SUMMARY REPORT
232 BIRCH ROAD (FORMERLY 293 BIRCH ROAD)
LAUREL BAY MILITARY HOUSING AREA
MARINE CORPS AIR STATION BEAUFORT
BEAUFORT, SC

Revision: 0
Prepared for:

Department of the Navy
Naval Facilities Engineering Command, Mid-Atlantic
9324 Virginia Avenue
Norfolk, Virginia 23511-3095

and

Naval Facilities Engineering Command Atlantic
9324 Virginia Avenue
Norfolk, Virginia 23511-3095

JUNE 2021

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Prepared by:

CDM - AECOM Multimedia Joint Venture
10560 Arrowhead Drive, Suite 500
Fairfax, Virginia 22030

Contract Number: N62470-14-D-9016
CTO WE52
JUNE 2021

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List of Acronyms

bgs	below ground surface
BTEX	benzene, toluene, ethylbenzene, and xylenes
CTO	Contract Task Order
COPC	constituents of potential concern
ft	feet
IDIQ	Indefinite Delivery, Indefinite Quantity
IGWA	Initial Groundwater Assessment
JV	Joint Venture
LBMH	Laurel Bay Military Housing
MCAS	Marine Corps Air Station
NAVFAC Mid-Lant	Naval Facilities Engineering Command Mid-Atlantic
NFA	No Further Action
PAH	polynuclear aromatic hydrocarbon
QAPP	Quality Assurance Program Plan
RBSL	risk-based screening level
SCDHEC	South Carolina Department of Health and Environmental Control
Site	LBMH area at MCAS Beaufort, South Carolina
UST	underground storage tank
VISL	vapor intrusion screening level

1.0 INTRODUCTION

The CDM - AECOM Multimedia Joint Venture (JV) was contracted by the Naval Facilities Engineering Command, Mid-Atlantic (NAVFAC Mid-Lant) to provide reporting services for the heating oil underground storage tanks (USTs) located in Laurel Bay Military Housing (LBMH) area at the Marine Corps Air Station (MCAS) Beaufort, South Carolina (Site). This work has been awarded under Contract Task Order (CTO) WE52 of the Indefinite Delivery, Indefinite Quantity (IDIQ) Multimedia Environmental Compliance Contract (Contract No. N62470-14-D-9016).

As of January 2014, the LBMH addresses were re-numbered to comply with the E-911 emergency response addressing system; however, in order to remain consistent with historical sampling and reporting for LBMH area, the residences will continue to be referenced with their original address numbers in sample nomenclature and reporting documents.

This report summarizes the results the environmental investigation activities associated with the storage of home heating oil and the potential release of petroleum constituents at the referenced property. Based on the results of the investigation, a No Further Action (NFA) determination has been made by the South Carolina Department of Health and Environmental Control (SCDHEC) for 232 Birch Road (Formerly 293 Birch Road). This NFA determination indicates that there are no unacceptable risks to human health or the environment for the petroleum constituents associated with the home heating oil USTs. The following information is included in this report:

- Background information;
- Sampling activities and results; and
- A determination of the property status.

1.1 Background Information

The LBMH area is located approximately 3.5 miles west of MCAS Beaufort. The area is approximately 970 acres in size and serves as an enlisted and officer family housing area. The area is configured with single family and duplex residential structures, and includes recreation, open space, and community facilities. The community includes approximately 1,300 housing units, including legacy Capehart style homes and newer duplex style homes. The housing area

is bordered on the west by salt marshes and the Broad River, and to the north, east and south by uplands. Forested areas lie along the northern and northeastern borders.

Capehart style homes within the LBMH area were formerly heated using heating oil stored in USTs at each residence. There were 1,100 Capehart style housing units in the LBMH area. The newer duplex homes within the LBMH area never utilized heating oil tanks. Heating oil has not been used at Laurel Bay since the mid-1980s. As was the accepted practice at the time, USTs were drained, filled with dirt, capped, and left in place when they were removed from service. Residential USTs are not regulated in the State of South Carolina (i.e., there are no federal or state laws governing installation, management, or removal).

In 2007, MCAS Beaufort began a voluntary program to remove the unregulated, residential USTs and conduct sampling activities to determine if, and to what extent, petroleum constituents may have impacted the surrounding environment. MCAS Beaufort coordinated with SCDHEC to develop removal procedures that were consistent with procedural requirements for regulated USTs. All tank removal activities and follow-on actions are conducted in coordination with SCDHEC. To date, all known USTs have been removed from all residential properties within the LBMH area.

1.2 UST Removal and Assessment Process

During the UST removal process, a soil sample was collected from beneath the UST excavations (approximately 4 to 6 feet [ft] below ground surface [bgs]) and analyzed for a predetermined list of constituents of potential concern (COPCs) associated with the petroleum compounds found in home heating oil. These COPCs, derived from the *Quality Assurance Program Plan (QAPP) for the Underground Storage Tank Management Division, Revision 3.1* (SCDHEC, 2016) and the *Underground Storage Tank Assessment Instructions for Permanent Closure and Change-In-Service,* (SCDHEC, 2018), are as follows:

- benzene, toluene, ethylbenzene, and xylenes (BTEX),
- naphthalene, and
- five select polynuclear aromatic hydrocarbon (PAHs): benzo(a)anthracene, benzo(b)fluoranthene, benzo(k)fluoranthene, chrysene and dibenz(a,h)anthracene.

Soil sample results were submitted by MCAS Beaufort to SCDHEC utilizing SCDHEC's UST Assessment Report form. In accordance with SCDHEC's *QAPP for the UST Management*

Division (SCDHEC, 2016), the soil screening levels consists of SCDHEC risk-based screening levels (RBSLs). It should be noted that the RBSLs for select PAHs were revised in Revision 2.0 of the QAPP (SCDHEC, 2013) and were revised again in Revision 3.0 (SCDHEC, 2015). The screening levels used for evaluation at each site were those levels that were in effect at the time of reporting and review by SCDHEC.

The results of the soil sampling at each former UST location were used to determine if a potential for groundwater contamination exists (i.e., soil results greater than RBSLs) and subsequently to select properties for follow-up initial groundwater assessment (IGWA) sampling. The results of the IGWA sampling (if necessary) are used to determine the presence or absence of the aforementioned COPCs in groundwater and identify whether former UST locations will require additional delineation of COPCs in groundwater. In order to delineate the extent of impact to groundwater, permanent wells are installed and a sampling program is established for those former UST locations where IGWA sampling has indicated the presence of COPCs in excess of the SCDHEC RBSLs for groundwater. Groundwater analytical results are also compared to the site specific groundwater vapor intrusion screening levels (VISLs) to evaluate the potential for vapor intrusion and the necessity for an investigation associated with this media. A multi-media investigation selection process tree, applicable to the LBMH UST investigations, is presented as Appendix A.

2.0 SAMPLING ACTIVITIES AND RESULTS

The following section presents the sampling activities and associated results for 232 Birch Road (Formerly 293 Birch Road). Details regarding the soil investigation at this site are provided in the *SCDHEC UST Assessment Report – 293 Birch Road* (MCAS Beaufort, 2008). The UST Assessment Report is provided in Appendix B. Details regarding the IGWA sampling activities at this site are provided in the *Investigation of Ground Water at Leaking Heating Oil UST Sites Report* (Resolution Consultants, 2008). The laboratory report that includes the pertinent IGWA analytical results for this site is presented in Appendix C.

2.1 UST Removal and Soil Sampling

On June 21, 2007, two 280 gallon heating oil USTs were removed at 232 Birch Road (Formerly 293 Birch Road). Tank 1 was removed from the front yard, 71" from the front of the house. Tank 2 was removed from the front yard area adjacent to the house. The former UST locations are indicated in the figures of the UST Assessment Report (Appendix B). The USTs were

removed, cleaned, and shipped offsite for recycling. There was no visual evidence (i.e., staining or sheen) of petroleum impact at the time of the UST removal. According to the UST Assessment Report (Appendix B), the depths to the bases of the USTs were 3'8" (Tank 1) and 4'7" (Tank 2) bgs and a single soil sample was collected for each at that depth. An additional soil sample was collected at the side of the excavation for each tank at a depth of 2'6" (Tank 1) and 2'6" (Tank 2). The samples were collected from the fill port side of the former USTs to represent a worst case scenario.

Following UST removal, a soil sample was collected from the base and side of each excavation and shipped to an offsite laboratory for analysis of the petroleum COPCs. Sampling was performed in accordance with applicable South Carolina regulation R.61-92, Part 280 (SCDHEC, 2017) and assessment guidelines.

2.2 Soil Analytical Results

A summary of the laboratory analytical results and SCDHEC RBSLs is presented in Table 1. A copy of the laboratory analytical data report is included in the UST Assessment Report presented in Appendix B. The laboratory analytical data report includes the soil results for the additional PAHs that were analyzed, but do not have associated RBSLs.

The soil sample results were submitted by MCAS Beaufort to SCDHEC utilizing SCDHEC's UST Assessment Report form (Appendix B). The results of the soil sampling at the former UST locations (Tanks 1 and 2) were used by MCAS Beaufort, in consultation with SCDHEC, to determine a path forward (i.e., additional sampling or NFA) for the property. The soil results collected from the former UST locations (Tanks 1 and 2) at 232 Birch Road (Formerly 293 Birch Road) were greater than the SCDHEC RBSLs, which indicated further investigation was required. In a letter dated September 8, 2008, SCDHEC requested IGWAs be conducted at the former UST locations (Tanks 1 and 2) at 232 Birch Road (Formerly 293 Birch Road) to determine if the groundwater was impacted by petroleum COPCs. SCDHEC's request letter is provided in Appendix D.

2.3 Groundwater Sampling

On July 30, 2008, a temporary monitoring well was installed at 232 Birch Road (Formerly 293 Birch Road), in accordance with the South Carolina Well Standards and Regulations (R.61-71.H-I, updated June 24, 2016). In order to provide data that can be used to determine whether COPCs are migrating to underlying groundwater, the monitoring well was

placed in the same general location as the former heating oil USTs (in between Tanks 1 and 2). The former UST locations are indicated in the figures of the UST Assessment Report (Appendix B). Further details are provided in the *Investigation of Ground Water at Leaking Heating Oil UST Sites Report* (Resolution Consultants, 2008).

The sampling strategy for this phase of the investigation required a one-time sampling event of the temporarily installed monitoring well. Following well installation and development, groundwater samples were collected using low-flow methods and shipped to an offsite laboratory for analysis of the petroleum COPCs. Upon completion of groundwater sampling, the temporary well was abandoned in accordance with the South Carolina Well Standards and Regulations R.61-71 (SCDHEC, 2016). Field forms are provided in the *Investigation of Ground Water at Leaking Heating Oil UST Sites Report* (Resolution Consultants, 2008).

2.4 Groundwater Analytical Results

A summary of the laboratory analytical results and SCDHEC RBSLs is presented in Table 2. A copy of the laboratory analytical data report is included in Appendix C.

The groundwater results collected from 232 Birch Road (Formerly 293 Birch Road) were less than the SCDHEC RBSLs and the site specific groundwater VISLs (Table 2), which indicated that the groundwater was not impacted by COPCs associated with the former USTs at concentrations that present a potential risk to human health and the environment.

3.0 PROPERTY STATUS

Based on the analytical results for groundwater, SCDHEC made the determination that NFA was required for 232 Birch Road (Formerly 293 Birch Road). This NFA determination was obtained in a letter dated November 20, 2008. SCDHEC's NFA letter is provided in Appendix D.

4.0 REFERENCES

Marine Corps Air Station Beaufort, 2008. *South Carolina Department of Health and Environmental Control (SCDHEC) Underground Storage Tank Assessment Report – 293 Birch Road, Laurel Bay Military Housing Area*, January 2008.

Resolution Consultants, 2008. *Initial Groundwater Investigation of Ground Water at Leaking Heating Oil UST Sites Report for Laurel Bay Military Housing Area, Multiple Properties,*

Laurel Bay Military Housing Area, Marine Corps Air Station Beaufort, Beaufort, South Carolina, September 2008.

South Carolina Department of Health and Environmental Control Bureau of Land and Waste Management, 2013. *Quality Assurance Program Plan for the Underground Storage Tank Management* Division*, Revision 2.0*, April 2013.

South Carolina Department of Health and Environmental Control Bureau of Land and Waste Management, 2015. *Quality Assurance Program Plan for the Underground Storage Tank Management* Division*, Revision 3.0*, May 2015.

South Carolina Department of Health and Environmental Control Bureau of Land and Waste Management, 2016. *Quality Assurance Program Plan for the Underground Storage Tank Management* Division*, Revision 3.1*, February 2016.

South Carolina Department of Health and Environmental Control Bureau of Land and Waste Management, 2017. *R.61-92, Part 280, Underground Storage Tank Control Regulations*, March 2017.

South Carolina Department of Health and Environmental Control Bureau of Land and Waste Management, 2018. *Underground Storage Tank Assessment Instructions for Permanent Closure and Change-In-Service*, March 2018.

South Carolina Department of Health and Environmental Control Bureau of Water, 2016. *R.61-71, Well Standards*, June 2016.

Tables

Table 1
Laboratory Analytical Results - Soil
232 Birch Road (Formerly 293 Birch Road)
Laurel Bay Military Housing Area
Marine Corps Air Station Beaufort
Beaufort, South Carolina

Constituent	SCDHEC RBSLs [1]	Results Samples Collected 06/21/07			
		293 Birch Bottom 01	293 Birch Side 02	293 Birch Bottom 03	293 Birch Side 04
Volatile Organic Compounds Analyzed by EPA Method 8260B (mg/kg)					
Benzene	0.003	ND	ND	ND	ND
Ethylbenzene	1.15	**0.0262**	ND	ND	ND
Naphthalene	0.036	**0.243**	ND	**0.00109**	ND
Toluene	0.627	ND	ND	ND	ND
Xylenes, Total	13.01	ND	ND	ND	ND
Semivolatile Organic Compounds Analyzed by EPA Method 8270D (mg/kg)					
Benzo(a)anthracene	0.66	ND	ND	**1.010**	ND
Benzo(b)fluoranthene	0.66	ND	ND	**0.755**	ND
Benzo(k)fluoranthene	0.66	ND	ND	**0.678**	ND
Chrysene	0.66	**0.0722**	ND	**0.965**	ND
Dibenz(a,h)anthracene	0.66	ND	ND	**0.166**	ND

Notes:

[1] South Carolina Risk-Based Screening Levels from the Quality Assurance Program Plan for the Underground Storage Tank Management Division, Revision 1.0 and 1.1 (SCDHEC, May 2001 and SCDHEC, February 2011) and the Underground Storage Tank Assessment Guidelines (SCDHEC, February 2006).

Bold font indicates the analyte was detected.
Bold font and shading indicates the concentration exceeds the SCDHEC RBSL.
EPA - United States Environmental Protection Agency
mg/kg - milligrams per kilogram

ND - not detected at the reporting limit (or method detection limit if shown on the laboratory report). The soil laboratory report is provided in Appendix B.

RBSL - Risk-Based Screening Level
SCDHEC - South Carolina Department Of Health and Environmental Control

Table 2
Laboratory Analytical Results - Groundwater
232 Birch Road (Formerly 293 Birch Road)
Laurel Bay Military Housing Area
Marine Corps Air Station Beaufort
Beaufort, South Carolina

Constituent	SCDHEC RBSLs [1]	Site-Specific Groundwater VISLs (µg/L)[2]	Results Samples Collected 07/30/08
Volatile Organic Compounds Analyzed by EPA Method 8260B (µg/L)			
Benzene	5	16.24	ND
Ethylbenzene	700	45.95	ND
Naphthalene	25	29.33	**0.32**
Toluene	1000	105,445	ND
Xylenes, Total	10,000	2,133	ND
Semivolatile Organic Compounds Analyzed by EPA Method 8270D (µg/L)			
Benzo(a)anthracene	10	NA	ND
Benzo(b)fluoranthene	10	NA	ND
Benzo(k)fluoranthene	10	NA	ND
Chrysene	10	NA	ND
Dibenz(a,h)anthracene	10	NA	ND

Notes:

[1] South Carolina Risk-Based Screening Levels from the Quality Assurance Program Plan for the Underground Storage Tank Management Division, Revision 3.1 (SCDHEC, February 2016).

[2] Site-specific groundwater VISLs were calculated using the EPA JE Model Spreadsheets (Version 3.1, February 2004) and conservative modeling inputs representative of a small single-story house with an 8 foot ceiling. Site-specific groundwater VISLs were developed based on a target risk level of $1x10^{-6}$, a target hazard quotient of 1 (per target organ), and a default residential exposure scenario, assuming exposure for 24 hours/day, 350 days/year, for 26 years. Modeling was performed for a range of depths to groundwater for application as appropriate in different areas of the Laurel Bay Military Housing Area. The most conservative levels are presented for comparison. Refer to Appendix H of the Uniform Federal Policy Sampling Analysis and Sampling Plan for Vapor Media, Revision 4 (Resolution Consultants, April 2017) for additional information.

Bold font indicates the analyte was detected.

Bold font and shading indicates the concentration exceeds the SCDHEC RBSL and/or the Site-Specific Groundwater VISL.

EPA - United States Environmental Protection Agency

JE - Johnson & Ettinger

NA - Not Applicable

ND - not detected at the reporting limit (or method detection limit if shown on the laboratory report). The groundwater laboratory report is provided in Appendix C.

RBSL - Risk-Based Screening Level

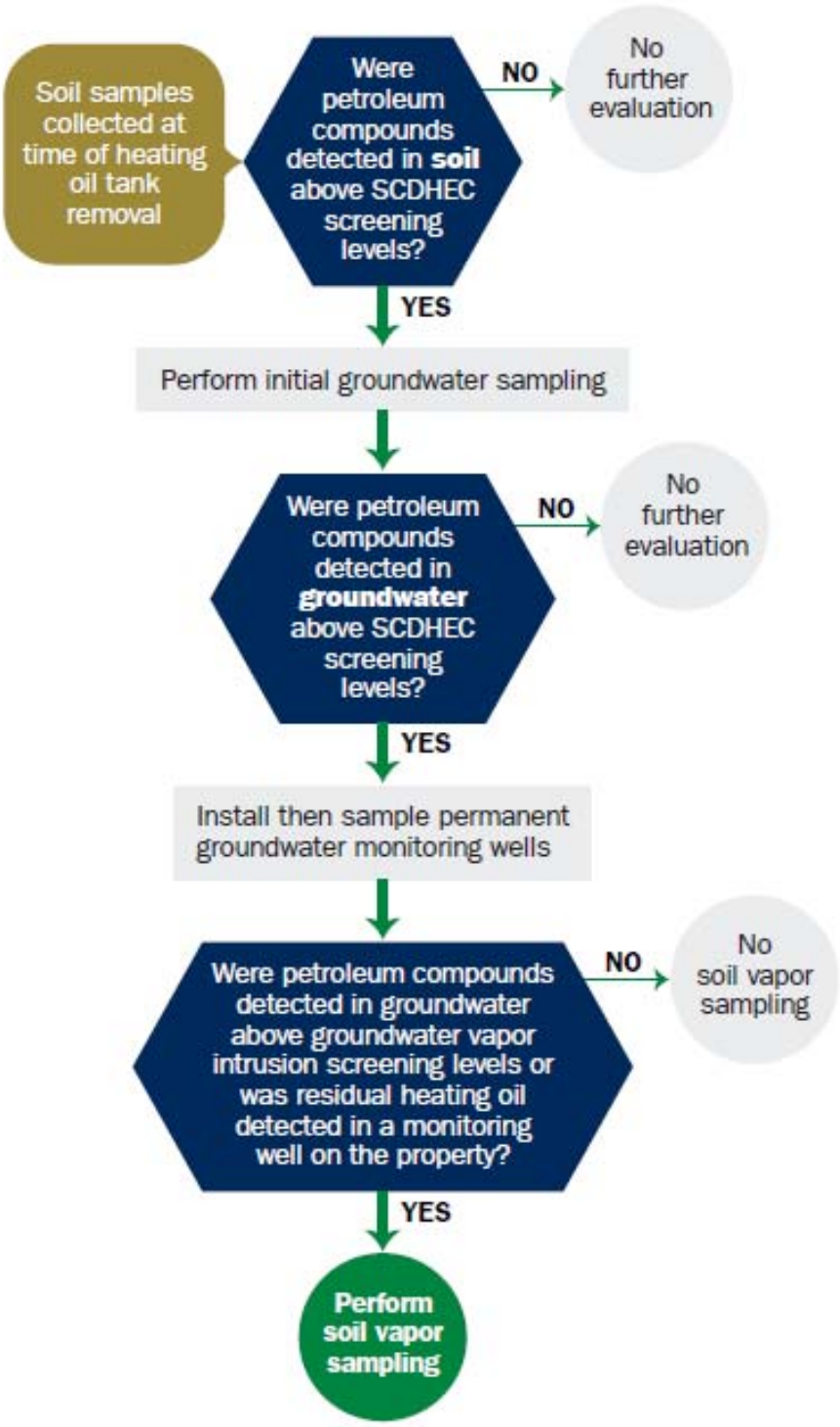
SCDHEC - South Carolina Department Of Health and Environmental Control

µg/L - micrograms per liter

VISL - Vapor Intrusion Screening Level

Appendix A
Multi-Media Selection Process for LBMH

CDM - AECOM
Multimedia Joint Venture



Appendix A - Multi-Media Selection Process for LBMH

Appendix B
UST Assessment Report

CDM - AECOM
Multimedia Joint Venture

Attachment 1

South Carolina Department of Health and Environmental Control (SCDHEC)

Underground Storage Tank (UST) Assessment Report

Date Received

State Use Only

Submit Completed Form To:
UST Program
SCDHEC
2600 Bull Street
Columbia, South Carolina 29201
Telephone (803) 896-6240

I. OWNERSHIP OF UST (S)

Beaufort Military Complex Family Housing
Owner Name (Corporation, Individual, Public Agency, Other)

1510 Laurel Bay Blvd.
Mailing Address

Beaufort | SC | 29906
City | State | Zip Code

843 | 379-3305 | Kyle Broadfoot
Area Code | Telephone Number | Contact Person

II. SITE IDENTIFICATION AND LOCATION

N/A
Permit I.D. #

Actus Lend Lease Construction
Facility Name or Company Site Identifier

293 Birch
Street Address or State Road (as applicable)

Beaufort, SC | 29906 | Beaufort
City | ZIP | County

Attachment 2

III. INSURANCE INFORMATION

Insurance Statement

The petroleum release reported to DHEC on N/A at Permit ID # may qualify to receive state monies to pay for appropriate site rehabilitation activities. Before participation is allowed in the State Clean-up fund, written confirmation of the existence or non-existence of an environmental insurance policy is required. **This section must be completed.**

Is there now, or has there ever been an insurance policy or other financial mechanism that covers this UST release? **YES**____ **NO**_____ (check one)

If you answered **YES** to the above question, please complete the following information:

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.

And

I **do/do not** (circle one) wish to participate in the Superb Program.

IV. CERTIFICATION (To be signed by the UST owner/operator.)

I certify that I have personally examined and am familiar with the information submitted in this and all attached documents; and that based on my inquiry of those individuals responsible for obtaining this information, I believe that the submitted information is true, accurate, and complete.

_____
Name (Type or print.)

_____
Signature

To be completed by Notary Public:

Sworn before me this _____ day of_____, 20___.

_____
(Name)

Notary Public for the state of_____.
Please affix State seal if you are commissioned outside South Carolina

V. UST INFORMATION

	Tank 1	Tank 2	Tank 3	Tank 4	Tank 5	Tank 6
A. Product..(ex. Gas, Kerosene).....	#2 DIESEL	#2 DIESEL				
B. Capacity..(ex. 1k, 2k)..... (APPROX)	280G ~~350G~~	280G				
C. Age.....						
D. Construction Material..(ex. Steel, FRP).....	Steel	STEEL				
E. Month/Year of Last Use.....						
F. Depth (ft.) To Base of Tank.....	44"	55"				
G. Spill Prevention Equipment Y/N.....	N	N				
H. Overfill Prevention Equipment Y/N.....	N	N				
I. Method of Closure (Removed/Filled).....	Removed	REMOVED				
J. Date Tanks Removed/Filled.....	6-21-07	6-21-07				
K. Visible Corrosion or Pitting Y/N.....	Y	N				
L. Visible Holes Y/N.....	Y	N				

M. Method of disposal for any USTs removed from the ground (attach disposal manifests)

Recycling - Scrap Steel

N. Method of disposal for any liquid petroleum, sludges, or wastewaters removed from the USTs (attach disposal manifests)

TREATMENT FACILITY - BROADHURST LANDFILL

Solidification & Subtitle D LAND FILL

O. If any corrosion, pitting, or holes were observed, describe the location and extent for each UST

TANK 01 HAD PREVIOUSLY BEEN CUT OPEN AND FILLED WITH SAND. SOME CORROSION WAS VISIBLE.

VI. PIPING INFORMATION

	Tank 1	Tank 2	Tank 3	Tank 4	Tank 5	Tank 6
A. Construction Material..(ex. Steel, FRP).....	Steel	STEEL				
B. Distance from UST to Dispenser.....	N/A	N/A				
C. Number of Dispensers.....	-0-	0				
D. Type of System Pressure or Suction.....	Electric Pump	PUMP				
E. Was Piping Removed from the Ground? Y/N	Y	Y				
F. Visible Corrosion or Pitting Y/N.....	N	N				
G. Visible Holes Y/N.....	N	N				
H. Age.....						

I. If any corrosion, pitting, or holes were observed, describe the location and extent for each piping run.

SOME VISIBLE CORROSION - TANK HAD been previously filled / closed in place.

VII. BRIEF SITE DESCRIPTION AND HISTORY

HOME HEATING OIL TANK - RESIDENTIAL

VIII. SITE CONDITIONS

	Yes	No	Unk
A. Were any petroleum-stained or contaminated soils found in the UST excavation, soil borings, trenches, or monitoring wells? If yes, indicate depth and location on the site map.		X	
B. Were any petroleum odors detected in the excavation, soil borings, trenches, or monitoring wells? If yes, indicate location on site map and describe the odor (strong, mild, etc.)	X		
C. Was water present in the UST excavation, soil borings, or trenches? If yes, how far below land surface (indicate location and depth)?		X	
D. Did contaminated soils remain stockpiled on site after closure? If yes, indicate the stockpile location on the site map. Name of DHEC representative authorizing soil removal:		X	
E. Was a petroleum sheen or free product detected on any excavation or boring waters? If yes, indicate location and thickness.		X	

IX. SAMPLE INFORMATION

A. SCDHEC Lab Certification Number DW: 84009002

B.

Sample #	Location	Sample Type (Soil/Water)	Soil Type (Sand/Clay)	Depth*	Date/Time of Collection	Collected by	OVA #
1	BOTTOM	S	SAND+CLAY	43"	6-21-07 940	[illegible]	ND
2	SIDE	S	"	30"	6-21-07 940	[illegible]	ND
3	BOTTOM	S	"	55"	6-21-07 1000	ECHEVARRIA	ND
4	SIDE	S	"	30"	6-21-07 1000	"	ND
5							
6							
7							
8							
9							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							

* = Depth Below the Surrounding Land Surface

X. SAMPLING METHODOLOGY

Provide a detailed description of the methods used to collect and store the samples. Also include the preservative used for each sample. Please use the space provided below.

EPA Method 8260 B Volatile Organic Compounds
- Preservative: 2 ea Sodium Bisulfate 1 ea
EPA Method 8270 Poly Aromatic Hydrocarbons
- No Preservative

One (1) Sidewall and One (1) Bottom Sample were secured from tank excavation Samples were stored and shipped in an insulated cooler w/ ice.

XI. RECEPTORS

	Yes	No
A. Are there any lakes, ponds, streams, or wetlands located within 1000 feet of the UST system? If yes, indicate type of receptor, distance, and direction on site map.		X
B. Are there any public, private, or irrigation water supply wells within 1000 feet of the UST system? If yes, indicate type of well, distance, and direction on site map.		✓
C. Are there any underground structures (e.g., basements) Located within 100 feet of the UST system? If yes, indicate type of structure, distance, and direction on site map.		✓
D. Are there any underground utilities (e.g., telephone, electricity, gas, water, sewer, storm drain) located within 100 feet of the UST system that could potentially come in contact with the contamination? If yes, indicate the type of utility, distance, and direction on the site map.		✓
E. Has contaminated soil been identified at a depth less than 3 feet below land surface in an area that is not capped by asphalt or concrete? If yes, indicate the area of contaminated soil on the site map.		✓

SUMMARY OF ANALYSIS RESULTS N/A

Enter the soil analytical data for each soil boring for all COC in the table below and on the following page.

CoC	SB-1	SB-2	SB-3	SB-4	SB-5	SB-6	SB-7	SB-8
Benzene								
Toluene								
Ethylbenzene								
Xylenes								
Naphthalene								
Benzo(a)anthracene								
Benzo(b)flouranthene								
Benzo(k)flouranthene								
Chrysene								
Dibenz(a,h)anthracene								
TPH (EPA 3550)								

CoC	SB-9	SB-10	SB-11	SB-12	SB-13	SB-14	SB-15	SB-16
Benzene								
Toluene								
Ethylbenzene								
Xylenes								
Naphthalene								
Benzo(a)anthracene								
Benzo(b)flouranthene								
Benzo(k)flouranthene								
Chrysene								
Dibenz(a,h)anthracene								
TPH (EPA 3550)								

SUMMARY OF ANALYSIS RESULTS (cont'd) N/A

Enter the ground water analytical data for each sample for all CoC in the table below. If free product is present, indicate the measured thickness to the nearest 0.01 feet.

CoC	RBSL (µg/l)	W-1	W-2	W -3	W -4
Free Product Thickness	None				
Benzene	5				
Toluene	1,000				
Ethylbenzene	700				
Xylenes	10,000				
Total BTEX	N/A				
MTBE	40				
Naphthalene	25				
Benzo(a)anthracene	10				
Benzo(b)flouranthene	10				
Benzo(k)flouranthene	10				
Chrysene	10				
Dibenz(a,h)anthracene	10				
EDB	.05				
1,2-DCA	.05				
Lead	Site specific				

ANALYTICAL RESULTS

You must submit the laboratory report and chain-of-custody form for the samples. These samples must be analyzed by a South Carolina certified laboratory.

(Attach Certified Analytical Results and Chain-of-Custody Here)
(Please see Form #4)

Client: EPG, INC.
PO BOX 1096
MT PLEASANT, SC 29465
Attn: JOHN MAHONEY

Work Order: OQF0493
Project: LAUREL BAY
Project Number: EP2362

Sampled: 06/19/07-06/22/07
Received: 06/27/07

LABORATORY REPORT

Sample ID: 283 BIRCH-SIDE 02 - Lab Number: OQF0493-06 - Matrix: Solid/Soil

CAS #	Analyte	Result	Q	Units	MDL	PQL	Dil Factor	Analyzed Date/Time	By	Method	Batch
Polynuclear Aromatic Hydrocarbons by EPA Method 8270 - Cont.											
)0-12-0	**1-Methylnaphthalene**	**101**	I	ug/kg dry	101	200	1	06/29/07 19:37	REM	EPA 8270C	7F28007
18-01-9	Chrysene	24.0	U	ug/kg dry	24.0	200	1	06/29/07 19:37	REM	EPA 8270C	7F28007
3-70-3	Dibenz (a,h) anthracene	26.3	U	ug/kg dry	26.3	200	1	06/29/07 19:37	REM	EPA 8270C	7F28007
06-44-0	Fluoranthene	28.8	U	ug/kg dry	28.8	200	1	06/29/07 19:37	REM	EPA 8270C	7F28007
6-73-7	Fluorene	78.4	U	ug/kg dry	78.4	200	1	06/29/07 19:37	REM	EPA 8270C	7F28007
93-39-5	Indeno (1,2,3-cd) pyrene	25.9	U	ug/kg dry	25.9	200	1	06/29/07 19:37	REM	EPA 8270C	7F28007
1-57-6	2-Methylnaphthalene	85.4	U	ug/kg dry	85.4	200	1	06/29/07 19:37	REM	EPA 8270C	7F28007
1-20-3	Naphthalene	80.4	U	ug/kg dry	80.4	200	1	06/29/07 19:37	REM	EPA 8270C	7F28007
5-01-8	**Phenanthrene**	**73.1**	I	ug/kg dry	47.2	200	1	06/29/07 19:37	REM	EPA 8270C	7F28007
29-00-0	Pyrene	40.7	U	ug/kg dry	40.7	200	1	06/29/07 19:37	REM	EPA 8270C	7F28007
urrogate: 2-Fluorobiphenyl (24-121%)		*65 %*									
urrogate: Nitrobenzene-d5 (19-111%)		*67 %*									
urrogate: Terphenyl-d14 (44-171%)		*93 %*									

LABORATORY REPORT

Sample ID: 293 BIRCH-BOTTOM 01 - Lab Number: OQF0493-07 - Matrix: Solid/Soil

CAS #	Analyte	Result	Q	Units	MDL	PQL	Dil Factor	Analyzed Date/Time	By	Method	Batch
eneral Chemistry Parameters											
A	% Solids	**75.7**		%.	0.100	0.100	1	06/28/07 18:30	RRP	EPA 160.3	7F28050
olatile Organic Compounds by EPA Method 8260B											
-43-2	Benzene	10.0	U	ug/kg dry	10.0	27.3	50	06/29/07 11:22	JLS	EPA 8260B	7F27039
0-41-4	**Ethylbenzene**	**26.2**	I	ug/kg dry	11.6	27.3	50	06/29/07 11:22	JLS	EPA 8260B	7F27039
-20-3	**Naphthalene**	**243**		ug/kg dry	15.1	27.3	50	06/29/07 11:22	JLS	EPA 8260B	7F27039
8-88-3	Toluene	23.6	U	ug/kg dry	23.6	27.3	50	06/29/07 11:22	JLS	EPA 8260B	7F27039
30-20-7	Xylenes, total	14.2	U	ug/kg dry	14.2	27.3	50	06/29/07 11:22	JLS	EPA 8260B	7F27039
rrogate: 1,2-Dichloroethane-d4 (73-137%)		*79 %*									
rrogate: 4-Bromofluorobenzene (59-118%)		*94 %*									
rrogate: Dibromofluoromethane (55-145%)		*94 %*									
rrogate: Toluene-d8 (80-117%)		*101 %*									
lynuclear Aromatic Hydrocarbons by EPA Method 8270											
-32-9	Acenaphthene	**2130**		ug/kg dry	97.7	221	1	06/29/07 19:59	REM	EPA 8270C	7F28007
3-96-8	Acenaphthylene	129	U	ug/kg dry	129	221	1	06/29/07 19:59	REM	EPA 8270C	7F28007
)-12-7	**Anthracene**	**1210**		ug/kg dry	70.3	221	1	06/29/07 19:59	REM	EPA 8270C	7F28007
55-3	Benzo (a) anthracene	23.9	U	ug/kg dry	23.9	221	1	06/29/07 19:59	REM	EPA 8270C	7F28007
5-99-2	Benzo (b) fluoranthene	23.2	U	ug/kg dry	23.2	221	1	06/29/07 19:59	REM	EPA 8270C	7F28007
'-08-9	Benzo (k) fluoranthene	23.2	U	ug/kg dry	23.2	221	1	06/29/07 19:59	REM	EPA 8270C	7F28007
-24-2	Benzo (g,h,i) perylene	22.9	U	ug/kg dry	22.9	221	1	06/29/07 19:59	REM	EPA 8270C	7F28007
32-8	Benzo (a) pyrene	27.1	U	ug/kg dry	27.1	221	1	06/29/07 19:59	REM	EPA 8270C	7F28007
12-0	**1-Methylnaphthalene**	**24700**		ug/kg dry	1110	2210	10	07/02/07 22:12	REM	EPA 8270C	7F28007
-01-9	Chrysene	**72.2**	I	ug/kg dry	26.4	221	1	06/29/07 19:59	REM	EPA 8270C	7F28007
70-3	Dibenz (a,h) anthracene	29.0	U	ug/kg dry	29.0	221	1	06/29/07 19:59	REM	EPA 8270C	7F28007
-44-0	Fluoranthene	31.7	U	ug/kg dry	31.7	221	1	06/29/07 19:59	REM	EPA 8270C	7F28007

Client: EPG, INC.
PO BOX 1096
MT PLEASANT, SC 29465
Attn: JOHN MAHONEY

Work Order: OQF0493
Project: LAUREL BAY
Project Number: EP2362

Sampled: 06/19/07-06/22/07
Received: 06/27/07

LABORATORY REPORT
Sample ID: 293 BIRCH-BOTTOM 01 - Lab Number: OQF0493-07 - Matrix: Solid/Soil

CAS #	Analyte	Result	Q	Units	MDL	PQL	Dil Factor	Analyzed Date/Time	By	Method	Batch
Polynuclear Aromatic Hydrocarbons by EPA Method 8270 - Cont.											
36-73-7	**Fluorene**	**3220**		ug/kg dry	86.3	221	1	06/29/07 19:59	REM	EPA 8270C	7F28007
193-39-5	Indeno (1,2,3-cd) pyrene	28.5	U	ug/kg dry	28.5	221	1	06/29/07 19:59	REM	EPA 8270C	7F28007
91-57-6	**2-Methylnaphthalene**	**42600**		ug/kg dry	940	2210	10	07/02/07 22:12	REM	EPA 8270C	7F28007
91-20-3	**Naphthalene**	**5990**		ug/kg dry	88.6	221	1	06/29/07 19:59	REM	EPA 8270C	7F28007
85-01-8	**Phenanthrene**	**7670**		ug/kg dry	52.0	221	1	06/29/07 19:59	REM	EPA 8270C	7F28007
129-00-0	**Pyrene**	**693**		ug/kg dry	44.8	221	1	06/29/07 19:59	REM	EPA 8270C	7F28007
Surrogate: 2-Fluorobiphenyl (24-121%)		*87 %*									
Surrogate: Nitrobenzene-d5 (19-111%)		*91 %*									
Surrogate: Terphenyl-d14 (44-171%)		*100 %*									

LABORATORY REPORT
Sample ID: 293 BIRCH-SIDE 02 - Lab Number: OQF0493-08 - Matrix: Solid/Soil

CAS #	Analyte	Result	Q	Units	MDL	PQL	Dil Factor	Analyzed Date/Time	By	Method	Batch
General Chemistry Parameters											
NA	**% Solids**	**80.9**		%.	0.100	0.100	1	06/28/07 18:30	RRP	EPA 160.3	7F28050
Volatile Organic Compounds by EPA Method 8260B											
71-43-2	Benzene	0.198	U	ug/kg dry	0.198	0.540	1	06/27/07 15:22	JLS	EPA 8260B	7F27039
100-41-4	Ethylbenzene	0.229	U	ug/kg dry	0.229	0.540	1	06/27/07 15:22	JLS	EPA 8260B	7F27039
91-20-3	Naphthalene	0.299	U	ug/kg dry	0.299	0.540	1	06/27/07 15:22	JLS	EPA 8260B	7F27039
108-88-3	Toluene	0.467	U	ug/kg dry	0.467	0.540	1	06/27/07 15:22	JLS	EPA 8260B	7F27039
1330-20-7	Xylenes, total	0.281	U	ug/kg dry	0.281	0.540	1	06/27/07 15:22	JLS	EPA 8260B	7F27039
Surrogate: 1,2-Dichloroethane-d4 (73-137%)		*89 %*									
Surrogate: 4-Bromofluorobenzene (59-118%)		*86 %*									
Surrogate: Dibromofluoromethane (55-145%)		*98 %*									
Surrogate: Toluene-d8 (70-130%)		*99 %*									
Polynuclear Aromatic Hydrocarbons by EPA Method 8270											
83-32-9	Acenaphthene	91.5	U	ug/kg dry	91.5	207	1	06/29/07 20:20	REM	EPA 8270C	7F28007
208-96-8	Acenaphthylene	121	U	ug/kg dry	121	207	1	06/29/07 20:20	REM	EPA 8270C	7F28007
120-12-7	Anthracene	65.8	U	ug/kg dry	65.8	207	1	06/29/07 20:20	REM	EPA 8270C	7F28007
56-55-3	Benzo (a) anthracene	22.4	U	ug/kg dry	22.4	207	1	06/29/07 20:20	REM	EPA 8270C	7F28007
205-99-2	Benzo (b) fluoranthene	21.7	U	ug/kg dry	21.7	207	1	06/29/07 20:20	REM	EPA 8270C	7F28007
207-08-9	Benzo (k) fluoranthene	21.7	U	ug/kg dry	21.7	207	1	06/29/07 20:20	REM	EPA 8270C	7F28007
191-24-2	Benzo (g,h,i) perylene	21.4	U	ug/kg dry	21.4	207	1	06/29/07 20:20	REM	EPA 8270C	7F28007
50-32-8	Benzo (a) pyrene	25.4	U	ug/kg dry	25.4	207	1	06/29/07 20:20	REM	EPA 8270C	7F28007
90-12-0	1-Methylnaphthalene	104	U	ug/kg dry	104	207	1	06/29/07 20:20	REM	EPA 8270C	7F28007
218-01-9	Chrysene	24.7	U	ug/kg dry	24.7	207	1	06/29/07 20:20	REM	EPA 8270C	7F28007
53-70-3	Dibenz (a,h) anthracene	27.1	U	ug/kg dry	27.1	207	1	06/29/07 20:20	REM	EPA 8270C	7F28007
206-44-0	Fluoranthene	29.7	U	ug/kg dry	29.7	207	1	06/29/07 20:20	REM	EPA 8270C	7F28007
86-73-7	Fluorene	80.8	U	ug/kg dry	80.8	207	1	06/29/07 20:20	REM	EPA 8270C	7F28007
193-39-5	Indeno (1,2,3-cd) pyrene	26.7	U	ug/kg dry	26.7	207	1	06/29/07 20:20	REM	EPA 8270C	7F28007
91-57-6	2-Methylnaphthalene	88.0	U	ug/kg dry	88.0	207	1	06/29/07 20:20	REM	EPA 8270C	7F28007
91-20-3	Naphthalene	82.9	U	ug/kg dry	82.9	207	1	06/29/07 20:20	REM	EPA 8270C	7F28007

Client: EPG, INC.
PO BOX 1096
MT PLEASANT, SC 29465
Attn: JOHN MAHONEY

Work Order: OQF0493
Project: LAUREL BAY
Project Number: EP2362

Sampled: 06/19/07-06/22/07
Received: 06/27/07

LABORATORY REPORT
Sample ID: 293 BIRCH-SIDE 02 - Lab Number: OQF0493-08 - Matrix: Solid/Soil

CAS #	Analyte	Result	Q	Units	MDL	PQL	Dil Factor	Analyzed Date/Time	By	Method	Batch
Polynuclear Aromatic Hydrocarbons by EPA Method 8270 - Cont.											
5-01-8	Phenanthrene	48.7	U	ug/kg dry	48.7	207	1	06/29/07 20:20	REM	EPA 8270C	7F28007
29-00-0	Pyrene	42.0	U	ug/kg dry	42.0	207	1	06/29/07 20:20	REM	EPA 8270C	7F28007
urrogate: 2-Fluorobiphenyl (24-121%)		*56 %*									
urrogate: Nitrobenzene-d5 (19-111%)		*56 %*									
urrogate: Terphenyl-d14 (44-171%)		*99 %*									

LABORATORY REPORT
Sample ID: 293 BIRCH-BOTTOM 03 - Lab Number: OQF0493-09 - Matrix: Solid/Soil

CAS #	Analyte	Result	Q	Units	MDL	PQL	Dil Factor	Analyzed Date/Time	By	Method	Batch
Jeneral Chemistry Parameters											
A	% Solids	77.0		%.	0.100	0.100	1	06/28/07 18:30	RRP	EPA 160.3	7F28050
Volatile Organic Compounds by EPA Method 8260B											
1-43-2	Benzene	0.210	U	ug/kg dry	0.210	0.573	1	06/27/07 15:39	JLS	EPA 8260B	7F27039
00-41-4	Ethylbenzene	0.242	U	ug/kg dry	0.242	0.573	1	06/27/07 15:39	JLS	EPA 8260B	7F27039
1-20-3	Naphthalene	1.09		ug/kg dry	0.316	0.573	1	06/27/07 15:39	JLS	EPA 8260B	7F27039
08-88-3	Toluene	0.495	U	ug/kg dry	0.495	0.573	1	06/27/07 15:39	JLS	EPA 8260B	7F27039
130-20-7	Xylenes, total	0.297	U	ug/kg dry	0.297	0.573	1	06/27/07 15:39	JLS	EPA 8260B	7F27039
urrogate: 1,2-Dichloroethane-d4 (73-137%)		*83 %*									
urrogate: 4-Bromofluorobenzene (59-118%)		*87 %*									
urrogate: Dibromofluoromethane (55-145%)		*97 %*									
urrogate: Toluene-d8 (70-130%)		*96 %*									
olynuclear Aromatic Hydrocarbons by EPA Method 8270											
-32-9	Acenaphthene	97.0	I	ug/kg dry	96.1	217	1	06/29/07 20:42	REM	EPA 8270C	7F28007
8-96-8	Acenaphthylene	127	U	ug/kg dry	127	217	1	06/29/07 20:42	REM	EPA 8270C	7F28007
0-12-7	Anthracene	291		ug/kg dry	69.2	217	1	06/29/07 20:42	REM	EPA 8270C	7F28007
-55-3	Benzo (a) anthracene	1010		ug/kg dry	23.5	217	1	06/29/07 20:42	REM	EPA 8270C	7F28007
5-99-2	Benzo (b) fluoranthene	755		ug/kg dry	22.8	217	1	06/29/07 20:42	REM	EPA 8270C	7F28007
7-08-9	Benzo (k) fluoranthene	678		ug/kg dry	22.8	217	1	06/29/07 20:42	REM	EPA 8270C	7F28007
1-24-2	Benzo (g,h,i) perylene	387		ug/kg dry	22.5	217	1	06/29/07 20:42	REM	EPA 8270C	7F28007
-32-8	Benzo (a) pyrene	723		ug/kg dry	26.7	217	1	06/29/07 20:42	REM	EPA 8270C	7F28007
-12-0	1-Methylnaphthalene	109	U	ug/kg dry	109	217	1	06/29/07 20:42	REM	EPA 8270C	7F28007
3-01-9	Chrysene	965		ug/kg dry	25.9	217	1	06/29/07 20:42	REM	EPA 8270C	7F28007
-70-3	Dibenz (a,h) anthracene	166	I	ug/kg dry	28.5	217	1	06/29/07 20:42	REM	EPA 8270C	7F28007
5-44-0	Fluoranthene	1650		ug/kg dry	31.2	217	1	06/29/07 20:42	REM	EPA 8270C	7F28007
73-7	Fluorene	121	I	ug/kg dry	84.9	217	1	06/29/07 20:42	REM	EPA 8270C	7F28007
3-39-5	Indeno (1,2,3-cd) pyrene	370		ug/kg dry	28.1	217	1	06/29/07 20:42	REM	EPA 8270C	7F28007
57-6	2-Methylnaphthalene	92.5	U	ug/kg dry	92.5	217	1	06/29/07 20:42	REM	EPA 8270C	7F28007
20-3	Naphthalene	87.1	U	ug/kg dry	87.1	217	1	06/29/07 20:42	REM	EPA 8270C	7F28007
01-8	Phenanthrene	1130		ug/kg dry	51.2	217	1	06/29/07 20:42	REM	EPA 8270C	7F28007
-00-0	Pyrene	1270		ug/kg dry	44.1	217	1	06/29/07 20:42	REM	EPA 8270C	7F28007
rogate: 2-Fluorobiphenyl (24-121%)		*51 %*									
rogate: Nitrobenzene-d5 (19-111%)		*50 %*									

Client: EPG, INC.
PO BOX 1096
MT PLEASANT, SC 29465
Attn: JOHN MAHONEY

Work Order: OQF0493
Project: LAUREL BAY
Project Number: EP2362

Sampled: 06/19/07-06/22/07
Received: 06/27/07

LABORATORY REPORT
Sample ID: 293 BIRCH-BOTTOM 03 - Lab Number: OQF0493-09 - Matrix: Solid/Soil

CAS #	Analyte	Result	Q	Units	MDL	PQL	Dil Factor	Analyzed Date/Time	By	Method	Batch
Polynuclear Aromatic Hydrocarbons by EPA Method 8270 - Cont.											
urrogate: Terphenyl-d14 (44-171%)		*85 %*									

LABORATORY REPORT
Sample ID: 293 BIRCH-SIDE 04 - Lab Number: OQF0493-10 - Matrix: Solid/Soil

CAS #	Analyte	Result	Q	Units	MDL	PQL	Dil Factor	Analyzed Date/Time	By	Method	Batch
General Chemistry Parameters											
A	**% Solids**	**84.6**		%.	0.100	0.100	1	06/28/07 18:30	RRP	EPA 160.3	7F28050
Volatile Organic Compounds by EPA Method 8260B											
1-43-2	Benzene	0.202	U	ug/kg dry	0.202	0.553	1	06/27/07 15:56	JLS	EPA 8260B	7F27039
00-41-4	Ethylbenzene	0.234	U	ug/kg dry	0.234	0.553	1	06/27/07 15:56	JLS	EPA 8260B	7F27039
.-20-3	Naphthalene	0.305	U	ug/kg dry	0.305	0.553	1	06/27/07 15:56	JLS	EPA 8260B	7F27039
08-88-3	Toluene	0.477	U	ug/kg dry	0.477	0.553	1	06/27/07 15:56	JLS	EPA 8260B	7F27039
330-20-7	Xylenes, total	0.287	U	ug/kg dry	0.287	0.553	1	06/27/07 15:56	JLS	EPA 8260B	7F27039
:rrogate: 1,2-Dichloroethane-d4 (73-137%)		*89 %*									
'rrogate: 4-Bromofluorobenzene (59-118%)		*91 %*									
rrogate: Dibromofluoromethane (55-145%)		*96 %*									
rrogate: Toluene-d8 (70-130%)		*98 %*									
olynuclear Aromatic Hydrocarbons by EPA Method 8270											
-32-9	Acenaphthene	87.5	U	ug/kg dry	87.5	197	1	06/29/07 21:04	REM	EPA 8270C	7F28007
8-96-8	Acenaphthylene	116	U	ug/kg dry	116	197	1	06/29/07 21:04	REM	EPA 8270C	7F28007
0-12-7	Anthracene	63.0	U	ug/kg dry	63.0	197	1	06/29/07 21:04	REM	EPA 8270C	7F28007
-55-3	Benzo (a) anthracene	21.4	U	ug/kg dry	21.4	197	1	06/29/07 21:04	REM	EPA 8270C	7F28007
5-99-2	Benzo (b) fluoranthene	20.8	U	ug/kg dry	20.8	197	1	06/29/07 21:04	REM	EPA 8270C	7F28007
7-08-9	Benzo (k) fluoranthene	20.8	U	ug/kg dry	20.8	197	1	06/29/07 21:04	REM	EPA 8270C	7F28007
1-24-2	Benzo (g,h,i) perylene	20.5	U	ug/kg dry	20.5	197	1	06/29/07 21:04	REM	EPA 8270C	7F28007
32-8	Benzo (a) pyrene	24.3	U	ug/kg dry	24.3	197	1	06/29/07 21:04	REM	EPA 8270C	7F28007
12-0	1-Methylnaphthalene	99.1	U	ug/kg dry	99.1	197	1	06/29/07 21:04	REM	EPA 8270C	7F28007
1-01-9	Chrysene	23.6	U	ug/kg dry	23.6	197	1	06/29/07 21:04	REM	EPA 8270C	7F28007
70-3	Dibenz (a,h) anthracene	25.9	U	ug/kg dry	25.9	197	1	06/29/07 21:04	REM	EPA 8270C	7F28007
-44-0	Fluoranthene	28.4	U	ug/kg dry	28.4	197	1	06/29/07 21:04	REM	EPA 8270C	7F28007
73-7	Fluorene	77.3	U	ug/kg dry	77.3	197	1	06/29/07 21:04	REM	EPA 8270C	7F28007
-39-5	Indeno (1,2,3-cd) pyrene	25.6	U	ug/kg dry	25.6	197	1	06/29/07 21:04	REM	EPA 8270C	7F28007
57-6	2-Methylnaphthalene	84.2	U	ug/kg dry	84.2	197	1	06/29/07 21:04	REM	EPA 8270C	7F28007
20-3	Naphthalene	79.3	U	ug/kg dry	79.3	197	1	06/29/07 21:04	REM	EPA 8270C	7F28007
01-8	Phenanthrene	46.6	U	ug/kg dry	46.6	197	1	06/29/07 21:04	REM	EPA 8270C	7F28007
-00-0	Pyrene	40.1	U	ug/kg dry	40.1	197	1	06/29/07 21:04	REM	EPA 8270C	7F28007
'ogate: 2-Fluorobiphenyl (24-121%)		*60 %*									
'ogate: Nitrobenzene-d5 (19-111%)		*60 %*									
ogate: Terphenyl-d14 (44-171%)		*98 %*									

DQF0493 page 1 of 2

TestAmerica
ANALYTICAL TESTING CORPORATION

To assist us in using the proper analytical methods, is this work being conducted for regulatory purposes?
Compliance Monitoring ____

Client Name: EPG Client #: 2411
Address:
City/State/Zip Code:
Project Manager: JOHN MAHONEY
Telephone Number: Fax:
Sampler Name: (Print Name) CHRIS ECHEVARRIA
Sampler Signature:

Project Name: LAUREL BAY
Project #: EP 2362
Site/Location ID: State:
Report To:
Invoice To:
Quote #: PO#:

TAT
X Standard
___ Rush (surcharges may apply)
Date Needed: ____
Fax Results: Y N

SAMPLE ID	Date Sampled	Time Sampled	G = Grab, C = Composite	Field Filtered	Matrix: SL - Sludge DW - Drinking Water GW - Groundwater S - Soil/Solid WW - Wastewater Specify Other	Preservation & # of Containers: HNO_3	HCl	NaOH	H_2SO_4	Methanol	None	Other (Specify)	Analyze For: BTEX + NAPTH-8260	PAH 8270	REMARKS
281 BIRCH-BOTTOM 01	6-19-07	1400	G							1	2	2	X	X	01
281 BIRCH-SIDE 02	6-19-07	1400	C							1	2	2	X	X	02
281 BIRCH-BOTTOM 03	6-19-07	1410	G							1	2	2	X	X	03
281 BIRCH-SIDE 04	6-19-07	1410	C							1	2	2	X	X	04
283 BIRCH BOTTOM 01	6-20-07	1130	G							1	2	2	X	X	05
283 BIRCH SIDE 02	6-20-07	1140	C							1	2	2	X	X	06
293 BIRCH BOTTOM 01	6-21-07	940	G							1	2	2	X	X	07
293 BIRCH SIDE 02	6-21-07	940	C							1	2	2	X	X	08
293 BIRCH BOTTOM 03	6-21-07	1000	G							1	2	2	X	X	09
293 BIRCH SIDE 04	6-21-07	1000	C							1	2	2	X	X	10

QC Deliverables
___ None
X Level 2 (Batch QC)
___ Level 3
___ Level 4
Other: ____

Special Instructions:

	Date	Time		Date	Time
Relinquished By:	6/26/07	1205	Received By:	6/26/07	1205
Relinquished By:	6/26/07	1730	Received By:	6/27	9:50
Relinquished By:	Date:	Time:	Received By:	Date:	Time:

LABORATORY COMMENTS:
Init Lab Temp:
Rec Lab Temp: 6.0
Custody Seals: Y N N/A
Bottles Supplied by Test America: Y N
8623 2591 1107
Method of Shipment: FedEx to TA-Orlando

TestAmerica
ANALYTICAL TESTING CORPORATION

To assist us in using the proper analytical methods, is this work being conducted for regulatory purposes?
Compliance Monitoring ____

Client Name: EPS Client #: 2411
Address:
City/State/Zip Code:
Project Manager: JOHN MAHONEY
Telephone Number: Fax:
Sampler Name: (Print Name) CHRIS ECHEVARRIA
Sampler Signature:

Project Name: LAUREL BAY
Project #: EP 2362
Site/Location ID: State:
Report To:
Invoice To:
Quote #: PO#:

TAT: X Standard; ___ Rush (surcharges may apply)
Date Needed:
Fax Results: Y N

SAMPLE ID	Date Sampled	Time Sampled	G = Grab, C = Composite	Field Filtered	Matrix: SL - Sludge, DW - Drinking Water, GW - Groundwater, S - Soil/Solid, WW - Wastewater, Specify Other	Preservation & # of Containers: HNO_3	HCl	NaOH	H_2SO_4	Methanol	None	Other (Specify)	Analyze For: BTEX + NAPTH 8260	PAH 8270	
299 BIRCH BOTTOM 01	6-22-07	930	G							1	2	2	X	X	11
299 BIRCH SIDE 02	6-22-07	940	C							1	2	2	X	X	12
299 BIRCH BOTTOM 03	6-22-07	1040	C							1	2	2	X	X	13
299 BIRCH SIDE 04	6-22-07	1100	C							1	2	2	X	X	14
392 ACORN BOTTOM 01	6-22-07	1430	G							1	2	2	X	X	15
392 ACORN SIDE 02	6-22-07	1440	C							1	2	2	X	X	16

QC Deliverables: ___ None; X Level 2 (Batch QC); ___ Level 3; ___ Level 4; Other: ____

REMARKS

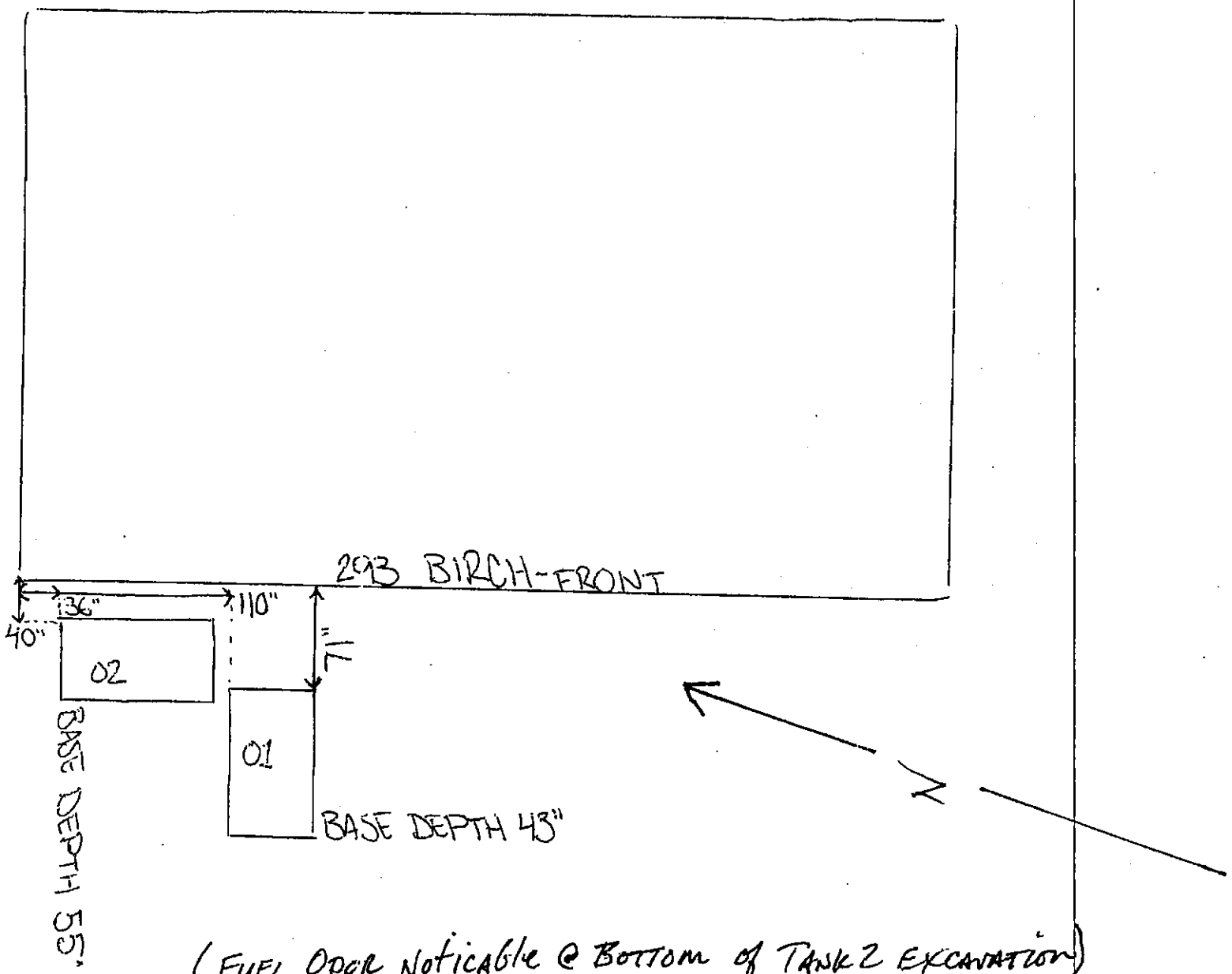
Special Instructions:

	Date	Time		Date	Time
Relinquished By:	6/27/07	12:05	Received By:	6/27/07	1205
Relinquished By:	6/27/07	1730	Received By:	6/27	9:50
Relinquished By:	Date:	Time:	Received By:	Date:	Time:

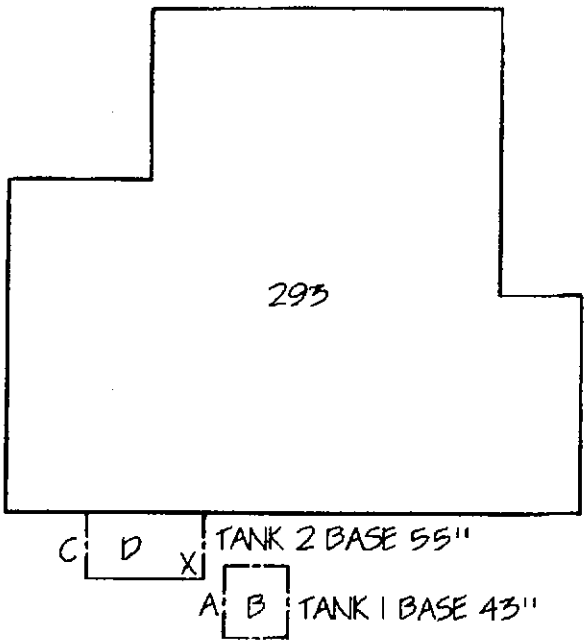
LABORATORY COMMENTS:
Init Lab Temp: 6.0
Rec Lab Temp: 6.
Custody Seals: Y N N/A
Bottles Supplied by Test America: Y N
Method of Shipment: 0623 2591 1107 FedEx TA-Orlando


06.21.2007 10:24
293 Birch


06.21.2007 10:24
293 Beach



(FUEL ODOR NOTICABLE @ BOTTOM OF TANK 2 EXCAVATION)



BIRCH DRIVE

N

TANK 1 EXCAVATION

A-SOIL TEST SIDE SAMPLE @ 32"
B-SOIL TEST BOTTOM SAMPLE @ 43"

TANK 2 EXCAVATION

C-SOIL TEST SIDE SAMPLE @ 44"
D-SOIL TEST BOTTOM SAMPLE @ 55"

CUSTOMER: BEAUFORT MILITARY COMPLEX FAMILY HOUSING	SCALE: 1/16"=1'-0"	EPG INC.
SITE ADDRESS: 293 BIRCH DRIVE	SUPPLIER: EPG INC.	P.O. BOX 1096
	DATE: 9/27/2007	MOUNT PLEASANT, SC 29465-1096

Appendix C
Laboratory Analytical Report - Groundwater

CDM - AECOM
Multimedia Joint Venture

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

ANALYTICAL RESULTS

Project: LAUREL BAY 7/30/08
Pace Project No.: 9224584

Sample: 201 BALSAM A **Lab ID: 9224584004** Collected: 07/30/08 11:00 Received: 08/01/08 07:55 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV PAH by SIM SPE	Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3535							
Nitrobenzene-d5 (S)	53	%	50-150	1	08/04/08 00:00	08/13/08 08:44	4165-60-0	
2-Fluorobiphenyl (S)	52	%	50-150	1	08/04/08 00:00	08/13/08 08:44	321-60-8	
Terphenyl-d14 (S)	64	%	50-150	1	08/04/08 00:00	08/13/08 08:44	1718-51-0	
8260 MSV Low Level	Analytical Method: EPA 8260							
Benzene	**4.5**	ug/L	1.0	1		08/05/08 16:45	71-43-2	
Ethylbenzene	**12.9**	ug/L	1.0	1		08/05/08 16:45	100-41-4	
Naphthalene	**62.8**	ug/L	2.0	1		08/05/08 16:45	91-20-3	
Toluene	ND	ug/L	1.0	1		08/05/08 16:45	108-88-3	
m&p-Xylene	**10.0**	ug/L	2.0	1		08/05/08 16:45	1330-20-7	
o-Xylene	ND	ug/L	1.0	1		08/05/08 16:45	95-47-6	
4-Bromofluorobenzene (S)	98	%	87-109	1		08/05/08 16:45	460-00-4	
Dibromofluoromethane (S)	95	%	85-115	1		08/05/08 16:45	1868-53-7	
1,2-Dichloroethane-d4 (S)	98	%	79-120	1		08/05/08 16:45	17060-07-0	
Toluene-d8 (S)	100	%	70-120	1		08/05/08 16:45	2037-26-5	

Sample: 293 BIRCH A **Lab ID: 9224584005** Collected: 07/30/08 11:30 Received: 08/01/08 07:55 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV PAH by SIM SPE	Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3535							
Acenaphthene	ND	ug/L	2.0	1	08/04/08 00:00	08/13/08 09:07	83-32-9	
Acenaphthylene	ND	ug/L	1.5	1	08/04/08 00:00	08/13/08 09:07	208-96-8	
Anthracene	ND	ug/L	0.050	1	08/04/08 00:00	08/13/08 09:07	120-12-7	
Benzo(a)anthracene	ND	ug/L	0.10	1	08/04/08 00:00	08/13/08 09:07	56-55-3	
Benzo(a)pyrene	ND	ug/L	0.20	1	08/04/08 00:00	08/13/08 09:07	50-32-8	
Benzo(b)fluoranthene	ND	ug/L	0.30	1	08/04/08 00:00	08/13/08 09:07	205-99-2	
Benzo(g,h,i)perylene	ND	ug/L	0.20	1	08/04/08 00:00	08/13/08 09:07	191-24-2	
Benzo(k)fluoranthene	ND	ug/L	0.20	1	08/04/08 00:00	08/13/08 09:07	207-08-9	
Chrysene	ND	ug/L	0.10	1	08/04/08 00:00	08/13/08 09:07	218-01-9	
Dibenz(a,h)anthracene	ND	ug/L	0.20	1	08/04/08 00:00	08/13/08 09:07	53-70-3	
Fluoranthene	ND	ug/L	0.30	1	08/04/08 00:00	08/13/08 09:07	206-44-0	
Fluorene	ND	ug/L	0.31	1	08/04/08 00:00	08/13/08 09:07	86-73-7	
Indeno(1,2,3-cd)pyrene	ND	ug/L	0.20	1	08/04/08 00:00	08/13/08 09:07	193-39-5	
1-Methylnaphthalene	ND	ug/L	2.0	1	08/04/08 00:00	08/13/08 09:07	90-12-0	
2-Methylnaphthalene	ND	ug/L	2.0	1	08/04/08 00:00	08/13/08 09:07	91-57-6	
Naphthalene	ND	ug/L	1.5	1	08/04/08 00:00	08/13/08 09:07	91-20-3	
Phenanthrene	ND	ug/L	0.20	1	08/04/08 00:00	08/13/08 09:07	85-01-8	
Pyrene	ND	ug/L	0.10	1	08/04/08 00:00	08/13/08 09:07	129-00-0	
Nitrobenzene-d5 (S)	56	%	50-150	1	08/04/08 00:00	08/13/08 09:07	4165-60-0	
2-Fluorobiphenyl (S)	55	%	50-150	1	08/04/08 00:00	08/13/08 09:07	321-60-8	
Terphenyl-d14 (S)	79	%	50-150	1	08/04/08 00:00	08/13/08 09:07	1718-51-0	
8260 MSV Low Level	Analytical Method: EPA 8260							
Benzene	**0.0**	ug/L		1		08/06/08 12:30	71-43-2	

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

ANALYTICAL RESULTS

Project: LAUREL BAY 7/30/08
Pace Project No.: 9224584

Sample: 293 BIRCH A **Lab ID: 9224584005** Collected: 07/30/08 11:30 Received: 08/01/08 07:55 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level	Analytical Method: EPA 8260							
Ethylbenzene	0.0	ug/L		1		08/06/08 12:30	100-41-4	
Naphthalene	0.32	ug/L		1		08/06/08 12:30	91-20-3	
Toluene	0.0	ug/L		1		08/06/08 12:30	108-88-3	
m&p-Xylene	0.0	ug/L		1		08/06/08 12:30	1330-20-7	
o-Xylene	0.0	ug/L		1		08/06/08 12:30	95-47-6	
4-Bromofluorobenzene (S)	98	%	87-109	1		08/06/08 12:30	460-00-4	
Dibromofluoromethane (S)	96	%	85-115	1		08/06/08 12:30	1868-53-7	
1,2-Dichloroethane-d4 (S)	99	%	79-120	1		08/06/08 12:30	17060-07-0	
Toluene-d8 (S)	101	%	70-120	1		08/06/08 12:30	2037-26-5	

Sample: 565 DAHLIA A **Lab ID: 9224584006** Collected: 07/30/08 13:00 Received: 08/01/08 07:55 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV PAH by SIM SPE	Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3535							
Acenaphthene	ND	ug/L	2.0	1	08/04/08 00:00	08/13/08 09:31	83-32-9	
Acenaphthylene	ND	ug/L	1.5	1	08/04/08 00:00	08/13/08 09:31	208-96-8	
Anthracene	ND	ug/L	0.050	1	08/04/08 00:00	08/13/08 09:31	120-12-7	
Benzo(a)anthracene	ND	ug/L	0.10	1	08/04/08 00:00	08/13/08 09:31	56-55-3	
Benzo(a)pyrene	ND	ug/L	0.20	1	08/04/08 00:00	08/13/08 09:31	50-32-8	
Benzo(b)fluoranthene	ND	ug/L	0.30	1	08/04/08 00:00	08/13/08 09:31	205-99-2	
Benzo(g,h,i)perylene	ND	ug/L	0.20	1	08/04/08 00:00	08/13/08 09:31	191-24-2	
Benzo(k)fluoranthene	ND	ug/L	0.20	1	08/04/08 00:00	08/13/08 09:31	207-08-9	
Chrysene	ND	ug/L	0.10	1	08/04/08 00:00	08/13/08 09:31	218-01-9	
Dibenz(a,h)anthracene	ND	ug/L	0.20	1	08/04/08 00:00	08/13/08 09:31	53-70-3	
Fluoranthene	ND	ug/L	0.30	1	08/04/08 00:00	08/13/08 09:31	206-44-0	
Fluorene	ND	ug/L	0.31	1	08/04/08 00:00	08/13/08 09:31	86-73-7	
Indeno(1,2,3-cd)pyrene	ND	ug/L	0.20	1	08/04/08 00:00	08/13/08 09:31	193-39-5	
1-Methylnaphthalene	ND	ug/L	2.0	1	08/04/08 00:00	08/13/08 09:31	90-12-0	
2-Methylnaphthalene	ND	ug/L	2.0	1	08/04/08 00:00	08/13/08 09:31	91-57-6	
Naphthalene	ND	ug/L	1.5	1	08/04/08 00:00	08/13/08 09:31	91-20-3	
Phenanthrene	0.29	ug/L	0.20	1	08/04/08 00:00	08/13/08 09:31	85-01-8	
Pyrene	ND	ug/L	0.10	1	08/04/08 00:00	08/13/08 09:31	129-00-0	
Nitrobenzene-d5 (S)	54	%	50-150	1	08/04/08 00:00	08/13/08 09:31	4165-60-0	
2-Fluorobiphenyl (S)	57	%	50-150	1	08/04/08 00:00	08/13/08 09:31	321-60-8	
Terphenyl-d14 (S)	73	%	50-150	1	08/04/08 00:00	08/13/08 09:31	1718-51-0	
8260 MSV Low Level	Analytical Method: EPA 8260							
Benzene	ND	ug/L	1.0	1		08/07/08 22:11	71-43-2	
Ethylbenzene	ND	ug/L	1.0	1		08/07/08 22:11	100-41-4	
Naphthalene	ND	ug/L	2.0	1		08/07/08 22:11	91-20-3	
Toluene	ND	ug/L	1.0	1		08/07/08 22:11	108-88-3	
m&p-Xylene	ND	ug/L	2.0	1		08/07/08 22:11	1330-20-7	
o-Xylene	ND	ug/L	1.0	1		08/07/08 22:11	95-47-6	
4-Bromofluorobenzene (S)	97	%	87-109	1		08/07/08 22:11	460-00-4	

Appendix D
Regulatory Correspondence

CDM - AECOM
Multimedia Joint Venture

D H E C
PROMOTE PROTECT PROSPER

8 September 2008

Beaufort Military Complex Family Housing
ATTN: Kyle Broadfoot
1510 Laurel Bay Blvd.
Beaufort, SC 29906

Re: MCAS – Laurel Bay Housing – 293 Birch
Site ID # 04039
UST Closure Reports received 31 January 2008
Beaufort County

Dear Mr. Broadfoot:

The purpose of this letter is to verify a release of fuel oil at the referenced residence. According to information received by the Department, the source of the release is from past onsite use of fuel oil USTs. To date, initial activities by the facility have included tank removal and soil sampling. Based on the information contained in the closure report, a potential violation of the South Carolina Pollution Control Act has occurred in that there has been an unauthorized release of petroleum to the environment.

Additional assessment activities are required for this site. Specifically the Department requests that a groundwater sample be collected from this site. Please note, the Department approved a groundwater sampling proposal for Laurel Bay submitted by MCAS under separate cover dated 16 June 2008.

Should you have any questions, please contact me at 803-898-3553 (office phone), 803-898-2893 (fax) or bishopma@dhec.sc.gov.

Sincerely,

Michael Bishop, Hydrogeologist
Groundwater Quality Section
Bureau of Water

cc: Region 8 District EQC (via pdf)
MCAS, Commanding Officer, Attention: S-4 NREAO (William Drawdy) (via pdf)
Technical File (via pdf)

D H E C

PROMOTE PROTECT PROSPER

C. Earl Hunter, Commissioner

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

20 November 2008

Beaufort Military Complex Family Housing
ATTN: Kyle Broadfoot
1510 Laurel Bay Blvd.
Beaufort, SC 29906

Re: MCAS – Laurel Bay Housing – 293 Birch
Site ID # 04039
Groundwater Sampling Results received 6 November 2008
Beaufort County

Dear Mr. Broadfoot:

Per the Department's request, a groundwater sample was collected from the referenced site. The groundwater results were reported as non-detect. Based on the information and analytical data submitted, the Department recognizes that MCAS has adequately addressed the known environmental contamination identified on the property to date in accordance with the approved scope of work. Consequently, no further investigation is required at this time. Please note, this statement pertains only to the portion of the site addressed in the referenced report and does not apply to other areas of the site and/or any other potential regulatory violations. Further, the Department retains the right to request further investigation if deemed necessary.

Should you have any questions, please contact me at 803-896-4179 (office phone), 803-896-6245 (fax) or cookejt@dhec.sc.gov.

Sincerely,
AST Petroleum Restoration
& Site Environmental Investigations Section
Land Revitalization Division
Bureau of Land and Waste Management
SC Dept. of Health & Environmental Control

Jan T. Cooke, Hydrogeologist

B. Thomas Knight, Manager

cc: Region 8 District EQC
MCAS, Commanding Officer, Attention: S-4 NREAO (Craig Ehde),
P.O. Box 55001, Beaufort, SC 29904-5001
Technical File