DESCRIPTION	SOIL TYPE	SAMPLES	PID (ppm) READING
	6-inches of GRASS, GRAVEL and ORGANIC TOPSOIL			
	Yellowish-brown, dry, silty, medium to fine SAND			
540				
	Reddish-brown to yellowish-brown, dry, medium to fine sandy SILT			
5				0.4
	Yellowish-brown and reddish-brown, dry, silty, medium to fine SAND			
535				
10				0.6
	Yellowish-brown, slightly moist, silty, medium to fine SAND			
530				
15				1.0
	Brown, moist, silty, medium to fine SAND			
525				
20	Brown, wet, silty, medium to fine SAND			1.4
520				
25				0.6
515				
30				0.4
	Boring terminated at 30.0 feet below ground surface. Groundwater encountered at 19.7 feet below ground surface at time of drilling and at 20.26 feet below ground surface after 24 hours.			
510				
35				
505				

MONITOR WELL INSTALLATION DETAILS



SURFACE COMPLETION
Flush-mount below ground surface secured with an 8-inch diameter steel, bolted manhole cover in a 2' x 2' concrete pad

Neat cement, 0.5 to 11.5 feet

Bentonite seal, 11.5 to 14.0 feet

Filter pack, sand 14.0 to 30.0 feet

2-inch diameter, 0.010-inch slotted Schedule 40 PVC well screen, 17.04 to 27.04 feet

Pipe cap

Total well depth, 27.24 feet

Ground surfac elev. = 542.61 feet

Top of PVC casing elev. = 542.24 feet

Northing = 895,380.987'

Easting = 1,812,108.453'

Elevations are NAVD 88

ENV_WELL_ONLY_PID 6859-02.GPJ 12/18/10

Water Well Record
Bureau of Water
2600 Bull Street, Columbia, SC 29201-1708; (803) 898-4300

1. WELL OWNER INFORMATION:
Name: Enmark Station, Inc.
Dolan (last) Tom (first)
Address: Post Office Box 728
City: Savannah State: GA Zip: 31402
Phone: Work:
Home:

2. LOCATION OF WELL: COUNTY: Newberry
Name: Enmark 380
Address: 2725 College Street
City: Newberry, SC Zip: 29108
Latitude: Longitude:

3. PUBLIC SYSTEM NAME: MW-20 **PUBLIC SYSTEM NUMBER:**

4. ABANDONMENT: No
Grouted Depth: from to ft.

Formation Description	Thickness of Stratum	Depth to Bottom of Stratum

SEE BORING LOGS

5. REMARKS:

6. TYPE: Mud Rotary, Jetted, Bored, Dug, Air Rotary, Driven, Cable tool, Auger

7. PERMIT NUMBER: 06588

8. USE: Residential, Public Supply, Process, Irrigation, Air Conditioning, Emergency, Test Well, Monitor Well, Replacement

9. WELL DEPTH (completed)
27.24 ft. Date Started: 10/21/2010
Date Completed: 10/21/2010

10. CASING: Threaded Welded
Diameter:
Type: PVC
2.0 in. to 17.04 ft. depth
in. to ft. depth
Height: Below
Surface: ft. Weight: lb./ft.
Drive Shoe: No

11. SCREEN:
Type: PVC Diameter: 2"
Slot/Gauge: 0.010 Length: 10'
Set Between: 27.04 ft. and 17.04 ft.
ft. and ft.
Sieve Analysis: Y/N No

12. STATIC WATER LEVEL 20.26 ft. below land surface after 24 hours.

13. PUMPING LEVEL Below Land Surface.
ft. after hrs Pumping GPM
Pumping Test: No
Yield: gpm

14. WATER QUALITY
Chemical Analysis: No Bacterial Analysis:

15. ARTIFICIAL FILTER (filter pack) Yes
Installed from: 30.0 ft. to 14.0 ft.
Effective Size: #2 Uniformity Coefficient: Sand

16. WELL GROUTED? Yes
Neat Cement Bentonite Bentonite/Cement Other
Depth: 11.5 ft. to 0.5 ft.

17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: ft. direction
Type:
Well Disinfected: No Type: Amount:

18. PUMP: Date installed: N/A
Mfr. Name: Model no.:
H.P.: Volts: Length of pipe: ft.
Capacity: gpm
TYPE:
Submersible Jet (shallow) Turbine
Jet (deep) Reciprocating Centrifugal

19. WELL DRILLER: Robert Banks CERT NO.: 400
Address: 6004 Ponders Court Level: A B C D
Greenville SC 29615 (circle one)
Telephone: 864-527-9324 Fax: 864-288-4430

20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief.

Signed: Robert Banks

Date: 10/20/10

If D Level Driller, provide supervising driller's name.

BLE INC.

BUNNELL-LAMMONS ENGINEERING, INC.

GEOTECHNICAL AND ENVIRONMENTAL CONSULTANTS

GROUNDWATER MONITORING WELL NO. MW-21

PROJECT: Spinx #258 / Former Enmark #380 — PROJECT NO.: J10-6859-02

CLIENT: Enmark Stations, Inc. — START: 10-22-10 END: 10-22-10

LOCATION: Newberry, South Carolina — ELEVATION: 541.95

DRILLER: Landprobe, R. Banks — LOGGED BY: R. Doherty

DRILLING METHOD: CME 750; 4-1/4 inch ID hollow stem auger

DEPTH TO - WATER> INITIAL: 19.6 AFTER 24 HOURS: 20.10 CAVING>

ELEVATION/ DEPTH (FT)	DESCRIPTION	SOIL TYPE	MONITOR WELL INSTALLATION DETAILS
	6-inches of GRASS, GRAVEL and ORGANIC TOPSOIL		SURFACE COMPLETION: Flush-mount below ground surface secured with an 8-inch diameter steel, bolted manhole cover in a 2' x 2' concrete pad
540	Yellowish-brown, dry, silty, medium to fine SAND		
5	Yellowish-brown and reddish-brown, dry, medium to fine sandy SILT		Neat cement, 0.5 to 11.8 feet
535	Reddish-brown, dry, medium to fine sandy SILT		
10	Yellowish-brown and reddish-brown, dry, silty, medium to fine SAND		
530			Bentonite seal, 11.8 to 13.2 feet
	Yellowish-brown, slightly moist, silty, medium to fine SAND		Filter pack, sand 13.2 to 30.0 feet
15			
525			
20			
	Brown, wet, silty, medium to fine SAND		2-inch diameter, 0.010-inch slotted Schedule 40 PVC well screen, 16.96 to 26.96 feet
520			
25			
515			Pipe cap
			Total well depth, 27.16 feet
			Ground surface elev. = 541.95 feet
30	Boring terminated at 30.0 feet below ground surface. Groundwater encountered at 19.6 feet below ground surface at time of drilling and at 20.10 feet below ground surface after 24 hours.		Top of PVC casing elev. = 541.73 feet
510			Northing = 895,395.674'
			Easting = 1,812,153.999'
35			Elevations are NAVD 88
505			

GEOT_WELLNB 6859-02.GPJ 12/18/10

Water Well Record
Bureau of Water
2600 Bull Street, Columbia, SC 29201-1708; (803) 898-4300

1. WELL OWNER INFORMATION:
Name: Enmark Station, Inc.
Dolan (last) Tom (first)
Address: Post Office Box 728
City: Savannah State: GA Zip: 31402
Phone: Work:
Home:

2. LOCATION OF WELL: COUNTY: Newberry
Name: Enmark 380
Address: 2725 College Street
City: Newberry, SC Zip: 29108
Latitude: Longitude:

3. PUBLIC SYSTEM NAME: MW-21 PUBLIC SYSTEM NUMBER:

4. ABANDONMENT: No
Grouted Depth: from to ft.

Formation Description	Thickness of Stratum	Depth to Bottom of Stratum

SEE BORING LOGS

5. REMARKS: MW-21
Bentonite Seal 11.8' to 13.2'

6. TYPE: Mud Rotary, Jetted, Bored, Dug, Air Rotary, Driven, Cable tool, Auger

7. PERMIT NUMBER: 06588

8. USE:
Residential, Public Supply, Process, Irrigation, Air Conditioning, Emergency, Test Well, Monitor Well, Replacement

9. WELL DEPTH (completed)
27.16 ft. Date Started: 10/21/2010 Date Completed: 10/21/2010

10. CASING: Threaded Welded
Diameter: 2"
Type: PVC
0.0 in. to 16.96 ft. depth
in. to ft. depth
Height: Below
Surface: ft. Weight: lb./ft.
Drive Shoe: No

11. SCREEN:
Type: PVC Diameter: 2"
Slot/Gauge: 0.010 Length: 10'
Set Between: 16.96 ft. and 26.96 ft.
ft. and ft.
Sieve Analysis: Y/N No

12. STATIC WATER LEVEL 20.1 ft. below land surface after 24 hours.

13. PUMPING LEVEL Below Land Surface.
ft. after hrs Pumping GPM
Pumping Test: No
Yield: gpm

14. WATER QUALITY
Chemical Analysis: No Bacterial Analysis: No

15. ARTIFICIAL FILTER (filter pack) Yes
Installed from: 13.2 ft. to 30.0 ft.
Effective Size: 20-40 Uniformity Coefficient:

16. WELL GROUTED? Yes
Neat Cement, Bentonite, Bentonite/Cement, Other
Depth: 0.5 ft. to 11.8 ft.

17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: ft. direction
Type:
Well Disinfected: No Type: Amount:

18. PUMP: Date installed: N/A
Mfr. Name: Model no.:
H.P.: Volts: Length of pipe: ft.
Capacity: gpm
TYPE:
Submersible, Jet (shallow), Turbine, Jet (deep), Reciprocating, Centrifugal

19. WELL DRILLER: Robert Banks CERT NO.: 400
Address: 6004 Ponders Court Level: A B C D (circle one)
Greenville SC 29615
Telephone: 864-527-9324 Fax: 864-288-4430

20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief.

Signed: Robert Banks

Date: 10/22/10

If D Level Driller, provide supervising driller's name.

BLE INC.

BUNNELL-LAMMONS ENGINEERING, INC.

GEOTECHNICAL AND ENVIRONMENTAL CONSULTANTS

GROUNDWATER MONITORING WELL NO. MW-21D

PROJECT: Spinx #258 / Former Enmark #380 — PROJECT NO.: J10-6859-02

CLIENT: Enmark Stations, Inc. — START: 11-2-10 END: 11-3-10

LOCATION: Newberry, South Carolina — ELEVATION: 542.43

DRILLER: Landprobe, M. King — LOGGED BY: I. Irizarry

DRILLING METHOD: Schramm T450WS; 6-inch and 8-inch air hammer

DEPTH TO - WATER> INITIAL: 19.0 AFTER 24 HOURS: 19.40 CAVING>

ELEVATION/ DEPTH (FT)	DESCRIPTION	SOIL TYPE	MONITOR WELL INSTALLATION DETAILS
	6-inches of GRASS and ORGANIC TOPSOIL		SURFACE COMPLETION Flush-mount below ground surface secured with an 8-inch diameter steel, bolted manhole cover in a 2' x 2' concrete pad
540	Reddish-brown and yellowish-brown, moist, medium to fine sandy SILT		
5	Reddish-brown and yellowish-brown, dry, silty, medium to fine SAND		
535			
10	Reddish-brown and yellowish-brown, dry, silty, medium to fine SAND		
530			
15	Light yellowish-brown, moist, silty, medium to fine SAND		6-inch diameter outer casing installed to 40.0 feet
525			
20	Light brown and yellowish-brown, wet, medium to fine SAND		Neat cement, 0.5 to 39.0 feet
520			
25	PARTIALLY WEATHERED ROCK which sampled as light brown and yellowish-brown, moist, silty, medium to fine SAND		
515			
30			
510	Granitic BEDROCK		
35			
505			Bentonite seal, 39.0 to 41.0 feet

GEOT_WELLNB 6859-02.GPJ 1/14/11

BLE INC.

BUNNELL-LAMMONS ENGINEERING, INC.

GEOTECHNICAL AND ENVIRONMENTAL CONSULTANTS

GROUNDWATER MONITORING WELL NO. MW-21D

PROJECT: Spinx #258 / Former Enmark #380 — PROJECT NO.: J10-6859-02

CLIENT: Enmark Stations, Inc. — START: 11-2-10 END: 11-3-10

LOCATION: Newberry, South Carolina — ELEVATION: 542.43

DRILLER: Landprobe, M. King — LOGGED BY: I. Irizarry

DRILLING METHOD: Schramm T450WS; 6-inch and 8-inch air hammer

DEPTH TO - WATER> INITIAL: 19.0 AFTER 24 HOURS: 19.40 CAVING>

ELEVATION/ DEPTH (FT)	DESCRIPTION	SOIL TYPE	MONITOR WELL INSTALLATION DETAILS
500 / 45	Granitic BEDROCK		Filter pack, sand 41.0 to 46.75 feet 2-inch diameter, 0.010-inch slotted Schedule 40 PVC well screen, 41.55 to 46.55 feet Pipe cap
495 / 50	Boring terminated at 47.0 feet below ground surface. Groundwater encountered at 19.0 feet below ground surface at time of drilling and at 19.40 feet below ground surface after 24 hours.		Total well depth, 46.75 feet Ground surface elev. = 542.43 feet Top of PVC casing elev. = 542.23 feet Northing = 895,406.820' Easting = 1,812,154.961' Elevations are NAVD 88
490 / 55			
485 / 60			
480 / 65			
475 / 70			
470 / 75			
465			

GEOT_WELLNB 6859-02.GPJ 1/14/11

Water Well Record
Bureau of Water
2600 Bull Street, Columbia, SC 29201-1708; (803) 898-4300

1. WELL OWNER INFORMATION:
Name: Enmark Station, Inc.
Dolan (last) Tom (first)
Address: Post Office Box 728
City: Savannah State: GA zip: 31402
Phone: Work:
Home:

2. LOCATION OF WELL: COUNTY: Newberry
Name: Enmark 380
Address: 2725 College Street
City: Newberry, SC Zip: 29108
Latitude: Longitude:

3. PUBLIC SYSTEM NAME MW-21D **PUBLIC SYSTEM NUMBER:**

4. ABANDONMENT: No
Grouted Depth: from to ft.

Formation Description	Thickness of Stratum	Depth to Bottom of Stratum

SEE BORING LOGS

5. REMARKS:
Holeplug: 42 to 39

6. TYPE: Mud Rotary, Jetted, Bored, Dug, **Air Rotary**, Driven, Cable tool, Auger, Other

7. PERMIT NUMBER: 06588

8. USE:
Residential, Public Supply, Process, Irrigation, Air Conditioning, Emergency, Test Well, **Monitor Well**, Replacement

9. WELL DEPTH (completed)
46.75 ft. Date Started: 11/2/2010 Date Completed: 11/3/2010

10. CASING: **Threaded** Welded
Diameter: 2" & 6"
Type: PVC
2.0 in. to 41.55 ft. depth
6.0 in. to 40.0 ft. depth
Height: Below
Surface: ft. Weight: lb./ft.
Drive Shoe: No

11. SCREEN:
Type: PVC Diameter: 2"
Slot/Gauge: 0.010 Length: 5'
Set Between: 46.55 ft. and 41.55 ft.
ft. and ft.
Sieve Analysis: Y/N No

12. STATIC WATER LEVEL 19.4 ft. below land surface after 24 hours.

13. PUMPING LEVEL Below Land Surface.
ft. after hrs Pumping GPM
Pumping Test: No
Yield:

14. WATER QUALITY
Chemical Analysis: No Bacterial Analysis: No

15. ARTIFICIAL FILTER (filter pack) Yes
Installed from: 47.0 ft. to 41.0 ft.
Effective Size: #2 Uniformity Coefficient: Sand

16. WELL GROUTED? Yes
Neat Cement, Bentonite, **Bentonite/Cement**, Other
Depth: From 39.0 ft. to 0.5 ft.

17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: ft. direction
Type: N/A
Well Disinfected: Type: Amount:

18. PUMP: Date installed: N/A
Mfr. Name: Model no.:
H.P.: Volts: Length of pipe: ft.
Capacity: gpm
TYPE:
Submersible, Jet (shallow), Turbine, Jet (deep), Reciprocating, Centrifugal

19. WELL DRILLER: Brunson (Marty) King **CERT NO.: 1089**
Address: 6004 Ponders Court Level: A **B** C D
Greenville SC 29615 (circle one)
Telephone: 864-527-9324 Fax: 864-288-4430

20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief.

Signed: Marty King

Date: 11/8/10

If D Level Driller, provide supervising driller's name.

BLE INC.

BUNNELL-LAMMONS ENGINEERING, INC.

GEOTECHNICAL AND ENVIRONMENTAL CONSULTANTS

GROUNDWATER MONITORING WELL NO. MW-22

PROJECT: Spinx #258 / Former Enmark #380 — PROJECT NO.: J10-6859-02

CLIENT: Enmark Stations, Inc. — START: 10-26-10 END: 10-26-10

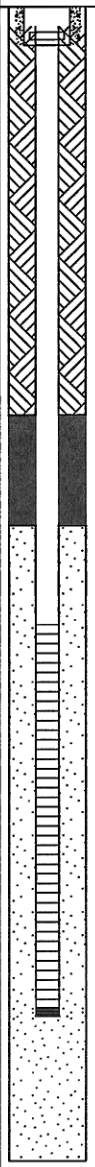
LOCATION: Newberry, South Carolina — ELEVATION: 541.08

DRILLER: Landprobe, R. Banks — LOGGED BY: R. Doherty

DRILLING METHOD: CME 750; 4-1/4 inch ID hollow stem auger

DEPTH TO - WATER> INITIAL: 22.5 AFTER 24 HOURS: 18.92 CAVING>

ELEVATION/ DEPTH (FT)	DESCRIPTION	SOIL TYPE	MONITOR WELL INSTALLATION DETAILS
540	6-inches of ASPHALT Yellowish and reddish-brown, dry, silty, medium to fine SAND		SURFACE COMPLETION Flush-mount below ground surface secured with an 8-inch diameter steel, bolted manhole cover in a 2' x 2' concrete pad
5 / 535	Reddish-brown, dry, silty, medium to fine SAND		
10 / 530	Yellowish-brown, slightly moist, silty, medium to fine SAND		Bentonite seal, 10.6 to 13.5 feet Filter pack, sand 13.5 to 30.0 feet
15 / 525	Yellowish-brown, moist, silty, medium to fine SAND		
20 / 520	Yellowish-brown, wet, silty, medium to fine SAND		2-inch diameter, 0.010-inch slotted Schedule 40 PVC well screen, 16.05 to 26.05 feet
25 / 515			Pipe cap Total well depth, 26.25 feet
30 / 510	Boring terminated at 30.0 feet below ground surface. Groundwater encountered at 22.5 feet below ground surface at time of drilling and at 18.92 feet below ground surface after 24 hours.		Ground surface elev. = 541.08 feet Neat cement, 0.5 to 10.6 feet Top of PVC casing elev. = 540.89 feet Northing = 895,221.356' Easting = 1,811,965.979' Elevations are NAVD 88
35 / 505			



GEOT_WELLNB 6859-02.GPJ 1/14/11

Water Well Record
Bureau of Water
2600 Bull Street, Columbia, SC 29201-1708; (803) 898-4300

1. WELL OWNER INFORMATION:
Name: Enmark Station, Inc.
Dolan (last) Tom (first)
Address: Post Office Box 728
City: Savannah State: GA Zip: 31402
Phone: Work:
Home:

2. LOCATION OF WELL: COUNTY: Newberry
Name: Enmark 380
Address: 2725 College Street
City: Newberry, SC Zip: 29108
Latitude: Longitude:

3. PUBLIC SYSTEM NAME: MW-22 PUBLIC SYSTEM NUMBER:

4. ABANDONMENT: No
Grouted Depth: from to ft.

Formation Description	Thickness of Stratum	Depth to Bottom of Stratum

SEE BORING LOGS

5. REMARKS:

6. TYPE: Mud Rotary, Jetted, Bored, Dug, Air Rotary, Driven, Cable tool, Auger

7. PERMIT NUMBER: 06588

8. USE:
Residential, Public Supply, Process, Irrigation, Air Conditioning, Emergency, Test Well, Monitor Well, Replacement

9. WELL DEPTH (completed)
26.25 ft. Date Started: 10/26/2010 Date Completed: 10/26/2010

10. CASING: Threaded Welded
Diameter: 2"
Type: PVC
2.0 in. to 16.05 ft. depth
in. to ft. depth
Height: Below
Surface: ft. Weight: lb./ft.
Drive Shoe: No

11. SCREEN:
Type: PVC Diameter: 2"
Slot/Gauge: 0.010 Length: 10'
Set Between: 26.05 ft. and 16.05 ft.
ft. and ft.
Sieve Analysis: Y/N No

12. STATIC WATER LEVEL 18.92 ft. below land surface after 24 hours.

13. PUMPING LEVEL Below Land Surface.
ft. after hrs Pumping GPM
Pumping Test: No
Yield: gpm

14. WATER QUALITY
Chemical Analysis: No Bacterial Analysis:

15. ARTIFICIAL FILTER (filter pack) Yes
Installed from: 30.0 ft. to 13.5 ft.
Effective Size: #2 Uniformity Coefficient: Sand

16. WELL GROUTED? Yes
Neat Cement, Bentonite, Bentonite/Cement, Other
Depth: 10.6 ft. to 0.0 ft.

17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: ft. direction
Type:
Well Disinfected: No Type: Amount:

18. PUMP: Date installed: N/A
Mfr. Name: Model no.:
H.P.: Volts: Length of pipe: ft.
Capacity: gpm
TYPE:
Submersible, Jet (shallow), Turbine, Jet (deep), Reciprocating, Centrifugal

19. WELL DRILLER: Robert Banks CERT NO.: 400
Address: 6004 Ponders Court Level: A B C D (circle one)
Greenville SC 29615
Telephone: 864-527-9324 Fax: 864-288-4430

20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief.

Signed: Robert Banks

Date: 10/26/10

If D Level Driller, provide supervising driller's name.

BLE INC.

BUNNELL-LAMMONS ENGINEERING, INC.
GEOTECHNICAL AND ENVIRONMENTAL CONSULTANTS

GROUNDWATER MONITORING WELL NO. MW-22D

PROJECT: Spinx #258 / Former Enmark #380 — PROJECT NO.: J10-6859-02
CLIENT: Enmark Stations, Inc. — START: 11-2-10 END: 11-3-10
LOCATION: Newberry, South Carolina — ELEVATION: 541.22
DRILLER: Landprobe, M. King — LOGGED BY: I. Irizarry
DRILLING METHOD: Schramm T450WS; 6-inch and 8-inch air hammer
DEPTH TO - WATER> INITIAL: 18.0 AFTER 24 HOURS: 18.92 CAVING>

ELEVATION/ DEPTH (FT)	DESCRIPTION	SOIL TYPE	MONITOR WELL INSTALLATION DETAILS
	6-inches of ASPHALT		SURFACE COMPLETION Flush-mount below ground surface secured with an 8-inch diameter steel, bolted manhole cover in a 2' x 2' concrete pad
540	Reddish-brown, dry, silty, medium to fine SAND		
5			
535			
10	Light brown, slightly moist, silty, medium to fine SAND		
530			
15	Yellowish-brown, slightly moist, silty, medium to fine SAND		
525			
20	Yellowish-brown, wet, silty, medium to fine SAND		Neat cement, 0.5 to 38.0 feet
520			
25			6-inch outer casing set to 40 feet
515			
30	Light reddish-brown, wet, medium to fine sandy SILT		
510			
35	PARTIALLY WEATHERED ROCK which sampled as light brown, wet, silty, medium to fine SAND with gravel		
505			Bentonite seal, 38.0 to 40.0 feet
	Granitic BEDROCK		

GEOT_WELLNB 6859-02.GPJ 1/14/11

BLE INC.

BUNNELL-LAMMONS ENGINEERING, INC.

GEOTECHNICAL AND ENVIRONMENTAL CONSULTANTS

GROUNDWATER MONITORING WELL NO. MW-22D

PROJECT: Spinx #258 / Former Enmark #380 — PROJECT NO.: J10-6859-02

CLIENT: Enmark Stations, Inc. — START: 11-2-10 END: 11-3-10

LOCATION: Newberry, South Carolina — ELEVATION: 541.22

DRILLER: Landprobe, M. King — LOGGED BY: I. Irizarry

DRILLING METHOD: Schramm T450WS; 6-inch and 8-inch air hammer

DEPTH TO - WATER> INITIAL: 18.0 AFTER 24 HOURS: 18.92 CAVING>

ELEVATION/ DEPTH (FT)	DESCRIPTION	SOIL TYPE	MONITOR WELL INSTALLATION DETAILS
500	Granitic BEDROCK		Filter pack, sand 40.0 to 46.0 feet
			2-inch diameter, 0.010-inch slotted Schedule 40 PVC well screen, 40.62 to 45.62 feet
45			
495			Pipe cap
	Boring terminated at 46.0 feet below ground surface. Groundwater encountered at 18.0 feet below ground surface at time of drilling and at 18.92 feet below ground surface after 24 hours.		Total well depth, 45.82 feet
50			Ground surface elev. = 541.22 feet
490			Top of PVC casing elev. = 540.87 feet
			Northing = 895,215.310'
55			Easting = 1,811,964.244'
485			Elevations are NAVD 88
60			
480			
65			
475			
70			
470			
75			
465			

GEOT_WELLNB 6859-02.GPJ 1/14/11

Water Well Record
Bureau of Water
2600 Bull Street, Columbia, SC 29201-1708; (803) 898-4300

1. WELL OWNER INFORMATION:
Name: Enmark Station, Inc.
Dolan (last) Tom (first)
Address: Post Office Box 728
City: Savannah State: GA zip: 31402
Phone: Work:
Home:

2. LOCATION OF WELL: COUNTY: Newberry
Name: Enmark 380
Address: 2725 College Street
City: Newberry, SC Zip: 29108
Latitude: Longitude:

3. PUBLIC SYSTEM NAME MW-22D **PUBLIC SYSTEM NUMBER:**

4. ABANDONMENT: No
Grouted Depth: from to ft.

Formation Description	Thickness of Stratum	Depth to Bottom of Stratum

SEE BORING LOGS

5. REMARKS:
Holeplug: 41 to 39

6. TYPE: Mud Rotary, Jetted, Bored, Dug, **Air Rotary**, Driven, Cable tool, Auger, Other

7. PERMIT NUMBER: 06588

8. USE:
Residential, Public Supply, Process, Irrigation, Air Conditioning, Emergency, Test Well, **Monitor Well**, Replacement

9. WELL DEPTH (completed)
Date Started: 11/2/2010
45.82 ft. Date Completed: 11/3/2010

10. CASING: **Threaded** Welded
Diameter: 2" & 6"
Type: PVC
2.0 in. to 40.62 ft. depth
6.0 in. to 40.0 ft. depth
Height: Below
Surface: ft. Weight: lb./ft.
Drive Shoe: No

11. SCREEN:
Type: PVC Diameter: 2"
Slot/Gauge: 0.010 Length: 5'
Set Between: 45.62 ft. and 40.62 ft.
ft. and ft.
Sieve Analysis: Y/N No

12. STATIC WATER LEVEL 18.92 ft. below land surface after 24 hours.

13. PUMPING LEVEL Below Land Surface.
ft. after hrs Pumping GPM
Pumping Test: No
Yield:

14. WATER QUALITY
Chemical Analysis: No Bacterial Analysis: No

15. ARTIFICIAL FILTER (filter pack) Yes
Installed from: 46.0 ft. to 40.0 ft.
Effective Size: #2 Uniformity Coefficient: Sand

16. WELL GROUTED? Yes
Neat Cement, Bentonite, **Bentonite/Cement**, Other
Depth: From 38.0 ft. to 0.5 ft.

17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: ft. direction
Type: N/A
Well Disinfected: Type: Amount:

18. PUMP: Date installed: N/A
Mfr. Name: Model no.:
H.P.: Volts: Length of pipe: ft.
Capacity: gpm
TYPE:
Submersible, Jet (shallow), Turbine, Jet (deep), Reciprocating, Centrifugal

19. WELL DRILLER: Brunson (Marty) King **CERT NO.: 1089**
Address: 6004 Ponders Court
Greenville SC 29615
Level: A **B** C D (circle one)
Telephone: 864-527-9324 Fax: 864-288-4430

20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief.

Signed: Marty King

Date: 11/8/10

If D Level Driller, provide supervising driller's name.

BLE INC.

BUNNELL-LAMMONS ENGINEERING, INC.

GEOTECHNICAL AND ENVIRONMENTAL CONSULTANTS

GROUNDWATER MONITORING WELL NO. MW-23

PROJECT: Spinx #258 / Former Enmark #380 — PROJECT NO.: J10-6859-02

CLIENT: Enmark Stations, Inc. — START: 10-26-10 END: 10-26-10

LOCATION: Newberry, South Carolina — ELEVATION: 541.44

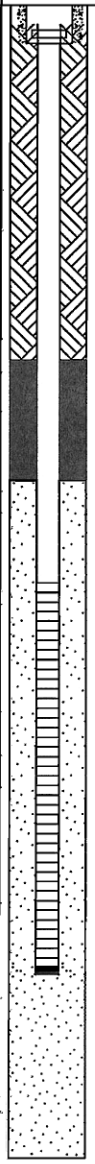
DRILLER: Landprobe, R. Banks — LOGGED BY: R. Doherty

DRILLING METHOD: CME 750; 4-1/4 inch ID hollow stem auger

DEPTH TO - WATER> INITIAL: 24.5 AFTER 24 HOURS: 19.26 CAVING>

ELEVATION/ DEPTH (FT)	DESCRIPTION	SAMPLES	PID (ppm) READING
	6-inches of ASPHALT		
540	Reddish-brown, dry, silty, medium to fine SAND		
5	Yellowish-brown to reddish-brown, dry, silty, medium to fine SAND		0.3
535			
10	Yellowish-brown, dry, silty, medium to fine SAND		0.7
530			
15	Yellowish-brown, moist, silty, medium to fine SAND		4.5
525			
20	Yellowish-brown, wet, silty, medium to fine SAND		580
520			
25			1906
515			
30			528.8
510	Boring terminated at 30.0 feet below ground surface. Groundwater encountered at 24.5 feet below ground surface at time of drilling and at 19.26 feet below ground surface after 24 hours.		
35			
505			

MONITOR WELL INSTALLATION DETAILS



SURFACE COMPLETION
Flush-mount below ground surface secured with an 8-inch diameter steel, bolted manhole cover in a 2' x 2' concrete pad

Neat cement, 0.5 to 9.2 feet

Bentonite seal, 9.2 to 12.4 feet

Filter pack, sand 12.4 to 30.0 feet

2-inch diameter, 0.010-inch slotted Schedule 40 PVC well screen, 15.05 to 25.05 feet

Pipe cap

Total well depth, 25.25 feet

Ground surface elev. = 541.44 feet

Top of PVC casing elev. = 541.19 feet

Northing = 895,276.072'

Easting = 1,812,007.943'

Elevations are NAVD 88

ENV_WELL_ONLY_PID 6859-02.GPJ 12/23/10

Water Well Record
Bureau of Water
2600 Bull Street, Columbia, SC 29201-1708; (803) 898-4300

1. WELL OWNER INFORMATION:
Name: Enmark Station, Inc.
Dolan (last) Tom (first)
Address: Post Office Box 728
City: Savannah State: GA Zip: 31402
Phone: Work:
Home:

2. LOCATION OF WELL: COUNTY: Newberry
Name: Enmark 380
Address: 2725 College Street
City: Newberry, SC Zip: 29108
Latitude: Longitude:

3. PUBLIC SYSTEM NAME: MW-23 PUBLIC SYSTEM NUMBER:

4. ABANDONMENT: No
Grouted Depth: from to ft.

Formation Description	Thickness of Stratum	Depth to Bottom of Stratum

SEE BORING LOGS

5. REMARKS:

6. TYPE: Mud Rotary, Jetted, Bored, Dug, Air Rotary, Driven, Cable tool, Auger

7. PERMIT NUMBER: 06588

8. USE:
Residential, Public Supply, Process, Irrigation, Air Conditioning, Emergency, Test Well, Monitor Well, Replacement

9. WELL DEPTH (completed)
25.25 ft. Date Started: 10/26/2010
Date Completed: 10/26/2010

10. CASING: Threaded Welded
Diameter: 2"
Type: PVC
2.0 in. to 15.05 ft. depth
in. to ft. depth
Height: Below
Surface: ft. Weight: lb./ft.
Drive Shoe: No

11. SCREEN:
Type: PVC Diameter: 2"
Slot/Gauge: 0.010 Length: 10'
Set Between: 25.05 ft. and 15.05 ft.
ft. and ft.
Sieve Analysis: Y/N No

12. STATIC WATER LEVEL 19.26 ft. below land surface after 24 hours.

13. PUMPING LEVEL Below Land Surface.
ft. after hrs Pumping GPM
Pumping Test: No
Yield: gpm

14. WATER QUALITY
Chemical Analysis: No Bacterial Analysis:

15. ARTIFICIAL FILTER (filter pack) Yes
Installed from: 30.0 ft. to 12.61 ft.
Effective Size: #2 Uniformity Coefficient: Sand

16. WELL GROUTED? Yes
Neat Cement, Bentonite, Bentonite/Cement, Other
Depth: 9.2 ft. to 0.5 ft.

17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: ft. direction
Type:
Well Disinfected: No Type: Amount:

18. PUMP: Date installed: N/A
Mfr. Name: Model no.:
H.P.: Volts: Length of pipe: ft.
Capacity: gpm
TYPE:
Submersible, Jet (shallow), Turbine
Jet (deep), Reciprocating, Centrifugal

19. WELL DRILLER: Robert Banks CERT NO.: 400
Address: 6004 Ponders Court Level: A B C D
Greenville SC 29615 (circle one)
Telephone: 864-527-9324 Fax: 864-288-4430

20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief.

Signed: Robert Banks

Date: 10/26/10

If D Level Driller, provide supervising driller's name.

BLE INC.

BUNNELL-LAMMONS ENGINEERING, INC.

GEOTECHNICAL AND ENVIRONMENTAL CONSULTANTS

GROUNDWATER MONITORING WELL NO. MW-24

PROJECT: Spinx #258 / Former Enmark #380 — PROJECT NO.: J10-6859-02

CLIENT: Enmark Stations, Inc. — START: 10-26-10 END: 10-26-10

LOCATION: Newberry, South Carolina — ELEVATION: 542.50

DRILLER: Landprobe, R. Banks — LOGGED BY: R. Doherty

DRILLING METHOD: CME 750; 4-1/4 inch ID hollow stem auger

DEPTH TO - WATER> INITIAL: ▽ 21.0 AFTER 24 HOURS: ▼ 20.11 CAVING>

ELEVATION/ DEPTH (FT)	DESCRIPTION	SOIL TYPE	MONITOR WELL INSTALLATION DETAILS
	6-inches of ASPHALT		SURFACE COMPLETION Flush-mount below ground surface secured with an 8-inch diameter steel, bolted manhole cover in a 2' x 2' concrete pad
	Yellowish to reddish-brown, dry, silty, medium to fine SAND		
540			
5	Reddish-brown, dry, silty, medium to fine SAND		Neat cement, 0.5 to 10.3 feet
535			
10			Bentonite seal, 10.3 to 12.6 feet
530			Filter pack, sand 12.6 to 30.0 feet
15	Yellowish-brown, slightly moist, silty, medium to fine SAND		
525			
20 ▼ ▽	Yellowish-brown, wet, medium to fine sandy SILT		2-inch diameter, 0.010-inch slotted Schedule 40 PVC well screen, 15.22 to 25.22 feet
520			
25	Yellowish-brown, wet, silty, coarse to medium SAND		Pipe cap Total well depth, 25.42 feet
515			
	PARTIALLY WEATHERED ROCK which sampled as yellowish-brown, wet, silty, coarse to medium SAND		
30	Boring terminated at 30.0 feet below ground surface. Groundwater encountered at 21.0 feet below ground surface at time of drilling and at 20.11 feet below ground surface after 24 hours.		Ground surface elev. = 542.50 feet Top of PVC casing elev. = 542.17 feet
510			
35			Northing = 895,305.964' Easting = 1,811,968.076' Elevations are NAVD 88
505			

GEOT_WELLNB 6859-02.GPJ 1/14/11

Water Well Record
Bureau of Water
2600 Bull Street, Columbia, SC 29201-1708; (803) 898-4300

1. WELL OWNER INFORMATION:
Name: Enmark Station, Inc.
Dolan (last) Tom (first)
Address: Post Office Box 728
City: Savannah State: GA Zip: 31402
Phone: Work:
Home:

2. LOCATION OF WELL: COUNTY: Newberry
Name: Enmark 380
Address: 2725 College Street
City: Newberry, SC Zip: 29108
Latitude: Longitude:

3. PUBLIC SYSTEM NAME: MW-24 PUBLIC SYSTEM NUMBER:

4. ABANDONMENT: No
Grouted Depth: from to ft.

Formation Description	Thickness of Stratum	Depth to Bottom of Stratum

SEE BORING LOGS

5. REMARKS:

6. TYPE: Mud Rotary Jetted Bored
Dug Air Rotary Driven
Cable tool (Auger)

7. PERMIT NUMBER: 06588

8. USE:
Residential Public Supply Process
Irrigation Air Conditioning Emergency
Test Well (Monitor Well) Replacement

9. WELL DEPTH (completed)
Date Started: 10/26/2010
25.42 ft. Date Completed: 10/26/2010

10. CASING: (Threaded) Welded
Diameter:
Type:
in. to ft. depth
in. to ft. depth
Height: Below
Surface: ft. Weight: lb./ft.
Drive Shoe: No

11. SCREEN:
Type: PVC Diameter: 2"
Slot/Gauge: 0.010 Length: 10'
Set Between: 25.22 ft. and 15.22 ft.
ft. and ft.
Sieve Analysis: Y/N No

12. STATIC WATER LEVEL 20.11 ft. below land surface after 24 hours.

13. PUMPING LEVEL Below Land Surface.
ft. after hrs Pumping GPM
Pumping Test: No
Yield: gpm

14. WATER QUALITY
Chemical Analysis: No Bacterial Analysis:

15. ARTIFICIAL FILTER (filter pack) Yes
Installed from: 30.0 ft. to 12.60 ft.
Effective Size: #2 Uniformity Coefficient: Sand

16. WELL GROUTED? Yes
(Neat Cement) Bentonite Bentonite/Cement Other
Depth: 10.3 ft. to 0.5 ft.

17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: ft. direction
Type:
Well Disinfected: No Type: Amount:

18. PUMP: Date installed: N/A
Mfr. Name: Model no.:
H.P.: Volts: Length of pipe: ft.
Capacity: gpm
TYPE:
Submersible Jet (shallow) Turbine
Jet (deep) Reciprocating Centrifugal

19. WELL DRILLER: Robert Banks CERT NO.: 400
Address: 6004 Ponders Court Level: A (B) C D
Greenville SC 29615 (circle one)
Telephone: 864-527-9324 Fax: 864-288-4430

20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief.

Signed: Robert Banks

Date: 10/26/10

If D Level Driller, provide supervising driller's name.

BLE INC.

BUNNELL-LAMMONS ENGINEERING, INC.
GEOTECHNICAL AND ENVIRONMENTAL CONSULTANTS

GROUNDWATER MONITORING WELL NO. MW-24D

PROJECT: Spinx #258 / Former Enmark #380 — PROJECT NO.: J10-6859-02
CLIENT: Enmark Stations, Inc. — START: 11-2-10 END: 11-3-10
LOCATION: Newberry, South Carolina — ELEVATION: 542.37
DRILLER: Landprobe, M. King — LOGGED BY: R. Doherty
DRILLING METHOD: Schramm T450WS; 6-inch and 8-inch air hammer
DEPTH TO - WATER> INITIAL: 20.0 AFTER 24 HOURS: 20.01 CAVING>

ELEVATION/ DEPTH (FT)	DESCRIPTION	SOIL TYPE	MONITOR WELL INSTALLATION DETAILS
	6-inches of ASPHALT		**SURFACE COMPLETION** Flush-mount below ground surface secured with an 8-inch diameter steel, bolted manhole cover in a 2' x 2' concrete pad
	Yellowish to reddish-brown, dry, silty, medium to fine SAND		
540			
5	Reddish-brown, dry, silty, medium to fine SAND		
535			
10			
530			
15	Yellowish-brown, slightly moist, silty, medium to fine SAND		
525			
20	Yellowish-brown, wet, medium to fine sandy SILT		Neat cement, 0.5 to 38.0 feet
520			
25	Yellowish-brown, wet, silty, coarse to medium SAND		6-inch outer casing installed to 40 feet
515			
30	PARTIALLY WEATHERED ROCK which sampled as yellowish-brown, wet, silty, coarse to medium SAND with gravel		
510			
35			
	Granitic BEDROCK		
505			Bentonite seal, 38.0 to 40.0 feet

GEOT_WELLNB 6859-02.GPJ 1/14/11

BLE INC.

BUNNELL-LAMMONS ENGINEERING, INC.

GEOTECHNICAL AND ENVIRONMENTAL CONSULTANTS

GROUNDWATER MONITORING WELL NO. MW-24D

PROJECT: Spinx #258 / Former Enmark #380 — PROJECT NO.: J10-6859-02

CLIENT: Enmark Stations, Inc. — START: 11-2-10 END: 11-3-10

LOCATION: Newberry, South Carolina — ELEVATION: 542.37

DRILLER: Landprobe, M. King — LOGGED BY: R. Doherty

DRILLING METHOD: Schramm T450WS; 6-inch and 8-inch air hammer

DEPTH TO - WATER> INITIAL: 20.0 AFTER 24 HOURS: 20.01 CAVING>

ELEVATION/ DEPTH (FT)	DESCRIPTION	SOIL TYPE	MONITOR WELL INSTALLATION DETAILS
	Granitic BEDROCK		Filter pack, sand 40.0 to 47.0 feet 2-inch diameter, 0.010-inch slotted Schedule 40 PVC well screen, 40.83 to 45.83 feet Pipe cap
	Boring terminated at 47.0 feet below ground surface. Groundwater encountered at 20.0 feet below ground surface at time of drilling and at 20.01 feet below ground surface after 24 hours.		Total well depth, 46.03 feet Ground surface elev. = 542.37 feet Top of PVC casing elev. = 542.14 feet Northing = 895,297.507' Easting = 1,811,968.372' Elevations are NAVD 88

Elevation scale: 500, 495, 490, 485, 480, 475, 470, 465

Depth scale: 45, 50, 55, 60, 65, 70, 75

GEOT_WELL.NB 6859-02.GPJ 1/14/11

Water Well Record
Bureau of Water
2600 Bull Street, Columbia, SC 29201-1708; (803) 898-4300

1. WELL OWNER INFORMATION:
Name: Enmark Station, Inc.
Dolan (last) Tom (first)
Address: Post Office Box 728
City: Savannah State: GA zip: 31402
Phone: Work:
Home:

2. LOCATION OF WELL: COUNTY: Newberry
Name: Enmark 380
Address: 2725 College Street
City: Newberry, SC Zip: 29108
Latitude: Longitude:

3. PUBLIC SYSTEM NAME MW-24D **PUBLIC SYSTEM NUMBER:**

4. ABANDONMENT: No
Grouted Depth: from to ft.

Formation Description	Thickness of Stratum	Depth to Bottom of Stratum

SEE BORING LOGS

5. REMARKS:
Holeplug: 41 to 39

6. TYPE: Mud Rotary, Jetted, Bored, Dug, (Air Rotary), Driven, Cable tool, Auger, Other

7. PERMIT NUMBER: 06588

8. USE:
Residential, Public Supply, Process, Irrigation, Air Conditioning, Emergency, Test Well, (Monitor Well), Replacement

9. WELL DEPTH (completed)
46.03 ft. Date Started: 11/2/2010 Date Completed: 11/3/2010

10. CASING: (Threaded) Welded
Diameter: 2" & 6"
Type: PVC
2.0 in. to 40.83 ft. depth
6.0 in. to 40.0 ft. depth
Height: Below Surface: ft. Weight: lb./ft.
Drive Shoe: No

11. SCREEN:
Type: PVC Diameter: 2"
Slot/Gauge: 0.010 Length: 5'
Set Between: 45.83 ft. and 40.83 ft.
ft. and ft.
Sieve Analysis: Y/N No

12. STATIC WATER LEVEL 20.01 ft. below land surface after 24 hours.

13. PUMPING LEVEL Below Land Surface.
ft. after hrs Pumping GPM
Pumping Test: No
Yield:

14. WATER QUALITY
Chemical Analysis: No Bacterial Analysis: No

15. ARTIFICIAL FILTER (filter pack) Yes
Installed from: 47.0 ft. to 40.0 ft.
Effective Size: #2 Uniformity Coefficient: Sand

16. WELL GROUTED? Yes
(Neat Cement) Bentonite (Bentonite/Cement) Other
Depth: From 38.0 ft. to 0.5 ft.

17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: ft. direction
Type: N/A
Well Disinfected: Type: Amount:

18. PUMP: Date installed: N/A
Mfr. Name: Model no.:
H.P.: Volts: Length of pipe: ft.
Capacity: gpm
TYPE:
Submersible, Jet (shallow), Turbine, Jet (deep), Reciprocating, Centrifugal

19. WELL DRILLER: Brunson (Marty) King **CERT NO.:** 1089
Address: 6004 Ponders Court
Greenville SC 29615
Level: A (B) C D (circle one)
Telephone: 864-527-9324 Fax: 864-288-4430

20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief.

Signed: Marty King

Date: 11/8/10

If D Level Driller, provide supervising driller's name.

BLE INC.

BUNNELL-LAMMONS ENGINEERING, INC.

GEOTECHNICAL AND ENVIRONMENTAL CONSULTANTS

GROUNDWATER MONITORING WELL NO. MW-25

PROJECT: Spinx #258 / Former Enmark #380 — PROJECT NO.: J10-6859-02

CLIENT: Enmark Stations, Inc. — START: 10-26-10 END: 10-26-10

LOCATION: Newberry, South Carolina — ELEVATION: 542.98

DRILLER: Landprobe, R. Banks — LOGGED BY: R. Doherty

DRILLING METHOD: CME 750; 4-1/4 inch ID hollow stem auger

DEPTH TO - WATER> INITIAL: 21.0 AFTER 24 HOURS: 20.46 CAVING>

ELEVATION/ DEPTH (FT)	DESCRIPTION	SOIL TYPE	SAMPLES	PID (ppm) READING	MONITOR WELL INSTALLATION DETAILS
	6-inches of ASPHALT				SURFACE COMPLETION: Flush-mount below ground surface secured with an 8-inch diameter steel, bolted manhole cover in a 2' x 2' concrete pad
	Reddish-brown, dry, silty, medium to fine SAND				
540					
5	Yellowish-brown, dry, medium to fine sandy SILT			12.3	Neat cement, 0.5 to 10.3 feet
535					
10	Reddish-brown, dry, silty, fine SAND			670.4	Bentonite seal, 10.3 to 12.6 feet
530					Filter pack, sand 12.6 to 30.0 feet
15				7.4	
525					
20	Yellowish-brown, wet, medium to fine sandy SILT			9.5	2-inch diameter, 0.010-inch slotted Schedule 40 PVC well screen, 15.18 to 25.18 feet
520					
25	Yellowish-brown, wet, silty, medium to fine SAND			516	Pipe cap
					Total well depth, 25.38 feet
515					
30				140.6	
	Boring terminated at 30.0 feet below ground surface. Groundwater encountered at 21.0 feet below ground surface at time of drilling and at 20.46 feet below ground surface after 24 hours.				
510					Ground surface elev. = 542.98 feet
					Top of PVC casing elev. = 542.72 feet
35					
					Northing = 895,314.612'
					Easting = 1,811,935.589'
505					Elevations are NAVD 88

ENV_WELL_ONLY_PID 6859-02.GPJ 12/23/10

Water Well Record
Bureau of Water
2600 Bull Street, Columbia, SC 29201-1708; (803) 898-4300

1. WELL OWNER INFORMATION:
Name: Enmark Station, Inc.
Dolan (last) Tom (first)
Address: Post Office Box 728
City: Savannah State: GA Zip: 31402
Phone: Work:
Home:

2. LOCATION OF WELL: COUNTY: Newberry
Name: Enmark 380
Address: 2725 College Street
City: Newberry, SC Zip: 29108
Latitude: Longitude:

3. PUBLIC SYSTEM NAME: MW-25 PUBLIC SYSTEM NUMBER:

4. ABANDONMENT: No
Grouted Depth: from to ft.

Formation Description	Thickness of Stratum	Depth to Bottom of Stratum

SEE BORING LOGS

5. REMARKS:

6. TYPE: Mud Rotary Jetted Bored
Dug Air Rotary Driven
Cable tool (Auger)

7. PERMIT NUMBER: 06588

8. USE:
Residential Public Supply Process
Irrigation Air Conditioning Emergency
Test Well (Monitor Well) Replacement

9. WELL DEPTH (completed)
Date Started: 10/26/2010
25.38 ft. Date Completed: 10/26/2010

10. CASING: (Threaded) Welded
Diameter:
Type: PVC
2.0 in. to 15.18 ft. depth
in. to ft. depth
Height: Below
Surface: ft. Weight: lb./ft.
Drive Shoe: No

11. SCREEN:
Type: PVC Diameter: 2"
Slot/Gauge: 0.010 Length: 10'
Set Between: 25.18 ft. and 15.18 ft.
ft. and ft.
Sieve Analysis: Y/N No

12. STATIC WATER LEVEL 20.46 ft. below land surface after 24 hours.

13. PUMPING LEVEL Below Land Surface.
ft. after hrs Pumping GPM
Pumping Test: No
Yield: gpm

14. WATER QUALITY
Chemical Analysis: No Bacterial Analysis:

15. ARTIFICIAL FILTER (filter pack) Yes
Installed from: 30.0 ft. to 12.60 ft.
Effective Size: #2 Uniformity Coefficient: Sand

16. WELL GROUTED? Yes
(Neat Cement) Bentonite Bentonite/Cement Other
Depth: 10.3 ft. to 0.0 ft.

17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: ft. direction
Type:
Well Disinfected: No Type: Amount:

18. PUMP: Date installed: N/A
Mfr. Name: Model no.:
H.P.: Volts: Length of pipe: ft.
Capacity: gpm
TYPE:
Submersible Jet (shallow) Turbine
Jet (deep) Reciprocating Centrifugal

19. WELL DRILLER: Robert Banks CERT NO.: 400
Address: 6004 Ponders Court Level: A (B) C D
Greenville SC 29615 (circle one)
Telephone: 864-527-9324 Fax: 864-288-4430

20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief.

Signed: Robert Banks

Date: 10/26/10

If D Level Driller, provide supervising driller's name.

BLE INC.

BUNNELL-LAMMONS ENGINEERING, INC.

GEOTECHNICAL AND ENVIRONMENTAL CONSULTANTS

GROUNDWATER MONITORING WELL NO. MW-26

PROJECT: Spinx #258 / Former Enmark #380 — PROJECT NO.: J10-6859-02

CLIENT: Enmark Stations, Inc. — START: 10-27-10 END: 10-27-10

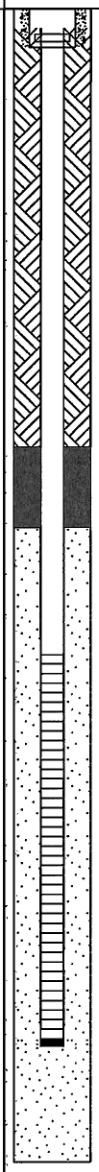
LOCATION: Newberry, South Carolina — ELEVATION: 543.01

DRILLER: Landprobe, R. Banks — LOGGED BY: R. Doherty

DRILLING METHOD: CME 750; 4-1/4 inch ID hollow stem auger

DEPTH TO - WATER> INITIAL: 22.5 AFTER 24 HOURS: 20.23 CAVING>

ELEVATION/ DEPTH (FT)	DESCRIPTION	SOIL TYPE	SAMPLES	PID (ppm) READING
	6-inches of ASPHALT			
	Reddish-brown, dry, silty, medium to fine SAND			
540				
5	Reddish-brown, dry, silty, medium to fine SAND			0.3
535				
10				3.4
530				
15	Reddish-brown, slightly moist, silty, medium to fine SAND			6.4
525				
20	Yellowish to orangish-brown, wet, medium to fine sandy SILT			10.8
520				
25	Yellowish to orangish-brown, wet, silty, medium to fine SAND			20.8
515				
30				21.3
	Boring terminated at 30.0 feet below ground surface. Groundwater encountered at 22.5 feet below ground surface at time of drilling and at 20.23 feet below ground surface after 24 hours.			
510				
35				
505				



MONITOR WELL INSTALLATION DETAILS

SURFACE COMPLETION
Flush-mount below ground surface secured with an 8-inch diameter steel, bolted manhole cover in a 2' x 2' concrete pad

Neat cement, 0.5 to 11.4 feet

Bentonite seal, 11.4 to 13.5 feet

Filter pack, sand 13.5 to 30.0 feet

2-inch diameter, 0.010-inch slotted Schedule 40 PVC well screen, 16.80 to 26.80 feet

Pipe cap

Total well depth, 27.00 feet

Ground surface elev. = 543.01 feet

Top of PVC casing elev. = 542.87 feet

Northing = 895,400.532'

Easting = 1,811,998.505'

Elevations are NAVD 88

ENV_WELL_ONLY_PID 6859-02.GPJ 12/23/10

Water Well Record
Bureau of Water
2600 Bull Street, Columbia, SC 29201-1708; (803) 898-4300

1. WELL OWNER INFORMATION:
Name: Enmark Station, Inc.
Dolan (last) Tom (first)
Address: Post Office Box 728
City: Savannah State: GA Zip: 31402
Phone: Work:
Home:

2. LOCATION OF WELL: COUNTY: Newberry
Name: Enmark 380
Address: 2725 College Street
City: Newberry, SC Zip: 29108
Latitude: Longitude:

3. PUBLIC SYSTEM NAME: MW-26 **PUBLIC SYSTEM NUMBER:**

4. ABANDONMENT: No
Grouted Depth: from to ft.

Formation Description	Thickness of Stratum	Depth to Bottom of Stratum

SEE BORING LOGS

5. REMARKS:

6. TYPE: Mud Rotary, Jetted, Bored, Dug, Air Rotary, Driven, Cable tool, (Auger)

7. PERMIT NUMBER: 06588

8. USE: Residential, Public Supply, Process, Irrigation, Air Conditioning, Emergency, Test Well, (Monitor Well), Replacement

9. WELL DEPTH (completed)
27.0 ft. Date Started: 10/27/2010
Date Completed: 10/27/2010

10. CASING: (Threaded) Welded
Diameter:
Type: PVC
2.0 in. to 16.18 ft. depth
in. to ft. depth
Height: Below
Surface: ft. Weight: lb./ft.
Drive Shoe: No

11. SCREEN:
Type: PVC Diameter: 2"
Slot/Gauge: 0.010 Length: 10'
Set Between: 26.8 ft. and 16.8 ft.
ft. and ft.
Sieve Analysis: Y/N No

12. STATIC WATER LEVEL 20.23 ft. below land surface after 24 hours.

13. PUMPING LEVEL Below Land Surface.
ft. after hrs Pumping GPM
Pumping Test: No
Yield: gpm

14. WATER QUALITY
Chemical Analysis: No Bacterial Analysis:

15. ARTIFICIAL FILTER (filter pack) Yes
Installed from: 30.0 ft. to 13.50 ft.
Effective Size: #2 Uniformity Coefficient: Sand

16. WELL GROUTED? Yes
(Neat Cement) Bentonite Bentonite/Cement Other
Depth: 11.4 ft. to 0.5 ft.

17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: ft. direction
Type:
Well Disinfected: No Type: Amount:

18. PUMP: Date installed: N/A
Mfr. Name: Model no.:
H.P.: Volts: Length of pipe: ft.
Capacity: gpm
TYPE:
Submersible Jet (shallow) Turbine
Jet (deep) Reciprocating Centrifugal

19. WELL DRILLER: Robert Banks CERT NO.: 400
Address: 6004 Ponders Court Level: A (B) C D
Greenville SC 29615 (circle one)
Telephone: 864-527-9324 Fax: 864-288-4430

20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief.

Signed: Robert Banks

Date: 10/27/10

If D Level Driller, provide supervising driller's name.

BLE INC.

BUNNELL-LAMMONS ENGINEERING, INC.
GEOTECHNICAL AND ENVIRONMENTAL CONSULTANTS

GROUNDWATER MONITORING WELL NO. MW-27

PROJECT: Spinx #258 / Former Enmark #380 — PROJECT NO.: J10-6859-02
CLIENT: Enmark Stations, Inc. — START: 10-27-10 END: 10-27-10
LOCATION: Newberry, South Carolina — ELEVATION: 543.72
DRILLER: Landprobe, R. Banks — LOGGED BY: R. Doherty
DRILLING METHOD: CME 750; 4-1/4 inch ID hollow stem auger
DEPTH TO - WATER> INITIAL: 21.5 AFTER 24 HOURS: 20.78 CAVING>

ELEVATION/ DEPTH (FT)	DESCRIPTION	SOIL TYPE	SAMPLES	PID (ppm) READING	MONITOR WELL INSTALLATION DETAILS
	6-inches of ASPHALT				SURFACE COMPLETION: Flush-mount below ground surface secured with an 8-inch diameter steel, bolted manhole cover in a 2' x 2' concrete pad
	Reddish-brown, dry, silty, medium to fine SAND				
540 / 5				3.5	Neat cement, 0.5 to 11.9 feet
535 / 10				1.9	
530					Bentonite seal, 11.9 to 14.8 feet
15	Yellowish-brown, moist, silty, medium to fine SAND			5.3	Filter pack, sand 14.8 to 30.0 feet
525 / 20	Yellowish-brown, wet, medium to fine sandy SILT			1.7	2-inch diameter, 0.010-inch slotted Schedule 40 PVC well screen, 17.05 to 27.05 feet
520 / 25				1.3	
515					Pipe cap; Total well depth, 27.25 feet
30	Boring terminated at 30.0 feet below ground surface. Groundwater encountered at 21.5 feet below ground surface at time of drilling and at 20.78 feet below ground surface after 24 hours.				
510 / 35					Ground surface elev. = 543.72 feet; Top of PVC casing elev. = 543.45 feet; Northing = 895,437.226'; Easting = 1,811,991.982'; Elevations are NAVD 88
505					

ENV_WELL_ONLY_PID 6859-02.GPJ 12/23/10

Water Well Record
Bureau of Water
2600 Bull Street, Columbia, SC 29201-1708; (803) 898-4300

1. WELL OWNER INFORMATION:
Name: Enmark Station, Inc.
Dolan (last) Tom (first)
Address: Post Office Box 728
City: Savannah State: GA Zip: 31402
Phone: Work:
Home:

2. LOCATION OF WELL: COUNTY: Newberry
Name: Enmark 380
Address: 2725 College Street
City: Newberry, SC Zip: 29108
Latitude: Longitude:

3. PUBLIC SYSTEM NAME: MW-27 **PUBLIC SYSTEM NUMBER:**

4. ABANDONMENT: No
Grouted Depth: from to ft.

Formation Description	Thickness of Stratum	Depth to Bottom of Stratum

SEE BORING LOGS

5. REMARKS:

6. TYPE: Mud Rotary, Jetted, Bored, Dug, Air Rotary, Driven, Cable tool, Auger

7. PERMIT NUMBER: 06588

8. USE: Residential, Public Supply, Process, Irrigation, Air Conditioning, Emergency, Test Well, Monitor Well, Replacement

9. WELL DEPTH (completed)
27.25 ft. Date Started: 10/27/2010
Date Completed: 10/27/2010

10. CASING: Threaded Welded
Diameter:
Type: PVC
2.0 in. to 17.05 ft. depth
in. to ft. depth
Height: Below
Surface: ft. Weight: lb./ft.
Drive Shoe: No

11. SCREEN:
Type: PVC Diameter: 2"
Slot/Gauge: 0.010 Length: 10'
Set Between: 27.05 ft. and 17.05 ft.
ft. and ft.
Sieve Analysis: Y/N No

12. STATIC WATER LEVEL 20.78 ft. below land surface after 24 hours.

13. PUMPING LEVEL Below Land Surface.
ft. after hrs Pumping GPM
Pumping Test: No
Yield: gpm

14. WATER QUALITY
Chemical Analysis: No Bacterial Analysis:

15. ARTIFICIAL FILTER (filter pack) Yes
Installed from: 30.0 ft. to 14.80 ft.
Effective Size: Uniformity Coefficient:

16. WELL GROUTED? Yes
Neat Cement Bentonite Bentonite/Cement Other
Depth: 11.9 ft. to 0.5 ft.

17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: ft. direction
Type:
Well Disinfected: No Type: Amount:

18. PUMP: Date installed: N/A
Mfr. Name: Model no.:
H.P.: Volts: Length of pipe: ft.
Capacity: gpm
TYPE:
Submersible Jet (shallow) Turbine
Jet (deep) Reciprocating Centrifugal

19. WELL DRILLER: Robert Banks CERT NO.: 400
Address: 6004 Ponders Court Level: A B C D
Greenville SC 29615 (circle one)
Telephone: 864-527-9324 Fax: 864-288-4430

20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief.

Signed: Robert Banks

Date: 10/27/10

If D Level Driller, provide supervising driller's name.

BLE INC.

BUNNELL-LAMMONS ENGINEERING, INC.

GEOTECHNICAL AND ENVIRONMENTAL CONSULTANTS

GROUNDWATER MONITORING WELL NO. MW-28

PROJECT: Spinx #258 / Former Enmark #380 — PROJECT NO.: J10-6859-02

CLIENT: Enmark Stations, Inc. — START: 10-28-10 END: 10-28-10

LOCATION: Newberry, South Carolina — ELEVATION: 540.2

DRILLER: Landprobe, R. Banks — LOGGED BY: T. Slack

DRILLING METHOD:

DEPTH TO - WATER> INITIAL: 17.5 AFTER 24 HOURS: 18.10 CAVING>

ELEVATION/ DEPTH (FT)	DESCRIPTION	SOIL TYPE	MONITOR WELL INSTALLATION DETAILS
540	6-inches of GRASS/organic TOPSOIL and GRAVEL Yellowish-brown, dry, slightly silty, medium to fine SAND		SURFACE COMPLETION Flush-mount below ground surface secured with an 8-inch diameter steel, bolted manhole cover in a 2' x 2' concrete pad
535 (5)	Yellowish-brown and reddish-brown, dry, silty, medium to fine SAND		Neat cement, 0 to 9.8 feet
530 (10)	Yellowish-brown and reddish-brown, slightly moist, silty, medium to fine SAND		Bentonite seal, 9.8 to 12.0 feet Filter pack, sand 12.0 to 30.0 feet
525 (15)	Yellowish-brown and reddish-brown, moist, silty, medium to fine SAND		
520 (20)	Yellowish-brown and reddish-brown, wet, silty, medium to fine SAND		2-inch diameter, 0.010-inch slotted Schedule 40 PVC well screen, 15.3 to 25.3 feet
515 (25)			Pipe cap Total well depth, 25.50 feet
510 (30)	Boring terminated at 30.0 feet below ground surface. Groundwater encountered at 17.5 feet below ground surface at time of drilling and at 18.10 feet below ground surface after 24 hours.		Ground surface elev. = 540.32 feet Top of PVC casing elev. = 540.03 feet
505 (35)			Northing = 895,323.990' Easting = 1,812,107.492' Elevations are NAVD 88

GEOT_WELLNB 6859-02.GPJ 1/14/11

Water Well Record
Bureau of Water
2600 Bull Street, Columbia, SC 29201-1708; (803) 898-4300

1. WELL OWNER INFORMATION:
Name: Enmark Station, Inc.
Dolan (last) Tom (first)
Address: Post Office Box 728
City: Savannah State: GA Zip: 31402
Phone: Work:
Home:

2. LOCATION OF WELL: COUNTY: Newberry
Name: Enmark 380
Address: 2725 College Street
City: Newberry, SC Zip: 29108
Latitude: Longitude:

3. PUBLIC SYSTEM NAME: MW-28 **PUBLIC SYSTEM NUMBER:**

4. ABANDONMENT: No
Grouted Depth: from to ft.

Formation Description	Thickness of Stratum	Depth to Bottom of Stratum

SEE BORING LOGS

5. REMARKS:

6. TYPE: Mud Rotary, Jetted, Bored, Dug, Air Rotary, Driven, Cable tool, **Auger**

7. PERMIT NUMBER: 06588

8. USE: Residential, Public Supply, Process, Irrigation, Air Conditioning, Emergency, Test Well, **Monitor Well**, Replacement

9. WELL DEPTH (completed)
25.50 ft. Date Started: 10/28/2010
Date Completed: 10/28/2010

10. CASING: **Threaded** Welded
Diameter:
Type: PVC
2.0 in. to 15.30 ft. depth
in. to ft. depth
Height: Below
Surface: ft. Weight: lb./ft.
Drive Shoe: No

11. SCREEN:
Type: PVC Diameter: 2"
Slot/Gauge: 0.010 Length: 10'
Set Between: 25.30 ft. and 15.30 ft.
ft. and ft.
Sieve Analysis: Y/N No

12. STATIC WATER LEVEL 18.10 ft. below land surface after 24 hours.

13. PUMPING LEVEL Below Land Surface.
ft. after hrs Pumping GPM
Pumping Test: No
Yield: gpm

14. WATER QUALITY
Chemical Analysis: Bacterial Analysis: No

15. ARTIFICIAL FILTER (filter pack) Yes
Installed from: 30.0 ft. to 12.0 ft.
Effective Size: #2 Uniformity Coefficient: Sand

16. WELL GROUTED? Yes
Neat Cement Bentonite Bentonite/Cement Other
Depth: 9.8 ft. to 0.5 ft.

17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: ft. direction
Type:
Well Disinfected: No Type: Amount:

18. PUMP: Date installed: N/A
Mfr. Name: Model no.:
H.P.: Volts: Length of pipe: ft.
Capacity: gpm
TYPE:
Submersible Jet (shallow) Turbine
Jet (deep) Reciprocating Centrifugal

19. WELL DRILLER: Robert Banks **CERT NO.:** 400
Address: 6004 Ponders Court Level: A B C D
Greenville SC 29615 (circle one)
Telephone: 864-527-9324 Fax: 864-288-4430

20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief.

Signed: Robert Banks

Date: 10/28/10

If D Level Driller, provide supervising driller's name.

BLE INC.

BUNNELL-LAMMONS ENGINEERING, INC.

GEOTECHNICAL AND ENVIRONMENTAL CONSULTANTS

GROUNDWATER MONITORING WELL NO. MW-29

PROJECT: Spinx #258 / Former Enmark #380 — PROJECT NO.: J10-6859-02

CLIENT: Enmark Stations, Inc. — START: 10-28-10 END: 10-28-10

LOCATION: Newberry, South Carolina — ELEVATION: 538.80

DRILLER: Landprobe, R. Banks — LOGGED BY: R. Doherty

DRILLING METHOD: CME 750; 4-1/4 inch ID hollow stem auger

DEPTH TO - WATER> INITIAL: 17.2 AFTER 24 HOURS: 17.30 CAVING>

ELEVATION/ DEPTH (FT)	DESCRIPTION	SOIL TYPE	MONITOR WELL INSTALLATION DETAILS
	6-inches of ASPHALT		
	Orangish-brown, dry, medium to fine SAND with some gravel		
535			
5	Orangish-brown, dry, medium to fine SAND		Neat cement, 0.5 to 10.9 feet
530			
10	Reddish-brown, dry, silty, medium to fine SAND		Bentonite seal, 10.9 to 12.8 feet Filter pack, sand 12.8 to 30.0 feet
525			
15	Yellowish-brown, wet, medium to fine sandy SILT		2-inch diameter, 0.010-inch slotted Schedule 40 PVC well screen, 14.80 to 24.80 feet
520			
20	Yellowish-brown, wet, silty, medium to fine SAND		
515			
25			Pipe cap Total well depth, 25.00 feet SURFACE COMPLETION Flush-mount below ground surface secured with an 8-inch diameter steel, bolted manhole cover in a 2' x 2' concrete pad
510			
30	Boring terminated at 30.0 feet below ground surface. Groundwater encountered at 17.2 feet below ground surface at time of drilling and at 17.30 feet below ground surface after 24 hours.		Ground surface elev. = 538.80 feet Top of PVC casing elev. = 538.56 feet
505			Northing = 895,229.844' Easting = 1,812,191.601'
35			Elevations are NAVD 88
500			

GEOT_WELLNB 6859-02.GPJ 12/18/10

Water Well Record
Bureau of Water
2600 Bull Street, Columbia, SC 29201-1708; (803) 898-4300

1. WELL OWNER INFORMATION:
Name: Enmark Station, Inc.
Dolan (last) Tom (first)
Address: Post Office Box 728
City: Savannah State: GA Zip: 31402
Phone: Work:
Home:

2. LOCATION OF WELL: COUNTY: Newberry
Name: Enmark 380
Address: 2725 College Street
City: Newberry, SC Zip: 29108
Latitude: Longitude:

3. PUBLIC SYSTEM NAME: MW-29 PUBLIC SYSTEM NUMBER:

4. ABANDONMENT: No
Grouted Depth: from to ft.

Formation Description	Thickness of Stratum	Depth to Bottom of Stratum

SEE BORING LOGS

5. REMARKS:

6. TYPE: Mud Rotary, Jetted, Bored, Dug, Air Rotary, Driven, Cable tool, Auger

7. PERMIT NUMBER: 06588

8. USE: Residential, Public Supply, Process, Irrigation, Air Conditioning, Emergency, Test Well, Monitor Well, Replacement

9. WELL DEPTH (completed)
25.00 ft. Date Started: 10/28/2010
Date Completed: 10/28/2010

10. CASING: Threaded Welded
Diameter:
Type: PVC
2.0 in. to 14.80 ft. depth
in. to ft. depth
Height: Below
Surface: ft. Weight: lb./ft.
Drive Shoe: No

11. SCREEN:
Type: PVC Diameter: 2"
Slot/Gauge: 0.010 Length: 10'
Set Between: 24.80 ft. and 14.80 ft.
ft. and ft.
Sieve Analysis: Y/N No

12. STATIC WATER LEVEL 17.30 ft. below land surface after 24 hours.

13. PUMPING LEVEL Below Land Surface.
ft. after hrs Pumping GPM
Pumping Test: No
Yield: gpm

14. WATER QUALITY
Chemical Analysis: Bacterial Analysis: No

15. ARTIFICIAL FILTER (filter pack) Yes
Installed from: 30.0 ft. to 12.8 ft.
Effective Size: #2 Uniformity Coefficient: Sand

16. WELL GROUTED? Yes
Neat Cement Bentonite Bentonite/Cement Other
Depth: 10.9 ft. to 0.5 ft.

17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: ft. direction
Type:
Well Disinfected: No Type: Amount:

18. PUMP: Date installed: N/A
Mfr. Name: Model no.:
H.P.: Volts: Length of pipe: ft.
Capacity: gpm
TYPE:
Submersible Jet (shallow) Turbine
Jet (deep) Reciprocating Centrifugal

19. WELL DRILLER: Robert Banks CERT NO.: 400
Address: 6004 Ponders Court Level: A B C D
Greenville SC 29615 (circle one)
Telephone: 864-527-9324 Fax: 864-288-4430

20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief.

Signed: Robert Banks

Date: 10/28/10

If D Level Driller, provide supervising driller's name.

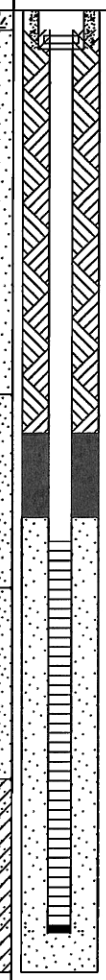
BLE INC.

BUNNELL-LAMMONS ENGINEERING, INC.
GEOTECHNICAL AND ENVIRONMENTAL CONSULTANTS

GROUNDWATER MONITORING WELL NO. MW-30

PROJECT: Spinx #258 / Former Enmark #380 — PROJECT NO.: J10-6859-02
CLIENT: Enmark Stations, Inc. — START: 10-28-10 END: 10-28-10
LOCATION: Newberry, South Carolina — ELEVATION: 537.42
DRILLER: Landprobe, R. Banks — LOGGED BY: R. Doherty
DRILLING METHOD: CME 750; 4-1/4 inch ID hollow stem auger
DEPTH TO - WATER> INITIAL: 16.1 AFTER 24 HOURS: 16.28 CAVING>

ELEVATION/ DEPTH (FT)	DESCRIPTION	SOIL TYPE	MONITOR WELL INSTALLATION DETAILS
535 / 0	6-inches of GRASS/organic TOPSOIL Reddish-brown, slightly yellowish-brown, dry, medium to fine sandy SILT		SURFACE COMPLETION Flush-mount below ground surface secured with an 8-inch diameter steel, bolted manhole cover in a 2' x 2' concrete pad
530 / 5			
525 / 10	Yellowish-brown, slightly moist, silty, medium to fine SAND		Neat cement, 0.5 to 11.0 feet Bentonite seal, 11.0 to 13.2 feet Filter pack, sand 13.2 to 25.0 feet
520 / 15	Yellowish-brown, wet, silty, medium to fine SAND		2-inch diameter, 0.010-inch slotted Schedule 40 PVC well screen, 13.80 to 23.80 feet
515 / 20	Yellowish-brown, wet, clayey, medium to fine SAND		Pipe cap
510 / 25	Boring terminated at 25.0 feet below ground surface. Groundwater encountered at 16.1 feet below ground surface at time of drilling and at 16.28 feet below ground surface after 24 hours.		Total well depth, 24.00 feet
505 / 30			Ground surface elev. = 537.42 feet Top of PVC casing elev. = 537.15 feet
500 / 35			Northing = 895,177.058' Easting = 1,812,198.587' Elevations are NAVD 88



GEOT_WELLNB 6859-02.GPJ 1/14/11

Water Well Record
Bureau of Water
2600 Bull Street, Columbia, SC 29201-1708; (803) 898-4300

1. WELL OWNER INFORMATION:
Name: Enmark Station, Inc.
Dolan (last) Tom (first)
Address: Post Office Box 728
City: Savannah State: GA Zip: 31402
Phone: Work:
Home:

2. LOCATION OF WELL: COUNTY: Newberry
Name: Enmark 380
Address: 2725 College Street
City: Newberry, SC Zip: 29108
Latitude: Longitude:

3. PUBLIC SYSTEM NAME: MW-30 PUBLIC SYSTEM NUMBER:

4. ABANDONMENT: No
Grouted Depth: from to ft.

Formation Description	Thickness of Stratum	Depth to Bottom of Stratum

SEE BORING LOGS

5. REMARKS:

6. TYPE: Mud Rotary, Jetted, Bored, Dug, Air Rotary, Driven, Cable tool, Auger

7. PERMIT NUMBER: 06588

8. USE: Residential, Public Supply, Process, Irrigation, Air Conditioning, Emergency, Test Well, Monitor Well, Replacement

9. WELL DEPTH (completed)
24.00 ft. Date Started: 10/28/2010
Date Completed: 10/28/2010

10. CASING: Threaded Welded
Diameter: 2"
Type: PVC
2.0 in. to 13.80 ft. depth
in. to ft. depth
Height: Below
Surface: ft. Weight: lb./ft.
Drive Shoe: No

11. SCREEN:
Type: PVC Diameter: 2"
Slot/Gauge: 0.010 Length: 10'
Set Between: 23.80 ft. and 13.80 ft.
ft. and ft.
Sieve Analysis: Y/N No

12. STATIC WATER LEVEL 16.28 ft. below land surface after 24 hours.

13. PUMPING LEVEL Below Land Surface.
ft. after hrs Pumping GPM
Pumping Test: No
Yield: gpm

14. WATER QUALITY
Chemical Analysis: Bacterial Analysis: No

15. ARTIFICIAL FILTER (filter pack) Yes
Installed from: 25.0 ft. to 13.2 ft.
Effective Size: #2 Uniformity Coefficient: Sand

16. WELL GROUTED? Yes
Neat Cement Bentonite Bentonite/Cement Other
Depth: 11.0 ft. to 0.5 ft.

17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: ft. direction
Type:
Well Disinfected: No Type: Amount:

18. PUMP: Date installed: N/A
Mfr. Name: Model no.:
H.P.: Volts: Length of pipe: ft.
Capacity: gpm
TYPE:
Submersible Jet (shallow) Turbine
Jet (deep) Reciprocating Centrifugal

19. WELL DRILLER: Robert Banks CERT NO.: 400
Address: 6004 Ponders Court Level: A B C D
Greenville SC 29615 (circle one)
Telephone: 864-527-9324 Fax: 864-288-4430

20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief.

Signed: Robert Banks

Date: 10/28/10

If D Level Driller, provide supervising driller's name.

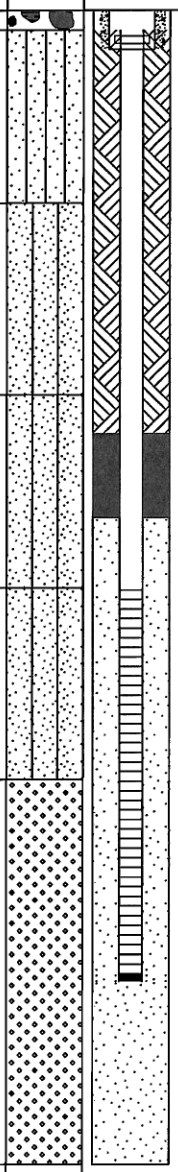
BLE INC.

BUNNELL-LAMMONS ENGINEERING, INC.
GEOTECHNICAL AND ENVIRONMENTAL CONSULTANTS

GROUNDWATER MONITORING WELL NO. MW-31

PROJECT: Spinx #258 / Former Enmark #380 — PROJECT NO.: J10-6859-02
CLIENT: Enmark Stations, Inc. — START: 10-28-10 END: 10-28-10
LOCATION: Newberry, South Carolina — ELEVATION: 538.87
DRILLER: Landprobe, R. Banks — LOGGED BY: R. Doherty
DRILLING METHOD: CME 750; 4-1/4 inch ID hollow stem auger
DEPTH TO - WATER> INITIAL: 17.3 AFTER 24 HOURS: 17.45 CAVING>

ELEVATION/ DEPTH (FT)	DESCRIPTION	SOIL TYPE	MONITOR WELL INSTALLATION DETAILS
	6-inches of GRAVEL		SURFACE COMPLETION
	Reddish-brown, dry, fine sandy SILT		Flush-mount below ground surface secured with an 8-inch diameter steel, bolted manhole cover in a 2' x 2' concrete pad
535 / 5	Reddish-brown and yellowish-brown, dry, silty, medium to fine SAND		
530 / 10	Slightly reddish-brown, yellowish-brown, slightly moist, slightly silty, medium to fine SAND		Neat cement, 0.5 to 11.0 feet Bentonite seal, 11.0 to 13.2 feet Filter pack, sand 13.2 to 30.0 feet
525 / 15	Slightly reddish-brown, yellowish-brown, wet, slightly silty, medium to fine SAND		2-inch diameter, 0.010-inch slotted Schedule 40 PVC well screen, 15.05 to 25.05 feet
520 / 20	Yellowish-brown, wet, medium to fine SAND		
515 / 25			Pipe cap Total well depth, 25.25 feet
510 / 30	Boring terminated at 30.0 feet below ground surface. Groundwater encountered at 17.3 feet below ground surface at time of drilling and at 17.45 feet below ground surface after 24 hours.		Ground surface elev. = 538.87 feet Top of PVC casing elev. = 538.63 feet Northing = 895,155.461' Easting = 1,812,125.244' Elevations are NAVD 88
505 / 35			
500			



GEOT_WELLNB 6859-02.GPJ 1/14/11

Water Well Record
Bureau of Water
2600 Bull Street, Columbia, SC 29201-1708; (803) 898-4300

1. WELL OWNER INFORMATION:
Name: Enmark Station, Inc.
Dolan (last) Tom (first)
Address: Post Office Box 728
City: Savannah State: GA Zip: 31402
Phone: Work:
Home:

2. LOCATION OF WELL: COUNTY: Newberry
Name: Enmark 380
Address: 2725 College Street
City: Newberry, SC Zip: 29108
Latitude: Longitude:

3. PUBLIC SYSTEM NAME: MW-31 PUBLIC SYSTEM NUMBER:

4. ABANDONMENT: No
Grouted Depth: from to ft.

Formation Description	Thickness of Stratum	Depth to Bottom of Stratum

SEE BORING LOGS

5. REMARKS:

6. TYPE: Mud Rotary Jetted Bored
Dug Air Rotary Driven
Cable tool Auger

7. PERMIT NUMBER: 06588

8. USE:
Residential Public Supply Process
Irrigation Air Conditioning Emergency
Test Well Monitor Well Replacement

9. WELL DEPTH (completed)
Date Started: 10/28/2010
25.25 ft. Date Completed: 10/28/2010

10. CASING: Threaded Welded
Diameter: 2"
Type: PVC
2.0 in. to 15.05 ft. depth
in. to ft. depth
Height: Below
Surface: ft. Weight: lb./ft.
Drive Shoe: No

11. SCREEN:
Type: PVC Diameter: 2"
Slot/Gauge: 0.010 Length: 10'
Set Between: 25.05 ft. and 15.05 ft.
ft. and ft.
Sieve Analysis: Y/N No

12. STATIC WATER LEVEL 17.45 ft. below land surface after 24 hours.

13. PUMPING LEVEL Below Land Surface.
ft. after hrs Pumping GPM
Pumping Test: No
Yield: gpm

14. WATER QUALITY
Chemical Analysis: Bacterial Analysis: No

15. ARTIFICIAL FILTER (filter pack) Yes
Installed from: 30.0 ft. to 13.2 ft.
Effective Size: #2 Uniformity Coefficient: Sand

16. WELL GROUTED? Yes
Neat Cement Bentonite Bentonite/Cement Other
Depth: 11.0 ft. to 0.5 ft.

17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: ft. direction
Type:
Well Disinfected: No Type: Amount:

18. PUMP: Date installed: N/A
Mfr. Name: Model no.:
H.P.: Volts: Length of pipe: ft.
Capacity: gpm
TYPE:
Submersible Jet (shallow) Turbine
Jet (deep) Reciprocating Centrifugal

19. WELL DRILLER: Robert Banks CERT NO.: 400
Address: 6004 Ponders Court Level: A B C D
Greenville SC 29615 (circle one)
Telephone: 864-527-9324 Fax: 864-288-4430

20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief.

Signed: Robert Banks

Date: 10/28/10

If D Level Driller, provide supervising driller's name.

BLE INC.

BUNNELL-LAMMONS ENGINEERING, INC.

GEOTECHNICAL AND ENVIRONMENTAL CONSULTANTS

GROUNDWATER MONITORING WELL NO. MW-32

PROJECT: Spinx #258 / Former Enmark #380 — PROJECT NO.: J10-6859-02

CLIENT: Enmark Stations, Inc. — START: 10-28-10 END: 10-28-10

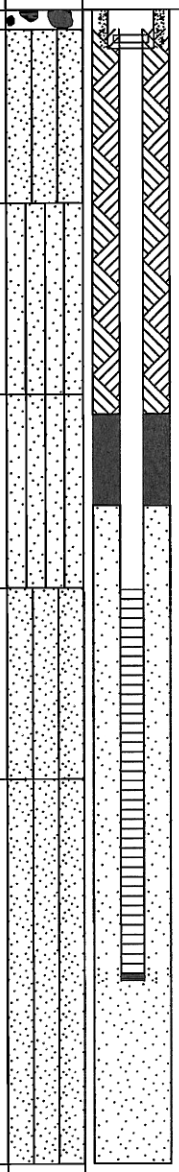
LOCATION: Newberry, South Carolina — ELEVATION: 539.18

DRILLER: Landprobe, R. Banks — LOGGED BY: R. Doherty

DRILLING METHOD: CME 750; 4-1/4 inch ID hollow stem auger

DEPTH TO - WATER> INITIAL: 17.3 AFTER 24 HOURS: 17.43 CAVING>

ELEVATION/ DEPTH (FT)	DESCRIPTION	SOIL TYPE	MONITOR WELL INSTALLATION DETAILS
	6-inches of GRAVEL Reddish-brown, yellowish-brown/orange, dry, silty, medium to fine SAND		SURFACE COMPLETION Flush-mount below ground surface secured with an 8-inch diameter steel, bolted manhole cover in a 2' x 2' concrete pad
535 / 5	Reddish-brown, dry, medium to fine sandy SILT		Neat cement, 0.5 to 10.5 feet
530 / 10	Reddish-brown, slightly moist, medium to fine sandy SILT		Bentonite seal, 10.5 to 12.9 feet Filter pack, sand 12.9 to 30.0 feet
525 / 15	Brown, wet, silty, medium to fine SAND		
520 / 20	Yellowish-brown, wet, silty, medium to fine SAND		2-inch diameter, 0.010-inch slotted Schedule 40 PVC well screen, 15.05 to 25.05 feet
515 / 25			Pipe cap Total well depth, 25.25 feet
510 / 30	Boring terminated at 30.0 feet below ground surface. Groundwater encountered at 17.3 feet below ground surface at time of drilling and at 17.43 feet below ground surface after 24 hours.		Ground surface elev. = 539.18 feet Top of PVC casing elev. = 538.94 feet
505 / 35			Northing = 895,134.809' Easting = 1,812,066.489' Elevations are NAVD 88
500			



GEOT_WELLNB 6859-02.GPJ 1/14/11

Water Well Record
Bureau of Water
2600 Bull Street, Columbia, SC 29201-1708; (803) 898-4300

1. WELL OWNER INFORMATION:
Name: Enmark Station, Inc.
Dolan (last) Tom (first)
Address: Post Office Box 728
City: Savannah State: GA Zip: 31402
Phone: Work:
Home:

2. LOCATION OF WELL: COUNTY: Newberry
Name: Enmark 380
Address: 2725 College Street
City: Newberry, SC Zip: 29108
Latitude: Longitude:

3. PUBLIC SYSTEM NAME: MW-32 **PUBLIC SYSTEM NUMBER:**

4. ABANDONMENT: No
Grouted Depth: from to ft.

Formation Description	Thickness of Stratum	Depth to Bottom of Stratum

SEE BORING LOGS

5. REMARKS:

6. TYPE: Mud Rotary, Jetted, Bored, Dug, Air Rotary, Driven, Cable tool, (Auger)

7. PERMIT NUMBER: 06588

8. USE: Residential, Public Supply, Process, Irrigation, Air Conditioning, Emergency, Test Well, (Monitor Well), Replacement

9. WELL DEPTH (completed)
25.25 ft. Date Started: 10/28/2010
Date Completed: 10/28/2010

10. CASING: (Threaded) Welded
Diameter: 2"
Type: PVC
2.0 in. to 15.05 ft. depth
in. to ft. depth
Height: Below
Surface: ft. Weight: lb./ft.
Drive Shoe: No

11. SCREEN:
Type: PVC Diameter: 2"
Slot/Gauge: 0.010 Length: 10'
Set Between: 25.05 ft. and 15.05 ft.
ft. and ft.
Sieve Analysis: Y/N No

12. STATIC WATER LEVEL 17.43 ft. below land surface after 24 hours.

13. PUMPING LEVEL Below Land Surface.
ft. after hrs Pumping GPM
Pumping Test: No
Yield: gpm

14. WATER QUALITY
Chemical Analysis: No Bacterial Analysis: No

15. ARTIFICIAL FILTER (filter pack) Yes
Installed from: 30.0 ft. to 12.9 ft.
Effective Size: #2 Uniformity Coefficient: Sand

16. WELL GROUTED? Yes
(Neat Cement) Bentonite Bentonite/Cement Other
Depth: 10.5 ft. to 0.5 ft.

17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: ft. direction
Type:
Well Disinfected: No Type: Amount:

18. PUMP: Date installed: N/A
Mfr. Name: Model no.:
H.P.: Volts: Length of pipe: ft.
Capacity: gpm
TYPE:
Submersible Jet (shallow) Turbine
Jet (deep) Reciprocating Centrifugal

19. WELL DRILLER: Robert Banks CERT NO.: 400
Address: 6004 Ponders Court Level: A (B) C D
Greenville SC 29615 (circle one)
Telephone: 864-527-9324 Fax: 864-288-4430

20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief.

Signed: Robert Banks

Date: 10/28/10

If D Level Driller, provide supervising driller's name.

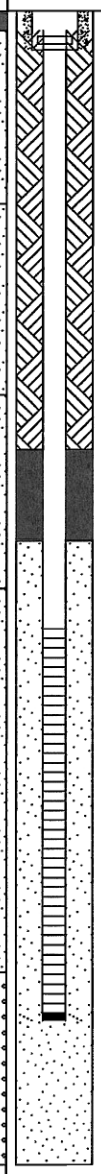
BLE INC.

BUNNELL-LAMMONS ENGINEERING, INC.
GEOTECHNICAL AND ENVIRONMENTAL CONSULTANTS

GROUNDWATER MONITORING WELL NO. MW-33

PROJECT: Spinx #258 / Former Enmark #380 — PROJECT NO.: J10-6859-02
CLIENT: Enmark Stations, Inc. — START: 10-28-10 END: 10-28-10
LOCATION: Newberry, South Carolina — ELEVATION: 540.16
DRILLER: Landprobe, R. Banks — LOGGED BY: R. Doherty
DRILLING METHOD: CME 750; 4-1/4 inch ID hollow stem auger
DEPTH TO - WATER> INITIAL: 17.9 AFTER 24 HOURS: 18.35 CAVING>

ELEVATION/ DEPTH (FT)	DESCRIPTION	SOIL TYPE	MONITOR WELL INSTALLATION DETAILS
	6-inches of ASPHALT		SURFACE COMPLETION Flush-mount below ground surface secured with an 8-inch diameter steel, bolted manhole cover in a 2' x 2' concrete pad
	Brown, dry SAND		
535 — 5	Reddish-brown, dry, medium to fine sandy SILT		Neat cement, 0.5 to 11.4 feet
530 — 10	Reddish-brown and yellowish-brown, slightly moist, silty, medium to fine SAND		Bentonite seal, 11.4 to 13.8 feet Filter pack, sand 13.8 to 30.0 feet
525 — 15	Reddish-brown and yellowish-brown, wet, silty, medium to fine SAND		
520 — 20			2-inch diameter, 0.010-inch slotted Schedule 40 PVC well screen, 16.05 to 26.05 feet
515 — 25	Yellowish-brown, wet, medium to fine SAND		Pipe cap Total well depth, 26.25 feet
510 — 30	Boring terminated at 30.0 feet below ground surface. Groundwater encountered at 17.9 feet below ground surface at time of drilling and at 18.35 feet below ground surface after 24 hours.		Ground surface elev. = 540.16 feet Top of PVC casing elev. = 539.95 feet
505 — 35			Northing = 895,180.281' Easting = 1,812,071.105' Elevations are NAVD 88



GEOT_WELLNB 6859-02.GPJ 1/14/11

Water Well Record
Bureau of Water
2600 Bull Street, Columbia, SC 29201-1708; (803) 898-4300

1. WELL OWNER INFORMATION:
Name: Enmark Station, Inc.
Dolan (last) Tom (first)
Address: Post Office Box 728
City: Savannah State: GA Zip: 31402
Phone: Work:
Home:

2. LOCATION OF WELL: COUNTY: Newberry
Name: Enmark 380
Address: 2725 College Street
City: Newberry, SC Zip: 29108
Latitude: Longitude:

3. PUBLIC SYSTEM NAME: MW-33 PUBLIC SYSTEM NUMBER:

4. ABANDONMENT: No
Grouted Depth: from to ft.

Formation Description	Thickness of Stratum	Depth to Bottom of Stratum

SEE BORING LOGS

5. REMARKS:

6. TYPE: Mud Rotary Jetted Bored
Dug Air Rotary Driven
Cable tool (Auger)

7. PERMIT NUMBER: 06588

8. USE:
Residential Public Supply Process
Irrigation Air Conditioning Emergency
Test Well (Monitor Well) Replacement

9. WELL DEPTH (completed)
Date Started: 10/28/2010
26.25 ft. Date Completed: 10/28/2010

10. CASING: (Threaded) Welded
Diameter: 2"
Type: PVC
2.0 in. to 16.05 ft. depth
in. to ft. depth
Height: Below
Surface: ft. Weight: lb./ft.
Drive Shoe: No

11. SCREEN:
Type: PVC Diameter: 2"
Slot/Gauge: 0.010 Length: 10'
Set Between: 26.05 ft. and 16.05 ft.
ft. and ft.
Sieve Analysis: Y/N No

12. STATIC WATER LEVEL 18.35 ft. below land surface after 24 hours.

13. PUMPING LEVEL Below Land Surface.
ft. after hrs Pumping GPM
Pumping Test: No
Yield: gpm

14. WATER QUALITY
Chemical Analysis: No Bacterial Analysis:

15. ARTIFICIAL FILTER (filter pack) Yes
Installed from: 26.3 ft. to 13.8 ft.
Effective Size: #2 Uniformity Coefficient: Sand

16. WELL GROUTED? Yes
(Neat Cement) Bentonite Bentonite/Cement Other
Depth: 11.4 ft. to 0.5 ft.

17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: ft. direction
Type:
Well Disinfected: No Type: Amount:

18. PUMP: Date installed: N/A
Mfr. Name: Model no.:
H.P.: Volts: Length of pipe: ft.
Capacity: gpm
TYPE:
Submersible Jet (shallow) Turbine
Jet (deep) Reciprocating Centrifugal

19. WELL DRILLER: Robert Banks CERT NO.: 400
Address: 6004 Ponders Court Level: A (B) C D
Greenville SC 29615 (circle one)
Telephone: 864-527-9324 Fax: 864-288-4430

20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief.

Signed: Robert Banks

Date: 10/28/10

If D Level Driller, provide supervising driller's name.

BLE INC.

BUNNELL-LAMMONS ENGINEERING, INC.

GEOTECHNICAL AND ENVIRONMENTAL CONSULTANTS

GROUNDWATER MONITORING WELL NO. MW-34

PROJECT: Spinx #258 / Former Enmark #380 — PROJECT NO.: J10-6859-02

CLIENT: Enmark Stations, Inc. — START: 10-28-10 END: 10-28-10

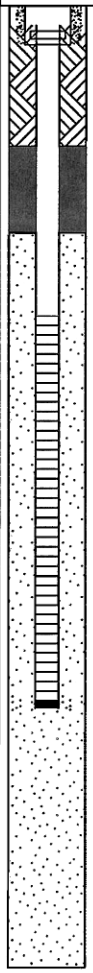
LOCATION: Newberry, South Carolina — ELEVATION: 533.67

DRILLER: Landprobe, R. Banks — LOGGED BY: R. Doherty

DRILLING METHOD: CME 750; 4-1/4 inch ID hollow stem auger

DEPTH TO - WATER> INITIAL: 11.4 AFTER 24 HOURS: 12.00 CAVING>

ELEVATION/ DEPTH (FT)	DESCRIPTION	SOIL TYPE
	6-inches of GRASS/organic TOPSOIL	
	Yellowish-brown and reddish-brown, dry, medium to fine SAND	
530 / 5	Reddish-brown and yellowish-brown, dry, silty, medium to fine SAND	
525 / 10	Reddish-brown and yellowish-brown, wet, silty, medium to fine SAND	
520 / 15	Yellowish-brown, wet, medium to fine SAND	
515 / 20		
510 / 25	Boring terminated at 25.0 feet below ground surface. Groundwater encountered at 11.4 feet below ground surface at time of drilling and at 12.00 feet below ground surface after 24 hours.	
505 / 30		
500 / 35		
495		



MONITOR WELL INSTALLATION DETAILS

SURFACE COMPLETION
Flush-mount below ground surface secured with an 8-inch diameter steel, bolted manhole cover in a 2' x 2' concrete pad

Neat cement, 0.5 to 3.6 feet

Bentonite seal, 3.6 to 5.9 feet

Filter pack, sand 5.9 to 25.0 feet

2-inch diameter, 0.010-inch slotted Schedule 40 PVC well screen, 8.05 to 18.05 feet

Pipe cap

Total well depth, 18.25 feet

Ground surface elev. = 533.67 feet

Top of PVC casing elev. = 533.42 feet

Northing = 895,286.672'

Easting = 1,812,240.361'

Elevations are NAVD 88

GEOT_WELLNB 6859-02.GPJ 1/14/11

Water Well Record
Bureau of Water
2600 Bull Street, Columbia, SC 29201-1708; (803) 898-4300

1. WELL OWNER INFORMATION:
Name: Enmark Station, Inc.
Dolan (last) Tom (first)
Address: Post Office Box 728
City: Savannah State: GA Zip: 31402
Phone: Work:
Home:

2. LOCATION OF WELL: COUNTY: Newberry
Name: Enmark 380
Address: 2725 College Street
City: Newberry, SC Zip: 29108
Latitude: Longitude:

3. PUBLIC SYSTEM NAME: MW-34 **PUBLIC SYSTEM NUMBER:**

4. ABANDONMENT: No
Grouted Depth: from to ft.

Formation Description	Thickness of Stratum	Depth to Bottom of Stratum

SEE BORING LOGS

5. REMARKS:

6. TYPE: Mud Rotary, Jetted, Bored, Dug, Air Rotary, Driven, Cable tool, (Auger)

7. PERMIT NUMBER: 06588

8. USE: Residential, Public Supply, Process, Irrigation, Air Conditioning, Emergency, Test Well, (Monitor Well), Replacement

9. WELL DEPTH (completed)
18.25 ft. Date Started: 10/28/2010
Date Completed: 10/28/2010

10. CASING: (Threaded) Welded
Diameter: 2"
Type: PVC
2.0 in. to 8.05 ft. depth
in. to ft. depth
Height: Below
Surface: ft. Weight: lb./ft.
Drive Shoe: No

11. SCREEN:
Type: PVC Diameter: 2"
Slot/Gauge: 0.010 Length: 10'
Set Between: 18.05 ft. and 8.05 ft.
ft. and ft.
Sieve Analysis: Y/N No

12. STATIC WATER LEVEL 12.00 ft. below land surface after 24 hours.

13. PUMPING LEVEL Below Land Surface.
ft. after hrs Pumping GPM
Pumping Test: No
Yield: gpm

14. WATER QUALITY
Chemical Analysis: No Bacterial Analysis:

15. ARTIFICIAL FILTER (filter pack) Yes
Installed from: 25.0 ft. to 5.9 ft.
Effective Size: #2 Uniformity Coefficient: Sand

16. WELL GROUTED? Yes
(Neat Cement) Bentonite Bentonite/Cement Other
Depth: 3.6 ft. to 0.5 ft.

17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: ft. direction
Type:
Well Disinfected: No Type: Amount:

18. PUMP: Date installed: N/A
Mfr. Name: Model no.:
H.P.: Volts: Length of pipe: ft.
Capacity: gpm
TYPE:
Submersible Jet (shallow) Turbine
Jet (deep) Reciprocating Centrifugal

19. WELL DRILLER: Robert Banks CERT NO.: 400
Address: 6004 Ponders Court Level: A (B) C D
Greenville SC 29615 (circle one)
Telephone: 864-527-9324 Fax: 864-288-4430

20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief.

Signed: Robert Banks

Date: 10/28/10

If D Level Driller, provide supervising driller's name.

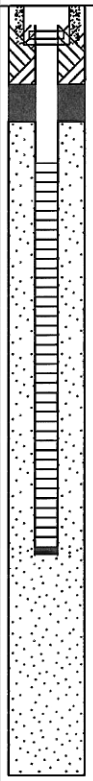
BLE INC.

BUNNELL-LAMMONS ENGINEERING, INC.
GEOTECHNICAL AND ENVIRONMENTAL CONSULTANTS

GROUNDWATER MONITORING WELL NO. MW-35

PROJECT: Spinx #258 / Former Enmark #380 — PROJECT NO.: J10-6859-02
CLIENT: Enmark Stations, Inc. — START: 10-28-10 END: 10-28-10
LOCATION: Newberry, South Carolina — ELEVATION: 528.00
DRILLER: Landprobe, R. Banks — LOGGED BY: R. Doherty
DRILLING METHOD: CME 750; 4-1/4 inch ID hollow stem auger
DEPTH TO - WATER> INITIAL: 6.8 AFTER 24 HOURS: 6.94 CAVING>

ELEVATION/ DEPTH (FT)	DESCRIPTION	SOIL TYPE
	6-inches of GRASS	
	Light brown, dry, medium to fine SAND	
525		
5	Orangish-brown, moist, silty, medium to fine SAND	
520		
10	Yellowish-brown, wet, medium to fine sandy SILT	
515		
15		
510		
20	Boring terminated at 20.0 feet below ground surface. Groundwater encountered at 6.8 feet below ground surface at time of drilling and at 6.94 feet below ground surface after 24 hours.	
505		
25		
500		
30		
495		
35		
490		



MONITOR WELL INSTALLATION DETAILS

Neat cement, 0.5 to 2.0 feet

Bentonite seal, 2.0 to 3.0 feet

Filter pack, sand 3.0 to 20.0 feet

2-inch diameter, 0.010-inch slotted Schedule 40 PVC well screen, 4.05 to 14.05 feet

Pipe cap

Total well depth, 14.25 feet

SURFACE COMPLETION
Flush-mount below ground surface secured with an 8-inch diameter steel, bolted manhole cover in a 2' x 2' concrete pad

Ground surface elev. = 528.00 feet

Top of PVC casing elev. = 527.70 feet

Northing = 895,244.790'

Easting = 1,812,292.265'

Elevations are NAVD 88

GEOT_WELLNB 6859-02.GPJ 1/14/11

Water Well Record
Bureau of Water
2600 Bull Street, Columbia, SC 29201-1708; (803) 898-4300

1. WELL OWNER INFORMATION:
Name: Enmark Station, Inc.
Dolan (last) Tom (first)
Address: Post Office Box 728
City: Savannah State: GA Zip: 31402
Phone: Work:
Home:

2. LOCATION OF WELL: COUNTY: Newberry
Name: Enmark 380
Address: 2725 College Street
City: Newberry, SC Zip: 29108
Latitude: Longitude:

3. PUBLIC SYSTEM NAME: MW-35 PUBLIC SYSTEM NUMBER:

4. ABANDONMENT: No
Grouted Depth: from to ft.

Formation Description	Thickness of Stratum	Depth to Bottom of Stratum

SEE BORING LOGS

5. REMARKS:

6. TYPE: Mud Rotary Jetted Bored
Dug Air Rotary Driven
Cable tool (Auger)

7. PERMIT NUMBER: 06588

8. USE:
Residential Public Supply Process
Irrigation Air Conditioning Emergency
Test Well (Monitor Well) Replacement

9. WELL DEPTH (completed)
Date Started: 10/28/2010
14.25 ft. Date Completed: 10/28/2010

10. CASING: (Threaded) Welded
Diameter: 2"
Type: PVC
2.0 in. to 4.05 ft. depth
in. to ft. depth
Height: Below
Surface: ft. Weight: lb./ft.
Drive Shoe: No

11. SCREEN:
Type: PVC Diameter: 2"
Slot/Gauge: 0.010 Length: 10'
Set Between: 14.05 ft. and 4.05 ft.
ft. and ft.
Sieve Analysis: Y/N No

12. STATIC WATER LEVEL 6.94 ft. below land surface after 24 hours.

13. PUMPING LEVEL Below Land Surface.
ft. after hrs Pumping GPM
Pumping Test: No
Yield: gpm

14. WATER QUALITY
Chemical Analysis: No Bacterial Analysis:

15. ARTIFICIAL FILTER (filter pack) Yes
Installed from: 20.0 ft. to 3.0 ft.
Effective Size: #2 Uniformity Coefficient: Sand

16. WELL GROUTED? Yes
(Neat Cement) Bentonite Bentonite/Cement Other
Depth: 2.0 ft. to 0.5 ft.

17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: ft. direction
Type:
Well Disinfected: No Type: Amount:

18. PUMP: Date installed: N/A
Mfr. Name: Model no.:
H.P.: Volts: Length of pipe: ft.
Capacity: gpm
TYPE:
Submersible Jet (shallow) Turbine
Jet (deep) Reciprocating Centrifugal

19. WELL DRILLER: Robert Banks CERT NO.: 400
Address: 6004 Ponders Court Level: A (B) C D
Greenville SC 29615 (circle one)
Telephone: 864-527-9324 Fax: 864-288-4430

20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief.

Signed: Robert Banks

Date: 10/28/10

If D Level Driller, provide supervising driller's name.

BLE INC.

BUNNELL-LAMMONS ENGINEERING, INC.
GEOTECHNICAL AND ENVIRONMENTAL CONSULTANTS

GROUNDWATER MONITORING WELL NO. MW-36

PROJECT: Spinx #258 / Former Enmark #380
PROJECT NO.: J10-6859-02
CLIENT: Enmark Stations, Inc.
START: 10-28-10 END: 10-28-10
LOCATION: Newberry, South Carolina
ELEVATION: 525.24
DRILLER: Landprobe, R. Banks
LOGGED BY: R. Doherty
DRILLING METHOD: CME 750; 4-1/4 inch ID hollow stem auger
DEPTH TO - WATER> INITIAL: 23.0 AFTER 24 HOURS: 21.53 CAVING>

ELEVATION/ DEPTH (FT)	DESCRIPTION	SOIL TYPE	MONITOR WELL INSTALLATION DETAILS
525	6-inches of GRASS/organic TOPSOIL Light brown, dry, silty, medium to fine SAND		SURFACE COMPLETION 2.81-foot stick-up in a 4" x 4" stand-up locking steel protective cover with a 2' x 2' concrete pad
520 (5)	Orangish-brown, moist, silty, medium to fine SAND		
515 (10)			
	Yellowish-brown, moist, medium to fine sandy SILT		Neat cement, 0 to 15.5 feet
510 (15)			Bentonite seal, 15.5 to 18.0 feet
			Filter pack, sand 18.0 to 32.0 feet
505 (20)			
	Yellowish-brown, wet, medium to fine sandy SILT		
500 (25)			2-inch diameter, 0.010-inch slotted Schedule 40 PVC well screen, 20.80 to 30.80 feet
495 (30)			Pipe cap Total well depth, 31.00 feet
490 (35)	Boring terminated at 32.0 feet below ground surface. Groundwater encountered at 23.0 feet below ground surface at time of drilling and at 21.53 feet below ground surface after 24 hours.		Ground surface elev. = 525.24 feet Top of PVC casing elev. = 528.05 feet Northing = 895,190.229' Easting = 1,812,325.954' Elevations are NAVD 88

GEOT_WELLNB 6859-02.GPJ 1/14/11

Water Well Record
Bureau of Water
2600 Bull Street, Columbia, SC 29201-1708; (803) 898-4300

1. WELL OWNER INFORMATION:
Name: Enmark Station, Inc.
Dolan (last) Tom (first)
Address: Post Office Box 728
City: Savannah State: GA zip: 31402
Phone: Work:
Home:

2. LOCATION OF WELL: COUNTY: Newberry
Name: Enmark 380
Address: 2725 College Street
City: Newberry, SC Zip: 29108
Latitude: Longitude:

3. PUBLIC SYSTEM NAME MW-36 **PUBLIC SYSTEM NUMBER:**

4. ABANDONMENT: No
Grouted Depth: from to ft.

Formation Description	Thickness of Stratum	Depth to Bottom of Stratum

SEE BORING LOGS

5. REMARKS:

6. TYPE: Mud Rotary, Jetted, Bored, Dug, Air Rotary, Driven, Cable tool, **Auger**, Other

7. PERMIT NUMBER: 06588

8. USE:
Residential, Public Supply, Process, Irrigation, Air Conditioning, Emergency, Test Well, **Monitor Well**, Replacement

9. WELL DEPTH (completed)
31.00 ft. Date Started: 11/2/2010 Date Completed: 11/3/2010

10. CASING: **Threaded** Welded
Diameter: 2"
Type: PVC
2.0 in. to 20.8 ft. depth
in. to ft. depth
Height: Below
Surface: ft. Weight: lb./ft.
Drive Shoe: No

11. SCREEN:
Type: PVC Diameter: 2"
Slot/Gauge: 0.010 Length: 10'
Set Between: 30.80 ft. and 20.80 ft.
ft. and ft.
Sieve Analysis: Y/N No

12. STATIC WATER LEVEL 21.53 ft. below land surface after 24 hours.

13. PUMPING LEVEL Below Land Surface.
ft. after hrs Pumping GPM
Pumping Test: No
Yield:

14. WATER QUALITY
Chemical Analysis: No Bacterial Analysis: No

15. ARTIFICIAL FILTER (filter pack) Yes
Installed from: 32.0 ft. to 18.0 ft.
Effective Size: #2 Uniformity Coefficient: Sand

16. WELL GROUTED? Yes
Neat Cement Bentonite **Bentonite/Cement** Other
Depth: From 15.5 ft. to 0.0 ft.

17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: ft. direction
Type: N/A
Well Disinfected: Type: Amount:

18. PUMP: Date installed: N/A
Mfr. Name: Model no.:
H.P.: Volts: Length of pipe: ft.
Capacity: gpm
TYPE:
Submersible Jet (shallow) Turbine
Jet (deep) Reciprocating Centrifugal

19. WELL DRILLER: Brunson (Marty) King **CERT NO.:** 1089
Address: 6004 Ponders Court Level: A **B** C D
Greenville SC 29615 (circle one)
Telephone: 864-527-9324 Fax: 864-288-4430

20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief.

Signed: Marty King

Date: 11/8/10

If D Level Driller, provide supervising driller's name.

BLE INC.

BUNNELL-LAMMONS ENGINEERING, INC.

GEOTECHNICAL AND ENVIRONMENTAL CONSULTANTS

GROUNDWATER MONITORING WELL NO. MW-37

PROJECT: Spinx #258 / Former Enmark #380 — PROJECT NO.: J10-6859-02

CLIENT: Enmark Stations, Inc. — START: 11-2-10 END: 11-3-10

LOCATION: Newberry, South Carolina — ELEVATION: 519.24

DRILLER: Landprobe, M. King — LOGGED BY: R. Doherty

DRILLING METHOD: Schramm T450WS; 6-inch air hammer

DEPTH TO - WATER> INITIAL: ▽ _____ AFTER 24 HOURS: ▼ 4.00 CAVING> _____

ELEVATION/ DEPTH (FT)	DESCRIPTION	SOIL TYPE	MONITOR WELL INSTALLATION DETAILS
	6-inches of GRASS/organic TOPSOIL		SURFACE COMPLETION 3.06-foot stick-up in a 4" x 4" stand-up locking steel protective cover with a 2' x 2' concrete pad
	Yellowish-brown, dry, slightly silty, medium to fine SAND		
515 / 5			Neat cement, 0 to 8.0 feet
			Bentonite seal, 8.0 to 10.0 feet
510 / 10	Dark yellowish-brown, dry, slightly silty, coarse to medium SAND		Filter pack, sand 10.0 to 25.0 feet
505 / 15	PARTIALLY WEATHERED ROCK which sampled as dark yellowish-brown, moist, silty, coarse SAND with gravel		2-inch diameter, 0.010-inch slotted Schedule 40 PVC well screen, 11.49 to 21.49 feet
500 / 20			Pipe cap
495 / 25			Total well depth, 21.69 feet
	Boring terminated at 25.0 feet below ground surface. No groundwater was encountered at time of drilling, but was encountered at 4.00 feet below ground surface after 24 hours.		
490 / 30			Ground surface elev. = 519.24 feet Top of PVC casing elev. = 522.30 feet
485 / 35			Northing = 895,095.212' Easting = 1,812,257.452' Elevations are NAVD 88
480			

GEOT_WELLNB 6859-02.GPJ 1/14/11

Water Well Record
Bureau of Water
2600 Bull Street, Columbia, SC 29201-1708; (803) 898-4300

1. WELL OWNER INFORMATION:
Name: Enmark Station, Inc.
Dolan (last) Tom (first)
Address: Post Office Box 728
City: Savannah State: GA zip: 31402
Phone: Work:
Home:

2. LOCATION OF WELL: COUNTY: Newberry
Name: Enmark 380
Address: 2725 College Street
City: Newberry, SC Zip: 29108
Latitude: Longitude:

3. PUBLIC SYSTEM NAME MW-37 **PUBLIC SYSTEM NUMBER:**

4. ABANDONMENT: No
Grouted Depth: from to ft.

Formation Description	Thickness of Stratum	Depth to Bottom of Stratum

SEE BORING LOGS

5. REMARKS:

6. TYPE: Mud Rotary, Jetted, Bored, Dug, **Air Rotary**, Driven, Cable tool, Auger, Other

7. PERMIT NUMBER: 06588

8. USE:
Residential, Public Supply, Process, Irrigation, Air Conditioning, Emergency, Test Well, **Monitor Well**, Replacement

9. WELL DEPTH (completed)
21.69 ft. Date Started: 11/2/2010 Date Completed: 11/3/2010

10. CASING: **Threaded** Welded
Diameter: 2"
Type: PVC
2.0 in. to 11.49 ft. depth
in. to ft. depth
Height: Below
Surface: ft. Weight: lb./ft.
Drive Shoe: No

11. SCREEN:
Type: PVC Diameter: 2"
Slot/Gauge: 0.010 Length: 10'
Set Between: 21.49 ft. and 11.49 ft.
ft. and ft.
Sieve Analysis: Y/N No

12. STATIC WATER LEVEL ft. below land surface after 24 hours.

13. PUMPING LEVEL Below Land Surface.
ft. after hrs Pumping GPM
Pumping Test: No
Yield:

14. WATER QUALITY
Chemical Analysis: No Bacterial Analysis: No

15. ARTIFICIAL FILTER (filter pack) Yes
Installed from: 25.0 ft. to 10.0 ft.
Effective Size: #2 Uniformity Coefficient: Sand

16. WELL GROUTED? Yes
Neat Cement, Bentonite, Bentonite/Cement, Other
Depth: From 8.0 ft. to 0.0 ft.

17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: ft. direction
Type: N/A
Well Disinfected: Type: Amount:

18. PUMP: Date installed: N/A
Mfr. Name: Model no.:
H.P.: Volts: Length of pipe: ft.
Capacity: gpm
TYPE:
Submersible, Jet (shallow), Turbine, Jet (deep), Reciprocating, Centrifugal

19. WELL DRILLER: Brunson (Marty) King **CERT NO.:** 1089
Address: 6004 Ponders Court Level: A **B** C D
Greenville SC 29615 (circle one)
Telephone: 864-527-9324 Fax: 864-288-4430

20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief.

Signed: Marty King

Date: 11/8/10

If D Level Driller, provide supervising driller's name.

BLE INC.

BUNNELL-LAMMONS ENGINEERING, INC.

GEOTECHNICAL AND ENVIRONMENTAL CONSULTANTS

GROUNDWATER MONITORING WELL NO. MW-38

PROJECT: Spinx #258 / Former Enmark #380 — PROJECT NO.: J10-6859-02

CLIENT: Enmark Stations, Inc. — START: 11-2-10 END: 11-3-10

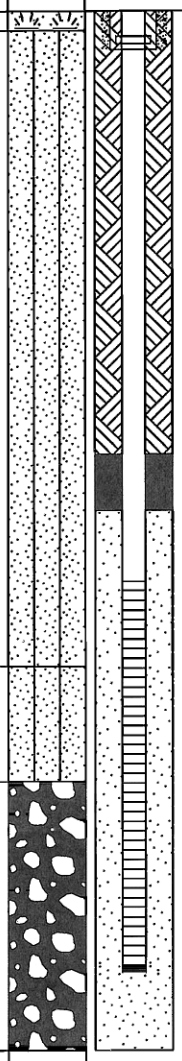
LOCATION: Newberry, South Carolina — ELEVATION: 536.16

DRILLER: Landprobe, M. King — LOGGED BY: R. Doherty

DRILLING METHOD: Schramm T450WS; 6-inch air hammer

DEPTH TO - WATER> INITIAL: 17.0 AFTER 24 HOURS: 18.71 CAVING>

ELEVATION/ DEPTH (FT)	DESCRIPTION	SOIL TYPE	MONITOR WELL INSTALLATION DETAILS
535	6-inches of GRASS/organic TOPSOIL Yellowish-brown, dry, silty, medium to fine SAND		SURFACE COMPLETION Flush-mount below ground surface secured with an 8-inch diameter steel, bolted manhole cover in a 2' x 2' concrete pad
5, 530			Neat cement, 0 to 11.5 feet
10, 525			Bentonite seal, 11.5 to 13.0 feet Filter pack, sand 13.0 to 27.0 feet
15, 520	Yellowish-brown to dark yellowish-brown, wet, slightly silty, medium to coarse SAND		
20, 515	PARTIALLY WEATHERED ROCK which sampled as dark yellowish-brown, wet, slightly silty, medium to coarse SAND with gravel		2-inch diameter, 0.010-inch slotted Schedule 40 PVC well screen, 14.80 to 24.80 feet
25, 510			Pipe cap Total well depth, 25.00 feet
30, 505	Boring terminated at 27.0 feet below ground surface. Groundwater encountered at 17.0 feet below ground surface at time of drilling and at 18.71 feet below ground surface after 24 hours.		Ground surface elev. = 536.16 feet Top of PVC casing elev. = 535.96 feet
35, 500			Northing = 894,999.062' Easting = 1,812,104.608' Elevations are NAVD 88



GEOT_WELLNB 6859-02.GPJ 1/14/11

Water Well Record
Bureau of Water
2600 Bull Street, Columbia, SC 29201-1708; (803) 898-4300

DHEC — PROMOTE PROTECT PROSPER

1. WELL OWNER INFORMATION:
Name: **Enmark Station, Inc.**
Dolan (last) **Tom** (first)
Address: **Post Office Box 728**
City: **Savannah** State: **GA** zip: **31402**
Phone: Work:
Home:

2. LOCATION OF WELL: COUNTY: **Newberry**
Name: **Enmark 380**
Address: **2725 College Street**
City: **Newberry, SC** Zip: **29108**
Latitude: Longitude:

3. PUBLIC SYSTEM NAME **MW-38** **PUBLIC SYSTEM NUMBER:**

4. ABANDONMENT: **No**
Grouted Depth: from to ft.

Formation Description	Thickness of Stratum	Depth to Bottom of Stratum
SEE BORING LOGS		

5. REMARKS: **MW-38**
Bentonite Seal 11.5' to 13.0'

6. TYPE: Mud Rotary, Jetted, Bored, Dug, **Air Rotary** (circled), Driven, Cable tool, Auger, Other

7. PERMIT NUMBER: **06588**

8. USE: Residential, Public Supply, Process, Irrigation, Air Conditioning, Emergency, Test Well, **Monitor Well** (circled), Replacement

9. WELL DEPTH (completed)
25.00 ft.
Date Started: **11/2/2010**
Date Completed: **11/3/2010**

10. CASING: **Threaded** (circled) Welded
Diameter: **2"**
Type: **PVC**
2.0 in. to **14.8** ft. depth
in. to ft. depth
Height: Below
Surface: ft. Weight: lb./ft.
Drive Shoe: **No**

11. SCREEN:
Type: **PVC** Diameter: **2"**
Slot/Gauge: **0.010** Length: **10'**
Set Between: **14.80** ft. and **24.80** ft.
ft. and ft.
Sieve Analysis: Y/N **No**

12. STATIC WATER LEVEL **18.71** ft. below land surface after 24 hours.

13. PUMPING LEVEL Below Land Surface.
ft. after hrs Pumping GPM
Pumping Test: **No**
Yield:

14. WATER QUALITY
Chemical Analysis: **No** Bacterial Analysis: **No**

15. ARTIFICIAL FILTER (filter pack) **Yes**
Installed from: **13.0** ft. to **27.0** ft.
Effective Size: **20-40** Uniformity Coefficient:

16. WELL GROUTED? **Yes**
Neat Cement (circled), Bentonite, Bentonite/Cement, Other
Depth: From **0.5** ft. to **11.5** ft.

17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: ft. direction
Type: **N/A**
Well Disinfected: Type: Amount:

18. PUMP: Date installed: **N/A**
Mfr. Name: Model no.:
H.P.: Volts: Length of pipe: ft.
Capacity: gpm
TYPE:
Submersible, Jet (shallow), Turbine, Jet (deep), Reciprocating, Centrifugal

19. WELL DRILLER: Brunson (Marty) King **CERT NO.: 1089**
Address: 6004 Ponders Court Level: A B (circled) C D (circle one)
Greenville SC 29615
Telephone: 864-527-9324 Fax: 864-288-4430

20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief.

Signed: Marty King

Date: **11/3/10**

If D Level Driller, provide supervising driller's name.

BLE INC.

BUNNELL-LAMMONS ENGINEERING, INC.

GEOTECHNICAL AND ENVIRONMENTAL CONSULTANTS

GROUNDWATER MONITORING WELL NO. MW-39

PROJECT: Spinx #258 / Former Enmark #380 — PROJECT NO.: J10-6859-02

CLIENT: Enmark Stations, Inc. — START: 11-12-10 END: 11-12-10

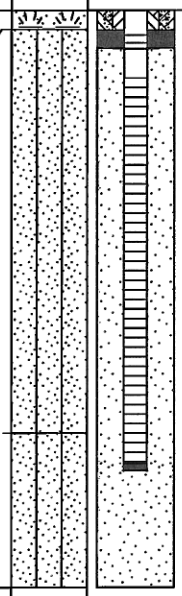
LOCATION: Newberry, South Carolina — ELEVATION: 518.80

DRILLER: Landprobe, R. Banks — LOGGED BY: R. Doherty

DRILLING METHOD: CME 750; 4-1/4 inch ID hollow stem auger

DEPTH TO - WATER> INITIAL: 11.0 AFTER 24 HOURS: 7.86 CAVING>

ELEVATION/ DEPTH (FT)	DESCRIPTION	SOIL TYPE	MONITOR WELL INSTALLATION DETAILS
	6-inches of GRASS/organic TOPSOIL		Neat cement, 0 to 0.5 feet
	Yellowish-brown, dry, slightly silty, medium to fine SAND		Bentonite seal, 0.5 to 1.0 feet Filter pack, sand 1.0 to 15.0 feet
515 / 5			2-inch diameter, 0.010-inch slotted Schedule 40 PVC well screen, 1.75 to 11.75 feet
510 / 10	Yellowish-brown, wet, slightly silty, medium to fine SAND		Pipe cap Total well depth, 12.00 feet
505 / 15	Boring terminated at 15.0 feet below ground surface. Groundwater encountered at 11.0 feet below ground surface at time of drilling and at 7.86 feet below ground surface after 24 hours.		SURFACE COMPLETION Flush-mount below ground surface secured with an 8-inch diameter steel, bolted manhole cover in a 2' x 2' concrete pad
500 / 20			Ground surface elev. = 518.80 feet Top of PVC casing elev. = 518.57 feet
495 / 25			Northing = 894,931.559' Easting = 1,812,217.983' Elevations are NAVD 88
490 / 30			
485 / 35			
480			



GEOT_WELLNB 6859-02.GPJ 12/23/10

Water Well Record
Bureau of Water
2600 Bull Street, Columbia, SC 29201-1708; (803) 898-4300

1. WELL OWNER INFORMATION:
Name: Enmark Station, Inc.
Dolan (last) Tom (first)
Address: Post Office Box 728
City: Savannah State: GA Zip: 31402
Phone: Work:
Home:

2. LOCATION OF WELL: COUNTY: Newberry
Name: Enmark 380
Address: 2725 College Street
City: Newberry, SC Zip: 29108
Latitude: Longitude:

3. PUBLIC SYSTEM NAME: MW-39 **PUBLIC SYSTEM NUMBER:**

4. ABANDONMENT: No
Grouted Depth: from to ft.

Formation Description	Thickness of Stratum	Depth to Bottom of Stratum

SEE BORING LOGS

5. REMARKS:

6. TYPE: Mud Rotary, Jetted, Bored, Dug, Air Rotary, Driven, Cable tool, Auger

7. PERMIT NUMBER: 06588

8. USE:
Residential, Public Supply, Process, Irrigation, Air Conditioning, Emergency, Test Well, Monitor Well, Replacement

9. WELL DEPTH (completed)
12.00 ft. Date Started: 11/12/2010
Date Completed: 11/12/2010

10. CASING: Threaded Welded
Diameter: 2"
Type: PVC
2.0 in. to 1.75 ft. depth
in. to ft. depth
Height: Below
Surface: ft. Weight: lb./ft.
Drive Shoe: No

11. SCREEN:
Type: PVC Diameter: 2"
Slot/Gauge: 0.010 Length: 10'
Set Between: 11.75 ft. and 1.75 ft.
ft. and ft.
Sieve Analysis: Y/N No

12. STATIC WATER LEVEL 7.86 ft. below land surface after 24 hours.

13. PUMPING LEVEL Below Land Surface.
ft. after hrs Pumping GPM
Pumping Test: No
Yield: gpm

14. WATER QUALITY
Chemical Analysis: No Bacterial Analysis:

15. ARTIFICIAL FILTER (filter pack) Yes
Installed from: 15.0 ft. to 1.0 ft.
Effective Size: Uniformity Coefficient:

16. WELL GROUTED? Yes
Neat Cement, Bentonite, Bentonite/Cement, Other
Depth: 0.5 ft. to 0.0 ft.

17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: ft. direction
Type:
Well Disinfected: No Type: Amount:

18. PUMP: Date installed: N/A
Mfr. Name: Model no.:
H.P.: Volts: Length of pipe: ft.
Capacity: gpm
TYPE:
Submersible, Jet (shallow), Turbine, Jet (deep), Reciprocating, Centrifugal

19. WELL DRILLER: Robert Banks CERT NO.: 400
Address: 6004 Ponders Court Level: A B C D
Greenville SC 29615 (circle one)
Telephone: 864-527-9324 Fax: 864-288-4430

20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief.

Signed: Robert Banks

Date: 11/12/10

If D Level Driller, provide supervising driller's name.

APPENDIX D

SOIL AND GROUNDWATER DISPOSAL MANIFESTS

NON-HAZARDOUS WASTE MANIFEST

Please print or type (Form designed for use on elite (12 pitch) typewriter)

NON-HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No.: C-E-S-Q-G

Manifest Document No.: 0-2-1-8-3-2

2. Page 1 of 1

3. Generator's Name and Mailing Address: Emmark Stations, P.O. Box 729, Savannah, GA 31402

4. Generator's Phone: 864-288-1265

2725 College Street (Former Emmark Station), Newberry, SC 29108

5. Transporter 1 Company Name: Advanced Environmental Options, Inc.

6. US EPA ID Number: S-C-R-0-0-0-0-7-4-5-7-5

A. State Transporter's ID

B. Transporter 1 Phone: (864) 488-9111

7. Transporter 2 Company Name

8. US EPA ID Number

C. State Transporter's ID

D. Transporter 2 Phone

9. Designated Facility Name and Site Address: Advanced Environmental Options, 25 Stan Perkins Road, Spartanburg, SC 29307

10. US EPA ID Number: S-C-R-0-0-0-0-7-4-8-7-5

E. State Facility's ID

F. Facility's Phone: (864) 488-9111

11. WASTE DESCRIPTION

	Containers No.	Containers Type	13. Total Quantity	14. Unit Wt./Vol.
a. NON/DOT NON/RCRA Regulated Materials contains (contaminated soil) (010367)	72	D M	72	pc.
b. NON/DOT NON/RCRA Regulated Materials (Contains Water and Hydrocarbons)	3	D M	3	p
c. NON/DOT NON/RCRA Regulated materials (Contains free product & water)	1		1	
d.				

GENERATOR

G. Additional Descriptions for Materials Listed Above: b) L/-

H. Handling Codes for Wastes Listed Above

15. Special Handling Instructions and Additional Information: a) S/-

Emergency Contact : David Hitchens 864-488-9111, cell 864-590-4649 job#7203

16. GENERATOR'S CERTIFICATION: I hereby certify that the contents of this shipment are fully and accurately described and are in all respects in proper condition for transport. The materials described on this manifest are not subject to federal hazardous waste regulations.

Printed/Typed Name: Trevor Sluck Acting as agent for Emmark Stations | Signature | Date: Month 11 Day 22 Year 10

TRANSPORTER

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name: Joseph L. Vance | Signature | Date: Month 11 Day 22 Year 10

18. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name | Signature | Date: Month Day Year

FACILITY

19. Discrepancy Indication Space

20. Facility Owner or Operator: Certification of receipt of the waste materials covered by this manifest, except as noted in Item 19.

Printed/Typed Name: Skip Odom | Signature | Date: Month 11 Day 30 Year 10

NON-HAZARDOUS WASTE

CF14 © 2002 LABELMASTER® (800) 621-5808 www.labelmaster.com

APPENDIX E

MONITORING WELL PURGING AND SAMPLING PROCEDURES, MONITORING WELL PURGING AND SAMPLING LOGS

APPENDIX E

MONITORING WELL PURGING AND SAMPLING PROCEDURES

The monitoring wells were purged prior to sample collection to remove any stagnant water from the well so that the samples collected were representative of the groundwater quality in the vicinity of each well. For wells that recovered quickly, a minimum of three volumes of water were evacuated. Specific conductance, pH, and water temperature were measured periodically during well evacuation using instruments which were calibrated daily. Wells that were evacuated to dryness with less than three well volumes being removed were sampled as soon as the well had recovered enough to yield sufficient volume for a sample.

The monitoring wells were purged using a 4-foot long by 1.6-inch diameter disposable polyethylene bailer attached to an unused polypropylene cord. The wells were also sampled using a bailer as described above. To minimize the potential for cross-contamination between wells, a new clean bailer was used at each well.

Samples were placed in the appropriate laboratory supplied containers and marked with identifying numbers. Samples were maintained at 4°Celsius in a refrigerated sample cooler and shipped to Shealy Environmental Services, Inc. in Columbia, South Carolina via courier service for analysis.

BLE

BUNNELL-LAMMONS ENGINEERING, INC.

Field Data Information Sheet for Ground Water Sampling
Division of Underground Storage Tank Management

Date 11/02/10
Field Personnel Ivan A. Irizarry , Thomas W. Lammons
General weather Conditions Fair
Ambient Air Temperature (°C) 16.67

Facility Name: Former Enmark 380 Site ID# 06588

Quality Assurance

pH Sensor:	Oakton 35630-62	Conductivity Sensor:	35630-32
serial no.	324976	serial no.	324976
pH =4.0	4.0	Standard	
pH = 7.0	7.0	Standard	
pH = 7.0		Standard	
pH = 10.0		Standard	

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time
Ivan A. Irizarry	11/5/10 1349	Shealy Environmental	11/5/10 1349

Well # MW-1

Well Diameter (D) 2 inch of 28.30 feet(ft) bgs
conversion factor (C): 3.143*(D/2)^2
for a 2 inch well C = 0.163
for a 4 inch well C = 0.652
*Free Product Thickness --- ft
Total Well Depth (TWD) 28.30 ft bgs
Depth to Groundwater (DGW) 20.10 ft bgs
Length of Water Colum (LWC = TWD-DGW) 8.20 ft
1 Casing Volume (LWC*C) = 8.20 X .17 = 1.39 gals
3 Casing Volumes = 3 X 1.39 = 4.17 gals
(Standard Purge Volume)

Total Volume of Water Purged Before Sampling 4.5 gals

*If free product is present over 1/8 inch, sampling wiil not be required.

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post	Sample
Volume Purged (gallons)	---	1.5	3.0	4.5				
Time (military)	1225	1228	1231	1235				
pH (s.u)	6.52	6.31	6.15	6.10				
Specific Conductivity	305	291	257	281				
Water Temperature (°C)	20.1	20.1	19.9	19.8				
Turbidity (subjective: clear, slightly cloudy, cloudy)	Clear	Cloudy	Sl. Cloudy	Clear				
Dissolved Oxygen (mg/l)	4.10							

Remarks: Well sampled at 1235 on November 2, 2010.

BLE

BUNNELL-LAMMONS ENGINEERING, INC.

Field Data Information Sheet for Ground Water Sampling
Division of Underground Storage Tank Management

Date 11/02/10
Field Personnel Ivan A. Irizarry , Thomas W. Lammons
General weather Conditions Fair
Ambient Air Temperature (°C) 16.67

Facility Name: Former Enmark 380 Site ID# 06588

Quality Assurance

pH Sensor:	Oakton 35630-62	Conductivity Sensor:	35630-32
serial no.	324976	serial no.	324976
pH =4.0	4.0	Standard	
pH = 7.0	7.0	Standard	
pH = 7.0		Standard	
pH = 10.0		Standard	

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time
Ivan A. Irizarry	11/5/10 1349	Shealy Environmental	11/5/10 1349

Well # MW-2

Well Diameter (D) 4 inch of 25.20 feet(ft) bgs
conversion factor (C): 3.143*(D/2)^2
for a 2 inch well C = 0.163
for a 4 inch well C = 0.652
*Free Product Thickness --- ft
Total Well Depth (TWD) 25.20 ft bgs
Depth to Groundwater (DGW) 21.00 ft bgs
Length of Water Colum (LWC = TWD-DGW) 4.20 ft
1 Casing Volume (LWC*C) = 4.20 X .1652 = 2.74 gals
3 Casing Volumes = 3 X 2.74 = 8.22 gals
(Standard Purge Volume)

Total Volume of Water Purged Before Sampling 9.0 gals

*If free product is present over 1/8 inch, sampling wiil not be required.

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post	Sample
Volume Purged (gallons)	---	3.0	6.0	9.0				
Time (military)	1227	1231	1236	1240				
pH (s.u)	5.99	5.95	5.92	5.86				
Specific Conductivity	209	197	191	185				
Water Temperature (°C)	18.9	18.4	18.4	18.1				
Turbidity (subjective: clear, slightly cloudy, cloudy)	Clear	Cloudy	Cloudy	Sl. Cloudy				
Dissolved Oxygen (mg/l)	1.90							

Remarks: Well sampled at 1240 on November 2, 2010.

BLE

BUNNELL-LAMMONS ENGINEERING, INC.

Field Data Information Sheet for Ground Water Sampling
Division of Underground Storage Tank Management

Date 11/15/10
Field Personnel Ivan A. Irizarry
General weather Conditions Clear
Ambient Air Temperature (°C) 15.91

Facility Name: Former Enmark 380 Site ID# 06588

Quality Assurance

pH Sensor:	Oakton 35630-62	Conductivity Sensor:	35630-32
serial no.	324976	serial no.	324976
pH =4.0	4.0	Standard	
pH = 7.0	7.0	Standard	
pH = 7.0		Standard	
pH = 10.0		Standard	

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time
Ivan A. Irizarry	11/17/10 1210	Shealy Environmental	11/17/10 1210

Well # MW-3

Well Diameter (D) 2 inch of 25.00 feet(ft) bgs
conversion factor (C): 3.143*(D/2)^2
for a 2 inch well C = 0.163
for a 4 inch well C = 0.652

*Free Product Thickness --- ft
Total Well Depth (TWD) 25.00 ft bgs
Depth to Groundwater (DGW) 21.25 ft bgs
Length of Water Colum (LWC = TWD-DGW) 3.75 ft
1 Casing Volume (LWC*C) = 3.75 X . 652 = 2.45 gals
3 Casing Volumes = 3 X 2.45 = 7.35 gals
(Standard Purge Volume)

Total Volume of Water Purged Before Sampling 7.5 gals

*If free product is present over 1/8 inch, sampling wiil not be required.

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post	Sample
Volume Purged (gallons)	---	2.5	5.0	7.5				
Time (military)	1226	1240	121	1300				
pH (s.u)	6.12	6.44	6.78	6.91				
Specific Conductivity	456	421	329	281				
Water Temperature (°C)	19.9	19.5	18.8	18.7				
Turbidity (subjective: clear, slightly cloudy, cloudy)	Cloudy	Sl. Cloudy	Sl. Cloudy	Sl. Cloudy				
Dissolved Oxygen (mg/l)	1.76							

Remarks: Well sampled at 1300 on November 15, 2010.

BLE

BUNNELL-LAMMONS ENGINEERING, INC.

Field Data Information Sheet for Ground Water Sampling
Division of Underground Storage Tank Management

Date 11/02/10
Field Personnel Ivan A. Irizarry
General weather Conditions Fair
Ambient Air Temperature (°C) 16.67

Facility Name: Former Enmark 380 Site ID# 06588

Quality Assurance

pH Sensor:		Conductivity Sensor:	
serial no.		serial no.	
pH =4.0		Standard	
pH = 7.0		Standard	
pH = 7.0		Standard	
pH = 10.0		Standard	

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time

Well # MW-4

Well Diameter (D) 4 inch of 25.00 feet(ft) bgs
conversion factor (C): 3.143*(D/2)^2
for a 2 inch well C = 0.163
for a 4 inch well C = 0.652
*Free Product Thickness --- ft
Total Well Depth (TWD) 25.00 ft bgs
Depth to Groundwater (DGW) Dry ft bgs
Length of Water Colum (LWC = TWD-DGW) Dry ft
1 Casing Volume (LWC*C) = Dry X .17 = Dry gals
3 Casing Volumes = 3 X Dry = Dry gals
(Standard Purge Volume)

Total Volume of Water Purged Before Sampling NA gals

*If free product is present over 1/8 inch, sampling wiil not be required.

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post	Sample
Volume Purged (gallons)								
Time (military)								
pH (s.u)								
Specific Conductivity								
Water Temperature (°C)								
Turbidity (subjective: clear, slightly cloudy, cloudy)								
Dissolved Oxygen (mg/l)								

Remarks: Well dry at time of sampling. The total well depth was measured in the field as 14.01 feet below ground surface, contradicting the historical reported depth of 25.00 feet. The well is believed to be damaged or obstructed.

BLE

BUNNELL-LAMMONS ENGINEERING, INC.

Field Data Information Sheet for Ground Water Sampling
Division of Underground Storage Tank Management

Date 11/02/10
Field Personnel Ivan A. Irizarry
General weather Conditions Fair
Ambient Air Temperature (°C) 16.67

Facility Name: Former Enmark 380 Site ID# 06588

Quality Assurance

pH Sensor:		Conductivity Sensor:	
serial no.		serial no.	
pH =4.0		Standard	
pH = 7.0		Standard	
pH = 7.0		Standard	
pH = 10.0		Standard	

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time

Well # MW-5

Well Diameter (D) 2 inch of 25.00 feet(ft) bgs

for a 2 inch well C = 0.163
for a 4 inch well C = 0.652

*Free Product Thickness 0.02 ft
Total Well Depth (TWD) 25.00 ft bgs
Depth to Groundwater (DGW) 20.23 ft bgs
Length of Water Colum (LWC = TWD-DGW) 4.77 ft
1 Casing Volume (LWC*C) = 4.77 X .17 = 0.81 gals
3 Casing Volumes = 3 X 0.81 = 2.43 gals
(Standard Purge Volume)

Total Volume of Water Purged Before Sampling NA gals

*If free product is present over 1/8 inch, sampling wiil not be required.

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post	Sample
Volume Purged (gallons)								
Time (military)								
pH (s.u)								
Specific Conductivity								
Water Temperature (°C)								
Turbidity (subjective: clear, slightly cloudy, cloudy)								
Dissolved Oxygen (mg/l)								

Remarks: Well not sampled due to the presence of 0.02 feet of free-phase petroleum product.

BLE

BUNNELL-LAMMONS ENGINEERING, INC.

Field Data Information Sheet for Ground Water Sampling
Division of Underground Storage Tank Management

Date 11/02/10
Field Personnel Ivan A. Irizarry
General weather Conditions Fair
Ambient Air Temperature (°C) 16.65

Facility Name: Former Enmark 380 Site ID# 06588

Quality Assurance

pH Sensor:		Conductivity Sensor:	
serial no.		serial no.	
pH =4.0		Standard	
pH = 7.0		Standard	
pH = 7.0		Standard	
pH = 10.0		Standard	

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time

Well # MW-6

Well Diameter (D) 2 inch of 25.00 feet(ft) bgs
conversion factor (C): 3.143*(D/2)^2
for a 2 inch well C = 0.163
for a 4 inch well C = 0.652
*Free Product Thickness 0.06 ft
Total Well Depth (TWD) 25.00 ft bgs
Depth to Groundwater (DGW) 20.15 ft bgs
Length of Water Colum (LWC = TWD-DGW) 4.85 ft
1 Casing Volume (LWC*C) = 4.85 X .17 = 0.82 gals
3 Casing Volumes = 3 X 0.82 = 2.46 gals
(Standard Purge Volume)

Total Volume of Water Purged Before Sampling NA gals

*If free product is present over 1/8 inch, sampling wiil not be required.

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post	Sample
Volume Purged (gallons)								
Time (military)								
pH (s.u)								
Specific Conductivity								
Water Temperature (°C)								
Turbidity (subjective: clear, slightly cloudy, cloudy)								
Dissolved Oxygen (mg/l)								

Remarks: Well not sampled due to the presence of 0.06 feet of free-phase petroleum product.

BLE

BUNNELL-LAMMONS ENGINEERING, INC.

Field Data Information Sheet for Ground Water Sampling
Division of Underground Storage Tank Management

Date 11/02/10
Field Personnel Ivan A. Irizarry
General weather Conditions Fair
Ambient Air Temperature (°C) 16.05

Facility Name: Former Enmark 380 Site ID# 06588

Quality Assurance

pH Sensor:		Conductivity Sensor:	
serial no.		serial no.	
pH =4.0		Standard	
pH = 7.0		Standard	
pH = 7.0		Standard	
pH = 10.0		Standard	

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time

Well # MW-7

Well Diameter (D) 2 inch of 25.00 feet(ft) bgs
conversion factor (C): 3.143*(D/2)^2
for a 2 inch well C = 0.163
for a 4 inch well C = 0.652

*Free Product Thickness 0.39 ft
Total Well Depth (TWD) 25.00 ft bgs
Depth to Groundwater (DGW) 20.13 ft bgs
Length of Water Colum (LWC = TWD-DGW) 4.87 ft
1 Casing Volume (LWC*C) = 4.87 X .17 = 0.83 gals
3 Casing Volumes = 3 X 0.83 = 2.49 gals
(Standard Purge Volume)

Total Volume of Water Purged Before Sampling NA gals

*If free product is present over 1/8 inch, sampling wiil not be required.

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post	Sample
Volume Purged (gallons)								
Time (military)								
pH (s.u)								
Specific Conductivity								
Water Temperature (°C)								
Turbidity (subjective: clear, slightly cloudy, cloudy)								
Dissolved Oxygen (mg/l)								

Remarks: Well not sampled due to the presence of 0.39 feet of free-phase petroleum product.

BLE

BUNNELL-LAMMONS ENGINEERING, INC.

Field Data Information Sheet for Ground Water Sampling
Division of Underground Storage Tank Management

Date 11/04/10
Field Personnel Ivan A. Irizarry , Jason B. Thomas
General weather Conditions Rainy
Ambient Air Temperature (°C) 12.78

Facility Name: Former Enmark 380 Site ID# 06588

Quality Assurance

pH Sensor:	Oakton 35630-62	Conductivity Sensor:	35630-32
serial no.	324976	serial no.	324976
pH =4.0	4.0	Standard	
pH = 7.0	7.0	Standard	
pH = 7.0		Standard	
pH = 10.0		Standard	

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time
Ivan A. Irizarry	11/5/10 1349	Shealy Environmental	11/5/10 1349

Well # MW-7D

Well Diameter (D) 2 inch of 46.04 feet(ft) bgs
conversion factor (C): 3.143*(D/2)^2
for a 2 inch well C = 0.163
for a 4 inch well C = 0.652
*Free Product Thickness --- ft
Total Well Depth (TWD) 46.04 ft bgs
Depth to Groundwater (DGW) 19.21 ft bgs
Length of Water Colum (LWC = TWD-DGW) 26.83 ft
1 Casing Volume (LWC*C) = 26.83 X .17 = 4.56 gals
3 Casing Volumes = 3 X 4.56 = 13.68 gals
(Standard Purge Volume)

Total Volume of Water Purged Before Sampling 14.0 gals
*If free product is present over 1/8 inch, sampling wiil not be required.

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post	Sample
Volume Purged (gallons)	---	4.6	9.2	14.0				
Time (military)	1056	1101	1111	1119				
pH (s.u)	11.22	11.29	10.09	9.87				
Specific Conductivity	1141	976	365	342				
Water Temperature (°C)	17.7	18.9	18.6	18.1				
Turbidity (subjective: clear, slightly cloudy, cloudy)	Cloudy	Cloudy	Sli.Cloudy	Sli.Cloudy				
Dissolved Oxygen (mg/l)	8.07							

Remarks: Well sampled at 1119 on November 4, 2010.

BLE

BUNNELL-LAMMONS ENGINEERING, INC.

Field Data Information Sheet for Ground Water Sampling
Division of Underground Storage Tank Management

Date 11/04/10
Field Personnel Ivan A. Irizarry , Jason B. Thomas
General weather Conditions Rainy
Ambient Air Temperature (°C) 12.78

Facility Name: Former Enmark 380 Site ID# 06588

Quality Assurance

pH Sensor:	Oakton 35630-62	Conductivity Sensor:	35630-32
serial no.	324976	serial no.	324976
pH =4.0	4.0	Standard	
pH = 7.0	7.0	Standard	
pH = 7.0		Standard	
pH = 10.0		Standard	

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time
Ivan A. Irizarry	11/5/10 1349	Shealy Environmental	11/5/10 1349

Well # MW-8D

Well Diameter (D) 2 inch of 45.00 feet(ft) bgs
conversion factor (C): 3.143*(D/2)^2
for a 2 inch well C = 0.163
for a 4 inch well C = 0.652
*Free Product Thickness --- ft
Total Well Depth (TWD) 45.00 ft bgs
Depth to Groundwater (DGW) 19.70 ft bgs
Length of Water Colum (LWC = TWD-DGW) 25.30 ft
1 Casing Volume (LWC*C) = 25.30 X .17 = 4.30 gals
3 Casing Volumes = 3 X 4.30 = 12.90 gals
(Standard Purge Volume)

Total Volume of Water Purged Before Sampling 7.0 gals

*If free product is present over 1/8 inch, sampling wiil not be required.

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post	Sample
Volume Purged (gallons)	---	4.5						
Time (military)	1239	1242						
pH (s.u)	11.02	10.81						
Specific Conductivity	874	345						
Water Temperature (°C)	19.9	23.9						
Turbidity (subjective: clear, slightly cloudy, cloudy)	Clear	Clear						
Dissolved Oxygen (mg/l)	3.64							

Remarks: Well purged dry after 7.0 gallons of water removed. Well sampled at 1256 on November 4, 2010.

BLE

BUNNELL-LAMMONS ENGINEERING, INC.

Field Data Information Sheet for Ground Water Sampling
Division of Underground Storage Tank Management

Date	11/02/10
Field Personnel	Ivan A. Irizarry , Thomas W. Lammons
General weather Conditions	Fair
Ambient Air Temperature (°C)	16.67
Facility Name:	Former Enmark 380
Site ID#	06588

Quality Assurance

pH Sensor:	Oakton 35630-62	Conductivity Sensor:	35630-32
serial no.	324976	serial no.	324976
pH =4.0	4.0	Standard	
pH = 7.0	7.0	Standard	
pH = 7.0		Standard	
pH = 10.0		Standard	

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time
Ivan A. Irizarry	11/5/10 1349	Shealy Environmental	11/5/10 1349

Well #	MW-9				
Well Diameter (D)	2	inch of	28.74	feet(ft) bgs	
conversion factor (C): 3.143*(D/2)^2					
for a 2 inch well C = 0.163					
for a 4 inch well C = 0.652					
*Free Product Thickness	---	ft			
Total Well Depth (TWD)	28.74	ft bgs			
Depth to Groundwater (DGW)	21.42	ft bgs			
Length of Water Colum (LWC = TWD-DGW)			7.32	ft	
1 Casing Volume (LWC*C) =	7.32	X .17	=	1.24	gals
3 Casing Volumes = 3 X	1.24	=		3.72	gals
(Standard Purge Volume)					
Total Volume of Water Purged Before Sampling				3.75	gals

*If free product is present over 1/8 inch, sampling wiil not be required.

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post	Sample
Volume Purged (gallons)	---	1.25	2.50	3.75				
Time (military)	1313	1316	1322	1340				
pH (s.u)	6.15	5.25	5.35	5.14				
Specific Conductivity	121.2	89.6	75.6	74.4				
Water Temperature (°C)	17.6	17.3	17.3	17.1				
Turbidity (subjective: clear, slightly cloudy, cloudy)	Sli.Cloudy	Cloudy	Cloudy	Cloudy				
Dissolved Oxygen (mg/l)	3.11							

Remarks: Well sampled at 1340 on November 2, 2010.

BLE

BUNNELL-LAMMONS ENGINEERING, INC.

Field Data Information Sheet for Ground Water Sampling
Division of Underground Storage Tank Management

Date	11/02/10
Field Personnel	Ivan A. Irizarry , Thomas W. Lammons
General weather Conditions	Fair
Ambient Air Temperature (°C)	16.67
Facility Name:	Former Enmark 380
Site ID#	06588

Quality Assurance

pH Sensor:	Oakton 35630-62	Conductivity Sensor:	35630-32
serial no.	324976	serial no.	324976
pH =4.0	4.0	Standard	
pH = 7.0	7.0	Standard	
pH = 7.0		Standard	
pH = 10.0		Standard	

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time
Ivan A. Irizarry	11/5/10 1349	Shealy Environmental	11/5/10 1349

Well #	MW-10				
Well Diameter (D)	2	inch of	28.00	feet(ft) bgs	
conversion factor (C): 3.143*(D/2)^2					
for a 2 inch well C = 0.163					
for a 4 inch well C = 0.652					
*Free Product Thickness	---	ft			
Total Well Depth (TWD)	28.00	ft bgs			
Depth to Groundwater (DGW)	20.74	ft bgs			
Length of Water Colum (LWC = TWD-DGW)			7.26	ft	
1 Casing Volume (LWC*C) =	7.26	X .17	=	1.23	gals
3 Casing Volumes = 3 X	1.23	=		3.69	gals
(Standard Purge Volume)					
Total Volume of Water Purged Before Sampling				3.8	gals

*If free product is present over 1/8 inch, sampling wiil not be required.

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post	Sample
Volume Purged (gallons)	---	1.3	2.5	3.8				
Time (military)	1423	1430	1436	1444				
pH (s.u)	6.35	5.94	5.88	6.02				
Specific Conductivity	111.7	104.4	102.2	97.4				
Water Temperature (°C)	18.1	18.3	18.3	17.9				
Turbidity (subjective: clear, slightly cloudy, cloudy)	Sli.Cloudy	Cloudy	Cloudy	Cloudy				
Dissolved Oxygen (mg/l)	2.68							

Remarks: Well sampled at 1444 on November 2, 2010.

BLE

BUNNELL-LAMMONS ENGINEERING, INC.

Field Data Information Sheet for Ground Water Sampling
Division of Underground Storage Tank Management

Date	11/02/10
Field Personnel	Ivan A. Irizarry , Thomas W. Lammons
General weather Conditions	Fair
Ambient Air Temperature (°C)	16.67
Facility Name:	Former Enmark 380
Site ID#	06588

Quality Assurance

pH Sensor:	Oakton 35630-62	Conductivity Sensor:	35630-32
serial no.	324976	serial no.	324976
pH =4.0	4.0	Standard	
pH = 7.0	7.0	Standard	
pH = 7.0		Standard	
pH = 10.0		Standard	

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time
Ivan A. Irizarry	11/5/10 1349	Shealy Environmental	11/5/10 1349

Well #	MW-11				
Well Diameter (D)	2	inch of	28.30	feet(ft) bgs	
conversion factor (C): 3.143*(D/2)^2					
for a 2 inch well C = 0.163					
for a 4 inch well C = 0.652					
*Free Product Thickness	---	ft			
Total Well Depth (TWD)	28.30	ft bgs			
Depth to Groundwater (DGW)	18.97	ft bgs			
Length of Water Colum (LWC = TWD-DGW)			9.33	ft	
1 Casing Volume (LWC*C) =	9.33	X .17	=	1.59	gals
3 Casing Volumes = 3 X	1.59	=		4.77	gals
(Standard Purge Volume)					
Total Volume of Water Purged Before Sampling				4.8	gals

*If free product is present over 1/8 inch, sampling wiil not be required.

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post	Sample
Volume Purged (gallons)	---	1.6	3.2	4.8				
Time (military)	1510	1519	1527	1535				
pH (s.u)	5.63	5.24	5.22	4.98				
Specific Conductivity	277	257	254	252				
Water Temperature (°C)	19.4	18.2	18.4	18.5				
Turbidity (subjective: clear, slightly cloudy, cloudy)	Sli.Cloudy	Sli.Cloudy	Sli.Cloudy	Sli.Cloudy				
Dissolved Oxygen (mg/l)	6.51							

Remarks: Well sampled at 1535 on November 2, 2010.

BLE

BUNNELL-LAMMONS ENGINEERING, INC.

Field Data Information Sheet for Ground Water Sampling
Division of Underground Storage Tank Management

Date 11/02/10
Field Personnel Ivan A. Irizarry , Thomas W. Lammons
General weather Conditions Fair
Ambient Air Temperature (°C) 16.67

Facility Name: Former Enmark 380 Site ID# 06588

Quality Assurance

pH Sensor:	Oakton 35630-62	Conductivity Sensor:	35630-32
serial no.	324976	serial no.	324976
pH =4.0	4.0	Standard	
pH = 7.0	7.0	Standard	
pH = 7.0		Standard	
pH = 10.0		Standard	

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time
Ivan A. Irizarry	11/5/10 1349	Shealy Environmental	11/5/10 1349

Well # MW-12

Well Diameter (D) 2 inch of 27.61 feet(ft) bgs
conversion factor (C): 3.143*(D/2)^2
for a 2 inch well C = 0.163
for a 4 inch well C = 0.652
*Free Product Thickness --- ft
Total Well Depth (TWD) 27.61 ft bgs
Depth to Groundwater (DGW) 18.57 ft bgs
Length of Water Colum (LWC = TWD-DGW) 9.04 ft
1 Casing Volume (LWC*C) = 9.04 X .17 = 1.54 gals
3 Casing Volumes = 3 X 1.54 = 4.62 gals
(Standard Purge Volume)

Total Volume of Water Purged Before Sampling 4.8 gals
*If free product is present over 1/8 inch, sampling wiil not be required.

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post	Sample
Volume Purged (gallons)	---	1.6	3.2	4.8				
Time (military)	1606	1613	1617	1625				
pH (s.u)	5.91	5.77	5.64	5.65				
Specific Conductivity	125.3	97.3	94.6	94.9				
Water Temperature (°C)	19.0	20.6	19.0	17.8				
Turbidity (subjective: clear, slightly cloudy, cloudy)	Sli.Cloudy	Sli.Cloudy	Cloudy	Cloudy				
Dissolved Oxygen (mg/l)	2.29							

Remarks: Well sampled at 1625 on November 2, 2010.

BLE

BUNNELL-LAMMONS ENGINEERING, INC.

Field Data Information Sheet for Ground Water Sampling
Division of Underground Storage Tank Management

Date	11/02/10
Field Personnel	Ivan A. Irizarry , Thomas W. Lammons
General weather Conditions	Fair
Ambient Air Temperature (°C)	16.67
Facility Name:	Former Enmark 380
Site ID#	06588

Quality Assurance

pH Sensor:	Oakton 35630-62	Conductivity Sensor:	35630-32
serial no.	324976	serial no.	324976
pH =4.0	4.0	Standard	
pH = 7.0	7.0	Standard	
pH = 7.0		Standard	
pH = 10.0		Standard	

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time
Ivan A. Irizarry	11/5/10 1349	Shealy Environmental	11/5/10 1349

Well #	MW-13				
Well Diameter (D)	2	inch of	26.46	feet(ft) bgs	
conversion factor (C): 3.143*(D/2)^2					
for a 2 inch well C = 0.163					
for a 4 inch well C = 0.652					
*Free Product Thickness	---	ft			
Total Well Depth (TWD)	26.46	ft bgs			
Depth to Groundwater (DGW)	18.69	ft bgs			
Length of Water Colum (LWC = TWD-DGW)			7.77	ft	
1 Casing Volume (LWC*C) =	7.77	X .17	=	1.32	gals
3 Casing Volumes = 3 X	1.32	=		3.96	gals
(Standard Purge Volume)					
Total Volume of Water Purged Before Sampling				4.0	gals

*If free product is present over 1/8 inch, sampling wiil not be required.

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post	Sample
Volume Purged (gallons)	---	1.3	2.6	4.0				
Time (military)	1649	1655	1700	1705				
pH (s.u)	5.40	5.48	5.46	5.40				
Specific Conductivity	185.5	173.8	173.1	173.5				
Water Temperature (°C)	18.5	18.4	18.6	18.6				
Turbidity (subjective: clear, slightly cloudy, cloudy)	Sli.Cloudy	Cloudy	Cloudy	Cloudy				
Dissolved Oxygen (mg/l)	7.07							

Remarks: Well sampled at 1705 on November 2, 2010.

BLE

BUNNELL-LAMMONS ENGINEERING, INC.

Field Data Information Sheet for Ground Water Sampling
Division of Underground Storage Tank Management

Date	11/03/10
Field Personnel	Ivan A. Irizarry , Jason B. Thomas
General weather Conditions	Rainy
Ambient Air Temperature (°C)	10.56
Facility Name:	Former Enmark 380
Site ID#	06588

Quality Assurance

pH Sensor:	Oakton 35630-62	Conductivity Sensor:	35630-32
serial no.	324976	serial no.	324976
pH =4.0	4.0	Standard	
pH = 7.0	7.0	Standard	
pH = 7.0		Standard	
pH = 10.0		Standard	

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time
Ivan A. Irizarry	11/5/10 1349	Shealy Environmental	11/5/10 1349

Well #	MW-14				
Well Diameter (D)	2	inch of	29.32	feet(ft) bgs	
conversion factor (C): 3.143*(D/2)^2					
for a 2 inch well C = 0.163					
for a 4 inch well C = 0.652					
*Free Product Thickness	---	ft			
Total Well Depth (TWD)	29.32	ft bgs			
Depth to Groundwater (DGW)	22	ft bgs			
Length of Water Colum (LWC = TWD-DGW)			7.32	ft	
1 Casing Volume (LWC*C) =	7.32	X .17	=	1.24	gals
3 Casing Volumes = 3 X	1.24	=		3.72	gals
(Standard Purge Volume)					
Total Volume of Water Purged Before Sampling				4.0	gals

*If free product is present over 1/8 inch, sampling wiil not be required.

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post	Sample
Volume Purged (gallons)	---	1.3	2.6	4.0				
Time (military)	0954	1007	1016	1026				
pH (s.u)	5.34	5.64	5.02	5.03				
Specific Conductivity	115.7	113.8	112.7	116.7				
Water Temperature (°C)	16.0	16.9	16.7	13.9				
Turbidity (subjective: clear, slightly cloudy, cloudy)	Clear	Cloudy	Cloudy	Cloudy				
Dissolved Oxygen (mg/l)	8.70							

Remarks: Well sampled at 1026 on November 3, 2010.

BLE

BUNNELL-LAMMONS ENGINEERING, INC.

Field Data Information Sheet for Ground Water Sampling
Division of Underground Storage Tank Management

Date 11/03/10
Field Personnel Ivan A. Irizarry , Jason B. Thomas
General weather Conditions Rainy
Ambient Air Temperature (°C) 10.56

Facility Name: Former Enmark 380 Site ID# 06588

Quality Assurance

pH Sensor:	Oakton 35630-62	Conductivity Sensor:	35630-32
serial no.	324976	serial no.	324976
pH =4.0	4.0	Standard	
pH = 7.0	7.0	Standard	
pH = 7.0		Standard	
pH = 10.0		Standard	

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time
Ivan A. Irizarry	11/5/10 1349	Shealy Environmental	11/5/10 1349

Well # MW-15

Well Diameter (D) 2 inch of 28.62 feet(ft) bgs
conversion factor (C): 3.143*(D/2)^2
for a 2 inch well C = 0.163
for a 4 inch well C = 0.652
*Free Product Thickness --- ft
Total Well Depth (TWD) 28.62 ft bgs
Depth to Groundwater (DGW) 21.04 ft bgs
Length of Water Colum (LWC = TWD-DGW) 7.58 ft
1 Casing Volume (LWC*C) = 7.58 X .17 = 1.29 gals
3 Casing Volumes = 3 X 1.29 = 3.87 gals
(Standard Purge Volume)

Total Volume of Water Purged Before Sampling 4.0 gals

*If free product is present over 1/8 inch, sampling wiil not be required.

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post	Sample
Volume Purged (gallons)	---	1.3	2.6	4.0				
Time (military)	0946	1002	1010	1020				
pH (s.u)	5.71	5.18	5.15	5.04				
Specific Conductivity	119.6	114.5	110.9	111.9				
Water Temperature (°C)	17.2	16.1	18.5	17.4				
Turbidity (subjective: clear, slightly cloudy, cloudy)	Clear	Cloudy	Cloudy	Cloudy				
Dissolved Oxygen (mg/l)	7.98							

Remarks: Well sampled at 1020 on November 3, 2010.

BLE

BUNNELL-LAMMONS ENGINEERING, INC.

Field Data Information Sheet for Ground Water Sampling
Division of Underground Storage Tank Management

Date 11/02/10
Field Personnel Ivan A. Irizarry , Thomas W. Lammons
General weather Conditions Fair
Ambient Air Temperature (°C) 16.67

Facility Name: Former Enmark 380 Site ID# 06588

Quality Assurance

pH Sensor:	Oakton 35630-62	Conductivity Sensor:	35630-32
serial no.	324976	serial no.	324976
pH =4.0	4.0	Standard	
pH = 7.0	7.0	Standard	
pH = 7.0		Standard	
pH = 10.0		Standard	

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time
Ivan A. Irizarry	11/5/10 1349	Shealy Environmental	11/5/10 1349

Well # MW-16

Well Diameter (D) 2 inch of 26.02 feet(ft) bgs
conversion factor (C): 3.143*(D/2)^2
for a 2 inch well C = 0.163
for a 4 inch well C = 0.652
*Free Product Thickness --- ft
Total Well Depth (TWD) 26.02 ft bgs
Depth to Groundwater (DGW) 17.60 ft bgs
Length of Water Colum (LWC = TWD-DGW) 8.42 ft
1 Casing Volume (LWC*C) = 8.42 X .17 = 1.43 gals
3 Casing Volumes = 3 X 1.43 = 4.29 gals
(Standard Purge Volume)

Total Volume of Water Purged Before Sampling 5.0 gals

*If free product is present over 1/8 inch, sampling wiil not be required.

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post	Sample
Volume Purged (gallons)	---	1.5	2.5	5.0				
Time (military)	1557	1602	1608	1613				
pH (s.u)	5.40	5.46	5.76	5.56				
Specific Conductivity	138.1	141.6	141.1	141.9				
Water Temperature (°C)	21.4	21.0	21.6	21.2				
Turbidity (subjective: clear, slightly cloudy, cloudy)	Clear	Cloudy	Cloudy	Cloudy				
Dissolved Oxygen (mg/l)	4.06							

Remarks: Well sampled at 1613 on November 2, 2010.

BLE

BUNNELL-LAMMONS ENGINEERING, INC.

Field Data Information Sheet for Ground Water Sampling
Division of Underground Storage Tank Management

Date 11/02/10
Field Personnel Ivan A. Irizarry , Thomas W. Lammons
General weather Conditions Fair
Ambient Air Temperature (°C) 16.67

Facility Name: Former Enmark 380 Site ID# 06588

Quality Assurance

pH Sensor:	Oakton 35630-62	Conductivity Sensor:	35630-32
serial no.	324976	serial no.	324976
pH =4.0	4.0	Standard	
pH = 7.0	7.0	Standard	
pH = 7.0		Standard	
pH = 10.0		Standard	

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time
Ivan A. Irizarry	11/5/10 1349	Shealy Environmental	11/5/10 1349

Well # MW-17

Well Diameter (D) 2 inch of 26.54 feet(ft) bgs
conversion factor (C): 3.143*(D/2)^2
for a 2 inch well C = 0.163
for a 4 inch well C = 0.652
*Free Product Thickness --- ft
Total Well Depth (TWD) 26.54 ft bgs
Depth to Groundwater (DGW) 18.46 ft bgs
Length of Water Colum (LWC = TWD-DGW) 8.08 ft
1 Casing Volume (LWC*C) = 8.08 X .17 = 1.37 gals
3 Casing Volumes = 3 X 1.37 = 4.11 gals
(Standard Purge Volume)

Total Volume of Water Purged Before Sampling 4.5 gals

*If free product is present over 1/8 inch, sampling wiil not be required.

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post	Sample
Volume Purged (gallons)	---	1.5	3.0	4.5				
Time (military)	1521	1527	1531	1536				
pH (s.u)	5.69	5.34	5.32	5.18				
Specific Conductivity	145.3	151.0	153.9	156.7				
Water Temperature (°C)	21.4	20.4	19.6	19.0				
Turbidity (subjective: clear, slightly cloudy, cloudy)	Clear	Cloudy	Cloudy	Cloudy				
Dissolved Oxygen (mg/l)	6.45							

Remarks: Well sampled at 1536 on November 2, 2010.

BLE

BUNNELL-LAMMONS ENGINEERING, INC.

Field Data Information Sheet for Ground Water Sampling
Division of Underground Storage Tank Management

Date 11/02/10
Field Personnel Ivan A. Irizarry , Thomas W. Lammons
General weather Conditions Fair
Ambient Air Temperature (°C) 16.67

Facility Name: Former Enmark 380 Site ID# 06588

Quality Assurance

pH Sensor:	Oakton 35630-62	Conductivity Sensor:	35630-32
serial no.	324976	serial no.	324976
pH =4.0	4.0	Standard	
pH = 7.0	7.0	Standard	
pH = 7.0		Standard	
pH = 10.0		Standard	

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time
Ivan A. Irizarry	11/5/10 1349	Shealy Environmental	11/5/10 1349

Well # MW-18

Well Diameter (D) 2 inch of 26.28 feet(ft) bgs
conversion factor (C): 3.143*(D/2)^2
for a 2 inch well C = 0.163
for a 4 inch well C = 0.652
*Free Product Thickness --- ft
Total Well Depth (TWD) 26.28 ft bgs
Depth to Groundwater (DGW) 19.27 ft bgs
Length of Water Colum (LWC = TWD-DGW) 7.01 ft
1 Casing Volume (LWC*C) = 7.01 X .17 = 1.19 gals
3 Casing Volumes = 3 X 1.19 = 3.57 gals
(Standard Purge Volume)

Total Volume of Water Purged Before Sampling 4.0 gals

*If free product is present over 1/8 inch, sampling wiil not be required.

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post	Sample
Volume Purged (gallons)	---	1.3	2.6	4.0				
Time (military)	1450	1454	1458	1500				
pH (s.u)	5.95	6.13	6.31	6.26				
Specific Conductivity	240	269	309	301				
Water Temperature (°C)	21.0	21.7	21.6	21.1				
Turbidity (subjective: clear, slightly cloudy, cloudy)	Clear	Cloudy	Cloudy	Cloudy				
Dissolved Oxygen (mg/l)	2.26							

Remarks: Well sampled at 1500 on November 2, 2010.

BLE

BUNNELL-LAMMONS ENGINEERING, INC.

Field Data Information Sheet for Ground Water Sampling
Division of Underground Storage Tank Management

Date	11/02/10
Field Personnel	Ivan A. Irizarry , Thomas W. Lammons
General weather Conditions	Fair
Ambient Air Temperature (°C)	16.67
Facility Name:	Former Enmark 380
Site ID#	06588

Quality Assurance

pH Sensor:	Oakton 35630-62	Conductivity Sensor:	35630-32
serial no.	324976	serial no.	324976
pH =4.0	4.0	Standard	
pH = 7.0	7.0	Standard	
pH = 7.0		Standard	
pH = 10.0		Standard	

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time
Ivan A. Irizarry	11/5/10 1349	Shealy Environmental	11/5/10 1349

Well #	MW-19				
Well Diameter (D)	2	inch of	25.52	feet(ft) bgs	
conversion factor (C): 3.143*(D/2)^2					
for a 2 inch well C = 0.163					
for a 4 inch well C = 0.652					
*Free Product Thickness	---	ft			
Total Well Depth (TWD)	25.52	ft bgs			
Depth to Groundwater (DGW)	20.11	ft bgs			
Length of Water Colum (LWC = TWD-DGW)			5.41	ft	
1 Casing Volume (LWC*C) =	5.41	X .17	=	0.92	gals
3 Casing Volumes = 3 X	0.92	=		2.76	gals
(Standard Purge Volume)					
Total Volume of Water Purged Before Sampling			3.0	gals	

*If free product is present over 1/8 inch, sampling wiil not be required.

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post	Sample
Volume Purged (gallons)	---	1.0	2.0	3.0				
Time (military)	1423	1424	1431	1434				
pH (s.u)	6.03	5.81	5.58	5.65				
Specific Conductivity	136.9	134.1	150.2	141.9				
Water Temperature (°C)	21.5	20.7	21.3	21.4				
Turbidity (subjective: clear, slightly cloudy, cloudy)	Clear	Sli.Cloudy	Cloudy	Cloudy				
Dissolved Oxygen (mg/l)	3.36							

Remarks: Well sampled at 1434 on November 2, 2010.

BLE

BUNNELL-LAMMONS ENGINEERING, INC.

Field Data Information Sheet for Ground Water Sampling
Division of Underground Storage Tank Management

Date	11/04/10
Field Personnel	Ivan A. Irizarry , Jason B. Thomas
General weather Conditions	Rainy
Ambient Air Temperature (°C)	12.78
Facility Name:	Former Enmark 380
Site ID#	06588

Quality Assurance

pH Sensor:	Oakton 35630-62	Conductivity Sensor:	35630-32
serial no.	324976	serial no.	324976
pH =4.0	4.0	Standard	
pH = 7.0	7.0	Standard	
pH = 7.0		Standard	
pH = 10.0		Standard	

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time
Ivan A. Irizarry	11/5/10 1349	Shealy Environmental	11/5/10 1349

Well #	MW-20				
Well Diameter (D)	2	inch of	27.24	feet(ft) bgs	
conversion factor (C): 3.143*(D/2)^2					
for a 2 inch well C = 0.163					
for a 4 inch well C = 0.652					
*Free Product Thickness	---	ft			
Total Well Depth (TWD)	27.24	ft bgs			
Depth to Groundwater (DGW)	20.26	ft bgs			
Length of Water Colum (LWC = TWD-DGW)			6.98	ft	
1 Casing Volume (LWC*C) =	6.98	X .17	=	1.19	gals
3 Casing Volumes = 3 X	1.19	=	3.57	gals	
(Standard Purge Volume)					
Total Volume of Water Purged Before Sampling			3.6	gals	

*If free product is present over 1/8 inch, sampling wiil not be required.

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post	Sample
Volume Purged (gallons)	---	1.2	2.4	3.6				
Time (military)	1535	1543	1551	1557				
pH (s.u)	5.75	5.79	5.89	5.40				
Specific Conductivity	193	66.3	68.2	67.8				
Water Temperature (°C)	20.6	21.1	21.6	21.8				
Turbidity (subjective: clear, slightly cloudy, cloudy)	Clear	Cloudy	Cloudy	Cloudy				
Dissolved Oxygen (mg/l)	3.72							

Remarks: Well sampled at 1006 on November 4, 2010.

BLE

BUNNELL-LAMMONS ENGINEERING, INC.

Field Data Information Sheet for Ground Water Sampling
Division of Underground Storage Tank Management

Date 11/04/10
Field Personnel Ivan A. Irizarry , Jason B. Thomas
General weather Conditions Rainy
Ambient Air Temperature (°C) 12.78

Facility Name: Former Enmark 380 Site ID# 06588

Quality Assurance

pH Sensor:	Oakton 35630-62	Conductivity Sensor:	35630-32
serial no.	324976	serial no.	324976
pH =4.0	4.0	Standard	
pH = 7.0	7.0	Standard	
pH = 7.0		Standard	
pH = 10.0		Standard	

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time
Ivan A. Irizarry	11/5/10 1349	Shealy Environmental	11/5/10 1349

Well # MW-21

Well Diameter (D) 2 inch of 27.16 feet(ft) bgs
conversion factor (C): 3.143*(D/2)^2
for a 2 inch well C = 0.163
for a 4 inch well C = 0.652
*Free Product Thickness --- ft
Total Well Depth (TWD) 27.16 ft bgs
Depth to Groundwater (DGW) 20.10 ft bgs
Length of Water Colum (LWC = TWD-DGW) 7.06 ft
1 Casing Volume (LWC*C) = 7.06 X .17 = 1.20 gals
3 Casing Volumes = 3 X 1.20 = 3.60 gals
(Standard Purge Volume)

Total Volume of Water Purged Before Sampling 3.6 gals

*If free product is present over 1/8 inch, sampling wiil not be required.

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post	Sample
Volume Purged (gallons)	---	1.2	2.4	3.6				
Time (military)	1551	1555	1602	1606				
pH (s.u)	5.86	5.78	5.71	5.69				
Specific Conductivity	80.0	58.8	51.2	53.8				
Water Temperature (°C)	19.7	19.7	19.7	19.8				
Turbidity (subjective: clear, slightly cloudy, cloudy)	Cloudy	Cloudy	Cloudy	Cloudy				
Dissolved Oxygen (mg/l)	7.16							

Remarks: Well sampled at 1025 on November 4, 2010.

BLE

BUNNELL-LAMMONS ENGINEERING, INC.

Field Data Information Sheet for Ground Water Sampling
Division of Underground Storage Tank Management

Date 11/04/10
Field Personnel Ivan A. Irizarry , Jason B. Thomas
General weather Conditions Rainy
Ambient Air Temperature (°C) 12.78

Facility Name: Former Enmark 380 Site ID# 06588

Quality Assurance

pH Sensor:	Oakton 35630-62	Conductivity Sensor:	35630-32
serial no.	324976	serial no.	324976
pH =4.0	4.0	Standard	
pH = 7.0	7.0	Standard	
pH = 7.0		Standard	
pH = 10.0		Standard	

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time
Ivan A. Irizarry	11/5/10 1349	Shealy Environmental	11/5/10 1349

Well # MW-21D

Well Diameter (D) 2 inch of 46.75 feet(ft) bgs
conversion factor (C): 3.143*(D/2)^2
for a 2 inch well C = 0.163
for a 4 inch well C = 0.652
*Free Product Thickness --- ft
Total Well Depth (TWD) 46.75 ft bgs
Depth to Groundwater (DGW) 19.4 ft bgs
Length of Water Colum (LWC = TWD-DGW) 27.35 ft
1 Casing Volume (LWC*C) = 27.35 X .17 = 4.65 gals
3 Casing Volumes = 3 X 4.65 = 13.95 gals
(Standard Purge Volume)

Total Volume of Water Purged Before Sampling 15.0 gals

*If free product is present over 1/8 inch, sampling wiil not be required.

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post	Sample
Volume Purged (gallons)	---	5.0	10.0	15.0				
Time (military)	0927	0931	0935	0940				
pH (s.u)	5.81	5.85	5.90	5.92				
Specific Conductivity	181.8	187.2	161.3	160.2				
Water Temperature (°C)	18.7	19.2	19.8	19.7				
Turbidity (subjective: clear, slightly cloudy, cloudy)	Clear	Cloudy	Sli.Cloudy	Sli.Cloudy				
Dissolved Oxygen (mg/l)	15.5							

Remarks: Well sampled at 0940 on November 4, 2010.

BLE

BUNNELL-LAMMONS ENGINEERING, INC.

Field Data Information Sheet for Ground Water Sampling
Division of Underground Storage Tank Management

Date	11/02/10
Field Personnel	Ivan A. Irizarry , Thomas W. Lammons
General weather Conditions	Fair
Ambient Air Temperature (°C)	16.67
Facility Name:	Former Enmark 380
Site ID#	06588

Quality Assurance

pH Sensor:	Oakton 35630-62	Conductivity Sensor:	35630-32
serial no.	324976	serial no.	324976
pH =4.0	4.0	Standard	
pH = 7.0	7.0	Standard	
pH = 7.0		Standard	
pH = 10.0		Standard	

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time
Ivan A. Irizarry	11/5/10 1349	Shealy Environmental	11/5/10 1349

Well #	MW-22				
Well Diameter (D)	2	inch of	26.25	feet(ft) bgs	
conversion factor (C): 3.143*(D/2)^2					
for a 2 inch well C = 0.163					
for a 4 inch well C = 0.652					
*Free Product Thickness	---	ft			
Total Well Depth (TWD)	26.25	ft bgs			
Depth to Groundwater (DGW)	18.92	ft bgs			
Length of Water Colum (LWC = TWD-DGW)			7.33	ft	
1 Casing Volume (LWC*C) =	7.33	X .17	=	1.25	gals
3 Casing Volumes = 3 X	1.25	=		3.75	gals
(Standard Purge Volume)					
Total Volume of Water Purged Before Sampling				4.0	gals

*If free product is present over 1/8 inch, sampling wiil not be required.

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post	Sample
Volume Purged (gallons)	---	1.3	2.5	4.0				
Time (military)	1359	1401	1404	1411				
pH (s.u)	5.83	6.26	6.38	6.45				
Specific Conductivity	382	377	386	385				
Water Temperature (°C)	21.8	22.7	22.1	22.3				
Turbidity (subjective: clear, slightly cloudy, cloudy)	Clear	Cloudy	Cloudy	Cloudy				
Dissolved Oxygen (mg/l)	4.17							

Remarks: Well sampled at 1411 on November 2, 2010.

BLE

BUNNELL-LAMMONS ENGINEERING, INC.

Field Data Information Sheet for Ground Water Sampling
Division of Underground Storage Tank Management

Date 11/04/10
Field Personnel Ivan A. Irizarry , Jason B. Thomas
General weather Conditions Rainy
Ambient Air Temperature (°C) 12.78

Facility Name: Former Enmark 380 Site ID# 06588

Quality Assurance

pH Sensor:	Oakton 35630-62	Conductivity Sensor:	35630-32
serial no.	324976	serial no.	324976
pH =4.0	4.0	Standard	
pH = 7.0	7.0	Standard	
pH = 7.0		Standard	
pH = 10.0		Standard	

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time
Ivan A. Irizarry	11/5/10 1349	Shealy Environmental	11/5/10 1349

Well # MW-22D

Well Diameter (D) 2 inch of 45.82 feet(ft) bgs
conversion factor (C): 3.143*(D/2)^2
for a 2 inch well C = 0.163
for a 4 inch well C = 0.652
*Free Product Thickness --- ft
Total Well Depth (TWD) 45.82 ft bgs
Depth to Groundwater (DGW) 18.79 ft bgs
Length of Water Colum (LWC = TWD-DGW) 27.03 ft
1 Casing Volume (LWC*C) = 27.03 X .17 = 4.60 gals
3 Casing Volumes = 3 X 4.60 = 13.80 gals
(Standard Purge Volume)

Total Volume of Water Purged Before Sampling 15.0 gals
*If free product is present over 1/8 inch, sampling wiil not be required.

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post	Sample
Volume Purged (gallons)	---	5.0	10.0	15.0				
Time (military)	1006	1012	1020	1027				
pH (s.u)	8.62	9.60	9.01	6.76				
Specific Conductivity	747	705	246	230				
Water Temperature (°C)	20.7	20.1	21.0	20.6				
Turbidity (subjective: clear, slightly cloudy, cloudy)	Cloudy	Cloudy	Cloudy	Cloudy				
Dissolved Oxygen (mg/l)	5.65							

Remarks: Well sampled at 1027 on November 4, 2010.

BLE

BUNNELL-LAMMONS ENGINEERING, INC.

Field Data Information Sheet for Ground Water Sampling
Division of Underground Storage Tank Management

Date	11/03/10
Field Personnel	Ivan A. Irizarry , Jason B. Thomas
General weather Conditions	Rainy
Ambient Air Temperature (°C)	10.56
Facility Name:	Former Enmark 380
Site ID#	06588

Quality Assurance

pH Sensor:	Oakton 35630-62	Conductivity Sensor:	35630-32
serial no.	324976	serial no.	324976
pH =4.0	4.0	Standard	
pH = 7.0	7.0	Standard	
pH = 7.0		Standard	
pH = 10.0		Standard	

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time
Ivan A. Irizarry	11/5/10 1349	Shealy Environmental	11/5/10 1349

Well #	MW-23				
Well Diameter (D)	2	inch of	25.25	feet(ft) bgs	
conversion factor (C): 3.143*(D/2)^2					
for a 2 inch well C = 0.163					
for a 4 inch well C = 0.652					
*Free Product Thickness	---	ft			
Total Well Depth (TWD)	25.25	ft bgs			
Depth to Groundwater (DGW)	19.26	ft bgs			
Length of Water Colum (LWC = TWD-DGW)			5.99	ft	
1 Casing Volume (LWC*C) =	5.99	X .17	=	1.02	gals
3 Casing Volumes = 3 X	1.02	=		3.06	gals
(Standard Purge Volume)					
Total Volume of Water Purged Before Sampling				4.5	gals

*If free product is present over 1/8 inch, sampling will not be required.

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post	Sample
Volume Purged (gallons)	---	1.5	3.0	4.5				
Time (military)	1142	1150	1154	1158				
pH (s.u)	5.69	5.65	5.67	5.83				
Specific Conductivity	186	252	250.7	250				
Water Temperature (°C)	21.3	21.5	21.7	21.5				
Turbidity (subjective: clear, slightly cloudy, cloudy)	Clear	Cloudy	Cloudy	Cloudy				
Dissolved Oxygen (mg/l)	2.12							

Remarks: Well sampled at 1158 on November 3, 2010. Strong petroleum odor noted at time of sampling.

BLE

BUNNELL-LAMMONS ENGINEERING, INC.

Field Data Information Sheet for Ground Water Sampling
Division of Underground Storage Tank Management

Date 11/03/10
Field Personnel Ivan A. Irizarry , Jason B. Thomas
General weather Conditions Rainy
Ambient Air Temperature (°C) 10.56

Facility Name: Former Enmark 380 Site ID# 06588

Quality Assurance

pH Sensor:	Oakton 35630-62	Conductivity Sensor:	35630-32
serial no.	324976	serial no.	324976
pH =4.0	4.0	Standard	
pH = 7.0	7.0	Standard	
pH = 7.0		Standard	
pH = 10.0		Standard	

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time
Ivan A. Irizarry	11/5/10 1349	Shealy Environmental	11/5/10 1349

Well # MW-24

Well Diameter (D) 2 inch of 25.42 feet(ft) bgs
conversion factor (C): 3.143*(D/2)^2
for a 2 inch well C = 0.163
for a 4 inch well C = 0.652
*Free Product Thickness --- ft
Total Well Depth (TWD) 25.42 ft bgs
Depth to Groundwater (DGW) 20.11 ft bgs
Length of Water Colum (LWC = TWD-DGW) 5.31 ft
1 Casing Volume (LWC*C) = 5.31 X .17 = 0.90 gals
3 Casing Volumes = 3 X 0.90 = 2.70 gals
(Standard Purge Volume)

Total Volume of Water Purged Before Sampling 3.0 gals

*If free product is present over 1/8 inch, sampling wiil not be required.

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post	Sample
Volume Purged (gallons)	---	1.0	2.0	3.0				
Time (military)	1103	1107	1111	1117				
pH (s.u)	5.33	5.10	5.13	4.91				
Specific Conductivity	197.8	174.9	159.9	157.4				
Water Temperature (°C)	21.8	21.6	21.9	21.3				
Turbidity (subjective: clear, slightly cloudy, cloudy)	Clear	Cloudy	Cloudy	Cloudy				
Dissolved Oxygen (mg/l)	2.57							

Remarks: Well sampled at 1117 on November 3, 2010.

BLE

BUNNELL-LAMMONS ENGINEERING, INC.

Field Data Information Sheet for Ground Water Sampling
Division of Underground Storage Tank Management

Date 11/04/10
Field Personnel Ivan A. Irizarry , Jason B. Thomas
General weather Conditions Rainy
Ambient Air Temperature (°C) 12.78

Facility Name: Former Enmark 380 Site ID# 06588

Quality Assurance

pH Sensor:	Oakton 35630-62	Conductivity Sensor:	35630-32
serial no.	324976	serial no.	324976
pH =4.0	4.0	Standard	
pH = 7.0	7.0	Standard	
pH = 7.0		Standard	
pH = 10.0		Standard	

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time
Ivan A. Irizarry	11/5/10 1349	Shealy Environmental	11/5/10 1349

Well # MW-24D

Well Diameter (D) 2 inch of 46.03 feet(ft) bgs
conversion factor (C): 3.143*(D/2)^2
for a 2 inch well C = 0.163
for a 4 inch well C = 0.652
*Free Product Thickness --- ft
Total Well Depth (TWD) 46.03 ft bgs
Depth to Groundwater (DGW) 20.01 ft bgs
Length of Water Colum (LWC = TWD-DGW) 26.02 ft
1 Casing Volume (LWC*C) = 26.02 X .17 = 4.42 gals
3 Casing Volumes = 3 X 4.42 = 13.26 gals
(Standard Purge Volume)

Total Volume of Water Purged Before Sampling 13.5 gals

*If free product is present over 1/8 inch, sampling wiil not be required.

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post	Sample
Volume Purged (gallons)	---	4.5	9.0	13.5				
Time (military)	1152	1157	1159	1218				
pH (s.u)	11.80	10.62	9.95	9.43				
Specific Conductivity	322	335	316	301				
Water Temperature (°C)	20.9	20.5	20.4	20.8				
Turbidity (subjective: clear, slightly cloudy, cloudy)	Cloudy	Cloudy	Cloudy	Cloudy				
Dissolved Oxygen (mg/l)	9.67							

Remarks: Well sampled at 1218 on November 4, 2010.

BLE

BUNNELL-LAMMONS ENGINEERING, INC.

Field Data Information Sheet for Ground Water Sampling
Division of Underground Storage Tank Management

Date	11/03/10
Field Personnel	Ivan A. Irizarry , Jason B. Thomas
General weather Conditions	Rainy
Ambient Air Temperature (°C)	10.56
Facility Name:	Former Enmark 380
Site ID#	06588

Quality Assurance

pH Sensor:	Oakton 35630-62	Conductivity Sensor:	35630-32
serial no.	324976	serial no.	324976
pH =4.0	4.0	Standard	
pH = 7.0	7.0	Standard	
pH = 7.0		Standard	
pH = 10.0		Standard	

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time
Ivan A. Irizarry	11/5/10 1349	Shealy Environmental	11/5/10 1349

Well #	MW-25				
Well Diameter (D)	2	inch of	25.38	feet(ft) bgs	
conversion factor (C): 3.143*(D/2)^2					
for a 2 inch well C = 0.163					
for a 4 inch well C = 0.652					
*Free Product Thickness	---	ft			
Total Well Depth (TWD)	25.38	ft bgs			
Depth to Groundwater (DGW)	20.46	ft bgs			
Length of Water Colum (LWC = TWD-DGW)			4.92	ft	
1 Casing Volume (LWC*C) =	4.92	X .17	=	0.84	gals
3 Casing Volumes = 3 X	0.84	=		2.52	gals
(Standard Purge Volume)					
Total Volume of Water Purged Before Sampling				2.7	gals

*If free product is present over 1/8 inch, sampling wiil not be required.

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post	Sample
Volume Purged (gallons)	---	0.9	1.8	2.7				
Time (military)	1230	1235	1240	1246				
pH (s.u)	6.08	6.13	6.09	6.09				
Specific Conductivity	342.0	376.0	343.0	332.0				
Water Temperature (°C)	19.9	20.9	20.6	20.5				
Turbidity (subjective: clear, slightly cloudy, cloudy)	Sli.Cloudy	Cloudy	Cloudy	Cloudy				
Dissolved Oxygen (mg/l)	2.91							

Remarks: Well sampled at 1246 on November 3, 2010.

BLE

BUNNELL-LAMMONS ENGINEERING, INC.

Field Data Information Sheet for Ground Water Sampling
Division of Underground Storage Tank Management

Date 11/03/10
Field Personnel Ivan A. Irizarry , Jason B. Thomas
General weather Conditions Rainy
Ambient Air Temperature (°C) 10.56

Facility Name: Former Enmark 380 Site ID# 06588

Quality Assurance

pH Sensor:	Oakton 35630-62	Conductivity Sensor:	35630-32
serial no.	324976	serial no.	324976
pH =4.0	4.0	Standard	
pH = 7.0	7.0	Standard	
pH = 7.0		Standard	
pH = 10.0		Standard	

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time
Ivan A. Irizarry	11/5/10 1349	Shealy Environmental	11/5/10 1349

Well # MW-26

Well Diameter (D) 2 inch of 27.00 feet(ft) bgs
conversion factor (C): 3.143*(D/2)^2
for a 2 inch well C = 0.163
for a 4 inch well C = 0.652
*Free Product Thickness --- ft
Total Well Depth (TWD) 27.00 ft bgs
Depth to Groundwater (DGW) 20.23 ft bgs
Length of Water Colum (LWC = TWD-DGW) 6.77 ft
1 Casing Volume (LWC*C) = 6.77 X .17 = 1.15 gals
3 Casing Volumes = 3 X 1.15 = 3.45 gals
(Standard Purge Volume)

Total Volume of Water Purged Before Sampling 3.5 gals

*If free product is present over 1/8 inch, sampling wiil not be required.

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post	Sample
Volume Purged (gallons)	---	1.2	2.4	3.5				
Time (military)	1136	1142	1148	1154				
pH (s.u)	5.76	5.32	5.26	5.19				
Specific Conductivity	236.0	187.0	161.3	159.3				
Water Temperature (°C)	19.7	20.2	20.7	21.1				
Turbidity (subjective: clear, slightly cloudy, cloudy)	Cloudy	Cloudy	Cloudy	Cloudy				
Dissolved Oxygen (mg/l)	4.52							

Remarks: Well sampled at 1154 on November 3, 2010.

BLE

BUNNELL-LAMMONS ENGINEERING, INC.

Field Data Information Sheet for Ground Water Sampling
Division of Underground Storage Tank Management

Date 11/03/10
Field Personnel Ivan A. Irizarry , Jason B. Thomas
General weather Conditions Rainy
Ambient Air Temperature (°C) 10.56

Facility Name: Former Enmark 380 Site ID# 06588

Quality Assurance

pH Sensor:	Oakton 35630-62	Conductivity Sensor:	35630-32
serial no.	324976	serial no.	324976
pH =4.0	4.0	Standard	
pH = 7.0	7.0	Standard	
pH = 7.0		Standard	
pH = 10.0		Standard	

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time
Ivan A. Irizarry	11/5/10 1349	Shealy Environmental	11/5/10 1349

Well # MW-27

Well Diameter (D) 2 inch of 27.25 feet(ft) bgs
conversion factor (C): 3.143*(D/2)^2
for a 2 inch well C = 0.163
for a 4 inch well C = 0.652
*Free Product Thickness --- ft
Total Well Depth (TWD) 27.25 ft bgs
Depth to Groundwater (DGW) 20.78 ft bgs
Length of Water Colum (LWC = TWD-DGW) 6.47 ft
1 Casing Volume (LWC*C) = 6.47 X .17 = 1.10 gals
3 Casing Volumes = 3 X 1.10 = 3.30 gals
(Standard Purge Volume)

Total Volume of Water Purged Before Sampling 3.3 gals

*If free product is present over 1/8 inch, sampling wiil not be required.

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post	Sample
Volume Purged (gallons)	---	1.1	2.2	3.3				
Time (military)	1055	1100	1107	1115				
pH (s.u)	5.05	4.99	5.13	4.87				
Specific Conductivity	158.7	157.9	157.2	145.8				
Water Temperature (°C)	17.5	20.1	20.2	22.9				
Turbidity (subjective: clear, slightly cloudy, cloudy)	Clear	Cloudy	Cloudy	Cloudy				
Dissolved Oxygen (mg/l)	6.8							

Remarks: Well sampled at 1115 on November 3, 2010.

BLE

BUNNELL-LAMMONS ENGINEERING, INC.

Field Data Information Sheet for Ground Water Sampling
Division of Underground Storage Tank Management

Date 11/04/10
Field Personnel Ivan A. Irizarry , Jason B. Thomas
General weather Conditions Rainy
Ambient Air Temperature (°C) 12.78

Facility Name: Former Enmark 380 Site ID# 06588

Quality Assurance

pH Sensor:	Oakton 35630-62	Conductivity Sensor:	35630-32
serial no.	324976	serial no.	324976
pH =4.0	4.0	Standard	
pH = 7.0	7.0	Standard	
pH = 7.0		Standard	
pH = 10.0		Standard	

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time
Ivan A. Irizarry	11/5/10 1349	Shealy Environmental	11/5/10 1349

Well # MW-28

Well Diameter (D) 2 inch of 25.50 feet(ft) bgs
conversion factor (C): 3.143*(D/2)^2
for a 2 inch well C = 0.163
for a 4 inch well C = 0.652
*Free Product Thickness --- ft
Total Well Depth (TWD) 25.50 ft bgs
Depth to Groundwater (DGW) 18.10 ft bgs
Length of Water Colum (LWC = TWD-DGW) 7.40 ft
1 Casing Volume (LWC*C) = 7.40 X .17 = 1.26 gals
3 Casing Volumes = 3 X 1.26 = 3.78 gals
(Standard Purge Volume)

Total Volume of Water Purged Before Sampling 4.0 gals

*If free product is present over 1/8 inch, sampling wiil not be required.

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post	Sample
Volume Purged (gallons)	---	1.3	2.6	4.0				
Time (military)	1520	1526	1532	1539				
pH (s.u)	5.84	5.58	5.57	5.57				
Specific Conductivity	109.9	110.0	107.4	98.5				
Water Temperature (°C)	19.9	20.7	20.9	21.1				
Turbidity (subjective: clear, slightly cloudy, cloudy)	Sli.Cloudy	Cloudy	Cloudy	Cloudy				
Dissolved Oxygen (mg/l)	1.97							

Remarks: Well sampled at 0948 on November 4, 2010.

BLE

BUNNELL-LAMMONS ENGINEERING, INC.

Field Data Information Sheet for Ground Water Sampling
Division of Underground Storage Tank Management

Date	11/03/10
Field Personnel	Ivan A. Irizarry , Jason B. Thomas
General weather Conditions	Rainy
Ambient Air Temperature (°C)	10.56
Facility Name:	Former Enmark 380
Site ID#	06588

Quality Assurance

pH Sensor:	Oakton 35630-62	Conductivity Sensor:	35630-32
serial no.	324976	serial no.	324976
pH =4.0	4.0	Standard	
pH = 7.0	7.0	Standard	
pH = 7.0		Standard	
pH = 10.0		Standard	

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time
Ivan A. Irizarry	11/5/10 1349	Shealy Environmental	11/5/10 1349

Well #	MW-29				
Well Diameter (D)	2	inch of	25.00	feet(ft) bgs	
conversion factor (C): 3.143*(D/2)^2					
for a 2 inch well C = 0.163					
for a 4 inch well C = 0.652					
*Free Product Thickness	---	ft			
Total Well Depth (TWD)	25.00	ft bgs			
Depth to Groundwater (DGW)	17.3	ft bgs			
Length of Water Colum (LWC = TWD-DGW)			7.70	ft	
1 Casing Volume (LWC*C) =	7.70	X .17	=	1.31	gals
3 Casing Volumes = 3 X	1.31	=		3.93	gals
(Standard Purge Volume)					
Total Volume of Water Purged Before Sampling			4.0	gals	

*If free product is present over 1/8 inch, sampling wiil not be required.

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post	Sample
Volume Purged (gallons)	---	1.3	2.6	4.0				
Time (military)	1400	1406	1411	1418				
pH (s.u)	10.83	8.75	7.66	6.28				
Specific Conductivity	453	249	173.6	156.1				
Water Temperature (°C)	18.1	19.0	18.9	18.5				
Turbidity (subjective: clear, slightly cloudy, cloudy)	Sli.Cloudy	Cloudy	Cloudy	Cloudy				
Dissolved Oxygen (mg/l)	NA							

Remarks: Well sampled at 1418 on November 3, 2010.

BLE

BUNNELL-LAMMONS ENGINEERING, INC.

Field Data Information Sheet for Ground Water Sampling
Division of Underground Storage Tank Management

Date 11/03/10
Field Personnel Ivan A. Irizarry , Jason B. Thomas
General weather Conditions Rainy
Ambient Air Temperature (°C) 10.56

Facility Name: Former Enmark 380 Site ID# 06588

Quality Assurance

pH Sensor:	Oakton 35630-62	Conductivity Sensor:	35630-32
serial no.	324976	serial no.	324976
pH =4.0	4.0	Standard	
pH = 7.0	7.0	Standard	
pH = 7.0		Standard	
pH = 10.0		Standard	

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time
Ivan A. Irizarry	11/5/10 1349	Shealy Environmental	11/5/10 1349

Well # MW-30

Well Diameter (D) 2 inch of 24.00 feet(ft) bgs
conversion factor (C): 3.143*(D/2)^2
for a 2 inch well C = 0.163
for a 4 inch well C = 0.652
*Free Product Thickness --- ft
Total Well Depth (TWD) 24.00 ft bgs
Depth to Groundwater (DGW) 16.28 ft bgs
Length of Water Colum (LWC = TWD-DGW) 7.72 ft
1 Casing Volume (LWC*C) = 7.72 X .17 = 1.31 gals
3 Casing Volumes = 3 X 1.31 = 3.93 gals
(Standard Purge Volume)

Total Volume of Water Purged Before Sampling 4.0 gals

*If free product is present over 1/8 inch, sampling wiil not be required.

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post	Sample
Volume Purged (gallons)	---	1.3	2.6	4.0				
Time (military)	1402	1407	1412	1417				
pH (s.u)	8.73	8.05	7.13	6.21				
Specific Conductivity	279	270	263	283				
Water Temperature (°C)	18.3	18.3	18.2	18.5				
Turbidity (subjective: clear, slightly cloudy, cloudy)	Cloudy	Cloudy	Cloudy	Cloudy				
Dissolved Oxygen (mg/l)	2.87							

Remarks: Well sampled at 1417 on November 3, 2010.

BLE

BUNNELL-LAMMONS ENGINEERING, INC.

Field Data Information Sheet for Ground Water Sampling
Division of Underground Storage Tank Management

Date 11/03/10
Field Personnel Ivan A. Irizarry , Jason B. Thomas
General weather Conditions Rainy
Ambient Air Temperature (°C) 10.56

Facility Name: Former Enmark 380 Site ID# 06588

Quality Assurance

pH Sensor:	Oakton 35630-62	Conductivity Sensor:	35630-32
serial no.	324976	serial no.	324976
pH =4.0	4.0	Standard	
pH = 7.0	7.0	Standard	
pH = 7.0		Standard	
pH = 10.0		Standard	

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time
Ivan A. Irizarry	11/5/10 1349	Shealy Environmental	11/5/10 1349

Well # MW-31

Well Diameter (D) 2 inch of 25.25 feet(ft) bgs
conversion factor (C): 3.143*(D/2)^2
for a 2 inch well C = 0.163
for a 4 inch well C = 0.652
*Free Product Thickness --- ft
Total Well Depth (TWD) 25.25 ft bgs
Depth to Groundwater (DGW) 17.45 ft bgs
Length of Water Colum (LWC = TWD-DGW) 7.80 ft
1 Casing Volume (LWC*C) = 7.80 X .17 = 1.33 gals
3 Casing Volumes = 3 X 1.33 = 3.99 gals
(Standard Purge Volume)

Total Volume of Water Purged Before Sampling 4.0 gals

*If free product is present over 1/8 inch, sampling wiil not be required.

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post	Sample
Volume Purged (gallons)	---	1.3	2.6	4.0				
Time (military)	1441	1446	1452	1459				
pH (s.u)	6.16	6.09	6.12	6.14				
Specific Conductivity	428	463	474	497				
Water Temperature (°C)	20.8	20.8	21.2	21.1				
Turbidity (subjective: clear, slightly cloudy, cloudy)	Cloudy	Cloudy	Cloudy	Cloudy				
Dissolved Oxygen (mg/l)	NA							

Remarks: Well sampled at 1459 on November 3, 2010.

BLE

BUNNELL-LAMMONS ENGINEERING, INC.

Field Data Information Sheet for Ground Water Sampling
Division of Underground Storage Tank Management

Date 11/03/10
Field Personnel Ivan A. Irizarry , Jason B. Thomas
General weather Conditions Rainy
Ambient Air Temperature (°C) 10.56

Facility Name: Former Enmark 380 Site ID# 06588

Quality Assurance

pH Sensor:	Oakton 35630-62	Conductivity Sensor:	35630-32
serial no.	324976	serial no.	324976
pH =4.0	4.0	Standard	
pH = 7.0	7.0	Standard	
pH = 7.0		Standard	
pH = 10.0		Standard	

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time
Ivan A. Irizarry	11/5/10 1349	Shealy Environmental	11/5/10 1349

Well # MW-32

Well Diameter (D) 2 inch of 25.25 feet(ft) bgs
conversion factor (C): 3.143*(D/2)^2
for a 2 inch well C = 0.163
for a 4 inch well C = 0.652
*Free Product Thickness --- ft
Total Well Depth (TWD) 25.25 ft bgs
Depth to Groundwater (DGW) 17.43 ft bgs
Length of Water Colum (LWC = TWD-DGW) 7.82 ft
1 Casing Volume (LWC*C) = 7.82 X .17 = 1.33 gals
3 Casing Volumes = 3 X 1.33 = 3.99 gals
(Standard Purge Volume)

Total Volume of Water Purged Before Sampling 4.0 gals

*If free product is present over 1/8 inch, sampling will not be required.

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post	Sample
Volume Purged (gallons)	---	1.3	2.6	4.0				
Time (military)	1438	1440	1443	1447				
pH (s.u)	6.37	6.20	6.13	6.29				
Specific Conductivity	190.2	185.7	183.2	194.5				
Water Temperature (°C)	20.6	21.1	21.7	21.1				
Turbidity (subjective: clear, slightly cloudy, cloudy)	Clear	Cloudy	Cloudy	Cloudy				
Dissolved Oxygen (mg/l)	3.65							

Remarks: Well sampled at 1447 on November 3, 2010.

BLE

BUNNELL-LAMMONS ENGINEERING, INC.

Field Data Information Sheet for Ground Water Sampling
Division of Underground Storage Tank Management

Date	11/04/10
Field Personnel	Ivan A. Irizarry , Jason B. Thomas
General weather Conditions	Rainy
Ambient Air Temperature (°C)	12.78
Facility Name:	Former Enmark 380
Site ID#	06588

Quality Assurance

pH Sensor:	Oakton 35630-62	Conductivity Sensor:	35630-32
serial no.	324976	serial no.	324976
pH =4.0	4.0	Standard	
pH = 7.0	7.0	Standard	
pH = 7.0		Standard	
pH = 10.0		Standard	

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time
Ivan A. Irizarry	11/5/10 1349	Shealy Environmental	11/5/10 1349

Well #	MW-33				
Well Diameter (D)	2	inch of	26.25	feet(ft) bgs	
conversion factor (C): 3.143*(D/2)^2					
for a 2 inch well C = 0.163					
for a 4 inch well C = 0.652					
*Free Product Thickness	---	ft			
Total Well Depth (TWD)	26.25	ft bgs			
Depth to Groundwater (DGW)	18.35	ft bgs			
Length of Water Colum (LWC = TWD-DGW)			7.90	ft	
1 Casing Volume (LWC*C) =	7.90	X .17	=	1.34	gals
3 Casing Volumes = 3 X	1.34	=		4.02	gals
(Standard Purge Volume)					
Total Volume of Water Purged Before Sampling				4.5	gals

*If free product is present over 1/8 inch, sampling wiil not be required.

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post	Sample
Volume Purged (gallons)	---	1.5	3.0	4.5				
Time (military)	1518	1524	1527	1531				
pH (s.u)	6.21	5.82	5.62	5.59				
Specific Conductivity	506	183.1	180.1	180				
Water Temperature (°C)	14.6	22.5	21.9	21.7				
Turbidity (subjective: clear, slightly cloudy, cloudy)	Clear	Cloudy	Cloudy	Cloudy				
Dissolved Oxygen (mg/l)	5.95							

Remarks: Well sampled at 0930 on November 4, 2010.

BLE

BUNNELL-LAMMONS ENGINEERING, INC.

Field Data Information Sheet for Ground Water Sampling
Division of Underground Storage Tank Management

Date 11/04/10
Field Personnel Ivan A. Irizarry , Jason B. Thomas
General weather Conditions Rainy
Ambient Air Temperature (°C) 12.78

Facility Name: Former Enmark 380 Site ID# 06588

Quality Assurance

pH Sensor:	Oakton 35630-62	Conductivity Sensor:	35630-32
serial no.	324976	serial no.	324976
pH =4.0	4.0	Standard	
pH = 7.0	7.0	Standard	
pH = 7.0		Standard	
pH = 10.0		Standard	

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time
Ivan A. Irizarry	11/5/10 1349	Shealy Environmental	11/5/10 1349

Well # MW-34

Well Diameter (D) 2 inch of 18.25 feet(ft) bgs
conversion factor (C): 3.143*(D/2)^2
for a 2 inch well C = 0.163
for a 4 inch well C = 0.652
*Free Product Thickness --- ft
Total Well Depth (TWD) 18.25 ft bgs
Depth to Groundwater (DGW) 12.00 ft bgs
Length of Water Colum (LWC = TWD-DGW) 6.25 ft
1 Casing Volume (LWC*C) = 6.25 X .17 = 1.06 gals
3 Casing Volumes = 3 X 1.06 = 3.18 gals
(Standard Purge Volume)

Total Volume of Water Purged Before Sampling 3.5 gals

*If free product is present over 1/8 inch, sampling wiil not be required.

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post	Sample
Volume Purged (gallons)	---	1.0	2.1	3.5				
Time (military)	1625	1630	1635	1639				
pH (s.u)	5.49	5.50	5.47	5.59				
Specific Conductivity	78.7	62.2	60.5	50.7				
Water Temperature (°C)	19.0	19.5	19.4	19.3				
Turbidity (subjective: clear, slightly cloudy, cloudy)	Clear	Cloudy	Cloudy	Cloudy				
Dissolved Oxygen (mg/l)	8.41							

Remarks: Well sampled at 1050 on November 4, 2010.

BLE

BUNNELL-LAMMONS ENGINEERING, INC.

Field Data Information Sheet for Ground Water Sampling
Division of Underground Storage Tank Management

Date 11/04/10
Field Personnel Ivan A. Irizarry , Jason B. Thomas
General weather Conditions Rainy
Ambient Air Temperature (°C) 12.78

Facility Name: Former Enmark 380 Site ID# 06588

Quality Assurance

pH Sensor:	Oakton 35630-62	Conductivity Sensor:	35630-32
serial no.	324976	serial no.	324976
pH =4.0	4.0	Standard	
pH = 7.0	7.0	Standard	
pH = 7.0		Standard	
pH = 10.0		Standard	

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time
Ivan A. Irizarry	11/5/10 1349	Shealy Environmental	11/5/10 1349

Well # MW-35

Well Diameter (D) 2 inch of 14.25 feet(ft) bgs
conversion factor (C): 3.143*(D/2)^2
for a 2 inch well C = 0.163
for a 4 inch well C = 0.652
*Free Product Thickness --- ft
Total Well Depth (TWD) 14.25 ft bgs
Depth to Groundwater (DGW) 6.94 ft bgs
Length of Water Colum (LWC = TWD-DGW) 7.31 ft
1 Casing Volume (LWC*C) = 7.31 X .17 = 1.24 gals
3 Casing Volumes = 3 X 1.24 = 3.72 gals
(Standard Purge Volume)

Total Volume of Water Purged Before Sampling 4.0 gals

*If free product is present over 1/8 inch, sampling wiil not be required.

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post	Sample
Volume Purged (gallons)	---	1.5	2.5	4.0				
Time (military)	1619	1628	1632	1640				
pH (s.u)	5.06	5.04	4.98	5.08				
Specific Conductivity	435	413	353	315				
Water Temperature (°C)	18.7	18.8	19.2	19.1				
Turbidity (subjective: clear, slightly cloudy, cloudy)	Cloudy	Cloudy	Cloudy	Cloudy				
Dissolved Oxygen (mg/l)	1.95							

Remarks: Well sampled at 1115 on November 4, 2010.

BLE

BUNNELL-LAMMONS ENGINEERING, INC.

Field Data Information Sheet for Ground Water Sampling
Division of Underground Storage Tank Management

Date 11/04/10
Field Personnel Ivan A. Irizarry , Jason B. Thomas
General weather Conditions Rainy
Ambient Air Temperature (°C) 12.78

Facility Name: Former Enmark 380 Site ID# 06588

Quality Assurance

pH Sensor:	Oakton 35630-62	Conductivity Sensor:	35630-32
serial no.	324976	serial no.	324976
pH =4.0	4.0	Standard	
pH = 7.0	7.0	Standard	
pH = 7.0		Standard	
pH = 10.0		Standard	

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time
Ivan A. Irizarry	11/5/10 1349	Shealy Environmental	11/5/10 1349

Well # MW-36

Well Diameter (D) 2 inch of 31.00 feet(ft) bgs
conversion factor (C): 3.143*(D/2)^2
for a 2 inch well C = 0.163
for a 4 inch well C = 0.652
*Free Product Thickness --- ft
Total Well Depth (TWD) 31.00 ft bgs
Depth to Groundwater (DGW) 21.53 ft bgs
Length of Water Colum (LWC = TWD-DGW) 9.47 ft
1 Casing Volume (LWC*C) = 9.47 X .17 = 1.61 gals
3 Casing Volumes = 3 X 1.61 = 4.83 gals
(Standard Purge Volume)

Total Volume of Water Purged Before Sampling 6.0 gals

*If free product is present over 1/8 inch, sampling wiil not be required.

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post	Sample
Volume Purged (gallons)	---	2.0	4.0	6.0				
Time (military)	1208	1212	1220	1227				
pH (s.u)	8.34	7.76	6.65	6.56				
Specific Conductivity	190	194.8	189.3	186.1				
Water Temperature (°C)	17.7	17.6	16.8	17.0				
Turbidity (subjective: clear, slightly cloudy, cloudy)	Clear	Cloudy	Cloudy	Cloudy				
Dissolved Oxygen (mg/l)	11.06							

Remarks: Well sampled at 1227 on November 4, 2010.

BLE

BUNNELL-LAMMONS ENGINEERING, INC.

Field Data Information Sheet for Ground Water Sampling
Division of Underground Storage Tank Management

Date 11/04/10
Field Personnel Ivan A. Irizarry , Jason B. Thomas
General weather Conditions Rainy
Ambient Air Temperature (°C) 12.78

Facility Name: Former Enmark 380 Site ID# 06588

Quality Assurance

pH Sensor:	Oakton 35630-62	Conductivity Sensor:	35630-32
serial no.	324976	serial no.	324976
pH =4.0	4.0	Standard	
pH = 7.0	7.0	Standard	
pH = 7.0		Standard	
pH = 10.0		Standard	

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time
Ivan A. Irizarry	11/5/10 1349	Shealy Environmental	11/5/10 1349

Well # MW-37

Well Diameter (D) 2 inch of 21.69 feet(ft) bgs
conversion factor (C): 3.143*(D/2)^2
for a 2 inch well C = 0.163
for a 4 inch well C = 0.652
*Free Product Thickness --- ft
Total Well Depth (TWD) 21.69 ft bgs
Depth to Groundwater (DGW) 4.00 ft bgs
Length of Water Colum (LWC = TWD-DGW) 17.69 ft
1 Casing Volume (LWC*C) = 17.69 X .17 = 3.01 gals
3 Casing Volumes = 3 X 3.01 = 9.03 gals
(Standard Purge Volume)

Total Volume of Water Purged Before Sampling 10.5 gals

*If free product is present over 1/8 inch, sampling wiil not be required.

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post	Sample
Volume Purged (gallons)	---	3.5	7.0	10.5				
Time (military)	1350	1400	1407	1412				
pH (s.u)	8.30	7.03	6.35	6.35				
Specific Conductivity	125.7	120.7	119.3	119.3				
Water Temperature (°C)	18.4	19.0	18.6	18.0				
Turbidity (subjective: clear, slightly cloudy, cloudy)	Clear	Cloudy	Cloudy	Cloudy				
Dissolved Oxygen (mg/l)	10.55							

Remarks: Well sampled at 1414 on November 4, 2010.

BLE

BUNNELL-LAMMONS ENGINEERING, INC.

Field Data Information Sheet for Ground Water Sampling
Division of Underground Storage Tank Management

Date 11/04/10
Field Personnel Ivan A. Irizarry , Jason B. Thomas
General weather Conditions Rainy
Ambient Air Temperature (°C) 12.78

Facility Name: Former Enmark 380 Site ID# 06588

Quality Assurance

pH Sensor:	Oakton 35630-62	Conductivity Sensor:	35630-32
serial no.	324976	serial no.	324976
pH =4.0	4.0	Standard	
pH = 7.0	7.0	Standard	
pH = 7.0		Standard	
pH = 10.0		Standard	

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time
Ivan A. Irizarry	11/5/10 1349	Shealy Environmental	11/5/10 1349

Well # MW-38

Well Diameter (D) 2 inch of 25.00 feet(ft) bgs
conversion factor (C): 3.143*(D/2)^2
for a 2 inch well C = 0.163
for a 4 inch well C = 0.652
*Free Product Thickness --- ft
Total Well Depth (TWD) 25.00 ft bgs
Depth to Groundwater (DGW) 18.71 ft bgs
Length of Water Colum (LWC = TWD-DGW) 6.29 ft
1 Casing Volume (LWC*C) = 6.29 X .17 = 1.07 gals
3 Casing Volumes = 3 X 1.07 = 3.21 gals
(Standard Purge Volume)

Total Volume of Water Purged Before Sampling 3.3 gals
*If free product is present over 1/8 inch, sampling wiil not be required.

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post	Sample
Volume Purged (gallons)	---	1.1	2.2	3.3				
Time (military)	1400	1404	1408	1418				
pH (s.u)	6.49	6.43	6.49	6.48				
Specific Conductivity	275	397	274	271				
Water Temperature (°C)	20.6	20.3	20.6	20.3				
Turbidity (subjective: clear, slightly cloudy, cloudy)	Clear	Sli.Cloudy	Sli.Cloudy	Sli.Cloudy				
Dissolved Oxygen (mg/l)	8.68							

Remarks: Well sampled at 1418 on November 4, 2010.

BLE

BUNNELL-LAMMONS ENGINEERING, INC.

Field Data Information Sheet for Ground Water Sampling
Division of Underground Storage Tank Management

Date 11/12/10
Field Personnel Reid A. Doherty
General weather Conditions Sunny, Clear
Ambient Air Temperature (°C) 20

Facility Name: Former Enmark 380 Site ID# 06588

Quality Assurance

pH Sensor:	Oakton 35630-62	Conductivity Sensor:	35630-32
serial no.	324976	serial no.	324976
pH =4.0	4.0	Standard	
pH = 7.0	7.0	Standard	
pH = 7.0		Standard	
pH = 10.0		Standard	

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time
Ivan A. Irizarry	11/17/1210	Shealy Environmental	11/17/1210

Well # MW-39

Well Diameter (D) 2 inch of 12.00 feet(ft) bgs
conversion factor (C): 3.143*(D/2)^2
for a 2 inch well C = 0.163
for a 4 inch well C = 0.652
*Free Product Thickness --- ft
Total Well Depth (TWD) 12.00 ft bgs
Depth to Groundwater (DGW) 7.86 ft bgs
Length of Water Colum (LWC = TWD-DGW) 4.14 ft
1 Casing Volume (LWC*C) = 4.14 X .17 = 0.70 gals
3 Casing Volumes = 3 X 0.70 = 2.10 gals
(Standard Purge Volume)

Total Volume of Water Purged Before Sampling 3.0 gals

*If free product is present over 1/8 inch, sampling wiil not be required.

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post	Sample
Volume Purged (gallons)	---	1.0	2.0	3.0				
Time (military)	1001	1008	1012	1015				
pH (s.u)	6.69	6.50	6.51	6.32				
Specific Conductivity	229	209	209	205				
Water Temperature (°C)	19.8	19.3	19.2	19.0				
Turbidity (subjective: clear, slightly cloudy, cloudy)	Sli.Cloudy	Cloudy	Cloudy	Sli. Cloudy				
Dissolved Oxygen (mg/l)	9.92							

Remarks: Well sampled at 1015 on November 12, 2010.

BLE

BUNNELL-LAMMONS ENGINEERING, INC.

Field Data Information Sheet for Ground Water Sampling
Division of Underground Storage Tank Management

Date 11/05/10
Field Personnel Ivan A. Irizarry , Jason B. Thomas
General weather Conditions Rainy
Ambient Air Temperature (°C) 12.78

Facility Name: Former Enmark 380 Site ID# 06588

Quality Assurance

pH Sensor:	Oakton 35630-62	Conductivity Sensor:	35630-32
serial no.	324976	serial no.	324976
pH =4.0	4.0	Standard	
pH = 7.0	7.0	Standard	
pH = 7.0		Standard	
pH = 10.0		Standard	

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time
Ivan A. Irizarry	11/8/10 1252	Shealy Environmental	11/8/10 1252

Well # DW-1

Well Diameter (D) 2 inch of NA feet(ft) bgs
conversion factor (C): 3.143*(D/2)^2
for a 2 inch well C = 0.163
for a 4 inch well C = 0.652
*Free Product Thickness --- ft
Total Well Depth (TWD) NA ft bgs
Depth to Groundwater (DGW) NA ft bgs
Length of Water Colum (LWC = TWD-DGW) NA ft
1 Casing Volume (LWC*C) = NA X .17 = NA gals
3 Casing Volumes = 3 X NA = NA gals
(Standard Purge Volume)

Total Volume of Water Purged Before Sampling NA gals
*If free product is present over 1/8 inch, sampling wiil not be required.

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post	Sample
Volume Purged (gallons)								
Time (military)								
pH (s.u)								
Specific Conductivity								
Water Temperature (°C)								
Turbidity (subjective: clear, slightly cloudy, cloudy)								
Dissolved Oxygen (mg/l)								

Remarks: Well sampled at 0912 on November 5, 2010.

BLE

BUNNELL-LAMMONS ENGINEERING, INC.

Field Data Information Sheet for Ground Water Sampling
Division of Underground Storage Tank Management

Date 11/05/10
Field Personnel Ivan A. Irizarry , Jason B. Thomas
General weather Conditions Rainy
Ambient Air Temperature (°C) 12.78

Facility Name: Former Enmark 380 Site ID# 06588

Quality Assurance

pH Sensor:	Oakton 35630-62	Conductivity Sensor:	35630-32
serial no.	324976	serial no.	324976
pH =4.0	4.0	Standard	
pH = 7.0	7.0	Standard	
pH = 7.0		Standard	
pH = 10.0		Standard	

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time
Ivan A. Irizarry	11/8/10 1252	Shealy Environmental	11/8/10 1252

Well # DW-2

Well Diameter (D) 2 inch of NA feet(ft) bgs
conversion factor (C): 3.143*(D/2)^2
for a 2 inch well C = 0.163
for a 4 inch well C = 0.652
*Free Product Thickness --- ft
Total Well Depth (TWD) NA ft bgs
Depth to Groundwater (DGW) NA ft bgs
Length of Water Colum (LWC = TWD-DGW) NA ft
1 Casing Volume (LWC*C) = NA X .17 = NA gals
3 Casing Volumes = 3 X NA = NA gals
(Standard Purge Volume)

Total Volume of Water Purged Before Sampling NA gals
*If free product is present over 1/8 inch, sampling wiil not be required.

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post	Sample
Volume Purged (gallons)								
Time (military)								
pH (s.u)								
Specific Conductivity								
Water Temperature (°C)								
Turbidity (subjective: clear, slightly cloudy, cloudy)								
Dissolved Oxygen (mg/l)								

Remarks: Well sampled at 0921 on November 5, 2010.

BLE

BUNNELL-LAMMONS ENGINEERING, INC.

Field Data Information Sheet for Ground Water Sampling
Division of Underground Storage Tank Management

Date 11/05/10
Field Personnel Ivan A. Irizarry , Jason B. Thomas
General weather Conditions Rainy
Ambient Air Temperature (°C) 12.78

Facility Name: Former Enmark 380 Site ID# 06588

Quality Assurance

pH Sensor:	Oakton 35630-62	Conductivity Sensor:	35630-32
serial no.	324976	serial no.	324976
pH =4.0	4.0	Standard	
pH = 7.0	7.0	Standard	
pH = 7.0		Standard	
pH = 10.0		Standard	

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time
Ivan A. Irizarry	11/8/10 1252	Shealy Environmental	11/8/10 1252

Well # DW-3

Well Diameter (D) 2 inch of NA feet(ft) bgs
conversion factor (C): 3.143*(D/2)^2
for a 2 inch well C = 0.163
for a 4 inch well C = 0.652
*Free Product Thickness --- ft
Total Well Depth (TWD) NA ft bgs
Depth to Groundwater (DGW) NA ft bgs
Length of Water Colum (LWC = TWD-DGW) NA ft
1 Casing Volume (LWC*C) = NA X .17 = NA gals
3 Casing Volumes = 3 X NA = NA gals
(Standard Purge Volume)

Total Volume of Water Purged Before Sampling NA gals
*If free product is present over 1/8 inch, sampling wiil not be required.

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post	Sample
Volume Purged (gallons)								
Time (military)								
pH (s.u)								
Specific Conductivity								
Water Temperature (°C)								
Turbidity (subjective: clear, slightly cloudy, cloudy)								
Dissolved Oxygen (mg/l)								

Remarks: Well sampled at 0942 on November 5, 2010.

BLE

BUNNELL-LAMMONS ENGINEERING, INC.

Field Data Information Sheet for Ground Water Sampling
Division of Underground Storage Tank Management

Date 11/05/10
Field Personnel Ivan A. Irizarry , Jason B. Thomas
General weather Conditions Rainy
Ambient Air Temperature (°C) 12.78

Facility Name: Former Enmark 380 Site ID# 06588

Quality Assurance

pH Sensor:	Oakton 35630-62	Conductivity Sensor:	35630-32
serial no.	324976	serial no.	324976
pH =4.0	4.0	Standard	
pH = 7.0	7.0	Standard	
pH = 7.0		Standard	
pH = 10.0		Standard	

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time
Ivan A. Irizarry	11/8/10 1252	Shealy Environmental	11/8/10 1252

Well # DW-4

Well Diameter (D) 2 inch of NA feet(ft) bgs
conversion factor (C): 3.143*(D/2)^2
for a 2 inch well C = 0.163
for a 4 inch well C = 0.652
*Free Product Thickness --- ft
Total Well Depth (TWD) NA ft bgs
Depth to Groundwater (DGW) NA ft bgs
Length of Water Colum (LWC = TWD-DGW) NA ft
1 Casing Volume (LWC*C) = NA X .17 = NA gals
3 Casing Volumes = 3 X NA = NA gals
(Standard Purge Volume)

Total Volume of Water Purged Before Sampling NA gals
*If free product is present over 1/8 inch, sampling wiil not be required.

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post	Sample
Volume Purged (gallons)								
Time (military)								
pH (s.u)								
Specific Conductivity								
Water Temperature (°C)								
Turbidity (subjective: clear, slightly cloudy, cloudy)								
Dissolved Oxygen (mg/l)								

Remarks: Well sampled at 1025 on November 5, 2010.

BLE

BUNNELL-LAMMONS ENGINEERING, INC.

Field Data Information Sheet for Ground Water Sampling
Division of Underground Storage Tank Management

Date 11/05/10
Field Personnel Ivan A. Irizarry , Jason B. Thomas
General weather Conditions Sunny, Clear
Ambient Air Temperature (°C) 20

Facility Name: Former Enmark 380 Site ID# 06588

Quality Assurance

pH Sensor:	Oakton 35630-62	Conductivity Sensor:	35630-32
serial no.	324976	serial no.	324976
pH =4.0	4.0	Standard	
pH = 7.0	7.0	Standard	
pH = 7.0		Standard	
pH = 10.0		Standard	

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time
Ivan A. Irizarry	11/8/10 1252	Shealy Environmental	11/8/10 1252

Well # DW-5

Well Diameter (D) 2 inch of NA feet(ft) bgs
conversion factor (C): 3.143*(D/2)^2
for a 2 inch well C = 0.163
for a 4 inch well C = 0.652
*Free Product Thickness --- ft
Total Well Depth (TWD) NA ft bgs
Depth to Groundwater (DGW) NA ft bgs
Length of Water Colum (LWC = TWD-DGW) NA ft
1 Casing Volume (LWC*C) = NA X .17 = NA gals
3 Casing Volumes = 3 X NA = NA gals
(Standard Purge Volume)

Total Volume of Water Purged Before Sampling NA gals
*If free product is present over 1/8 inch, sampling wiil not be required.

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post	Sample
Volume Purged (gallons)								
Time (military)								
pH (s.u)								
Specific Conductivity								
Water Temperature (°C)								
Turbidity (subjective: clear, slightly cloudy, cloudy)								
Dissolved Oxygen (mg/l)								

Remarks: Well sampled at 1055 on November 5, 2010.

APPENDIX F

GROUNDWATER AND SURFACE WATER LABORATORY DATA SHEETS

SHEALY ENVIRONMENTAL SERVICES, INC.

Report of Analysis

Bunnell-Lammons Engineering, Inc.
6004 Ponders Court
Greenville, SC 29615
Attention: Trever Slack

Project Name: **Enmark 380**

Project Number: **6859-02**

Lot Number: **LK05085**

Date Completed: **11/18/2010**

Lucas Odom
Project Manager

This report shall not be reproduced, except in its entirety, without the written approval of Shealy Environmental Services, Inc.

The following non-paginated documents are considered part of this report: Chain of Custody Record and Sample Receipt Checklist.

• • • • • • • • • •

Case Narrative
Bunnell-Lammons Engineering, Inc.
Lot Number: LK05085

This Report of Analysis contains the analytical result(s) for the sample(s) listed on the Sample Summary following this Case Narrative. The sample receiving date is documented in the header information associated with each sample.

Sample receipt, sample analysis, and data review have been performed in accordance with the most current approved NELAC standards, the Shealy Environmental Services, Inc. ("Shealy") Quality Assurance Management Plan (QAMP), standard operating procedures (SOPs), and Shealy policies. Any exceptions to the NELAC standards, the QAMP, SOPs or policies are qualified on the results page or discussed below.

If you have any questions regarding this report please contact the Shealy Project Manager listed on the cover page.

EDB by Microextraction

The result associated with sample -019 has a P qualifier for EDB because the relative percent difference (RPD) between the two dissimilar phase GC columns exceeds 40%. In accordance with Section 7.10.4 of SW-846 method 8000B, the higher of the two results is reported. Due to the disparity of the two results, it is likely that the reported result is biased high, or may be a false positive.

Samples -015 and -021 were diluted 50X and sample -022 was diluted 100X all due to a high hit for the target compound EDB. The large dilutions caused the surrogate to recover outside of acceptable limits. No corrective action was required as it is known that dilutions of 5X and greater may impact surrogate recoveries.

Sample Summary
Bunnell-Lammons Engineering, Inc.
Lot Number: LK05085

Sample Number	Sample ID	Matrix	Date Sampled	Date Received
001	MW-1	Aqueous	11/02/2010 1235	11/05/2010
002	MW-2	Aqueous	11/02/2010 1240	11/05/2010
003	MW-7D	Aqueous	11/04/2010 1119	11/05/2010
004	MW-8D	Aqueous	11/04/2010 1256	11/05/2010
005	MW-9	Aqueous	11/02/2010 1340	11/05/2010
006	MW-10	Aqueous	11/02/2010 1444	11/05/2010
007	MW-11	Aqueous	11/02/2010 1535	11/05/2010
008	MW-12	Aqueous	11/02/2010 1125	11/05/2010
009	MW-13	Aqueous	11/02/2010 1705	11/05/2010
010	MW-14	Aqueous	11/03/2010 1026	11/05/2010
011	MW-15	Aqueous	11/03/2010 1020	11/05/2010
012	MW-16	Aqueous	11/02/2010 1613	11/05/2010
013	MW-17	Aqueous	11/02/2010 1536	11/05/2010
014	MW-18	Aqueous	11/02/2010 1500	11/05/2010
015	MW-19	Aqueous	11/02/2010 1434	11/05/2010
016	MW-20	Aqueous	11/04/2010 1006	11/05/2010
017	MW-21	Aqueous	11/04/2010 1025	11/05/2010
018	MW-21D	Aqueous	11/04/2010 0940	11/05/2010
019	MW-22	Aqueous	11/02/2010 1411	11/05/2010
020	MW-22D	Aqueous	11/04/2010 1027	11/05/2010
021	MW-23	Aqueous	11/03/2010 1158	11/05/2010
022	MW-24	Aqueous	11/03/2010 1117	11/05/2010
023	MW-24D	Aqueous	11/04/2010 1218	11/05/2010
024	MW-25	Aqueous	11/03/2010 1246	11/05/2010
025	MW-26	Aqueous	11/03/2010 1154	11/05/2010
026	MW-27	Aqueous	11/03/2010 1115	11/05/2010
027	MW-28	Aqueous	11/04/2010 0948	11/05/2010
028	MW-29	Aqueous	11/03/2010 1418	11/05/2010
029	MW-30	Aqueous	11/03/2010 1417	11/05/2010
030	MW-31	Aqueous	11/03/2010 1459	11/05/2010
031	MW-32	Aqueous	11/03/2010 1447	11/05/2010
032	MW-33	Aqueous	11/04/2010 0930	11/05/2010
033	MW-34	Aqueous	11/04/2010 1050	11/05/2010
034	MW-35	Aqueous	11/04/2010 1115	11/05/2010
035	MW-36	Aqueous	11/04/2010 1227	11/05/2010
036	MW-37	Aqueous	11/04/2010 1414	11/05/2010
037	MW-38	Aqueous	11/04/2010 1418	11/05/2010

(37 samples)

Executive Summary
Bunnell-Lammons Engineering, Inc.
Lot Number: LK05085

Sample	Sample ID	Matrix	Parameter	Method	Result	Q	Units	Page
001	MW-1	Aqueous	Benzene	8260B	4400		ug/L	7
001	MW-1	Aqueous	1,2-Dichloroethane	8260B	160		ug/L	7
001	MW-1	Aqueous	Ethylbenzene	8260B	1600		ug/L	7
001	MW-1	Aqueous	Naphthalene	8260B	170		ug/L	7
001	MW-1	Aqueous	Toluene	8260B	2100		ug/L	7
001	MW-1	Aqueous	Xylenes (total)	8260B	7200		ug/L	7
001	MW-1	Aqueous	1,2-Dibromoethane (EDB)	8011	1.9		ug/L	8
002	MW-2	Aqueous	Benzene	8260B	1.9		ug/L	9
002	MW-2	Aqueous	Ethylbenzene	8260B	11		ug/L	9
002	MW-2	Aqueous	Naphthalene	8260B	15		ug/L	9
002	MW-2	Aqueous	Toluene	8260B	1.8		ug/L	9
002	MW-2	Aqueous	Xylenes (total)	8260B	39		ug/L	9
002	MW-2	Aqueous	tert-butyl alcohol (TBA)	8260B	59		ug/L	9
002	MW-2	Aqueous	Lead	6010C	0.038		mg/L	10
003	MW-7D	Aqueous	Benzene	8260B	19		ug/L	11
003	MW-7D	Aqueous	Ethylbenzene	8260B	2.3		ug/L	11
003	MW-7D	Aqueous	Naphthalene	8260B	2.8		ug/L	11
003	MW-7D	Aqueous	Toluene	8260B	3.4		ug/L	11
003	MW-7D	Aqueous	Xylenes (total)	8260B	16		ug/L	11
004	MW-8D	Aqueous	Benzene	8260B	13		ug/L	13
004	MW-8D	Aqueous	Ethylbenzene	8260B	4.7		ug/L	13
004	MW-8D	Aqueous	Methyl tertiary butyl ether (MTBE)	8260B	5.7		ug/L	13
004	MW-8D	Aqueous	Naphthalene	8260B	4.4		ug/L	13
004	MW-8D	Aqueous	Toluene	8260B	12		ug/L	13
004	MW-8D	Aqueous	Xylenes (total)	8260B	29		ug/L	13
004	MW-8D	Aqueous	Ethanol	8260B	1700		ug/L	13
004	MW-8D	Aqueous	tert-Amyl alcohol (TAA)	8260B	37		ug/L	13
004	MW-8D	Aqueous	Lead	6010C	0.017		mg/L	14
005	MW-9	Aqueous	Ethanol	8260B	330		ug/L	15
005	MW-9	Aqueous	Lead	6010C	0.35		mg/L	16
006	MW-10	Aqueous	Lead	6010C	0.48		mg/L	18
007	MW-11	Aqueous	Lead	6010C	0.22		mg/L	20
008	MW-12	Aqueous	Lead	6010C	0.29		mg/L	22
009	MW-13	Aqueous	Lead	6010C	0.42		mg/L	24
010	MW-14	Aqueous	Lead	6010C	0.096		mg/L	26
011	MW-15	Aqueous	Lead	6010C	0.070		mg/L	28
012	MW-16	Aqueous	Ethanol	8260B	220		ug/L	29
012	MW-16	Aqueous	Lead	6010C	0.18		mg/L	30
013	MW-17	Aqueous	Ethanol	8260B	260		ug/L	31
013	MW-17	Aqueous	Lead	6010C	0.031		mg/L	32
014	MW-18	Aqueous	Benzene	8260B	20		ug/L	33
014	MW-18	Aqueous	Ethylbenzene	8260B	1700		ug/L	33
014	MW-18	Aqueous	Naphthalene	8260B	490		ug/L	33
014	MW-18	Aqueous	Toluene	8260B	170		ug/L	33
014	MW-18	Aqueous	Xylenes (total)	8260B	6200		ug/L	33

Executive Summary (Continued)

Lot Number: LK05085

Sample	Sample ID	Matrix	Parameter	Method	Result	Q	Units	Page
014	MW-18	Aqueous	Lead	6010C	0.27		mg/L	34
015	MW-19	Aqueous	Benzene	8260B	8300		ug/L	35
015	MW-19	Aqueous	Ethylbenzene	8260B	3100		ug/L	35
015	MW-19	Aqueous	Methyl tertiary butyl ether (MTBE)	8260B	320		ug/L	35
015	MW-19	Aqueous	Naphthalene	8260B	850		ug/L	35
015	MW-19	Aqueous	Toluene	8260B	29000		ug/L	35
015	MW-19	Aqueous	Xylenes (total)	8260B	19000		ug/L	35
015	MW-19	Aqueous	1,2-Dibromoethane (EDB)	8011	28		ug/L	36
015	MW-19	Aqueous	Lead	6010C	0.048		mg/L	36
016	MW-20	Aqueous	Lead	6010C	0.010		mg/L	38
017	MW-21	Aqueous	Lead	6010C	0.022		mg/L	40
018	MW-21D	Aqueous	Lead	6010C	0.069		mg/L	42
019	MW-22	Aqueous	Benzene	8260B	3200		ug/L	43
019	MW-22	Aqueous	Ethylbenzene	8260B	2400		ug/L	43
019	MW-22	Aqueous	Methyl tertiary butyl ether (MTBE)	8260B	610		ug/L	43
019	MW-22	Aqueous	Naphthalene	8260B	630		ug/L	43
019	MW-22	Aqueous	Toluene	8260B	1000		ug/L	43
019	MW-22	Aqueous	Xylenes (total)	8260B	7900		ug/L	43
019	MW-22	Aqueous	tert-Amyl methyl ether (TAME)	8260B	360		ug/L	43
019	MW-22	Aqueous	1,2-Dibromoethane (EDB)	8011	0.28	P	ug/L	44
019	MW-22	Aqueous	Lead	6010C	0.52		mg/L	44
020	MW-22D	Aqueous	Benzene	8260B	220		ug/L	45
020	MW-22D	Aqueous	Methyl tertiary butyl ether (MTBE)	8260B	9.2		ug/L	45
020	MW-22D	Aqueous	Naphthalene	8260B	15		ug/L	45
020	MW-22D	Aqueous	Xylenes (total)	8260B	2.0		ug/L	45
020	MW-22D	Aqueous	tert-butyl alcohol (TBA)	8260B	24		ug/L	45
020	MW-22D	Aqueous	Lead	6010C	0.015		mg/L	46
021	MW-23	Aqueous	Benzene	8260B	19000		ug/L	47
021	MW-23	Aqueous	1,2-Dichloroethane	8260B	910		ug/L	47
021	MW-23	Aqueous	Ethylbenzene	8260B	4500		ug/L	47
021	MW-23	Aqueous	Methyl tertiary butyl ether (MTBE)	8260B	2300		ug/L	47
021	MW-23	Aqueous	Naphthalene	8260B	1000		ug/L	47
021	MW-23	Aqueous	Toluene	8260B	30000		ug/L	47
021	MW-23	Aqueous	Xylenes (total)	8260B	24000		ug/L	47
021	MW-23	Aqueous	tert-butyl alcohol (TBA)	8260B	14000		ug/L	47
021	MW-23	Aqueous	1,2-Dibromoethane (EDB)	8011	40		ug/L	48
021	MW-23	Aqueous	Lead	6010C	0.64		mg/L	48
022	MW-24	Aqueous	Benzene	8260B	17000		ug/L	49
022	MW-24	Aqueous	1,2-Dichloroethane	8260B	630		ug/L	49
022	MW-24	Aqueous	Ethylbenzene	8260B	5100		ug/L	49
022	MW-24	Aqueous	Methyl tertiary butyl ether (MTBE)	8260B	2400		ug/L	49
022	MW-24	Aqueous	Naphthalene	8260B	840		ug/L	49
022	MW-24	Aqueous	Toluene	8260B	23000		ug/L	49
022	MW-24	Aqueous	Xylenes (total)	8260B	24000		ug/L	49
022	MW-24	Aqueous	1,2-Dibromoethane (EDB)	8011	55		ug/L	50
022	MW-24	Aqueous	Lead	6010C	0.12		mg/L	50
023	MW-24D	Aqueous	Benzene	8260B	110		ug/L	51
023	MW-24D	Aqueous	Ethylbenzene	8260B	9.2		ug/L	51

Executive Summary (Continued)

Lot Number: LK05085

Sample	Sample ID	Matrix	Parameter	Method	Result	Q	Units	Page
023	MW-24D	Aqueous	Methyl tertiary butyl ether (MTBE)	8260B	10		ug/L	51
023	MW-24D	Aqueous	Naphthalene	8260B	14		ug/L	51
023	MW-24D	Aqueous	Toluene	8260B	23		ug/L	51
023	MW-24D	Aqueous	Xylenes (total)	8260B	33		ug/L	51
023	MW-24D	Aqueous	tert-Amyl alcohol (TAA)	8260B	55		ug/L	51
023	MW-24D	Aqueous	1,2-Dibromoethane (EDB)	8011	0.041		ug/L	52
024	MW-25	Aqueous	Benzene	8260B	6100		ug/L	53
024	MW-25	Aqueous	Ethylbenzene	8260B	1500		ug/L	53
024	MW-25	Aqueous	Methyl tertiary butyl ether (MTBE)	8260B	1000		ug/L	53
024	MW-25	Aqueous	Naphthalene	8260B	520		ug/L	53
024	MW-25	Aqueous	Toluene	8260B	3600		ug/L	53
024	MW-25	Aqueous	Xylenes (total)	8260B	7900		ug/L	53
024	MW-25	Aqueous	tert-Amyl alcohol (TAA)	8260B	2800		ug/L	53
024	MW-25	Aqueous	1,2-Dibromoethane (EDB)	8011	3.5		ug/L	54
024	MW-25	Aqueous	Lead	6010C	0.11		mg/L	54
025	MW-26	Aqueous	Benzene	8260B	27		ug/L	55
025	MW-26	Aqueous	Ethylbenzene	8260B	2.2		ug/L	55
025	MW-26	Aqueous	Xylenes (total)	8260B	8.5		ug/L	55
025	MW-26	Aqueous	tert-Amyl alcohol (TAA)	8260B	64		ug/L	55
026	MW-27	Aqueous	Ethanol	8260B	1200		ug/L	57
028	MW-29	Aqueous	Lead	6010C	0.72		mg/L	62
029	MW-30	Aqueous	Benzene	8260B	3.6		ug/L	63
029	MW-30	Aqueous	1,2-Dichloroethane	8260B	11		ug/L	63
029	MW-30	Aqueous	Ethylbenzene	8260B	8.3		ug/L	63
029	MW-30	Aqueous	Methyl tertiary butyl ether (MTBE)	8260B	350		ug/L	63
029	MW-30	Aqueous	Naphthalene	8260B	9.0		ug/L	63
029	MW-30	Aqueous	Toluene	8260B	19		ug/L	63
029	MW-30	Aqueous	Xylenes (total)	8260B	53		ug/L	63
029	MW-30	Aqueous	Diisopropyl ether (IPE)	8260B	47		ug/L	63
029	MW-30	Aqueous	tert-Amyl alcohol (TAA)	8260B	1000		ug/L	63
029	MW-30	Aqueous	tert-Amyl methyl ether (TAME)	8260B	13		ug/L	63
029	MW-30	Aqueous	tert-butyl alcohol (TBA)	8260B	680		ug/L	63
029	MW-30	Aqueous	Lead	6010C	0.17		mg/L	64
030	MW-31	Aqueous	Methyl tertiary butyl ether (MTBE)	8260B	12		ug/L	65
030	MW-31	Aqueous	tert-Amyl alcohol (TAA)	8260B	30		ug/L	65
031	MW-32	Aqueous	Methyl tertiary butyl ether (MTBE)	8260B	15		ug/L	67
031	MW-32	Aqueous	Lead	6010C	1.8		mg/L	68
032	MW-33	Aqueous	Methyl tertiary butyl ether (MTBE)	8260B	43		ug/L	69
032	MW-33	Aqueous	tert-Amyl alcohol (TAA)	8260B	62		ug/L	69
032	MW-33	Aqueous	tert-butyl alcohol (TBA)	8260B	23		ug/L	69
032	MW-33	Aqueous	Lead	6010C	0.011		mg/L	70
035	MW-36	Aqueous	Lead	6010C	0.31		mg/L	76
036	MW-37	Aqueous	Lead	6010C	0.010		mg/L	78
037	MW-38	Aqueous	Lead	6010C	0.035		mg/L	80

(137 detections)

Client: **Bunnell-Lammons Engineering, Inc.** Laboratory ID: **LK05085-001**
Description: **MW-1** Matrix: **Aqueous**
Date Sampled: **11/02/2010 1235**
Date Received: **11/05/2010**

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	20	11/10/2010 1741	DLB		46360

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
Benzene	**71-43-2**	**8260B**	**4400**		**20**	**ug/L**	**1**
1,2-Dichloroethane	**107-06-2**	**8260B**	**160**		**20**	**ug/L**	**1**
Ethylbenzene	**100-41-4**	**8260B**	**1600**		**20**	**ug/L**	**1**
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		20	ug/L	1
Naphthalene	**91-20-3**	**8260B**	**170**		**20**	**ug/L**	**1**
Toluene	**108-88-3**	**8260B**	**2100**		**20**	**ug/L**	**1**
Xylenes (total)	**1330-20-7**	**8260B**	**7200**		**20**	**ug/L**	**1**

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		96	70-130
Bromofluorobenzene		103	70-130
Toluene-d8		112	70-130

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	20	11/10/2010 1741	DLB		46360

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
Diisopropyl ether (IPE)	108-20-3	8260B	ND		100	ug/L	1
Ethanol	64-17-5	8260B	ND		2000	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		400	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		20	ug/L	1
tert-Amyl alcohol (TAA)	75-85-4	8260B	ND		400	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		200	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		400	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260B	ND		100	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
Bromofluorobenzene		103	70-130
1,2-Dichloroethane-d4		96	70-130
Toluene-d8		112	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
2	8011	8011	2	11/12/2010 1204	PMS	11/09/2010 1936	46201

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run

PQL = Practical quantitation limit
ND = Not detected at or above the PQL
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
H = Out of holding time
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **MW-1**
Date Sampled: **11/02/2010 1235**
Date Received: **11/05/2010**

Laboratory ID: **LK05085-001**
Matrix: **Aqueous**

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
2	8011	8011	2	11/12/2010 1204	PMS	11/09/2010 1936	46201

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
1,2-Dibromoethane (EDB)	**106-93-4**	**8011**	**1.9**		**0.040**	**ug/L**	**2**

Surrogate	Q	Run 2 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		84	57-137

ICP-AES

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	3005A	6010C	1	11/11/2010 0002	CDF	11/09/2010 1125	46103

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
Lead	7439-92-1	6010C	ND		0.010	mg/L	1

PQL = Practical quantitation limit
ND = Not detected at or above the PQL
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
H = Out of holding time

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **MW-2**
Date Sampled: **11/02/2010 1240**
Date Received: **11/05/2010**

Laboratory ID: **LK05085-002**
Matrix: **Aqueous**

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	11/08/2010 2319	DLB		46115

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
Benzene	**71-43-2**	**8260B**	**1.9**		**1.0**	**ug/L**	**1**
1,2-Dichloroethane	107-06-2	8260B	ND		1.0	ug/L	1
Ethylbenzene	**100-41-4**	**8260B**	**11**		**1.0**	**ug/L**	**1**
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		1.0	ug/L	1
Naphthalene	**91-20-3**	**8260B**	**15**		**1.0**	**ug/L**	**1**
Toluene	**108-88-3**	**8260B**	**1.8**		**1.0**	**ug/L**	**1**
Xylenes (total)	**1330-20-7**	**8260B**	**39**		**1.0**	**ug/L**	**1**

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		96	70-130
Bromofluorobenzene		99	70-130
Toluene-d8		102	70-130

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	11/08/2010 2319	DLB		46115

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
Diisopropyl ether (IPE)	108-20-3	8260B	ND		5.0	ug/L	1
Ethanol	64-17-5	8260B	ND		100	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		20	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		1.0	ug/L	1
tert-Amyl alcohol (TAA)	75-85-4	8260B	ND		20	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		10	ug/L	1
tert-butyl alcohol (TBA)	**75-65-0**	**8260B**	**59**		**20**	**ug/L**	**1**
tert-Butyl formate (TBF)	762-75-4	8260B	ND		5.0	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
Bromofluorobenzene		99	70-130
1,2-Dichloroethane-d4		96	70-130
Toluene-d8		102	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
2	8011	8011	1	11/14/2010 0026	PMS	11/12/2010 1616	46496

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run

PQL = Practical quantitation limit
ND = Not detected at or above the PQL
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
N = Recovery is out of criteria
H = Out of holding time

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **MW-2**
Date Sampled: **11/02/2010 1240**
Date Received: **11/05/2010**

Laboratory ID: **LK05085-002**
Matrix: **Aqueous**

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
2	8011	8011	1	11/14/2010 0026	PMS	11/12/2010 1616	46496

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0.021	ug/L	2

Surrogate	Q	Run 2 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		80	57-137

ICP-AES

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	3005A	6010C	1	11/11/2010 0007	CDF	11/09/2010 1125	46103

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
Lead	**7439-92-1**	**6010C**	**0.038**		**0.010**	**mg/L**	**1**

PQL = Practical quantitation limit
ND = Not detected at or above the PQL
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
H = Out of holding time
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Client: **Bunnell-Lammons Engineering, Inc.** Laboratory ID: **LK05085-003**
Description: **MW-7D** Matrix: **Aqueous**
Date Sampled: **11/04/2010 1119**
Date Received: **11/05/2010**

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	11/08/2010 2340	DLB		46115

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
Benzene	**71-43-2**	**8260B**	**19**		**1.0**	**ug/L**	**1**
1,2-Dichloroethane	107-06-2	8260B	ND		1.0	ug/L	1
Ethylbenzene	**100-41-4**	**8260B**	**2.3**		**1.0**	**ug/L**	**1**
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		1.0	ug/L	1
Naphthalene	**91-20-3**	**8260B**	**2.8**		**1.0**	**ug/L**	**1**
Toluene	**108-88-3**	**8260B**	**3.4**		**1.0**	**ug/L**	**1**
Xylenes (total)	**1330-20-7**	**8260B**	**16**		**1.0**	**ug/L**	**1**

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		95	70-130
Bromofluorobenzene		99	70-130
Toluene-d8		101	70-130

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	11/08/2010 2340	DLB		46115

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
Diisopropyl ether (IPE)	108-20-3	8260B	ND		5.0	ug/L	1
Ethanol	64-17-5	8260B	ND		100	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		20	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		1.0	ug/L	1
tert-Amyl alcohol (TAA)	75-85-4	8260B	ND		20	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		10	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		20	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260B	ND		5.0	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
Bromofluorobenzene		99	70-130
1,2-Dichloroethane-d4		95	70-130
Toluene-d8		101	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	11/10/2010 2130	PMS	11/09/2010 1936	46201

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run

PQL = Practical quantitation limit
ND = Not detected at or above the PQL
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
N = Recovery is out of criteria
H = Out of holding time

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **MW-7D**
Date Sampled: **11/04/2010 1119**
Date Received: **11/05/2010**

Laboratory ID: **LK05085-003**
Matrix: **Aqueous**

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	11/10/2010 2130	PMS	11/09/2010 1936	46201

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0.019	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		64	57-137

ICP-AES

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	3005A	6010C	1	11/11/2010 0011	CDF	11/09/2010 1125	46103

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
Lead	7439-92-1	6010C	ND		0.010	mg/L	1

PQL = Practical quantitation limit
ND = Not detected at or above the PQL
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
H = Out of holding time

Client: **Bunnell-Lammons Engineering, Inc.** Laboratory ID: **LK05085-004**
Description: **MW-8D** Matrix: **Aqueous**
Date Sampled: **11/04/2010 1256**
Date Received: **11/05/2010**

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	11/09/2010 0002	DLB		46115

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
Benzene	**71-43-2**	**8260B**	**13**		**1.0**	**ug/L**	**1**
1,2-Dichloroethane	107-06-2	8260B	ND		1.0	ug/L	1
Ethylbenzene	**100-41-4**	**8260B**	**4.7**		**1.0**	**ug/L**	**1**
Methyl tertiary butyl ether (MTBE)	**1634-04-4**	**8260B**	**5.7**		**1.0**	**ug/L**	**1**
Naphthalene	**91-20-3**	**8260B**	**4.4**		**1.0**	**ug/L**	**1**
Toluene	**108-88-3**	**8260B**	**12**		**1.0**	**ug/L**	**1**
Xylenes (total)	**1330-20-7**	**8260B**	**29**		**1.0**	**ug/L**	**1**

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		96	70-130
Bromofluorobenzene		101	70-130
Toluene-d8		102	70-130

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	11/09/2010 0002	DLB		46115

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
Diisopropyl ether (IPE)	108-20-3	8260B	ND		5.0	ug/L	1
Ethanol	**64-17-5**	**8260B**	**1700**		**100**	**ug/L**	**1**
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		20	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		1.0	ug/L	1
tert-Amyl alcohol (TAA)	**75-85-4**	**8260B**	**37**		**20**	**ug/L**	**1**
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		10	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		20	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260B	ND		5.0	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
Bromofluorobenzene		101	70-130
1,2-Dichloroethane-d4		96	70-130
Toluene-d8		102	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	11/10/2010 2152	PMS	11/09/2010 1936	46201

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run

PQL = Practical quantitation limit
ND = Not detected at or above the PQL
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
N = Recovery is out of criteria
H = Out of holding time

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **MW-8D**
Date Sampled: **11/04/2010 1256**
Date Received: **11/05/2010**

Laboratory ID: **LK05085-004**
Matrix: **Aqueous**

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	11/10/2010 2152	PMS	11/09/2010 1936	46201

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0.020	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		74	57-137

ICP-AES

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	3005A	6010C	1	11/11/2010 0015	CDF	11/09/2010 1125	46103

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
Lead	**7439-92-1**	**6010C**	**0.017**		**0.010**	**mg/L**	**1**

PQL = Practical quantitation limit
ND = Not detected at or above the PQL
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
N = Recovery is out of criteria
H = Out of holding time

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **MW-9**
Date Sampled: **11/02/2010 1340**
Date Received: **11/05/2010**

Laboratory ID: **LK05085-005**
Matrix: **Aqueous**

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	11/09/2010 0023	DLB		46115

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
Benzene	71-43-2	8260B	ND		1.0	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		1.0	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		1.0	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		1.0	ug/L	1
Naphthalene	91-20-3	8260B	ND		1.0	ug/L	1
Toluene	108-88-3	8260B	ND		1.0	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		1.0	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		96	70-130
Bromofluorobenzene		100	70-130
Toluene-d8		101	70-130

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	11/09/2010 0023	DLB		46115

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
Diisopropyl ether (IPE)	108-20-3	8260B	ND		5.0	ug/L	1
Ethanol	**64-17-5**	**8260B**	**330**		**100**	**ug/L**	**1**
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		20	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		1.0	ug/L	1
tert-Amyl alcohol (TAA)	75-85-4	8260B	ND		20	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		10	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		20	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260B	ND		5.0	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
Bromofluorobenzene		100	70-130
1,2-Dichloroethane-d4		96	70-130
Toluene-d8		101	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	11/10/2010 2213	PMS	11/09/2010 1936	46201

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run

PQL = Practical quantitation limit
ND = Not detected at or above the PQL
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
H = Out of holding time

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **MW-9**
Date Sampled: **11/02/2010 1340**
Date Received: **11/05/2010**

Laboratory ID: **LK05085-005**
Matrix: **Aqueous**

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	11/10/2010 2213	PMS	11/09/2010 1936	46201

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0.022	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		66	57-137

ICP-AES

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	3005A	6010C	1	11/11/2010 0020	CDF	11/09/2010 1125	46103

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
Lead	**7439-92-1**	**6010C**	**0.35**		**0.010**	**mg/L**	**1**

PQL = Practical quantitation limit
ND = Not detected at or above the PQL
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
H = Out of holding time

Client: **Bunnell-Lammons Engineering, Inc.** Laboratory ID: **LK05085-006**
Description: **MW-10** Matrix: **Aqueous**
Date Sampled: **11/02/2010 1444**
Date Received: **11/05/2010**

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	11/09/2010 0045	DLB		46115

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
Benzene	71-43-2	8260B	ND		1.0	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		1.0	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		1.0	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		1.0	ug/L	1
Naphthalene	91-20-3	8260B	ND		1.0	ug/L	1
Toluene	108-88-3	8260B	ND		1.0	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		1.0	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		97	70-130
Bromofluorobenzene		100	70-130
Toluene-d8		102	70-130

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	11/09/2010 0045	DLB		46115

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
Diisopropyl ether (IPE)	108-20-3	8260B	ND		5.0	ug/L	1
Ethanol	64-17-5	8260B	ND		100	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		20	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		1.0	ug/L	1
tert-Amyl alcohol (TAA)	75-85-4	8260B	ND		20	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		10	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		20	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260B	ND		5.0	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
Bromofluorobenzene		100	70-130
1,2-Dichloroethane-d4		97	70-130
Toluene-d8		102	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	11/10/2010 2234	PMS	11/09/2010 1936	46201

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run

PQL = Practical quantitation limit
ND = Not detected at or above the PQL
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
H = Out of holding time

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **MW-10**
Date Sampled: **11/02/2010 1444**
Date Received: **11/05/2010**

Laboratory ID: **LK05085-006**
Matrix: **Aqueous**

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	11/10/2010 2234	PMS	11/09/2010 1936	46201

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0.020	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		78	57-137

ICP-AES

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	3005A	6010C	1	11/11/2010 0033	CDF	11/09/2010 1125	46103

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
Lead	**7439-92-1**	**6010C**	**0.48**		**0.010**	**mg/L**	**1**

PQL = Practical quantitation limit
ND = Not detected at or above the PQL
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
H = Out of holding time

Client: **Bunnell-Lammons Engineering, Inc.** Laboratory ID: **LK05085-007**
Description: **MW-11** Matrix: **Aqueous**
Date Sampled: **11/02/2010 1535**
Date Received: **11/05/2010**

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	11/09/2010 0106	DLB		46115

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
Benzene	71-43-2	8260B	ND		1.0	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		1.0	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		1.0	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		1.0	ug/L	1
Naphthalene	91-20-3	8260B	ND		1.0	ug/L	1
Toluene	108-88-3	8260B	ND		1.0	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		1.0	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		95	70-130
Bromofluorobenzene		97	70-130
Toluene-d8		102	70-130

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	11/09/2010 0106	DLB		46115

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
Diisopropyl ether (IPE)	108-20-3	8260B	ND		5.0	ug/L	1
Ethanol	64-17-5	8260B	ND		100	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		20	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		1.0	ug/L	1
tert-Amyl alcohol (TAA)	75-85-4	8260B	ND		20	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		10	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		20	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260B	ND		5.0	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
Bromofluorobenzene		97	70-130
1,2-Dichloroethane-d4		95	70-130
Toluene-d8		102	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	11/10/2010 2255	PMS	11/09/2010 1936	46201

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run

PQL = Practical quantitation limit
ND = Not detected at or above the PQL
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
N = Recovery is out of criteria
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
H = Out of holding time

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **MW-11**
Date Sampled: **11/02/2010 1535**
Date Received: **11/05/2010**

Laboratory ID: **LK05085-007**
Matrix: **Aqueous**

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	11/10/2010 2255	PMS	11/09/2010 1936	46201

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0.020	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		58	57-137

ICP-AES

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	3005A	6010C	1	11/11/2010 0038	CDF	11/09/2010 1125	46103

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
Lead	**7439-92-1**	**6010C**	**0.22**		**0.010**	**mg/L**	**1**

PQL = Practical quantitation limit
ND = Not detected at or above the PQL
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
H = Out of holding time
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Client: **Bunnell-Lammons Engineering, Inc.** Laboratory ID: **LK05085-008**
Description: **MW-12** Matrix: **Aqueous**
Date Sampled: **11/02/2010 1125**
Date Received: **11/05/2010**

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	11/09/2010 0128	DLB		46115

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
Benzene	71-43-2	8260B	ND		1.0	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		1.0	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		1.0	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		1.0	ug/L	1
Naphthalene	91-20-3	8260B	ND		1.0	ug/L	1
Toluene	108-88-3	8260B	ND		1.0	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		1.0	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		97	70-130
Bromofluorobenzene		98	70-130
Toluene-d8		102	70-130

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	11/09/2010 0128	DLB		46115

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
Diisopropyl ether (IPE)	108-20-3	8260B	ND		5.0	ug/L	1
Ethanol	64-17-5	8260B	ND		100	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		20	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		1.0	ug/L	1
tert-Amyl alcohol (TAA)	75-85-4	8260B	ND		20	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		10	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		20	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260B	ND		5.0	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
Bromofluorobenzene		98	70-130
1,2-Dichloroethane-d4		97	70-130
Toluene-d8		102	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
2	8011	8011	1	11/18/2010 1108	MPM	11/16/2010 1611	46707

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run

PQL = Practical quantitation limit
ND = Not detected at or above the PQL
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
H = Out of holding time

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **MW-12**
Date Sampled: **11/02/2010 1125**
Date Received: **11/05/2010**

Laboratory ID: **LK05085-008**
Matrix: **Aqueous**

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
2	8011	8011	1	11/18/2010 1108	MPM	11/16/2010 1611	46707

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0.021	ug/L	2

Surrogate	Q	Run 2 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		101	57-137

ICP-AES

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	3005A	6010C	1	11/11/2010 0042	CDF	11/09/2010 1125	46103

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
Lead	**7439-92-1**	**6010C**	**0.29**		**0.010**	**mg/L**	**1**

PQL = Practical quantitation limit
ND = Not detected at or above the PQL
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
H = Out of holding time

Client: **Bunnell-Lammons Engineering, Inc.** Laboratory ID: **LK05085-009**
Description: **MW-13** Matrix: **Aqueous**
Date Sampled: **11/02/2010 1705**
Date Received: **11/05/2010**

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	11/09/2010 0150	DLB		46115

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
Benzene	71-43-2	8260B	ND		1.0	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		1.0	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		1.0	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		1.0	ug/L	1
Naphthalene	91-20-3	8260B	ND		1.0	ug/L	1
Toluene	108-88-3	8260B	ND		1.0	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		1.0	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		97	70-130
Bromofluorobenzene		97	70-130
Toluene-d8		101	70-130

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	11/09/2010 0150	DLB		46115

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
Diisopropyl ether (IPE)	108-20-3	8260B	ND		5.0	ug/L	1
Ethanol	64-17-5	8260B	ND		100	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		20	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		1.0	ug/L	1
tert-Amyl alcohol (TAA)	75-85-4	8260B	ND		20	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		10	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		20	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260B	ND		5.0	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
Bromofluorobenzene		97	70-130
1,2-Dichloroethane-d4		97	70-130
Toluene-d8		101	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	11/10/2010 2337	PMS	11/09/2010 1936	46201

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run

PQL = Practical quantitation limit
ND = Not detected at or above the PQL
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
N = Recovery is out of criteria
H = Out of holding time

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **MW-13**
Date Sampled: **11/02/2010 1705**
Date Received: **11/05/2010**

Laboratory ID: **LK05085-009**
Matrix: **Aqueous**

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	11/10/2010 2337	PMS	11/09/2010 1936	46201

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0.021	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		63	57-137

ICP-AES

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	3005A	6010C	5	11/11/2010 1606	CDF	11/09/2010 1125	46103

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
Lead	**7439-92-1**	**6010C**	**0.42**		**0.050**	**mg/L**	**1**

PQL = Practical quantitation limit
ND = Not detected at or above the PQL
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
H = Out of holding time

Client: **Bunnell-Lammons Engineering, Inc.** Laboratory ID: **LK05085-010**
Description: **MW-14** Matrix: **Aqueous**
Date Sampled: **11/03/2010 1026**
Date Received: **11/05/2010**

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	11/09/2010 0211	DLB		46115

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
Benzene	71-43-2	8260B	ND		1.0	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		1.0	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		1.0	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		1.0	ug/L	1
Naphthalene	91-20-3	8260B	ND		1.0	ug/L	1
Toluene	108-88-3	8260B	ND		1.0	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		1.0	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		98	70-130
Bromofluorobenzene		97	70-130
Toluene-d8		104	70-130

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	11/09/2010 0211	DLB		46115

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
Diisopropyl ether (IPE)	108-20-3	8260B	ND		5.0	ug/L	1
Ethanol	64-17-5	8260B	ND		100	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		20	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		1.0	ug/L	1
tert-Amyl alcohol (TAA)	75-85-4	8260B	ND		20	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		10	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		20	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260B	ND		5.0	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
Bromofluorobenzene		97	70-130
1,2-Dichloroethane-d4		98	70-130
Toluene-d8		104	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	11/10/2010 2358	PMS	11/09/2010 1936	46201

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run

PQL = Practical quantitation limit
ND = Not detected at or above the PQL
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
N = Recovery is out of criteria
H = Out of holding time

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **MW-14**
Date Sampled: **11/03/2010 1026**
Date Received: **11/05/2010**

Laboratory ID: **LK05085-010**
Matrix: **Aqueous**

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	11/10/2010 2358	PMS	11/09/2010 1936	46201

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0.020	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		75	57-137

ICP-AES

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	3005A	6010C	1	11/11/2010 0051	CDF	11/09/2010 1125	46103

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
Lead	**7439-92-1**	**6010C**	**0.096**		**0.010**	**mg/L**	**1**

PQL = Practical quantitation limit
ND = Not detected at or above the PQL
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
H = Out of holding time

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **MW-15**
Date Sampled: **11/03/2010 1020**
Date Received: **11/05/2010**

Laboratory ID: **LK05085-011**
Matrix: **Aqueous**

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	11/09/2010 0233	DLB		46115

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
Benzene	71-43-2	8260B	ND		1.0	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		1.0	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		1.0	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		1.0	ug/L	1
Naphthalene	91-20-3	8260B	ND		1.0	ug/L	1
Toluene	108-88-3	8260B	ND		1.0	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		1.0	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		101	70-130
Bromofluorobenzene		96	70-130
Toluene-d8		104	70-130

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	11/09/2010 0233	DLB		46115

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
Diisopropyl ether (IPE)	108-20-3	8260B	ND		5.0	ug/L	1
Ethanol	64-17-5	8260B	ND		100	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		20	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		1.0	ug/L	1
tert-Amyl alcohol (TAA)	75-85-4	8260B	ND		20	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		10	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		20	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260B	ND		5.0	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
Bromofluorobenzene		96	70-130
1,2-Dichloroethane-d4		101	70-130
Toluene-d8		104	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	11/10/2010 0020	PMS	11/09/2010 1936	46201

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run

PQL = Practical quantitation limit
ND = Not detected at or above the PQL
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
H = Out of holding time

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **MW-15**
Date Sampled: **11/03/2010 1020**
Date Received: **11/05/2010**

Laboratory ID: **LK05085-011**
Matrix: **Aqueous**

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	11/10/2010 0020	PMS	11/09/2010 1936	46201

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0.020	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		91	57-137

ICP-AES

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	3005A	6010C	1	11/11/2010 0056	CDF	11/09/2010 1125	46103

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
Lead	**7439-92-1**	**6010C**	**0.070**		**0.010**	**mg/L**	**1**

PQL = Practical quantitation limit
ND = Not detected at or above the PQL
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
N = Recovery is out of criteria
H = Out of holding time

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **MW-16**
Date Sampled: **11/02/2010 1613**
Date Received: **11/05/2010**

Laboratory ID: **LK05085-012**
Matrix: **Aqueous**

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	11/10/2010 0116	DLB		46258

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
Benzene	71-43-2	8260B	ND		1.0	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		1.0	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		1.0	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		1.0	ug/L	1
Naphthalene	91-20-3	8260B	ND		1.0	ug/L	1
Toluene	108-88-3	8260B	ND		1.0	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		1.0	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		105	70-130
Bromofluorobenzene		96	70-130
Toluene-d8		104	70-130

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	11/10/2010 0116	DLB		46258

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
Diisopropyl ether (IPE)	108-20-3	8260B	ND		5.0	ug/L	1
Ethanol	**64-17-5**	**8260B**	**220**		**100**	**ug/L**	**1**
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		20	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		1.0	ug/L	1
tert-Amyl alcohol (TAA)	75-85-4	8260B	ND		20	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		10	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		20	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260B	ND		5.0	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
Bromofluorobenzene		96	70-130
1,2-Dichloroethane-d4		105	70-130
Toluene-d8		104	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	11/10/2010 0041	PMS	11/09/2010 1936	46201

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run

PQL = Practical quantitation limit
ND = Not detected at or above the PQL
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
H = Out of holding time

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **MW-16**
Date Sampled: **11/02/2010 1613**
Date Received: **11/05/2010**

Laboratory ID: **LK05085-012**
Matrix: **Aqueous**

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	11/10/2010 0041	PMS	11/09/2010 1936	46201

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0.020	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		93	57-137

ICP-AES

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	3005A	6010C	1	11/11/2010 0100	CDF	11/09/2010 1125	46103

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
Lead	**7439-92-1**	**6010C**	**0.18**		**0.010**	**mg/L**	**1**

PQL = Practical quantitation limit
ND = Not detected at or above the PQL
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
H = Out of holding time

Client: **Bunnell-Lammons Engineering, Inc.**	Laboratory ID: **LK05085-013**
Description: **MW-17**	Matrix: **Aqueous**
Date Sampled: **11/02/2010 1536**	
Date Received: **11/05/2010**	

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	11/09/2010 2023	DLB		46258

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
Benzene	71-43-2	8260B	ND		1.0	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		1.0	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		1.0	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		1.0	ug/L	1
Naphthalene	91-20-3	8260B	ND		1.0	ug/L	1
Toluene	108-88-3	8260B	ND		1.0	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		1.0	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		99	70-130
Bromofluorobenzene		100	70-130
Toluene-d8		102	70-130

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	11/09/2010 2023	DLB		46258

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
Diisopropyl ether (IPE)	108-20-3	8260B	ND		5.0	ug/L	1
Ethanol	**64-17-5**	**8260B**	**260**		**100**	**ug/L**	**1**
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		20	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		1.0	ug/L	1
tert-Amyl alcohol (TAA)	75-85-4	8260B	ND		20	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		10	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		20	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260B	ND		5.0	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
Bromofluorobenzene		100	70-130
1,2-Dichloroethane-d4		99	70-130
Toluene-d8		102	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	11/11/2010 0102	PMS	11/09/2010 1936	46201

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run

PQL = Practical quantitation limit
ND = Not detected at or above the PQL
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
H = Out of holding time

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **MW-17**
Date Sampled: **11/02/2010 1536**
Date Received: **11/05/2010**

Laboratory ID: **LK05085-013**
Matrix: **Aqueous**

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	11/11/2010 0102	PMS	11/09/2010 1936	46201

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0.020	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		114	57-137

ICP-AES

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	3005A	6010C	1	11/11/2010 0013	CDF	11/09/2010 1125	46109

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
Lead	**7439-92-1**	**6010C**	**0.031**		**0.010**	**mg/L**	**1**

PQL = Practical quantitation limit
ND = Not detected at or above the PQL
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
H = Out of holding time

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **MW-18**
Date Sampled: **11/02/2010 1500**
Date Received: **11/05/2010**

Laboratory ID: **LK05085-014**
Matrix: **Aqueous**

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	20	11/10/2010 1804	DLB		46360
2	5030B	8260B	20	11/12/2010 1559	DLB		46523

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
Benzene	**71-43-2**	**8260B**	**20**		**20**	**ug/L**	**2**
1,2-Dichloroethane	107-06-2	8260B	ND		20	ug/L	1
Ethylbenzene	**100-41-4**	**8260B**	**1700**		**20**	**ug/L**	**1**
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		20	ug/L	1
Naphthalene	**91-20-3**	**8260B**	**490**		**20**	**ug/L**	**1**
Toluene	**108-88-3**	**8260B**	**170**		**20**	**ug/L**	**1**
Xylenes (total)	**1330-20-7**	**8260B**	**6200**		**20**	**ug/L**	**1**

Surrogate	Q	Run 1 % Recovery	Acceptance Limits	Q	Run 2 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		96	70-130		96	70-130
Bromofluorobenzene		104	70-130		102	70-130
Toluene-d8		113	70-130		102	70-130

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	20	11/10/2010 1804	DLB		46360

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
Diisopropyl ether (IPE)	108-20-3	8260B	ND		100	ug/L	1
Ethanol	64-17-5	8260B	ND		2000	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		400	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		20	ug/L	1
tert-Amyl alcohol (TAA)	75-85-4	8260B	ND		400	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		200	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		400	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260B	ND		100	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
Bromofluorobenzene		104	70-130
1,2-Dichloroethane-d4		96	70-130
Toluene-d8		113	70-130

PQL = Practical quantitation limit
ND = Not detected at or above the PQL
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
H = Out of holding time

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **MW-18**
Date Sampled: **11/02/2010 1500**
Date Received: **11/05/2010**

Laboratory ID: **LK05085-014**
Matrix: **Aqueous**

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	11/11/2010 0123	PMS	11/09/2010 1936	46201

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0.020	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		80	57-137

ICP-AES

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	3005A	6010C	1	11/11/2010 0037	CDF	11/09/2010 1125	46109

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
Lead	**7439-92-1**	**6010C**	**0.27**		**0.010**	**mg/L**	**1**

PQL = Practical quantitation limit
ND = Not detected at or above the PQL
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
H = Out of holding time

Client: **Bunnell-Lammons Engineering, Inc.** Laboratory ID: **LK05085-015**
Description: **MW-19** Matrix: **Aqueous**
Date Sampled: **11/02/2010 1434**
Date Received: **11/05/2010**

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	200	11/10/2010 1827	DLB		46360

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
Benzene	**71-43-2**	**8260B**	**8300**		**200**	**ug/L**	**1**
1,2-Dichloroethane	107-06-2	8260B	ND		200	ug/L	1
Ethylbenzene	**100-41-4**	**8260B**	**3100**		**200**	**ug/L**	**1**
Methyl tertiary butyl ether (MTBE)	**1634-04-4**	**8260B**	**320**		**200**	**ug/L**	**1**
Naphthalene	**91-20-3**	**8260B**	**850**		**200**	**ug/L**	**1**
Toluene	**108-88-3**	**8260B**	**29000**		**200**	**ug/L**	**1**
Xylenes (total)	**1330-20-7**	**8260B**	**19000**		**200**	**ug/L**	**1**

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		96	70-130
Bromofluorobenzene		100	70-130
Toluene-d8		111	70-130

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	200	11/10/2010 1827	DLB		46360

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
Diisopropyl ether (IPE)	108-20-3	8260B	ND		1000	ug/L	1
Ethanol	64-17-5	8260B	ND		20000	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		4000	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		200	ug/L	1
tert-Amyl alcohol (TAA)	75-85-4	8260B	ND		4000	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		2000	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		4000	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260B	ND		1000	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
Bromofluorobenzene		100	70-130
1,2-Dichloroethane-d4		96	70-130
Toluene-d8		111	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
2	8011	8011	50	11/12/2010 1307	PMS	11/09/2010 1936	46201

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run

PQL = Practical quantitation limit
ND = Not detected at or above the PQL
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
N = Recovery is out of criteria
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
H = Out of holding time

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **MW-19**
Date Sampled: **11/02/2010 1434**
Date Received: **11/05/2010**

Laboratory ID: **LK05085-015**
Matrix: **Aqueous**

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
2	8011	8011	50	11/12/2010 1307	PMS	11/09/2010 1936	46201

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
1,2-Dibromoethane (EDB)	**106-93-4**	**8011**	**28**		**1.0**	**ug/L**	**2**

Surrogate	Q	Run 2 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane	N	0.00	57-137

ICP-AES

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	3005A	6010C	1	11/11/2010 0049	CDF	11/09/2010 1125	46109

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
Lead	**7439-92-1**	**6010C**	**0.048**		**0.010**	**mg/L**	**1**

PQL = Practical quantitation limit
ND = Not detected at or above the PQL
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
N = Recovery is out of criteria
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
H = Out of holding time

Client: **Bunnell-Lammons Engineering, Inc.** Laboratory ID: **LK05085-016**
Description: **MW-20** Matrix: **Aqueous**
Date Sampled: **11/04/2010 1006**
Date Received: **11/05/2010**

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	11/09/2010 2045	DLB		46258

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
Benzene	71-43-2	8260B	ND		1.0	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		1.0	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		1.0	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		1.0	ug/L	1
Naphthalene	91-20-3	8260B	ND		1.0	ug/L	1
Toluene	108-88-3	8260B	ND		1.0	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		1.0	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		98	70-130
Bromofluorobenzene		99	70-130
Toluene-d8		103	70-130

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	11/09/2010 2045	DLB		46258

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
Diisopropyl ether (IPE)	108-20-3	8260B	ND		5.0	ug/L	1
Ethanol	64-17-5	8260B	ND		100	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		20	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		1.0	ug/L	1
tert-Amyl alcohol (TAA)	75-85-4	8260B	ND		20	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		10	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		20	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260B	ND		5.0	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
Bromofluorobenzene		99	70-130
1,2-Dichloroethane-d4		98	70-130
Toluene-d8		103	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	11/11/2010 0205	PMS	11/09/2010 1936	46201

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run

PQL = Practical quantitation limit
ND = Not detected at or above the PQL
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
N = Recovery is out of criteria
H = Out of holding time

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **MW-20**
Date Sampled: **11/04/2010 1006**
Date Received: **11/05/2010**

Laboratory ID: **LK05085-016**
Matrix: **Aqueous**

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	11/11/2010 0205	PMS	11/09/2010 1936	46201

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0.020	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		90	57-137

ICP-AES

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	3005A	6010C	1	11/11/2010 0107	CDF	11/09/2010 1125	46109

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
Lead	**7439-92-1**	**6010C**	**0.010**		**0.010**	**mg/L**	**1**

PQL = Practical quantitation limit
ND = Not detected at or above the PQL
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
H = Out of holding time

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **MW-21**
Date Sampled: **11/04/2010 1025**
Date Received: **11/05/2010**

Laboratory ID: **LK05085-017**
Matrix: **Aqueous**

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	11/09/2010 2106	DLB		46258

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
Benzene	71-43-2	8260B	ND		1.0	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		1.0	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		1.0	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		1.0	ug/L	1
Naphthalene	91-20-3	8260B	ND		1.0	ug/L	1
Toluene	108-88-3	8260B	ND		1.0	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		1.0	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		99	70-130
Bromofluorobenzene		97	70-130
Toluene-d8		104	70-130

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	11/09/2010 2106	DLB		46258

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
Diisopropyl ether (IPE)	108-20-3	8260B	ND		5.0	ug/L	1
Ethanol	64-17-5	8260B	ND		100	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		20	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		1.0	ug/L	1
tert-Amyl alcohol (TAA)	75-85-4	8260B	ND		20	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		10	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		20	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260B	ND		5.0	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
Bromofluorobenzene		97	70-130
1,2-Dichloroethane-d4		99	70-130
Toluene-d8		104	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	11/11/2010 0226	PMS	11/09/2010 1936	46201

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run

PQL = Practical quantitation limit
ND = Not detected at or above the PQL
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
H = Out of holding time

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **MW-21**
Date Sampled: **11/04/2010 1025**
Date Received: **11/05/2010**

Laboratory ID: **LK05085-017**
Matrix: **Aqueous**

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	11/11/2010 0226	PMS	11/09/2010 1936	46201

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0.019	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		74	57-137

ICP-AES

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	3005A	6010C	1	11/11/2010 0113	CDF	11/09/2010 1125	46109

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
Lead	**7439-92-1**	**6010C**	**0.022**		**0.010**	**mg/L**	**1**

PQL = Practical quantitation limit
ND = Not detected at or above the PQL
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
H = Out of holding time
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **MW-21D**
Date Sampled: **11/04/2010 0940**
Date Received: **11/05/2010**

Laboratory ID: **LK05085-018**
Matrix: **Aqueous**

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	11/09/2010 2128	DLB		46258

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
Benzene	71-43-2	8260B	ND		1.0	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		1.0	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		1.0	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		1.0	ug/L	1
Naphthalene	91-20-3	8260B	ND		1.0	ug/L	1
Toluene	108-88-3	8260B	ND		1.0	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		1.0	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		102	70-130
Bromofluorobenzene		98	70-130
Toluene-d8		105	70-130

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	11/09/2010 2128	DLB		46258

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
Diisopropyl ether (IPE)	108-20-3	8260B	ND		5.0	ug/L	1
Ethanol	64-17-5	8260B	ND		100	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		20	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		1.0	ug/L	1
tert-Amyl alcohol (TAA)	75-85-4	8260B	ND		20	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		10	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		20	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260B	ND		5.0	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
Bromofluorobenzene		98	70-130
1,2-Dichloroethane-d4		102	70-130
Toluene-d8		105	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	11/11/2010 0247	PMS	11/09/2010 1936	46201

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run

PQL = Practical quantitation limit
ND = Not detected at or above the PQL
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
H = Out of holding time

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **MW-21D**
Date Sampled: **11/04/2010 0940**
Date Received: **11/05/2010**

Laboratory ID: **LK05085-018**
Matrix: **Aqueous**

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	11/11/2010 0247	PMS	11/09/2010 1936	46201

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0.020	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		83	57-137

ICP-AES

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	3005A	6010C	1	11/11/2010 0120	CDF	11/09/2010 1125	46109

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
Lead	**7439-92-1**	**6010C**	**0.069**		**0.010**	**mg/L**	**1**

PQL = Practical quantitation limit
ND = Not detected at or above the PQL
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
H = Out of holding time
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Client: **Bunnell-Lammons Engineering, Inc.** Laboratory ID: **LK05085-019**
Description: **MW-22** Matrix: **Aqueous**
Date Sampled: **11/02/2010 1411**
Date Received: **11/05/2010**

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	20	11/10/2010 2224	DLB		46360

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
Benzene	**71-43-2**	**8260B**	**3200**		**20**	**ug/L**	**1**
1,2-Dichloroethane	107-06-2	8260B	ND		20	ug/L	1
Ethylbenzene	**100-41-4**	**8260B**	**2400**		**20**	**ug/L**	**1**
Methyl tertiary butyl ether (MTBE)	**1634-04-4**	**8260B**	**610**		**20**	**ug/L**	**1**
Naphthalene	**91-20-3**	**8260B**	**630**		**20**	**ug/L**	**1**
Toluene	**108-88-3**	**8260B**	**1000**		**20**	**ug/L**	**1**
Xylenes (total)	**1330-20-7**	**8260B**	**7900**		**20**	**ug/L**	**1**

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		90	70-130
Bromofluorobenzene		102	70-130
Toluene-d8		112	70-130

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	20	11/10/2010 2224	DLB		46360

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
Diisopropyl ether (IPE)	108-20-3	8260B	ND		100	ug/L	1
Ethanol	64-17-5	8260B	ND		2000	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		400	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		20	ug/L	1
tert-Amyl alcohol (TAA)	75-85-4	8260B	ND		400	ug/L	1
tert-Amyl methyl ether (TAME)	**994-05-8**	**8260B**	**360**		**200**	**ug/L**	**1**
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		400	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260B	ND		100	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
Bromofluorobenzene		102	70-130
1,2-Dichloroethane-d4		90	70-130
Toluene-d8		112	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	11/11/2010 0412	PMS	11/09/2010 1950	46204

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run

PQL = Practical quantitation limit
ND = Not detected at or above the PQL
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
H = Out of holding time
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **MW-22**
Date Sampled: **11/02/2010 1411**
Date Received: **11/05/2010**

Laboratory ID: **LK05085-019**
Matrix: **Aqueous**

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	11/11/2010 0412	PMS	11/09/2010 1950	46204

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
1,2-Dibromoethane (EDB)	**106-93-4**	**8011**	**0.28**	**P**	**0.021**	**ug/L**	**1**

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		66	57-137

ICP-AES

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	3005A	6010C	5	11/11/2010 1624	CDF	11/09/2010 1125	46109

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
Lead	**7439-92-1**	**6010C**	**0.52**		**0.050**	**mg/L**	**1**

PQL = Practical quantitation limit
ND = Not detected at or above the PQL
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
H = Out of holding time

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **MW-22D**
Date Sampled: **11/04/2010 1027**
Date Received: **11/05/2010**

Laboratory ID: **LK05085-020**
Matrix: **Aqueous**

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	11/10/2010 0033	DLB		46258

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
Benzene	**71-43-2**	**8260B**	**220**		**1.0**	**ug/L**	**1**
1,2-Dichloroethane	107-06-2	8260B	ND		1.0	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		1.0	ug/L	1
Methyl tertiary butyl ether (MTBE)	**1634-04-4**	**8260B**	**9.2**		**1.0**	**ug/L**	**1**
Naphthalene	**91-20-3**	**8260B**	**15**		**1.0**	**ug/L**	**1**
Toluene	108-88-3	8260B	ND		1.0	ug/L	1
Xylenes (total)	**1330-20-7**	**8260B**	**2.0**		**1.0**	**ug/L**	**1**

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		99	70-130
Bromofluorobenzene		95	70-130
Toluene-d8		104	70-130

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	11/10/2010 0033	DLB		46258

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
Diisopropyl ether (IPE)	108-20-3	8260B	ND		5.0	ug/L	1
Ethanol	64-17-5	8260B	ND		100	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		20	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		1.0	ug/L	1
tert-Amyl alcohol (TAA)	75-85-4	8260B	ND		20	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		10	ug/L	1
tert-butyl alcohol (TBA)	**75-65-0**	**8260B**	**24**		**20**	**ug/L**	**1**
tert-Butyl formate (TBF)	762-75-4	8260B	ND		5.0	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
Bromofluorobenzene		95	70-130
1,2-Dichloroethane-d4		99	70-130
Toluene-d8		104	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	11/11/2010 0433	PMS	11/09/2010 1950	46204

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run

PQL = Practical quantitation limit
ND = Not detected at or above the PQL
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
H = Out of holding time
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **MW-22D**
Date Sampled: **11/04/2010 1027**
Date Received: **11/05/2010**

Laboratory ID: **LK05085-020**
Matrix: **Aqueous**

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	11/11/2010 0433	PMS	11/09/2010 1950	46204

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0.019	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		80	57-137

ICP-AES

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	3005A	6010C	1	11/11/2010 0132	CDF	11/09/2010 1125	46109

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
Lead	**7439-92-1**	**6010C**	**0.015**		**0.010**	**mg/L**	**1**

PQL = Practical quantitation limit
ND = Not detected at or above the PQL
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
H = Out of holding time

Client: **Bunnell-Lammons Engineering, Inc.** Laboratory ID: **LK05085-021**
Description: **MW-23** Matrix: **Aqueous**
Date Sampled: **11/03/2010 1158**
Date Received: **11/05/2010**

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	200	11/10/2010 2248	DLB		46360

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
Benzene	**71-43-2**	**8260B**	**19000**		**200**	**ug/L**	**1**
1,2-Dichloroethane	**107-06-2**	**8260B**	**910**		**200**	**ug/L**	**1**
Ethylbenzene	**100-41-4**	**8260B**	**4500**		**200**	**ug/L**	**1**
Methyl tertiary butyl ether (MTBE)	**1634-04-4**	**8260B**	**2300**		**200**	**ug/L**	**1**
Naphthalene	**91-20-3**	**8260B**	**1000**		**200**	**ug/L**	**1**
Toluene	**108-88-3**	**8260B**	**30000**		**200**	**ug/L**	**1**
Xylenes (total)	**1330-20-7**	**8260B**	**24000**		**200**	**ug/L**	**1**

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		87	70-130
Bromofluorobenzene		95	70-130
Toluene-d8		108	70-130

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	200	11/10/2010 2248	DLB		46360

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
Diisopropyl ether (IPE)	108-20-3	8260B	ND		1000	ug/L	1
Ethanol	64-17-5	8260B	ND		20000	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		4000	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		200	ug/L	1
tert-Amyl alcohol (TAA)	75-85-4	8260B	ND		4000	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		2000	ug/L	1
tert-butyl alcohol (TBA)	**75-65-0**	**8260B**	**14000**		**4000**	**ug/L**	**1**
tert-Butyl formate (TBF)	762-75-4	8260B	ND		1000	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
Bromofluorobenzene		95	70-130
1,2-Dichloroethane-d4		87	70-130
Toluene-d8		108	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
2	8011	8011	50	11/12/2010 1350	PMS	11/09/2010 1950	46204

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run

PQL = Practical quantitation limit
ND = Not detected at or above the PQL
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
H = Out of holding time

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **MW-23**
Date Sampled: **11/03/2010 1158**
Date Received: **11/05/2010**

Laboratory ID: **LK05085-021**
Matrix: **Aqueous**

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
2	8011	8011	50	11/12/2010 1350	PMS	11/09/2010 1950	46204

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
1,2-Dibromoethane (EDB)	**106-93-4**	**8011**	**40**		**1.0**	**ug/L**	**2**

Surrogate	Q	Run 2 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane	N	0.00	57-137

ICP-AES

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	3005A	6010C	1	11/11/2010 0138	CDF	11/09/2010 1125	46109

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
Lead	**7439-92-1**	**6010C**	**0.64**		**0.010**	**mg/L**	**1**

PQL = Practical quantitation limit
ND = Not detected at or above the PQL
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
H = Out of holding time

Client: **Bunnell-Lammons Engineering, Inc.** Laboratory ID: **LK05085-022**
Description: **MW-24** Matrix: **Aqueous**
Date Sampled: **11/03/2010 1117**
Date Received: **11/05/2010**

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	100	11/10/2010 1938	DLB		46360

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
Benzene	**71-43-2**	**8260B**	**17000**		**100**	**ug/L**	**1**
1,2-Dichloroethane	**107-06-2**	**8260B**	**630**		**100**	**ug/L**	**1**
Ethylbenzene	**100-41-4**	**8260B**	**5100**		**100**	**ug/L**	**1**
Methyl tertiary butyl ether (MTBE)	**1634-04-4**	**8260B**	**2400**		**100**	**ug/L**	**1**
Naphthalene	**91-20-3**	**8260B**	**840**		**100**	**ug/L**	**1**
Toluene	**108-88-3**	**8260B**	**23000**		**100**	**ug/L**	**1**
Xylenes (total)	**1330-20-7**	**8260B**	**24000**		**100**	**ug/L**	**1**

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		95	70-130
Bromofluorobenzene		100	70-130
Toluene-d8		107	70-130

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	100	11/10/2010 1938	DLB		46360

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
Diisopropyl ether (IPE)	108-20-3	8260B	ND		500	ug/L	1
Ethanol	64-17-5	8260B	ND		10000	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		2000	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		100	ug/L	1
tert-Amyl alcohol (TAA)	75-85-4	8260B	ND		2000	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		1000	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		2000	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260B	ND		500	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
Bromofluorobenzene		100	70-130
1,2-Dichloroethane-d4		95	70-130
Toluene-d8		107	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
2	8011	8011	100	11/12/2010 1411	PMS	11/09/2010 1950	46204

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run

PQL = Practical quantitation limit
ND = Not detected at or above the PQL
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
H = Out of holding time

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **MW-24**
Date Sampled: **11/03/2010 1117**
Date Received: **11/05/2010**

Laboratory ID: **LK05085-022**
Matrix: **Aqueous**

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
2	8011	8011	100	11/12/2010 1411	PMS	11/09/2010 1950	46204

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
1,2-Dibromoethane (EDB)	**106-93-4**	**8011**	**55**		**2.0**	**ug/L**	**2**

Surrogate	Q	Run 2 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane	N	0.00	57-137

ICP-AES

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	3005A	6010C	1	11/11/2010 0144	CDF	11/09/2010 1125	46109

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
Lead	**7439-92-1**	**6010C**	**0.12**		**0.010**	**mg/L**	**1**

PQL = Practical quantitation limit
ND = Not detected at or above the PQL
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
H = Out of holding time
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Client: **Bunnell-Lammons Engineering, Inc.** Laboratory ID: **LK05085-023**
Description: **MW-24D** Matrix: **Aqueous**
Date Sampled: **11/04/2010 1218**
Date Received: **11/05/2010**

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	11/08/2010 2113	DLB		46110

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
Benzene	**71-43-2**	**8260B**	**110**		**1.0**	**ug/L**	**1**
1,2-Dichloroethane	107-06-2	8260B	ND		1.0	ug/L	1
Ethylbenzene	**100-41-4**	**8260B**	**9.2**		**1.0**	**ug/L**	**1**
Methyl tertiary butyl ether (MTBE)	**1634-04-4**	**8260B**	**10**		**1.0**	**ug/L**	**1**
Naphthalene	**91-20-3**	**8260B**	**14**		**1.0**	**ug/L**	**1**
Toluene	**108-88-3**	**8260B**	**23**		**1.0**	**ug/L**	**1**
Xylenes (total)	**1330-20-7**	**8260B**	**33**		**1.0**	**ug/L**	**1**

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		105	70-130
Bromofluorobenzene		104	70-130
Toluene-d8		101	70-130

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	11/08/2010 2113	DLB		46110

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
Diisopropyl ether (IPE)	108-20-3	8260B	ND		5.0	ug/L	1
Ethanol	64-17-5	8260B	ND		100	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		20	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		1.0	ug/L	1
tert-Amyl alcohol (TAA)	**75-85-4**	**8260B**	**55**		**20**	**ug/L**	**1**
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		10	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		20	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260B	ND		5.0	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
Bromofluorobenzene		104	70-130
1,2-Dichloroethane-d4		105	70-130
Toluene-d8		101	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	11/11/2010 0558	PMS	11/09/2010 1950	46204

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run

PQL = Practical quantitation limit
ND = Not detected at or above the PQL
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
H = Out of holding time
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **MW-24D**
Date Sampled: **11/04/2010 1218**
Date Received: **11/05/2010**

Laboratory ID: **LK05085-023**
Matrix: **Aqueous**

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	11/11/2010 0558	PMS	11/09/2010 1950	46204

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
1,2-Dibromoethane (EDB)	**106-93-4**	**8011**	**0.041**		**0.020**	**ug/L**	**1**

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		101	57-137

ICP-AES

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	3005A	6010C	1	11/11/2010 0150	CDF	11/09/2010 1125	46109

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
Lead	7439-92-1	6010C	ND		0.010	mg/L	1

PQL = Practical quantitation limit
ND = Not detected at or above the PQL
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
H = Out of holding time
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Client: **Bunnell-Lammons Engineering, Inc.** Laboratory ID: **LK05085-024**
Description: **MW-25** Matrix: **Aqueous**
Date Sampled: **11/03/2010 1246**
Date Received: **11/05/2010**

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	20	11/10/2010 2001	DLB		46360

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
Benzene	**71-43-2**	**8260B**	**6100**		**20**	**ug/L**	**1**
1,2-Dichloroethane	107-06-2	8260B	ND		20	ug/L	1
Ethylbenzene	**100-41-4**	**8260B**	**1500**		**20**	**ug/L**	**1**
Methyl tertiary butyl ether (MTBE)	**1634-04-4**	**8260B**	**1000**		**20**	**ug/L**	**1**
Naphthalene	**91-20-3**	**8260B**	**520**		**20**	**ug/L**	**1**
Toluene	**108-88-3**	**8260B**	**3600**		**20**	**ug/L**	**1**
Xylenes (total)	**1330-20-7**	**8260B**	**7900**		**20**	**ug/L**	**1**

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		94	70-130
Bromofluorobenzene		100	70-130
Toluene-d8		108	70-130

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	20	11/10/2010 2001	DLB		46360

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
Diisopropyl ether (IPE)	108-20-3	8260B	ND		100	ug/L	1
Ethanol	64-17-5	8260B	ND		2000	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		400	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		20	ug/L	1
tert-Amyl alcohol (TAA)	**75-85-4**	**8260B**	**2800**		**400**	**ug/L**	**1**
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		200	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		400	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260B	ND		100	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
Bromofluorobenzene		100	70-130
1,2-Dichloroethane-d4		94	70-130
Toluene-d8		108	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
2	8011	8011	5	11/12/2010 1454	PMS	11/09/2010 1950	46204

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run

PQL = Practical quantitation limit
ND = Not detected at or above the PQL
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
H = Out of holding time
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **MW-25**
Date Sampled: **11/03/2010 1246**
Date Received: **11/05/2010**

Laboratory ID: **LK05085-024**
Matrix: **Aqueous**

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
2	8011	8011	5	11/12/2010 1454	PMS	11/09/2010 1950	46204

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
1,2-Dibromoethane (EDB)	**106-93-4**	**8011**	**3.5**		**0.10**	**ug/L**	**2**

Surrogate	Q	Run 2 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		59	57-137

ICP-AES

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	3005A	6010C	1	11/11/2010 0156	CDF	11/09/2010 1125	46109

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
Lead	**7439-92-1**	**6010C**	**0.11**		**0.010**	**mg/L**	**1**

PQL = Practical quantitation limit
ND = Not detected at or above the PQL
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
H = Out of holding time

Client: **Bunnell-Lammons Engineering, Inc.** Laboratory ID: **LK05085-025**
Description: **MW-26** Matrix: **Aqueous**
Date Sampled: **11/03/2010 1154**
Date Received: **11/05/2010**

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	11/08/2010 2135	DLB		46110

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
Benzene	**71-43-2**	**8260B**	**27**		**1.0**	**ug/L**	**1**
1,2-Dichloroethane	107-06-2	8260B	ND		1.0	ug/L	1
Ethylbenzene	**100-41-4**	**8260B**	**2.2**		**1.0**	**ug/L**	**1**
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		1.0	ug/L	1
Naphthalene	91-20-3	8260B	ND		1.0	ug/L	1
Toluene	108-88-3	8260B	ND		1.0	ug/L	1
Xylenes (total)	**1330-20-7**	**8260B**	**8.5**		**1.0**	**ug/L**	**1**

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		101	70-130
Bromofluorobenzene		104	70-130
Toluene-d8		105	70-130

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	11/08/2010 2135	DLB		46110

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
Diisopropyl ether (IPE)	108-20-3	8260B	ND		5.0	ug/L	1
Ethanol	64-17-5	8260B	ND		100	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		20	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		1.0	ug/L	1
tert-Amyl alcohol (TAA)	**75-85-4**	**8260B**	**64**		**20**	**ug/L**	**1**
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		10	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		20	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260B	ND		5.0	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
Bromofluorobenzene		104	70-130
1,2-Dichloroethane-d4		101	70-130
Toluene-d8		105	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	11/11/2010 0640	PMS	11/09/2010 1950	46204

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run

PQL = Practical quantitation limit
ND = Not detected at or above the PQL
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
H = Out of holding time

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **MW-26**
Date Sampled: **11/03/2010 1154**
Date Received: **11/05/2010**

Laboratory ID: **LK05085-025**
Matrix: **Aqueous**

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	11/11/2010 0640	PMS	11/09/2010 1950	46204

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0.021	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		82	57-137

ICP-AES

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	3005A	6010C	1	11/11/2010 0202	CDF	11/09/2010 1125	46109

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
Lead	7439-92-1	6010C	ND		0.010	mg/L	1

PQL = Practical quantitation limit
ND = Not detected at or above the PQL
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
H = Out of holding time
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Client: **Bunnell-Lammons Engineering, Inc.** Laboratory ID: **LK05085-026**
Description: **MW-27** Matrix: **Aqueous**
Date Sampled: **11/03/2010 1115**
Date Received: **11/05/2010**

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	11/09/2010 2150	DLB		46258

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
Benzene	71-43-2	8260B	ND		1.0	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		1.0	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		1.0	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		1.0	ug/L	1
Naphthalene	91-20-3	8260B	ND		1.0	ug/L	1
Toluene	108-88-3	8260B	ND		1.0	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		1.0	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		100	70-130
Bromofluorobenzene		97	70-130
Toluene-d8		104	70-130

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	11/09/2010 2150	DLB		46258

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
Diisopropyl ether (IPE)	108-20-3	8260B	ND		5.0	ug/L	1
Ethanol	**64-17-5**	**8260B**	**1200**		**100**	**ug/L**	**1**
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		20	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		1.0	ug/L	1
tert-Amyl alcohol (TAA)	75-85-4	8260B	ND		20	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		10	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		20	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260B	ND		5.0	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
Bromofluorobenzene		97	70-130
1,2-Dichloroethane-d4		100	70-130
Toluene-d8		104	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	11/11/2010 0701	PMS	11/09/2010 1950	46204

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run

PQL = Practical quantitation limit
ND = Not detected at or above the PQL
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
N = Recovery is out of criteria
H = Out of holding time

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **MW-27**
Date Sampled: **11/03/2010 1115**
Date Received: **11/05/2010**

Laboratory ID: **LK05085-026**
Matrix: **Aqueous**

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	11/11/2010 0701	PMS	11/09/2010 1950	46204

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0.021	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		81	57-137

ICP-AES

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	3005A	6010C	1	11/11/2010 0220	CDF	11/09/2010 1125	46109

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
Lead	7439-92-1	6010C	ND		0.010	mg/L	1

PQL = Practical quantitation limit
ND = Not detected at or above the PQL
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
H = Out of holding time
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **MW-28**
Date Sampled: **11/04/2010 0948**
Date Received: **11/05/2010**

Laboratory ID: **LK05085-027**
Matrix: **Aqueous**

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	11/10/2010 0138	DLB		46258

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
Benzene	71-43-2	8260B	ND		1.0	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		1.0	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		1.0	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		1.0	ug/L	1
Naphthalene	91-20-3	8260B	ND		1.0	ug/L	1
Toluene	108-88-3	8260B	ND		1.0	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		1.0	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		103	70-130
Bromofluorobenzene		95	70-130
Toluene-d8		104	70-130

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	11/10/2010 0138	DLB		46258

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
Diisopropyl ether (IPE)	108-20-3	8260B	ND		5.0	ug/L	1
Ethanol	64-17-5	8260B	ND		100	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		20	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		1.0	ug/L	1
tert-Amyl alcohol (TAA)	75-85-4	8260B	ND		20	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		10	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		20	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260B	ND		5.0	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
Bromofluorobenzene		95	70-130
1,2-Dichloroethane-d4		103	70-130
Toluene-d8		104	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	11/11/2010 0722	PMS	11/09/2010 1950	46204

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run

PQL = Practical quantitation limit
ND = Not detected at or above the PQL
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
N = Recovery is out of criteria
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
H = Out of holding time

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **MW-28**
Date Sampled: **11/04/2010 0948**
Date Received: **11/05/2010**

Laboratory ID: **LK05085-027**
Matrix: **Aqueous**

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	11/11/2010 0722	PMS	11/09/2010 1950	46204

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0.020	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		75	57-137

ICP-AES

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	3005A	6010C	1	11/11/2010 0226	CDF	11/09/2010 1125	46109

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
Lead	7439-92-1	6010C	ND		0.010	mg/L	1

PQL = Practical quantitation limit
ND = Not detected at or above the PQL
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
H = Out of holding time

Client: **Bunnell-Lammons Engineering, Inc.** Laboratory ID: **LK05085-028**
Description: **MW-29** Matrix: **Aqueous**
Date Sampled: **11/03/2010 1418**
Date Received: **11/05/2010**

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	11/09/2010 2245	DLB		46258

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
Benzene	71-43-2	8260B	ND		1.0	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		1.0	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		1.0	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		1.0	ug/L	1
Naphthalene	91-20-3	8260B	ND		1.0	ug/L	1
Toluene	108-88-3	8260B	ND		1.0	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		1.0	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		100	70-130
Bromofluorobenzene		97	70-130
Toluene-d8		102	70-130

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	11/09/2010 2245	DLB		46258

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
Diisopropyl ether (IPE)	108-20-3	8260B	ND		5.0	ug/L	1
Ethanol	64-17-5	8260B	ND		100	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		20	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		1.0	ug/L	1
tert-Amyl alcohol (TAA)	75-85-4	8260B	ND		20	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		10	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		20	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260B	ND		5.0	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
Bromofluorobenzene		97	70-130
1,2-Dichloroethane-d4		100	70-130
Toluene-d8		102	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	11/11/2010 0743	PMS	11/09/2010 1950	46204

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run

PQL = Practical quantitation limit
ND = Not detected at or above the PQL
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
H = Out of holding time

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **MW-29**
Date Sampled: **11/03/2010 1418**
Date Received: **11/05/2010**

Laboratory ID: **LK05085-028**
Matrix: **Aqueous**

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	11/11/2010 0743	PMS	11/09/2010 1950	46204

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0.021	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		78	57-137

ICP-AES

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	3005A	6010C	5	11/11/2010 1629	CDF	11/09/2010 1125	46109

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
Lead	**7439-92-1**	**6010C**	**0.72**		**0.050**	**mg/L**	**1**

PQL = Practical quantitation limit
ND = Not detected at or above the PQL
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
N = Recovery is out of criteria
H = Out of holding time

Client: **Bunnell-Lammons Engineering, Inc.**	Laboratory ID: **LK05085-029**
Description: **MW-30**	Matrix: **Aqueous**
Date Sampled: **11/03/2010 1417**	
Date Received: **11/05/2010**	

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	11/10/2010 0011	DLB		46258

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
Benzene	**71-43-2**	**8260B**	**3.6**		**1.0**	**ug/L**	**1**
1,2-Dichloroethane	**107-06-2**	**8260B**	**11**		**1.0**	**ug/L**	**1**
Ethylbenzene	**100-41-4**	**8260B**	**8.3**		**1.0**	**ug/L**	**1**
Methyl tertiary butyl ether (MTBE)	**1634-04-4**	**8260B**	**350**		**1.0**	**ug/L**	**1**
Naphthalene	**91-20-3**	**8260B**	**9.0**		**1.0**	**ug/L**	**1**
Toluene	**108-88-3**	**8260B**	**19**		**1.0**	**ug/L**	**1**
Xylenes (total)	**1330-20-7**	**8260B**	**53**		**1.0**	**ug/L**	**1**

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		104	70-130
Bromofluorobenzene		98	70-130
Toluene-d8		106	70-130

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	11/10/2010 0011	DLB		46258

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
Diisopropyl ether (IPE)	**108-20-3**	**8260B**	**47**		**5.0**	**ug/L**	**1**
Ethanol	64-17-5	8260B	ND		100	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		20	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		1.0	ug/L	1
tert-Amyl alcohol (TAA)	**75-85-4**	**8260B**	**1000**		**20**	**ug/L**	**1**
tert-Amyl methyl ether (TAME)	**994-05-8**	**8260B**	**13**		**10**	**ug/L**	**1**
tert-butyl alcohol (TBA)	**75-65-0**	**8260B**	**680**		**20**	**ug/L**	**1**
tert-Butyl formate (TBF)	762-75-4	8260B	ND		5.0	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
Bromofluorobenzene		98	70-130
1,2-Dichloroethane-d4		104	70-130
Toluene-d8		106	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	11/11/2010 0804	PMS	11/09/2010 1950	46204

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run

PQL = Practical quantitation limit
ND = Not detected at or above the PQL
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
H = Out of holding time

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **MW-30**
Date Sampled: **11/03/2010 1417**
Date Received: **11/05/2010**

Laboratory ID: **LK05085-029**
Matrix: **Aqueous**

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	11/11/2010 0804	PMS	11/09/2010 1950	46204

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0.020	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		72	57-137

ICP-AES

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	3005A	6010C	1	11/11/2010 0238	CDF	11/09/2010 1125	46109

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
Lead	**7439-92-1**	**6010C**	**0.17**		**0.010**	**mg/L**	**1**

PQL = Practical quantitation limit
ND = Not detected at or above the PQL
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
H = Out of holding time
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Client: **Bunnell-Lammons Engineering, Inc.** Laboratory ID: **LK05085-030**
Description: **MW-31** Matrix: **Aqueous**
Date Sampled: **11/03/2010 1459**
Date Received: **11/05/2010**

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	11/09/2010 2307	DLB		46258

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
Benzene	71-43-2	8260B	ND		1.0	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		1.0	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		1.0	ug/L	1
Methyl tertiary butyl ether (MTBE)	**1634-04-4**	**8260B**	**12**		**1.0**	**ug/L**	**1**
Naphthalene	91-20-3	8260B	ND		1.0	ug/L	1
Toluene	108-88-3	8260B	ND		1.0	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		1.0	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		103	70-130
Bromofluorobenzene		96	70-130
Toluene-d8		106	70-130

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	11/09/2010 2307	DLB		46258

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
Diisopropyl ether (IPE)	108-20-3	8260B	ND		5.0	ug/L	1
Ethanol	64-17-5	8260B	ND		100	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		20	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		1.0	ug/L	1
tert-Amyl alcohol (TAA)	**75-85-4**	**8260B**	**30**		**20**	**ug/L**	**1**
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		10	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		20	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260B	ND		5.0	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
Bromofluorobenzene		96	70-130
1,2-Dichloroethane-d4		103	70-130
Toluene-d8		106	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	11/11/2010 0825	PMS	11/09/2010 1950	46204

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run

PQL = Practical quantitation limit
ND = Not detected at or above the PQL
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
N = Recovery is out of criteria
H = Out of holding time

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **MW-31**
Date Sampled: **11/03/2010 1459**
Date Received: **11/05/2010**

Laboratory ID: **LK05085-030**
Matrix: **Aqueous**

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	11/11/2010 0825	PMS	11/09/2010 1950	46204

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0.020	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		72	57-137

ICP-AES

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	3005A	6010C	1	11/11/2010 0244	CDF	11/09/2010 1125	46109

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
Lead	7439-92-1	6010C	ND		0.010	mg/L	1

PQL = Practical quantitation limit
ND = Not detected at or above the PQL
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
H = Out of holding time
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Client: **Bunnell-Lammons Engineering, Inc.** Laboratory ID: **LK05085-031**
Description: **MW-32** Matrix: **Aqueous**
Date Sampled: **11/03/2010 1447**
Date Received: **11/05/2010**

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	11/09/2010 2328	DLB		46258

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
Benzene	71-43-2	8260B	ND		1.0	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		1.0	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		1.0	ug/L	1
Methyl tertiary butyl ether (MTBE)	**1634-04-4**	**8260B**	**15**		**1.0**	**ug/L**	**1**
Naphthalene	91-20-3	8260B	ND		1.0	ug/L	1
Toluene	108-88-3	8260B	ND		1.0	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		1.0	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		100	70-130
Bromofluorobenzene		95	70-130
Toluene-d8		105	70-130

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	11/09/2010 2328	DLB		46258

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
Diisopropyl ether (IPE)	108-20-3	8260B	ND		5.0	ug/L	1
Ethanol	64-17-5	8260B	ND		100	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		20	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		1.0	ug/L	1
tert-Amyl alcohol (TAA)	75-85-4	8260B	ND		20	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		10	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		20	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260B	ND		5.0	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
Bromofluorobenzene		95	70-130
1,2-Dichloroethane-d4		100	70-130
Toluene-d8		105	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	11/11/2010 0846	PMS	11/09/2010 1950	46204

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run

PQL = Practical quantitation limit
ND = Not detected at or above the PQL
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
N = Recovery is out of criteria
H = Out of holding time

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **MW-32**
Date Sampled: **11/03/2010 1447**
Date Received: **11/05/2010**

Laboratory ID: **LK05085-031**
Matrix: **Aqueous**

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	11/11/2010 0846	PMS	11/09/2010 1950	46204

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0.020	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		95	57-137

ICP-AES

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	3005A	6010C	2	11/11/2010 1612	CDF	11/09/2010 1125	46109

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
Lead	**7439-92-1**	**6010C**	**1.8**		**0.020**	**mg/L**	**1**

PQL = Practical quantitation limit
ND = Not detected at or above the PQL
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
H = Out of holding time
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Client: **Bunnell-Lammons Engineering, Inc.** Laboratory ID: **LK05085-032**
Description: **MW-33** Matrix: **Aqueous**
Date Sampled: **11/04/2010 0930**
Date Received: **11/05/2010**

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	11/09/2010 2350	DLB		46258

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
Benzene	71-43-2	8260B	ND		1.0	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		1.0	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		1.0	ug/L	1
Methyl tertiary butyl ether (MTBE)	**1634-04-4**	**8260B**	**43**		**1.0**	**ug/L**	**1**
Naphthalene	91-20-3	8260B	ND		1.0	ug/L	1
Toluene	108-88-3	8260B	ND		1.0	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		1.0	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		101	70-130
Bromofluorobenzene		96	70-130
Toluene-d8		105	70-130

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	11/09/2010 2350	DLB		46258

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
Diisopropyl ether (IPE)	108-20-3	8260B	ND		5.0	ug/L	1
Ethanol	64-17-5	8260B	ND		100	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		20	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		1.0	ug/L	1
tert-Amyl alcohol (TAA)	**75-85-4**	**8260B**	**62**		**20**	**ug/L**	**1**
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		10	ug/L	1
tert-butyl alcohol (TBA)	**75-65-0**	**8260B**	**23**		**20**	**ug/L**	**1**
tert-Butyl formate (TBF)	762-75-4	8260B	ND		5.0	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
Bromofluorobenzene		96	70-130
1,2-Dichloroethane-d4		101	70-130
Toluene-d8		105	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	11/11/2010 0907	PMS	11/09/2010 1950	46204

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run

PQL = Practical quantitation limit
ND = Not detected at or above the PQL
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
H = Out of holding time

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **MW-33**
Date Sampled: **11/04/2010 0930**
Date Received: **11/05/2010**

Laboratory ID: **LK05085-032**
Matrix: **Aqueous**

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	11/11/2010 0907	PMS	11/09/2010 1950	46204

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0.020	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		73	57-137

ICP-AES

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	3005A	6010C	1	11/11/2010 0256	CDF	11/09/2010 1125	46109

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
Lead	**7439-92-1**	**6010C**	**0.011**		**0.010**	**mg/L**	**1**

PQL = Practical quantitation limit
ND = Not detected at or above the PQL
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL

E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
H = Out of holding time

Client: **Bunnell-Lammons Engineering, Inc.** Laboratory ID: **LK05085-033**
Description: **MW-34** Matrix: **Aqueous**
Date Sampled: **11/04/2010 1050**
Date Received: **11/05/2010**

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	11/08/2010 2155	DLB		46110

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
Benzene	71-43-2	8260B	ND		1.0	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		1.0	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		1.0	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		1.0	ug/L	1
Naphthalene	91-20-3	8260B	ND		1.0	ug/L	1
Toluene	108-88-3	8260B	ND		1.0	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		1.0	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		103	70-130
Bromofluorobenzene		108	70-130
Toluene-d8		100	70-130

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	11/08/2010 2155	DLB		46110

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
Diisopropyl ether (IPE)	108-20-3	8260B	ND		5.0	ug/L	1
Ethanol	64-17-5	8260B	ND		100	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		20	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		1.0	ug/L	1
tert-Amyl alcohol (TAA)	75-85-4	8260B	ND		20	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		10	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		20	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260B	ND		5.0	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
Bromofluorobenzene		108	70-130
1,2-Dichloroethane-d4		103	70-130
Toluene-d8		100	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	11/11/2010 0929	PMS	11/09/2010 1950	46204

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run

PQL = Practical quantitation limit
ND = Not detected at or above the PQL
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
N = Recovery is out of criteria
H = Out of holding time

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **MW-34**
Date Sampled: **11/04/2010 1050**
Date Received: **11/05/2010**

Laboratory ID: **LK05085-033**
Matrix: **Aqueous**

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	11/11/2010 0929	PMS	11/09/2010 1950	46204

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0.019	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		73	57-137

ICP-AES

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	3005A	6010C	1	11/11/2010 1705	CDF	11/09/2010 2000	46164

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
Lead	7439-92-1	6010C	ND		0.010	mg/L	1

PQL = Practical quantitation limit
ND = Not detected at or above the PQL
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
H = Out of holding time
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **MW-35**
Date Sampled: **11/04/2010 1115**
Date Received: **11/05/2010**

Laboratory ID: **LK05085-034**
Matrix: **Aqueous**

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	11/08/2010 2216	DLB		46110

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
Benzene	71-43-2	8260B	ND		1.0	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		1.0	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		1.0	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		1.0	ug/L	1
Naphthalene	91-20-3	8260B	ND		1.0	ug/L	1
Toluene	108-88-3	8260B	ND		1.0	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		1.0	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		100	70-130
Bromofluorobenzene		106	70-130
Toluene-d8		104	70-130

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	11/08/2010 2216	DLB		46110

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
Diisopropyl ether (IPE)	108-20-3	8260B	ND		5.0	ug/L	1
Ethanol	64-17-5	8260B	ND		100	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		20	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		1.0	ug/L	1
tert-Amyl alcohol (TAA)	75-85-4	8260B	ND		20	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		10	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		20	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260B	ND		5.0	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
Bromofluorobenzene		106	70-130
1,2-Dichloroethane-d4		100	70-130
Toluene-d8		104	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	11/11/2010 0950	PMS	11/09/2010 1950	46204

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run

PQL = Practical quantitation limit
ND = Not detected at or above the PQL
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
N = Recovery is out of criteria
H = Out of holding time

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **MW-35**
Date Sampled: **11/04/2010 1115**
Date Received: **11/05/2010**

Laboratory ID: **LK05085-034**
Matrix: **Aqueous**

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	11/11/2010 0950	PMS	11/09/2010 1950	46204

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0.020	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		67	57-137

ICP-AES

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	3005A	6010C	1	11/11/2010 1711	CDF	11/09/2010 2000	46164

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
Lead	7439-92-1	6010C	ND		0.010	mg/L	1

PQL = Practical quantitation limit
ND = Not detected at or above the PQL
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
H = Out of holding time
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Client: **Bunnell-Lammons Engineering, Inc.** Laboratory ID: **LK05085-035**
Description: **MW-36** Matrix: **Aqueous**
Date Sampled: **11/04/2010 1227**
Date Received: **11/05/2010**

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	11/08/2010 2237	DLB		46110

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
Benzene	71-43-2	8260B	ND		1.0	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		1.0	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		1.0	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		1.0	ug/L	1
Naphthalene	91-20-3	8260B	ND		1.0	ug/L	1
Toluene	108-88-3	8260B	ND		1.0	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		1.0	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		103	70-130
Bromofluorobenzene		105	70-130
Toluene-d8		103	70-130

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	11/08/2010 2237	DLB		46110

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
Diisopropyl ether (IPE)	108-20-3	8260B	ND		5.0	ug/L	1
Ethanol	64-17-5	8260B	ND		100	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		20	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		1.0	ug/L	1
tert-Amyl alcohol (TAA)	75-85-4	8260B	ND		20	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		10	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		20	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260B	ND		5.0	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
Bromofluorobenzene		105	70-130
1,2-Dichloroethane-d4		103	70-130
Toluene-d8		103	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	11/11/2010 1011	PMS	11/09/2010 1950	46204

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run

PQL = Practical quantitation limit
ND = Not detected at or above the PQL
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
N = Recovery is out of criteria
H = Out of holding time

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **MW-36**
Date Sampled: **11/04/2010 1227**
Date Received: **11/05/2010**

Laboratory ID: **LK05085-035**
Matrix: **Aqueous**

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	11/11/2010 1011	PMS	11/09/2010 1950	46204

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0.020	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		73	57-137

ICP-AES

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	3005A	6010C	1	11/11/2010 1717	CDF	11/09/2010 2000	46164

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
Lead	**7439-92-1**	**6010C**	**0.31**		**0.010**	**mg/L**	**1**

PQL = Practical quantitation limit
ND = Not detected at or above the PQL
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
N = Recovery is out of criteria
H = Out of holding time

Client: **Bunnell-Lammons Engineering, Inc.** Laboratory ID: **LK05085-036**
Description: **MW-37** Matrix: **Aqueous**
Date Sampled: **11/04/2010 1414**
Date Received: **11/05/2010**

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	11/08/2010 2258	DLB		46110

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
Benzene	71-43-2	8260B	ND		1.0	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		1.0	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		1.0	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		1.0	ug/L	1
Naphthalene	91-20-3	8260B	ND		1.0	ug/L	1
Toluene	108-88-3	8260B	ND		1.0	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		1.0	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		103	70-130
Bromofluorobenzene		103	70-130
Toluene-d8		107	70-130

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	11/08/2010 2258	DLB		46110

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
Diisopropyl ether (IPE)	108-20-3	8260B	ND		5.0	ug/L	1
Ethanol	64-17-5	8260B	ND		100	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		20	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		1.0	ug/L	1
tert-Amyl alcohol (TAA)	75-85-4	8260B	ND		20	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		10	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		20	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260B	ND		5.0	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
Bromofluorobenzene		103	70-130
1,2-Dichloroethane-d4		103	70-130
Toluene-d8		107	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	11/11/2010 1032	PMS	11/09/2010 1950	46204

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run

PQL = Practical quantitation limit
ND = Not detected at or above the PQL
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
N = Recovery is out of criteria
H = Out of holding time

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **MW-37**
Date Sampled: **11/04/2010 1414**
Date Received: **11/05/2010**

Laboratory ID: **LK05085-036**
Matrix: **Aqueous**

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	11/11/2010 1032	PMS	11/09/2010 1950	46204

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0.020	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		77	57-137

ICP-AES

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	3005A	6010C	1	11/11/2010 1723	CDF	11/09/2010 2000	46164

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
Lead	**7439-92-1**	**6010C**	**0.010**		**0.010**	**mg/L**	**1**

PQL = Practical quantitation limit
ND = Not detected at or above the PQL
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
H = Out of holding time
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Client: **Bunnell-Lammons Engineering, Inc.** Laboratory ID: **LK05085-037**
Description: **MW-38** Matrix: **Aqueous**
Date Sampled: **11/04/2010 1418**
Date Received: **11/05/2010**

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	11/10/2010 1650	DLB		46360

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
Benzene	71-43-2	8260B	ND		1.0	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		1.0	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		1.0	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		1.0	ug/L	1
Naphthalene	91-20-3	8260B	ND		1.0	ug/L	1
Toluene	108-88-3	8260B	ND		1.0	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		1.0	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		102	70-130
Bromofluorobenzene		92	70-130
Toluene-d8		117	70-130

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	11/10/2010 1650	DLB		46360

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
Diisopropyl ether (IPE)	108-20-3	8260B	ND		5.0	ug/L	1
Ethanol	64-17-5	8260B	ND		100	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		20	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		1.0	ug/L	1
tert-Amyl alcohol (TAA)	75-85-4	8260B	ND		20	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		10	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		20	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260B	ND		5.0	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
Bromofluorobenzene		92	70-130
1,2-Dichloroethane-d4		102	70-130
Toluene-d8		117	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
2	8011	8011	1	11/14/2010 0047	PMS	11/12/2010 1616	46496

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run

PQL = Practical quantitation limit
ND = Not detected at or above the PQL
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
N = Recovery is out of criteria
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
H = Out of holding time

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **MW-38**
Date Sampled: **11/04/2010 1418**
Date Received: **11/05/2010**

Laboratory ID: **LK05085-037**
Matrix: **Aqueous**

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
2	8011	8011	1	11/14/2010 0047	PMS	11/12/2010 1616	46496

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0.020	ug/L	2

Surrogate	Q	Run 2 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		66	57-137

ICP-AES

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	3005A	6010C	1	11/11/2010 1729	CDF	11/09/2010 2000	46164

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
Lead	**7439-92-1**	**6010C**	**0.035**		**0.010**	**mg/L**	**1**

PQL = Practical quantitation limit
ND = Not detected at or above the PQL
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL

E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
H = Out of holding time

SHEALY ENVIRONMENTAL SERVICES, INC.

106 Vantage Point Drive
West Columbia, South Carolina 29172
Telephone No. (803) 791-9700 Fax No. (803) 791-9111

SHEALY Chain of Custody Record

Number 114040

Client: BIE	Report to Contact: Trevor Slack	Telephone No. / Fax No. / E-mail: (864) 289-1265	Quote No.
Address: Good Ponders CT	Sampler's Signature: X	Waybill No.	Page 1 of 4
City: Greenville; State: SC; Zip Code: 29615	Printed Name: IVAN A. Irizarry	Analysis (Attach list if more space is needed.)	
Project Name: Enmark 380			
Project No.: 6859-02	P.O. No.		Lot No.: CK05085

Sample ID / Description (Containers for each sample may be combined on one line.)	Date	Time	Grab (G) / Composite (C)	Aqueous	Solid	Non-Aqueous	Organic	HNO3	HCl	NaOH	EDB/DBCP	VOC	Remarks / Cooler I.D.
MW-1	11/2/10	1235	G	✓				✓	✓				
MW-2	11/2/10	1240	G	✓				✓	✓				
MW-7D	11/4/10	1119	G	✓				✓	✓				
MW-8D	11/4/10	1250	G	✓				✓	✓				
MW-9	11/2/10	1340	G	✓				✓	✓				
MW-10	11/2/10	1444	G	✓				✓	✓				
MW-11	11/2/10	1535	G	✓				✓	✓				
MW-12	11/2/10	1125	G	✓				✓	✓				
MW-13	11/2/10	1205	G	✓				✓	✓				
MW-14	11/3/10	1026	G	✓				✓	✓				

Extra Volume: 1 Oxy, 8260B, EDB 8011, Pb Color

Possible Hazard Identification: ☑ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison ☐ Unknown

Sample Disposal: ☐ Return to Client ☑ Disposal by Lab

Note: All samples are retained for six weeks from receipt unless other arrangements are made.

Turn Around Time Required (Prior lab approval required for expedited TAT.): ☑ Standard ☐ Rush (Specify)

QC Requirements (Specify):

	Date	Time		Date	Time
1. Relinquished by: IVAN Irizarry	11/5/10	1349	1. Received by: Cory Tuck	11/5/10	1349
2. Relinquished by:	Date	Time	2. Received by:	Date	Time
3. Relinquished by: Cory Tuck	11/5/10	1700	3. Laboratory received by:	11/5/10	1700

Comments:

LAB USE ONLY: Received on ice (Circle) Yes No ice Pack — Receipt Temp: 10.1 °C

DISTRIBUTION: WHITE & YELLOW-Return to laboratory with Sample(s); PINK-Field/Client Copy

Document Number: F-AD-012 Effective Date: 09-04-09

SHEALY ENVIRONMENTAL SERVICES, INC.

SHEALY ENVIRONMENTAL SERVICES, INC.

SHEALY *Chain of Custody Record*

106 Vantage Point Drive
West Columbia, South Carolina 29172
Telephone No. (803) 791-9700 Fax No. (803) 791-9111

Number 114041

BLE

Client: 6004 Ponders Court	Report to Contact: Trevor Slack	Telephone No. / Fax No. / E-mail: (864) 288-1265	Quote No.
Address: ~~Greenville SC~~	Sampler's Signature: X	Waybill No.	Page 2 of 4
City: Greenville; State: SC; Zip Code: 29615	Printed Name: IVAN A. Irizarry	Analysis (Attach list if more space is needed.)	
Project Name: Enmark 380			
Project No.: 6859-02	P.O. No.		Lot No: UK05C85

Sample ID / Description (Containers for each sample may be combined on one line.)	Date	Time	Grab / Composite	Aqueous	Soil	Non-Aqueous	Unpres.	H2SO4	HNO3	HCl	NaOH	SO3/NaS	BTEX MN 1,2 DCA, 8260B	EDB 8011	PB6010	Remarks / Cooler I.D.
MW-15	11/3/10	1020	G	✓					✓	✓			✓	✓	✓	
MW-16	11/2/10	1613	G	✓					✓	✓						
MW-17	11/2/10	1536	G	✓					✓	✓						
MW-18	11/2/10	1500	G	✓					✓	✓						
MW-19	11/2/10	1434	G	✓					✓	✓						
MW-20	11/4/10	1006	G	✓					✓	✓						
MW-21	11/4/10	1025	G	✓					✓	✓						
MW-21D	11/4/10	940	G	✓					✓	✓						
MW-22	11/2/10	1411	G	✓					✓	✓						
MW-22D	11/4/10	1027	G	✓					✓	✓						

Possible Hazard Identification: ✓ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison ☐ Unknown

Sample Disposal: ☐ Return to Client ✓ Disposal by Lab

Note: All samples are retained for six weeks from receipt unless other arrangements are made.

Turn Around Time Required (Prior lab approval required for expedited TAT): ✓ Standard ☐ Rush (Specify)

QC Requirements (Specify):

1. Relinquished by: IVAN A. Irizarry	Date: 11/5/10	Time: 1349	1. Received by:	Date: 11/5/10	Time: 1349
2. Relinquished by:	Date:	Time:	2. Received by:	Date:	Time:
3. Relinquished by:	Date: 11/5/10	Time: 1700	3. Laboratory Received by:	Date: 11/5/10	Time: 1700

Comments:

LAB USE ONLY
Received on ice (Circle) Yes No ice Pack
Receipt Temp. 10.1 °C

DISTRIBUTION: WHITE & YELLOW-Return to laboratory with Sample(s); PINK-Field/Client Copy

Document Number: F-AD-012 Effective Date: 08-04-08

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SHEALY *Chain of Custody Record*

SHEALY ENVIRONMENTAL SERVICES, INC.
106 Vantage Point Drive
West Columbia, South Carolina 29172
Telephone No. (803) 791-9700 Fax No. (803) 791-9111

Number 104526

Client: BLE	Report to Contact: Trevor Slack	Telephone No. / Fax No. / E-mail: (864) 288-1265	Quote No.
Address: 6004 Ponders Court	Sampler's Signature: X [signature]	Waybill No.	Page 3 of 4
City: Greenville; State: SC; Zip Code: 29615	Printed Name: Ivan A. Irizarry	Analysis (Attach list if more space is needed.)	
Project Name: Enmark 380			
Project No.: 6859-02	P.O. No.:		Lot No.: CKW5085

Sample ID / Description (Containers for each sample may be combined on one line.)	Date	Time	Grab/Comp	Matrix: Aqueous	Solid	Non-Aqueous	No. of Containers by Preservative Type: Unpres	H2SO4	HNO3	HCl	NaOH	ZnAc/NaOH	BTEX+MTBE, 1,2 DCA, Boxy	EDB Roll	8260B	Remarks / Cooler I.D.
MW-23	11/3/10	1158	G	✓					✓	✓			✓	✓	✓	
MW-24	11/3/10	1117	G	✓					✓	✓						
MW-24D	11/4/10	1218	G	✓					✓	✓						
MW-25	11/3/10	1240	G	✓					✓	✓						
MW-26	11/3/10	1154	G	✓					✓	✓						
MW-27	11/3/10	1115	G	✓					✓	✓						
MW-28	11/4/10	948	G	✓					✓	✓						
MW-29	11/3/10	1418	G	✓					✓	✓						
MW-30	11/3/10	1417	G	✓					✓	✓						
MW-31	11/3/10	1459	G	✓					✓	✓			✓	✓	✓	

Possible Hazard Identification: ✓ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison ☐ Unknown

Sample Disposal: ☐ Return to Client ✓ Disposal by Lab

Note: All samples are retained for six weeks from receipt unless other arrangements are made.

Turn Around Time Required (Prior lab approval required for expedited TAT.): ✓ Standard ☐ Rush (Specify)

QC Requirements (Specify):

	Date	Time		Date	Time
1. Relinquished by: Ivan Irizarry	11/5/10	1349	1. Received by: [signature]	11/5/10	1349
2. Relinquished by:			2. Received by:		
3. Relinquished by: [signature]	11/5/10	1700	3. Laboratory Received by: [signature]	11/5/10	1700

Comments:

LAB USE ONLY
Received on ice (Circle) Yes No Ice Pack
Receipt Temp. 1.0 / 6.0

DISTRIBUTION: WHITE & YELLOW-Return to laboratory with Sample(s); PINK-Field/Client Copy

Document Number: F-AD-012 Effective Date: 08-04-02

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SHEALY *Chain of Custody Record*

SHEALY ENVIRONMENTAL SERVICES, INC.
106 Vantage Point Drive
West Columbia, South Carolina 29172
Telephone No. (803) 791-9700 Fax No. (803) 791-9111

Number 104527

Client: BLE	Report to Contact: Trevor Slack	Telephone No. / Fax No. / E-mail: (864) 288-1265	Quote No.
Address: 6004 Ponders Court	Sampler's Signature: x [signature]	Waybill No.	Page 4 of 4
City: Greenville; State: SC; Zip Code: 29615	Printed Name: Jason B. Thomas	Analysis (Attach list if more space is needed.)	
Project Name: Enmark 380			
Project No.: 6859-02	P.O. No.		Lot No.: LK05085

Sample ID / Description (Containers for each sample may be combined on one line.)	Date	Time	Grab/Composite	Matrix: Air/Vapor	Soil	Non-Aqueous	Liquid	Aqueous	No. of Containers by Preservative Type: HNO3	HCl	NaOH	NaOH/ZnAc	H2SO4		BTEX µg/L 8260B	SDB 8011	Pb 6010	Remarks / Cooler I.D.
MW-32	11/3/10	1447	G	✓					✓	✓					✓	✓	✓	
MW-33	11/4/10	930	G	✓					✓	✓								
MW-34	11/4/10	1050	G	✓					✓	✓								
MW-35	11/4/10	1115	G	✓					✓	✓								
MW-36	11/4/10	1227	G	✓					✓	✓								
MW-37	11/4/10	1414	G	✓					✓	✓								
MW-38	11/4/10	1418	G	✓					✓	✓					✓	✓	✓	

Possible Hazard Identification: ☑ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison ☐ Unknown

Sample Disposal: ☐ Return to Client ☑ Disposal by Lab

Note: All samples are retained for six weeks from receipt unless other arrangements are made.

Turn Around Time Required (Prior lab approval required for expedited TAT.): ☑ Standard ☐ Rush (Specify)

QC Requirements (Specify):

	Date	Time		Date	Time
1. Relinquished by: IVAN A. Irizarry	11/5/10	1349	1. Received by: [signature]	11/5/10	1349
2. Relinquished by:	Date	Time	2. Received by:	Date	Time
3. Relinquished by: [signature]	11/5/10	1700	3. Laboratory Received by: [signature]	11/5/10	1700

Comments:

LAB USE ONLY
Received on Ice (Circle): Yes No Ice Pack
Receipt Temp. 1.0, 1.0

DISTRIBUTION: WHITE & YELLOW-Return to laboratory with Sample(s); PINK-Field/Client Copy

Document Number: F-AD-012 Effective Date: 08-04-02

SHEALY ENVIRONMENTAL SERVICES, INC.

SHEALY ENVIRONMENTAL SERVICES, INC.

Shealy Environmental Services, Inc.
Document Number: F-AD-016
Revision Number: 6

Page 1 of 1
Replaces Date: 09/22/06
Effective Date: 05/29/07

Sample Receipt Checklist (SRC)

Client: BLFC Cooler Inspected by/date: [illegible] 11/5/16 Lot #: ~~LK0808~~ LK05085 11/5/16

Means of receipt: ☑ SESI ☐ Client ☐ UPS ☐ FedEx ☐ Airborne Exp ☐ Other

Yes ☐	No ☐	NA ☑	1. Were custody seals present on the cooler?
Yes ☐	No ☐	NA ☑	2. If custody seals were present, were they intact and unbroken?

Cooler ID/temperature upon receipt 1.0 °C 1.0 °C / °C / °C / °C / °C / °C / °C

Method: ☐ Temperature Blank ☑ Against Bottles

Method of coolant: ☑ Wet Ice ☐ Blue Ice ☐ Dry Ice ☐ None

If response is No (or Yes for 14, 15, 16), an explanation/resolution must be provided.

Yes ☐	No ☐	NA ☑	3. If temperature of any cooler exceeded 6.0°C, was Project Manager notified? PM notified by SRC, phone, note (circle one), other:_____. (For coolers received via commercial courier, PMs are to be notified immediately.
Yes ☐	No ☐	NA ☑	4. Is the commercial courier's packing slip attached to this form?
Yes ☑	No ☐	NA ☐	5. Were proper custody procedures (relinquished/received) followed?
Yes ☑	No ☐	NA ☐	6. Were sample IDs listed?
Yes ☑	No ☐	NA ☐	7. Was collection date & time listed?
Yes ☑	No ☐	NA ☐	8. Were tests to be performed listed on the COC or was quote # provided?
Yes ☐	No ☐	NA ☐	9. Did all samples arrive in the proper containers for each test?
Yes ☐	No ☐	NA ☐	10. Did all container label information (ID, date, time) agree with COC?
Yes ☐	No ☐	NA ☐	11. Did all containers arrive in good condition (unbroken, lids on, etc.)?
Yes ☐	No ☐	NA ☐	12. Was adequate sample volume available?
Yes ☐	No ☑	NA ☐	13. Were all samples received within ½ the holding time or 48 hours, whichever comes first?
Yes ☐	No ☑	NA ☐	14. Were any samples containers missing?
Yes ☐	No ☑	NA ☐	15. Were there any excess samples not listed on COC?
Yes ☐	No ☑	NA ☐	16. Were bubbles present >"pea-size" (¼"or 6mm in diameter) in any VOA vials?
Yes ☑	No ☐	NA ☐	17. Were all metals/O&G/HEM/nutrient samples received at a pH of <2?
Yes ☐	No ☐	NA ☑	18. Were all cyanide and/or sulfide samples received at a pH >12?
Yes ☐	No ☐	NA ☑	19. Were all applicable NH3/TKN/cyanide/phenol/BNA/pest/PCB/herb (<0.2mg/L) and toxicity (<0.1mg/L) samples free of residual chlorine?
Yes ☐	No ☐	NA ☑	20. Were collection temperatures documented on the COC for NC samples?

Sample Preservation (Must be completed for any sample(s) incorrectly preserved or with headspace.)

Sample(s)_____ were received incorrectly preserved and were adjusted accordingly in sample receiving with _____ (H_2SO_4,HNO_3,HCl,NaOH) with the SR # (number) _____.

Sample(s)_____ were received with bubbles >6 mm in diameter.

Sample(s)_____ were received with TRC >0.2 mg/L for NH3/TKN/cyanide/BNA/pest/PCB/herb.

Toxicity sample(s)_____ were received with TRC >0.1 mg/L and were analyzed by method 330.5.

Corrective Action taken, if necessary:

Was client notified: Yes ☐ No ☐ Did client respond: Yes ☐ No ☐

SESI employee:_____ Date of response: _____

Comments:

SHEALY ENVIRONMENTAL SERVICES, INC.

Report of Analysis

Bunnell-Lammons Engineering, Inc.
6004 Ponders Court
Greenville, SC 29615
Attention: Trever Slack

Project Name: **Enmark #380**

Project Number: **6859-02**

Lot Number: **LK17069**

Date Completed: **11/30/2010**

Lucas Odom
Project Manager

This report shall not be reproduced, except in its entirety, without the written approval of Shealy Environmental Services, Inc.

The following non-paginated documents are considered part of this report: Chain of Custody Record and Sample Receipt Checklist.

• • • • • • • • • •

Case Narrative
Bunnell-Lammons Engineering, Inc.
Lot Number: LK17069

This Report of Analysis contains the analytical result(s) for the sample(s) listed on the Sample Summary following this Case Narrative. The sample receiving date is documented in the header information associated with each sample.

Sample receipt, sample analysis, and data review have been performed in accordance with the most current approved NELAC standards, the Shealy Environmental Services, Inc. ("Shealy") Quality Assurance Management Plan (QAMP), standard operating procedures (SOPs), and Shealy policies. Any exceptions to the NELAC standards, the QAMP, SOPs or policies are qualified on the results page or discussed below.

If you have any questions regarding this report please contact the Shealy Project Manager listed on the cover page.

Sample Summary
Bunnell-Lammons Engineering, Inc.
Lot Number: LK17069

Sample Number	Sample ID	Matrix	Date Sampled	Date Received
001	MW-3	Aqueous	11/15/2010 1300	11/17/2010
002	MW-39	Aqueous	11/12/2010 1015	11/17/2010
003	SW-1	Aqueous	11/12/2010 1012	11/17/2010

(3 samples)

Executive Summary
Bunnell-Lammons Engineering, Inc.
Lot Number: LK17069

Sample	Sample ID	Matrix	Parameter	Method	Result	Q	Units	Page
001	MW-3	Aqueous	Benzene	8260B	68		ug/L	5
001	MW-3	Aqueous	Ethylbenzene	8260B	8.7		ug/L	5
001	MW-3	Aqueous	Naphthalene	8260B	21		ug/L	5
001	MW-3	Aqueous	Toluene	8260B	11		ug/L	5
001	MW-3	Aqueous	Xylenes (total)	8260B	89		ug/L	5
001	MW-3	Aqueous	tert-Amyl alcohol (TAA)	8260B	100		ug/L	5
001	MW-3	Aqueous	tert-butyl alcohol (TBA)	8260B	58		ug/L	5
002	MW-39	Aqueous	Xylenes (total)	8260B	1.2		ug/L	7
002	MW-39	Aqueous	Lead	6010C	0.15		mg/L	8

(9 detections)

Client: **Bunnell-Lammons Engineering, Inc.**	Laboratory ID: **LK17069-001**
Description: **MW-3**	Matrix: **Aqueous**
Date Sampled: **11/15/2010 1300**	
Date Received: **11/17/2010**	

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	11/22/2010 1659	LBS		47161

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
Benzene	**71-43-2**	**8260B**	**68**		**1.0**	**ug/L**	**1**
1,2-Dichloroethane	107-06-2	8260B	ND		1.0	ug/L	1
Ethylbenzene	**100-41-4**	**8260B**	**8.7**		**1.0**	**ug/L**	**1**
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		1.0	ug/L	1
Naphthalene	**91-20-3**	**8260B**	**21**		**1.0**	**ug/L**	**1**
Toluene	**108-88-3**	**8260B**	**11**		**1.0**	**ug/L**	**1**
Xylenes (total)	**1330-20-7**	**8260B**	**89**		**1.0**	**ug/L**	**1**

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		93	70-130
Bromofluorobenzene		104	70-130
Toluene-d8		103	70-130

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	11/22/2010 1659	LBS		47161

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
Diisopropyl ether (IPE)	108-20-3	8260B	ND		5.0	ug/L	1
Ethanol	64-17-5	8260B	ND		100	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		20	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		1.0	ug/L	1
tert-Amyl alcohol (TAA)	**75-85-4**	**8260B**	**100**		**20**	**ug/L**	**1**
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		10	ug/L	1
tert-butyl alcohol (TBA)	**75-65-0**	**8260B**	**58**		**20**	**ug/L**	**1**
tert-Butyl formate (TBF)	762-75-4	8260B	ND		5.0	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
Bromofluorobenzene		104	70-130
1,2-Dichloroethane-d4		93	70-130
Toluene-d8		103	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	11/24/2010 0742	MPM	11/22/2010 1410	47102

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run

PQL = Practical quantitation limit
ND = Not detected at or above the PQL
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
H = Out of holding time
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **MW-3**
Date Sampled: **11/15/2010 1300**
Date Received: **11/17/2010**

Laboratory ID: **LK17069-001**
Matrix: **Aqueous**

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	11/24/2010 0742	MPM	11/22/2010 1410	47102

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0.020	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		108	57-137

ICP-AES

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	3005A	6010C	1	11/19/2010 1745	CDF	11/18/2010 1740	46917

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
Lead	7439-92-1	6010C	ND		0.010	mg/L	1

PQL = Practical quantitation limit
ND = Not detected at or above the PQL
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
H = Out of holding time
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **MW-39**
Date Sampled: **11/12/2010 1015**
Date Received: **11/17/2010**

Laboratory ID: **LK17069-002**
Matrix: **Aqueous**

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	11/22/2010 1742	LBS		47161

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
Benzene	71-43-2	8260B	ND		1.0	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		1.0	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		1.0	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		1.0	ug/L	1
Naphthalene	91-20-3	8260B	ND		1.0	ug/L	1
Toluene	108-88-3	8260B	ND		1.0	ug/L	1
Xylenes (total)	**1330-20-7**	**8260B**	**1.2**		**1.0**	**ug/L**	**1**

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		93	70-130
Bromofluorobenzene		99	70-130
Toluene-d8		102	70-130

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	11/22/2010 1742	LBS		47161

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
Diisopropyl ether (IPE)	108-20-3	8260B	ND		5.0	ug/L	1
Ethanol	64-17-5	8260B	ND		100	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		20	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		1.0	ug/L	1
tert-Amyl alcohol (TAA)	75-85-4	8260B	ND		20	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		10	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		20	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260B	ND		5.0	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
Bromofluorobenzene		99	70-130
1,2-Dichloroethane-d4		93	70-130
Toluene-d8		102	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	11/24/2010 0803	MPM	11/22/2010 1410	47102

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run

PQL = Practical quantitation limit
ND = Not detected at or above the PQL
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
H = Out of holding time

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **MW-39**
Date Sampled: **11/12/2010 1015**
Date Received: **11/17/2010**

Laboratory ID: **LK17069-002**
Matrix: **Aqueous**

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	11/24/2010 0803	MPM	11/22/2010 1410	47102

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0.019	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		107	57-137

ICP-AES

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	3005A	6010C	1	11/19/2010 1750	CDF	11/18/2010 1740	46917

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
Lead	**7439-92-1**	**6010C**	**0.15**		**0.010**	**mg/L**	**1**

PQL = Practical quantitation limit
ND = Not detected at or above the PQL
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
H = Out of holding time
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Client: **Bunnell-Lammons Engineering, Inc.** Laboratory ID: **LK17069-003**
Description: **SW-1** Matrix: **Aqueous**
Date Sampled: **11/12/2010 1012**
Date Received: **11/17/2010**

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	11/22/2010 1806	LBS		47161

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
Benzene	71-43-2	8260B	ND		1.0	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		1.0	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		1.0	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		1.0	ug/L	1
Naphthalene	91-20-3	8260B	ND		1.0	ug/L	1
Toluene	108-88-3	8260B	ND		1.0	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		1.0	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		94	70-130
Bromofluorobenzene		100	70-130
Toluene-d8		100	70-130

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	11/22/2010 1806	LBS		47161

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
Diisopropyl ether (IPE)	108-20-3	8260B	ND		5.0	ug/L	1
Ethanol	64-17-5	8260B	ND		100	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		20	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		1.0	ug/L	1
tert-Amyl alcohol (TAA)	75-85-4	8260B	ND		20	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		10	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		20	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260B	ND		5.0	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
Bromofluorobenzene		100	70-130
1,2-Dichloroethane-d4		94	70-130
Toluene-d8		100	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	11/24/2010 0824	MPM	11/22/2010 1410	47102

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run

PQL = Practical quantitation limit
ND = Not detected at or above the PQL
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
N = Recovery is out of criteria
H = Out of holding time

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **SW-1**
Date Sampled: **11/12/2010 1012**
Date Received: **11/17/2010**

Laboratory ID: **LK17069-003**
Matrix: **Aqueous**

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	11/24/2010 0824	MPM	11/22/2010 1410	47102

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0.019	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		104	57-137

PQL = Practical quantitation limit
ND = Not detected at or above the PQL
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
H = Out of holding time

SHEALY **Chain of Custody Record**

SHEALY ENVIRONMENTAL SERVICES, INC.
106 Vantage Point Drive
West Columbia, South Carolina 29172
Telephone No. (803) 791-9700 Fax No. (803) 791-9111

Number 109383

Client: BLE
Address: 6004 Ponders CT
City: Greenville State: SC Zip Code: 29615
Project Name: Enmark #380
Project No.: 6859-02
P.O. No.:
Report to Contact: Trever Slack
Sampler's Signature: X [signature]
Printed Name: Ivan Irizarry
Telephone No. / Fax No. / E-mail: (864) 288-1265
Waybill No.:
Quote No.:
Page 1 of 1
Analysis (Attach list if more space is needed.)
Lot No.: LK17069

Sample ID / Description (Containers for each sample may be combined on one line.)	Date	Time	C=Composite	Matrix: Aqueous	Matrix: Solid	Matrix: Non-Aqueous	No. of Containers by Preservative Type: Unpres.	HCl	HNO3	NaOH	NaOH	8260 B	BTEX MN, 1,2DCA, 8260B	EDB 8011	Lead 6010	Remarks / Cooler I.D.
MW-3	11/15/10	1300	G	✓					✓	✓			✓	✓	✓	
MW-39	11/12/10	1015	G	✓					✓	✓			✓	✓	✓	
SW-1	11/12/10	1012	G	✓						✓			2	1		low volume sample 2 8260, 1 8011

Possible Hazard Identification: ☑ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison ☐ Unknown
Sample Disposal: ☐ Return to Client ☑ Disposal by Lab
Note: All samples are retained for six weeks from receipt unless other arrangements are made.

Turn Around Time Required (Prior lab approval required for expedited TAT.): ☑ Standard ☐ Rush (Specify)
DC Requirements (Specify):

	Date	Time		Date	Time
1. Relinquished by: Ivan A. Irizarry	11/17/10	1210	1. Received by: [signature]	11/17/10	1210
2. Relinquished by:			2. Received by:		
3. Relinquished by: [signature]	11/17/10	1600	3. Laboratory received by: [signature]	11/17/10	1600

Comments:
LAB USE ONLY: Received on ice (Circle) Yes No ice Pack
Receipt Temp. 1.0 °C

DISTRIBUTION: WHITE & YELLOW-Return to laboratory with Sample(s); PINK-Field/Client Copy

Document Number: F-AD-012 Effective Date: 08-04-02

Shealy Environmental Services, Inc.
Document Number: F-AD-016
Revision Number: 6

Page 1 of 1
Replaces Date: 09/22/06
Effective Date: 05/29/07

Sample Receipt Checklist (SRC)

Client: BLE Cooler Inspected by/date: [illegible] / 11/17/10 Lot #: LK17069

Means of receipt: ☑ SESI ☐ Client ☐ UPS ☐ FedEx ☐ Airborne Exp ☐ Other

Yes ☐	No ☐	NA ☑	1. Were custody seals present on the cooler?
Yes ☐	No ☐	NA ☑	2. If custody seals were present, were they intact and unbroken?

Cooler ID/temperature upon receipt 1.0 °C / °C / °C / °C / °C / °C / °C / °C

Method: ☐ Temperature Blank ☑ Against Bottles

Method of coolant: ☑ Wet Ice ☐ Blue Ice ☐ Dry Ice ☐ None

If response is No (or Yes for 14, 15, 16), an explanation/resolution must be provided.

Yes ☐	No ☐	NA ☑	3. If temperature of any cooler exceeded 6.0°C, was Project Manager notified? PM notified by SRC, phone, note (circle one), other: _____. (For coolers received via commercial courier, PMs are to be notified immediately.
Yes ☐	No ☐	NA ☐	4. Is the commercial courier's packing slip attached to this form?
Yes ☑	No ☐	NA ☐	5. Were proper custody procedures (relinquished/received) followed?
Yes ☑	No ☐	NA ☐	6. Were sample IDs listed?
Yes ☑	No ☐	NA ☐	7. Was collection date & time listed?
Yes ☑	No ☐	NA ☐	8. Were tests to be performed listed on the COC or was quote # provided?
Yes ☑	No ☐	NA ☐	9. Did all samples arrive in the proper containers for each test?
Yes ☑	No ☐	NA ☐	10. Did all container label information (ID, date, time) agree with COC?
Yes ☐	No ☐	NA ☐	11. Did all containers arrive in good condition (unbroken, lids on, etc.)?
Yes ☐	No ☑	NA ☐	12. Was adequate sample volume available? - 0 - 3
Yes ☐	No ☑	NA ☐	13. Were all samples received within ½ the holding time or 48 hours, whichever comes first?
Yes ☐	No ☑	NA ☐	14. Were any samples containers missing?
Yes ☐	No ☑	NA ☐	15. Were there any excess samples not listed on COC?
Yes ☐	No ☑	NA ☐	16. Were bubbles present->"pea-size" (¼"or 6mm in diameter) in any VOA vials?
Yes ☑	No ☐	NA ☐	17. Were all metals/O&G/HEM/nutrient samples received at a pH of <2?
Yes ☐	No ☐	NA ☑	18. Were all cyanide and/or sulfide samples received at a pH >12?
Yes ☐	No ☐	NA ☑	19. Were all applicable NH3/TKN/cyanide/phenol/BNA/pest/PCB/herb (<0.2mg/L) and toxicity (<0.1mg/L) samples free of residual chlorine?
Yes ☐	No ☐	NA ☑	20. Were collection temperatures documented on the COC for NC samples?

Sample Preservation (Must be completed for any sample(s) incorrectly preserved or with headspace.)

Sample(s) _____ were received incorrectly preserved and were adjusted accordingly in sample receiving with _____ (H_2SO_4,HNO_3,HCl,NaOH) with the SR # (number)

Sample(s) _____ were received with bubbles >6 mm in diameter.

Sample(s) _____ were received with TRC >0.2 mg/L for NH3/TKN/cyanide/BNA/pest/PCB/herb.

Toxicity sample(s) _____ were received with TRC >0.1 mg/L and were analyzed by method 330.5.

Corrective Action taken, if necessary:

Was client notified: Yes ☐ No ☐ Did client respond: Yes ☐ No ☐

SESI employee: _____ , Date of response: _____

Comments: _____

SHEALY ENVIRONMENTAL SERVICES, INC.

Report of Analysis

Bunnell-Lammons Engineering, Inc.
6004 Ponders Court
Greenville, SC 29615
Attention: Trever Slack

Project Name: **Enmark #380**

Project Number: **6859-02**

Lot Number: **LK17069**

Date Completed: **11/30/2010**

Lucas Odom
Project Manager

This report shall not be reproduced, except in its entirety, without the written approval of Shealy Environmental Services, Inc.

The following non-paginated documents are considered part of this report: Chain of Custody Record and Sample Receipt Checklist.

• • • • • • • • • •

Case Narrative
Bunnell-Lammons Engineering, Inc.
Lot Number: LK17069

This Report of Analysis contains the analytical result(s) for the sample(s) listed on the Sample Summary following this Case Narrative. The sample receiving date is documented in the header information associated with each sample.

Sample receipt, sample analysis, and data review have been performed in accordance with the most current approved NELAC standards, the Shealy Environmental Services, Inc. ("Shealy") Quality Assurance Management Plan (QAMP), standard operating procedures (SOPs), and Shealy policies. Any exceptions to the NELAC standards, the QAMP, SOPs or policies are qualified on the results page or discussed below.

If you have any questions regarding this report please contact the Shealy Project Manager listed on the cover page.

Sample Summary
Bunnell-Lammons Engineering, Inc.
Lot Number: LK17069

Sample Number	Sample ID	Matrix	Date Sampled	Date Received
001	MW-3	Aqueous	11/15/2010 1300	11/17/2010
002	MW-39	Aqueous	11/12/2010 1015	11/17/2010
003	SW-1	Aqueous	11/12/2010 1012	11/17/2010

(3 samples)

Executive Summary
Bunnell-Lammons Engineering, Inc.
Lot Number: LK17069

Sample	Sample ID	Matrix	Parameter	Method	Result	Q	Units	Page
001	MW-3	Aqueous	Benzene	8260B	68		ug/L	5
001	MW-3	Aqueous	Ethylbenzene	8260B	8.7		ug/L	5
001	MW-3	Aqueous	Naphthalene	8260B	21		ug/L	5
001	MW-3	Aqueous	Toluene	8260B	11		ug/L	5
001	MW-3	Aqueous	Xylenes (total)	8260B	89		ug/L	5
001	MW-3	Aqueous	tert-Amyl alcohol (TAA)	8260B	100		ug/L	5
001	MW-3	Aqueous	tert-butyl alcohol (TBA)	8260B	58		ug/L	5
002	MW-39	Aqueous	Xylenes (total)	8260B	1.2		ug/L	7
002	MW-39	Aqueous	Lead	6010C	0.15		mg/L	8

(9 detections)

Client: **Bunnell-Lammons Engineering, Inc.**	Laboratory ID: **LK17069-001**
Description: **MW-3**	Matrix: **Aqueous**
Date Sampled: **11/15/2010 1300**	
Date Received: **11/17/2010**	

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	11/22/2010 1659	LBS		47161

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
Benzene	**71-43-2**	**8260B**	**68**		**1.0**	**ug/L**	**1**
1,2-Dichloroethane	107-06-2	8260B	ND		1.0	ug/L	1
Ethylbenzene	**100-41-4**	**8260B**	**8.7**		**1.0**	**ug/L**	**1**
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		1.0	ug/L	1
Naphthalene	**91-20-3**	**8260B**	**21**		**1.0**	**ug/L**	**1**
Toluene	**108-88-3**	**8260B**	**11**		**1.0**	**ug/L**	**1**
Xylenes (total)	**1330-20-7**	**8260B**	**89**		**1.0**	**ug/L**	**1**

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		93	70-130
Bromofluorobenzene		104	70-130
Toluene-d8		103	70-130

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	11/22/2010 1659	LBS		47161

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
Diisopropyl ether (IPE)	108-20-3	8260B	ND		5.0	ug/L	1
Ethanol	64-17-5	8260B	ND		100	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		20	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		1.0	ug/L	1
tert-Amyl alcohol (TAA)	**75-85-4**	**8260B**	**100**		**20**	**ug/L**	**1**
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		10	ug/L	1
tert-butyl alcohol (TBA)	**75-65-0**	**8260B**	**58**		**20**	**ug/L**	**1**
tert-Butyl formate (TBF)	762-75-4	8260B	ND		5.0	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
Bromofluorobenzene		104	70-130
1,2-Dichloroethane-d4		93	70-130
Toluene-d8		103	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	11/24/2010 0742	MPM	11/22/2010 1410	47102

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run

PQL = Practical quantitation limit
ND = Not detected at or above the PQL
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
H = Out of holding time
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **MW-3**
Date Sampled: **11/15/2010 1300**
Date Received: **11/17/2010**

Laboratory ID: **LK17069-001**
Matrix: **Aqueous**

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	11/24/2010 0742	MPM	11/22/2010 1410	47102

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0.020	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		108	57-137

ICP-AES

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	3005A	6010C	1	11/19/2010 1745	CDF	11/18/2010 1740	46917

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
Lead	7439-92-1	6010C	ND		0.010	mg/L	1

PQL = Practical quantitation limit
ND = Not detected at or above the PQL
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
N = Recovery is out of criteria
H = Out of holding time

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **MW-39**
Date Sampled: **11/12/2010 1015**
Date Received: **11/17/2010**

Laboratory ID: **LK17069-002**
Matrix: **Aqueous**

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	11/22/2010 1742	LBS		47161

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
Benzene	71-43-2	8260B	ND		1.0	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		1.0	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		1.0	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		1.0	ug/L	1
Naphthalene	91-20-3	8260B	ND		1.0	ug/L	1
Toluene	108-88-3	8260B	ND		1.0	ug/L	1
Xylenes (total)	**1330-20-7**	**8260B**	**1.2**		**1.0**	**ug/L**	**1**

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		93	70-130
Bromofluorobenzene		99	70-130
Toluene-d8		102	70-130

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	11/22/2010 1742	LBS		47161

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
Diisopropyl ether (IPE)	108-20-3	8260B	ND		5.0	ug/L	1
Ethanol	64-17-5	8260B	ND		100	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		20	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		1.0	ug/L	1
tert-Amyl alcohol (TAA)	75-85-4	8260B	ND		20	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		10	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		20	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260B	ND		5.0	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
Bromofluorobenzene		99	70-130
1,2-Dichloroethane-d4		93	70-130
Toluene-d8		102	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	11/24/2010 0803	MPM	11/22/2010 1410	47102

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run

PQL = Practical quantitation limit
ND = Not detected at or above the PQL
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
H = Out of holding time

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **MW-39**
Date Sampled: **11/12/2010 1015**
Date Received: **11/17/2010**

Laboratory ID: **LK17069-002**
Matrix: **Aqueous**

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	11/24/2010 0803	MPM	11/22/2010 1410	47102

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0.019	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		107	57-137

ICP-AES

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	3005A	6010C	1	11/19/2010 1750	CDF	11/18/2010 1740	46917

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
Lead	**7439-92-1**	**6010C**	**0.15**		**0.010**	**mg/L**	**1**

PQL = Practical quantitation limit
ND = Not detected at or above the PQL
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
H = Out of holding time
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **SW-1**
Date Sampled: **11/12/2010 1012**
Date Received: **11/17/2010**

Laboratory ID: **LK17069-003**
Matrix: **Aqueous**

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	11/22/2010 1806	LBS		47161

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
Benzene	71-43-2	8260B	ND		1.0	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		1.0	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		1.0	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		1.0	ug/L	1
Naphthalene	91-20-3	8260B	ND		1.0	ug/L	1
Toluene	108-88-3	8260B	ND		1.0	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		1.0	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		94	70-130
Bromofluorobenzene		100	70-130
Toluene-d8		100	70-130

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	11/22/2010 1806	LBS		47161

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
Diisopropyl ether (IPE)	108-20-3	8260B	ND		5.0	ug/L	1
Ethanol	64-17-5	8260B	ND		100	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		20	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		1.0	ug/L	1
tert-Amyl alcohol (TAA)	75-85-4	8260B	ND		20	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		10	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		20	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260B	ND		5.0	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
Bromofluorobenzene		100	70-130
1,2-Dichloroethane-d4		94	70-130
Toluene-d8		100	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	11/24/2010 0824	MPM	11/22/2010 1410	47102

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run

PQL = Practical quantitation limit
ND = Not detected at or above the PQL
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
H = Out of holding time

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **SW-1**
Date Sampled: **11/12/2010 1012**
Date Received: **11/17/2010**

Laboratory ID: **LK17069-003**
Matrix: **Aqueous**

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	11/24/2010 0824	MPM	11/22/2010 1410	47102

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0.019	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		104	57-137

PQL = Practical quantitation limit
ND = Not detected at or above the PQL
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
N = Recovery is out of criteria
H = Out of holding time

SHEALY **Chain of Custody Record**

SHEALY ENVIRONMENTAL SERVICES, INC.
106 Vantage Point Drive
West Columbia, South Carolina 29172
Telephone No. (803) 791-9700 Fax No. (803) 791-9111

Number 109383

Client: BLE
Address: 6004 Ponders CT
City: Greenville State: SC Zip Code: 29615
Project Name: Enmark #380
Project No: 6859-02
P.O. No.:
Report to Contact: Trever Slack
Sampler's Signature: X [signature]
Printed Name: Ivan Irizarry
Telephone No. / Fax No. / E-mail: (864) 288-1265
Waybill No.:
Quote No.:
Page 1 of 1
Analysis (Attach list if more space is needed.)
Lot No: LK17069

Sample ID / Description (Containers for each sample may be combined on one line.)	Date	Time	Number C-Composite	Matrix: Aqueous	Matrix: Solid	Matrix: Non-Aqueous	No. of Containers by Preservative Type: Unpres.	HNO3	HCl	NaOH	8260 NF	BTEX MN, 1,2DCA, 8260B	EDB Boll	Lead 6010	Remarks / Cooler I.D.
MW-3	11/15/10	1300	G	✓					✓	✓		✓	✓	✓	
MW-39	11/12/10	1015	G	✓					✓	✓		✓	✓	✓	
SW-1	11/12/10	1012	G	✓						✓		2	1		Low volume Sample 2 8260, 1 8011

Possible Hazard Identification: ☑ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison ☐ Unknown
Sample Disposal: ☐ Return to Client ☑ Disposal by Lab
Note: All samples are retained for six weeks from receipt unless other arrangements are made.

Turn Around Time Required (Prior lab approval required for expedited TAT.): ☑ Standard ☐ Rush (Specify)
QC Requirements (Specify):

	Date	Time		Date	Time
1. Relinquished by: Ivan A. Irizarry	11/17/10	1210	1. Received by: [signature]	11/17/10	1210
2. Relinquished by:			2. Received by:		
3. Relinquished by: [signature]	11/17/10	1600	3. Laboratory received by: [signature]	11/17/10	1600

Comments:
LAB USE ONLY: Received on ice (Circle) Yes No Ice Pack
Receipt Temp. 1.0 °C

DISTRIBUTION: WHITE & YELLOW Return to laboratory with Sample(s); PINK-Field/Client Copy

Document Number: F-AD-012 Effective Date: 08-04-02

Shealy Environmental Services, Inc.
Document Number: F-AD-016
Revision Number: 6

Page 1 of 1
Replaces Date: 09/22/06
Effective Date: 05/29/07

Sample Receipt Checklist (SRC)

Client: BLE Cooler Inspected by/date: [illegible] 11/17/10 Lot #: LK17069

Means of receipt: ☑ SESI ☐ Client ☐ UPS ☐ FedEx ☐ Airborne Exp ☐ Other

Yes ☐	No ☐	NA ☑	1. Were custody seals present on the cooler?
Yes ☐	No ☐	NA ☑	2. If custody seals were present, were they intact and unbroken?

Cooler ID/temperature upon receipt 1.0 °C / °C / °C / °C
/ °C / °C / °C / °C

Method: ☐ Temperature Blank ☑ Against Bottles
Method of coolant: ☑ Wet Ice ☐ Blue Ice ☐ Dry Ice ☐ None

If response is No (or Yes for 14, 15, 16), an explanation/resolution must be provided.

Yes ☐	No ☐	NA ☑	3. If temperature of any cooler exceeded 6.0°C, was Project Manager notified? PM notified by SRC, phone, note (circle one), other: _____. (For coolers received via commercial courier, PMs are to be notified immediately.
Yes ☐	No ☐	NA ☑	4. Is the commercial courier's packing slip attached to this form?
Yes ☑	No ☐	NA ☐	5. Were proper custody procedures (relinquished/received) followed?
Yes ☑	No ☐	NA ☐	6. Were sample IDs listed?
Yes ☑	No ☐	NA ☐	7. Was collection date & time listed?
Yes ☑	No ☐	NA ☐	8. Were tests to be performed listed on the COC or was quote # provided?
Yes ☑	No ☐	NA ☐	9. Did all samples arrive in the proper containers for each test?
Yes ☑	No ☐	NA ☐	10. Did all container label information (ID, date, time) agree with COC?
Yes ☑	No ☐	NA ☐	11. Did all containers arrive in good condition (unbroken, lids on, etc.)?
Yes ☐	No ☑	NA ☐	12. Was adequate sample volume available? - 003
Yes ☐	No ☑	NA ☐	13. Were all samples received within ½ the holding time or 48 hours, whichever comes first?
Yes ☐	No ☑	NA ☐	14. Were any samples containers missing?
Yes ☐	No ☑	NA ☐	15. Were there any excess samples not listed on COC?
Yes ☐	No ☑	NA ☐	16. Were bubbles present->"pea-size" (¼"or 6mm in diameter) in any VOA vials?
Yes ☑	No ☐	NA ☐	17. Were all metals/O&G/HEM/nutrient samples received at a pH of <2?
Yes ☐	No ☐	NA ☑	18. Were all cyanide and/or sulfide samples received at a pH >12?
Yes ☐	No ☐	NA ☑	19. Were all applicable NH3/TKN/cyanide/phenol/BNA/pest/PCB/herb (<0.2mg/L) and toxicity (<0.1mg/L) samples free of residual chlorine?
Yes ☐	No ☐	NA ☑	20. Were collection temperatures documented on the COC for NC samples?

Sample Preservation (Must be completed for any sample(s) incorrectly preserved or with headspace.)

Sample(s) _____ were received incorrectly preserved and were adjusted accordingly in sample receiving with _____ (H_2SO_4,HNO_3,HCl,NaOH) with the SR # (number)

Sample(s) _____ were received with bubbles >6 mm in diameter.

Sample(s) _____ were received with TRC >0.2 mg/L for NH3/TKN/cyanide/BNA/pest/PCB/herb.

Toxicity sample(s) _____ were received with TRC >0.1 mg/L and were analyzed by method 330.5.

Corrective Action taken, if necessary:

Was client notified: Yes ☐ No ☐ Did client respond: Yes ☐ No ☐
SESI employee: _____ , Date of response: _____
Comments: _____

SHEALY ENVIRONMENTAL SERVICES, INC.

Report of Analysis

Bunnell-Lammons Engineering, Inc.
6004 Ponders Court
Greenville, SC 29615
Attention: Trevor Slack

Project Name: **Enmark #380**

Project Number: **6859-02**

Lot Number: **LK08031**

Date Completed: **11/15/2010**

Lucas Odom
Project Manager

This report shall not be reproduced, except in its entirety, without the written approval of Shealy Environmental Services, Inc.

The following non-paginated documents are considered part of this report: Chain of Custody Record and Sample Receipt Checklist.

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Case Narrative
Bunnell-Lammons Engineering, Inc.
Lot Number: LK08031

This Report of Analysis contains the analytical result(s) for the sample(s) listed on the Sample Summary following this Case Narrative. The sample receiving date is documented in the header information associated with each sample.

Sample receipt, sample analysis, and data review have been performed in accordance with the most current approved NELAC standards, the Shealy Environmental Services, Inc. ("Shealy") Quality Assurance Management Plan (QAMP), standard operating procedures (SOPs), and Shealy policies. Any exceptions to the NELAC standards, the QAMP, SOPs or policies are qualified on the results page or discussed below.

If you have any questions regarding this report please contact the Shealy Project Manager listed on the cover page.

Sample Summary
Bunnell-Lammons Engineering, Inc.
Lot Number: LK08031

Sample Number	Sample ID	Matrix	Date Sampled	Date Received
001	DW-1	Aqueous	11/05/2010 0912	11/08/2010
002	DW-2	Aqueous	11/05/2010 0921	11/08/2010
003	DW-3	Aqueous	11/05/2010 0942	11/08/2010
004	DW-4	Aqueous	11/05/2010 1025	11/08/2010
005	DW-5	Aqueous	11/05/2010 1055	11/08/2010

(5 samples)

Executive Summary
Bunnell-Lammons Engineering, Inc.
Lot Number: LK08031

Sample	Sample ID	Matrix	Parameter	Method	Result	Q	Units	Page

(0 detections)

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **DW-1**
Date Sampled: **11/05/2010 0912**
Date Received: **11/08/2010**

Laboratory ID: **LK08031-001**
Matrix: **Aqueous**

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	11/11/2010 2009	DLB		46468

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
Benzene	71-43-2	8260B	ND		1.0	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		1.0	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		1.0	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		1.0	ug/L	1
Naphthalene	91-20-3	8260B	ND		1.0	ug/L	1
Toluene	108-88-3	8260B	ND		1.0	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		1.0	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		111	70-130
Bromofluorobenzene		107	70-130
Toluene-d8		96	70-130

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	11/11/2010 2009	DLB		46468

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
Diisopropyl ether (IPE)	108-20-3	8260B	ND		5.0	ug/L	1
Ethanol	64-17-5	8260B	ND		100	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		20	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		1.0	ug/L	1
tert-Amyl alcohol (TAA)	75-85-4	8260B	ND		20	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		10	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		20	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260B	ND		5.0	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
Bromofluorobenzene		107	70-130
1,2-Dichloroethane-d4		111	70-130
Toluene-d8		96	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	11/13/2010 2026	PMS	11/09/2010 1957	46207

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run

PQL = Practical quantitation limit
ND = Not detected at or above the PQL
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
H = Out of holding time

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **DW-1**
Date Sampled: **11/05/2010 0912**
Date Received: **11/08/2010**

Laboratory ID: **LK08031-001**
Matrix: **Aqueous**

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	11/13/2010 2026	PMS	11/09/2010 1957	46207

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0.020	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		86	57-137

PQL = Practical quantitation limit
ND = Not detected at or above the PQL
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
H = Out of holding time

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **DW-2**
Date Sampled: **11/05/2010 0921**
Date Received: **11/08/2010**

Laboratory ID: **LK08031-002**
Matrix: **Aqueous**

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	11/11/2010 2030	DLB		46468

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
Benzene	71-43-2	8260B	ND		1.0	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		1.0	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		1.0	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		1.0	ug/L	1
Naphthalene	91-20-3	8260B	ND		1.0	ug/L	1
Toluene	108-88-3	8260B	ND		1.0	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		1.0	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		115	70-130
Bromofluorobenzene		112	70-130
Toluene-d8		100	70-130

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	11/11/2010 2030	DLB		46468

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
Diisopropyl ether (IPE)	108-20-3	8260B	ND		5.0	ug/L	1
Ethanol	64-17-5	8260B	ND		100	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		20	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		1.0	ug/L	1
tert-Amyl alcohol (TAA)	75-85-4	8260B	ND		20	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		10	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		20	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260B	ND		5.0	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
Bromofluorobenzene		112	70-130
1,2-Dichloroethane-d4		115	70-130
Toluene-d8		100	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	11/13/2010 2048	PMS	11/09/2010 1957	46207

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run

PQL = Practical quantitation limit
ND = Not detected at or above the PQL
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
H = Out of holding time

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **DW-2**
Date Sampled: **11/05/2010 0921**
Date Received: **11/08/2010**

Laboratory ID: **LK08031-002**
Matrix: **Aqueous**

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	11/13/2010 2048	PMS	11/09/2010 1957	46207

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0.019	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		95	57-137

PQL = Practical quantitation limit
ND = Not detected at or above the PQL
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
N = Recovery is out of criteria
H = Out of holding time

Client: **Bunnell-Lammons Engineering, Inc.** Laboratory ID: **LK08031-003**
Description: **DW-3** Matrix: **Aqueous**
Date Sampled: **11/05/2010 0942**
Date Received: **11/08/2010**

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	11/11/2010 2051	DLB		46468

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
Benzene	71-43-2	8260B	ND		1.0	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		1.0	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		1.0	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		1.0	ug/L	1
Naphthalene	91-20-3	8260B	ND		1.0	ug/L	1
Toluene	108-88-3	8260B	ND		1.0	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		1.0	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		115	70-130
Bromofluorobenzene		109	70-130
Toluene-d8		98	70-130

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	11/11/2010 2051	DLB		46468

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
Diisopropyl ether (IPE)	108-20-3	8260B	ND		5.0	ug/L	1
Ethanol	64-17-5	8260B	ND		100	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		20	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		1.0	ug/L	1
tert-Amyl alcohol (TAA)	75-85-4	8260B	ND		20	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		10	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		20	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260B	ND		5.0	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
Bromofluorobenzene		109	70-130
1,2-Dichloroethane-d4		115	70-130
Toluene-d8		98	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	11/13/2010 2109	PMS	11/09/2010 1957	46207

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run

PQL = Practical quantitation limit
ND = Not detected at or above the PQL
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
H = Out of holding time
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **DW-3**
Date Sampled: **11/05/2010 0942**
Date Received: **11/08/2010**

Laboratory ID: **LK08031-003**
Matrix: **Aqueous**

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	11/13/2010 2109	PMS	11/09/2010 1957	46207

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0.020	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		120	57-137

PQL = Practical quantitation limit
ND = Not detected at or above the PQL
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
N = Recovery is out of criteria
H = Out of holding time

Client: **Bunnell-Lammons Engineering, Inc.** Laboratory ID: **LK08031-004**
Description: **DW-4** Matrix: **Aqueous**
Date Sampled: **11/05/2010 1025**
Date Received: **11/08/2010**

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	11/11/2010 2111	DLB		46468

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
Benzene	71-43-2	8260B	ND		1.0	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		1.0	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		1.0	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		1.0	ug/L	1
Naphthalene	91-20-3	8260B	ND		1.0	ug/L	1
Toluene	108-88-3	8260B	ND		1.0	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		1.0	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		118	70-130
Bromofluorobenzene		109	70-130
Toluene-d8		100	70-130

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	11/11/2010 2111	DLB		46468

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
Diisopropyl ether (IPE)	108-20-3	8260B	ND		5.0	ug/L	1
Ethanol	64-17-5	8260B	ND		100	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		20	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		1.0	ug/L	1
tert-Amyl alcohol (TAA)	75-85-4	8260B	ND		20	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		10	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		20	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260B	ND		5.0	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
Bromofluorobenzene		109	70-130
1,2-Dichloroethane-d4		118	70-130
Toluene-d8		100	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	11/13/2010 2130	PMS	11/09/2010 1957	46207

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run

PQL = Practical quantitation limit
ND = Not detected at or above the PQL
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
H = Out of holding time

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **DW-4**
Date Sampled: **11/05/2010 1025**
Date Received: **11/08/2010**

Laboratory ID: **LK08031-004**
Matrix: **Aqueous**

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	11/13/2010 2130	PMS	11/09/2010 1957	46207

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0.020	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		66	57-137

PQL = Practical quantitation limit
ND = Not detected at or above the PQL
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL

E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
H = Out of holding time

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **DW-5**
Date Sampled: **11/05/2010 1055**
Date Received: **11/08/2010**

Laboratory ID: **LK08031-005**
Matrix: **Aqueous**

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	11/11/2010 2131	DLB		46468

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
Benzene	71-43-2	8260B	ND		1.0	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		1.0	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		1.0	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		1.0	ug/L	1
Naphthalene	91-20-3	8260B	ND		1.0	ug/L	1
Toluene	108-88-3	8260B	ND		1.0	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		1.0	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		117	70-130
Bromofluorobenzene		108	70-130
Toluene-d8		99	70-130

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	11/11/2010 2131	DLB		46468

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
Diisopropyl ether (IPE)	108-20-3	8260B	ND		5.0	ug/L	1
Ethanol	64-17-5	8260B	ND		100	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		20	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		1.0	ug/L	1
tert-Amyl alcohol (TAA)	75-85-4	8260B	ND		20	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		10	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		20	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260B	ND		5.0	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
Bromofluorobenzene		108	70-130
1,2-Dichloroethane-d4		117	70-130
Toluene-d8		99	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	11/13/2010 2151	PMS	11/09/2010 1957	46207

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run

PQL = Practical quantitation limit
ND = Not detected at or above the PQL
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
H = Out of holding time

Client: **Bunnell-Lammons Engineering, Inc.**
Description: **DW-5**
Date Sampled: **11/05/2010 1055**
Date Received: **11/08/2010**

Laboratory ID: **LK08031-005**
Matrix: **Aqueous**

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	11/13/2010 2151	PMS	11/09/2010 1957	46207

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0.020	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		88	57-137

PQL = Practical quantitation limit
ND = Not detected at or above the PQL
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL

E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
H = Out of holding time

SHEALY ENVIRONMENTAL SERVICES, INC.

106 Vantage Point Drive
West Columbia, South Carolina 29172
Telephone No. (803) 791-9700 Fax No. (803) 791-9111

SHEALY Chain of Custody Record

Number 109308

Client: BLE
Address: 6004 Pondess CT
City: Greenville | State: SC | Zip Code: 29615
Project Name: ENmark #380
Project No.: 6859-02
P.O. No.:

Report to Contact: Trevor Slack
Sampler's Signature: x
Printed Name: IVAN Irizarry

Telephone No. / Fax No. / E-mail: (864) 288-1265 Tslack@BLEcorp.com
Waybill No.:
Quote No.:
Page 1 of 1

Analysis (Attach list if more space is needed.)

Lot No.: LK0803

Sample ID / Description (Containers for each sample may be combined on one line.)	Date	Time	G=Grab C=Composite	Matrix: Wastewater	Matrix: Solid	Matrix: Non-Aqueous	No. of Containers by Preservative Type: Unpres.	H2SO4	HNO3	HCl	NaOH	NaS2O3	DT Texas 1,2 DCA	GDB Boxy Broad Bell	Remarks / Cooler I.D.
DW-1	11/5/10	912	G	✓						✓			✓	✓	
DW-2	↓	921	↓	↓						↓			↓	↓	
DW-3		942													
DW-4		1025													
DW-5	↓	1055	↓	↓						↓			↓	↓	

Possible Hazard Identification: ☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison ☐ Unknown

Sample Disposal: ☐ Return to Client ☐ Disposal by Lab

Note: All samples are retained for six weeks from receipt unless other arrangements are made.

Turn Around Time Required (Prior lab approval required for expedited TAT.): ☐ Standard ☐ Rush (Specify)

QC Requirements (Specify):

	Date	Time		Date	Time
1. Relinquished by:	11/8/10	12:52	1. Received by:	11/8/10	12:52
2. Relinquished by:			2. Received by:		
3. Relinquished by:	11/8/10	1555	3. Laboratory received by:	11/8/10	1555

Comments:

LAB USE ONLY
Received on Ice (Circle): Yes No Ice Pack
Receipt Temp. 1.2 °C

DISTRIBUTION: WHITE & YELLOW-Return to laboratory with Sample(s); PINK-Field/Client Copy

Document Number: F-AD-012 Effective Date: 08-04-02

SHEALY ENVIRONMENTAL SERVICES, INC.

Shealy Environmental Services, Inc.
Document Number: F-AD-016
Revision Number: 6

Page 1 of 1
Replaces Date: 09/22/06
Effective Date: 05/29/07

Sample Receipt Checklist (SRC)

Client: BLE Cooler Inspected by/date: 11/8/10 Lot #: LK8031

Means of receipt: ☑ SESI ☐ Client ☐ UPS ☐ FedEx ☐ Airborne Exp ☐ Other

Yes ☐	No ☑	NA ☐	1. Were custody seals present on the cooler?
Yes ☐	No ☐	NA ☑	2. If custody seals were present, were they intact and unbroken?

Cooler ID/temperature upon receipt 1.4 °C / °C / °C / °C
/ °C / °C / °C / °C

Method: ☐ Temperature Blank ☑ Against Bottles
Method of coolant: ☑ Wet Ice ☐ Blue Ice ☐ Dry Ice ☐ None

If response is No (or Yes for 14, 15, 16), an explanation/resolution must be provided.

Yes ☐	No ☐	NA ☑	3. If temperature of any cooler exceeded 6.0°C, was Project Manager notified? PM notified by SRC, phone, note (circle one), other:_____. (For coolers received via commercial courier, PMs are to be notified immediately.
Yes ☐	No ☐	NA ☑	4. Is the commercial courier's packing slip attached to this form?
Yes ☑	No ☐	NA ☐	5. Were proper custody procedures (relinquished/received) followed?
Yes ☑	No ☐	NA ☐	6. Were sample IDs listed?
Yes ☑	No ☐	NA ☐	7. Was collection date & time listed?
Yes ☑	No ☐	NA ☐	8. Were tests to be performed listed on the COC or was quote # provided?
Yes ☑	No ☐	NA ☐	9. Did all samples arrive in the proper containers for each test?
Yes ☑	No ☐	NA ☐	10. Did all container label information (ID, date, time) agree with COC?
Yes ☑	No ☐	NA ☐	11. Did all containers arrive in good condition (unbroken, lids on, etc.)?
Yes ☑	No ☐	NA ☐	12. Was adequate sample volume available?
Yes ☐	No ☑	NA ☐	13. Were all samples received within ½ the holding time or 48 hours, whichever comes first?
Yes ☐	No ☑	NA ☐	14. Were any samples containers missing?
Yes ☐	No ☑	NA ☐	15. Were there any excess samples not listed on COC?
Yes ☐	No ☑	NA ☐	16. Were bubbles present>"pea-size" (¼"or 6mm in diameter) in any VOA vials?
Yes ☐	No ☐	NA ☑	17. Were all metals/O&G/HEM/nutrient samples received at a pH of <2?
Yes ☐	No ☐	NA ☑	18. Were all cyanide and/or sulfide samples received at a pH >12?
Yes ☐	No ☐	NA ☑	19. Were all applicable NH3/TKN/cyanide/phenol/BNA/pest/PCB/herb (<0.2mg/L) and toxicity (<0.1mg/L) samples free of residual chlorine?
Yes ☐	No ☐	NA ☑	20. Were collection temperatures documented on the COC for NC samples?

Sample Preservation (Must be completed for any sample(s) incorrectly preserved or with headspace.)

Sample(s)_____were received incorrectly preserved and were adjusted accordingly in sample receiving with _____(H_2SO_4,HNO_3,HCl,NaOH) with the SR # (number)

Sample(s)_____were received with bubbles >6 mm in diameter.

Sample(s)_____were received with TRC >0.2 mg/L for NH3/TKN/cyanide/BNA/pest/PCB/herb.

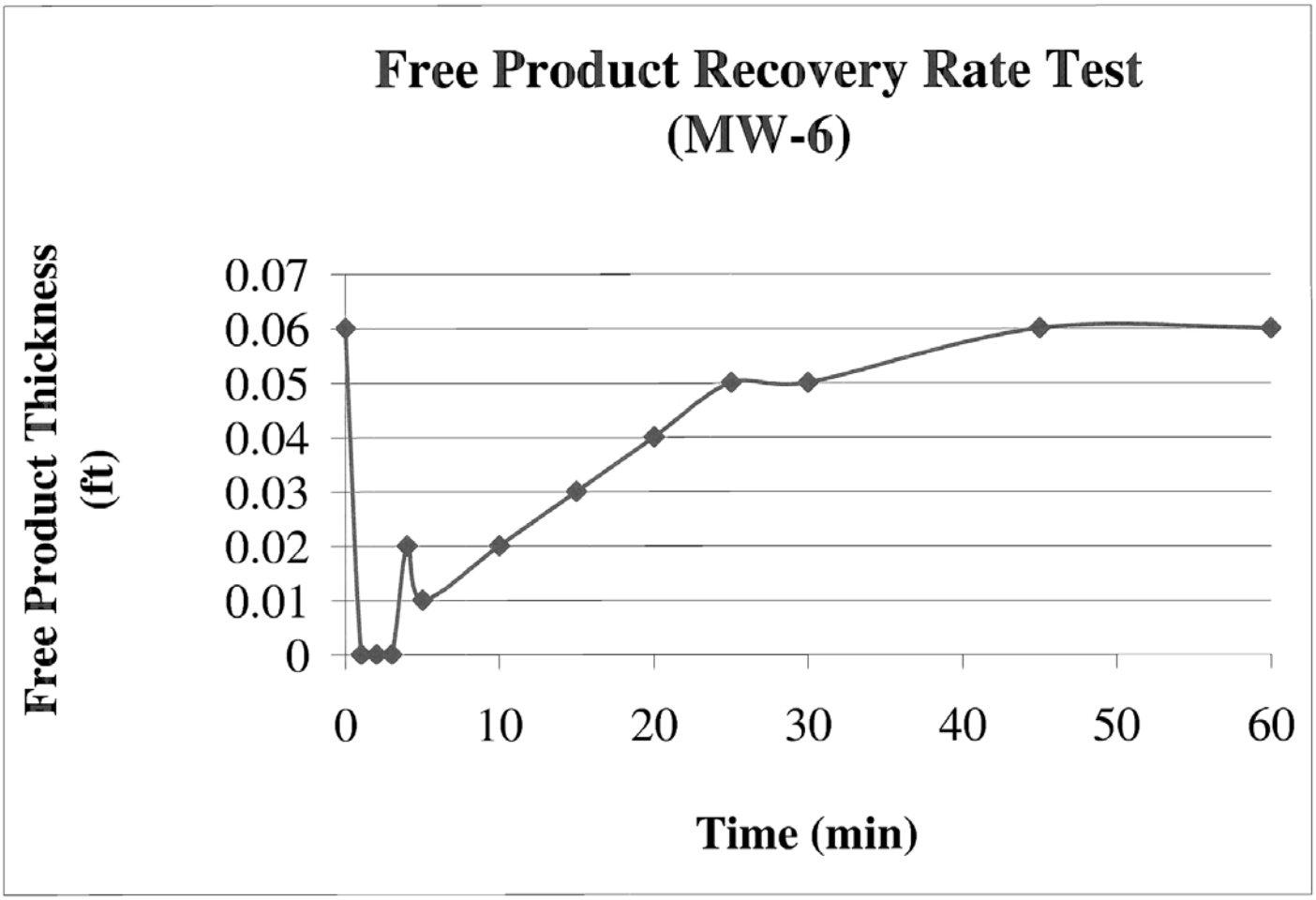
Toxicity sample(s)_____were received with TRC >0.1 mg/L and were analyzed by method 330.5.

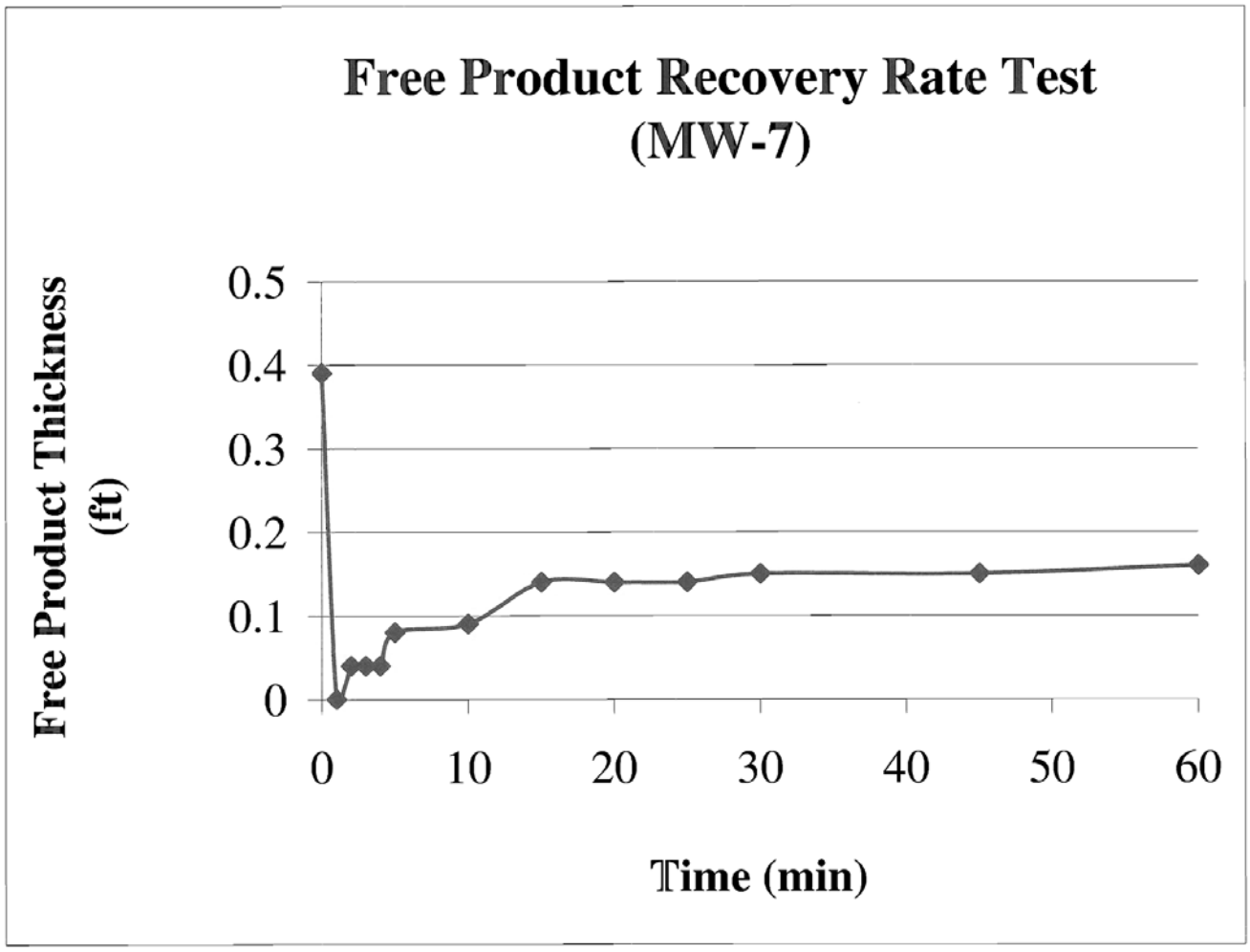
Corrective Action taken, if necessary:

Was client notified: Yes ☐ No ☐ Did client respond: Yes ☐ No ☐
SESI employee: _____ Date of response: _____
Comments:

APPENDIX G

FREE-PRODUCT RECOVERY RATE GRAPHS


Free Product Recovery Rate Test
(MW-6)
Free Product Thickness
(ft)
0.07
0.06
0.05
0.04
0.03
0.02
0.01
0
0
10
20
30
40
50
60
Time (min)


Free Product Recovery Rate Test
(MW-7)
Free Product Thickness
(ft)
0.5
0.4
0.3
0.2
0.1
0
0
10
20
30
40
50
60
Time (min)

APPENDIX H

SLUG TEST PROCEDURES AND RESULTS

APPENDIX H

SLUG TEST PROCEDURES AND RESULTS

Field permeability (slug) tests were performed in monitoring wells MW-22, MW-22D, MW-24, and MW-24D to determine the hydraulic conductivity of the uppermost saprolite and shallow bedrock aquifer formation materials exposed to the well screen. The field procedures used to determine this parameter were as follows:

1. Measure the static groundwater elevation in the well to be tested;
2. Effect a sudden change to the static water level in the well displacing a known volume of water via solid slug; and
3. Measure the rate at which the water column recovers to its original level.

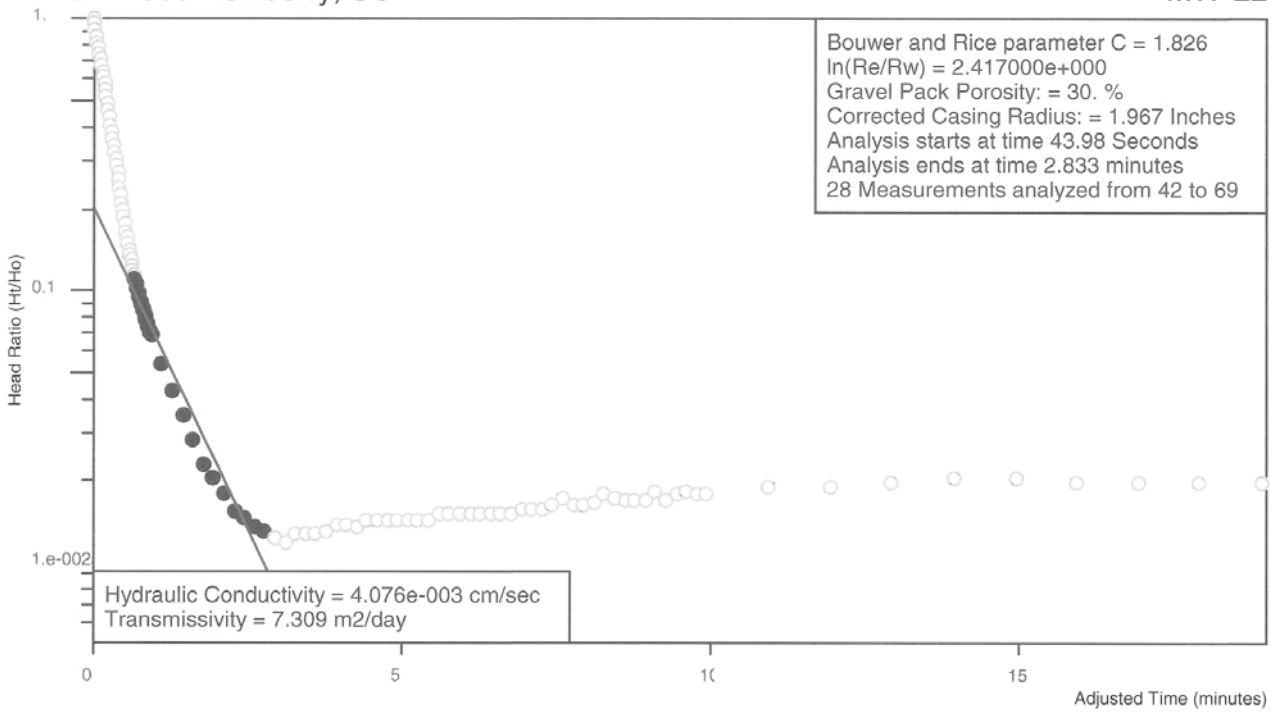
Slug test data was reduced and the hydraulic conductivity values were computed using Bouwer, H. and R. C. Rice "*A Slug Test for Determining Conductivity of Unconfined Aquifers with Completely or Partially Penetrating Wells*," Water Resources Research, 12 (1976): 423-28.

Rising Head Slug Test January 4, 2011

Bouwer and Rice Graph

Enmark #380 Newberry, SC

MW-22



Project Number: J10-6859-02 for Enmark

Analysis by Starpoint Software

Ho is 2.53 feet at 3. Seconds

Rising Head Slug Test

Site Name:	Enmark #380
Location:	Newberry, SC
Test Date:	January 4, 2011
Client:	Enmark
Project Number:	J10-6859-02
Import File:	C:\Documents and Settings\PC058 User\Desktop\Enmark 380 Slugs 2\Final

Well Label:	MW-22
Aquifer Thickness:	6.81 feet
Screen Length:	6.81 feet
Casing Radius:	1. Inches
Effective Radius:	3.25 Inches
Gravel Pack Porosity:	30. %
Corrected Casing Radius:	1.967 Inches
Static Water Level:	0. feet
Water Table to Screen Bottom:	6.81 feet
Anisotropy Ratio:	1.
Time Adjustment:	3. Seconds

Test starts with trial 0
There are 121 time and drawdown measurements
Maximum head is 2.53 feet
Minimum head is 0. feet

Trial	Time (minutes)	Adjusted Time (minutes)	Drawdown (feet)	Head (feet)	Head Ratio
1	5.e-002	0.	2.53	2.53	1.
2	6.7e-002	1.7e-002	2.445	2.445	0.9664
3	8.3e-002	3.3e-002	2.32	2.32	0.917
4	0.1	5.e-002	2.19	2.19	0.8656
5	0.117	6.7e-002	2.081	2.081	0.8225
6	0.133	8.3e-002	1.987	1.987	0.7854
7	0.15	1.e-001	1.895	1.895	0.749
8	0.167	0.117	1.806	1.806	0.7138
9	0.183	0.133	1.716	1.716	0.6783
10	0.2	0.15	1.629	1.629	0.6439
11	0.217	0.167	1.551	1.551	0.613
12	0.233	0.183	1.468	1.468	0.5802
13	0.25	0.2	1.39	1.39	0.5494
14	0.267	0.217	1.317	1.317	0.5206
15	0.283	0.233	1.246	1.246	0.4925
16	0.3	0.25	1.173	1.173	0.4636
17	0.317	0.267	1.103	1.103	0.436
18	0.333	0.283	1.03	1.03	0.4071
19	0.35	0.3	0.973	0.973	0.3846
20	0.367	0.317	0.923	0.923	0.3648
21	0.383	0.333	0.874	0.874	0.3455
22	0.4	0.35	0.824	0.824	0.3257
23	0.417	0.367	0.777	0.777	0.3071
24	0.433	0.383	0.732	0.732	0.2893
25	0.45	0.4	0.69	0.69	0.2727
26	0.467	0.417	0.65	0.65	0.2569
27	0.483	0.433	0.61	0.61	0.2411
28	0.5	0.45	0.572	0.572	0.2261
29	0.517	0.467	0.536	0.536	0.2119
30	0.533	0.483	0.503	0.503	0.1988
31	0.55	0.5	0.473	0.473	0.187

32	0.567	0.517	0.444	0.444	0.1755
33	0.583	0.533	0.419	0.419	0.1656
34	0.6	0.55	0.397	0.397	0.1569
35	0.617	0.567	0.376	0.376	0.1486
36	0.633	0.583	0.36	0.36	0.1423
37	0.65	0.6	0.343	0.343	0.1356
38	0.667	0.617	0.329	0.329	0.13
39	0.683	0.633	0.315	0.315	0.1245
40	0.7	0.65	0.301	0.301	0.119
41	0.717	0.667	0.289	0.289	0.1142
42	0.733	0.683	0.28	0.28	0.1107
43	0.75	0.7	0.268	0.268	0.1059
44	0.767	0.717	0.258	0.258	0.102
45	0.783	0.733	0.249	0.249	9.842e-002
46	0.8	0.75	0.242	0.242	9.565e-002
47	0.817	0.767	0.232	0.232	9.17e-002
48	0.833	0.783	0.225	0.225	8.893e-002
49	0.85	0.8	0.218	0.218	8.617e-002
50	0.867	0.817	0.214	0.214	8.458e-002
51	0.883	0.833	0.206	0.206	8.142e-002
52	0.9	0.85	0.202	0.202	7.984e-002
53	0.917	0.867	0.197	0.197	7.787e-002
54	0.933	0.883	0.19	0.19	7.51e-002
55	0.95	0.9	0.186	0.186	7.352e-002
56	0.967	0.917	0.181	0.181	7.154e-002
57	0.983	0.933	0.176	0.176	6.957e-002
58	1.	0.95	0.174	0.174	6.877e-002
59	1.167	1.117	0.135	0.135	5.336e-002
60	1.333	1.283	0.109	0.109	4.308e-002
61	1.5	1.45	8.8e-002	8.8e-002	3.478e-002
62	1.667	1.617	7.2e-002	7.2e-002	2.846e-002
63	1.833	1.783	5.8e-002	5.8e-002	2.292e-002
64	2.	1.95	5.2e-002	5.2e-002	2.055e-002
65	2.167	2.117	4.5e-002	4.5e-002	1.779e-002
66	2.333	2.283	3.9e-002	3.9e-002	1.542e-002
67	2.5	2.45	3.7e-002	3.7e-002	1.462e-002
68	2.667	2.617	3.4e-002	3.4e-002	1.344e-002
69	2.833	2.783	3.3e-002	3.3e-002	1.304e-002
70	3.	2.95	3.1e-002	3.1e-002	1.225e-002
71	3.167	3.117	3.e-002	3.e-002	1.186e-002
72	3.333	3.283	3.2e-002	3.2e-002	1.265e-002
73	3.5	3.45	3.2e-002	3.2e-002	1.265e-002
74	3.667	3.617	3.2e-002	3.2e-002	1.265e-002
75	3.833	3.783	3.3e-002	3.3e-002	1.304e-002
76	4.	3.95	3.5e-002	3.5e-002	1.383e-002
77	4.167	4.117	3.5e-002	3.5e-002	1.383e-002
78	4.333	4.283	3.4e-002	3.4e-002	1.344e-002
79	4.5	4.45	3.6e-002	3.6e-002	1.423e-002
80	4.667	4.617	3.6e-002	3.6e-002	1.423e-002
81	4.833	4.783	3.6e-002	3.6e-002	1.423e-002
82	5.	4.95	3.6e-002	3.6e-002	1.423e-002
83	5.167	5.117	3.6e-002	3.6e-002	1.423e-002
84	5.333	5.283	3.6e-002	3.6e-002	1.423e-002
85	5.5	5.45	3.6e-002	3.6e-002	1.423e-002
86	5.667	5.617	3.8e-002	3.8e-002	1.502e-002
87	5.833	5.783	3.8e-002	3.8e-002	1.502e-002
88	6.	5.95	3.8e-002	3.8e-002	1.502e-002

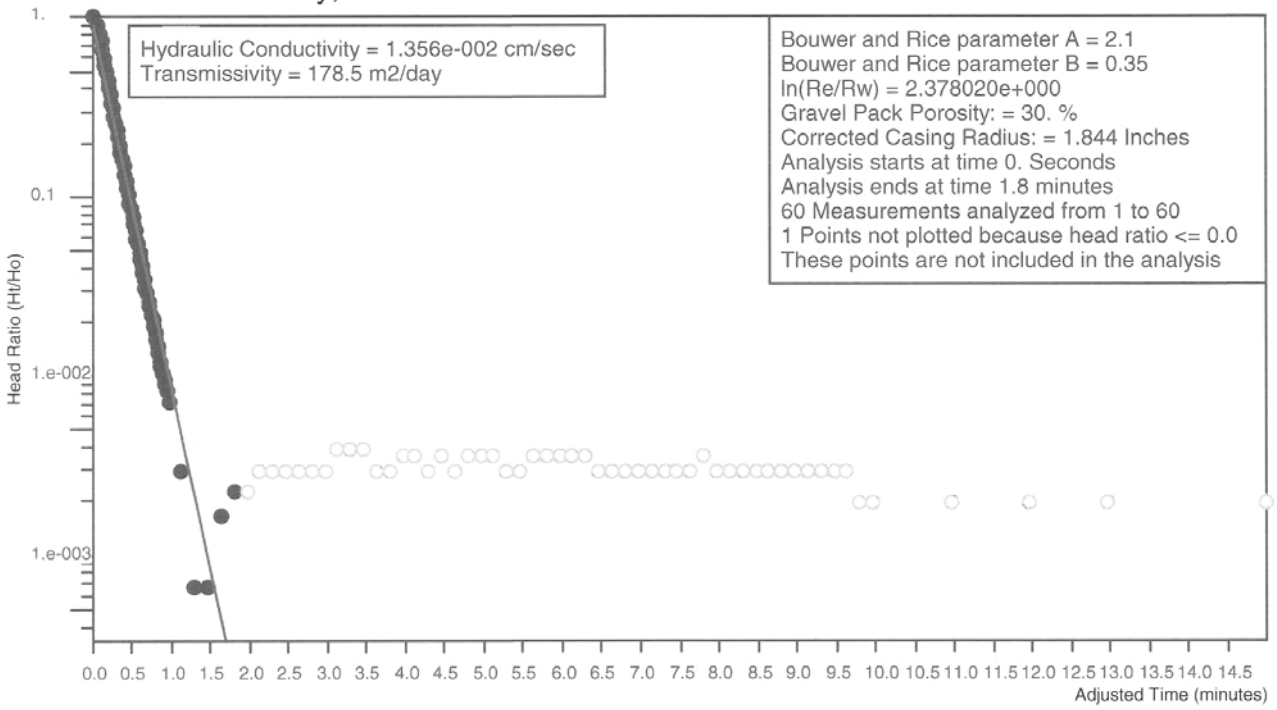
89	6.167	6.117	3.8e-002	3.8e-002	1.502e-002
90	6.333	6.283	3.8e-002	3.8e-002	1.502e-002
91	6.5	6.45	3.8e-002	3.8e-002	1.502e-002
92	6.667	6.617	3.8e-002	3.8e-002	1.502e-002
93	6.833	6.783	3.8e-002	3.8e-002	1.502e-002
94	7.	6.95	4.e-002	4.e-002	1.581e-002
95	7.167	7.117	4.e-002	4.e-002	1.581e-002
96	7.333	7.283	4.e-002	4.e-002	1.581e-002
97	7.5	7.45	4.1e-002	4.1e-002	1.621e-002
98	7.667	7.617	4.4e-002	4.4e-002	1.739e-002
99	7.833	7.783	4.1e-002	4.1e-002	1.621e-002
100	8.	7.95	4.1e-002	4.1e-002	1.621e-002
101	8.167	8.117	4.2e-002	4.2e-002	1.66e-002
102	8.333	8.283	4.5e-002	4.5e-002	1.779e-002
103	8.5	8.45	4.4e-002	4.4e-002	1.739e-002
104	8.667	8.617	4.3e-002	4.3e-002	1.7e-002
105	8.833	8.783	4.3e-002	4.3e-002	1.7e-002
106	9.	8.95	4.3e-002	4.3e-002	1.7e-002
107	9.167	9.117	4.6e-002	4.6e-002	1.818e-002
108	9.333	9.283	4.3e-002	4.3e-002	1.7e-002
109	9.5	9.45	4.5e-002	4.5e-002	1.779e-002
110	9.667	9.617	4.6e-002	4.6e-002	1.818e-002
111	9.833	9.783	4.5e-002	4.5e-002	1.779e-002
112	10.	9.95	4.5e-002	4.5e-002	1.779e-002
113	11.	10.95	4.8e-002	4.8e-002	1.897e-002
114	12.	11.95	4.8e-002	4.8e-002	1.897e-002
115	13.	12.95	5.e-002	5.e-002	1.976e-002
116	14.	13.95	5.2e-002	5.2e-002	2.055e-002
117	15.	14.95	5.2e-002	5.2e-002	2.055e-002
118	16.	15.95	5.e-002	5.e-002	1.976e-002
119	17.	16.95	5.e-002	5.e-002	1.976e-002
120	18.	17.95	5.e-002	5.e-002	1.976e-002
121	19.	18.95	5.e-002	5.e-002	1.976e-002

Falling Head Slug Test November 15, 2010

Bouwer and Rice Graph

Enmark #380 Newberry, SC

MW-22D



Project Number: J10-6859-02 for Enmark

Analysis by Starpoint Software

Ho is 3.041 feet at 0. Seconds

Falling Head Slug Test

Site Name:	Enmark #380
Location:	Newberry, SC
Test Date:	November 15, 2010
Client:	Enmark
Project Number:	J10-6859-02
Import File:	\\Pc058\public pc058\For T. Slack\Enmark 380 Slugs 2\Final\MW-22D Fallin

Well Label:	MW-22D
Aquifer Thickness:	50. feet
Screen Length:	5. feet
Casing Radius:	1. Inches
Effective Radius:	3. Inches
Gravel Pack Porosity:	30. %
Corrected Casing Radius:	1.844 Inches
Static Water Level:	0. feet
Water Table to Screen Bottom:	26.45 feet
Anisotropy Ratio:	1.
Time Adjustment:	0. Seconds

Test starts with trial 0
There are 114 time and drawdown measurements
Maximum head is 3.041 feet
Minimum head is 0. feet

Trial	Time (minutes)	Adjusted Time (minutes)	Drawdown (feet)	Head (feet)	Head Ratio
1	0.	0.	3.041	3.041	1.
2	8.e-002	8.e-002	2.765	2.765	0.9092
3	0.1	0.1	2.474	2.474	0.8135
4	0.12	0.12	2.222	2.222	0.7307
5	0.13	0.13	2.005	2.005	0.6593
6	0.15	0.15	1.814	1.814	0.5965
7	0.17	0.17	1.646	1.646	0.5413
8	0.18	0.18	1.495	1.495	0.4916
9	0.2	0.2	1.358	1.358	0.4466
10	0.22	0.22	1.236	1.236	0.4064
11	0.23	0.23	1.124	1.124	0.3696
12	0.25	0.25	1.023	1.023	0.3364
13	0.27	0.27	0.941	0.941	0.3094
14	0.28	0.28	0.855	0.855	0.2812
15	0.3	0.3	0.78	0.78	0.2565
16	0.32	0.32	0.709	0.709	0.2331
17	0.33	0.33	0.648	0.648	0.2131
18	0.35	0.35	0.591	0.591	0.1943
19	0.37	0.37	0.537	0.537	0.1766
20	0.38	0.38	0.49	0.49	0.1611
21	0.4	0.4	0.447	0.447	0.147
22	0.42	0.42	0.407	0.407	0.1338
23	0.43	0.43	0.372	0.372	0.1223
24	0.45	0.45	0.339	0.339	0.1115
25	0.47	0.47	0.308	0.308	0.1013
26	0.48	0.48	0.282	0.282	9.273e-002
27	0.5	0.5	0.259	0.259	8.517e-002
28	0.52	0.52	0.235	0.235	7.728e-002
29	0.53	0.53	0.216	0.216	7.103e-002
30	0.55	0.55	0.197	0.197	6.478e-002
31	0.57	0.57	0.178	0.178	5.853e-002

32	0.58	0.58	0.164	0.164	5.393e-002
33	0.6	0.6	0.15	0.15	4.933e-002
34	0.62	0.62	0.136	0.136	4.472e-002
35	0.63	0.63	0.126	0.126	4.143e-002
36	0.65	0.65	0.114	0.114	3.749e-002
37	0.67	0.67	0.105	0.105	3.453e-002
38	0.68	0.68	9.5e-002	9.5e-002	3.124e-002
39	0.7	0.7	8.8e-002	8.8e-002	2.894e-002
40	0.72	0.72	7.9e-002	7.9e-002	2.598e-002
41	0.73	0.73	7.4e-002	7.4e-002	2.433e-002
42	0.75	0.75	6.7e-002	6.7e-002	2.203e-002
43	0.77	0.77	6.2e-002	6.2e-002	2.039e-002
44	0.78	0.78	5.8e-002	5.8e-002	1.907e-002
45	0.8	0.8	5.3e-002	5.3e-002	1.743e-002
46	0.82	0.82	4.8e-002	4.8e-002	1.578e-002
47	0.83	0.83	4.4e-002	4.4e-002	1.447e-002
48	0.85	0.85	4.1e-002	4.1e-002	1.348e-002
49	0.87	0.87	3.6e-002	3.6e-002	1.184e-002
50	0.88	0.88	3.4e-002	3.4e-002	1.118e-002
51	0.9	0.9	3.2e-002	3.2e-002	1.052e-002
52	0.92	0.92	2.9e-002	2.9e-002	9.536e-003
53	0.93	0.93	2.7e-002	2.7e-002	8.879e-003
54	0.95	0.95	2.5e-002	2.5e-002	8.221e-003
55	0.97	0.97	2.2e-002	2.2e-002	7.234e-003
56	1.13	1.13	9.e-003	9.e-003	2.96e-003
57	1.3	1.3	2.e-003	2.e-003	6.577e-004
58	1.47	1.47	2.e-003	2.e-003	6.577e-004
59	1.63	1.63	5.e-003	5.e-003	1.644e-003
60	1.8	1.8	7.e-003	7.e-003	2.302e-003
61	1.97	1.97	7.e-003	7.e-003	2.302e-003
62	2.13	2.13	9.e-003	9.e-003	2.96e-003
63	2.3	2.3	9.e-003	9.e-003	2.96e-003
64	2.47	2.47	9.e-003	9.e-003	2.96e-003
65	2.63	2.63	9.e-003	9.e-003	2.96e-003
66	2.8	2.8	9.e-003	9.e-003	2.96e-003
67	2.97	2.97	9.e-003	9.e-003	2.96e-003
68	3.13	3.13	1.2e-002	1.2e-002	3.946e-003
69	3.3	3.3	1.2e-002	1.2e-002	3.946e-003
70	3.47	3.47	1.2e-002	1.2e-002	3.946e-003
71	3.63	3.63	9.e-003	9.e-003	2.96e-003
72	3.8	3.8	9.e-003	9.e-003	2.96e-003
73	3.97	3.97	1.1e-002	1.1e-002	3.617e-003
74	4.13	4.13	1.1e-002	1.1e-002	3.617e-003
75	4.3	4.3	9.e-003	9.e-003	2.96e-003
76	4.47	4.47	1.1e-002	1.1e-002	3.617e-003
77	4.63	4.63	9.e-003	9.e-003	2.96e-003
78	4.8	4.8	1.1e-002	1.1e-002	3.617e-003
79	4.97	4.97	1.1e-002	1.1e-002	3.617e-003
80	5.13	5.13	1.1e-002	1.1e-002	3.617e-003
81	5.3	5.3	9.e-003	9.e-003	2.96e-003
82	5.47	5.47	9.e-003	9.e-003	2.96e-003
83	5.63	5.63	1.1e-002	1.1e-002	3.617e-003
84	5.8	5.8	1.1e-002	1.1e-002	3.617e-003
85	5.97	5.97	1.1e-002	1.1e-002	3.617e-003
86	6.13	6.13	1.1e-002	1.1e-002	3.617e-003
87	6.3	6.3	1.1e-002	1.1e-002	3.617e-003
88	6.47	6.47	9.e-003	9.e-003	2.96e-003

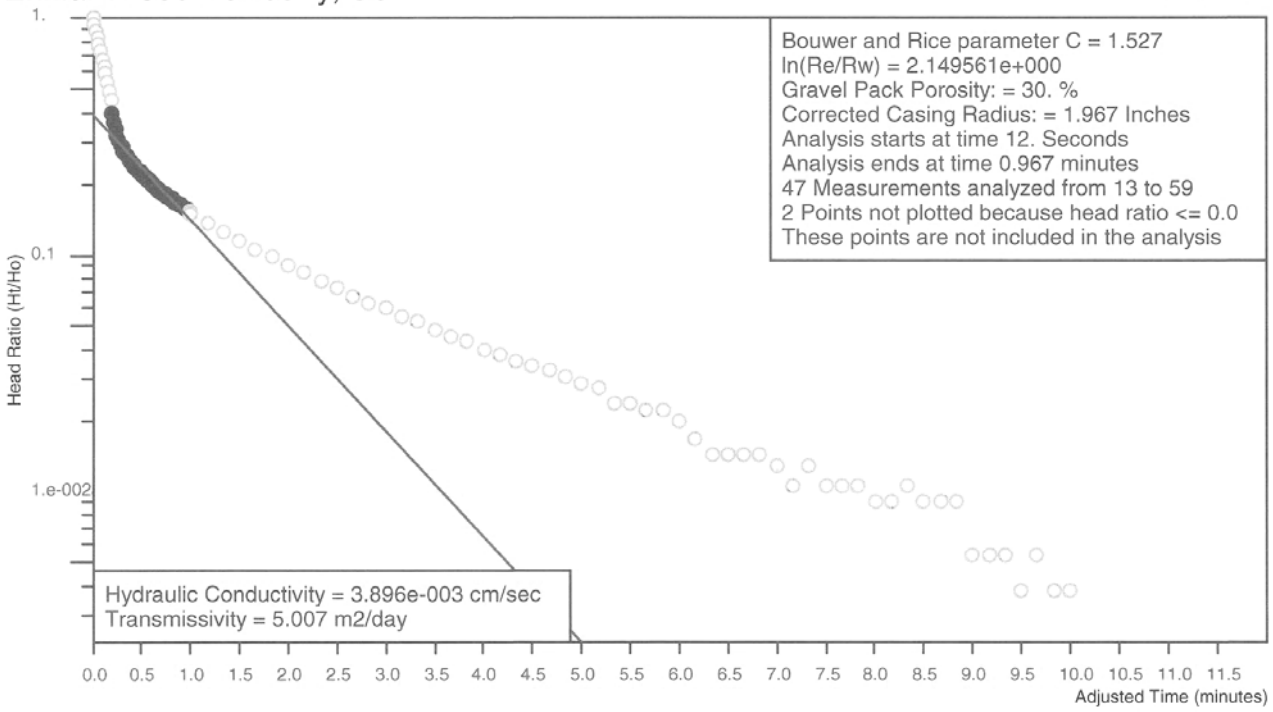
89	6.63	6.63	9.e-003	9.e-003	2.96e-003
90	6.8	6.8	9.e-003	9.e-003	2.96e-003
91	6.97	6.97	9.e-003	9.e-003	2.96e-003
92	7.13	7.13	9.e-003	9.e-003	2.96e-003
93	7.3	7.3	9.e-003	9.e-003	2.96e-003
94	7.47	7.47	9.e-003	9.e-003	2.96e-003
95	7.63	7.63	9.e-003	9.e-003	2.96e-003
96	7.8	7.8	1.1e-002	1.1e-002	3.617e-003
97	7.97	7.97	9.e-003	9.e-003	2.96e-003
98	8.13	8.13	9.e-003	9.e-003	2.96e-003
99	8.3	8.3	9.e-003	9.e-003	2.96e-003
100	8.47	8.47	9.e-003	9.e-003	2.96e-003
101	8.63	8.63	9.e-003	9.e-003	2.96e-003
102	8.8	8.8	9.e-003	9.e-003	2.96e-003
103	8.97	8.97	9.e-003	9.e-003	2.96e-003
104	9.13	9.13	9.e-003	9.e-003	2.96e-003
105	9.3	9.3	9.e-003	9.e-003	2.96e-003
106	9.47	9.47	9.e-003	9.e-003	2.96e-003
107	9.63	9.63	9.e-003	9.e-003	2.96e-003
108	9.8	9.8	6.e-003	6.e-003	1.973e-003
109	9.97	9.97	6.e-003	6.e-003	1.973e-003
110	10.97	10.97	6.e-003	6.e-003	1.973e-003
111	11.97	11.97	6.e-003	6.e-003	1.973e-003
112	12.97	12.97	6.e-003	6.e-003	1.973e-003
113	13.97	13.97	1.e-003	1.e-003	3.288e-004
114	14.97	14.97	6.e-003	6.e-003	1.973e-003

Rising Head Slug Test January 4, 2011

Bouwer and Rice Graph

Enmark #380 Newberry, SC

MW-24



Project Number: J10-6859-02 for Enmark

Analysis by Starpoint Software

Ho is 1.312 feet at 0. Seconds

Rising Head Slug Test

Site Name:	Enmark #380
Location:	Newberry, SC
Test Date:	January 4, 2011
Client:	Enmark
Project Number:	J10-6859-02
Import File:	C:\Documents and Settings\PC058 User\Desktop\Enmark 380 Slugs 2\Final

Well Label:	MW-24
Aquifer Thickness:	4.88 feet
Screen Length:	4.88 feet
Casing Radius:	1. Inches
Effective Radius:	3.25 Inches
Gravel Pack Porosity:	30. %
Corrected Casing Radius:	1.967 Inches
Static Water Level:	0. feet
Water Table to Screen Bottom:	4.88 feet
Anisotropy Ratio:	1.
Time Adjustment:	0. Seconds

Test starts with trial 0
There are 117 time and drawdown measurements
Maximum head is 1.312 feet
Minimum head is 0. feet

Trial	Time (minutes)	Adjusted Time (minutes)	Drawdown (feet)	Head (feet)	Head Ratio
1	0.	0.	1.312	1.312	1.
2	1.7e-002	1.7e-002	1.239	1.239	0.9444
3	3.3e-002	3.3e-002	1.161	1.161	0.8849
4	5.e-002	5.e-002	1.091	1.091	0.8316
5	6.7e-002	6.7e-002	1.02	1.02	0.7774
6	8.3e-002	8.3e-002	0.949	0.949	0.7233
7	0.1	0.1	0.883	0.883	0.673
8	0.117	0.117	0.822	0.822	0.6265
9	0.133	0.133	0.763	0.763	0.5816
10	0.15	0.15	0.704	0.704	0.5366
11	0.167	0.167	0.647	0.647	0.4931
12	0.183	0.183	0.594	0.594	0.4527
13	0.2	0.2	0.525	0.525	0.4002
14	0.217	0.217	0.476	0.476	0.3628
15	0.233	0.233	0.447	0.447	0.3407
16	0.25	0.25	0.424	0.424	0.3232
17	0.267	0.267	0.402	0.402	0.3064
18	0.283	0.283	0.388	0.388	0.2957
19	0.3	0.3	0.374	0.374	0.2851
20	0.317	0.317	0.363	0.363	0.2767
21	0.333	0.333	0.353	0.353	0.2691
22	0.35	0.35	0.344	0.344	0.2622
23	0.367	0.367	0.334	0.334	0.2546
24	0.383	0.383	0.327	0.327	0.2492
25	0.4	0.4	0.323	0.323	0.2462
26	0.417	0.417	0.315	0.315	0.2401
27	0.433	0.433	0.308	0.308	0.2348
28	0.45	0.45	0.304	0.304	0.2317
29	0.467	0.467	0.299	0.299	0.2279
30	0.483	0.483	0.294	0.294	0.2241
31	0.5	0.5	0.29	0.29	0.221

32	0.517	0.517	0.285	0.285	0.2172
33	0.533	0.533	0.28	0.28	0.2134
34	0.55	0.55	0.276	0.276	0.2104
35	0.567	0.567	0.273	0.273	0.2081
36	0.583	0.583	0.269	0.269	0.205
37	0.6	0.6	0.264	0.264	0.2012
38	0.617	0.617	0.259	0.259	0.1974
39	0.633	0.633	0.257	0.257	0.1959
40	0.65	0.65	0.252	0.252	0.1921
41	0.667	0.667	0.25	0.25	0.1905
42	0.683	0.683	0.245	0.245	0.1867
43	0.7	0.7	0.243	0.243	0.1852
44	0.717	0.717	0.24	0.24	0.1829
45	0.733	0.733	0.236	0.236	0.1799
46	0.75	0.75	0.233	0.233	0.1776
47	0.767	0.767	0.231	0.231	0.1761
48	0.783	0.783	0.229	0.229	0.1745
49	0.8	0.8	0.226	0.226	0.1723
50	0.817	0.817	0.224	0.224	0.1707
51	0.833	0.833	0.219	0.219	0.1669
52	0.85	0.85	0.217	0.217	0.1654
53	0.867	0.867	0.217	0.217	0.1654
54	0.883	0.883	0.214	0.214	0.1631
55	0.9	0.9	0.212	0.212	0.1616
56	0.917	0.917	0.21	0.21	0.1601
57	0.933	0.933	0.208	0.208	0.1585
58	0.95	0.95	0.205	0.205	0.1562
59	0.967	0.967	0.203	0.203	0.1547
60	0.983	0.983	0.2	0.2	0.1524
61	1.	1.	0.198	0.198	0.1509
62	1.167	1.167	0.181	0.181	0.138
63	1.333	1.333	0.166	0.166	0.1265
64	1.5	1.5	0.151	0.151	0.1151
65	1.667	1.667	0.14	0.14	0.1067
66	1.833	1.833	0.13	0.13	9.909e-002
67	2.	2.	0.118	0.118	8.994e-002
68	2.167	2.167	0.111	0.111	8.46e-002
69	2.333	2.333	0.102	0.102	7.774e-002
70	2.5	2.5	9.5e-002	9.5e-002	7.241e-002
71	2.667	2.667	8.8e-002	8.8e-002	6.707e-002
72	2.833	2.833	8.3e-002	8.3e-002	6.326e-002
73	3.	3.	7.8e-002	7.8e-002	5.945e-002
74	3.167	3.167	7.3e-002	7.3e-002	5.564e-002
75	3.333	3.333	6.9e-002	6.9e-002	5.259e-002
76	3.5	3.5	6.4e-002	6.4e-002	4.878e-002
77	3.667	3.667	5.9e-002	5.9e-002	4.497e-002
78	3.833	3.833	5.7e-002	5.7e-002	4.345e-002
79	4.	4.	5.2e-002	5.2e-002	3.963e-002
80	4.167	4.167	5.e-002	5.e-002	3.811e-002
81	4.333	4.333	4.7e-002	4.7e-002	3.582e-002
82	4.5	4.5	4.5e-002	4.5e-002	3.43e-002
83	4.667	4.667	4.3e-002	4.3e-002	3.277e-002
84	4.833	4.833	4.e-002	4.e-002	3.049e-002
85	5.	5.	3.8e-002	3.8e-002	2.896e-002
86	5.167	5.167	3.6e-002	3.6e-002	2.744e-002
87	5.333	5.333	3.1e-002	3.1e-002	2.363e-002
88	5.5	5.5	3.1e-002	3.1e-002	2.363e-002

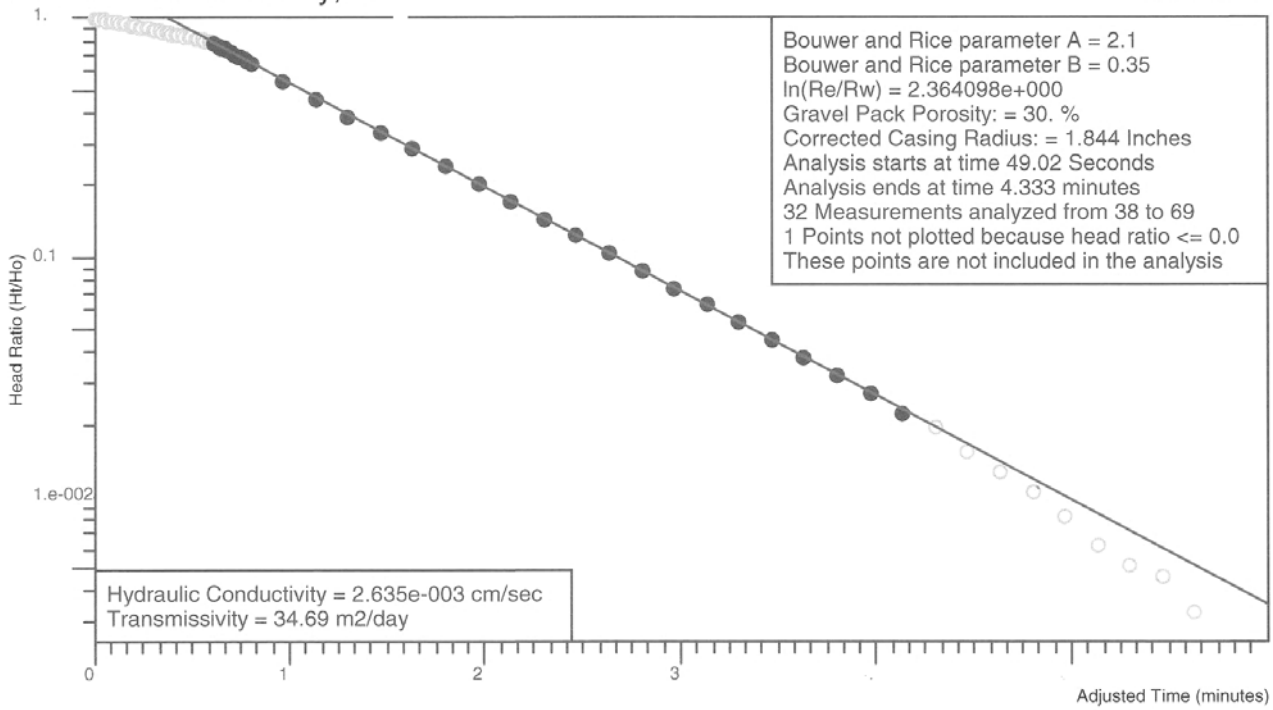
89	5.667	5.667	2.9e-002	2.9e-002	2.21e-002
90	5.833	5.833	2.9e-002	2.9e-002	2.21e-002
91	6.	6.	2.6e-002	2.6e-002	1.982e-002
92	6.167	6.167	2.2e-002	2.2e-002	1.677e-002
93	6.333	6.333	1.9e-002	1.9e-002	1.448e-002
94	6.5	6.5	1.9e-002	1.9e-002	1.448e-002
95	6.667	6.667	1.9e-002	1.9e-002	1.448e-002
96	6.833	6.833	1.9e-002	1.9e-002	1.448e-002
97	7.	7.	1.7e-002	1.7e-002	1.296e-002
98	7.167	7.167	1.4e-002	1.4e-002	1.067e-002
99	7.333	7.333	1.7e-002	1.7e-002	1.296e-002
100	7.5	7.5	1.4e-002	1.4e-002	1.067e-002
101	7.667	7.667	1.4e-002	1.4e-002	1.067e-002
102	7.833	7.833	1.4e-002	1.4e-002	1.067e-002
103	8.	8.	1.2e-002	1.2e-002	9.146e-003
104	8.167	8.167	1.2e-002	1.2e-002	9.146e-003
105	8.333	8.333	1.4e-002	1.4e-002	1.067e-002
106	8.5	8.5	1.2e-002	1.2e-002	9.146e-003
107	8.667	8.667	1.2e-002	1.2e-002	9.146e-003
108	8.833	8.833	1.2e-002	1.2e-002	9.146e-003
109	9.	9.	7.e-003	7.e-003	5.335e-003
110	9.167	9.167	7.e-003	7.e-003	5.335e-003
111	9.333	9.333	7.e-003	7.e-003	5.335e-003
112	9.5	9.5	5.e-003	5.e-003	3.811e-003
113	9.667	9.667	7.e-003	7.e-003	5.335e-003
114	9.833	9.833	5.e-003	5.e-003	3.811e-003
115	10.	10.	5.e-003	5.e-003	3.811e-003
116	11.	11.	3.e-003	3.e-003	2.287e-003
117	12.	12.	3.e-003	3.e-003	2.287e-003

Falling Head Slug Test January 4, 2011

Bouwer and Rice Graph

Enmark #380 Newberry, SC

MW-24D



Project Number: J10-6859-02 for Enmark

Analysis by Starpoint Software

Ho is 3.692 feet at 12. Seconds

Falling Head Slug Test

Site Name:	Enmark #380
Location:	Newberry, SC
Test Date:	January 4, 2011
Client:	Enmark
Project Number:	J10-6859-02
Import File:	C:\Documents and Settings\PC058 User\Desktop\Enmark 380 Slugs 2\Final

Well Label:	MW-24D
Aquifer Thickness:	50. feet
Screen Length:	5. feet
Casing Radius:	1. Inches
Effective Radius:	3. Inches
Gravel Pack Porosity:	30. %
Corrected Casing Radius:	1.844 Inches
Static Water Level:	0. feet
Water Table to Screen Bottom:	25.53 feet
Anisotropy Ratio:	1.
Time Adjustment:	12. Seconds

Test starts with trial 0
There are 79 time and drawdown measurements
Maximum head is 3.692 feet
Minimum head is 0. feet

Trial	Time (minutes)	Adjusted Time (minutes)	Drawdown (feet)	Head (feet)	Head Ratio
1	0.2	0.	3.692	3.692	1.
2	0.217	1.7e-002	3.68	3.68	0.9967
3	0.233	3.3e-002	3.656	3.656	0.9902
4	0.25	5.e-002	3.633	3.633	0.984
5	0.267	6.7e-002	3.609	3.609	0.9775
6	0.283	8.3e-002	3.588	3.588	0.9718
7	0.3	1.e-001	3.562	3.562	0.9648
8	0.317	0.117	3.541	3.541	0.9591
9	0.333	0.133	3.517	3.517	0.9526
10	0.35	0.15	3.494	3.494	0.9464
11	0.367	0.167	3.472	3.472	0.9404
12	0.383	0.183	3.449	3.449	0.9342
13	0.4	0.2	3.404	3.404	0.922
14	0.417	0.217	3.406	3.406	0.9225
15	0.433	0.233	3.383	3.383	0.9163
16	0.45	0.25	3.361	3.361	0.9103
17	0.467	0.267	3.342	3.342	0.9052
18	0.483	0.283	3.319	3.319	0.899
19	0.5	0.3	3.298	3.298	0.8933
20	0.517	0.317	3.274	3.274	0.8868
21	0.533	0.333	3.253	3.253	0.8811
22	0.55	0.35	3.231	3.231	0.8751
23	0.567	0.367	3.212	3.212	0.87
24	0.583	0.383	3.22	3.22	0.8722
25	0.6	0.4	3.172	3.172	0.8592
26	0.617	0.417	3.153	3.153	0.854
27	0.633	0.433	3.135	3.135	0.8491
28	0.65	0.45	3.116	3.116	0.844
29	0.667	0.467	3.097	3.097	0.8388
30	0.683	0.483	3.078	3.078	0.8337
31	0.7	0.5	3.054	3.054	0.8272

32	0.717	0.517	3.033	3.033	0.8215
33	0.733	0.533	3.014	3.014	0.8164
34	0.75	0.55	2.995	2.995	0.8112
35	0.767	0.567	2.971	2.971	0.8047
36	0.783	0.583	2.948	2.948	0.7985
37	0.8	0.6	2.922	2.922	0.7914
38	0.817	0.617	2.891	2.891	0.783
39	0.833	0.633	2.842	2.842	0.7698
40	0.85	0.65	2.792	2.792	0.7562
41	0.867	0.667	2.743	2.743	0.743
42	0.883	0.683	2.695	2.695	0.73
43	0.9	0.7	2.646	2.646	0.7167
44	0.917	0.717	2.599	2.599	0.704
45	0.933	0.733	2.554	2.554	0.6918
46	0.95	0.75	2.509	2.509	0.6796
47	0.967	0.767	2.467	2.467	0.6682
48	0.983	0.783	2.424	2.424	0.6566
49	1.	0.8	2.382	2.382	0.6452
50	1.167	0.967	1.991	1.991	0.5393
51	1.333	1.133	1.679	1.679	0.4548
52	1.5	1.3	1.419	1.419	0.3843
53	1.667	1.467	1.226	1.226	0.3321
54	1.833	1.633	1.042	1.042	0.2822
55	2.	1.8	0.887	0.887	0.2402
56	2.167	1.967	0.745	0.745	0.2018
57	2.333	2.133	0.629	0.629	0.1704
58	2.5	2.3	0.533	0.533	0.1444
59	2.667	2.467	0.453	0.453	0.1227
60	2.833	2.633	0.382	0.382	0.1035
61	3.	2.8	0.325	0.325	8.803e-002
62	3.167	2.967	0.273	0.273	7.394e-002
63	3.333	3.133	0.233	0.233	6.311e-002
64	3.5	3.3	0.196	0.196	5.309e-002
65	3.667	3.467	0.165	0.165	4.469e-002
66	3.833	3.633	0.139	0.139	3.765e-002
67	4.	3.8	0.118	0.118	3.196e-002
68	4.167	3.967	9.9e-002	9.9e-002	2.681e-002
69	4.333	4.133	8.2e-002	8.2e-002	2.221e-002
70	4.5	4.3	7.1e-002	7.1e-002	1.923e-002
71	4.667	4.467	5.6e-002	5.6e-002	1.517e-002
72	4.833	4.633	4.7e-002	4.7e-002	1.273e-002
73	5.	4.8	3.8e-002	3.8e-002	1.029e-002
74	5.167	4.967	3.e-002	3.e-002	8.126e-003
75	5.333	5.133	2.3e-002	2.3e-002	6.23e-003
76	5.5	5.3	1.9e-002	1.9e-002	5.146e-003
77	5.667	5.467	1.7e-002	1.7e-002	4.605e-003
78	5.833	5.633	1.2e-002	1.2e-002	3.25e-003
79	6.	5.8	9.e-003	9.e-003	2.438e-003

Summary Of Slug Test
Division Of Underground Storage Tank Management

Site Data

UST Permit #: 06588 County: Newberry

Facility Name: Enmark 380

Slug Data

See Appendix H Table --- Figure -- for a list of all data measurements. [water level logs, etc. (complete as appropriate)].

Water Level Recovery Data was measured by Instrumentation Northwest PT-2X Data Logger [Hermit Data Logger, Manually with Water Level Indicator, etc. (list method)].

Complete the following table for each well tested.

COMPLETE A SECOND SHEET IF MORE THAN FOUR WELLS ARE TESTED

Slug Test Conducted in Well(s) Number	MW-22	MW-22D	MW-24	MW-24D
Initial Rise/Drawdown in Well (feet)	2.530	3.041	1.312	3.692
Radius of Well Casing (feet)	0.0833	0.0833	0.0833	0.0833
Effective Radius of Well (feet)	0.27	0.27	0.27	0.27
Static Saturated Aquifer Thickness (feet)	6.81	50	4.88	50
Length of Well Screen (feet)	10	5	10	5
Static Height of Water Column in Well (ft)	6.81	26.45	4.88	25.53

Calculations

See Appendix --- Table 5 Figure _____ for calculations (complete as appropriate).

The method for aquifer calculations was Bouwer-Rice (i.e. Bouwer-Rice, Cooper, etc.).

Calculated values by well were as follows:

Slug Test Conducted in Well(s) Number	MW-22	MW-22D	MW-24	MW-24D
Hydraulic Conductivity (cm/sec)	4.076E-03 cm/sec	1.356E-02 cm/sec	3.896E-03 cm/sec	2.635E-03 cm/sec

Thickness of the aquifer used to calculate hydraulic conductivity was 50 Feet.

The aquifer is _____ confined _____ semi-confined X water table (check as appropriate).

The estimated seepage velocity is 162.56 feet per year based on a hydraulic conductivity of 6.02E-03, a hydraulic gradient of 0.003, and a porosity of 0.12 percent for silty Sand and Crystalline rock soil (list type i.e., silty sand, clay, etc).

APPENDIX I

GRAIN SIZE HYDROMETER TEST RESULTS

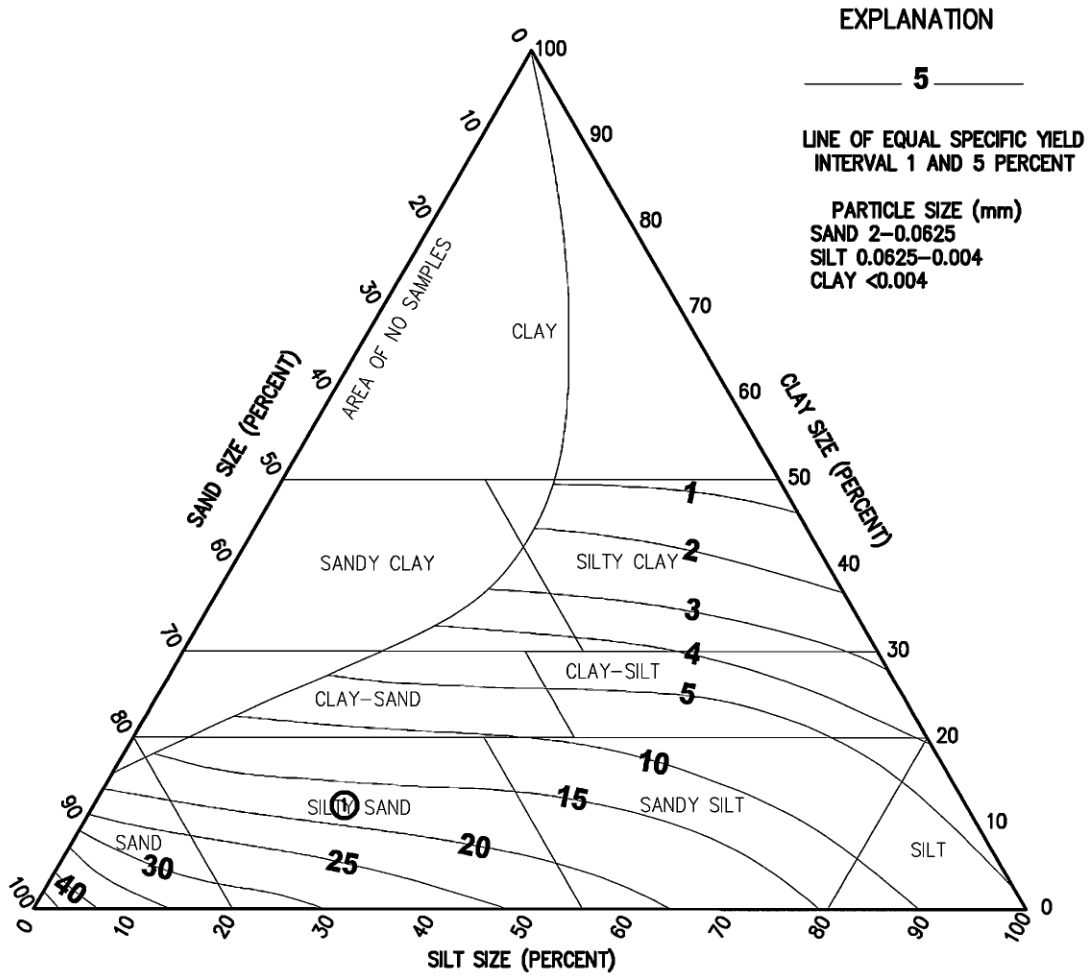
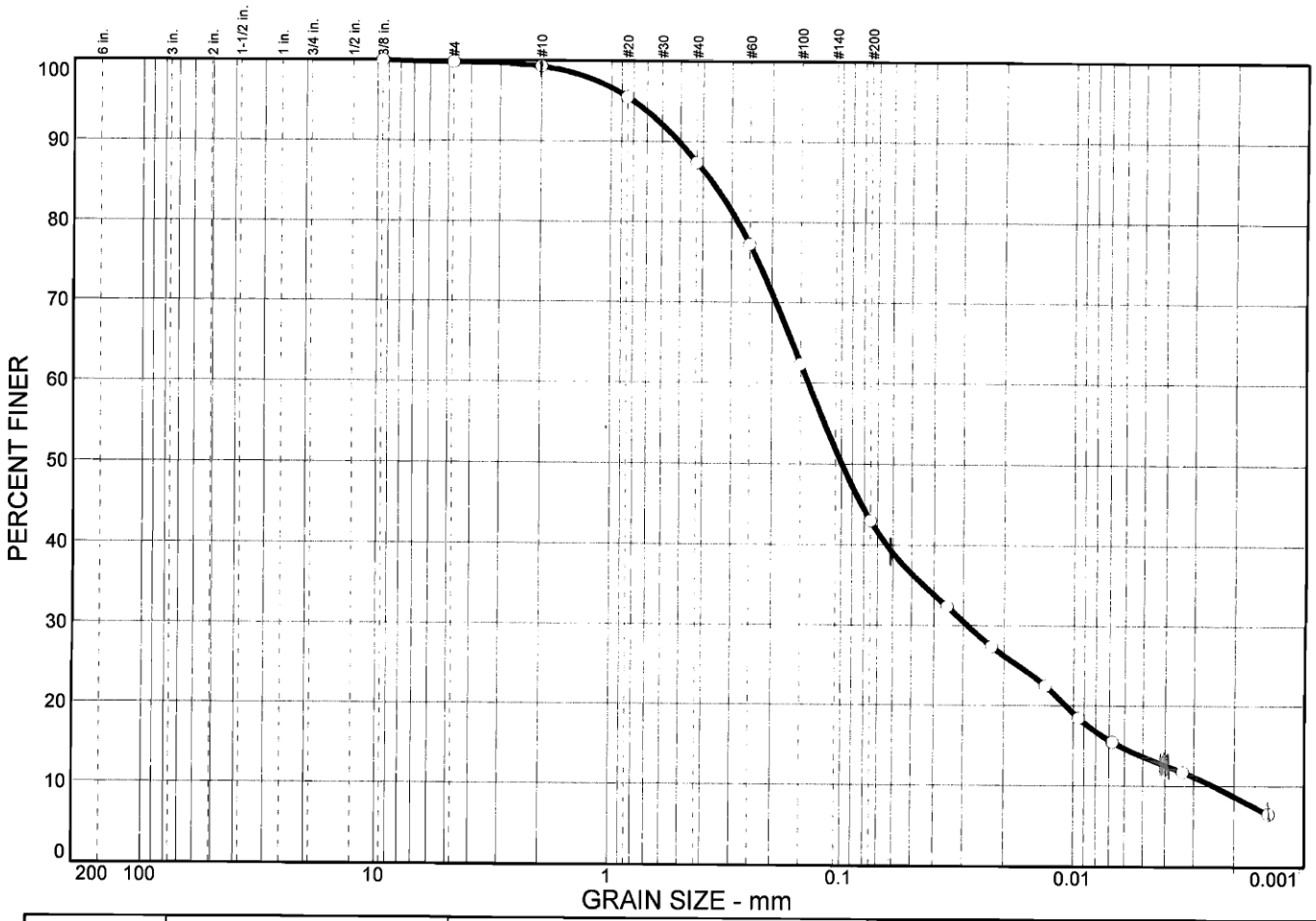


FIGURE 4.11 FROM FETTER, C.W., 1994, APPLIED HYDROGEOLOGY
TEXTURAL CLASSIFICATION TRIANGLE FOR UNCONSOLIDATED MATERIALS SHOWING THE RELATION BETWEEN PARTICAL SIZE AND SPECIFIC YIELD. SOURCE: A.I. JOHNSON, U.S. GEOLOGICAL SURVEY WATER–SUPPLY PAPER 1662–D, 1967.

ID#	BORING	DEPTH (FT)
1	MW–22	20–25

DRAWN: ACE	DATE: 01–05–11	BLE inc. BUNNELL-LAMMONS ENGINEERING, INC. 6004 PONDERS COURT GREENVILLE, SOUTH CAROLINA 29615 PHONE: (864)288–1265 FAX: (864)288–4430	EFFECTIVE POROSITY ESTIMATION SPINX #258/FORMER ENMARK #380 UST PERMIT #06588 NEWBERRY, SOUTH CAROLINA	FIGURE
CHECKED: TZS	CAD: SPINX258–02EPE			I
APPROVED:	JOB NO: J10–6859–02			

Particle Size Distribution Report



	% COBBLES	% GRAVEL		% SAND			% FINES	
		CRS.	FINE	CRS.	MEDIUM	FINE	SILT	CLAY
○	0.0	0.0	0.2	0.5	11.9	44.4	29.4	13.6

SOIL DATA

SYMBOL	SOURCE	SAMPLE NO.	DEPTH (ft.)	DESCRIPTION	USCS
○	Boring	MW-22	20.0-25.0	Yellwish brown silty fi.-med. SAND	SM

Particle Size Distribution Report **Bunnell Lammons Engineering, Inc.** **Greenville, SC**	**Client:** Enmark **Project:** Former Enmark 380 **Project No.:** J10-6859-02 **Figure**

BUNNELL-LAMMONS ENGINEERING, INC.

GEOTECHNICAL, ENVIRONMENTAL AND CONSTRUCTION MATERIALS CONSULTANTS

TIER II ASSESSMENT REPORT

SPINX 258/FORMER ENMARK 380
2725 COLLEGE STREET
NEWBERRY, NEWBERRY COUNTY, SOUTH CAROLINA
UST PERMIT #06588; COST AGREEMENT #39618 & #39622

Prepared For

Enmark Stations, Inc.
Post Office Box 728
Savannah, Georgia 31402

Prepared By

Bunnell-Lammons Engineering, Inc.
6004 Ponders Court
Greenville, South Carolina 29615
SCDHEC Certified Contractor No. UCC-10

February 2, 2011

BLE Project Number J10-6859-02

B L E INC.
BUNNELL-LAMMONS ENGINEERING, INC.
GEOTECHNICAL, ENVIRONMENTAL AND CONSTRUCTION MATERIALS CONSULTANTS

January 31, 2011

South Carolina Department of Health and Environmental Control
Bureau of Land and Waste Management
Underground Storage Tank Program
2600 Bull Street
Columbia, South Carolina 29201-1708

Attention: Mr. John Skowronek, Hydrogeologist

Subject: **Tier II Assessment Report**
Spinx 258/Former Enmark 380
Newberry, Newberry County, South Carolina
UST Permit #06588; CA #39618 & #39622
BLE Project No. J10-6859-02

Dear Mr. Skowronek:

As authorized, Bunnell-Lammons Engineering, Inc. (BLE) has completed a Tier II Assessment at the subject site. This report describes the work performed and presents the results obtained, along with our comments and recommendations.

We appreciate the opportunity to be of service on behalf of Enmark Stations, Inc. Please do not hesitate to contact us if you have any questions concerning this report.

Sincerely,

BUNNELL-LAMMONS ENGINEERING, INC.

PROFESSIONAL GEOLOGIST REGISTERED No. 893 SOUTH CAROLINA THOMAS L. LAMMONS

Trever Z. Slack, G.I.T.
Project Hydrogeologist

Thomas L. Lammons, P.G., CHMM
Principal Hydrogeologist
Registered, South Carolina No. 893

cc: Mr. Tom Dolan, Enmark Stations, Inc., Post Office Box 728, Savannah, Georgia 31402

6004 PONDERS COURT
GREENVILLE, SOUTH CAROLINA 29615

PHONE (864) 288-1265
FAX (864) 288-4430

1.0 BACKGROUND INFORMATION

The subject property is located at 2725 College Street in Newberry, South Carolina (Figure 1). The site is currently utilized as an automobile fueling station and retail convenience store and is bordered by commercial properties to the east and south and residential properties to the north and west.

According to the SCDHEC Underground Storage Tank (UST) Registry, four USTs (one 6,000-gallon diesel, one 6,000-gallon regular gasoline, one 8,000-gallon premium gasoline, and one 8,000-gallon regular gasoline) are present on-site. Two petroleum hydrocarbon releases have been reported at the facility in December 1989 and November 1995.

1.1 Site History

In December 1989, MGM Petro Equipment and Environmental Services conducted a soil sampling program at the Enmark 380 site (formerly Interstate 380), and volatile organic compounds were detected in the UST soil backfill material at a concentration of 250 parts per million (ppm) using a HNu Model PI-101 photoionization detector (PID). The results of the soil evaluation were reported to SCDHEC's Mr. Paul Bergstrand in a letter dated December 29, 1989, and Interstate Stations, Inc. (Interstate Stations) requested that the site be included in the SCDHEC Early Detection Incentive Program. A SCDHEC follow-up directive letter dated September 25, 1990 was issued to Interstate Stations requiring an additional investigation to define the horizontal and vertical extent of the contamination in the soil. In response, an assessment plan dated February 4, 1991 and revised May 3, 1991 was submitted to SCDHEC, attention Mr. Joe Bowers and Mr. Christopher Doll, respectively. The revised assessment plan was approved, and five boreholes were drilled in the vicinity of the UST basin, product piping lines, and pump dispensers to depths of 10-feet below ground surface (bgs) to obtain soil samples. Representative soil samples were screened in the field and submitted for laboratory analysis of aromatic volatiles by Method 8020. Additionally, a permanent monitoring well (MW-1) was installed to the east of the pump dispenser islands to obtain a representative groundwater sample. Petroleum compounds were detected above the laboratory method detection limit in numerous soil samples. Additionally, benzene (5,900 ug/l), toluene (5,900 ug/l), ethylbenzene (1,800 ug/l), and xylenes (7,200 ug/l) were detected in the groundwater sample

from MW-1. Details of the assessment are summarized in a *correspondence letter* from Interstate Stations to Mr. Christopher Doll of SCDHEC dated October 21, 1991. To our knowledge, no further work has been conducted at the site to specifically address the December 1989 release.

On November 19, 1995, operators at the Interstate Station 380 site noted inventory discrepancies in the premium gasoline tank and on November 20, 1995 an inspection of the UST noted areas of corrosion. Based upon inventory records, it was determined that approximately 1,400-gallons of premium gasoline were lost. The release was reported to SCDHEC on November 22, 2010, and Handex of the Carolinas, Inc. (Handex) was retained to install three recovery wells (MW-2, MW-3, and MW-4) to serve as recovery points for free-product removal. Handex initiated a weekly well monitoring program which included manual bailing of any wells determined to contain free-phase petroleum product. Approximately 17.34 gallons were manually bailed from the wells, and on January 24, 1996, Handex installed a pneumatic pump in MW-4 which was run by compressed air from the stations tire air compressor. An additional 43-gallons of free-phase petroleum product was recovered with the pneumatic pump through February 20, 1996. Details of the free-product recovery and well monitoring activities conducted by Handex were detailed in a correspondence letter dated March 6, 1996 to Ms. Jan Cook of the SCDHEC.

The groundwater monitoring well and recovery wells located at the site were sampled on June 11, 1997, and it was determined that benzene, toluene, ethylbenzene, and xylenes (BTEX), naphthalenes, and methyl-tert-butyl ether (MTBE) were present in the groundwater above South Carolina Risk-Based Screening Levels (RBSLs). A *Rapid Assessment* was completed at the site, which included the installation of three additional shallow monitoring wells (MW-5, MW-6, and MW-7) and one deep, telescoping monitoring well (MW-8D) at the site. Details of the *Rapid Assessment* can be found in the *Risk-Based Corrective Action Tier II Evaluation Report* by Handex dated May 27, 1999.

In May 2010, SCDHEC issued a directive to Enmark Stations, Inc. (Enmark) requesting a Tier II Assessment Plan. BLE was retained by Enmark to prepare the Tier II Assessment Plan and the plan was submitted to SCDHEC on June 18, 2010. The plan was accepted, with minor modifications,

and a Tier II Assessment directive was issued on August 16, 2010. This report documents our Tier II Assessment activities at the subject site.

2.0 SITE CHARACTERISTICS

2.1 Site Geography

The site is located in the Piedmont Physiographic Province, which generally consists of sloping to moderately steep uplands dissected by branching streams and drainage features. Floodplains are relatively narrow, and ridgetops or stream divides are narrow to medium in width. The rolling hills of the Piedmont range in elevation from about 400 feet to 1,500 feet above mean sea level (AMSL).

2.2 Regional Geology and Hydrogeology

The site is located within the Inner Piedmont belt of South Carolina which consists of thrust sheets containing a variety of gneisses, schists, amphibolites, sparse ultramafic bodies, and intrusive granitoids.

The typical residual soil profile consists of clayey soils near the surface, where soil weathering is more advanced, underlain by sandy silts and silty sands. Residual soil zones which develop by the in-situ chemical weathering of bedrock are referred to as "saprolite." Saprolite usually consists of sand with lesser amounts of silt, clay and large rock fragments. The thickness of saprolite in the Piedmont ranges from a few feet to more than 100 feet.

A transitional zone of partially weathered rock is normally found overlying the parent bedrock. Partially weathered rock is defined, for engineering purposes, as residual material with standard penetration resistances in excess of 100 blows per foot (bpf). Weathering is facilitated by fractures, joints, and the presence of less resistant rock types. Consequently, the profile of the partially weathered rock and hard rock is quite irregular and erratic, even over short horizontal distances. Also, it is not unusual to find lenses and boulders of hard rock and zones of partially weathered rock within the soil mantle, well above the general bedrock level. According to the Geologic Map of the

Crystalline Rocks of South Carolina, the bedrock beneath the site should consist of gray to black, fine to coarse grained, biotite schist or biotite gneiss.

Groundwater in the Piedmont usually occurs under unconfined conditions in three primary zones: 1) residual soil (saprolite); 2) partially weathered rock; and 3) fractured bedrock. These zones are typically interconnected via bedrock fractures, pore spaces, and secondary permeability features of the saprolite. The configuration of the water table aquifer generally resembles the local topography. In the residual soil and partially weathered rock zone, groundwater is stored within the pore spaces and is released to the underlying bedrock through gravity drainage. Groundwater within the bedrock zone occurs primarily in fracture voids.

Seasonal high-water tables are typically observed during the winter and spring months of the year when maximum infiltration capacity occurs due to low intensity, long duration precipitation events and reduced evaporation and transpiration. Seasonal low-water tables are typically observed during the summer and fall months when minimum infiltration capacity occurs due to higher surface runoff caused by high intensity, short duration precipitation events, and greater evaporation and transpiration.

2.3 Receptor Survey

A receptor survey was conducted within 1,000 feet of the site boundaries and consisted of the following:

- A vehicular reconnaissance of roads and private residences within a 1,000-foot radius to identify water supply wells;
- Utility Protection Service to locate underground structures and underground utilities on the site; and
- Review of the Newberry County zoning ordinance records to determine the zoning designation for the site and surrounding properties.

Ten private water supply wells (DW-1 through DW-10) were located within 1,000-feet of the subject site (Figure 2); four of these wells (DW-1, DW-4, DW-7, and DW-8) were located within 500-feet of the site. Wells DW-2, DW-5, and DW-6 appeared to be active residential drinking water supply wells. Wells DW-9 and DW-10 did not have power and wells DW-7 and DW-8 appeared to have been permanently closed, and could not be accessed. Well DW-4 is currently used as a source of irrigation whereas the status/use of wells DW-1 and DW-3 is currently unknown. Well owner information for each of the water supply wells is summarized below.

Water Supply Well	Location	Property Owner	Mailing Address
DW-1	Located approximately 260 feet to the east of the site	Lewie E. Meetze	2334 Vincent Street Newberry, SC 29108
DW-2	Located approximately 600 feet to the northeast of the site	Jason Meyers	1311 Trent Street Newberry, SC 29108
DW-3	Located approximately 970 feet to the northeast of the site	Newberry County Disabilities	P.O. Box 856 Newberry, SC 29108
DW-4	Located approximately 480 feet to the northwest of the site	Hughie McCracken	1617 First Street Newberry, SC 29108
DW-5	Located approximately 800 feet to the southwest of the site	Trustee for Bridget Moody	208 Rollin Road Newberry, SC 29108
DW-6	Located approximately 800 feet to the west of the site	New Beginnings Christian Church	P.O. Box 572 Newberry, SC 29108
DW-7	Located approximately 470 feet to the northwest of the site	Sanjay Jain	1623 First Street Newberry, SC 29108
DW-8	Located approximately 280 feet to the northwest of the site	Harley and Karen Crapps	1618 First Street Newberry, SC 29108
DW-9	Located approximately 1000 feet to the east of the site	Ollie Taylor Werts Estate	1420 Trent Street Newberry, SC 29108
DW-10	Located approximately 700 feet to the east of the site	Dorothy H. Davis	3030 Hazel Street Newberry, SC 29108

In addition to the water supply wells, a creek was also identified approximately 670 feet to the east of the subject property and flows to the north. The approximate locations of the water supply wells and creek in relation to the subject site are shown on Figure 2.

3.0 ASSESSMENT INFORMATION

The completed scope of services was based on BLE's Tier II Assessment Plan dated June 18, 2010. The Plan was prepared pursuant to SCDHEC's Tier II Assessment Guidance Document[1] and was approved by SCDHEC project manager Mr. John Skowronek. During the Tier II Assessment, the following activities were performed: soil and groundwater screening, installation of groundwater monitoring wells to define the extent of the dissolved petroleum chemicals of concern (CoC), slug tests in two shallow and two deep monitoring wells, free-product recovery tests in monitoring wells MW-6 and MW-7, and a comprehensive groundwater sampling event of all wells associated with the site.

3.1 Field Screening of Groundwater Contaminants

Sixty-four Geoprobe borings (GW-1 through GW-61 and GWD-1 through GWD-3) were performed for groundwater screening. However, Geoprobe refusal was encountered in borings GW-54, GW-55, GW-56, GW-57, GW-58, GW-60, and GW-61 at depths ranging from 7 to 19 feet below ground surface (bgs) prior to encountering groundwater. Geoprobe refusal was also encountered in borings GW-52 (13 feet bgs), GW-53 (15 feet bgs), and GWD-1 (32 feet bgs); however, a groundwater sample was able to be collected from the top of partially weathered rock/bedrock (Geoprobe refusal).

The groundwater screening boring locations were established in the field from map-scaled distances, by measuring from site landmarks, and estimating right angles. The Geoprobe groundwater screening locations are shown on Figure 3 and should be considered approximate. Geoprobe field screening procedures are described in Appendix A. Groundwater samples from each boring were collected in the field and screened using a properly calibrated portable MiniRAE® 3000 Photo-

[1] Guidance Document: Tier II Assessment, SCDHEC, Underground Storage Tank Program, Bureau of Land and Waste Management, December 6, 2005.

Ionization Detector (PID). After representative samples were collected from each boring, the resulting borehole was properly abandoned to the ground surface with grout pursuant to South Carolina well standards[2]. Geoprobe groundwater screening boring 1903 Well Records are included in Appendix A. Justification for each boring location is provided below.

GROUNDWATER SCREENING BORING	SAMPLE MEDIA	PID (ppm)	SAMPLE DEPTH (ft)	BORING DEPTH (ft)	LOCATION AND PURPOSE
GW-1	GW	0.0	21-25	25	On-site and upgradient; west-southwest of the UST basin; horizontal delineation boring
GW-2	GW	0.0	21-25	25	On-site and upgradient; west of the UST basin; horizontal delineation boring
GW-3	GW	0.0	21-25	25	On-site and upgradient; west of the UST basin; horizontal delineation boring
GW-4	GW	0.0	21-25	25	On-site and upgradient; northwest of the UST basin; horizontal delineation boring
GW-5	GW	4.0	21-25	25	On-site and upgradient; north-northwest of the UST basin; horizontal delineation boring
GW-6	GW	12.5	21-25	25	On-site and upgradient; northwest of the UST basin; horizontal delineation boring
GW-7	GW	9.9	21-25	25	On-site and upgradient; west of the UST basin; horizontal delineation boring
GW-8	GW	3.5	21-25	25	On-site and upgradient; northwest of the UST basin; horizontal delineation boring
GW-9	GW	134	21-25	25	On-site and upgradient; north of the UST basin; horizontal delineation boring

[2] South Carolina Well Standards and Regulations, SCDHEC, Promulgated Pursuant to Section 44-55-40 of the 1976 South Carolina Code of Laws, R. 61-71, April 26, 2002.

GROUNDWATER SCREENING BORING	SAMPLE MEDIA	PID (ppm)	SAMPLE DEPTH (ft)	BORING DEPTH (ft)	LOCATION AND PURPOSE
GW-10	GW	620	21-25	25	On-site and sidegradient; north of the UST basin; horizontal delineation boring
GW-11	GW	0.0	21-25	25	On-site and sidegradient; north of the UST basin; horizontal delineation boring
GW-12	GW	0.0	26-30	30	On-site and sidegradient; northeast of the UST basin and north of the dispenser islands; horizontal delineation boring
GW-13	GW	0.0	26-30	30	On-site and sidegradient; northeast of the UST basin and dispenser islands; horizontal delineation boring
GW-14	GW	13.7	21-25	25	Off-site and sidegradient; northeast of site; horizontal delineation boring
GW-15	GW	8.0	21-25	25	Off-site and sidegradient; northeast of site; horizontal delineation boring
GW-16	GW	0.0	21-25	25	Off-site and sidegradient; northeast of site; horizontal delineation boring
GW-17	GW	14.4	21-25	25	Off-site and sidegradient; east-northeast of site; horizontal delineation boring
GW-18	GW	0.0	21-25	25	Off-site and downgradient; east of site; horizontal delineation boring
GW-19	GW	0.0	21-25	25	Off-site and downgradient; east of site; horizontal delineation boring
GW-20	GW	632	21-25	25	Off-site and sidegradient; southwest of site; horizontal delineation boring
GW-21	GW	526	21-25	25	Off-site and sidegradient; south-southwest of site; horizontal delineation boring

GROUNDWATER SCREENING BORING	SAMPLE MEDIA	PID (ppm)	SAMPLE DEPTH (ft)	BORING DEPTH (ft)	LOCATION AND PURPOSE
GW-22	GW	527	21-25	25	Off-site and sidegradient; south of site; horizontal delineation boring
GW-23	GW	949	21-25	25	Off-site and downgradient; south-southeast of site; horizontal delineation boring
GW-24	GW	979	21-25	25	Off-site and downgradient; south-southeast of site; horizontal delineation boring
GW-25	GW	58.2	21-25	25	Off-site and sidegradient; south of site; horizontal delineation boring
GW-26	GW	188	21-25	25	Off-site and downgradient; south-southeast of site; horizontal delineation boring
GW-27	GW	1,784	21-25	25	Off-site and downgradient; east of site; horizontal delineation boring
GW-28	GW	835	21-25	25	Off-site and downgradient; southeast of site; horizontal delineation boring
GW-29	GW	599	21-25	25	Off-site and downgradient; southeast of site; horizontal delineation boring
GW-30	GW	967	21-25	25	Off-site and downgradient; southeast of site; horizontal delineation boring
GW-31	GW	38.5	21-25	25	Off-site and downgradient; southeast of site; horizontal delineation boring
GW-32	GW	2,053	21-25	25	On-site and downgradient; southeast corner of site; horizontal delineation boring
GW-33	GW	2,541	21-25	25	On-site and downgradient; east of UST basin and south of dispenser islands; horizontal delineation boring

GROUNDWATER SCREENING BORING	SAMPLE MEDIA	PID (ppm)	SAMPLE DEPTH (ft)	BORING DEPTH (ft)	LOCATION AND PURPOSE
GW-34	GW	2,253	21-25	25	On-site and downgradient; east of UST basin and south of dispenser islands; horizontal delineation boring
GW-35	GW	1,571	21-25	25	On-site and downgradient; northeast of UST basin and southwest of dispenser islands along product piping lines; horizontal delineation boring
GW-36	GW	4.2	21-25	25	On-site and sidegradient; northeast of the UST basin and north of the dispenser islands; horizontal delineation boring
GW-37	GW	0.0	21-25	25	On-site and sidegradient; northeast of the UST basin and north of the dispenser islands; horizontal delineation boring
GW-38	GW	0.0	21-25	25	Off-site and downgradient; south-southeast of site; horizontal delineation boring
GW-39	GW	0.0	21-25	25	Off-site and sidegradient; south of site; horizontal delineation boring
GW-40	GW	0.0	21-25	25	Off-site and sidegradient; southwest of site; horizontal delineation boring
GW-41	GW	0.0	21-25	25	Off-site and sidegradient; southwest of site; horizontal delineation boring
GW-42	GW	0.0	21-25	25	Off-site and sidegradient; south-southwest of site; horizontal delineation boring
GW-43	GW	0.0	20-24	24	Off-site and downgradient; east of site; horizontal delineation boring
GW-44	GW	0.2	11-15	15	Off-site and downgradient; east of site; horizontal delineation boring

GROUNDWATER SCREENING BORING	SAMPLE MEDIA	PID (ppm)	SAMPLE DEPTH (ft)	BORING DEPTH (ft)	LOCATION AND PURPOSE
GW-45	GW	0.0	16-20	20	Off-site and downgradient; east of site; horizontal delineation boring
GW-46	GW	0.1	20-24	24	Off-site and downgradient; east of site; horizontal delineation boring
GW-47	GW	0.6	15-19	19	Off-site and downgradient; east-southeast of site; horizontal delineation boring
GW-48	GW	0.7	20-24	24	Off-site and downgradient; east-southeast of site; horizontal delineation boring
GW-49	GW	10.3	26-30	30	Off-site and downgradient; southeast of site; horizontal delineation boring
GW-50	GW	0.2	19-23	23	Off-site and downgradient; south-southeast of site; horizontal delineation boring
GW-51	GW	0.3	23-27	27	Off-site and downgradient; south-southeast of site; horizontal delineation boring
GW-52	GW	0.7	9-13	13	Off-site and downgradient; south-southeast of site; horizontal delineation boring; Geoprobe refusal encountered at 13 feet bgs
GW-53	GW	0.3	11-15	15	Off-site and downgradient; south-southeast of site; horizontal delineation boring; Geoprobe refusal encountered at 15 feet bgs
GW-54	GW	NS	NS	9	Off-site and downgradient; southeast of the subject site; horizontal delineation boring; Geoprobe refusal encountered at 9 feet bgs prior to encountering groundwater

GROUNDWATER SCREENING BORING	SAMPLE MEDIA	PID (ppm)	SAMPLE DEPTH (ft)	BORING DEPTH (ft)	LOCATION AND PURPOSE
GW-55	GW	NS	NS	7	Off-site and downgradient; southeast of the subject site; horizontal delineation boring; Geoprobe refusal encountered at 7 feet bgs prior to encountering groundwater
GW-56	GW	NS	NS	19	Off-site and downgradient; east-southeast of the subject site; horizontal delineation boring; Geoprobe refusal encountered at 19 feet bgs prior to encountering groundwater
GW-57	GW	NS	NS	16	Off-site and downgradient; east-southeast of the subject site; horizontal delineation boring; Geoprobe refusal encountered at 16 feet bgs prior to encountering groundwater
GW-58	GW	NS	NS	10	Off-site and downgradient; south-southeast of the subject site; horizontal delineation boring; Geoprobe refusal encountered at 10 feet bgs prior to encountering groundwater
GW-59	GW	0.5	15-19	19	Off-site and downgradient; southeast of site; horizontal delineation boring
GW-60	GW	NS	NS	11	Off-site and downgradient; southeast of the subject site; horizontal delineation boring; Geoprobe refusal encountered at 11 feet bgs prior to encountering groundwater
GW-61	GW	NS	NS	8	Off-site and downgradient; southeast of the subject site; horizontal delineation boring; Geoprobe refusal encountered at 8 feet bgs prior to encountering groundwater

GROUNDWATER SCREENING BORING	SAMPLE MEDIA	PID (ppm)	SAMPLE DEPTH (ft)	BORING DEPTH (ft)	LOCATION AND PURPOSE
GWD-1	GW	3.3	28-32	32	On-site and upgradient; northwest of UST basin; vertical delineation boring; Geoprobe refusal encountered at 32 feet bgs
GWD-2	GW	852	40-44	44	On-site; source area adjacent to UST basin; vertical delineation boring
GWD-3	GW	34.9	41-45	45	On-site and downgradient; east of UST basin and south of dispenser islands;

GW – Groundwater; NS – Not Sampled; PID – Photoionization Detector; ppm – parts per million

Selected groundwater samples from sentinel borings were submitted for laboratory analysis of BTEX, naphthalene, and MTBE by EPA Method 8260B and 1,2-Dibromoethane (EDB) by EPA Method 8011.

3.1.1 Groundwater Screening Results

Of the nineteen groundwater screening samples submitted for laboratory analysis (GW-2, GW-6, GW-9, GW-13, GW-16, GW-17, GW-19, GW-28, GW-30, GW-39, GW-41, GW-44, GW-47, GW-49, GW-52, GW-59, GWD-1, GWD-2, and GWD-3), only GW-30, GW-49, and GWD-3 detected petroleum CoCs above the South Carolina established Risk-Based Screening Levels[3] (RBSLs). Petroleum CoCs were also detected above the laboratory method detection limits in GW-28 and GWD-2, but concentrations did not exceed South Carolina RBSLs. Field screening and laboratory analytical results are summarized in Table 1. Groundwater screening laboratory data sheets are provided in Appendix A.

[3] South Carolina Risk-Based Corrective Action for Petroleum Releases, Bureau of Land and Waste Management, Underground Storage Tank Program, May 15, 2001.

3.2 Field Screening of Soil Contaminants

Ten Geoprobe macrocore borings (PSB-1 through PSB-10) were performed for soil screening in the vicinity of the UST basin, piping lines, and pump dispensers. The soil screening boring locations were established in the field from map-scaled distances, by measuring from site landmarks, and estimating right angles. The Geoprobe soil screening locations are shown on Figure 4 and should be considered approximate. Geoprobe soil screening procedures are described in Appendix B.

Continuous macrocore soil samples were collected to the termination depth of each boring. The soil samples were screened at 1-foot intervals in the field using a PID and the soil sample exhibiting the highest organic vapor measurement from each boring location was submitted for laboratory analyses of BTEX and naphthalene by EPA Method 8260B. Additionally, two soil samples from the source area were analyzed for total petroleum hydrocarbons (TPH) for modeling purposes as directed by the SCDHEC. After representative samples were collected from each boring, the resulting borehole was properly abandoned to the ground surface with grout pursuant to South Carolina well standards. Justification for each boring location is provided below.

SOIL SCREENING BORING	SAMPLE MEDIA	PID (ppm)	SAMPLE DEPTH (ft)	BORING DEPTH (ft)	LOCATION AND PURPOSE
PSB-1	Soil	215	16	25	On-site; west and adjacent to the UST basin
PSB-2	Soil	82.7	17	25	On-site; southwest corner of the UST basin
PSB-3	Soil	1,121	16	17	On-site; south of the UST basin
PSB-4	Soil	1,858	17	25	On-site; east and adjacent to the UST basin
PSB-5	Soil	136	9	10	On-site; east-southeast of the UST basin
PSB-6	Soil	1,499	7	10	On-site; east-northeast of the UST basin and adjacent to product piping lines
PSB-7	Soil	1,590	7	10	On-site; downgradient and east-southeast of the UST basin
PSB-8	Soil	321	6	10	On-site; northeast of the UST basin and southwest of pump dispensers

SOIL SCREENING BORING	SAMPLE MEDIA	PID (ppm)	SAMPLE DEPTH (ft)	BORING DEPTH (ft)	LOCATION AND PURPOSE
PSB-9	Soil	15.6	5	10	On-site; northwest of pump dispensers
PSB-10	Soil	19.2	8	10	On-site; northeast of pump dispensers

PID – Photoionization Detector; ppm – parts per million

3.2.1 Soil Screening Results

One soil sample from each boring which exhibited the highest organic vapor measurement was submitted for laboratory analyses of BTEX and naphthalene by EPA Method 8260B. Three soil samples (PSB-4, PSB-6, and PSB-7) detected petroleum CoCs at concentrations that exceeded South Carolina established RBSLs. CoCs detected above RBSLs include benzene in PSB-4, PSB-6, and PSB-7; naphthalene in PSB-4 and PSB-6; and toluene and ethylbenzene in PSB-4. TPH was detected in the soil sample from PSB-4 at 25,000 µg/kg but was not detected in the soil sample from PSB-7 above the laboratory method detection limit of 8,000 µg/kg. No petroleum hydrocarbons were detected above the laboratory method detection limits in PSB-1, PSB-8, and PSB-9. Analytical results are summarized in Table 2, and on Figure 4. Laboratory data sheets and Geoprobe Soil Boring 1903 Well Records are provided in Appendix B.

3.3 Monitoring Well Installation

After completion of field screening activities, thirty-five new groundwater monitoring wells (MW-7D, MW-9 through MW-21, MW-21D, MW-22, MW-22D, MW-23, MW-24, MW-24D, and MW-25 through MW-39) were installed from October 13, 2010 through November 12, 2010 to complete the assessment of petroleum hydrocarbons in groundwater. The well locations were based on the groundwater field screening results and communication with SCDHEC project manager Mr. John Skowronek.

Type II Wells

Monitoring wells MW-9 through MW-39 were installed as Type II monitoring wells with either a Mobile B-59 drill rig (MW-9 through MW-12), CME 750 ATV drill rig (MW-13, MW-16 through MW-36, and MW-39), or Geoprobe 6620DT drill rig (MW-14 and MW-15) employing 4¼-inch inside diameter (ID) hollow stem augers. MW-37 and MW-38 were installed with a Schramm T450WS air rotary hammer drill employing a 6-inch diameter air hammer bit due to auger refusal prior to encountering groundwater. The monitoring wells consist of 2-inch ID, schedule 40 PVC casing with flush-threaded joints. The bottom 10-foot section of each well is a manufactured well screen with 0.010-inch wide machined slots. The well screens were installed to the depth of the borings and bracketed the water table. Standard sand filter pack, bentonite seal and grout were installed to the ground surface. Drilling procedures for Type II wells are described in Appendix C.

Type III Wells

Monitoring wells MW-7D, MW-21D, MW-22D, and MW-24D were installed as Type III, vertical extent (telescoping) monitoring wells. The wells were installed with a Schramm T450WS air rotary hammer drill employing a 6-inch and 8-inch diameter air hammer bit. Monitoring well MW-7D was installed adjacent to MW-7 to the south of the UST basin, monitoring well MW-22D was installed to the southeast of the UST basin, and monitoring well MW-24D was installed to the east of the UST basin. Monitoring well MW-21D was installed adjacent to MW-21 near the water supply well located directly across the street from the site. The telescoping wells were constructed with a 6-inch ID schedule 40 PVC outer casing installed to an approximate depth of 40.0 feet bgs. The casings were then pressure grouted to the ground surface using a grout shoe and allowed to cure for at least 24 hours. After curing, a 6-inch air hammer bit was utilized to advance the boreholes through the outer casing to a termination depth of 46.04 feet bgs (MW-7D), 46.75 feet bgs (MW-21D), 45.82 feet bgs (MW-22D), and 46.03 feet bgs (MW-24D). A 2-inch ID schedule 40 PVC casing with flush-threaded joints was installed in each borehole. The bottom 5-foot section of each well was a manufactured well screen with 0.010-inch machined slots. Standard filter sand pack, bentonite seal and grout were installed to the ground surface. Drilling procedures for Type III wells are described in Appendix C.

General

At assigned intervals, drill cuttings were collected for soil classification. Representative portions of the test samples were visually examined and classified in the field. Additionally, soil samples from background monitoring wells MW-9 and MW-11 were submitted for laboratory analysis of total organic carbon (TOC) as directed by the SCDHEC. TOC was detected at a concentration of 400 mg/kg in the soil sample from MW-9 and 230 mg/kg in the soil sample from MW-11. To help prevent cross-contamination, downhole drilling equipment was steam cleaned between borings. Monitoring well construction diagrams and 1903 Water Well Records are included in Appendix C. Monitoring well construction data is provided in Table 3.

Drill cuttings generated during the installation of the monitoring wells were contained in 55-gallon drums on-site. Seventy-two 55-gallon drums of petroleum impacted soil were transported off-site for disposal. Waste transportation and disposal records are included in Appendix D.

Monitoring well installations were performed by a South Carolina licensed driller from Landprobe Drilling Services, LLC of Greenville, South Carolina while being supervised by a BLE geologist. The monitoring well locations were surveyed by a licensed surveyor (George B. Souther RLS, SC #21232) to establish horizontal control and vertical elevations of the top of PVC casing and ground surface. The results of the comprehensive site survey are shown as Figure 5.

3.3.1 Groundwater Sampling

Twenty groundwater monitoring wells are located on-site (MW-1 through MW-7, MW-7D, MW-8D, MW-9 through MW-11, MW-14, MW-15, MW-23, MW-24, MW-24D, and MW-25 through MW-27) and twenty-three are present off-site (MW-12, MW-13, MW-16 through MW-21, MW-21D, MW-22, MW-22D, and MW-28 through MW-39). Thirty-nine groundwater samples were collected during the current groundwater sampling event. Monitoring well MW-4 appeared to be damaged or obstructed at the time of the groundwater sampling event and could not be sampled. A total depth of 14.01 feet below top of casing was recorded during the field activities, contradicting the reported historical total well depth of 25 feet. Monitoring wells MW-5, MW-6, and MW-7 were

not sampled due to the presence of free-phase petroleum product in the wells at a thickness of 0.02 feet, 0.06 feet, and 0.39 feet respectively.

Groundwater samples were also collected from private water supply wells DW-1 through DW-5 (Figure 2). Water supply wells DW-9 and DW-10 did not have power, and were therefore unable to be sampled during the groundwater sampling event. Wells DW-7 and DW-8 appeared to have been permanently closed and were inaccessible. The owner of water supply well DW-6 could not be contacted and therefore the well was not sampled. Additionally, a surface water sample (SW-1) was collected from the creek.

As directed by SCDHEC, all groundwater monitoring wells associated with the site were developed by purging until it was determined that groundwater flow through the well screen was not inhibited by silt or fine sand. Purge water generated during the monitoring well development and sampling was contained in sealed 55-gallon drums on-site. This waste was transported off-site for disposal. Waste transportation and disposal records are attached in Appendix D. Monitoring well purging and sampling field procedures and sampling logs are included in Appendix E.

Sample containers were marked in the field with identifying numbers, properly preserved, placed into sample coolers, secured, and maintained at less than 4 degrees Celsius. The samples and chain-of-custody records were delivered to Shealy Environmental Services, Inc. in Columbia, South Carolina for analysis of BTEX, naphthalene, MTBE, 8-oxygenates, and 1,2-DCA by EPA Method 8260B, EDB by EPA Method 8011, and total lead by EPA Method 6010B.

4.0 TIER II ASSESSMENT RESULTS

4.1 Subsurface Geology

The soil borings encountered residual soils consisting primarily of sandy silts and silty sands. Bedrock was encountered at approximate depths of 46.5 feet bgs in MW-7D, 47.0 feet bgs in MW-21D, 46.0 feet bgs in MW-22D, and 47.0 feet bgs in MW-24D. Soil boring records are provided in Appendix C.

4.2 Groundwater Occurrence

The uppermost aquifer beneath the site is composed of residual soils and saprolite. Site-wide stabilized groundwater level measurements obtained on December 22, 2010 ranged from 1.52 feet bgs (MW-39) to 22.40 feet bgs (MW-14). A tabulation of the groundwater level data is provided on Table 3. A water table elevation contour map showing the occurrence and direction of groundwater flow is presented as Figure 6. Groundwater flow is to the southeast.

Figures 7A (A-A') and 7B (B-B') provide hydrogeologic cross-sections through the subsurface soils. The cross-sections depict the surveyed ground surface elevation, subsurface lithologies, monitoring wells and their respective screened intervals, and the static groundwater elevation.

4.3 Groundwater and Surface Water Sampling Results

Of the thirty-nine groundwater monitoring wells sampled for laboratory analysis, fifteen wells (MW-1, MW-3, MW-7D, MW-8D, MW-18, MW-19, MW-22, MW-22D, MW-23, MW-24, MW-24D, MW-25, MW-26, MW-30, and MW-33) detected petroleum CoCs above RBSLs. CoCs detected above RBSL concentrations include benzene, toluene, ethylbenzene, xylenes, naphthalene, 1,2-DCA, MTBE, and EDB. Additionally, lead was detected above the established RBSL (15 ug/l) in MW-2, MW-8D, MW-9 through MW-19, MW-21, MW-21D, MW-22 through MW-25, MW-29, MW-30, and MW-32. However, elevated total lead concentrations may be the result of suspended sediment in the groundwater samples. Petroleum CoCs were not detected above laboratory method detection limits in the drinking water wells (DW-1 through DW-5) or in the surface water sample (SW-1). The results of the laboratory analyses are summarized in Table 4 and are shown on Figure 8. Laboratory data sheets are provided in Appendix F. A total BTEX and MTBE isoconcentration map showing the horizontal distribution of the respective contaminants in the shallow groundwater table aquifer is included as Figure 9 and Figure 10, respectively.

4.4 Free-Product Recovery Rate Test Results

Free-phase petroleum product was detected in monitoring wells MW-5, MW-6, and MW-7 and a free product recovery rate test was performed on the two wells with the greatest thickness of free-product (MW-6 and MW-7). The free-product recovery rate tests were performed utilizing a Solinst® Model 122 Oil/Water Interface Probe and a polyethylene bailer. Depth-to-product and depth-to-water in the monitoring wells were measured with the interface probe and measurements were made by employing the integrated measuring tape on the probe and by monitoring audible feedback tones from the interface probe differentiating between free-product and groundwater.

After the initial thickness of free-phase petroleum product in the monitoring well was measured, the free-product was completely bailed from the water column. The rate at which the product recovered was then measured using the interface probe and measurements were recorded for a one-hour time period. Free-phase petroleum product and water were contained in a 55-gallon drum on site. These wastes along with approximately 40-gallons of free-phase petroleum product collected during historical free-product recovery efforts were transported off-site for disposal. Waste transportation and disposal records are included in Appendix D. The results of the free-product recovery rate tests are summarized below:

MW-6	
Initial Free-Product Thickness: 0.06'	
Elapsed Time (min)	Free-Product Recovery (feet)
1	0.00
2	0.00
3	0.00
4	0.02
5	0.01
10	0.02
15	0.03
20	0.04
25	0.05
30	0.05
45	0.06
60	0.06

MW-7	
Initial Free-Product Thickness: 0.39'	
Elapsed Time (min)	Free Product-Recovery (feet)
1	0.00
2	0.04
3	0.04
4	0.04
5	0.08
10	0.09
15	0.14
20	0.14
25	0.14
30	0.15
45	0.15
60	0.16

Graphical representations of the free-product recovery rate tests are shown in Appendix G. The results indicate relatively low free-product mobility for both MW-6 and MW-7 with the free-phase petroleum product thickness in MW-6 recovering 100% in approximately 45 minutes and the free-phase petroleum product thickness in MW-7 achieving only 41% recovery after 60 minutes.

5.0 AQUIFER CHARACTERISTICS

Field permeability (slug) tests were performed in monitoring well pairs MW-22/MW-22D and MW-24/MW-24D to determine the hydraulic conductivity of the formation material exposed to the well screen. The slug tests measured the hydraulic conductivity of the uppermost saprolite aquifer and the shallow bedrock aquifer. A summary of the field procedure and the SCDHEC Summary of Slug Test Form are provided in Appendix H. The data from the tests are presented on Table 5.

5.1 Hydraulic Conductivity

Hydraulic conductivity is defined as the ability of the aquifer material to conduct water under a hydraulic gradient. Four slug tests have been performed at the site to measure the in-situ hydraulic conductivity of the uppermost water-table aquifer and the shallow bedrock aquifer. The slug test results were evaluated using the Bouwer and Rice Method[4] for partially-penetrating wells in an unconfined aquifer (slug testing procedures and results are included in Appendix H). The hydraulic conductivity values measured at the site were 4.07×10^{-3} cm/sec (MW-22) and 3.89×10^{-3} cm/sec (MW-24) in the silty sand saprolite aquifer and 1.35×10^{-2} cm/sec (MW-22D) and 2.63×10^{-3} cm/sec (MW-24D) in the shallow bedrock aquifer. The site-wide geometric mean hydraulic conductivity value is 6.02×10^{-3} cm/sec.

5.2 Hydraulic Gradient

The hydraulic gradient is determined by dividing the difference in groundwater elevations at two locations (MW-2 to MW-19) by the horizontal distance between those locations along the direction

[4] Bouwer, H., and Rice, R., A Slug Test for Determining Conductivity of Unconfined Aquifers with Completely or Partially Penetrating Wells, *Water Resources Research,* v. 12, o. 423-428.

of groundwater flow. The hydraulic gradient across the site is approximately 0.003 ft/ft. However, it should be noted that the hydraulic gradient increases in the downgradient direction to approximately 0.016 ft/ft (MW-31 to MW-37). In the source areas, minor vertical gradients (recharging) were measured in well pairs MW-5/MW-8, MW-7/MW-7D, MW-22/MW-22D, and MW-24/MW-24D.

5.3 Effective Porosity and Specific Yield

Effective porosity is the volume of void spaces through which water or other fluids can travel in a rock or sediment divided by the total volume of the rock or sediment. Effective porosity can be assumed to be approximately equal to specific yield for unconfined (water table) aquifers. Specific yield is defined as the ratio of the volume of water that drains from a saturated rock owing to the attraction of gravity to the total volume of rock. Specific yield measurements of the uppermost saprolite aquifer on-site were derived from grain size analysis data from a sample submitted from the screened interval of monitoring well MW-22. Based on Fetter (1994)[5], using the textural classification triangle for unconsolidated materials showing the relation between particle size and specific yield (adapted from Johnson, 1967)[6], the specific yield of the uppermost saprolite aquifer is approximately 0.18. A copy of the grain size hydrometer test is included in Appendix I. An effective porosity of 0.05 was assumed for MW-22D and MW-24D which were screened in the shallow bedrock aquifer unit based upon the effective mean porosity of fractured crystalline rock as described in Freeze and Cherry (1979)[7].

[5] Fetter, C., 1994, Applied Hydrogeology, Prentice Hall, 598 pp.
[6] Johnson, A., 1967, United States Geological Survey Water-Supply Paper 1662-D.
[7] Freeze, A., and Cherry, J., 1979, Groundwater, Prentice Hall, 589 pp.

5.4 Groundwater Flow Velocity

The velocity of groundwater flow is derived from the equation:

$$V = \frac{Ki}{n_e}$$

Where

V is the flow velocity
K is the hydraulic conductivity
i is the hydraulic gradient; and
$\boldsymbol{n_e}$ is the effective porosity.

Based on these parameters and the data provided above, the geometric mean horizontal movement of groundwater is approximately 162.56 feet/year in the water table aquifer. Table 5 summarizes the groundwater flow velocity calculations.

6.0 CONCLUSIONS

- Thirty-five new groundwater monitoring wells (thirty-one shallow and four deep monitoring wells) were installed to assess the horizontal and vertical extent of the contamination.

- Thirty-nine groundwater monitoring wells, five private water supply/drinking water wells, and one surface water location were sampled for laboratory analysis. Fifteen wells (MW-1, MW-3, MW-7D, MW-8D, MW-18, MW-19, MW-22, MW-22D, MW-23, MW-24, MW-24D, MW-25, MW-26, MW-30, and MW-33) detected petroleum CoCs above RBSLs. CoCs detected above RBSL concentrations include benzene, toluene, ethylbenzene, xylenes, naphthalene, 1,2-DCA, MTBE, and EDB. Petroleum CoCs were not detected above laboratory method detection limits in the drinking water wells (DW-1 through DW-5) or in the surface water sample (SW-1).

- Groundwater flow direction beneath the site is generally to the southeast. Minor recharging gradients were measured in well pairs on site.

7.0 RECOMMENDATIONS

Presently, the contaminant plume appears to be defined horizontally and no CoCs were detected in the downgradient creek or drinking water well. However, the vertical extent of the contaminant plume has not been fully defined and CoCs were detected above RBSLs in MW-7D, MW-8D, MW-22D, and MW-24D. BLE recommends that an additional deep well be installed adjacent to MW-22D and MW-24D to depths of approximately 70 feet bgs to further assess the vertical extent of CoCs at these locations. Additionally, a deep well pair (one well to 45 feet bgs and one well to 70 feet bgs) should be installed adjacent to MW-30 to determine whether a diving plume has impacted downgradient locations. The approximate locations of the proposed groundwater monitoring wells are shown on Figure 11. Following the installation of the deep wells, a comprehensive groundwater sampling event should be conducted on all monitoring wells associated with the site and potential receptors to monitor contaminant migration in the shallow and deep aquifers and to establish trends in CoC concentrations.

According to records, approximately 1,400 gallons of gasoline were released to the subsurface in November 1995. To date, only 60-gallons have been recovered and a considerable volume/mass remains in-situ. Free-phase petroleum product was detected in MW-5 (0.02 feet), MW-6 (0.06 feet), and MW-7 (0.39 feet). Additionally, Total BTEX concentrations detected in monitoring wells MW-19 (59,400 µg/l), MW-23 (77,500 µg/l), and MW-24 (69,100 µg/l) indicate that free-phase petroleum product is present but has not accumulated into the well due to various possible reasons (i.e., low mobility, surface tension, possible well skin effects resulting from the well installation process). BLE recommends that a series of three AFVR events be conducted at the site: one AFVR event should be conducted on MW-6 and MW-7; one event on MW-23 and MW-19; and one event on MW-5 and MW-24. The AFVR events should be spaced approximately 15 days apart. Approximately 30 days after the last AFVR event, free-phase petroleum product levels in the wells should be measured. Based on magnahelic gauge measurements recorded during the AFVR events and the final free-product levels in the wells at the conclusion of the AFVR events, it can be determined whether the installation of 4-inch recovery wells is necessary for enhanced recovery of free-phase petroleum product at the site.

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APPENDIX A

GEOPROBE® GROUNDWATER SCREENING AND SAMPLING PROCEDURES

Groundwater Screening and Sampling

Groundwater samples were collected using a GeoProbe Systems® Screen Point Groundwater Sampler. The assembled sampler had a 1.5-inch outside diameter (OD) and was 48-inches long. The sampler consisted of a 48-inch sealed stainless steel screen encased in a perforated stainless steel sleeve. The sampler was advanced to the desired sampling depth using 5-foot long sections of alloy steel probe rods driven with a portable automatic hammer. At the desired sampling depth, an extension ramrod was attached to extension rods and inserted inside the probe rods. The screen was enclosed in a sampling sheath until it was advanced into the formation at the desired sampling depth. For groundwater screening and sampling, a post-run tubing adapter attached to polypropylene tubing was threaded into the screen connector and groundwater was evacuated using a check valve system. Representative groundwater samples were placed in 100-milliliter glass jars, covered with aluminum foil and sealed. The sample containers were allowed to sit undisturbed for approximately 10-15 minutes allowing volatile organic carbons (VOCs) in solution to escape into the open headspace of the sample jars. The aluminum foil was punctured and the headspace in the jar was scanned using a photo-ionization detector (PID). Groundwater samples collected for chemical analysis were placed into laboratory prepared sample jars.

Samples were marked with identifying numbers, placed immediately in sample coolers, secured, and maintained at $\leq 4^{\circ}$ C. Preservatives were added to the samples as required. Samples were shipped to Shealy Environmental Services, Inc. in Columbia, South Carolina for analysis. Appropriate chain-of-custody records were maintained.

APPENDIX C

MONITORING WELL CONSTRUCTION PROCEDURES

Type II Well

Type II groundwater monitoring wells consist of 2-inch diameter Schedule 40 polyvinyl chloride (PVC) casing with flush-threaded joints. The bottom 10-foot section of each well is a manufactured well screen with 0.010-inch wide machined slots. The well screen was installed to the depth of the boring and bracketed the water table.

Type III Well

Type III wells were constructed with a 6-inch diameter Schedule 40 PVC outer casing installed to the termination depth of each borehole. The annular space between the borehole and the 6-inch casing was pressure grouted with a cement/bentonite grout mixture to the ground surface using a grout shoe. After curing, a 4-inch diameter air hammer bit was utilized to advance the boreholes through the outer casing to the desired termination depth. A monitoring well was installed, constructed of 2-inch PVC Schedule 40 casing with flush-threaded joints and a manufactured well screen with 0.010-inch wide machined slots. The well screen was 5 feet in length.

A. General

In the Type II and Type III wells, a washed sand filter pack was emplaced around the outside of the pipe from the bottom of the well casing to approximately two feet above the top of the well screen. The sand filter pack was used to stabilize the formation and to help yield a less turbid groundwater sample.

An approximate two-foot thick bentonite seal was installed on top of the sand filter pack to seal the monitoring well at the desired level. The well annulus was then grouted to the surface with a cement/bentonite grout mixture. A PVC cap and flush mount steel, bolted manhole cover or standup steel protective cover was secured over each wellhead.

APPENDIX B

GEOPROBE® SOIL SCREENING AND SAMPLING PROCEDURES

Soil Screening

Soil samples were collected using a GeoProbe® 6620 DT track-mounted drilling rig employing a Macro-Core Soil Sampler. The assembled Macro-Core Soil Sampler was attached to the leading end of a probe rod and driven into the subsurface using the Geoprobe rig by static force and percussion. Additional probe rods were connected in succession to advance the sampler to depth in five-foot increments. The open-tube sampler was inserted back down the same hole to obtain the next core. The samples were removed from the Macro-Core Sampler by unscrewing the cutting shoe and pulling out the polyvinyl chloride (PVC) liner. The soil samples were screened in 1-foot increments by puncturing a small hole in the PVC liner and immediately scanning the headspace in the liner using a PID.

A. General

Samples were marked with identifying numbers, placed immediately in sample coolers, secured, and maintained at $\leq 4^{o}$ C. Preservatives were added to the samples as required. Samples were shipped to Shealy Environmental Services., Inc. in Columbia, South Carolina for analysis. Appropriate chain-of-custody records were maintained.

APPENDIX E

MONITORING WELL PURGING AND SAMPLING PROCEDURES

The monitoring wells were purged prior to sample collection to remove any stagnant water from the well so that the samples collected were representative of the groundwater quality in the vicinity of each well. For wells that recovered quickly, a minimum of three volumes of water were evacuated. Specific conductance, pH, and water temperature were measured periodically during well evacuation using instruments which were calibrated daily. Wells that were evacuated to dryness with less than three well volumes being removed were sampled as soon as the well had recovered enough to yield sufficient volume for a sample.

The monitoring wells were purged using a 4-foot long by 1.6-inch diameter disposable polyethylene bailer attached to an unused polypropylene cord. The wells were also sampled using a bailer as described above. To minimize the potential for cross-contamination between wells, a new clean bailer was used at each well.

Samples were placed in the appropriate laboratory supplied containers and marked with identifying numbers. Samples were maintained at 4°Celsius in a refrigerated sample cooler and shipped to Shealy Environmental Services, Inc. in Columbia, South Carolina via courier service for analysis.

APPENDIX H

SLUG TEST PROCEDURES AND RESULTS

Field permeability (slug) tests were performed in monitoring wells MW-22, MW-22D, MW-24, and MW-24D to determine the hydraulic conductivity of the uppermost saprolite and shallow bedrock aquifer formation materials exposed to the well screen. The field procedures used to determine this parameter were as follows:

1. Measure the static groundwater elevation in the well to be tested;
2. Effect a sudden change to the static water level in the well displacing a known volume of water via solid slug; and
3. Measure the rate at which the water column recovers to its original level.

Slug test data was reduced and the hydraulic conductivity values were computed using Bouwer, H. and R. C. Rice "*A Slug Test for Determining Conductivity of Unconfined Aquifers with Completely or Partially Penetrating Wells*," Water Resources Research, 12 (1976): 423-28.

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