SUMMARY REPORT

577 WEST LAUREL BAY BOULEVARD (FORMERLY 500 WEST LAUREL BAY BOULEVARD)

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

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9324 Virginia Avenue Norfolk, Virginia 23511-3095

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

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 577 West Laurel Bay Boulevard (Formerly 500 West Laurel Bay Boulevard). 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 577 West Laurel Bay Boulevard (Formerly 500 West Laurel Bay Boulevard). Details regarding the soil investigation at this site are provided in the *SCDHEC UST Assessment Report – 500 West Laurel Bay Boulevard* (MCAS Beaufort, 2009). The UST Assessment Report is provided in Appendix B.

## 2.1 UST Removal and Soil Sampling

On June 30, 2009, a single 280 gallon heating oil UST was removed from the landscaped area adjacent to the front of the house at 577 West Laurel Bay Boulevard (Formerly 500 West Laurel Bay Boulevard). The former UST location is indicated on Figures 2 and 3 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 5'8" bgs and a single soil sample



was collected from that depth. 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 577 West Laurel Bay Boulevard (Formerly 500 West Laurel Bay Boulevard) 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 577 West Laurel Bay Boulevard (Formerly 500 West Laurel Bay Boulevard). This NFA determination was obtained in a letter dated February 17, 2010. SCDHEC's NFA letter is provided in Appendix C.

## 4.0 REFERENCES

Marine Corps Air Station Beaufort, 2009. South Carolina Department of Health and Environmental Control (SCDHEC) Underground Storage Tank Assessment Report – 500 West Laurel Bay Blvd, Laurel Bay Military Housing Area, October 2009.



- 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 577 West Laurel Bay Boulevard (Formerly 500 West Laurel Bay Boulevard)

## Laurel Bay Military Housing Area Marine Corps Air Station Beaufort Beaufort, South Carolina

Constituent	SCDHEC RBSLs (1)	Results Sample Collected 06/30/09		
<b>Volatile Organic Compounds Analyzed</b>	by EPA Method 8260B (mg/kg)			
Benzene	0.003	ND		
Ethylbenzene	1.15	ND		
Naphthalene	0.036	ND		
Toluene	0.627	ND		
Xylenes, Total	13.01	ND		
Semivolatile Organic Compounds Anal	yzed by EPA Method 8270D (mg/kg)			
Benzo(a)anthracene	0.66	ND		
Benzo(b)fluoranthene	0.66	0.121		
Benzo(k)fluoranthene	0.66	ND		
Chrysene	0.66	0.0968		
Dibenz(a,h)anthracene	0.66	ND		

## Notes:

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.

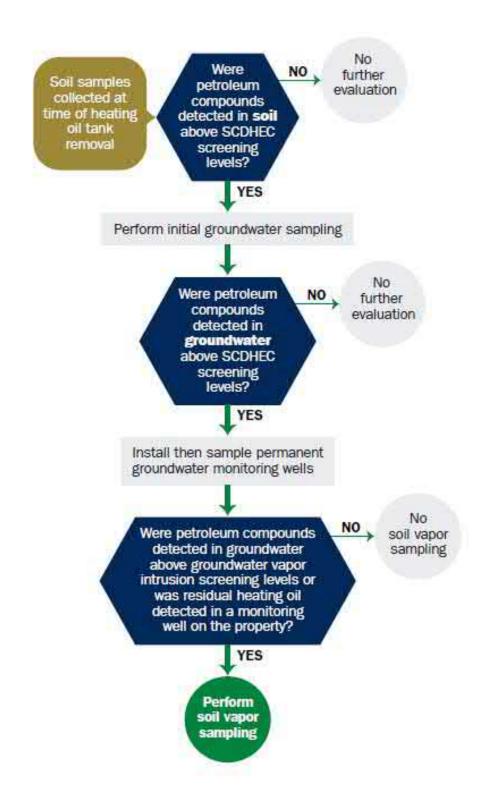
RBSL - Risk-Based Screening Level

SCDHEC - South Carolina Department Of Health and Environmental Control

<sup>&</sup>lt;sup>(1)</sup> 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).

## Appendix A Multi-Media Selection Process for LBMH





**Appendix A - Multi-Media Selection Process for LBMH** 

# Appendix B UST Assessment Report



## South Carolina Department of Health and Environmental Control (SCDHEC) Underground Storage Tank (UST) Assessment Report



Submit Completed Form To: UST Program SCDHEC 2600 Bull Street Columbia, South Carolina 29201 Telephone (803) 896-7957

I. OWNERSHIP OF UST (S)

	ommanding Officer Attn: NR	EAO (Craig Ehde)					
Owner Name (Corporation, Individual, Public Agency, Other)							
P.O. Box 55001 Mailing Address							
Beaufort,	South Carolina	29904-5001					
City	State	Zip Code					
843	228-7317	Craig Ehde					
Area Code	Telephone Number	Contact Person					
i i							

## II. SITE IDENTIFICATION AND LOCATION

Permit I.D. #
Laurel Bay Military Housing Area, Marine Corps Air Station, Beaufort, SC
Facility Name or Company Site Identifier
500 Laurel Bay Blvd., Laurel Bay Military Housing Area
Street Address or State Road (as applicable)
Beaufort, Beaufort
City County

Attachment 2

## III. INSURANCE INFORMATION

Insurance Statement
The petroleum release reported to DHEC on at Permit ID Number 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.
IV. REQUEST FOR SUPERB FUNDING
I DO / DO NOT wish to participate in the SUPERB Program. (Circle one.)
V. CERTIFICATION (To be signed by the UST owner)
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

VI.		
	UST INFORMATION	500LaurelBay
Produ	ect(ex. Gas, Kerosene)	Heating oil
Capa	city(ex. 1k, 2k)	280 gal
Age		Late 1950s
Const	ruction Material(ex. Steel, FRP)	Steel_
Montl	h/Year of Last Use	Mid 1980s
Depth	ı (ft.) To Base of Tank	5'8"
Spill I	Prevention Equipment Y/N	No
Overf	ill Prevention Equipment Y/N	No
Metho	od of Closure Removed/Filled	Removed
Date 1	Γanks Removed/Filled	6/30/09
Visibl	le Corrosion or Pitting Y/N	Yes
Visibl	le Holes Y/N	Yes
	od of disposal for any USTs removed from the 500LaurelBay was removed from	ground (attach disposal manifests) the ground and disposed of at a
Subt	title "D" landfill. See Attachm	ent "A."

## VII. PIPING INFORMATION

	500 LaurelBay
	Steel
Construction Material(ex. Steel, FRP)	& Copper
Distance from UST to Dispenser	N/A
Number of Dispensers	N/A
Type of System Pressure or Suction	Suction
Was Piping Removed from the Ground? Y/N	Yes
Visible Corrosion or Pitting Y/N	Yes
Visible Holes Y/N	No
Age	Late 1950s
If any corrosion, pitting, or holes were observed,	describe the location and extent for each piping
Correction and mitting wave foun	d on the gumfage of the gtarl
pipe. Copper supply and return	d on the surface of the steel velines were sound.
VIII. BRIEF SITE DESCR	
and formerly contained fuel oil:	<u> </u>
installed in the late 1950s and	_

## IX. SITE CONDITIONS

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

## X. SAMPLE INFORMATION

A. SCDHEC Lab Certification Number 96012001

B.

Sample #	Location	Sample Type (Soil/Water)	Soil Type (Sand/Clay)	Depth*	Date/Time of Collection	Collected by	OVA#
500 LaurelB	Excav at	Soil	Sandy	5'8"	6/30/09 1400 hrs	P. Shaw	
Laurers	1111 6110	5011	Barray	3 0	1400 1115	1. Dlaw	
8							
9							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							

<sup>\* =</sup> Depth Below the Surrounding Land Surface

## XI. SAMPLING METHODOLOGY

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

Sampling was performed in accordance with SC DHEC R.61-92 Part 280
and SC DHEC Assessment Guidelines. Sample containers were prepared by the
testing laboratory. The grab method was utilized to fill the sample
containers leaving as little head space as possible and immediately
capped. Soil samples were extracted from area below tank. The
samples were marked, logged, and immediately placed in a sample cooler
packed with ice to maintain an approximate temperature of 4 degrees
Centigrade. Tools were thoroughly cleaned and decontaminated with
the seven step decon process after each use. The samples remained in
custody of SBG-EEG, Inc. until they were transferred to Test America
Incorporated for analysis as documented in the Chain of Custody Record.

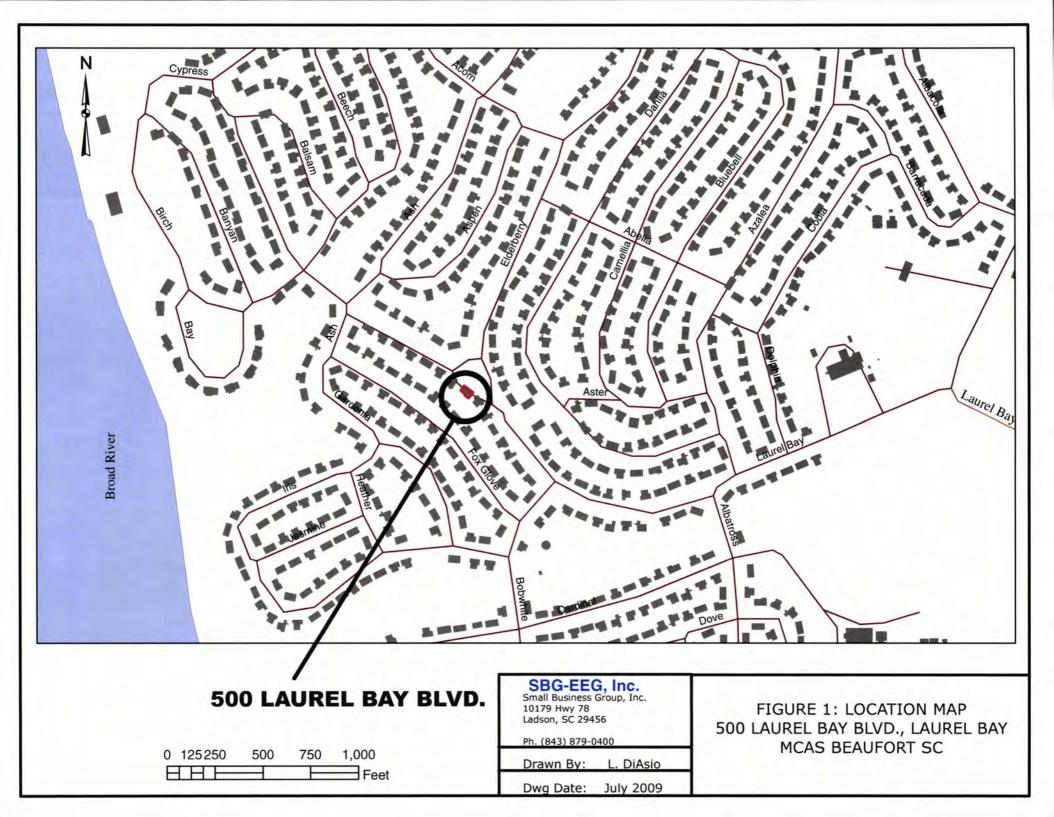
## XII. RECEPTORS

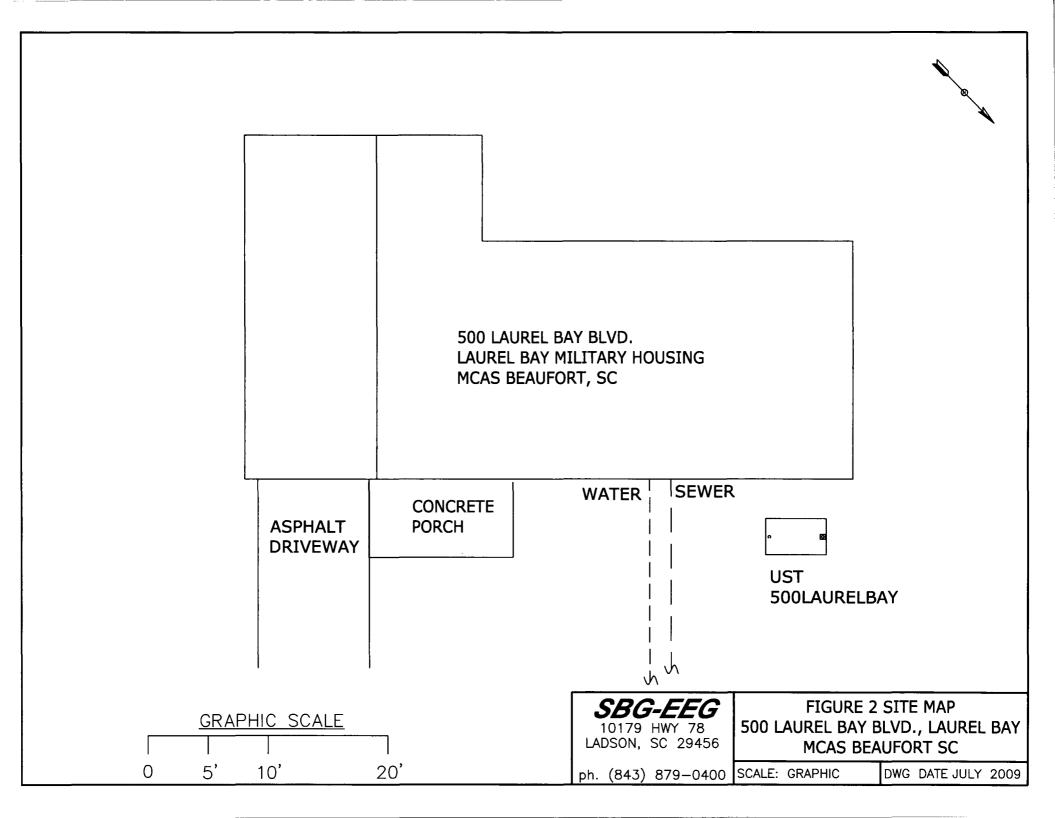
Yes No A. Are there any lakes, ponds, streams, or wetlands located within Х 1000 feet of the UST system? If yes, indicate type of receptor, distance, and direction on site map. B. Are there any public, private, or irrigation water supply wells within X 1000 feet of the UST system? If yes, indicate type of well, distance, and direction on site map. C. Are there any underground structures (e.g., basements) Х 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, \* X water, sewer, storm drain) located within 100 feet of the UST system that could potentially come in contact with the contamination? \*Sewer and water. 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 Х 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.

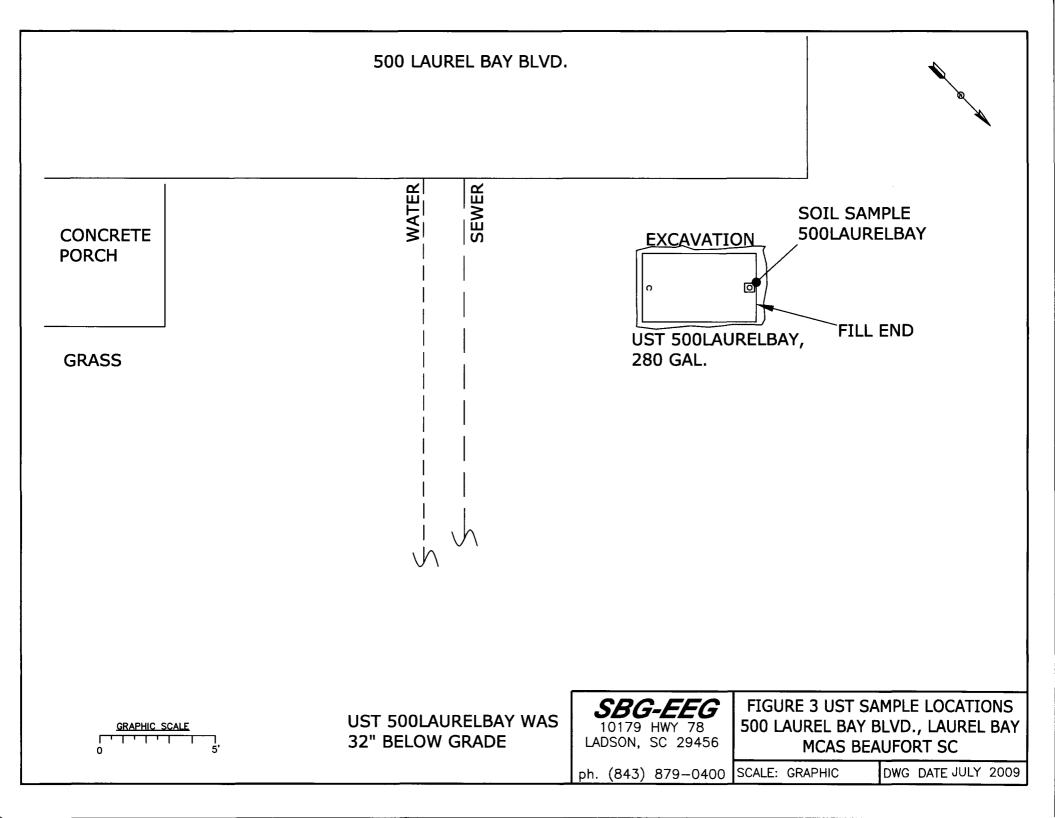
## XIII. SITE MAP

You must supply a <u>scaled</u> site map. It should include all buildings, road names, utilities, tank and dispenser island locations, labeled sample locations, extent of excavation, and any other pertinent information.

(Attach Site Map Here)









Picture 1: Location of UST 500Laurelbay prior to excavation.



Picture 2: UST 500Laurelbay.

## XIV. SUMMARY OF ANALYSIS RESULTS

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

	T	1			į į
CoC UST	500LaurelBay				
Benzene	ND				
Toluene	ND				
Ethylbenzene	ND				
Xylenes	ND				
Naphthalene	ND				
Benzo (a) anthracene	ND				
Benzo (b) fluoranthene	0.121 mg/kg				
Benzo (k) fluoranthene	ND				
Chrysene	0.0968 mg/kg				
Dibenz (a, h) anthracene	ND				
TPH (EPA 3550)					
			 	<del></del>	
СоС					
Benzene					
Toluene					
Ethylbenzene					
Xylenes					
Naphthalene					
Benzo (a) anthracene					
Benzo (b) fluoranthene					
Benzo (k) fluoranthene					
Chrysene					
Dibenz (a, h) anthracene					
TPH (EPA 3550)					

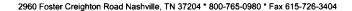
SUMMARY OF ANALYSIS RESULTS (cont'd)
Enter the ground water analytical data for each sample for all CoC in the table below. If free product is present, indicate the measured thickness to the nearest 0.01 feet.

СоС	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	5				
Lead	Site specific				

## XV. 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)





July 20, 2009

5:09:46PM

Client:

EEG - Small Business Group, Inc. (2449)

10179 Highway 78

Ladson, SC 29456

Attn:

Tom McElwee

Work Order: NSG0282

Project Name:

Laurel Bay Housing Project

Project Nbr: P/O Nbr: [none] 08087

Date Received: 07/03/09

SAMPLE IDENTIFICATION	LAB NUMBER	COLLECTION DATE AND TIME
1170 Jasmine	NSG0282-01	06/29/09 10:35
480 Laurel Bay	NSG0282-02	06/29/09 14:30
484 Laurel Bay	NSG0282-03	06/29/09 14:40
492 Laurel Bay	NSG0282-04	06/30/09 10:20
488 Laurel Bay	NSG0282-05	06/30/09 09:45
504 Laurel Bay	NSG0282-06	06/30/09 14:30
500 Laurel Bay	NSG0282-07	06/30/09 14:00

An executed copy of the chain of custody, the project quality control data, and the sample receipt form are also included as an addendum to this report. If you have any questions relating to this analytical report, please contact your Laboratory Project Manager at 1-800-765-0980. Any opinions, if expressed, are outside the scope of the Laboratory's accreditation.

This material is intended only for the use of the individual(s) or entity to whom it is addressed, and may contain information that is privileged and confidential. If you are not the intended recipient, or the employee or agent responsible for delivering this material to the intended recipient, you are hereby notified that any dissemination, distribution, or copying of this material is strictly prohibited. If you have received this material in error, please notify us immediately at 615-726-0177.

#### **Additional Laboratory Comments:**

The methanol vial for sample NSG0282-01 had lost all the methanol prior to sample receipt. As a result, we were unable to perform analysis on a dilution greater than 1X. The data was flagged accordingly. South Carolina Certification Number: 84009001

The Chain(s) of Custody, 2 pages, are included and are an integral part of this report.

These results relate only to the items tested. This report shall not be reproduced except in full and with permission of the laboratory.

All solids results are reported in wet weight unless specifically stated.

Estimated uncertainty is available upon request.

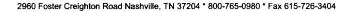
This report has been electronically signed.

Lemos a Hage

Report Approved By:

Ken A. Hayes

Senior Project Manager





10179 Highway 78 Ladson, SC 29456

Tom McElwee

Attn

Inc. (2449) Work Order:

NSG0282

Project Name: L

Received:

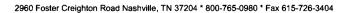
Laurel Bay Housing Project

Project Number: [none]

07/03/09 08:00

#### ANALYTICAL REPORT

		<u> </u>	ANALYTICAL REF	ORI				
Analyte	Result	Flag	Units	MRL	Dilution Factor	Analysis Date/Time	Method	Batch
Sample ID: NSG0282-01 (1170 Jas	smine - Soil) S	Sampled: (	06/29/09 10:35				,	
General Chemistry Parameters								
% Dry Solids	79.1		%	0.500	1	07/16/09 09:06	SW-846	9071822
Selected Volatile Organic Compounds	by EPA Metho	d 8260B						
Benzene	0.0194		mg/kg dry	0.00228	1	07/08/09 02:27	SW846 8260B	9070447
Ethylbenzene	2.41	E, S10	mg/kg dry	0.00228	1	07/08/09 02:27	SW846 8260B	9070447
Naphthalene	1.23	E, S10	mg/kg dry	0.00570	1	07/08/09 02:27	SW846 8260B	9070447
Toluene	0.0364	-	mg/kg dry	0.00228	1	07/08/09 02:27	SW846 8260B	9070447
Xylenes, total	7.42	E, S10	mg/kg dry	0.00570	1	07/08/09 02:27	SW846 8260B	9070447
Surr: 1,2-Dichloroethane-d4 (67-138%)	97 %					07/08/09 02:27	SW846 8260B	907044
Surr: Dibromofluoromethane (75-125%)	98 %					07/08/09 02:27	SW846 8260B	907044
Surr: Toluene-d8 (76-129%)	543 %	ZX				07/08/09 02:27	SW846 8260B	907044
Surr: 4-Bromofluorobenzene (67-147%)	414 %	ZX				07/08/09 02:27	SW846 8260B	907044
Polyaromatic Hydrocarbons by EPA 8	270D							
Acenaphthene	ND		mg/kg dry	0.839	10	07/11/09 18:31	SW846 8270D	9071105
Acenaphthylene	ND		mg/kg dry	0.839	10	07/11/09 18:31	SW846 8270D	9071105
Anthracene	1.44		mg/kg dry	0.839	10	07/11/09 18:31	SW846 8270D	9071105
Benzo (a) anthracene	ND		mg/kg dry	0.839	10	07/11/09 18:31	SW846 8270D	9071105
Benzo (a) pyrene	ND		mg/kg dry	0.839	10	07/11/09 18:31	SW846 8270D	9071105
Benzo (b) fluoranthene	ND		mg/kg dry	0.839	10	07/11/09 18:31	SW846 8270D	9071105
Benzo (g,h,i) perylene	ND		mg/kg dry	0.839	10	07/11/09 18:31	SW846 8270D	9071105
Benzo (k) fluoranthene	ND		mg/kg dry	0.839	10	07/11/09 18:31	SW846 8270D	9071105
Chrysene	ND		mg/kg dry	0.839	10	07/11/09 18:31	SW846 8270D	9071105
Dibenz (a,h) anthracene	ND		mg/kg dry	0.839	10	07/11/09 18:31	SW846 8270D	9071105
Fluoranthene	ND		mg/kg dry	0.839	10	07/11/09 18:31	SW846 8270D	9071105
Fluorene	7.83		mg/kg dry	0.839	10	07/11/09 18:31	SW846 8270D	9071105
Indeno (1,2,3-cd) pyrene	ND		mg/kg dry	0.839	10	07/11/09 18:31	SW846 8270D	9071105
Naphthalene	16.0		mg/kg dry	0.839	10	07/11/09 18:31	SW846 8270D	9071105
Phenanthrene	18.0		mg/kg dry	0.839	10	07/11/09 18:31	SW846 8270D	9071105
Pyrene	1.32		mg/kg dry	0.839	10	07/11/09 18:31	SW846 8270D	9071105
1-Methylnaphthalene	45.4		mg/kg dry	8.39	100	07/11/09 18:53	SW846 8270D	9071105
2-Methylnaphthalene	67.0		mg/kg dry	8.39	100	07/11/09 18:53	SW846 8270D	9071105
Surr: Terphenyl-d14 (18-120%)	85 %		, , ,			07/11/09 18:31	SW846 8270D	907110.
Surr: 2-Fluorobiphenyl (14-120%)	77 %					07/11/09 18:31	SW846 8270D	907110.
Surr: Nitrobenzene-d5 (17-120%)	60 %					07/11/09 18:31	SW846 8270D	907110.





10179 Highway 78 Ladson, SC 29456

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Work Order: NSG0282

Project Name: Laurel Bay Housing Project

Project Number: [none]

Received: 07/03/09 08:00

#### **DATA QUALIFIERS AND DEFINITIONS**

E Concentration exceeds the calibration range and therefore result is semi-quantitative.

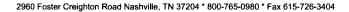
R The RPD exceeded the method control limit. The individual analyte QA/QC recoveries, however, were within acceptance limits.

S10 Insufficient sample available for reanalysis.

**ZX** Due to sample matrix effects, the surrogate recovery was outside the acceptance limits.

ND Not detected at the reporting limit (or method detection limit if shown)

### METHOD MODIFICATION NOTES





10179 Highway 78 Ladson, SC 29456

Tom McElwee

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Work Order:

NSG0282

Project Name:

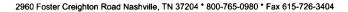
Laurel Bay Housing Project [none]

Project Number: Received:

07/03/09 08:00

### ANALYTICAL REPORT

			ANALI IICAL KEP		Dilution	Analysis	<del></del>	
Analyte	Result	Flag	Units	MRL	Factor	Date/Time	Method	Batch
Sample ID: NSG0282-02 (480 Lau	rel Bay - Soil) !	Sampled:	06/29/09 14:30					
General Chemistry Parameters								
% Dry Solids	85.8		%	0.500	1	07/16/09 09:06	SW-846	9071822
Selected Volatile Organic Compounds	by EPA Method	8260B						
Benzene	ND		mg/kg dry	0.00208	1	07/08/09 02:57	SW846 8260B	9070447
Ethylbenzene	0.431		mg/kg dry	0.120	50	07/08/09 16:39	SW846 8260B	9070955
Naphthalene	9.62		mg/kg dry	0.300	50	07/08/09 16:39	SW846 8260B	9070955
Toluene	0.00210		mg/kg dry	0.00208	1	07/08/09 02:57	SW846 8260B	9070447
Xylenes, total	0.949		mg/kg dry	0.300	50	07/08/09 16:39	SW846 8260B	9070955
Surr: 1,2-Dichloroethane-d4 (67-138%)	98 %					07/08/09 02:57	SW846 8260B	9070447
Surr: 1,2-Dichloroethane-d4 (67-138%)	105 %					07/08/09 16:39	SW846 8260B	9070955
Surr: Dibromofluoromethane (75-125%)	93 %					07/08/09 02:57	SW846 8260B	9070447
Surr: Dibromofluoromethane (75-125%)	101 %					07/08/09 16:39	SW846 8260B	9070955
Surr: Toluene-d8 (76-129%)	172 %	ZX				07/08/09 02:57	SW846 8260B	9070447
Surr: Toluene-d8 (76-129%)	94 %					07/08/09 16:39	SW846 8260B	9070955
Surr: 4-Bromofluorobenzene (67-147%)	259 %	ZX				07/08/09 02:57	SW846 8260B	9070447
Surr: 4-Bromofluorobenzene (67-147%)	120 %					07/08/09 16:39	SW846 8260B	9070955
Polyaromatic Hydrocarbons by EPA 82	270D							
Acenaphthene	ND		mg/kg dry	0.770	10	07/11/09 19:14	SW846 8270D	9071105
Acenaphthylene	ND		mg/kg dry	0.770	10	07/11/09 19:14	SW846 8270D	9071105
Anthracene	1.61		mg/kg dry	0.770	10	07/11/09 19:14	SW846 8270D	9071105
Benzo (a) anthracene	2.86		mg/kg dry	0.770	10	07/11/09 19:14	SW846 8270D	9071105
Benzo (a) pyrene	1.36		mg/kg dry	0.770	10	07/11/09 19:14	SW846 8270D	9071105
Benzo (b) fluoranthene	1.75		mg/kg dry	0.770	10	07/11/09 19:14	SW846 8270D	9071105
Benzo (g,h,i) perylene	ND		mg/kg dry	0.770	10	07/11/09 19:14	SW846 8270D	9071105
Benzo (k) fluoranthene	0.915		mg/kg dry	0.770	10	07/11/09 19:14	SW846 8270D	9071105
Chrysene	2.36		mg/kg dry	0.770	10	07/11/09 19:14	SW846 8270D	9071105
Dibenz (a,h) anthracene	ND		mg/kg dry	0.770	10	07/11/09 19:14	SW846 8270D	9071105
Fluoranthene	8.09		mg/kg dry	0.770	10	07/11/09 19:14	SW846 8270D	9071105
Fluorene	4.41		mg/kg dry	0.770	10	07/11/09 19:14	SW846 8270D	9071105
Indeno (1,2,3-cd) pyrene	ND		mg/kg dry	0.770	10	07/11/09 19:14	SW846 8270D	9071105
Naphthalene	3.76		mg/kg dry	0.770	10	07/11/09 19:14	SW846 8270D	9071105
Phenanthrene	11.7		mg/kg dry	0.770	10	07/11/09 19:14	SW846 8270D	9071105
Pyrene	7.78		mg/kg dry	0.770	10	07/11/09 19:14	SW846 8270D	9071105
•	28.1			0.770	10	07/11/09 19:14	SW846 8270D	9071105
1-Methylnaphthalene	38.5		mg/kg dry	0.770	10	07/11/09 19:14	SW846 8270D	9071105
2-Methylnaphthalene			mg/kg dry	0.770	10			
Surr: Terphenyl-d14 (18-120%)	74 %					07/11/09 19:14	SW846 8270D	9071105
Surr: 2-Fluorobiphenyl (14-120%)	68 % 49 %					07/11/09 19:14	SW846 8270D	9071105
Surr: Nitrobenzene-d5 (17-120%)	49 %					07/11/09 19:14	SW846 8270D	9071105





10179 Highway 78 Ladson, SC 29456

Tom McElwce

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Ladson, SC 29456

Work Order:

NSG0282

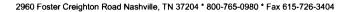
Project Name:

Laurel Bay Housing Project

Project Number: Received: [none] 07/03/09 08:00

Δ	N.	ΔT	YT	ICA	T.	R	FP	<b>OR</b>	T

Analyte	Result	Flag	Units	MRL	Dilution Factor	Analysis Date/Time	Method	Batch
Sample ID: NSG0282-03 (484 Lau	rel Bay - Soil) (	Ü	06/29/09 14:40					
General Chemistry Parameters	ici buy sony.	Jumpicu	00/25/05 14:40					
•	87.8		%	0.500	1	07/16/09 09:06	SW-846	9071822
% Dry Solids	87.8		70	0.300	1	07/10/09 09:00	5 W -040	90/1622
Selected Volatile Organic Compounds	by EPA Method	8260B						
Benzene	ND		mg/kg dry	0.00205	1	07/08/09 14:00	SW846 8260B	9070955
Ethylbenzene	ND		mg/kg dry	0.00205	1	07/08/09 14:00	SW846 8260B	9070955
Naphthalene	ND		mg/kg dry	0.00513	1	07/08/09 14:00	SW846 8260B	9070955
Toluene	ND		mg/kg dry	0.00205	1	07/08/09 14:00	SW846 8260B	9070955
Xylenes, total	ND		mg/kg dry	0.00513	1	07/08/09 14:00	SW846 8260B	9070955
Surr: 1,2-Dichloroethane-d4 (67-138%)	109 %					07/08/09 14:00	SW846 8260B	9070955
Surr: Dibromofluoromethane (75-125%)	109 %					07/08/09 14:00	SW846 8260B	9070955
Surr: Toluene-d8 (76-129%)	100 %					07/08/09 14:00	SW846 8260B	9070955
Surr: 4-Bromofluorobenzene (67-147%)	102 %					07/08/09 14:00	SW846 8260B	9070955
Polyaromatic Hydrocarbons by EPA 82	270D							
Acenaphthene	ND		mg/kg dry	0.0760	1	07/10/09 19:27	SW846 8270D	9071105
Acenaphthylene	ND		mg/kg dry	0.0760	1	07/10/09 19:27	SW846 8270D	9071105
Anthracene	ND		mg/kg dry	0.0760	1	07/10/09 19:27	SW846 8270D	9071105
Benzo (a) anthracene	ND		mg/kg dry	0.0760	1	07/10/09 19:27	SW846 8270D	9071105
Benzo (a) pyrene	0.703		mg/kg dry	0.0760	1	07/10/09 19:27	SW846 8270D	9071105
Benzo (b) fluoranthene	1.25		mg/kg dry	0.0760	1	07/10/09 19:27	SW846 8270D	9071105
Benzo (g,h,i) perylene	0.713		mg/kg dry	0.0760	1	07/10/09 19:27	SW846 8270D	9071105
Benzo (k) fluoranthene	0.373		mg/kg dry	0.0760	ı	07/10/09 19:27	SW846 8270D	9071105
Chrysene	0.392		mg/kg dry	0.0760	1	07/10/09 19:27	SW846 8270D	9071105
Dibenz (a,h) anthracene	0.250		mg/kg dry	0.0760	1	07/10/09 19:27	SW846 8270D	9071105
Fluoranthene	0.105		mg/kg dry	0.0760	1	07/10/09 19:27	SW846 8270D	9071105
Fluorene	ND		mg/kg dry	0.0760	1	07/10/09 19:27	SW846 8270D	9071105
Indeno (1,2,3-cd) pyrene	0.735		mg/kg dry	0.0760	1	07/10/09 19:27	SW846 8270D	9071105
Naphthalene	ND		mg/kg dry	0.0760	1	07/10/09 19:27	SW846 8270D	9071105
Phenanthrene	ND		mg/kg dry	0.0760	1	07/10/09 19:27	SW846 8270D	9071105
Pyrene	0.264		mg/kg dry	0.0760	1	07/10/09 19:27	SW846 8270D	9071105
1-Methylnaphthalene	ND		mg/kg dry	0.0760	1	07/10/09 19:27	SW846 8270D	9071105
2-Methylnaphthalene	ND		mg/kg dry	0.0760	1	07/10/09 19:27	SW846 8270D	9071105
Surr: Terphenyl-d14 (18-120%)	81 %		<i>5 6 7</i>	-		07/10/09 19:27	SW846 8270D	9071105
Surr: 2-Fluorobiphenyl (14-120%)	57 %					07/10/09 19:27	SW846 8270D	9071105
Surr: Nitrobenzene-d5 (17-120%)	51 %					07/10/09 19:27	SW846 8270D	9071105





10179 Highway 78 Ladson, SC 29456

Tom McElwee

Attn

Work Order:

NSG0282

[none]

Project Name:

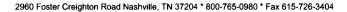
Laurel Bay Housing Project

Project Number: Received:

07/03/09 08:00

AN	Δ	T.	V٦	ГĬ	C	Δ	T	P	FP	n	P	Т
A 17	$\sim$				<b>٠</b> .	~	14	n		•		

Analyte	Result	Flag	Units	MRL	Dilution Factor	Analysis Date/Time	Method	Batch
Sample ID: NSG0282-04 (492 Lau	rel Bay - Soil)	Sampled:	06/30/09 10:20					
General Chemistry Parameters								
% Dry Solids	93.1		%	0.500	1	07/16/09 09:06	SW-846	9071822
Selected Volatile Organic Compounds	by EPA Method	8260B						
Benzene	ND		mg/kg dry	0.00230	1	07/08/09 03:56	SW846 8260B	907044
Ethylbenzene	ND		mg/kg dry	0.00230	1	07/08/09 03:56	SW846 8260B	907044
Naphthalene	ND		mg/kg dry	0.00575	1	07/08/09 03:56	SW846 8260B	907044
Toluene	ND		mg/kg dry	0.00230	1	07/08/09 03:56	SW846 8260B	907044
Xylenes, total	ND		mg/kg dry	0.00575	1	07/08/09 03:56	SW846 8260B	907044
Surr: 1,2-Dichloroethane-d4 (67-138%)	95 %					07/08/09 03:56	SW846 8260B	907044
Surr: Dibromofluoromethane (75-125%)	92 %					07/08/09 03:56	SW846 8260B	907044
Surr: Toluene-d8 (76-129%)	109 %					07/08/09 03:56	SW846 8260B	907044
Surr: 4-Bromofluorobenzene (67-147%)	109 %					07/08/09 03:56	SW846 8260B	907044
Polyaromatic Hydrocarbons by EPA 82	70D							
Acenaphthene	ND		mg/kg dry	0.0716	1	07/10/09 19:48	SW846 8270D	907110
Acenaphthylene	ND		mg/kg dry	0.0716	1	07/10/09 19:48	SW846 8270D	9071103
Anthracene	ND		mg/kg dry	0.0716	ì	07/10/09 19:48	SW846 8270D	907110
Benzo (a) anthracene	ND		mg/kg dry	0.0716	1	07/10/09 19:48	SW846 8270D	907110:
Benzo (a) pyrene	ND		mg/kg dry	0.0716	1	07/10/09 19:48	SW846 8270D	907110
Benzo (b) fluoranthene	ND		mg/kg dry	0.0716	1	07/10/09 19:48	SW846 8270D	907110:
Benzo (g,h,i) perylene	ND		mg/kg dry	0.0716	1	07/10/09 19:48	SW846 8270D	907110
Benzo (k) fluoranthene	ND		mg/kg dry	0.0716	1	07/10/09 19:48	SW846 8270D	9071103
Chrysene	ND		mg/kg dry	0.0716	1	07/10/09 19:48	SW846 8270D	907110:
Dibenz (a,h) anthracene	ND		mg/kg dry	0.0716	1	07/10/09 19:48	SW846 8270D	907110:
Fluoranthene	ND		mg/kg dry	0.0716	1	07/10/09 19:48	SW846 8270D	907110:
Fluorene	ND		mg/kg dry	0.0716	1	07/10/09 19:48	SW846 8270D	907110:
Indeno (1,2,3-cd) pyrene	ND		mg/kg dry	0.0716	1	07/10/09 19:48	SW846 8270D	907110:
Naphthalene	ND		mg/kg dry	0.0716	1	07/10/09 19:48	SW846 8270D	907110:
Phenanthrene	ND		mg/kg dry	0.0716	1	07/10/09 19:48	SW846 8270D	907110:
Pyrene	ND		mg/kg dry	0.0716	1	07/10/09 19:48	SW846 8270D	907110:
1-Methylnaphthalene	ND		mg/kg dry	0.0716	1	07/10/09 19:48	SW846 8270D	9071103
2-Methylnaphthalene	ND		mg/kg dry	0.0716	1	07/10/09 19:48	SW846 8270D	907110:
Surr: Terphenyl-d14 (18-120%)	89 %					07/10/09 19:48	SW846 8270D	907110
Surr: 2-Fluorobiphenyl (14-120%)	71 %					07/10/09 19:48	SW846 8270D	907110
Surr: Nitrobenzene-d5 (17-120%)	61 %					07/10/09 19:48	SW846 8270D	907110





10179 Highway 78 Ladson, SC 29456

Ladson, SC 29456 Tom McElwee

Attn

Work Order:

NSG0282

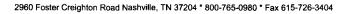
Project Name:

Laurel Bay Housing Project

Project Number: Received: [none]

07/03/09 08:00

ANALYTICAL REPORT												
Analyte	Result	Flag	Units	MRL	Dilution Factor	Analysis Date/Time	Method	Batch				
Sample ID: NSG0282-05 (488 Laur	ral Day Sail)		06/20/00 00:45									
General Chemistry Parameters	er day - Suny	Sampieu.	00/30/09 09:43									
% Dry Solids	77.9		%	0.500	1	07/16/09 09:06	SW-846	9071822				
•			70	0.300	1	07/10/09 09:00	3 W -040	90/1622				
Selected Volatile Organic Compounds I	by EPA Method	8260B										
Benzene	ND		mg/kg dry	0.00257	1	07/08/09 04:25	SW846 8260B	9070447				
Ethylbenzene	ND		mg/kg dry	0.00257	1	07/08/09 04:25	SW846 8260B	9070447				
Naphthalene	ND		mg/kg dry	0.00642	1	07/08/09 04:25	SW846 8260B	9070447				
Toluene	ND		mg/kg dry	0.00257	1	07/08/09 04:25	SW846 8260B	9070447				
Xylenes, total	ND		mg/kg dry	0.00642	1	07/08/09 04:25	SW846 8260B	9070447				
Surr: 1,2-Dichloroethane-d4 (67-138%)	94 %					07/08/09 04:25	SW846 8260B	9070447				
Surr: Dibromofluoromethane (75-125%)	87 %					07/08/09 04:25	SW846 8260B	9070447				
Surr: Toluene-d8 (76-129%)	104 %					07/08/09 04:25	SW846 8260B	9070447				
Surr: 4-Bromofluorobenzene (67-147%)	110 %					07/08/09 04:25	SW846 8260B	9070447				
Polyaromatic Hydrocarbons by EPA 82	70D											
Acenaphthene	ND		mg/kg dry	0.0857	1	07/10/09 20:10	SW846 8270D	9071105				
Acenaphthylene	ND		mg/kg dry	0.0857	1	07/10/09 20:10	SW846 8270D	9071105				
Anthracene	ND		mg/kg dry	0.0857	1	07/10/09 20:10	SW846 8270D	9071105				
Benzo (a) anthracene	ND		mg/kg dry	0.0857	1	07/10/09 20:10	SW846 8270D	9071105				
Benzo (a) pyrene	ND		mg/kg dry	0.0857	1	07/10/09 20:10	SW846 8270D	9071105				
Benzo (b) fluoranthene	ND		mg/kg dry	0.0857	1	07/10/09 20:10	SW846 8270D	9071105				
Benzo (g,h,i) perylene	ND		mg/kg dry	0.0857	1	07/10/09 20:10	SW846 8270D	9071105				
Benzo (k) fluoranthene	ND		mg/kg dry	0.0857	1	07/10/09 20:10	SW846 8270D	9071105				
Chrysene	ND		mg/kg dry	0.0857	1	07/10/09 20:10	SW846 8270D	9071105				
Dibenz (a,h) anthracene	ND		mg/kg dry	0.0857	1	07/10/09 20:10	SW846 8270D	9071105				
Fluoranthene	ND		mg/kg dry	0.0857	1	07/10/09 20:10	SW846 8270D	9071105				
Fluorene	ND		mg/kg dry	0.0857	1	07/10/09 20:10	SW846 8270D	9071105				
Indeno (1,2,3-cd) pyrene	ND		mg/kg dry	0.0857	1	07/10/09 20:10	SW846 8270D	9071105				
Naphthalene	ND		mg/kg dry	0.0857	1	07/10/09 20:10	SW846 8270D	9071105				
Phenanthrene	ND		mg/kg dry	0.0857	1	07/10/09 20:10	SW846 8270D	9071105				
Pyrene	ND		mg/kg dry	0.0857	1	07/10/09 20:10	SW846 8270D	9071105				
1-Methylnaphthalene	ND		mg/kg dry	0.0857	1	07/10/09 20:10	SW846 8270D	9071105				
2-Methylnaphthalene	ND ND		mg/kg dry	0.0857	1	07/10/09 20:10	SW846 8270D	9071105				
2-Methymaphthalene Surr: Terphenyl-d14 (18-120%)	93 %		nig/kg ui y	0.0057	1	07/10/09 20:10	SW846 8270D	9071103				
Surr: 1erpnenyi-a14 (16-120%) Surr: 2-Fluorobiphenyl (14-120%)	93 % 78 %					07/10/09 20:10	SW846 8270D	9071103				
Surr: Nitrobenzene-d5 (17-120%)	74 %					07/10/09 20:10	SW846 8270D	9071105				





EEG - Small Business Group, Inc. (2449) Client

10179 Highway 78

Ladson, SC 29456 Tom McElwee

Attn

Work Order:

NSG0282

Project Name:

Laurel Bay Housing Project

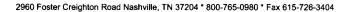
[none] Project Number:

Received:

07/03/09 08:00

### ANALYTICAL REPORT

Analyte	Result Flag	Units	MRL	Dilution Factor	Analysis Date/Time	Method	Batch
Sample ID: NSG0282-06 (504 Laur	el Bay - Soil) Sampled	: 06/30/09 14:30					
General Chemistry Parameters							
% Dry Solids	98.4	%	0.500	1	07/16/09 09:06	SW-846	9071822
Selected Volatile Organic Compounds	by EPA Method 8260B						
Benzene	ND	mg/kg dry	0.00229	1	07/08/09 04:55	SW846 8260B	9070447
Ethylbenzene	ND	mg/kg dry	0.00229	1	07/08/09 04:55	SW846 8260B	9070447
Naphthalene	ND	mg/kg dry	0.00572	1	07/08/09 04:55	SW846 8260B	9070447
Toluene	ND	mg/kg dry	0.00229	1	07/08/09 04:55	SW846 8260B	9070447
Xylenes, total	ND	mg/kg dry	0.00572	1	07/08/09 04:55	SW846 8260B	9070447
Surr: 1,2-Dichloroethane-d4 (67-138%)	99 %				07/08/09 04:55	SW846 8260B	9070447
Surr: Dibromofluoromethane (75-125%)	91 %				07/08/09 04:55	SW846 8260B	9070447
Surr: Toluene-d8 (76-129%)	108 %				07/08/09 04:55	SW846 8260B	9070447
Surr: 4-Bromofluorobenzene (67-147%)	118 %				07/08/09 04:55	SW846 8260B	9070447
Polyaromatic Hydrocarbons by EPA 82	70D						
Acenaphthene	ND	mg/kg dry	0.0670	1	07/10/09 20:31	SW846 8270D	9071105
Acenaphthylene	ND	mg/kg dry	0.0670	1	07/10/09 20:31	SW846 8270D	9071105
Anthracene	ND	mg/kg dry	0.0670	1	07/10/09 20:31	SW846 8270D	9071105
Benzo (a) anthracene	ND	mg/kg dry	0.0670	1	07/10/09 20:31	SW846 8270D	9071105
Benzo (a) pyrene	ND	mg/kg dry	0.0670	1	07/10/09 20:31	SW846 8270D	9071105
Benzo (b) fluoranthene	ND	mg/kg dry	0.0670	1	07/10/09 20:31	SW846 8270D	9071105
Benzo (g,h,i) perylene	ND	mg/kg dry	0.0670	1	07/10/09 20:31	SW846 8270D	9071105
Benzo (k) fluoranthene	ND	mg/kg dry	0.0670	1	07/10/09 20:31	SW846 8270D	9071105
Chrysene	ND	mg/kg dry	0.0670	1	07/10/09 20:31	SW846 8270D	9071105
Dibenz (a,h) anthracene	ND	mg/kg dry	0.0670	1	07/10/09 20:31	SW846 8270D	9071105
Fluoranthene	ND	mg/kg dry	0.0670	1	07/10/09 20:31	SW846 8270D	9071105
Fluorene	ND	mg/kg dry	0.0670	1	07/10/09 20:31	SW846 8270D	9071105
Indeno (1,2,3-cd) pyrene	ND	mg/kg dry	0.0670	1	07/10/09 20:31	SW846 8270D	9071105
Naphthalene	ND	mg/kg dry	0.0670	1	07/10/09 20:31	SW846 8270D	9071105
Phenanthrene	ND	mg/kg dry	0.0670	1	07/10/09 20:31	SW846 8270D	9071105
Pyrene	ND	mg/kg dry	0.0670	1	07/10/09 20:31	SW846 8270D	9071105
1-Methylnaphthalene	ND	mg/kg dry	0.0670	1	07/10/09 20:31	SW846 8270D	9071105
2-Methylnaphthalene	ND	mg/kg dry	0.0670	1	07/10/09 20:31	SW846 8270D	9071105
Surr: Terphenyl-d14 (18-120%)	94 %	- ·			07/10/09 20:31	SW846 8270D	9071105
Surr: 2-Fluorobiphenyl (14-120%)	82 %				07/10/09 20:31	SW846 8270D	9071105
Surr: Nitrobenzene-d5 (17-120%)	77 %				07/10/09 20:31	SW846 8270D	9071105





EEG - Small Business Group, Inc. (2449) Client

> 10179 Highway 78 Ladson, SC 29456

Tom McElwee

Attn

Work Order:

NSG0282

Project Name:

Laurel Bay Housing Project

Project Number: Received:

[none] 07/03/09 08:00

ANALYTICAL REPORT												
Analyte	Result	Flag	Units	MRL	Dilution Factor	Analysis Date/Time	Method	Batch				
Sample ID: NSG0282-07 (500 Lau	rel Bay - Soil)	Sampled:	06/30/09 14:00									
General Chemistry Parameters												
% Dry Solids	95.4		%	0.500	1	07/16/09 09:06	SW-846	9071822				
Selected Volatile Organic Compounds	by EPA Method	8260B										
Benzene	ND		mg/kg dry	0.00223	1	07/08/09 05:25	SW846 8260B	9070447				
Ethylbenzene	ND		mg/kg dry	0.00223	1	07/08/09 05:25	SW846 8260B	9070447				
Naphthalene	ND		mg/kg dry	0.00558	i	07/08/09 05:25	SW846 8260B	9070447				
Toluene	ND		mg/kg dry	0.00223	1	07/08/09 05:25	SW846 8260B	9070447				
Xylenes, total	ND		mg/kg dry	0.00558	1	07/08/09 05:25	SW846 8260B	9070447				
Surr: 1,2-Dichloroethane-d4 (67-138%)	99 %		gg)	0.0000	•	07/08/09 05:25	SW846 8260B	9070447				
Surr: Dibromofluoromethane (75-125%)	93 %					07/08/09 05:25	SW846 8260B	9070447				
Surr: Toluene-d8 (76-129%)	112 %					07/08/09 05:25	SW846 8260B	9070447				
Surr: 4-Bromofluorobenzene (67-147%)	115 %					07/08/09 05:25	SW846 8260B	9070447				
Polyaromatic Hydrocarbons by EPA 83	270D											
Acenaphthene	ND		mg/kg dry	0.0690	1	07/10/09 20:52	SW846 8270D	9071105				
Acenaphthylene	ND		mg/kg dry	0.0690	1	07/10/09 20:52	SW846 8270D	9071105				
Anthracene	ND		mg/kg dry	0.0690	1	07/10/09 20:52	SW846 8270D	9071105				
Benzo (a) anthracene	ND		mg/kg dry	0.0690	1	07/10/09 20:52	SW846 8270D	9071105				
Benzo (a) pyrene	0.0734		mg/kg dry	0.0690	1	07/10/09 20:52	SW846 8270D	9071105				
Benzo (b) fluoranthene	0.121		mg/kg dry	0.0690	1	07/10/09 20:52	SW846 8270D	9071105				
Benzo (g,h,i) perylene	ND		mg/kg dry	0.0690	1	07/10/09 20:52	SW846 8270D	9071105				
Benzo (k) fluoranthene	ND		mg/kg dry	0.0690	1	07/10/09 20:52	SW846 8270D	9071105				
Chrysene	0.0968		mg/kg dry	0.0690	1	07/10/09 20:52	SW846 8270D	9071105				
Dibenz (a,h) anthracene	ND		mg/kg dry	0.0690	1	07/10/09 20:52	SW846 8270D	9071105				
Fluoranthene	ND		mg/kg dry	0.0690	1	07/10/09 20:52	SW846 8270D	9071105				
Fluorene	ND		mg/kg dry	0.0690	1	07/10/09 20:52	SW846 8270D	9071105				
Indeno (1,2,3-cd) pyrene	ND		mg/kg dry	0.0690	1	07/10/09 20:52	SW846 8270D	9071105				
Naphthalene	ND		mg/kg dry	0.0690	1	07/10/09 20:52	SW846 8270D	9071105				
Phenanthrene	ND		mg/kg dry	0.0690	1	07/10/09 20:52	SW846 8270D	9071105				
Pyrene	ND		mg/kg dry	0.0690	1	07/10/09 20:52	SW846 8270D	9071105				
1-Methylnaphthalene	ND		mg/kg dry	0.0690	1	07/10/09 20:52	SW846 8270D	9071105				
2-Methylnaphthalene	ND		mg/kg dry	0.0690	1	07/10/09 20:52	SW846 8270D	9071105				
Surr: Terphenyl-d14 (18-120%)	78 %					07/10/09 20:52	SW846 8270D	9071105				
Surr: 2-Fluorobiphenyl (14-120%)	67 %					07/10/09 20:52	SW846 8270D	9071105				
Surr: Nitrobenzene-d5 (17-120%)	63 %					07/10/09 20:52	SW846 8270D	9071105				



10179 Highway 78 Ladson, SC 29456

Tom McElwee

Attn

Work Order:

NSG0282

Project Name:

Laurel Bay Housing Project

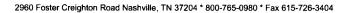
Project Number: [none]

Received:

07/03/09 08:00

### SAMPLE EXTRACTION DATA

Parameter	Batch	Lab Number	Wt/Vol Extracted	Extracted Vol	Date	Analyst	Extraction Method
Polyaromatic Hydrocarbons by EPA 827	'0D						
SW846 8270D	9071105	NSG0282-01	30.29	1.00	07/09/09 10:25	TEM	EPA 3550B
SW846 8270D	9071105	NSG0282-01RE1	30.29	1.00	07/09/09 10:25	TEM	EPA 3550B
SW846 8270D	9071105	NSG0282-01RE2	30.29	1.00	07/09/09 10:25	TEM	EPA 3550B
SW846 8270D	9071105	NSG0282-02	30.44	1.00	07/09/09 10:25	TEM	EPA 3550B
SW846 8270D	9071105	NSG0282-02RE1	30.44	1.00	07/09/09 10:25	TEM	EPA 3550B
SW846 8270D	9071105	NSG0282-03	30.11	1.00	07/09/09 10:25	TEM	EPA 3550B
SW846 8270D	9071105	NSG0282-04	30.14	1.00	07/09/09 10:25	TEM	EPA 3550B
SW846 8270D	9071105	NSG0282-05	30.12	1.00	07/09/09 10:25	TEM	EPA 3550B
SW846 8270D	9071105	NSG0282-06	30.51	1.00	07/09/09 10:25	TEM	EPA 3550B
SW846 8270D	9071105	NSG0282-07	30.55	1.00	07/09/09 10:25	TEM	EPA 3550B
Selected Volatile Organic Compounds b	y EPA Method	8260B					
SW846 8260B	9070447	NSG0282-01	5.54	5.00	06/29/09 10:35	СНН	EPA 5035
SW846 8260B	9070447	NSG0282-02	5.60	5.00	06/29/09 14:30	CHH	EPA 5035
SW846 8260B	9070955	NSG0282-02RE1	4.85	5.00	06/29/09 14:30	СНН	EPA 5035
SW846 8260B	9070447	NSG0282-03	5.13	5.00	06/29/09 14:40	СНН	EPA 5035
SW846 8260B	9070955	NSG0282-03RE1	5.55	5.00	06/29/09 14:40	СНН	EPA 5035
SW846 8260B	9070447	NSG0282-04	4.67	5.00	06/30/09 10:20	СНН	EPA 5035
SW846 8260B	9070447	NSG0282-05	5.00	5.00	06/30/09 09:45	СНН	EPA 5035
SW846 8260B	9070447	NSG0282-06	4.44	5.00	06/30/09 14:30	СНН	EPA 5035
SW846 8260B	9070447	NSG0282-07	4.70	5.00	06/30/09 14:00	СНН	EPA 5035





10179 Highway 78 Ladson, SC 29456

Tom McElwee

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Work Order:

NSG0282

Project Name:

Laurel Bay Housing Project

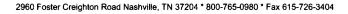
Project Number: Received:

07/03/09 08:00

[none]

## PROJECT QUALITY CONTROL DATA Blank

Analyte	Blank Value	Q	Units	Q.C. Batch	Lab Number	Analyzed Date/Time
Selected Volatile Organic Compo	ounds by FPA Method					
9070447-BLK1	Julius by LIA Method	. 0200D				
Benzene	< 0.000670		mg/kg wet	9070447	9070447-BLK1	07/08/09 01:58
Ethylbenzene	< 0.000670		mg/kg wet	9070447	9070447-BLK1	07/08/09 01:58
Naphthalene	< 0.00170		mg/kg wet	9070447	9070447-BLK1	07/08/09 01:58
Toluene	<0.000400		mg/kg wet	9070447	9070447-BLK1	07/08/09 01:58
Xylenes, total	< 0.00130		mg/kg wet	9070447	9070447-BLK1	07/08/09 01:58
Surrogate: 1,2-Dichloroethane-d4	104%			9070447	9070447-BLK1	07/08/09 01:58
Surrogate: Dibromofluoromethane	98%			9070447	9070447-BLK1	07/08/09 01:58
Surrogate: Toluene-d8	110%			9070447	9070447-BLK1	07/08/09 01:58
Surrogate: 4-Bromofluorobenzene	103%			9070447	9070447-BLK1	07/08/09 01:58
	10370			2070717	30,011, 2211	07100707 07130
9070955-BLK1						
Benzene	< 0.000670		mg/kg wet	9070955	9070955-BLK1	07/08/09 13:30
Ethylbenzene	< 0.000670		mg/kg wet	9070955	9070955-BLK1	07/08/09 13:30
Naphthalene	< 0.00170		mg/kg wet	9070955	9070955-BLK1	07/08/09 13:30
Toluene	< 0.000400		mg/kg wet	9070955	9070955-BLK1	07/08/09 13:30
Xylenes, total	< 0.00130		mg/kg wet	9070955	9070955-BLK1	07/08/09 13:30
Surrogate: 1,2-Dichloroethane-d4	102%			9070955	9070955-BLK1	07/08/09 13:30
Surrogate: Dibromofluoromethane	103%			9070955	9070955-BLK1	07/08/09 13:30
Surrogate: Toluene-d8	97%			9070955	9070955-BLK1	07/08/09 13:30
Surrogate: 4-Bromofluorobenzene	98%			9070955	9070955-BLK1	07/08/09 13:30
Polyaromatic Hydrocarbons by F	FPA 9270D					
9071105-BLK1	EI A 02/0D					
Acenaphthene	< 0.0320		mg/kg wet	9071105	9071105-BLK1	07/10/09 16:35
Acenaphthylene	< 0.0310		mg/kg wet	9071105	9071105-BLK1	07/10/09 16:35
Anthracene	< 0.0330		mg/kg wet	9071105	9071105-BLK1	07/10/09 16:35
Benzo (a) anthracene	< 0.0380		mg/kg wet	9071105	9071105-BLK1	07/10/09 16:35
Benzo (a) pyrene	< 0.0300		mg/kg wet	9071105	9071105-BLK1	07/10/09 16:35
Benzo (b) fluoranthene	< 0.0300		mg/kg wet	9071105	9071105-BLK1	07/10/09 16:35
Benzo (g,h,i) perylene	< 0.0300		mg/kg wet	9071105	9071105-BLK1	07/10/09 16:35
Benzo (k) fluoranthene	< 0.0300		mg/kg wet	9071105	9071105-BLK1	07/10/09 16:35
Chrysene	< 0.0400		mg/kg wet	9071105	9071105-BLK1	07/10/09 16:35
Dibenz (a,h) anthracene	< 0.0310		mg/kg wet	9071105	9071105-BLK1	07/10/09 16:35
Fluoranthene	< 0.0340		mg/kg wet	9071105	9071105-BLK1	07/10/09 16:35
Fluorene	< 0.0360		mg/kg wet	9071105	9071105-BLK1	07/10/09 16:35
Indeno (1,2,3-cd) pyrene	< 0.0310		mg/kg wet	9071105	9071105-BLK1	07/10/09 16:35
Naphthalene	< 0.0410		mg/kg wet	9071105	9071105-BLK1	07/10/09 16:35
Phenanthrene	< 0.0340		mg/kg wet	9071105	9071105-BLK1	07/10/09 16:35
Pyrene	< 0.0410		mg/kg wet	9071105	9071105-BLK1	07/10/09 16:35
1-Methylnaphthalene	< 0.0320		mg/kg wet	9071105	9071105-BLK1	07/10/09 16:35
2-Methylnaphthalene	<0.0320		mg/kg wet	9071105	9071103-BLK1 9071105-BLK1	07/10/09 16:35
2-wiemymaphmaiche	VCCU.U>		mg/kg wet	90/1103	70/1103-DLKI	07/10/05 10:55





10179 Highway 78 Ladson, SC 29456

Tom McElwee

Attn

Work Order:

NSG0282

Project Name:

Laurel Bay Housing Project

Project Number:

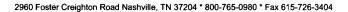
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Received:

07/03/09 08:00

## PROJECT QUALITY CONTROL DATA Blank - Cont.

Analyte	Blank Value	Q	Units	Q.C. Batch	Lab Number	Analyzed Date/Time
Polyaromatic Hydrocarbons by EPA 8	270D					
9071105-BLK1						
Surrogate: Terphenyl-d14	92%			9071105	9071105-BLK1	07/10/09 16:35
Surrogate: 2-Fluorobiphenyl	80%			9071105	9071105-BLK1	07/10/09 16:35
Surrogate: Nitrobenzene-d5	80%			9071105	9071105-BLK1	07/10/09 16:35





10179 Highway 78 Ladson, SC 29456

Tom McElwee

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Work Order:

NSG0282

Project Name:

Received:

Laurel Bay Housing Project

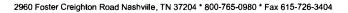
Project Number:

[none] 07/03/09 08:00

PROJECT QUALITY CONTROL DATA

**Duplicate** 

Analyte	Orig. Val.	Duplicate	Q	Units	RPD	Limit	Batch	Sample Duplicated	% Rec.	Analyzed Date/Time
General Chemistry Parameters										
9071822-DUP1										
% Dry Solids	78.6	77.3		%	2	20	9071822	NSG0845-08		07/16/09 09:06





10179 Highway 78

Ladson, SC 29456 Tom McElwee

Attn

Work Order:

NSG0282

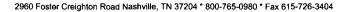
Project Name:

Laurel Bay Housing Project

Project Number: Received: [none] 07/03/09 08:00

# PROJECT QUALITY CONTROL DATA LCS

Analyte	Known Val.	Analyzed Val	Q	Units	% Rec.	Target Range	Batch	Analyzed Date/Time
Selected Volatile Organic Compou	nds by EPA Method 82	60B						
9070447-BS1	•							
Benzene	50.0	57.9		ug/kg	116%	78 - 126	9070447	07/07/09 23:59
Ethylbenzene	50.0	50.2		ug/kg	100%	79 - 130	9070447	07/07/09 23:59
Naphthalene	50.0	52.9		ug/kg	106%	72 - 150	9070447	07/07/09 23:59
Toluene	50.0	52.8		ug/kg	106%	76 - 126	9070447	07/07/09 23:59
Xylenes, total	150	159		ug/kg	106%	80 - 130	9070447	07/07/09 23:59
Surrogate: 1,2-Dichloroethane-d4	50.0	55.6			111%	67 - 138	9070447	07/07/09 23:59
Surrogate: Dibromofluoromethane	50.0	50.4			101%	75 - 125	9070447	07/07/09 23:59
Surrogate: Toluene-d8	50.0	50.3			101%	76 - 129	9070447	07/07/09 23:59
Surrogate: 4-Bromofluorobenzene	50.0	50.4			101%	67 - 147	9070447	07/07/09 23:59
9070955-BS1								
Benzene	50.0	49.0		ug/kg	98%	78 - 126	9070955	07/08/09 11:08
Ethylbenzene	50.0	49.4		ug/kg	99%	79 - 130	9070955	07/08/09 11:08
Naphthalene	50.0	65.7		ug/kg	131%	72 - 150	9070955	07/08/09 11:08
Toluene	50.0	47.8		ug/kg	96%	76 - 126	9070955	07/08/09 11:08
Xylenes, total	150	151		ug/kg	100%	80 - 130	9070955	07/08/09 11:08
Surrogate: 1,2-Dichloroethane-d4	50.0	61.5			123%	67 - 138	9070955	07/08/09 11:08
Surrogate: Dibromofluoromethane	50.0	56.4			113%	75 - 125	9070955	07/08/09 11:08
Surrogate: Toluene-d8	50.0	50.5			101%	76 - 129	9070955	07/08/09 11:08
Surrogate: 4-Bromofluorobenzene	50.0	48.2			96%	67 - 147	9070955	07/08/09 11:08
Polyaromatic Hydrocarbons by EP	A 8270D							
9071105-BS1								
Acenaphthene	1.67	1.39		mg/kg wet	83%	49 - 120	9071105	07/10/09 16:57
Acenaphthylene	1.67	1.39		mg/kg wet	84%	52 - 120	9071105	07/10/09 16:57
Anthracene	1.67	1.56		mg/kg wet	93%	58 - 120	9071105	07/10/09 16:57
Benzo (a) anthracene	1.67	1.49		mg/kg wet	89%	57 - 120	9071105	07/10/09 16:57
Benzo (a) pyrene	1.67	1.51		mg/kg wet	91%	55 - 120	9071105	07/10/09 16:57
Benzo (b) fluoranthene	1.67	1.58		mg/kg wet	95%	51 - 123	9071105	07/10/09 16:57
Benzo (g,h,i) perylene	1.67	1.34		mg/kg wet	80%	49 - 121	9071105	07/10/09 16:57
Benzo (k) fluoranthene	1.67	1.39		mg/kg wet	83%	42 - 129	9071105	07/10/09 16:57
Chrysene	1.67	1.46		mg/kg wet	87%	55 - 120	9071105	07/10/09 16:57
Dibenz (a,h) anthracene	1.67	1.44		mg/kg wet	86%	50 - 123	9071105	07/10/09 16:57
Fluoranthene	1.67	1.55		mg/kg wet	93%	58 - 120	9071105	07/10/09 16:57
Fluorene	1.67	1.43		mg/kg wet	86%	54 - 120	9071105	07/10/09 16:57
Indeno (1,2,3-cd) pyrene	1.67	1.41		mg/kg wet	84%	50 - 122	9071105	07/10/09 16:57
Naphthalene	1.67	1.15		mg/kg wet	69%	28 - 107	9071105	07/10/09 16:57
Phenanthrene	1.67	1.42		mg/kg wet	85%	56 - 120	9071105	07/10/09 16:57
Pyrene	1.67	1.47		mg/kg wet	88%	56 - 120	9071105	07/10/09 16:57
1-Methylnaphthalene	1.67	1.12		mg/kg wet	67%	36 - 120	9071105	07/10/09 16:57
2-Methylnaphthalene	1.67	1.14		mg/kg wet	69%	36 - 120	9071105	07/10/09 16:57





10179 Highway 78 Ladson, SC 29456

Tom McElwee

Attn

Work Order:

NSG0282

Project Name:

Laurel Bay Housing Project

Project Number:

[none]

Received: 07/03/09 08:00

### PROJECT QUALITY CONTROL DATA

### LCS - Cont.

Analyte	Known Val.	Analyzed Val	Q	Units	% Rec.	Target Range	Batch	Analyzed Date/Time
Polyaromatic Hydrocarbons by EPA 827	0D							
9071105-BS1								
Surrogate: Terphenyl-d14	1.67	1.36			82%	18 - 120	9071105	07/10/09 16:57
Surrogate: 2-Fluorobiphenyl	1.67	1.23			74%	14 - 120	9071105	07/10/09 16:57
Surrogate: Nitrobenzene-d5	1.67	1.07			64%	17 - 120	9071105	07/10/09 16:57



10179 Highway 78 Ladson, SC 29456

Tom McElwee

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79 Highway 78

Work Order:

NSG0282

Project Name:

Received:

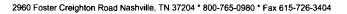
Laurel Bay Housing Project

Project Number: [1

[none] 07/03/09 08:00

# PROJECT QUALITY CONTROL DATA LCS Dup

Analyte	Orig. Val.	Duplicate	Q	Units	Spike Conc	% Rec.	Target Range	RPD	Limit	Batch	Sample Duplicated	Analyzed Date/Time
Selected Volatile Organic Compo	ounds by EPA	Method 820	60B									
9070447-BSD1												
Benzene		46.6		ug/kg	50.0	93%	78 - 126	22	50	9070447		07/08/09 00:29
Ethylbenzene		43.4		ug/kg	50.0	87%	79 - 130	14	50	9070447		07/08/09 00:29
Naphthalene		42.0		ug/kg	50.0	84%	72 - 150	23	50	9070447		07/08/09 00:29
Toluene		48.6		ug/kg	50.0	97%	76 - 126	8	50	9070447		07/08/09 00:29
Xylenes, total		141		ug/kg	150	94%	80 - 130	12	50	9070447		07/08/09 00:29
Surrogate: 1,2-Dichloroethane-d4		52.2		ug/kg	50.0	104%	67 - 138			9070447		07/08/09 00:29
Surrogate: Dibromofluoromethane		50.9		ug/kg	50.0	102%	75 - 125			9070447		07/08/09 00:29
Surrogate: Toluene-d8		55.9		ug/kg	50.0	112%	76 - 129			9070447		07/08/09 00:29
Surrogate: 4-Bromofluorobenzene		50.8		ug/kg	50.0	102%	67 - 147			9070447		07/08/09 00:29
9070955-BSD1												
Benzene		49.3		ug/kg	50.0	99%	78 - 126	0.5	50	9070955		07/08/09 11:39
Ethylbenzene		49.0		ug/kg	50.0	98%	79 - 130	0.9	50	9070955		07/08/09 11:39
Naphthalene		65.7		ug/kg	50.0	131%	72 - 150	0.05	50	9070955		07/08/09 11:39
Toluene		47.4		ug/kg	50.0	95%	76 - 126	0.9	50	9070955		07/08/09 11:39
Xylenes, total		150		ug/kg	150	100%	80 - 130	0.5	50	9070955		07/08/09 11:39
Surrogate: 1,2-Dichloroethane-d4		61.9		ug/kg	50.0	124%	67 - 138			9070955		07/08/09 11:39
Surrogate: Dibromofluoromethane		57.7		ug/kg	50.0	115%	75 - 125			9070955		07/08/09 11:39
Surrogate: Toluene-d8		50.7		ug/kg	50.0	101%	76 - 129			9070955		07/08/09 11:39
Surrogate: 4-Bromofluorobenzene		47.9		ug/kg	50.0	96%	67 - 147			9070955		07/08/09 11:39





10179 Highway 78 Ladson, SC 29456

Tom McElwee

Attn

Work Order:

NSG0282

Project Name:

Laurel Bay Housing Project

Project Number: Received: [none] 07/03/09 08:00

## PROJECT QUALITY CONTROL DATA Matrix Spike

				Matrix Spir	ic .					
Analyte	Orig. Val.	MS Val	Q	Units	Spike Conc	% Rec.	Target Range	Batch	Sample Spiked	Analyzed Date/Time
Selected Volatile Organic Compou	nds by EPA Me	thod 8260B								
9070955-MS1	•									
Benzene	ND	1.99		mg/kg wet	2.77	72%	42 - 141	9070955	NSG0285-06RE	07/08/09 20:40
Ethylbenzene	ND	2.08		mg/kg wet	2.77	75%	21 - 165	9070955	NSG0285-06RE	07/08/09 20:40
Naphthalene	ND	2.00		mg/kg wet	2.77	72%	10 - 160	9070955	NSG0285-06RE	07/08/09 20:40
Toluene	ND	2.03		mg/kg wet	2.77	73%	45 - 145	9070955	NSG0285-06RE	07/08/09 20:40
Xylenes, total	0.0782	6.37		mg/kg wet	8.31	76%	31 - 159	9070955	NSG0285-06RE	07/08/09 20:40
Surrogate: 1,2-Dichloroethane-d4		39.2		ug/kg	50.0	78%	67 - 138	9070955	NSG0285-06RE	07/08/09 20:40
Surrogate: Dibromofluoromethane		42.5		ug/kg	50.0	85%	75 - 125	9070955	NSG0285-06RE	07/08/09 20:40
Surrogate: Toluene-d8		48.4		ug/kg	50.0	97%	76 - 129	9070955	NSG0285-06RE	07/08/09 20:40
Surrogate: 4-Bromofluorobenzene		49.7		ug/kg	50.0	99%	67 - 147	9070955	NSG0285-06RE	07/08/09 20:40
Polyaromatic Hydrocarbons by El	PA 8270D									
9071105-MS1										
Acenaphthene	ND	1.86		mg/kg dry	2.12	88%	42 - 120	9071105	NSG0282-05	07/10/09 17:18
Acenaphthylene	ND	1.87		mg/kg dry	2.12	88%	32 - 120	9071105	NSG0282-05	07/10/09 17:18
Anthracene	ND	2.06		mg/kg dry	2.12	97%	10 - 200	9071105	NSG0282-05	07/10/09 17:18
Benzo (a) anthracene	ND	1.99		mg/kg dry	2.12	94%	41 - 120	9071105	NSG0282-05	07/10/09 17:18
Benzo (a) pyrene	ND	2.00		mg/kg dry	2.12	94%	33 - 121	9071105	NSG0282-05	07/10/09 17:18
Benzo (b) fluoranthene	ND	2.08		mg/kg dry	2.12	98%	26 - 137	9071105	NSG0282-05	07/10/09 17:18
Benzo (g,h,i) perylene	ND	1.78		mg/kg dry	2.12	84%	21 - 124	9071105	NSG0282-05	07/10/09 17:18
Benzo (k) fluoranthene	ND	1.93		mg/kg dry	2.12	91%	14 - 140	9071105	NSG0282-05	07/10/09 17:18
Chrysene	ND	1.94		mg/kg dry	2.12	91%	28 - 123	9071105	NSG0282-05	07/10/09 17:18
Dibenz (a,h) anthracene	ND	1.92		mg/kg dry	2.12	90%	25 - 127	9071105	NSG0282-05	07/10/09 17:18
Fluoranthene	ND	2.17		mg/kg dry	2.12	102%	38 - 120	9071105	NSG0282-05	07/10/09 17:18
Fluorene	ND	1.99		mg/kg dry	2.12	94%	41 - 120	9071105	NSG0282-05	07/10/09 17:18
Indeno (1,2,3-cd) pyrene	ND	1.86		mg/kg dry	2.12	88%	25 - 123	9071105	NSG0282-05	07/10/09 17:18
Naphthalene	ND	1.52		mg/kg dry	2.12	72%	25 - 120	9071105	NSG0282-05	07/10/09 17:18
Phenanthrene	ND	1.93		mg/kg dry	2.12	91%	37 - 120	9071105	NSG0282-05	07/10/09 17:18
Pyrene	ND	2.00		mg/kg dry	2.12	94%	29 - 125	9071105	NSG0282-05	07/10/09 17:18
1-Methylnaphthalene	ND	1.49		mg/kg dry	2.12	70%	19 - 120	9071105	NSG0282-05	07/10/09 17:18
2-Methylnaphthalene	ND	1.55		mg/kg dry	2.12	73%	11 - 120	9071105	NSG0282-05	07/10/09 17:18
Surrogate: Terphenyl-d14		1.90		mg/kg dry	2.12	90%	18 - 120	9071105	NSG0282-05	07/10/09 17:18
Surrogate: 2-Fluorobiphenyl		1.66		mg/kg dry	2.12	78%	14 - 120	9071105	NSG0282-05	07/10/09 17:18
Surrogate: Nitrobenzene-d5		1.36		mg/kg dry	2.12	64%	17 - 120	9071105	NSG0282-05	07/10/09 17:18



2960 Foster Creighton Road Nashville, TN 37204 \* 800-765-0980 \* Fax 615-726-3404

Client EEG - Small Business Group, Inc. (2449)

10179 Highway 78 Ladson, SC 29456

Tom McElwee

Work Order:

NSG0282

Project Name:

Laurel Bay Housing Project

Project Number: Received: [none]

07/03/09 08:00

### PROJECT QUALITY CONTROL DATA

Matrix Spike - Cont.

Target

Sample Spiked Analyzed

Analyte

Attn

Orig. Val.

MS Val

Q

Units Spike Conc

% Rec.

Range

Batch

Date/Time

Polyaromatic Hydrocarbons by EPA 8270D





10179 Highway 78 Ladson, SC 29456

Tom McElwee

Attn

Work Order:

NSG0282

Project Name:

Laurel Bay Housing Project

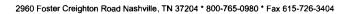
Project Number: [none]

Received:

07/03/09 08:00

# PROJECT QUALITY CONTROL DATA Matrix Spike Dup

Analyte	Orig. Val.	Duplicate	Q	Units	Spike Conc	% Rec.	Target Range	RPD	Limit	Batch	Sample Duplicated	Analyzed Date/Time
Selected Volatile Organic Compo	ounds by EPA	Method 826	60B									
9070955-MSD1												
Benzene	ND	2.07		mg/kg wet	2.77	75%	42 - 141	4	50	9070955	NSG0285-06RE	07/08/09 21:11
Ethylbenzene	ND	2.12		mg/kg wet	2.77	76%	21 - 165	2	50	9070955	1 NSG0285-06RE	07/08/09 21:11
Naphthalene	ND	2.12		mg/kg wet	2.77	77%	10 - 160	6	50	9070955	l NSG0285-06RE	07/08/09 21:11
Toluene	ND	2.05		mg/kg wet	2.77	74%	45 - 145	1	50	9070955	1 NSG0285-06RE	07/08/09 21:11
Xylenes, total	0.0782	6.41		mg/kg wet	8.31	76%	31 - 159	0.5	50	9070955	1 NSG0285-06RE	07/08/09 21:11
Surrogate: 1,2-Dichloroethane-d4		39.9		ug/kg	50.0	80%	67 - 138			9070955	1 NSG0285-06RE	07/08/09 21:11
Surrogate: Dibromofluoromethane		43.6		ug/kg	50.0	87%	75 - 125			9070955	l NSG0285-06RE	07/08/09 21:11
Surrogate: Toluene-d8		47.8		ug/kg	50.0	96%	76 - 129			9070955	l NSG0285-06RE	07/08/09 21:11
Surrogate: 4-Bromofluorobenzene		49.6		ug/kg	50.0	99%	67 - 147			9070955	1 NSG0285-06RE 1	07/08/09 21:11
Polyaromatic Hydrocarbons by l	EPA 8270D											
9071105-MSD1 Acenaphthene	ND	1.35		mg/kg dry	2.10	64%	42 - 120	32	40	9071105	NSG0282-05	07/10/09 17:40
Acenaphthylene	ND ND	1.34	R	mg/kg dry	2.10	64%	32 - 120	33	30	9071105	NSG0282-05	07/10/09 17:40
Anthracene	ND	1.59	ĸ	mg/kg dry	2.10	76%	10 - 200	26	50	9071105	NSG0282-05	07/10/09 17:40
Benzo (a) anthracene	ND	1.51		mg/kg dry	2.10	72%	41 - 120	27	30	9071105	NSG0282-05	07/10/09 17:40
Benzo (a) pyrene	ND	1.50		mg/kg dry	2.10	72%	33 - 121	28	33	9071105	NSG0282-05	07/10/09 17:40
Benzo (b) fluoranthene	ND	1.40		mg/kg dry	2.10	67%	26 - 137	39	42	9071105	NSG0282-05	07/10/09 17:40
Benzo (g,h,i) perylene	ND	1.31		mg/kg dry	2.10	63%	21 - 124	30	32	9071105	NSG0282-05	07/10/09 17:40
Benzo (k) fluoranthene	ND	1.59		mg/kg dry	2.10	76%	14 - 140	20	39	9071105	NSG0282-05	07/10/09 17:40
Chrysene	ND	1.47		mg/kg dry	2.10	70%	28 - 123	27	34	9071105	NSG0282-05	07/10/09 17:40
Dibenz (a,h) anthracene	ND	1.42		mg/kg dry	2.10	68%	25 - 127	30	31	9071105	NSG0282-05	07/10/09 17:40
Fluoranthene	ND	1.62		mg/kg dry	2.10	77%	38 - 120	29	35	9071105	NSG0282-05	07/10/09 17:40
Fluorene	ND	1.43		mg/kg dry	2.10	68%	41 - 120	33	37	9071105	NSG0282-05	07/10/09 17:40
Indeno (1,2,3-cd) pyrene	ND	1.37		mg/kg dry	2.10	65%	25 - 123	31	32	9071105	NSG0282-05	07/10/09 17:40
Naphthalene	ND	1.10		mg/kg dry	2.10	53%	25 - 120	32	42	9071105	NSG0282-05	07/10/09 17:40
Phenanthrene	ND	1.46		mg/kg dry	2.10	70%	37 - 120	28	32	9071105	NSG0282-05	07/10/09 17:40
Pyrene	ND	1.51		mg/kg dry	2.10	72%	29 - 125	28	40	9071105	NSG0282-05	07/10/09 17:40
1-Methylnaphthalene	ND	1.05		mg/kg dry	2.10	50%	19 - 120	35	45	9071105	NSG0282-05	07/10/09 17:40
2-Methylnaphthalene	ND	1.14		mg/kg dry	2.10	54%	11 - 120	31	50	9071105	NSG0282-05	07/10/09 17:40
Surrogate: Terphenyl-d14		1.48		mg/kg dry	2.10	71%	18 - 120			9071105	NSG0282-05	07/10/09 17:40
Surrogate: 2-Fluorobiphenyl		1.16		mg/kg dry	2.10	55%	14 - 120			9071105	NSG0282-05	07/10/09 17:40
Surrogate: Nitrobenzene-d5		1.01		mg/kg dry	2.10	48%	17 - 120			9071105	NSG0282-05	07/10/09 17:40





10179 Highway 78 Ladson, SC 29456

Lauson, SC 234

Tom McElwee

Work Order: NSG0282

Project Name: Laurel Bay Housing Project

Project Number: [none]

Received: 07/03/09 08:00

### **CERTIFICATION SUMMARY**

### TestAmerica Nashville

Attn

Method	Matrix	AIHA	Nelac	South Carolina					
SW846 8260B	Soil	N/A	X	X					
SW846 8270D	Soil		X	X					
SW-846	Soil								





### **COOLER RECEIP**

NSG0282

Cooler Received/Opened On_07/03/09 @ 08:00											
1. Tracking #CIUQ/(last 4 digits, FedE_,											
Courier:FED-EX											
2. Temperature of rep. sample or temp blank when opened:Degrees Celsius											
3. If Item #2 temperature is 0°C or less, was the representative sample or temp blank frozen? YES NO.											
4. Were custody seals on outside of cooler?											
If yes, how many and where:	()										
5. Were the seals intact, signed, and dated correctly?	E8NONA										
6. Were custody papers inside cooler?	YESNONA										
I certify that I opened the cooler and answered questions 1-6 (intial)											
7. Were custody seals on containers:  YES  NO and Intact	YESNO										
Were these signed and dated correctly?	YESNONA										
8. Packing mat'l used? Bubblewrap Plastic bag Peanuts Vermiculite Foam Insert Paper	Other None										
9. Cooling process: (Ce Ice-pack Ice (direct contact) Dry ice	Other None										
10. Did all containers arrive in good condition (unbroken)?	ESNONA										
11. Were all container labels complete (#, date, signed, pres , etc)?	ÆS).NONA										
12. Did all container labels and tags agree with custody papers?	ESNONA										
13a. Were VOA vials received?	YESNONA										
b. Was there any observable headspace present in any VOA vial?	YESNONA										
14. Was there a Trip Blank in this cooler? YESNONA If multiple coolers, sequence	ce #										
I certify that I unloaded the cooler and answered questions 7-14 (intial)	(M)										
15a. On pres'd bottles, did pH test strips suggest preservation reached the correct pH level?	YESNO.MA										
b. Did the bottle labels indicate that the correct preservatives were used	(FES).NONA										
16. Was residual chlorine present?	YESNO										
I certify that I checked for chlorine and pH as per SOP and answered questions 15-16 (intial)	_@										
17. Were custody papers properly filled out (lnk, signed, etc)?	ÆŠNONA										
18. Did you sign the custody papers in the appropriate place?	(FES)NONA										
19. Were correct containers used for the analysis requested?	E9NONA										
20. Was sufficient amount of sample sent in each container?	ESNONA										
I certify that I entered this project into LIMS and answered questions 17-20 (intial)											
certify that I attached a label with the unique LIMS number to each container (intial)	_@_										
21. Were there Non-Conformance issues at login? YES.(NO) Was a PIPE generated? YES.(.)	W.#										

THE LEADER IN ENVIRONMENTA	2960 Foster Creight														To assist us in using the proper analytical methods, is this work being conducted for regulatory purposes?														
Client Name/Account #:	EEG # 2449																				•		Comp	liance	Moni	toring?	<b>?</b>	Yes	 No
Address:	10179 Highway	78																					Enfo	rcem	ent Ac	tion?		Yes	- No
City/State/Zip:	Ladson, SC 29456										Site	e Stat	e: SC								•								
Project Manager:	Tom McElwee email: mcelwee@eeginc.net											PO	#: 	08	26	7													
Telephone Number:	2.00							7		TA C	luote	#:			-														
Sampler Name: (Print)	PRA	H S	3/10	ند ا	>													Pro	ject i	D: Lat	rel Bay	Housin	g Proje	ect					
Sampler Signature:		124						2				7	,					Pr	oject	#:									 
							_	<del>J</del> p	rese	rvativ	/e	=	F	_	Mat	rix		T		_			Analyze	e For:					 Ī
Sample ID / Description  // 7C JASM, NR  48C LAUREL BAY  484 LAUREL BAY  484 LAUREL BAY  488 LAUREL BAY  504 LAUREL BAY  506 LAUREL BAY	6/29/69 6/29/69 6/29/69 6/39/69 6/39/69 6/39/69	143C 143C 143C 144C 1620 143C	G S V V V V V V V V V V V V V V V V V V	Grab	Composite	Field Filtered	los (in the second seco	NO CO CO CONTROL (Blue Label)	NaOH (Orange Label)	H <sub>2</sub> SO <sub>4</sub> Plastic (Yellow Label)		C C N L D C None (Black Labe)	Groundwater	Wastewater	Drinking Water	×			איר פראני פראני					<b>4</b>	560	00000	02-01 02-03 04-05 05-06-07		RUSH TAT (Pre-Schedule)
		<b></b>			$\Box$	$\neg$	7	7			7	丰	F			#	‡	丰_	#	#	+-	+=	<b>+</b>	<del>-</del>	-	_	_		 <del>[</del>
Special Instructions:		l	اا					Д.,	_				<u></u>	Ш				<u>L</u>	<u>L</u> _	1 2	oratory	Comp	nents:						<u> </u>
Relinquished by	Date Time Received by: Date								EDE	X	nė		Tem	peratur s Free	re Upo	n Rec		4.6	:		Y								
Relinquished by:	Bate		Tim	e	Received by TestAmerica: Date 7.3.0							Time O&OO								 									

### ATTACHMENT A



# **NON-HAZARDOUS MANIFEST**

CWARAI (Form designed for use on elite (12-pitch) typewriter. Generator's US EPA ID No. 2. Page NON-HAZARDOUS MANIFEST of 1 A. Manifest Number Generator's Name and Mailing Address 10885475 MCAS, Beaufort Laurel Bay Housing Beaufort SC 29904 WMNA Generator's Phone 843 228-6460 Transporter 1 Company Name US EPA ID Number C. State Transporter's ID D. Transporter's Phone EEG, Inc. E. State Transporter's ID Transporter 2 Company Name 8. US EPA ID Number F. Transporter's Phone 9. Designated Facility Name and Site Address 10. US EPA ID Number G. State Facility's ID HICKORY HILL LANDFILL COLUMN TO H. Facility's Phone ROUTE 1, BOX 121 843 987-4643 RIDGELAND SC 2983 14. Unit 11. Description of Waste Materials 12. Containers 13. Total Misc. Comments \*Heating Oil Tank filled with Sand 0 18 WM Profile # 1026558C WM Profile # WM Profile # WM Profile # K. Disposal Location Additional Descriptions for Materials Listed Above Landfill Solidification Level **Bio Remediation** Special Handling Instructions and Additional Information 15. 5 FROM HOUSES 504 LAURE I HOUSE BAYV 514 LAURRI 500 KAURE | BAY/ EMERGENCY CONTACT: GENERATOR'S CERTIFICATION: 16. I hereby certify that the above-described materials are not hazardous wastes as defined by 40 CFR Part 261 or any applicable state law, have been fully and accurately described, classified and packaged, and are in proper condition for transportation according to applicable regulations. Printed/Typed Name Signature "On behalf-of" Month Day Year Transporter 1 Acknowledgement of Receipt of Materials 17. Signature Month Day Year Transporter 2 Acknowledgement of Receipt of Materials Printed/Typed Name Signature Month Day Year 19. Certificate of Final Treatment/Disposal I certify, on behalf of the above listed treatment facility, that to the best of my knowledge, the above-described waste was managed in compliance with all applicable laws, regulations, permits and licenses on the dates listed above. Facitilty Owner or Operator: Certification of receipt of non-hazardous materials covered by this manifest Month Day Printed/Typed Name Year 10171010101

## Appendix C Regulatory Correspondence





#### C. Earl Hunter, Commissioner

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

### Bureau of Land and Waste Management Division of Waste Management

February 17, 2010

Commanding Officer Attention: NREAO Mr. William A. Drawdy United States Marine Corp Air Station Post Office Box 55001 Beaufort, SC 29904-5001

RE:

No Further Action

Laurel Bay Underground Storage Tank Assessment Reports for:

- 492 Laurel Bay
- 488 Laurel Bay
- 504 Laurel Bay
- 500 Laurel Bay

Dear Mr. Drawdy,

The South Carolina Department of Health and Environmental Control (the Department) received the above referenced Underground Storage Tanks (USTs) Assessment Reports on September 23, 2009 and October 8, 2009 for the addresses listed above.

The Department has reviewed the referenced assessment reports and agrees there is no indication of soil or groundwater contamination on these properties, and therefore no further investigation is required at this time.

Please note that the Department's decision is based on information provided by the Marine Corp Air Station (MCAS) to date. Any information found to be contradictory to this decision may require additional action. Furthermore, the Department retains the right to request further investigation if deemed necessary.

If you have any questions, please contact me at picketcn@dhec.sc.gov or 803-896-4131.

Sincerely, Clause Picket

Christi Pickett

Corrective Action Engineering Section Bureau of Land and Waste Management

South Carolina Department of Health and Environmental Control

cc:

Laurel Rhoten (via email)

Craig Ehde (via email)



### **MEMORANDUM**

TO:

Christi Pickett Engineering Associate

Corrective Action Engineering Section

Division of Waste Management

Bureau of Land and Waste Management

FROM:

J Sommer Streett, Hydrogeologist

Federal Facilities Groundwater Section

Division of Waste Management

Bureau of Land and Waste Management

DATE:

February 17, 2010

RE:

Marine Corps Air Station (MCAS)

Beaufort, South Carolina

SC1 750 216 169

Underground Storage Tank (UST) Assessment Report 488 Laurel Bay Blvd., Laurel Bay Military Housing Area 492 Laurel Bay Blvd., Laurel Bay Military Housing Area 500 Laurel Bay Blvd., Laurel Bay Military Housing Area 504 Laurel Bay Blvd., Laurel Bay Military Housing Area

Dated September 23, 2009

The documents referenced above have been reviewed with respect to the South Carolina Pollution Control Act 48-1-10. These documents include data from soil samples collected during removal of underground heating oil tanks at the Laurel Bay Housing Area. These tanks are being voluntarily removed by the MCAS. Data included in these reports have been compared to the appropriate screening levels.

USTs 488 Laurel Bay Blvd., 492 Laurel Bay Blvd., 500 Laurel Bay Blvd. and 504 Laurel Bay Blvd. are single steel wall 280 gallon heating oil tanks that were installed during the late 1950s and used through the mid 1980s. They were removed during the June 30, 2009 field activities and disposed of at a subtitle D landfill.

Based on this review, the Federal Facilities Groundwater Section has no comment.