SUMMARY REPORT
331 IRIS LANE (FORMERLY 1130 IRIS LANE)
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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Appendices

List of Acronyms

bgs	below ground surface
BTEX	benzene, toluene, ethylbenzene, and xylenes
CTO	Contract Task Order
COPC	constituents of potential concern
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 331 Iris Lane (Formerly 1130 Iris Lane). 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 331 Iris Lane (Formerly 1130 Iris Lane). Details regarding the soil investigation at this site are provided in the *SCDHEC UST Assessment Report – 1130 Iris Lane* (MCAS Beaufort, 2008). The UST Assessment Report is provided in Appendix B.

2.1 UST Removal and Soil Sampling

On July 24, 2007, a single 280 gallon heating oil UST was removed from the front landscaped bed area adjacent to the porch area at 331 Iris Lane (Formerly 1130 Iris Lane). The former UST location is indicated on the figures of the UST Assessment Report (Appendix B). The UST was removed and properly disposed of (i.e., shipped offsite for recycling or transported to a landfill). 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 depth to the base of the UST was 5'0" bgs and a single soil sample was collected from that depth. An additional sample was collected from the side of the excavation at a depth of 3'7" bgs. The sample was collected from the fill port side of the former UST to represent a worst case scenario.

Following UST removal, a soil sample was collected from the base of the 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 location 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 331 Iris Lane (Formerly 1130 Iris Lane) were less than the SCDHEC RBSLs, which indicated the subsurface was not impacted by COPCs associated with the former UST at concentrations that presented a potential risk to human health and the environment.

3.0 PROPERTY STATUS

Based on the analytical results for soil, SCDHEC made the determination that NFA was required for 331 Iris Lane (Formerly 1130 Iris Lane). This NFA determination was obtained in a letter dated July 16, 2008. SCDHEC's NFA letter is provided in Appendix C.

4.0 REFERENCES

Marine Corps Air Station Beaufort, 2008. *South Carolina Department of Health and Environmental Control (SCDHEC) Underground Storage Tank Assessment Report – 1130 Iris Lane, Laurel Bay Military Housing Area*, January 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.

Table

Table 1
Laboratory Analytical Results - Soil
331 Iris Lane (Formerly 1130 Iris Lane)
Laurel Bay Military Housing Area
Marine Corps Air Station Beaufort
Beaufort, South Carolina

Constituent	SCDHEC RBSLs [1]	Results Samples Collected 07/24/07	
		1130 Iris Bottom 01	1130 Iris Side 02
Volatile Organic Compounds Analyzed by EPA Method 8260B (mg/kg)			
Benzene	0.003	**0.000263**	ND
Ethylbenzene	1.15	**0.000140**	ND
Naphthalene	0.036	**0.000905**	ND
Toluene	0.627	**0.000426**	ND
Xylenes, Total	13.01	**0.000496**	ND
Semivolatile Organic Compounds Analyzed by EPA Method 8270D (mg/kg)			
Benzo(a)anthracene	0.66	ND	ND
Benzo(b)fluoranthene	0.66	ND	ND
Benzo(k)fluoranthene	0.66	ND	ND
Chrysene	0.66	ND	ND
Dibenz(a,h)anthracene	0.66	ND	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 - milligram per kilogram

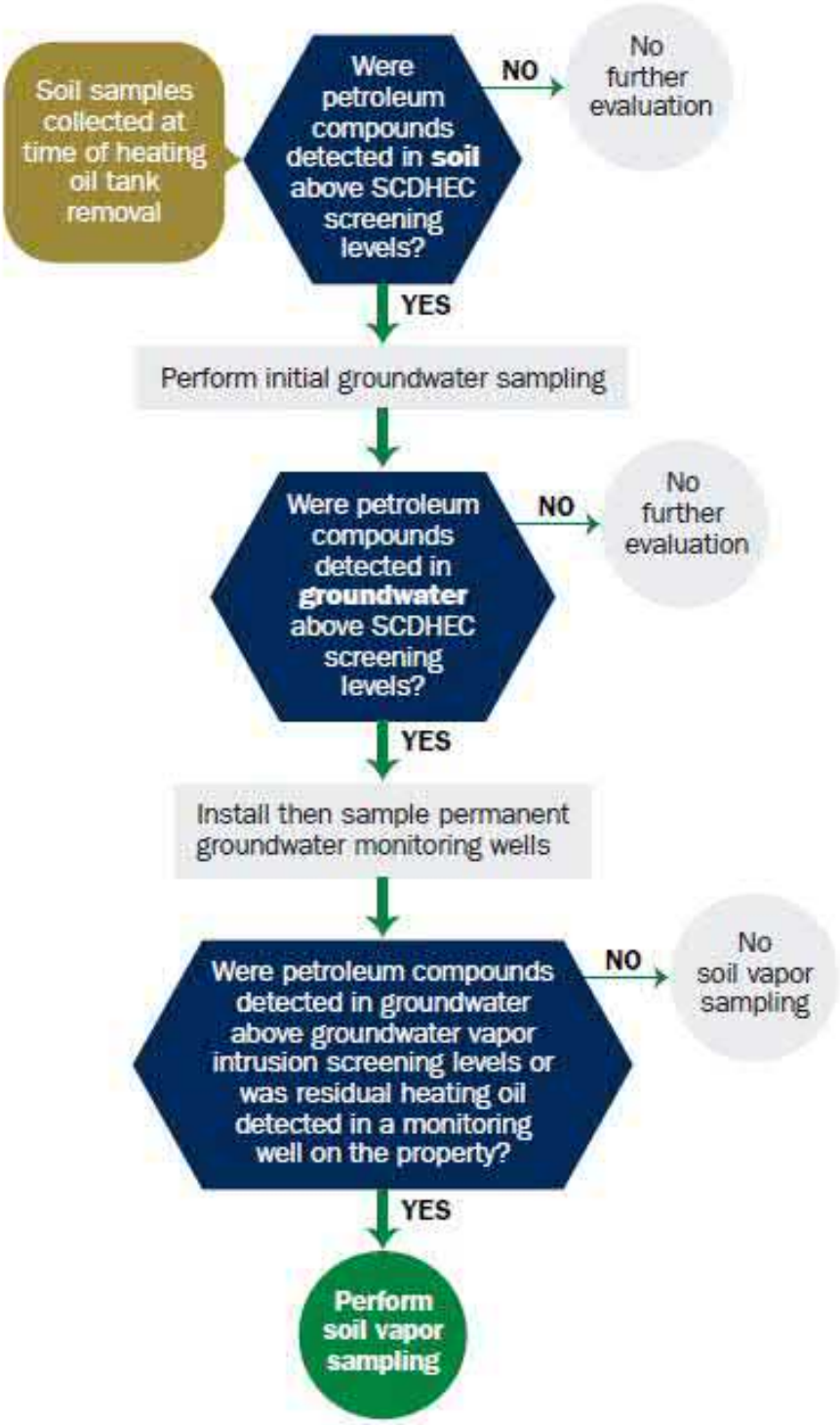
ND - not detected at the reporting limit (or method detection limit if shown on the laboratory report). The laboratory report is provided in Appendix B.

RBSL - Risk-Based Screening Level

SCDHEC - South Carolina Department Of Health and Environmental Control

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

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	Tank 3	Tank 4	Tank 5	Tank 6
A. Product...(ex. Gas, Kerosene).....	#2 DIESEL					
B. Capacity..(ex. 1k, 2k)..... (APPROX)	350g.					
C. Age.....						
D. Construction Material..(ex. Steel, FRP).....	Steel					
E. Month/Year of Last Use.....						
F. Depth (ft.) To Base of Tank.....	60"					
G. Spill Prevention Equipment Y/N.....	N					
H. Overfill Prevention Equipment Y/N.....	N					
I. Method of Closure (Removed/Filled).....	Removed					
J. Date Tanks Removed/Filled.....	7-24-07					
K. Visible Corrosion or Pitting Y/N.....	Y					
L. Visible Holes Y/N.....	Y					

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)

Republic Broadhurst Landfill

Solidification & Subtitle D Landfill

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

TANK HAD PREVIOUSLY BEEN CUT OPEN AND FILLED W/SAND.

VI. PIPIN NFORMATION

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

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

Minor Corrosion present on fill pipe and vent pipe -

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. SAMI , 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 #
					7-24-07	ECHEVARRIA	
1	BOTTOM	S	SAND	60"	1315	A. MARTINEZ	ND
2	SIDE	S	SAND	43"	1320	A. MARTINEZ	ND
3							
4							
5							
6							
7							
8							
9							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							

* = Depth Below the Surrounding Land Surface

X. SAMPLING METHODOLOG

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. RECEPTOR

	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.

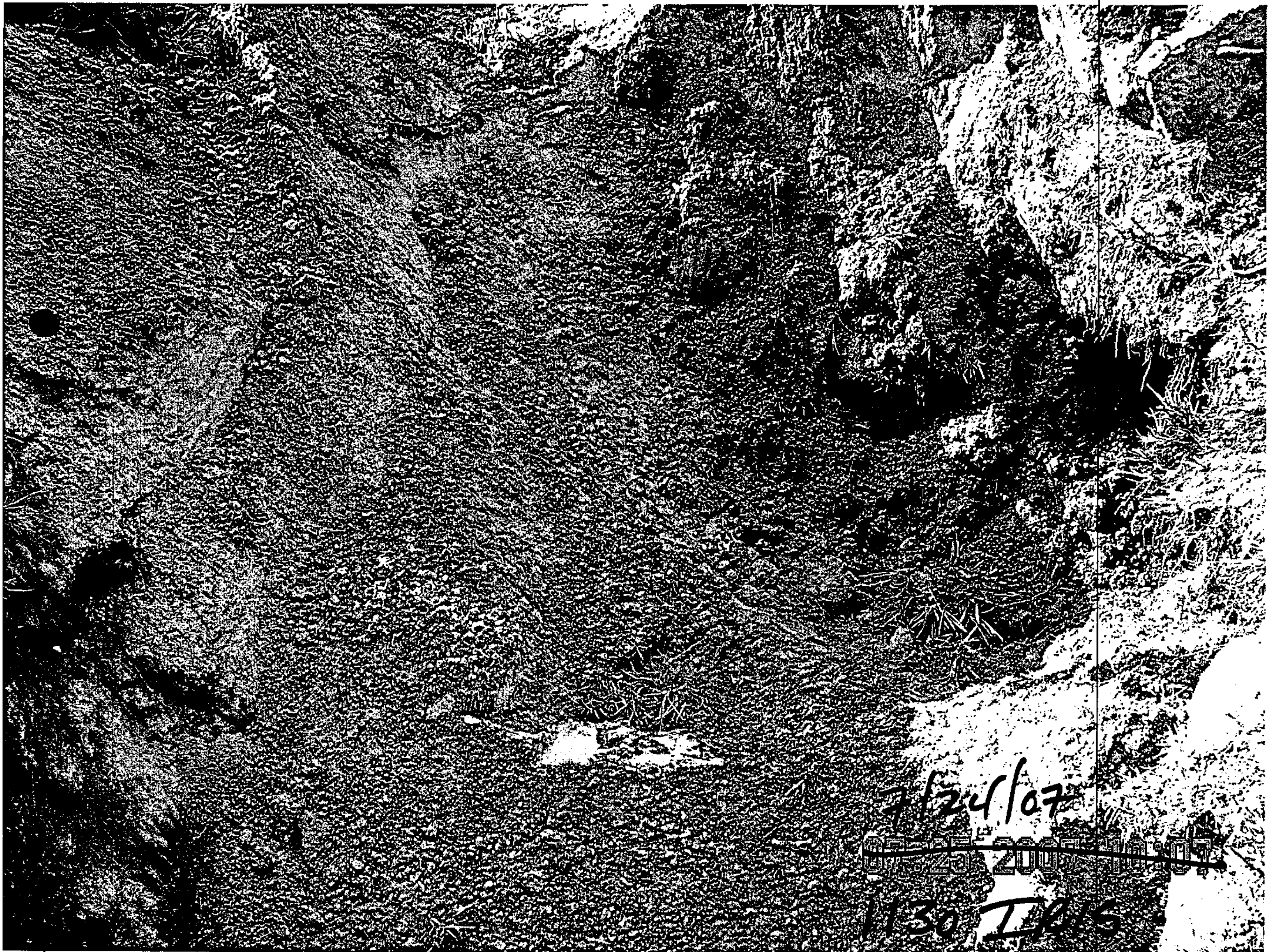
CoC	SB-1	SB-2	SB-3	SB-4	SB-5	SB-6	SB-7	SB-8
Benzene								
Toluene								
Ethylbenzene								
Xylenes								
Naphthalene								
Benzo(a)anthracene								
Benzo(b)flouranthene								
Benzo(k)flouranthene								
Chrysene								
Dibenz(a,h)anthracene								
TPH (EPA 3550)								

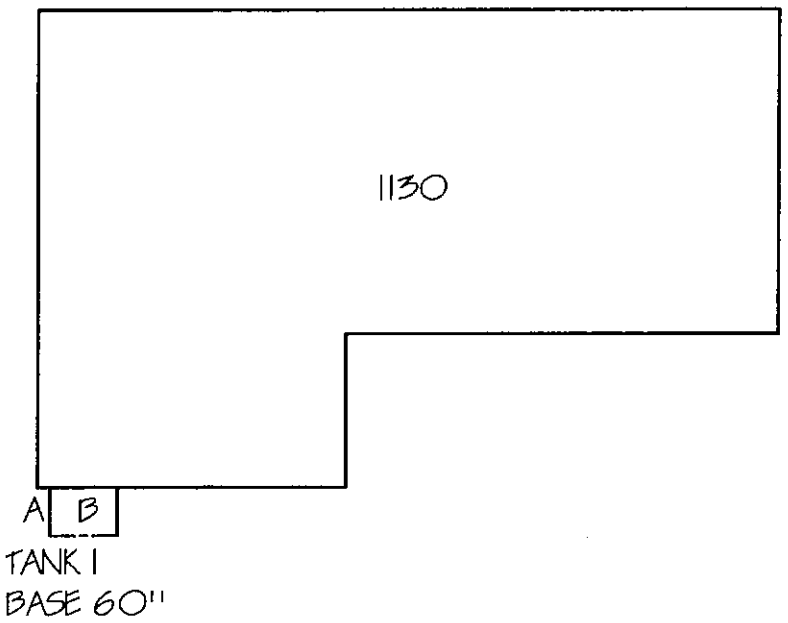
CoC	SB-9	SB-10	SB-11	SB-12	SB-13	SB-14	SB-15	SB-16
Benzene								
Toluene								
Ethylbenzene								
Xylenes								
Naphthalene								
Benzo(a)anthracene								
Benzo(b)flouranthene								
Benzo(k)flouranthene								
Chrysene								
Dibenz(a,h)anthracene								
TPH (EPA 3550)								

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				

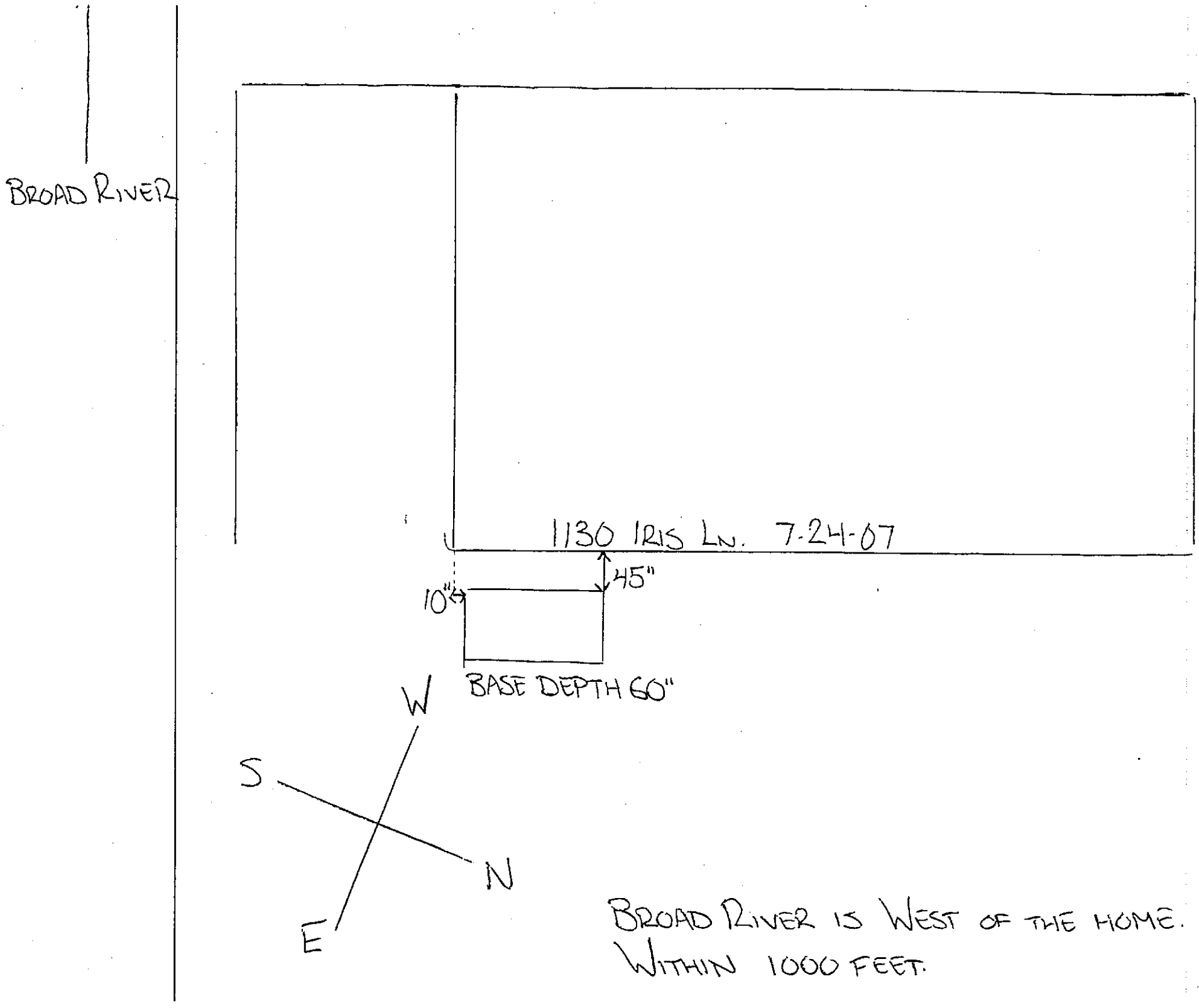

7/24/07
07.25.2007 10:07
1130 IRIS



TANK 1 EXCAVATION

A-SOIL TEST SIDE SAMPLE @ 43"
B-SOIL TEST BOTTOM SAMPLE @ 60"

CUSTOMER: BEAUFORT MILITARY COMPLEX FAMILY HOUSING	SCALE: 1/16"=1'-0"	EPG INC.
SITE ADDRESS: 1130 IRIS LANE	SUPPLIER: EPG INC.	P.O. BOX 1096
	DATE: 9/22/2007	MOUNT PLEASANT, SC 29465-1096



BROAD RIVER IS WEST OF THE HOME.
WITHIN 1000 FEET.

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: OQH0044
Project: LAUREL BAY
Project Number: EP2362

Sampled: 07/23/07-07/27/07
Received: 08/02/07

LABORATORY REPORT
Sample ID: 1124 IRIS SIDE 02 - Lab Number: OQH0044-02 - Matrix: Solid/Soil

CAS #	Analyte	Result	Q	Units	MDL	PQL	Dil Factor	Analyzed Date/Time	By	Method	Batch
Volatile Organic Compounds by EPA Method 8260B - Cont.											
91-20-3	Naphthalene	0.138	U	ug/kg dry	0.138	0.250	1	08/03/07 19:07	JWT	EPA 8260B	7H03050
108-88-3	Toluene	0.216	U	ug/kg dry	0.216	0.250	1	08/03/07 19:07	JWT	EPA 8260B	7H03050
1330-20-7	Xylenes, total	0.130	U	ug/kg dry	0.130	0.250	1	08/03/07 19:07	JWT	EPA 8260B	7H03050
Surrogate: 1,2-Dichloroethane-d4 (73-137%)		*125 %*									
Surrogate: 4-Bromofluorobenzene (59-118%)		*105 %*									
Surrogate: Dibromofluoromethane (55-145%)		*108 %*									
Surrogate: Toluene-d8 (80-117%)		*103 %*									
Polynuclear Aromatic Hydrocarbons by EPA Method 8270											
83-32-9	Acenaphthene	80.3	Q,U	ug/kg dry	80.3	181	1	08/10/07 06:25	REM	EPA 8270C	7H06004
208-96-8	Acenaphthylene	106	Q,U	ug/kg dry	106	181	1	08/10/07 06:25	REM	EPA 8270C	7H06004
120-12-7	Anthracene	57.8	Q,U	ug/kg dry	57.8	181	1	08/10/07 06:25	REM	EPA 8270C	7H06004
56-55-3	Benzo (a) anthracene	19.6	Q,U	ug/kg dry	19.6	181	1	08/10/07 06:25	REM	EPA 8270C	7H06004
205-99-2	Benzo (b) fluoranthene	19.1	Q,U	ug/kg dry	19.1	181	1	08/10/07 06:25	REM	EPA 8270C	7H06004
207-08-9	Benzo (k) fluoranthene	19.1	Q,U	ug/kg dry	19.1	181	1	08/10/07 06:25	REM	EPA 8270C	7H06004
191-24-2	Benzo (g,h,i) perylene	18.8	Q,U	ug/kg dry	18.8	181	1	08/10/07 06:25	REM	EPA 8270C	7H06004
50-32-8	Benzo (a) pyrene	22.3	Q,U	ug/kg dry	22.3	181	1	08/10/07 06:25	REM	EPA 8270C	7H06004
90-12-0	1-Methylnaphthalene	90.9	Q,U	ug/kg dry	90.9	181	1	08/10/07 06:25	REM	EPA 8270C	7H06004
218-01-9	Chrysene	21.7	Q,U	ug/kg dry	21.7	181	1	08/10/07 06:25	REM	EPA 8270C	7H06004
53-70-3	Dibenz (a,h) anthracene	23.8	Q,U	ug/kg dry	23.8	181	1	08/10/07 06:25	REM	EPA 8270C	7H06004
206-44-0	Fluoranthene	26.1	Q,U	ug/kg dry	26.1	181	1	08/10/07 06:25	REM	EPA 8270C	7H06004
86-73-7	Fluorene	70.9	Q,U	ug/kg dry	70.9	181	1	08/10/07 06:25	REM	EPA 8270C	7H06004
193-39-5	Indeno (1,2,3-cd) pyrene	23.5	Q,U	ug/kg dry	23.5	181	1	08/10/07 06:25	REM	EPA 8270C	7H06004
91-57-6	2-Methylnaphthalene	77.2	Q,U	ug/kg dry	77.2	181	1	08/10/07 06:25	REM	EPA 8270C	7H06004
91-20-3	Naphthalene	72.7	Q,U	ug/kg dry	72.7	181	1	08/10/07 06:25	REM	EPA 8270C	7H06004
85-01-8	Phenanthrene	42.7	Q,U	ug/kg dry	42.7	181	1	08/10/07 06:25	REM	EPA 8270C	7H06004
129-00-0	Pyrene	36.8	Q,U	ug/kg dry	36.8	181	1	08/10/07 06:25	REM	EPA 8270C	7H06004
Surrogate: 2-Fluorobiphenyl (24-121%)		*37 %*									
Surrogate: Nitrobenzene-d5 (19-111%)		*37 %*									
Surrogate: Terphenyl-d14 (44-171%)		*83 %*									

LABORATORY REPORT
Sample ID: 1130 IRIS BOTTOM 01 - Lab Number: OQH0044-03 - Matrix: Solid/Soil

CAS #	Analyte	Result	Q	Units	MDL	PQL	Dil Factor	Analyzed Date/Time	By	Method	Batch
General Chemistry Parameters											
N/A	% Solids	88.1	Q	%.	0.100	0.100	1	08/02/07 17:45	RRP	EPA 160.3	7H02038
Volatile Organic Compounds by EPA Method 8260B											
71-43-2	Benzene	0.263	I	ug/kg dry	0.107	0.292	1	08/03/07 19:24	JWT	EPA 8260B	7H03050
100-41-4	Ethylbenzene	0.140	I	ug/kg dry	0.124	0.292	1	08/03/07 19:24	JWT	EPA 8260B	7H03050
91-20-3	Naphthalene	0.905		ug/kg dry	0.161	0.292	1	08/03/07 19:24	JWT	EPA 8260B	7H03050
108-88-3	Toluene	0.426		ug/kg dry	0.252	0.292	1	08/03/07 19:24	JWT	EPA 8260B	7H03050
1330-20-7	Xylenes, total	0.496	V	ug/kg dry	0.152	0.292	1	08/03/07 19:24	JWT	EPA 8260B	7H03050
Surrogate: 1,2-Dichloroethane-d4 (73-137%)		*124 %*									

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

Work Order: OQH0044
Project: LAUREL BAY
Project Number: EP2362

Sampled: 07/23/07-07/27/07
Received: 08/02/07

LABORATORY REPORT
Sample ID: 1130 IRIS BOTTOM 01 - Lab Number: OQH0044-03 - Matrix: Solid/Soil

CAS #	Analyte	Result	Q	Units	MDL	PQL	Dil Factor	Analyzed Date/Time	By	Method	Batch
Volatile Organic Compounds by EPA Method 8260B - Cont.											
Surrogate: 4-Bromofluorobenzene (59-118%)		*107 %*									
Surrogate: Dibromofluoromethane (55-145%)		*109 %*									
Surrogate: Toluene-d8 (80-117%)		*103 %*									
Polynuclear Aromatic Hydrocarbons by EPA Method 8270											
83-32-9	Acenaphthene	84.0	Q,U	ug/kg dry	84.0	190	1	08/10/07 07:25	REM	EPA 8270C	7H06004
208-96-8	Acenaphthylene	111	Q,U	ug/kg dry	111	190	1	08/10/07 07:25	REM	EPA 8270C	7H06004
120-12-7	Anthracene	60.5	Q,U	ug/kg dry	60.5	190	1	08/10/07 07:25	REM	EPA 8270C	7H06004
56-55-3	Benzo (a) anthracene	20.5	Q,U	ug/kg dry	20.5	190	1	08/10/07 07:25	REM	EPA 8270C	7H06004
205-99-2	Benzo (b) fluoranthene	20.0	Q,U	ug/kg dry	20.0	190	1	08/10/07 07:25	REM	EPA 8270C	7H06004
207-08-9	Benzo (k) fluoranthene	20.0	Q,U	ug/kg dry	20.0	190	1	08/10/07 07:25	REM	EPA 8270C	7H06004
191-24-2	Benzo (g,h,i) perylene	19.7	Q,U	ug/kg dry	19.7	190	1	08/10/07 07:25	REM	EPA 8270C	7H06004
50-32-8	Benzo (a) pyrene	23.3	Q,U	ug/kg dry	23.3	190	1	08/10/07 07:25	REM	EPA 8270C	7H06004
90-12-0	1-Methylnaphthalene	95.2	Q,U	ug/kg dry	95.2	190	1	08/10/07 07:25	REM	EPA 8270C	7H06004
218-01-9	Chrysene	22.7	Q,U	ug/kg dry	22.7	190	1	08/10/07 07:25	REM	EPA 8270C	7H06004
53-70-3	Dibenz (a,h) anthracene	24.9	Q,U	ug/kg dry	24.9	190	1	08/10/07 07:25	REM	EPA 8270C	7H06004
206-44-0	Fluoranthene	27.3	Q,U	ug/kg dry	27.3	190	1	08/10/07 07:25	REM	EPA 8270C	7H06004
86-73-7	Fluorene	74.2	Q,U	ug/kg dry	74.2	190	1	08/10/07 07:25	REM	EPA 8270C	7H06004
193-39-5	Indeno (1,2,3-cd) pyrene	24.5	Q,U	ug/kg dry	24.5	190	1	08/10/07 07:25	REM	EPA 8270C	7H06004
91-57-6	2-Methylnaphthalene	80.9	Q,U	ug/kg dry	80.9	190	1	08/10/07 07:25	REM	EPA 8270C	7H06004
91-20-3	Naphthalene	76.1	Q,U	ug/kg dry	76.1	190	1	08/10/07 07:25	REM	EPA 8270C	7H06004
85-01-8	Phenanthrene	44.7	Q,U	ug/kg dry	44.7	190	1	08/10/07 07:25	REM	EPA 8270C	7H06004
129-00-0	Pyrene	38.5	Q,U	ug/kg dry	38.5	190	1	08/10/07 07:25	REM	EPA 8270C	7H06004
Surrogate: 2-Fluorobiphenyl (24-121%)		*66 %*									
Surrogate: Nitrobenzene-d5 (19-111%)		*63 %*									
Surrogate: Terphenyl-d14 (44-171%)		*98 %*									

LABORATORY REPORT
Sample ID: 1130 IRIS SIDE 02 - Lab Number: OQH0044-04 - Matrix: Solid/Soil

CAS #	Analyte	Result	Q	Units	MDL	PQL	Dil Factor	Analyzed Date/Time	By	Method	Batch
General Chemistry Parameters											
NA	% Solids	86.3	Q	%	0.100	0.100	1	08/02/07 17:45	RRP	EPA 160.3	7H02038
Volatile Organic Compounds by EPA Method 8260B											
71-43-2	Benzene	0.116	U	ug/kg dry	0.116	0.316	1	08/03/07 19:40	JWT	EPA 8260B	7H03050
100-41-4	Ethylbenzene	0.134	U	ug/kg dry	0.134	0.316	1	08/03/07 19:40	JWT	EPA 8260B	7H03050
91-20-3	Naphthalene	0.175	U	ug/kg dry	0.175	0.316	1	08/03/07 19:40	JWT	EPA 8260B	7H03050
108-88-3	Toluene	0.273	U	ug/kg dry	0.273	0.316	1	08/03/07 19:40	JWT	EPA 8260B	7H03050
1330-20-7	Xylenes, total	0.164	U	ug/kg dry	0.164	0.316	1	08/03/07 19:40	JWT	EPA 8260B	7H03050
Surrogate: 1,2-Dichloroethane-d4 (73-137%)		*125 %*									
Surrogate: 4-Bromofluorobenzene (59-118%)		*107 %*									
Surrogate: Dibromofluoromethane (55-145%)		*110 %*									
Surrogate: Toluene-d8 (80-117%)		*103 %*									
Polynuclear Aromatic Hydrocarbons by EPA Method 8270											

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

Work Order: OQH0044
Project: LAUREL BAY
Project Number: EP2362

Sampled: 07/23/07-07/27/07
Received: 08/02/07

LABORATORY REPORT

Sample ID: 1130 IRIS SIDE 02 - Lab Number: OQH0044-04 - 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											
83-32-9	Acenaphthene	85.8	Q,U	ug/kg dry	85.8	194	1	08/10/07 07:47	REM	EPA 8270C	7H06004
208-96-8	Acenaphthylene	113	Q,U	ug/kg dry	113	194	1	08/10/07 07:47	REM	EPA 8270C	7H06004
120-12-7	Anthracene	61.7	Q,U	ug/kg dry	61.7	194	1	08/10/07 07:47	REM	EPA 8270C	7H06004
56-55-3	Benzo (a) anthracene	21.0	Q,U	ug/kg dry	21.0	194	1	08/10/07 07:47	REM	EPA 8270C	7H06004
205-99-2	Benzo (b) fluoranthene	20.4	Q,U	ug/kg dry	20.4	194	1	08/10/07 07:47	REM	EPA 8270C	7H06004
207-08-9	Benzo (k) fluoranthene	20.4	Q,U	ug/kg dry	20.4	194	1	08/10/07 07:47	REM	EPA 8270C	7H06004
191-24-2	Benzo (g,h,i) perylene	20.1	Q,U	ug/kg dry	20.1	194	1	08/10/07 07:47	REM	EPA 8270C	7H06004
50-32-8	Benzo (a) pyrene	23.8	Q,U	ug/kg dry	23.8	194	1	08/10/07 07:47	REM	EPA 8270C	7H06004
90-12-0	1-Methylnaphthalene	97.1	Q,U	ug/kg dry	97.1	194	1	08/10/07 07:47	REM	EPA 8270C	7H06004
218-01-9	Chrysene	23.2	Q,U	ug/kg dry	23.2	194	1	08/10/07 07:47	REM	EPA 8270C	7H06004
53-70-3	Dibenz (a,h) anthracene	25.4	Q,U	ug/kg dry	25.4	194	1	08/10/07 07:47	REM	EPA 8270C	7H06004
206-44-0	Fluoranthene	27.8	Q,U	ug/kg dry	27.8	194	1	08/10/07 07:47	REM	EPA 8270C	7H06004
86-73-7	Fluorene	75.7	Q,U	ug/kg dry	75.7	194	1	08/10/07 07:47	REM	EPA 8270C	7H06004
193-39-5	Indeno (1,2,3-cd) pyrene	25.1	Q,U	ug/kg dry	25.1	194	1	08/10/07 07:47	REM	EPA 8270C	7H06004
91-57-6	2-Methylnaphthalene	82.5	Q,U	ug/kg dry	82.5	194	1	08/10/07 07:47	REM	EPA 8270C	7H06004
91-20-3	Naphthalene	77.7	Q,U	ug/kg dry	77.7	194	1	08/10/07 07:47	REM	EPA 8270C	7H06004
85-01-8	Phenanthrene	45.6	Q,U	ug/kg dry	45.6	194	1	08/10/07 07:47	REM	EPA 8270C	7H06004
129-00-0	Pyrene	39.3	Q,U	ug/kg dry	39.3	194	1	08/10/07 07:47	REM	EPA 8270C	7H06004
Surrogate: 2-Fluorobiphenyl (24-121%)		*46 %*									
Surrogate: Nitrobenzene-d5 (19-111%)		*48 %*									
Surrogate: Terphenyl-d14 (44-171%)		*94 %*									

LABORATORY REPORT

Sample ID: 1140 IRIS BOTTOM 01 - Lab Number: OQH0044-05 - Matrix: Solid/Soil

CAS #	Analyte	Result	Q	Units	MDL	PQL	Dil Factor	Analyzed Date/Time	By	Method	Batch
General Chemistry Parameters											
NA	% Solids	87.4	Q	%.	0.100	0.100	1	08/02/07 17:45	RRP	EPA 160.3	7H02038
Volatile Organic Compounds by EPA Method 8260B											
71-43-2	Benzene	0.0932	U	ug/kg dry	0.0932	0.255	1	08/03/07 19:57	JWT	EPA 8260B	7H03050
100-41-4	Ethylbenzene	0.108	U	ug/kg dry	0.108	0.255	1	08/03/07 19:57	JWT	EPA 8260B	7H03050
91-20-3	Naphthalene	0.351		ug/kg dry	0.141	0.255	1	08/03/07 19:57	JWT	EPA 8260B	7H03050
108-88-3	Toluene	0.220	U	ug/kg dry	0.220	0.255	1	08/03/07 19:57	JWT	EPA 8260B	7H03050
330-20-7	Xylenes, total	0.132	U	ug/kg dry	0.132	0.255	1	08/03/07 19:57	JWT	EPA 8260B	7H03050
Surrogate: 1,2-Dichloroethane-d4 (73-137%)		*126 %*									
Surrogate: 4-Bromofluorobenzene (59-118%)		*107 %*									
Surrogate: Dibromofluoromethane (55-145%)		*111 %*									
Surrogate: Toluene-d8 (80-117%)		*104 %*									
Polynuclear Aromatic Hydrocarbons by EPA Method 8270											
83-32-9	Acenaphthene	84.7	U	ug/kg dry	84.7	191	1	08/10/07 08:09	REM	EPA 8270C	7H06004
208-96-8	Acenaphthylene	112	U	ug/kg dry	112	191	1	08/10/07 08:09	REM	EPA 8270C	7H06004
120-12-7	Anthracene	61.0	U	ug/kg dry	61.0	191	1	08/10/07 08:09	REM	EPA 8270C	7H06004
56-55-3	Benzo (a) anthracene	20.7	U	ug/kg dry	20.7	191	1	08/10/07 08:09	REM	EPA 8270C	7H06004

DQH0044 page 1 of 3

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) IRIS 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

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

	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 + MTBE 8260	PAH 8270	REMARKS	
e	1124 IRIS BOTTOM 01	7-24-07	1010	G							1	2	2	X	X		01
d	1124 IRIS SIDE 02	7-24-07	1010	C							1	2	2	X	X		02
c	1130 IRIS BOTTOM 01	7-24-07	1315	G							1	2	2	X	X		03
b	1130 IRIS SIDE 02	7-24-07	1320	C							1	2	2	X	X		04
a	1140 IRIS BOTTOM 01	7-25-07	930	G							1	2	2	X	X		05
e	1140 IRIS SIDE 02	7-25	930	C							1	2	2	X	X		06
	1140 IRIS BOTTOM 03	7-25	940	G							1	2	2	X	X		07
d	1140 IRIS SIDE 04	7-25	940	C							1	2	2	X	X		08
e	1142 IRIS BOTTOM 01	7-25	1440	G							1	2	2	X	X		09
a	1142 IRIS SIDE 02	7-25	1440	C							1	2	2	X	X		10

Special Instructions:

	Date:	Time:		Date:	Time:
Relinquished By: Iris Echevarria	8/1/07	0900	Received By:	8/1/07	0900
Relinquished By:	8/1/07	1730	Received By:	8/2	9:00
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 1725
Method of Shipment: Fedex TA-Orlando

TestAmerica
ANALYTICAL TESTING CORPORATION

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:

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

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 + NAPH 8260	PAH 8270	
1146 RIS BOTTOM 01	7-26-07	930	G							1	2	2	X	X	11
1146 RIS SIDE 02	7-26	940	C							1	2	2	X	X	12
1150 RIS BOTTOM 01	7-26	1405	G							1	2	2	X	X	13
1150 RIS SIDE 02	7-26	1405	C							1	2	2	X	X	14
1052 GARDENIA BOTTOM 01	7-27-07	845	G							1	2	2	X	X	15
1052 GARDENIA SIDE 02	7-27-07	845	C							1	2	2	X	X	16
1056 GARDENIA BOTTOM 01	↓	1200	G							1	2	2	X	X	17
1056 GARDENIA SIDE 02		1200	C							1	2	2	X	X	18
1056 GARDENIA BOTTOM 03		1220	G							1	2	2	X	X	19
1056 GARDENIA SIDE 04	↓	1220	C							1	2	2	X	X	20

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

REMARKS

Special Instructions:

	Date:	Time:		Date:	Time:
Relinquished By: Chris Echevarria	8/1/07	0900	Received By:	8/1/07	0900
Relinquished By:	8/1/07	1730	Received By:	8/2	9:00
Relinquished By:	Date:	Time:	Received By:	Date:	Time:

LABORATORY COMMENTS:
Init Lab Temp:
Rec Lab Temp:
Custody Seals: Y N N/A
Bottles Supplied by Test America: Y N
Method of Shipment: 8623 2591 1736 FedEx to TA. Orlando

OQH0014 page 3 of 3

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
1036 IRIS BOTTOM 01	7-23-07	1010	G							1	2	2	X	X	21
1036 IRIS SIDE 02	7-23-07	1020	C							1	2	2	X	X	22
NOG BOTTOM 01															
NOG SIDE 02															
1106 IRIS BOTTOM 01	7-23-07	1140	G							1	2	2	X	X	23
1106 IRIS SIDE 02	7-23-07	1150	C							1	2	2	X	X	24
1120 IRIS BOTTOM 01	7-23-07	1500	G							1	2	2	X	X	25
1120 IRIS SIDE 02	7-23-07	1500	C							1	2	2	X	X	26
1116 IRIS BOTTOM 01	7-24-07	0800	G							1	2	2	X	X	27
1116 IRIS SIDE 02	7-24-07	0800	C							1	2	2	X	X	28

Special Instructions:
Chris Echevarria

	Date:	Time:		Date:	Time:
Relinquished By:	8/1/07	0900	Received By:	8/1/07	0900
Relinquished By:	8/1/07	1730	Received By:	8/2	9:00
Relinquished By:	Date:	Time:	Received By:	Date:	Time:

LABORATORY COMMENTS:
Init Lab Temp:
Rec Lab Temp:
Custody Seals: Y N N/A
Bottles Supplied by Test America: Y N
8023 2591 1747
Method of Shipment: FedEx TA Orlando

Appendix C
Regulatory Correspondence

D H E C

PROMOTE PROTECT PROSPER

Promoting and protecting the health of the public and the environment

16 July 2008

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

Re: MCAS – Laurel Bay Housing – 1130 Iris Lane
Site ID # 03937
UST Closure Reports received 31 January 2008
No Further Action
Beaufort County

Dear Mr. Broadfoot:

The Department has reviewed the referenced closure report. Based upon the geotechnical data in the referenced report, the soil samples are below risk based screening levels.

As the Department did not specifically request this data, and the work conducted at this site received no prior review by the Department, we cannot provide any comments on the completeness of the work performed or the overall environmental conditions of the site. Based on the information and analytical data submitted, there is no evidence to indicate that a violation of the Pollution Control Act has occurred. Consequently, no investigation will be required at this time. Please note, this statement pertains only to the data submitted 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 803-898-3553 (office phone), 803-898-2893 (fax) or bishopma@dhec.sc.gov.

Sincerely,

Michael Bishop, Hydrogeologist
Groundwater Quality Section
Bureau of Water

B. Thomas Knight, Manager
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 (pdf)