SUMMARY REPORT 200 BIRCH ROAD (FORMERLY 289 BIRCH ROAD) LAUREL BAY MILITARY HOUSING AREA MARINE CORPS AIR STATION BEAUFORT BEAUFORT, SC

> Revision: 0 Prepared for:

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

and



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Prepared by:



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

Contract Number: N62470-14-D-9016

CTO WE52

JUNE 2021





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List of Acronyms

bgs below ground surface

BTEX benzene, toluene, ethylbenzene, and xylenes

CTO Contract Task Order

COPC constituents of potential concern

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 200 Birch Road (Formerly 289 Birch Road). This NFA determination indicates that there are no unacceptable risks to human health or the environment for the petroleum constituents associated with the home heating oil USTs. The following information is included in this report:

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

1.1 Background Information

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





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

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

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

1.2 UST Removal and Assessment Process

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

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

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





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

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

2.0 SAMPLING ACTIVITIES AND RESULTS

The following section presents the sampling activities and associated results for 200 Birch Road (Formerly 289 Birch Road). Details regarding the soil investigation at this site are provided in the *SCDHEC UST Assessment Report – 289 Birch Road* (MCAS Beaufort, 2009). The UST Assessment Report is provided in Appendix B.

2.1 UST Removal and Soil Sampling

On April 28, 2009, a single 280 gallon heating oil UST was removed from the landscaped area adjacent to the driveway at 200 Birch Road (Formerly 289 Birch Road). 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 200 Birch Road (Formerly 289 Birch Road) 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 200 Birch Road (Formerly 289 Birch Road). This NFA determination was obtained in a letter dated July 22, 2009. 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 – 289 Birch Road, Laurel Bay Military Housing Area, June 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 200 Birch Road (Formerly 289 Birch Road) Laurel Bay Military Housing Area Marine Corps Air Station Beaufort Beaufort, South Carolina

Constituent	SCDHEC RBSLs (1)	Results Sample Collected 04/28/09	
Volatile Organic Compounds Analyzed	by EPA Method 8260B (mg/kg)		
Benzene	0.003	ND	
Ethylbenzene	1.15	ND	
Naphthalene	0.036	0.00797	
Toluene	0.627	ND	
Xylenes, Total	13.01	ND	
Semivolatile Organic Compounds Ana	lyzed by EPA Method 8270D (mg/kg)		
Benzo(a)anthracene	0.66	ND	
Benzo(b)fluoranthene	0.66	ND	
Benzo(k)fluoranthene	0.66	ND	
Chrysene	0.66	ND	
Dibenz(a,h)anthracene	0.66	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

 \mbox{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





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 Co



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

04226

RECEIVED

JUN 2 9 2000

SITE ASSESSMENT, RELISCIATION &

I. OWNERSHIP OF UST (S)

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

II. SITE IDENTIFICATION AND LOCATION

	_	
Permit I.D. #		
Laurel Bay Milita	ry Housing Area, Marine Corps Ai	r Station, Beaufort, SC
Facility Name or Company	Site Identifier	
289 Birch Dr., L	aurel Bay Military Housing Area	
Street Address or State Ro	ad (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
(Name) Notary Public for the state of
Notary Public for the state of Please affix State seal if you are commissioned outside South Carolina

	VI. UST INFORMATION	289Birch
Α.	Product(ex. Gas, Kerosene)	Heating oil
В.	Capacity(ex. 1k, 2k)	280 gal
C.	Age	Late 1950s
D.	Construction Material(ex. Steel, FRP)	Steel
E.	Month/Year of Last Use	Mid 1980s
Г .	Depth (ft.) To Base of Tank	5'8"
G.	Spill Prevention Equipment Y/N	No
Н.	Overfill Prevention Equipment Y/N	No
I.	Method of Closure Removed/Filled	Removed
J.	Date Tanks Removed/Filled	4/28/09
K.	Visible Corrosion or Pitting Y/N	Yes
L.	Visible Holes Y/N	Yes
M.	Method of disposal for any USTs removed from the UST 289Birch was removed from the	ground (attach disposal manifests) ground, cleaned and recycled. See
	Attachment "A."	
N.	Method of disposal for any liquid petroleum, sludge disposal manifests) Fluid was pumped from the tank an	
O.	If any corrosion, pitting, or holes were observed, decorrosion, pitting and holes were	

VII. PIPING INFORMATION

	289Birch
	Steel
onstruction Material(ex. Steel, FRP)	/Copper
istance from UST to Dispenser	N/A
umber of Dispensers	N/A
ype of System Pressure or Suction	Suction
as Piping Removed from the Ground? Y/N	Yes
isible Corrosion or Pitting Y/N	Yes
isible Holes Y/N	No
ge	Late 1950s
any corrosion, pitting, or holes were observed,	describe the location and extent for each pipi
Corrosion and pitting were four	
pipe. The copper supply and ret	
	<u> </u>
VIII. BRIEF SITE DESCR	RIPTION AND HISTORY
The USTs at the residences are c	
and formerly contained fuel oil	•
	last used in the mid 1980s.
installed in the late 1950s and	
installed in the late 1950s and	
installed in the late 1950s and	
installed in the late 1950s and	
installed in the late 1950s and	

IX. SITE CONDITIONS

	Yes	No	Unk
A. Were any petroleum-stained or contaminated soils found in the US excavation, soil borings, trenches, or monitoring wells? If yes, indicate depth and location on the site map.	ST	х	
 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.) 	,	х	
C. Was water present in the UST excavation, soil borings, or trenches If yes, how far below land surface (indicate location and depth)?	s?	х	
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:		Х	
E. Was a petroleum sheen or free product detected on any excavation or boring waters? If yes, indicate location and thickness.	1	х	

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#
289Birch	Excav at fill end	Soil	Sandy clay	5'8"	4/28/09 1130 hrs	P. Shaw	
				:			
M 100	:						
8				:			
9	· · · · · · · · · · · · · · · · · · ·						
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							

^{* =} 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.

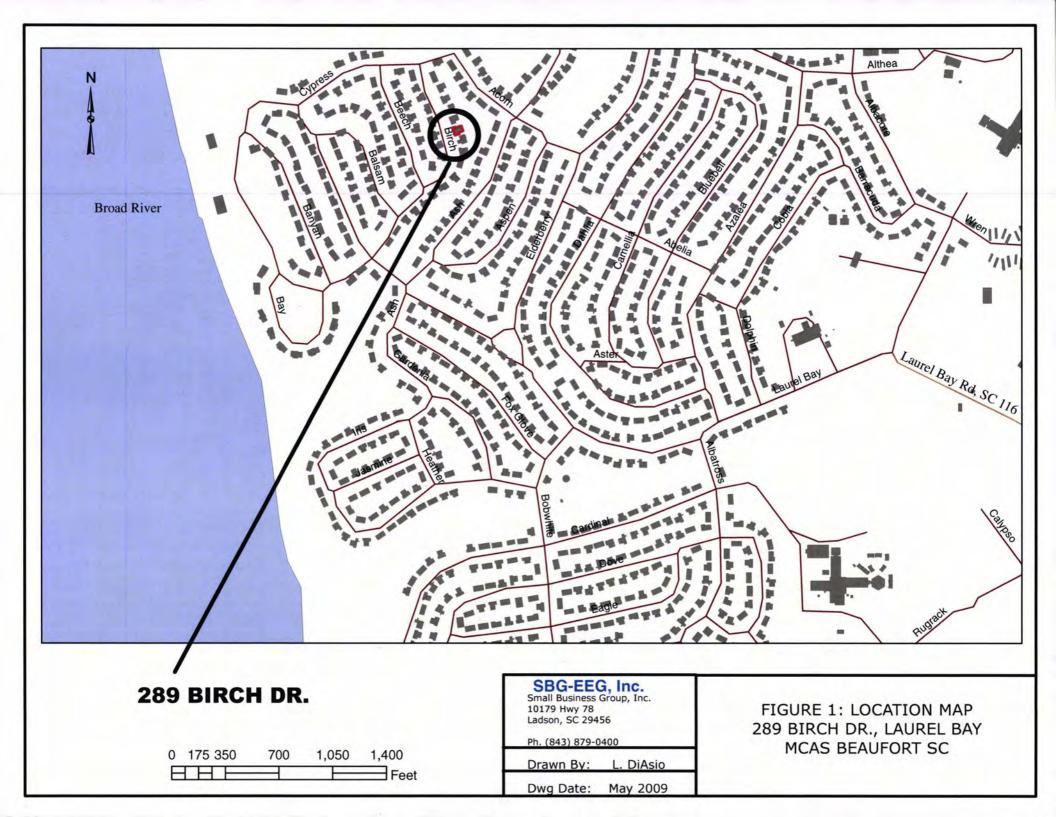
XII. RECEPTORS

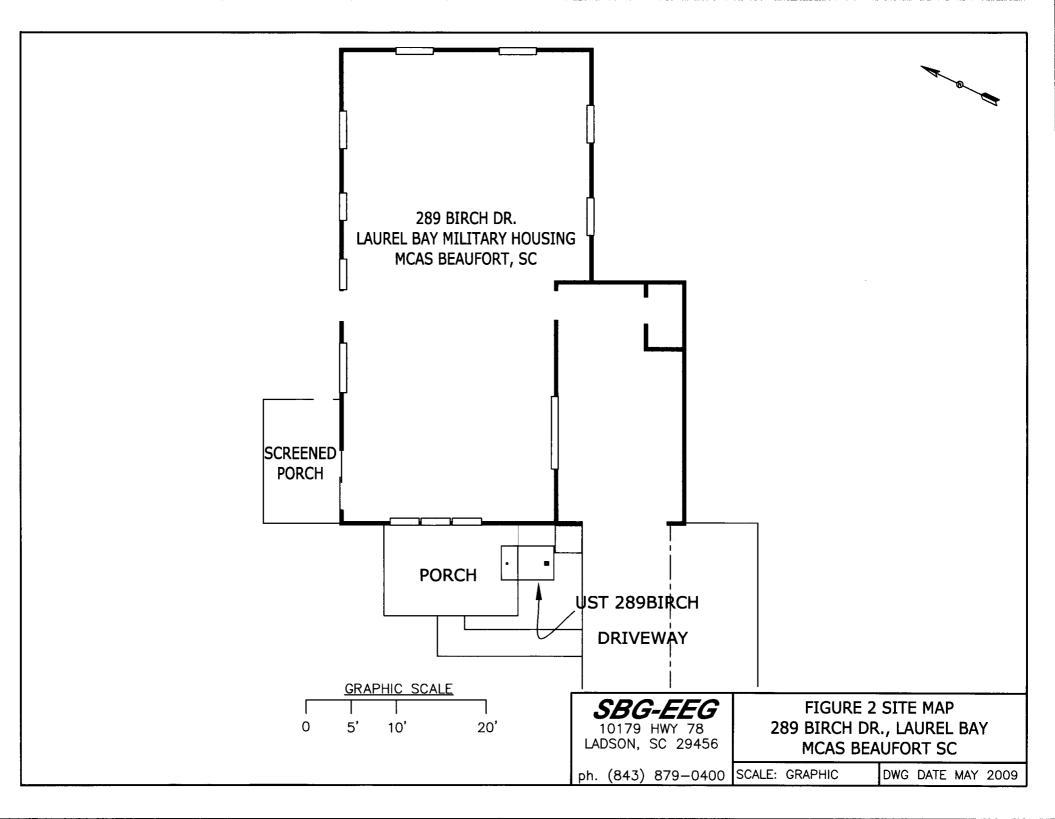
		Yes	No
A.	Are there any lakes, ponds, streams, or wetlands located within 1000 feet of the UST system?		х
	If yes, indicate type of receptor, distance, and direction on site map.		
B.	Are there any public, private, or irrigation water supply wells within 1000 feet of the UST system?		Х
	If yes, indicate 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?		х
	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? *Sewer and water.	X*	
	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?		х
	If yes, indicate the area of contaminated soil on the site map.		

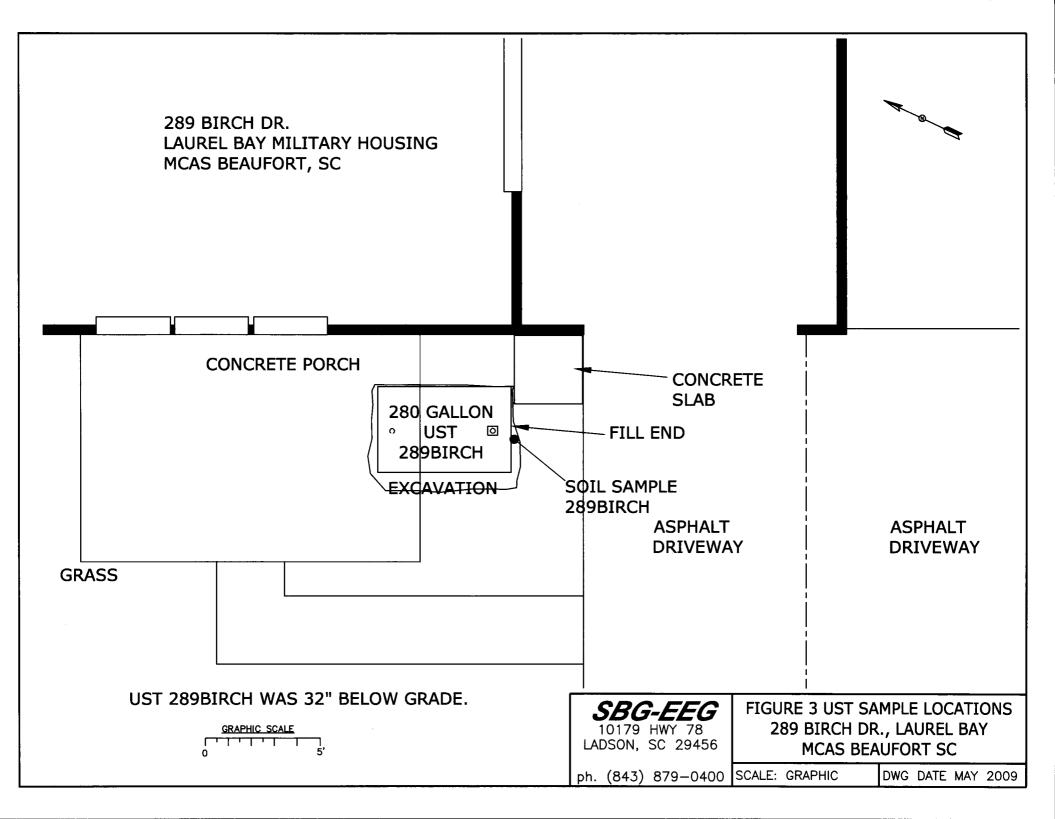
XIII. SITE MAP

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: 289 Birch Dr. underground storage tank site.



Picture 2: UST 289Birch being removed from the excavation.

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.

СоС	289 Birch
Benzene	ND
Toluene	ND
Ethylbenzene	ND ND
Xylenes	ND
Naphthalene	0.00797 mg/kg
Benzo (a) anthracene	ND
Benzo (b) fluoranthene	ND
Benzo (k) fluoranthene	ND
Chrysene	ND
Dibenz (a, h) anthracene	ND
TPH (EPA 3550)	
СоС	
Benzene	
Toluene	
Ethylbenzene	
Xylenes	
Naphthalene	
Benzo (a) anthracene	
Benzo (b) fluoranthene	
Benzo (k) fluoranthene	
Chrysene	
Dibenz (a, h) anthracene	
TPH (EPA 3550)	

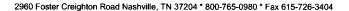
SUMMARY OF ANALYSIS RESULTS (cont'd)
Enter the ground water analytical data for each sample for all CoC in the table below. If free product is present, indicate the measured thickness to the nearest 0.01 feet.

is present, indicate the measured	1	lo the hearest (1	1	
CoC	RBSL	W-1	W-2	W -3	W -4
	(µg/l)	''' '	"-	" "	
Free Product Thickness	None				
Benzene	5				
Toluene	1,000				
Ethylbenzene	700				
Xylenes	10,000				
Total BTEX	N/A				
МТВЕ	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)





May 15, 2009

397 Acorn-2

1:45:00PM

Client:

EEG - Env. Enterprise Group (2449)

10179 Highway 78

Ladson, SC 29456

Attn:

Tom McElwee

Work Order:

NSE0094

Project Name:

Laurel Bay Housing Project

04/30/09 11:40

Project Nbr: P/O Nbr:

[none] 0829

Date Received: 05/01/09

SAMPLE IDENTIFICATION	LAB NUMBER	COLLECTION DATE AND TIME
295 Birch-1	NSE0094-01	04/27/09 10:45
295 Birch-2	NSE0094-02	04/27/09 13:00
289 Birch	NSE0094-03	04/28/09 11:30
386 Acorn	NSE0094-04	04/29/09 11:15
397 Acorn-1	NSE0094-05	04/30/09 10:30

NSE0094-06

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.

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.

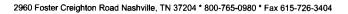
This report has been electronically signed.

Lemos A Hage

Report Approved By:

Ken A. Hayes

Senior Project Manager





10179 Highway 78 Ladson, SC 29456

Tom McElwee

Attn

Work Order:

NSE0094

Project Name:

Laurel Bay Housing Project

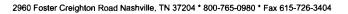
Project Number:

[none]

Received: 05/01/09 08:00

ANALYTICAL REPORT

					Dilution	Analysis		
Analyte	Result	Flag	Units	MRL	Factor	Date/Time	Method	Batch
Sample ID: NSE0094-01 (295 Birc	h-1 - Soil) Sam	pled: 04/	27/09 10:45					
General Chemistry Parameters								
% Dry Solids	81.6		%	0.500	1	05/11/09 09:44	SW-846	9051163
Selected Volatile Organic Compounds	by EPA Method	8260B						
Benzene	ND		mg/kg dry	0.00205	1	05/06/09 05:20	SW846 8260B	9050171
Ethylbenzene	0.00317		mg/kg dry	0.00205	1	05/06/09 05:20	SW846 8260B	9050171
Naphthalene	0.0628	В	mg/kg dry	0.00511	1	05/06/09 05:20	SW846 8260B	9050171
Toluene	ND	В	mg/kg dry	0.00205	1	05/06/09 05:20	SW846 8260B	9050171
Xylenes, total	ND	В	mg/kg dry	0.00511	1	05/06/09 05:20	SW846 8260B	9050171
Surr: 1,2-Dichloroethane-d4 (41-150%)	116%					05/06/09 05:20	SW846 8260B	9050171
Surr: Dibromofluoromethane (55-139%)	102 %					05/06/09 05:20	SW846 8260B	9050171
Surr: Toluene-d8 (57-148%)	96 %					05/06/09 05:20	SW846 8260B	9050171
Surr: 4-Bromofluorobenzene (58-150%)	107 %					05/06/09 05:20	SW846 8260B	9050171
Polyaromatic Hydrocarbons by EPA 82	270D							
Acenaphthene	ND		mg/kg dry	0.0800	1	05/08/09 12:51	SW846 8270D	9050227
Acenaphthylene	ND		mg/kg dry	0.0800	1	05/08/09 12:51	SW846 8270D	9050227
Anthracene	0.0812		mg/kg dry	0.0800	1	05/08/09 12:51	SW846 8270D	9050227
Benzo (a) anthracene	ND		mg/kg dry	0.0800	1	05/08/09 12:51	SW846 8270D	9050227
Benzo (a) pyrene	ND		mg/kg dry	0.0800	1	05/08/09 12:51	SW846 8270D	9050227
Benzo (b) fluoranthene	ND		mg/kg dry	0.0800	1	05/08/09 12:51	SW846 8270D	9050227
Benzo (g,h,i) perylene	ND		mg/kg dry	0.0800	1	05/08/09 12:51	SW846 8270D	9050227
Benzo (k) fluoranthene	ND		mg/kg dry	0.0800	1	05/08/09 12:51	SW846 8270D	9050227
Chrysene	ND		mg/kg dry	0.0800	1	05/08/09 12:51	SW846 8270D	9050227
Dibenz (a,h) anthracene	ND		mg/kg dry	0.0800	1	05/08/09 12:51	SW846 8270D	9050227
Fluoranthene	0.139		mg/kg dry	0.0800	1	05/08/09 12:51	SW846 8270D	9050227
Fluorene	0.115		mg/kg dry	0.0800	1	05/08/09 12:51	SW846 8270D	9050227
Indeno (1,2,3-cd) pyrene	ND		mg/kg dry	0.0800	1	05/08/09 12:51	SW846 8270D	9050227
Naphthalene	ND		mg/kg dry	0.0800	1	05/08/09 12:51	SW846 8270D	9050227
Phenanthrene	0.771		mg/kg dry	0.0800	1	05/08/09 12:51	SW846 8270D	9050227
Pyrene	ND		mg/kg dry	0.0800	1	05/08/09 12:51	SW846 8270D	9050227
1-Methylnaphthalene	ND		mg/kg dry	0.0800	1	05/08/09 12:51	SW846 8270D	9050227
2-Methylnaphthalene	ND		mg/kg dry	0.0800	1	05/08/09 12:51	SW846 8270D	9050227
Surr: Terphenyl-d14 (26-128%)	56 %					05/08/09 12:51	SW846 8270D	9050227
Surr: 2-Fluorobiphenyl (19-109%)	50 %					05/08/09 12:51	SW846 8270D	9050227
Surr: Nitrobenzene-d5 (22-104%)	48 %					05/08/09 12:51	SW846 8270D	9050227





10179 Highway 78

Ladson, SC 29456 Tom McElwee

Attn

Work Order:

NSE0094

Project Name:

Laurel Bay Housing Project

Project Number:

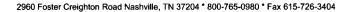
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Received:

05/01/09 08:00

ANALYTICAL REPORT

					Dilution	Analysis	34.4	
Analyte	Result	Flag	Units	MRL	Factor	Date/Time	Method	Batch
Sample ID: NSE0094-02 (295 Birc	h-2 - Soil) Sam	pled: 04/	27/09 13:00					
General Chemistry Parameters	-	-						
% Dry Solids	74.8		%	0.500	1	05/11/09 09:44	SW-846	9051163
Selected Volatile Organic Compounds	by EPA Method	8260B						
Benzene	ND		mg/kg dry	0.00219	1	05/06/09 05:51	SW846 8260B	9050171
Ethylbenzene	ND		mg/kg dry	0.00219	1	05/06/09 05:51	SW846 8260B	9050171
Naphthalene	0.0151	В	mg/kg dry	0.00548	1	05/06/09 05:51	SW846 8260B	9050171
Toluene	ND	В	mg/kg dry	0.00219	1	05/06/09 05:51	SW846 8260B	9050171
Xylenes, total	ND	В	mg/kg dry	0.00548	1	05/06/09 05:51	SW846 8260B	9050171
Surr: 1,2-Dichloroethane-d4 (41-150%)	119 %					05/06/09 05:51	SW846 8260B	905017.
Surr: Dibromofluoromethane (55-139%)	103 %					05/06/09 05:51	SW846 8260B	905017.
Surr: Toluene-d8 (57-148%)	103 %					05/06/09 05:51	SW846 8260B	905017
Surr: 4-Bromofluorobenzene (58-150%)	113 %					05/06/09 05:51	SW846 8260B	905017.
Polyaromatic Hydrocarbons by EPA 82	270D							
Acenaphthene	ND		mg/kg dry	0.0888	1	05/07/09 19:29	SW846 8270D	9050227
Acenaphthylene	ND		mg/kg dry	0.0888	1	05/07/09 19:29	SW846 8270D	9050227
Anthracene	ND		mg/kg dry	0.0888	1	05/07/09 19:29	SW846 8270D	9050227
Benzo (a) anthracene	ND		mg/kg dry	0.0888	1	05/07/09 19:29	SW846 8270D	9050227
Benzo (a) pyrene	ND		mg/kg dry	0.0888	1	05/07/09 19:29	SW846 8270D	9050227
Benzo (b) fluoranthene	ND		mg/kg dry	0.0888	1	05/07/09 19:29	SW846 8270D	9050227
Benzo (g,h,i) perylene	ND		mg/kg dry	0.0888	1	05/07/09 19:29	SW846 8270D	9050227
Benzo (k) fluoranthene	ND		mg/kg dry	0.0888	1	05/07/09 19:29	SW846 8270D	9050227
Chrysene	ND		mg/kg dry	0.0888	1	05/07/09 19:29	SW846 8270D	9050227
Dibenz (a,h) anthracene	ND		mg/kg dry	0.0888	1	05/07/09 19:29	SW846 8270D	9050227
Fluoranthene	ND		mg/kg dry	0.0888	1	05/07/09 19:29	SW846 8270D	9050227
Fluorene	ND		mg/kg dry	0.0888	1	05/07/09 19:29	SW846 8270D	9050227
Indeno (1,2,3-cd) pyrene	ND		mg/kg dry	0.0888	1	05/07/09 19:29	SW846 8270D	9050227
Naphthalene	ND		mg/kg dry	0.0888	1	05/07/09 19:29	SW846 8270D	9050227
Phenanthrene	0.207		mg/kg dry	0.0888	1	05/07/09 19:29	SW846 8270D	9050227
Pyrene	ND		mg/kg dry	0.0888	1	05/07/09 19:29	SW846 8270D	9050227
1-Methylnaphthalene	0.585		mg/kg dry	0.0888	1	05/07/09 19:29	SW846 8270D	9050227
2-Methylnaphthalene	0.0980		mg/kg dry	0.0888	1	05/07/09 19:29	SW846 8270D	9050227
Surr: Terphenyl-d14 (26-128%)	88 %		<i>.</i>			05/07/09 19:29	SW846 8270D	905022
Surr: 2-Fluorobiphenyl (19-109%)	87 %					05/07/09 19:29	SW846 8270D	905022
Surr: Nitrobenzene-d5 (22-104%)	64 %					05/07/09 19:29	SW846 8270D	905022





10179 Highway 78 Ladson, SC 29456

Tom McElwee

Attn

Work Order:

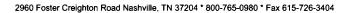
NSE0094

Project Name:

Laurel Bay Housing Project

Project Number: Received: [none] 05/01/09 08:00

	ANALYTICAL REPORT									
Analyte	Result	Flag	Units	MRL	Dilution Factor	Analysis Date/Time	Method	Batch		
Sample ID: NSE0094-03 (289 Birc	h - Soil) Samp	oled: 04/28	3/09 11:30							
General Chemistry Parameters										
% Dry Solids	84.8		%	0.500	1	05/11/09 09:44	SW-846	9051163		
Selected Volatile Organic Compounds	by EPA Method	d 8260B					•			
Benzene	ND		mg/kg dry	0.00196	1	05/06/09 06:21	SW846 8260B	9050171		
Ethylbenzene	ND		mg/kg dry	0.00196	1	05/06/09 06:21	SW846 8260B	9050171		
Naphthalene	0.00797	В	mg/kg dry	0.00491	1	05/06/09 06:21	SW846 8260B	9050171		
Toluene	ND	В	mg/kg dry	0.00196	1	05/06/09 06:21	SW846 8260B	9050171		
Xylenes, total	ND	В	mg/kg dry	0.00491	1	05/06/09 06:21	SW846 8260B	9050171		
Surr: 1,2-Dichloroethane-d4 (41-150%)	115 %		0 0 7			05/06/09 06:21	SW846 8260B	9050171		
Surr: Dibromofluoromethane (55-139%)	100 %					05/06/09 06:21	SW846 8260B	9050171		
Surr: Toluene-d8 (57-148%)	102 %					05/06/09 06:21	SW846 8260B	9050171		
Surr: 4-Bromofluorobenzene (58-150%)	130 %					05/06/09 06:21	SW846 8260B	9050171		
Polyaromatic Hydrocarbons by EPA 83	270D									
Acenaphthene	ND	RL1	mg/kg dry	0.395	5	05/08/09 13:20	SW846 8270D	9050227		
Acenaphthylene	ND	RL1	mg/kg dry	0.395	5	05/08/09 13:20	SW846 8270D	9050227		
Anthracene	ND	RL1	mg/kg dry	0.395	5	05/08/09 13:20	SW846 8270D	9050227		
Benzo (a) anthracene	ND	RL1	mg/kg dry	0.395	5	05/08/09 13:20	SW846 8270D	9050227		
Benzo (a) pyrene	ND	RL1	mg/kg dry	0.395	5	05/08/09 13:20	SW846 8270D	9050227		
Benzo (b) fluoranthene	ND	RL1	mg/kg dry	0.395	5	05/08/09 13:20	SW846 8270D	9050227		
Benzo (g,h,i) perylene	ND	RL1	mg/kg dry	0.395	5	05/08/09 13:20	SW846 8270D	9050227		
Benzo (k) fluoranthene	ND	RL1	mg/kg dry	0.395	5	05/08/09 13:20	SW846 8270D	9050227		
Chrysene	ND	RL1	mg/kg dry	0.395	5	05/08/09 13:20	SW846 8270D	9050227		
Dibenz (a,h) anthracene	ND	RL1	mg/kg dry	0.395	5	05/08/09 13:20	SW846 8270D	9050227		
Fluoranthene	ND	RL1	mg/kg dry	0.395	5	05/08/09 13:20	SW846 8270D	9050227		
Fluorene	ND	RL1	mg/kg dry	0.395	5	05/08/09 13:20	SW846 8270D	9050227		
Indeno (1,2,3-cd) pyrene	ND	RL1	mg/kg dry	0.395	5	05/08/09 13:20	SW846 8270D	9050227		
Naphthalene	ND	RL1	mg/kg dry	0.395	5	05/08/09 13:20	SW846 8270D	9050227		
Phenanthrene	ND	RL1	mg/kg dry	0.395	5	05/08/09 13:20	SW846 8270D	9050227		
Pyrene	ND	RL1	mg/kg dry	0.395	5	05/08/09 13:20	SW846 8270D	9050227		
1-Methylnaphthalene	ND	RL1	mg/kg dry	0.395	5	05/08/09 13:20	SW846 8270D	9050227		
2-Methylnaphthalene	ND	RL1	mg/kg dry	0.395	5	05/08/09 13:20	SW846 8270D	9050227		
Surr: Terphenyl-d14 (26-128%)	47 %					05/08/09 13:20	SW846 8270D	9050227		
Surr: 2-Fluorobiphenyl (19-109%)	45 %					05/08/09 13:20	SW846 8270D	9050227		
Surr: Nitrobenzene-d5 (22-104%)	44 %					05/08/09 13:20	SW846 8270D	9050227		





10179 Highway 78 Ladson, SC 29456

Tom McElwee

Attn

Work Order:

NSE0094

Project Name:

Laurel Bay Housing Project

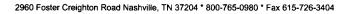
Project Number:

[none]

Received: 05/01/09 08:00

ANALYTICAL REPORT

		1	ANALYTICAL RE	LPURI				
Analyte	Result	Flag	Units	MRL	Dilution Factor	Analysis Date/Time	Method	Batch
Sample ID: NSE0094-04 (386 Aco	rn - Soil) Samp	led: 04/2	9/09 11:15					
General Chemistry Parameters								
% Dry Solids	72.5		%	0.500	1	05/11/09 09:44	SW-846	9051163
Selected Volatile Organic Compounds	by EPA Method	8260B						
Benzene	ND		mg/kg dry	0.00220	1	05/06/09 06:51	SW846 8260B	9050171
Ethylbenzene	0.00712		mg/kg dry	0.00220	1	05/06/09 06:51	SW846 8260B	9050171
Naphthalene	0.163	В	mg/kg dry	0.00549	1	05/06/09 06:51	SW846 8260B	9050171
Toluene	ND	В	mg/kg dry	0.00220	1	05/06/09 06:51	SW846 8260B	9050171
Xylenes, total	0.00660	В	mg/kg dry	0.00549	1	05/06/09 06:51	SW846 8260B	9050171
Surr: 1,2-Dichloroethane-d4 (41-150%)	115 %					05/06/09 06:51	SW846 8260B	905017
Surr: Dibromofluoromethane (55-139%)	101 %					05/06/09 06:51	SW846 8260B	905017
Surr: Toluene-d8 (57-148%)	110 %					05/06/09 06:51	SW846 8260B	905017
Surr: 4-Bromofluorobenzene (58-150%)	142 %					05/06/09 06:51	SW846 8260B	905017
Polyaromatic Hydrocarbons by EPA 8	270D							
Acenaphthene	ND		mg/kg dry	0.450	5	05/08/09 13:51	SW846 8270D	9050227
Acenaphthylene	ND		mg/kg dry	0.450	5	05/08/09 13:51	SW846 8270D	9050227
Anthracene	ND		mg/kg dry	0.450	5	05/08/09 13:51	SW846 8270D	9050227
Benzo (a) anthracene	ND		mg/kg dry	0.450	5	05/08/09 13:51	SW846 8270D	9050227
Benzo (a) pyrene	ND		mg/kg dry	0.450	5	05/08/09 13:51	SW846 8270D	9050227
Benzo (b) fluoranthene	ND		mg/kg dry	0.450	5	05/08/09 13:51	SW846 8270D	9050227
Benzo (g,h,i) perylene	ND		mg/kg dry	0.450	5	05/08/09 13:51	SW846 8270D	9050227
Benzo (k) fluoranthene	ND		mg/kg dry	0.450	5	05/08/09 13:51	SW846 8270D	9050227
Chrysene	ND		mg/kg dry	0.450	5	05/08/09 13:51	SW846 8270D	9050227
Dibenz (a,h) anthracene	ND		mg/kg dry	0.450	5	05/08/09 13:51	SW846 8270D	9050227
Fluoranthene	ND		mg/kg dry	0.450	5	05/08/09 13:51	SW846 8270D	9050227
Fluorene	ND		mg/kg dry	0.450	5	05/08/09 13:51	SW846 8270D	9050227
Indeno (1,2,3-cd) pyrene	ND		mg/kg dry	0.450	5	05/08/09 13:51	SW846 8270D	9050227
Naphthalene	ND		mg/kg dry	0.450	5	05/08/09 13:51	SW846 8270D	9050227
Phenanthrene	0.699		mg/kg dry	0.450	5	05/08/09 13:51	SW846 8270D	9050227
Pyrene	ND		mg/kg dry	0.450	5	05/08/09 13:51	SW846 8270D	9050227
1-Methylnaphthalene	1.52		mg/kg dry	0.450	5	05/08/09 13:51	SW846 8270D	9050227
2-Methylnaphthalene	2.22		mg/kg dry	0.450	5	05/08/09 13:51	SW846 8270D	9050227
Surr: Terphenyl-d14 (26-128%)	59 %		-			05/08/09 13:51	SW846 8270D	905022
Surr: 2-Fluorobiphenyl (19-109%)	57 %					05/08/09 13:51	SW846 8270D	905022
Surr: Nitrobenzene-d5 (22-104%)	53 %					05/08/09 13:51	SW846 8270D	9050227





10179 Highway 78 Ladson, SC 29456

Tom McElwee

Attn

Work Order:

NSE0094

Project Name:

Laurel Bay Housing Project

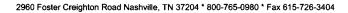
Project Number:

[none]

Received: 05/01/09 08:00

ANALYTICAL REPORT

Analyte	Result	Flag	Units	MRL	Dilution Factor	Analysis Date/Time	Method	Batch
mayte	Kesuit	Flag	Umis		i actui	Date I IIIC	MECHOG	Dawli
Sample ID: NSE0094-05 (397 Acor	rn-1 - Soil) San	npled: 04/	30/09 10:30					
General Chemistry Parameters								
% Dry Solids	80.3		%	0.500	1	05/11/09 09:44	SW-846	9051163
Selected Volatile Organic Compounds	by EPA Method	8260B						
Benzene	ND		mg/kg dry	0.00217	1	05/06/09 07:21	SW846 8260B	9050171
Ethylbenzene	ND		mg/kg dry	0.00217	1	05/06/09 07:21	SW846 8260B	9050171
Naphthalene	0.0123	В	mg/kg dry	0.00542	1	05/06/09 07:21	SW846 8260B	9050171
Toluene	ND	В	mg/kg dry	0.00217	1	05/06/09 07:21	SW846 8260B	9050171
Xylenes, total	ND	В	mg/kg dry	0.00542	1	05/06/09 07:21	SW846 8260B	9050171
Surr: 1,2-Dichloroethane-d4 (41-150%)	117 %					05/06/09 07:21	SW846 8260B	905017
Surr: Dibromofluoromethane (55-139%)	102 %					05/06/09 07:21	SW846 8260B	905017
Surr: Toluene-d8 (57-148%)	104 %					05/06/09 07:21	SW846 8260B	905017
Surr: 4-Bromofluorobenzene (58-150%)	122 %					05/06/09 07:21	SW846 8260B	905017
Polyaromatic Hydrocarbons by EPA 82	270D							
Acenaphthene	ND		mg/kg dry	0.0815	1	05/07/09 20:37	SW846 8270D	9050227
Acenaphthylene	ND		mg/kg dry	0.0815	1	05/07/09 20:37	SW846 8270D	9050227
Anthracene	ND		mg/kg dry	0.0815	1	05/07/09 20:37	SW846 8270D	9050227
Benzo (a) anthracene	ND		mg/kg dry	0.0815	1	05/07/09 20:37	SW846 8270D	9050227
Benzo (a) pyrene	ND		mg/kg dry	0.0815	1	05/07/09 20:37	SW846 8270D	9050227
Benzo (b) fluoranthene	ND		mg/kg dry	0.0815	1	05/07/09 20:37	SW846 8270D	9050227
Benzo (g,h,i) perylene	ND		mg/kg dry	0.0815	1	05/07/09 20:37	SW846 8270D	9050227
Benzo (k) fluoranthene	ND		mg/kg dry	0.0815	1	05/07/09 20:37	SW846 8270D	9050227
Chrysene	ND		mg/kg dry	0.0815	1	05/07/09 20:37	SW846 8270D	9050227
Dibenz (a,h) anthracene	ND		mg/kg dry	0.0815	1	05/07/09 20:37	SW846 8270D	9050227
Fluoranthene	ND		mg/kg dry	0.0815	1	05/07/09 20:37	SW846 8270D	9050227
Fluorene	ND		mg/kg dry	0.0815	1	05/07/09 20:37	SW846 8270D	9050227
Indeno (1,2,3-cd) pyrene	ND		mg/kg dry	0.0815	1	05/07/09 20:37	SW846 8270D	9050227
Naphthalene	ND		mg/kg dry	0.0815	1	05/07/09 20:37	SW846 8270D	9050227
Phenanthrene	ND		mg/kg dry	0.0815	1	05/07/09 20:37	SW846 8270D	9050227
Pyrene	ND		mg/kg dry	0.0815	1	05/07/09 20:37	SW846 8270D	9050227
1-Methylnaphthalene	ND		mg/kg dry	0.0815	1	05/07/09 20:37	SW846 8270D	9050227
2-Methylnaphthalene	ND		mg/kg dry	0.0815	i	05/07/09 20:37	SW846 8270D	9050227
Surr: Terphenyl-d14 (26-128%)	62 %					05/07/09 20:37	SW846 8270D	905022
Surr: 2-Fluorobiphenyl (19-109%)	71 %					05/07/09 20:37	SW846 8270D	905022
Surr: Nitrobenzene-d5 (22-104%)	63 %					05/07/09 20:37	SW846 8270D	905022





10179 Highway 78 Ladson, SC 29456

Tom McElwee

Attn

Work Order:

NSE0094

Project Name:

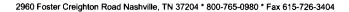
Laurel Bay Housing Project

Project Number: [none]

Received: 05/01/09 08:00

ANALYTICAL REPORT

Analyte	Result	Flag	Units	MRL	Dilution Factor	Analysis Date/Time	Method	Batch
Sample ID: NSE0094-06 (397 Aco	rn-2 - Soil) Sai	npled: 04	/30/09 11:40					
General Chemistry Parameters								
% Dry Solids	79.3		%	0.500	1	05/11/09 09:44	SW-846	9051163
Selected Volatile Organic Compounds	by EPA Method	8260B						
Benzene	ND		mg/kg dry	0.00214	1	05/06/09 07:51	SW846 8260B	9050171
Ethylbenzene	ND		mg/kg dry	0.00214	1	05/06/09 07:51	SW846 8260B	9050171
Naphthalene	0.00619	В	mg/kg dry	0.00536	1	05/06/09 07:51	SW846 8260B	9050171
Toluene	ND	В	mg/kg dry	0.00214	1	05/06/09 07:51	SW846 8260B	9050171
Xylenes, total	ND	В	mg/kg dry	0.00536	1	05/06/09 07:51	SW846 8260B	9050171
Surr: 1,2-Dichloroethane-d4 (41-150%)	115 %					05/06/09 07:51	SW846 8260B	905017
Surr: Dibromofluoromethane (55-139%)	100 %					05/06/09 07:51	SW846 8260B	905017.
Surr: Toluene-d8 (57-148%)	102 %					05/06/09 07:51	SW846 8260B	905017
Surr: 4-Bromofluorobenzene (58-150%)	125 %					05/06/09 07:51	SW846 8260B	905017
Polyaromatic Hydrocarbons by EPA 82	270D							
Acenaphthene	ND	RL1	mg/kg dry	0.411	5	05/08/09 14:20	SW846 8270D	9050227
Acenaphthylene	ND	RL1	mg/kg dry	0.411	5	05/08/09 14:20	SW846 8270D	9050227
Anthracene	ND	RLI	mg/kg dry	0.411	5	05/08/09 14:20	SW846 8270D	9050227
Benzo (a) anthracene	ND	RLI	mg/kg dry	0.411	5	05/08/09 14:20	SW846 8270D	9050227
Benzo (a) pyrene	ND	RL1	mg/kg dry	0.411	5	05/08/09 14:20	SW846 8270D	9050227
Benzo (b) fluoranthene	ND	RL1	mg/kg dry	0.411	5	05/08/09 14:20	SW846 8270D	9050227
Benzo (g,h,i) perylene	ND	RLI	mg/kg dry	0.411	5	05/08/09 14:20	SW846 8270D	9050227
Benzo (k) fluoranthene	ND	RL1	mg/kg dry	0.411	5	05/08/09 14:20	SW846 8270D	9050227
Chrysene	ND	RL1	mg/kg dry	0.411	5	05/08/09 14:20	SW846 8270D	9050227
Dibenz (a,h) anthracene	ND	RL1	mg/kg dry	0.411	5	05/08/09 14:20	SW846 8270D	9050227
Fluoranthene	ND	RL1	mg/kg dry	0.411	5	05/08/09 14:20	SW846 8270D	9050227
Fluorene	ND	RL1	mg/kg dry	0.411	5	05/08/09 14:20	SW846 8270D	9050227
Indeno (1,2,3-cd) pyrene	ND	RL1	mg/kg dry	0.411	5	05/08/09 14:20	SW846 8270D	9050227
Naphthalene	ND	RL1	mg/kg dry	0.411	5	05/08/09 14:20	SW846 8270D	9050227
Phenanthrene	ND	RL1	mg/kg dry	0.411	5	05/08/09 14:20	SW846 8270D	9050227
Pyrene	ND	RL1	mg/kg dry	0.411	5	05/08/09 14:20	SW846 8270D	9050227
1-Methylnaphthalene	ND	RL1	mg/kg dry	0.411	5	05/08/09 14:20	SW846 8270D	9050227
2-Methylnaphthalene	ND	RL1	mg/kg dry	0.411	5	05/08/09 14:20	SW846 8270D	9050227
Surr: Terphenyl-d14 (26-128%)	40 %					05/08/09 14:20	SW846 8270D	905022
Surr: 2-Fluorobiphenyl (19-109%)	50 %					05/08/09 14:20	SW846 8270D	905022
Surr: Nitrobenzene-d5 (22-104%)	45 %					05/08/09 14:20	SW846 8270D	905022





10179 Highway 78 Ladson, SC 29456

Tom McElwee

Attn

Work Order:

NSE0094

Project Name:

Laurel Bay Housing Project

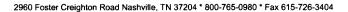
Project Number: [none]

Received:

05/01/09 08:00

SAMPLE EXTRACTION DATA

			Wt/Vol				Extraction
Parameter	Batch	Lab Number	Extracted	Extracted Vol	Date	Analyst	Method
Polyaromatic Hydrocarbons by E	PA 8270D						
SW846 8270D	9050227	NSE0094-01	30.78	1.00	05/06/09 11:20	TEM	EPA 3550B
SW846 8270D	9050227	NSE0094-02	30.27	1.00	05/06/09 11:20	TEM	EPA 3550B
SW846 8270D	9050227	NSE0094-03	30.00	1.00	05/06/09 11:20	TEM	EPA 3550B
SW846 8270D	9050227	NSE0094-03RE1	30.00	1.00	05/06/09 11:20	TEM	EPA 3550B
SW846 8270D	9050227	NSE0094-04	30.79	1.00	05/06/09 11:20	TEM	EPA 3550B
SW846 8270D	9050227	NSE0094-04RE1	30.79	1.00	05/06/09 11:20	TEM	EPA 3550B
SW846 8270D	9050227	NSE0094-05	30.72	1.00	05/06/09 11:20	TEM	EPA 3550B
SW846 8270D	9050227	NSE0094-06	30.83	1.00	05/06/09 11:20	TEM	EPA 3550B
SW846 8270D	9050227	NSE0094-06RE1	30.83	1.00	05/06/09 11:20	TEM	EPA 3550B
Selected Volatile Organic Compo	ounds by EPA Method	8260B					
SW846 8260B	9050171	NSE0094-01	5.99	5.00	04/27/09 10:45	JRL	EPA 5035
SW846 8260B	9050171	NSE0094-02	6.10	5.00	04/27/09 13:00	JRL	EPA 5035
SW846 8260B	9050171	NSE0094-03	6.01	5.00	04/28/09 11:30	JRL	EPA 5035
SW846 8260B	9050171	NSE0094-04	6.28	5.00	04/29/09 11:15	JRL	EPA 5035
SW846 8260B	9050171	NSE0094-05	5.74	5.00	04/30/09 10:30	JRL	EPA 5035
SW846 8260B	9050171	NSE0094-06	5.88	5.00	04/30/09 11:40	JRL	EPA 5035
SW846 8260B	9050171	NSE0094-06RE1	4.57	5.00	04/30/09 11:40	JRL	EPA 5035





10179 Highway 78 Ladson, SC 29456

Tom McElwee

Attn

Work Order:

NSE0094

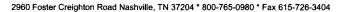
Project Name:

Laurel Bay Housing Project

Project Number: Received: [none] 05/01/09 08:00

PROJECT QUALITY CONTROL DATA Blank

nalyte	Blank Value	Q	Units	Q.C. Batch	Lab Number	Analyzed Date/Time
elected Volatile Organic Compo	unds by EPA Method	l 8260B				
050171-BLK1						
enzene	< 0.000670		mg/kg wet	9050171	9050171-BLK1	05/06/09 02:19
Ethylbenzene	< 0.000670		mg/kg wet	9050171	9050171-BLK1	05/06/09 02:19
laphthalene	0.00199	В	mg/kg wet	9050171	9050171-BLK1	05/06/09 02:19
oluene	0.00107	В	mg/kg wet	9050171	9050171-BLK1	05/06/09 02:19
ylenes, total	0.00284	В	mg/kg wet	9050171	9050171-BLK1	05/06/09 02:19
rrogate: 1,2-Dichloroethane-d4	117%			9050171	9050171-BLK1	05/06/09 02:19
rrogate: Dibromofluoromethane	102%			9050171	9050171-BLK1	05/06/09 02:19
rrogate: Toluene-d8	95%			9050171	9050171-BLK1	05/06/09 02:19
rrogate: 4-Bromofluorobenzene	103%			9050171	9050171-BLK1	05/06/09 02:19
lyaromatic Hydrocarbons by E	CPA 8270D					
)50227-BLK1						
cenaphthene	< 0.0310		mg/kg wet	9050227	9050227-BLK1	05/06/09 18:56
cenaphthylene	< 0.0320		mg/kg wet	9050227	9050227-BLK1	05/06/09 18:56
nthracene	< 0.0330		mg/kg wet	9050227	9050227-BLK1	05/06/09 18:56
enzo (a) anthracene	< 0.0380		mg/kg wet	9050227	9050227-BLK1	05/06/09 18:56
enzo (a) pyrene	< 0.0290		mg/kg wet	9050227	9050227-BLK1	05/06/09 18:56
enzo (b) fluoranthene	< 0.0320		mg/kg wet	9050227	9050227-BLK1	05/06/09 18:56
enzo (g,h,i) perylene	< 0.0290		mg/kg wet	9050227	9050227-BLK1	05/06/09 18:56
enzo (k) fluoranthene	< 0.0290		mg/kg wet	9050227	9050227-BLK1	05/06/09 18:56
hrysene	< 0.0390		mg/kg wet	9050227	9050227-BLK1	05/06/09 18:56
bibenz (a,h) anthracene	< 0.0310		mg/kg wet	9050227	9050227-BLK1	05/06/09 18:56
luoranthene	< 0.0340		mg/kg wet	9050227	9050227-BLK1	05/06/09 18:56
luorene	< 0.0390		mg/kg wet	9050227	9050227-BLK1	05/06/09 18:56
ndeno (1,2,3-cd) pyrene	< 0.0310		mg/kg wet	9050227	9050227-BLK1	05/06/09 18:56
aphthalene	< 0.0410		mg/kg wet	9050227	9050227-BLK1	05/06/09 18:56
nenanthrene	< 0.0340		mg/kg wet	9050227	9050227-BLK1	05/06/09 18:56
rene	< 0.0410		mg/kg wet	9050227	9050227-BLK1	05/06/09 18:56
Methylnaphthalene	< 0.0320		mg/kg wet	9050227	9050227-BLK1	05/06/09 18:56
Methylnaphthalene	< 0.0330		mg/kg wet	9050227	9050227-BLK1	05/06/09 18:56
rrogate: Terphenyl-d14	95%			9050227	9050227-BLK1	05/06/09 18:56
rrogate: 2-Fluorobiphenyl	72%			9050227	9050227-BLK1	05/06/09 18:56
	/ 2 / 0			,		





10179 Highway 78 Ladson, SC 29456

Tom McElwee

Attn

Work Order:

NSE0094

[none]

Project Name:

Laurel Bay Housing Project

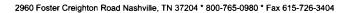
Project Number: Received:

05/01/09 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										
9051163-DUP1										
% Dry Solids	90.7	90.2		%	0.6	20	9051163	NSE0088-03		05/11/09 09:44





10179 Highway 78 Ladson, SC 29456

Tom McElwee

Attn

Work Order:

NSE0094

Project Name:

Laurel Bay Housing Project

Project Number:

[none]

Received: 05/01/09 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						
9050171-BS1								
Benzene	50.0	45.4		ug/kg	91%	76 - 130	9050171	05/06/09 00:18
Ethylbenzene	50.0	39.8		ug/kg	80%	80 - 128	9050171	05/06/09 00:18
Naphthalene	50.0	53.2		ug/kg	106%	63 - 144	9050171	05/06/09 00:18
Toluene	50.0	41.0		ug/kg	82%	80 - 125	9050171	05/06/09 00:18
Xylenes, total	150	121		ug/kg	81%	79 - 130	9050171	05/06/09 00:18
Surrogate: 1,2-Dichloroethane-d4	50.0	59.5			119%	41 - 150	9050171	05/06/09 00:18
Surrogate: Dibromofluoromethane	50.0	52.5			105%	55 - 139	9050171	05/06/09 00:18
Surrogate: Toluene-d8	50.0	49.0			98%	57 - 148	9050171	05/06/09 00:18
Surrogate: 4-Bromofluorobenzene	50.0	52.3			105%	58 - 150	9050171	05/06/09 00:18
Polyaromatic Hydrocarbons by EP	'A 8270D							
9050227-BS1								
Acenaphthene	1.67	1.41	MNR	mg/kg wet	84%	52 - 106	9050227	05/06/09 19:19
Acenaphthylene	1.67	1.46	MNR	mg/kg wet	88%	53 - 109	9050227	05/06/09 19:19
Anthracene	1.67	1.65	MNR	mg/kg wet	99%	54 - 124	9050227	05/06/09 19:19
Benzo (a) anthracene	1.67	1.52	MNR	mg/kg wet	91%	53 - 111	9050227	05/06/09 19:19
Benzo (a) pyrene	1.67	1.48	MNR	mg/kg wet	89%	52 - 122	9050227	05/06/09 19:19
Benzo (b) fluoranthene	1.67	1.19	MNR	mg/kg wet	71%	48 - 115	9050227	05/06/09 19:19
Benzo (g,h,i) perylene	1.67	1.47	MNR	mg/kg wet	88%	46 - 114	9050227	05/06/09 19:19
Benzo (k) fluoranthene	1.67	1.36	MNR	mg/kg wet	82%	41 - 121	9050227	05/06/09 19:19
Chrysene	1.67	1.50	MNR	mg/kg wet	90%	49 - 113	9050227	05/06/09 19:19
Dibenz (a,h) anthracene	1.67	1.29	MNR	mg/kg wet	77%	47 - 117	9050227	05/06/09 19:19
Fluoranthene	1.67	1.46	MNR	mg/kg wet	87%	52 - 113	9050227	05/06/09 19:19
Fluorene	1.67	1.48	MNR	mg/kg wet	89%	54 - 107	9050227	05/06/09 19:19
Indeno (1,2,3-cd) pyrene	1.67	1.33	MNR	mg/kg wet	80%	47 - 115	9050227	05/06/09 19:19
Naphthalene	1.67	1.14	MNR	mg/kg wet	69%	34 - 107	9050227	05/06/09 19:19
Phenanthrene	1.67	1.44	MNR	mg/kg wet	86%	53 - 108	9050227	05/06/09 19:19
Pyrene	1.67	1.56	MNR	mg/kg wet	94%	54 - 113	9050227	05/06/09 19:19
1-Methylnaphthalene	1.67	1.04	MNR	mg/kg wet	63%	36 - 100	9050227	05/06/09 19:19
2-Methylnaphthalene	1.67	1.13	MNR	mg/kg wet	68%	42 - 112	9050227	05/06/09 19:19
Surrogate: Terphenyl-d14	1.67	1.52			91%	26 - 128	9050227	05/06/09 19:19
Surrogate: 2-Fluorobiphenyl	1.67	1.38			83%	19 - 109	9050227	05/06/09 19:19
Surrogate: Nitrobenzene-d5	1.67	1.11			67%	22 - 104	9050227	05/06/09 19:19



10179 Highway 78 Ladson, SC 29456

Tom McElwee

Attn

Work Order:

NSE0094

Project Name:

Laurel Bay Housing Project

Project Number: Received: [none]

05/01/09 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 Compound	s by EPA	Method 826	0B									
9050171-BSD1												
Benzene		46.0		ug/kg	50.0	92%	76 - 130	1	43	9050171		05/06/09 00:48
Ethylbenzene		39.9		ug/kg	50.0	80%	80 - 128	0.3	48	9050171		05/06/09 00:48
Naphthalene		54.2		ug/kg	50.0	108%	63 - 144	2	50	9050171		05/06/09 00:48
Toluene		40.5		ug/kg	50.0	81%	80 - 125	1	44	9050171		05/06/09 00:48
Xylenes, total		122		ug/kg	150	81%	79 - 130	0.5	48	9050171		05/06/09 00:48
Surrogate: 1,2-Dichloroethane-d4		59.2		ug/kg	50.0	118%	41 - 150			9050171		05/06/09 00:48
Surrogate: Dibromofluoromethane		52.3		ug/kg	50.0	105%	55 - 139			9050171		05/06/09 00:48
Surrogate: Toluene-d8		48.3		ug/kg	50.0	97%	57 - 148			9050171		05/06/09 00:48
Surrogate: 4-Bromofluorobenzene		51.8		ug/kg	50.0	104%	58 - 150			9050171		05/06/09 00:48



10179 Highway 78 Ladson, SC 29456

Tom McElwee

Attn

Work Order:

NSE0094

Project Name:

Laurel Bay Housing Project

Project Number:

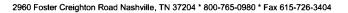
[none] 05/01/09 08:00

Received:

Matrix Spike

PROJECT QUALITY CONTROL DATA

			11	riaurix Spir	.e					
Analyte	Orig. Val.	MS Val	Q	Units	Spike Conc	% Rec.	Target Range	Batch	Sample Spiked	Analyzed Date/Time
Selected Volatile Organic Compou	ınds by EPA Met	thod 8260B								
9050171-MS1										
Вепzепе	ND	1.16		mg/kg dry	3.45	34%	33 - 146	9050171	NSE0094-06RE 1	05/06/09 08:52
Ethylbenzene	ND	1.11		mg/kg dry	3.45	32%	16 - 160	9050171	NSE0094-06RE 1	05/06/09 08:52
Naphthalene	0.179	1.35		mg/kg dry	3.45	34%	10 - 151	9050171	NSE0094-06RE 1	05/06/09 08:52
Toluene	ND	1.06		mg/kg dry	3.45	31%	30 - 145	9050171	NSE0094-06RE 1	05/06/09 08:52
Xylenes, total	0.197	3.37		mg/kg dry	10.3	31%	16 - 159	9050171	NSE0094-06RE 1	05/06/09 08:52
Surrogate: 1,2-Dichloroethane-d4		57.0		ug/kg	50.0	114%	41 - 150	9050171	NSE0094-06RE 1	05/06/09 08:52
Surrogate: Dibromofluoromethane		50.6		ug/kg	50.0	101%	55 - 139	9050171	NSE0094-06RE 1	05/06/09 08:52
Surrogate: Toluene-d8		46.8		ug/kg	50.0	94%	57 - 148	9050171	NSE0094-06RE 1	05/06/09 08:52
Surrogate: 4-Bromofluorobenzene		54.7		ug/kg	50.0	109%	58 - 150	9050171	NSE0094-06RE 1	05/06/09 08:52





10179 Highway 78 Ladson, SC 29456

Tom McElwee

Attn

Work Order:

NSE0094

Project Name:

Laurel Bay Housing Project

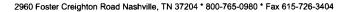
Project Number:

[none]

Received: 05/01/09 08:00

PROJECT QUALITY CONTROL DATA Matrix Spike Dup

Analyte	Orig. Val.	Duplicate	Q	Units	Spike Conc	% Rec.	Target Range		Limit	Batch	Sample Duplicated	Analyzed Date/Time
Selected Volatile Organic Compou	nds by EPA	Method 82	60B									
9050171-MSD1 Benzene	ND	0.784	М8	mg/kg dry	3.45	23%	33 - 146	38	43	9050171	NSE0094-06RE	05/06/09 09:22
Ethylbenzene	ND	0.706		mg/kg dry	3.45	20%	16 - 160	44	48	9050171	NSE0094-06RE	05/06/09 09:22
Naphthalene	0.179	0.966		mg/kg dry	3.45	23%	10 - 151	33	50	9050171	NSE0094-06RE	05/06/09 09:22
Toluene	ND	0.696	M8	mg/kg dry	3.45	20%	30 - 145	41	44	9050171	l NSE0094-06RE	05/06/09 09:22
Xylenes, total	0.197	2.16		mg/kg dry	10.3	19%	16 - 159	44	48	9050171	1 NSE0094-06RE	05/06/09 09:22
Surrogate: 1,2-Dichloroethane-d4		59.4		ug/kg	50.0	119%	41 - 150			9050171	1 NSE0094-06RE	05/06/09 09:22
Surrogate: Dibromofluoromethane		51.2		ug/kg	50.0	102%	55 - 139			9050171	1 NSE0094-06RE	05/06/09 09:22
Surrogate: Toluene-d8		46.6		ug/kg	50.0	93%	57 - 148			9050171	1 NSE0094-06RE	05/06/09 09:22
Surrogate: 4-Bromofluorobenzene		54.1		ug/kg	50.0	108%	58 - 150			9050171	1 NSE0094-06RE	05/06/09 09:22





10179 Highway 78 Ladson, SC 29456

Attn Tom McElwee

Work Order:

NSE0094

Project Name:

Laurel Bay Housing Project

Project Number:

[none]

Received:

05/01/09 08:00

CERTIFICATION SUMMARY

TestAmerica Nashville

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



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

Client EEG - Env. Enterprise Group (2449)

10179 Highway 78 Ladson, SC 29456

Attn Tom McElwee

Work Order:

NSE0094

Project Name:

Received:

Laurel Bay Housing Project

Project Number:

[none]

05/01/09 08:00

DATA QUALIFIERS AND DEFINITIONS

B Analyte was detected in the associated Method Blank.

M8 The MS and/or MSD were below the acceptance limits. See Blank Spike (LCS).

MNR No results were reported for the MS/MSD. The sample used for the MS/MSD required dilution due to the sample matrix.

Because of this, the spike compounds were diluted below the detection limit.

RL1 Reporting limit raised due to sample matrix effects.

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

METHOD MODIFICATION NOTES

NSE0094

05/15/09 23:59

TestAmer	THE PERSON NAMED IN COLUMN 25	Nashville 2960 Fos Nashville	ter Cre	ighto	en .				oli Fr	ee: 8	100-7	26-01 65-09 26-34	080							meth		this wo irpose:	rk bein s?	g cond	nalytica ucted fo	or			
Client Name/Account #:	EEG # 2449															-						(Compli	ance M	onitorin	g?	-		•
Address:	10179 Highway	78																					Enfor	cement	Action	7	Yes		No
City/State/Zip:	Ladson, SC 294	456													_			Site	State:		~6	2 -	<u> </u>						
Project Manager:	Tom McEtwee	email: mcelv	/ee@e	ginc.	net						A 5.	_			_	-			PO#:		08	12	4_						
Telephone Number:						F	ax No	<u>ک</u> ::د	43	- }	87	<u>4 -</u>	0	40	<u></u>	-	•	TA Qu	ote #:										
Sampler Name: (Print)	TRA	H, 31	N. Pe	w_												-		Proje	ect ID:	Laure	l Bay F	lousing	Projec	*					
Sampler Signature:								_								-		Pro	ect#:										
				.	,			N P	reser	vative	e	3		M	latrix		\Box	127			-,	Α	nalyze	For:				\Box	~
Sample ID / Description 295 Birch - 1 295 Birch - 2 289 Birch 384 Acorn 397 Acorn - 2	4/27/09 4/27/09 4/27/09 4/29/09 4/30/09	1130	CS S S No. of Containers Shipped	Gaso X X Y Y Y	Composite	Field Filtered	82]	HO (Blue Label)	NaOH (Orange Label)	HySO, Plastic (Yellow Label)	Hydo, Glass (Yerow Label)	1 1 2 2 -	Graundwater	Wastewater Orinking Water	Sprige	X X X X X X S	Other (specify):		SON SON SPAH - 8270C					N×	000	02 03 04 05 00			RUSH TAT (Pre-Schedule
				\vdash			\top	+	T^{\dagger}	\top	+	$\dagger \dagger$	\dashv	\top	T	Н	\vdash						T	1	† 			$\operatorname{\Box}$	
Special Instructions: Relinquished by: Relinquished by:	7/30/L Date	99	Tin	20	1	ved b	- -	tAmeri	E		t:				Date Date	FE	DEX	Time	,	Labo	•	erature	ents: De Upon of Head			:3,	•		Υ

ATTACHMENT A

UST Certificate of Disposal

CONTRACTOR

Small Business Group, Inc. 10179 Highway 78 Ladson, SC 29456

TEL (843) 879-0403 FAX (843) 879-0401

TANK ID & LOCATION

UST 289Birch, 289 Birch Dr., Laurel Bay Housing Area, MCAS Beaufort, S.C.

DISPOSAL LOCATION

Coastal Auto Salvage Co., Inc. 130 Laurel Bay Road Beaufort, S.C. 29906

TVDE OF TANK

TYPE OF TANK	SIZE (GAL)
Steel	280

CLEANING/DISPOSAL METHOD

The tank and piping were unearthed, cut open, cleaned with a pressure washer, cut into sections, and recycled.

DISPOSAL CERTIFICATION

I certify that the above tank, piping and equipment has been properly cleaned and disposed of.

 $\frac{7.2 \sqrt{90e}, 5/20/09}{\text{(Name)}}$ (Date)

Appendix C Regulatory Correspondence





C. Earl Hunter, Commissioner

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

July 22, 2009

Commanding Officer
ATTN: S-4 NREAO (Craig Ehde)

MCAS

PO Box 55001

Beaufort, SC 29904-5001

Re:

MCAS – Laurel Bay Housing – 289 Birch St..

Site ID # 04226

UST Closure Reports received June 29, 2009

No Further Action

Dear Mr. Ehde:

The Department has reviewed the referenced closure report. Based upon the geotechnical data in the referenced report, the soil samples are non-detect and/or 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 803-896-4179 (office phone) or cookejt@dhec.sc.gov.

Sincerely,

Jan T. Cooke, Hydrogeologist

and Cak

B. Thomas Knight Manager

AST Petroleum Restoration & Site Environmental Investigations Section

Division of Site Assessment, Remediation & Revitalization

Bureau of Land and Waste Management

cc: R

Region 8 District EQC