SUMMARY REPORT 180 EAGLE LANE (FORMERLY 1305 EAGLE LANE) LAUREL BAY MILITARY HOUSING AREA MARINE CORPS AIR STATION BEAUFORT BEAUFORT, SC

> Revision: 0 Prepared for:

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

and



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

JUNE 2021

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Prepared by:



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

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



Summary Report 180 Eagle Lane (Formerly 1305 Eagle Lane) Laurel Bay Military Housing Area, Marine Corps Air Station Beaufort June 2021

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List of Acronyms

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



1.0 INTRODUCTION

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

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

This report summarizes the results the environmental investigation activities associated with the storage of home heating oil and the potential release of petroleum constituents at the referenced property. Based on the results of the investigation, a No Further Action (NFA) determination has been made by the South Carolina Department of Health and Environmental Control (SCDHEC) for 180 Eagle Lane (Formerly 1305 Eagle Lane). This NFA determination indicates that there are no unacceptable risks to human health or the environment for the petroleum constituents associated with the home heating oil USTs. The following information is included in this report:

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

1.1 Background Information

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



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

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

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

1.2 UST Removal and Assessment Process

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

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

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



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

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

2.0 SAMPLING ACTIVITIES AND RESULTS

The following section presents the sampling activities and associated results for 180 Eagle Lane (Formerly 1305 Eagle Lane). Details regarding the soil investigation at this site are provided in the *SCDHEC UST Assessment Report – 1305 Eagle Lane* (MCAS Beaufort, 2013). The UST Assessment Report is provided in Appendix B. Details regarding the IGWA sampling activities at this site are provided in the *Groundwater Investigation Report – May and June 2015* (Resolution Consultants, 2015). The laboratory report that includes the pertinent IGWA analytical results for this site is presented in Appendix C.

2.1 UST Removal and Soil Sampling

On August 15, 2012, a single 280 gallon heating oil UST was removed from the rear patio area at 180 Eagle Lane (Formerly 1305 Eagle Lane). The former UST location is indicated on Figures 2 and 3 of the UST Assessment Report (Appendix B). The UST was removed, cleaned, and shipped offsite for recycling. There was no visual evidence (i.e., staining or sheen) of



petroleum impact at the time of the UST removal. According to the UST Assessment Report (Appendix B), the depth to the base of the UST was 6'2" 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 180 Eagle Lane (Formerly 1305 Eagle Lane) were greater than the SCDHEC RBSLs, which indicated further investigation was required. In a letter dated May 15, 2014, SCDHEC requested an IGWA for 180 Eagle Lane (Formerly 1305 Eagle Lane) to determine if the groundwater was impacted by petroleum COPCs. SCDHEC's request letter is provided in Appendix D.

2.3 Groundwater Sampling

On June 18, 2015, a temporary monitoring well was installed at 180 Eagle Lane (Formerly 1305 Eagle Lane), in accordance with the South Carolina Well Standards and Regulations (R.61-71.H-I, updated June 24, 2016). In order to provide data that can be used to determine whether COPCs are migrating to underlying groundwater, the monitoring well was placed in the same general location as the former heating oil UST. The former UST location is indicated on Figures 2 and 3 of the UST Assessment Report (Appendix B). Further details are provided in the *Groundwater Investigation Report – May and June 2015* (Resolution Consultants, 2015).



The sampling strategy for this phase of the investigation required a one-time sampling event of the temporarily installed monitoring well. Following well installation and development, groundwater samples were collected using low-flow methods and shipped to an offsite laboratory for analysis of the petroleum COPCs. Upon completion of groundwater sampling, the temporary well was abandoned in accordance with the South Carolina Well Standards and Regulations R.61-71 (SCDHEC, 2016). Field forms are provided in the *Groundwater Investigation Report – May and June 2015* (Resolution Consultants, 2015).

2.4 Groundwater Analytical Results

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

The groundwater results collected from 180 Eagle Lane (Formerly 1305 Eagle Lane) were less than the SCDHEC RBSLs and the site specific groundwater VISLs (Table 2), which indicated that the groundwater was not impacted by COPCs associated with the former UST at concentrations that present a potential risk to human health and the environment.

3.0 **PROPERTY STATUS**

Based on the analytical results for groundwater, SCDHEC made the determination that NFA was required for 180 Eagle Lane (Formerly 1305 Eagle Lane). This NFA determination was obtained in a letter dated February 22, 2016. SCDHEC's NFA letter is provided in Appendix D.

4.0 **REFERENCES**

- Marine Corps Air Station Beaufort, 2013. *South Carolina Department of Health and Environmental Control (SCDHEC) Underground Storage Tank Assessment Report 1305 Eagle Lane, Laurel Bay Military Housing Area*, February 2013.
- Resolution Consultants, 2015. *Initial Groundwater Investigation Report May and June 2015 for Laurel Bay Military Housing Area, Multiple Properties, Laurel Bay Military Housing Area, Marine Corps Air Station Beaufort, Beaufort, South Carolina*, October 2015.
- South Carolina Department of Health and Environmental Control Bureau of Land and Waste Management, 2013. *Quality Assurance Program Plan for the Underground Storage Tank Management* Division, *Revision 2.0*, April 2013.



- South Carolina Department of Health and Environmental Control Bureau of Land and Waste Management, 2015. *Quality Assurance Program Plan for the Underground Storage Tank Management* Division, *Revision 3.0*, May 2015.
- South Carolina Department of Health and Environmental Control Bureau of Land and Waste Management, 2016. *Quality Assurance Program Plan for the Underground Storage Tank Management* Division, *Revision 3.1*, February 2016.
- South Carolina Department of Health and Environmental Control Bureau of Land and Waste Management, 2017. *R.61-92, Part 280, Underground Storage Tank Control Regulations,* March 2017.
- South Carolina Department of Health and Environmental Control Bureau of Land and Waste Management, 2018. *Underground Storage Tank Assessment Instructions for Permanent Closure and Change-In-Service*, March 2018.
- South Carolina Department of Health and Environmental Control Bureau of Water, 2016. *R.61-71, Well Standards*, June 2016.

Tables



Table 1 Laboratory Analytical Results - Soil 180 Eagle Lane (Formerly 1305 Eagle Lane) Laurel Bay Military Housing Area Marine Corps Air Station Beaufort Beaufort, South Carolina

Constituent	SCDHEC RBSLs ⁽¹⁾	Results Sample Collected 08/15/12							
/olatile Organic Compounds Analyzed by EPA Method 8260B (mg/kg)									
Benzene	0.003	ND							
Ethylbenzene	1.15	ND							
Naphthalene	0.036	0.118							
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 2.0 (SCDHEC, April 2013).

Bold font indicates the analyte was detected.

Bold font and shading indicates the concentration exceeds the SCDHEC RBSL.

EPA - United States Environmental Protection Agency

mg/kg - milligrams per kilogram

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

RBSL - Risk-Based Screening Level

SCDHEC - South Carolina Department Of Health and Environmental Control

Table 2Laboratory Analytical Results - Groundwater180 Eagle Lane (Formerly 1305 Eagle Lane)Laurel Bay Military Housing AreaMarine Corps Air Station BeaufortBeaufort, South Carolina

Constituent	SCDHEC RBSLs ⁽¹⁾	Site-Specific Groundwater VISLs (µg/L) ⁽²⁾	Results Sample Collected 06/18/15					
Volatile Organic Compounds Analyzed by EPA Method 8260B (µg/L)								
Benzene	5	16.24	ND					
Ethylbenzene	700	45.95	ND					
Naphthalene	25	29.33	ND					
Toluene	1000	105,445	ND					
Xylenes, Total	10,000	2,133	ND					
Semivolatile Organic Compounds Ana	lyzed by EPA Method 8270) (µg/L)						
Benzo(a)anthracene	10	NA	ND					
Benzo(b)fluoranthene	10	NA	ND					
Benzo(k)fluoranthene	10	NA	ND					
Chrysene	10	NA	ND					
Dibenz(a,h)anthracene	10	NA	ND					

Notes:

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

 $^{(2)}$ Site-specific groundwater VISLs were calculated using the EPA JE Model Spreadsheets (Version 3.1, February 2004) and conservative modeling inputs representative of a small single-story house with an 8 foot ceiling. Site-specific groundwater VISLs were developed based on a target risk level of 1×10^{-6} , a target hazard quotient of 1 (per target organ), and a default residential exposure scenario, assuming exposure for 24 hours/day, 350 days/year, for 26 years. Modeling was performed for a range of depths to groundwater for application as appropriate in different areas of the Laurel Bay Military Housing Area. The most conservative levels are presented for comparison. Refer to Appendix H of the Uniform Federal Policy Sampling Analysis and Sampling Plan for Vapor Media, Revision 4 (Resolution Consultants, April 2017) for additional information.

Bold font indicates the analyte was detected.

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

EPA - United States Environmental Protection Agency

JE - Johnson & Ettinger

NA - Not Applicable

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

RBSL - Risk-Based Screening Level

SCDHEC - South Carolina Department Of Health and Environmental Control

µg/L - micrograms per liter

VISL - Vapor Intrusion Screening Level

Appendix A Multi-Media Selection Process for LBMH





Appendix A - Multi-Media Selection Process for LBMH

Appendix B UST Assessment Report



Attachment 1

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

Date Received	
State Use Only	

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

I. OWNERSHIP OF UST (S)

MCAS Beaufort, Comman	ding Officer Attn: NR	EAO (Craig Ehde)						
Owner Name (Corporation, Indi	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						

II. SITE IDENTIFICATION AND LOCATION

Permit I.D. # Laurel Bay Military Housing Area, Marine Corps Air Station, Facility Name or Company Site Identifier	Beaufort,	SC
1305 Eagle Lane, 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

A.	Product(ex. Gas, Kerosene)	Heating oil
B.	Capacity(ex. 1k, 2k)	280 gal
C.	Age	Late 1950s
D.	Construction Material(ex. Steel, FRP)	Steel
Е·	Month/Year of Last Use	Mid 1980s
F.	Depth (ft.) To Base of Tank	6'2"
G.	Spill Prevention Equipment Y/N	No
H·	Overfill Prevention Equipment Y/N	No
I.	Method of Closure Removed/Filled	Removed
J.	Date Tanks Removed/Filled	8/15/2012
K.	Visible Corrosion or Pitting Y/N	Yes
L.	Visible Holes Y/N	Yes

1305Eagle

M. Method of disposal for any USTs removed from the ground (attach disposal manifests) UST 1305Eagle was removed from the ground and disposed at a Subtitle "D" landfill. See Attachment "A."

Method of disposal for any liquid petroleum, sludges, or wastewaters removed from the USTs (attach disposal manifests)
UST 1305Eagle had been previously filled with sand by others.

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

VII. PIPING INFORMATION

		1305Eagle
		Steel
A.	Construction Material(ex. Steel, FRP)	& Copper
B.	Distance from UST to Dispenser	N/A
C.	Number of Dispensers	N/A
2.		
D.	Type of System Pressure or Suction	Suction
E.	Was Piping Removed from the Ground? Y/N	No
F.	Visible Corrosion or Pitting Y/N	Yes
G	Visible Holes V/N	No
U.		
H.	Age	Late 1950s
I.	If any corrosion, pitting, or holes were observed, de	scribe the location and extent for each piping run.

Corrosion and pitting were found on the surface of the steel vent pipe. Copper supply and return lines were sound.

VIII. BRIEF SITE DESCRIPTION AND HISTORY

The	USTs	at	the	reside	nces a	are	const	ructed	l of	sing	le wa	ll ste	eel
and	forme	erly	r con	tained	fuel	oil	for	heatin	g.	These	USTs	were	
inst	alled	l in	the	late	1950s	and	last	used	in	the m	id 198	80s.	

IX.	SITE CONDITIONS
-----	-----------------

		Yes	No	Unk
A.	Were any petroleum-stained or contaminated soils found in the UST excavation, soil borings, trenches, or monitoring wells? If yes, indicate depth and location on the site map.		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)?		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.		х	

X. SAMPLE INFORMATION

SCDHEC Lab Certification Number _____84009 A.

Β.

Sample #	Location	Sample Type (Soil/Water)	Soil Type (Sand/Clay)	Depth*	Date/Time of Collection	Collected by	OVA #
1305 Eaqle	Excav at fill end	Soil	Sandy	6'2"	8/15/12 1530 hrs	P. Shaw	
	:						
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?	*X	
	*pond & stormwater ca	anal	
	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	*X	
	contamination? *Sewer, water, electri cable & fiber o	city, ptic	
	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?		X
	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 1305Eagle.



Picture 2: UST 1305Eagle 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.

CoC UST	1305Eagle				
Benzene	ND				
Toluene	ND				
Ethylbenzene	ND				
Xylenes	ND				
Naphthalene	0.118 mg/kg				
Benzo (a) anthracene	ND				
Benzo (b) fluoranthene	ND				
Benzo (k) fluoranthene	ND				
Chrysene	ND				
Dibenz (a, h) anthracene	ND				
ТРН (ЕРА 3550)					
		·		1	
CoC			 		
Benzene					
Toluene					
Ethylbenzene					
Xylenes					
Naphthalene					
Benzo (a) anthracene					
Benzo (b) fluoranthene					
Benzo (k) fluoranthene					
Chrysene					
Dibenz (a, h) anthracene					
ТРН (ЕРА 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.

CoC	RBSL (µg/l)	W-1	W-2	W -3	W -4
Free Product Thickness	None				
Benzene	5				
Toluene	1,000				
Ethylbenzene	700				
Xylenes	10,000				
Total BTEX	N/A				
МТВЕ	40				
Naphthalene	25				
Benzo (a) anthracene	10				
Benzo (b) flouranthene	10				
Benzo (k) flouranthene	10	<u> </u>			
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)



THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Nashville 2960 Foster Creighton Drive Nashville, TN 37204 Tel: (615)726-0177

TestAmerica Job ID: 490-4605-1

Client Project/Site: Laurel Bay Housing Project

For:

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Have a Question?

www.testamericainc.com

Visit us at:

Ask-

The

Expert

Environmental Enterprise Group 10179 Highway 78 Ladson, South Carolina 29456

Attn: Mr. Tom McElwee

Kuth Hay

Authorized for release by: 8/31/2012 4:18:11 PM

Ken Hayes Project Manager I ken.hayes@testamericainc.com

The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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eceipt Checklists	25

Sample Summary

Client: Environmental Enterprise Group Project/Site: Laurel Bay Housing Project

TestAmerica Job ID: 490-4605-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
490-4605-1	1167 Jasmine	Solid	08/14/12 10:45	08/21/12 08:15
490-4605-2	1236 Dove - a	Solid	08/14/12 15:15	08/21/12 08:15
490-4605-3	630 Dahlia - a	Solid	08/14/12 15:45	08/21/12 08:15
490-4605-4	771 Althea - a	Solid	08/14/12 16:15	08/21/12 08:15
490-4605-5	1305 Eagle	Solid	08/15/12 15:30	08/21/12 08:15
490-4605-6	1417 Albatross	Solid	08/16/12 15:45	08/21/12 08:15

Job ID: 490-4605-1

Laboratory: TestAmerica Nashville

Narrative

Job Narrative 490-4605-1

Comments

No additional comments.

Receipt

The samples were received on 8/21/2012 8:15 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 3.9° C.

GC/MS VOA

Method(s) 8260B: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with batch 15022. See LCS/LCSD

Method(s) 8260B: Due to sample matrix effect on the internal standard (ISTD), a dilution was required for the following sample(s): 771 Althea - a (490-4605-4).

Method(s) 8260B: Surrogate recovery for the following sample(s) was outside control limits: 1167 Jasmine (490-4605-1). Evidence of matrix interference is present.

Method(s) 8260B: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with batch 15621.

Method(s) 8260B: The method blank for batch 15621 contained Methylene Chloride, Bromodichloromethane, Toluene, and Xylenes above the method detection limit. This target analyte concentration was less than the reporting limit (RL); therefore, re-extraction and/or re-analysis of samples was not performed.

No other analytical or quality issues were noted.

GC/MS Semi VOA

No analytical or quality issues were noted.

Organic Prep

No analytical or quality issues were noted.

VOA Prep

No analytical or quality issues were noted.

Definitions/Glossary

Client: Environmental Enterprise Group Project/Site: Laurel Bay Housing Project

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Qualifiers

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Qualifier	Qualifier Description	
x	Surrogate is outside control limits	
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.	
В	Compound was found in the blank and sample.	

GC/MS Semi VOA

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
ø	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CNF	Contains no Free Liquid
DL, RA, RE, IN	Indicates a Dilution, Reanalysis, Re-extraction, or additional Initial metals/anion analysis of the sample
EDL	Estimated Detection Limit
EPA	United States Environmental Protection Agency
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RL	Reporting Limit
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Lab Sample ID: 490-4605-1

Matrix: Solid

Percent Solids: 81.6

Client Sample ID: 1167 Jasmine

Date Collected: 08/14/12 10:45 Date Received: 08/21/12 08:15

Analuto	Becult	Qualifier	DI	MDI	11-14	D	Descended	A set and	DUF
Analyte	Result	Quaimer	RL	MDL	Unit	U	Prepared	Analyzed	Dil Fac
Benzene	ND		0.101	0.0339	mg/Kg	¢	08/22/12 15:09	08/24/12 13:21	1
Ethylbenzene	0.873		0.101	0.0339	mg/Kg	0	08/22/12 15:09	08/24/12 13:21	1
Naphthalene	0.677		0.306	0.104	mg/Kg	\Leftrightarrow	08/22/12 15:18	08/27/12 15:56	1
Toluene	0.102		0.101	0.0375	mg/Kg	¢	08/22/12 15:09	08/24/12 13:21	1
Xylenes, Total	6.20		0.253	0.0339	mg/Kg	Ø	08/22/12 15:09	08/24/12 13:21	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	117		70 - 130				08/22/12 15:09	08/24/12 13:21	1
1,2-Dichloroethane-d4 (Surr)	101		70 - 130				08/22/12 15:18	08/27/12 15:56	1
4-Bromofluorobenzene (Surr)	138	X	70 - 130				08/22/12 15:09	08/24/12 13:21	1
4-Bromofluorobenzene (Surr)	98		70 - 130				08/22/12 15:18	08/27/12 15:56	1
Dibromofluoromethane (Surr)	101		70 - 130				08/22/12 15:09	08/24/12 13:21	1
Dibromofluoromethane (Surr)	92		70 - 130				08/22/12 15:18	08/27/12 15:56	1
Toluene-d8 (Surr)	111		70 - 130				08/22/12 15:09	08/24/12 13:21	1
Toluene-d8 (Surr)	100		70 - 130				08/22/12 15:18	08/27/12 15:56	1

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.0658	0.00982	mg/Kg	\$	08/24/12 09:30	08/25/12 21:47	1
Acenaphthylene	ND		0.0658	0.00884	mg/Kg	\$	08/24/12 09:30	08/25/12 21:47	1
Anthracene	0.169		0.0658	0.00884	mg/Kg	¢	08/24/12 09:30	08/25/12 21:47	1
Benzo[a]anthracene	0.0378	J	0.0658	0.0147	mg/Kg	Ø	08/24/12 09:30	08/25/12 21:47	1
Benzo[a]pyrene	ND		0.0658	0.0118	mg/Kg	¢	08/24/12 09:30	08/25/12 21:47	1
Benzo[b]fluoranthene	0.0398	J	0.0658	0.0118	mg/Kg	Ø	08/24/12 09:30	08/25/12 21:47	1
Benzo[g,h,i]perylene	ND		0.0658	0.00884	mg/Kg	Q	08/24/12 09:30	08/25/12 21:47	1
Benzo[k]fluoranthene	ND		0.0658	0.0137	mg/Kg	ø	08/24/12 09:30	08/25/12 21:47	1
Pyrene	0.155		0.0658	0.0118	mg/Kg	Q	08/24/12 09:30	08/25/12 21:47	1
Phenanthrene	1.45		0.0658	0.00884	mg/Kg	¢	08/24/12 09:30	08/25/12 21:47	1
Chrysene	0.0454	J	0.0658	0.00884	mg/Kg	¢	08/24/12 09:30	08/25/12 21:47	1
Dibenz(a,h)anthracene	ND		0.0658	0.00687	mg/Kg	¢	08/24/12 09:30	08/25/12 21:47	1
Fluoranthene	0.122		0.0658	0.00884	mg/Kg	Q.	08/24/12 09:30	08/25/12 21:47	1
Fluorene	0.581		0.0658	0.0118	mg/Kg	¢	08/24/12 09:30	08/25/12 21:47	1
Indeno[1,2,3-cd]pyrene	ND		0.0658	0.00982	mg/Kg	\$	08/24/12 09:30	08/25/12 21:47	1
Naphthalene	0.738		0.0658	0.00884	mg/Kg	\$	08/24/12 09:30	08/25/12 21:47	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl (Surr)	68		29 - 120				08/24/12 09:30	08/25/12 21:47	1
Terphenyl-d14 (Surr)	91		13 - 120				08/24/12 09:30	08/25/12 21:47	1
Nitrobenzene-d5 (Surr)	84		27 - 120				08/24/12 09:30	08/25/12 21:47	1
General Chemistry									
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	82		0.10	0.10	%			08/21/12 15:03	1

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Client Sample ID: 1236 Dove						Lab Sar	nple ID: 490-	4605-2	
Date Collected: 08/14/12 15:15								Matr	ix: Solid
Date Received: 08/21/12 08:15								Percent Soli	ds: 93.7
Method: 8260B - Volatile Organic	Compounds	(GC/MS)							
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.105	0.0352	mg/Kg	¢	08/22/12 15:09	08/24/12 13:50	1
Ethylbenzene	ND		0.105	0.0352	mg/Kg	Q	08/22/12 15:09	08/24/12 13:50	1
Naphthalene	ND		0.263	0.0894	mg/Kg	\$	08/22/12 15:09	08/24/12 13:50	1
Toluene	ND		0.105	0.0389	mg/Kg	¢	08/22/12 15:09	08/24/12 13:50	1
Xylenes, Total	ND		0.263	0.0352	mg/Kg	¢	08/22/12 15:09	08/24/12 13:50	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	106		70 - 130				08/22/12 15:09	08/24/12 13:50	1
4-Bromofluorobenzene (Surr)	103		70 - 130				08/22/12 15:09	08/24/12 13:50	1
Dibromofluoromethane (Surr)	94		70 - 130				08/22/12 15:09	08/24/12 13:50	1
Toluene-d8 (Surr)	104		70 - 130				08/22/12 15:09	08/24/12 13:50	1
Mothod: 2270D Somivolatile Ore	ania Compou	nde (CCIME	N N						
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.0665	0.00992	mg/Kg	φ	08/24/12 09:30	08/25/12 23:05	1
Acenaphthylene	ND		0.0665	0.00893	mg/Kg	\$	08/24/12 09:30	08/25/12 23:05	1
Anthracene	ND		0.0665	0.00893	mg/Kg	¢	08/24/12 09:30	08/25/12 23:05	1
Benzo[a]anthracene	ND		0.0665	0.0149	mg/Kg	¢	08/24/12 09:30	08/25/12 23:05	1
Benzo[a]pyrene	ND		0.0665	0.0119	mg/Kg	0	08/24/12 09:30	08/25/12 23:05	1
Benzo[b]fluoranthene	ND		0.0665	0.0119	mg/Kg	\$	08/24/12 09:30	08/25/12 23:05	1
Benzo[g,h,i]perylene	ND		0.0665	0.00893	mg/Kg	\$	08/24/12 09:30	08/25/12 23:05	1
Benzo[k]fluoranthene	ND		0.0665	0.0139	mg/Kg	ø	08/24/12 09:30	08/25/12 23:05	1
Pyrene	ND		0.0665	0.0119	mg/Kg	Q	08/24/12 09:30	08/25/12 23:05	1
Phenanthrene	ND		0.0665	0.00893	mg/Kg	\$	08/24/12 09:30	08/25/12 23:05	1
Chrysene	ND		0.0665	0.00893	mg/Kg	a	08/24/12 09:30	08/25/12 23:05	1
Dibenz(a,h)anthracene	ND		0.0665	0.00694	mg/Kg	¢	08/24/12 09:30	08/25/12 23:05	1
Fluoranthene	ND		0.0665	0.00893	mg/Kg	¢.	08/24/12 09:30	08/25/12 23:05	1
Fluorene	ND		0.0665	0.0119	mg/Kg	ø	08/24/12 09:30	08/25/12 23:05	1
Indeno[1,2,3-cd]pyrene	ND		0.0665	0.00992	mg/Kg	\$	08/24/12 09:30	08/25/12 23:05	1
Naphthalene	ND		0.0665	0.00893	mg/Kg	¢	08/24/12 09:30	08/25/12 23:05	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl (Surr)	54		29 - 120				08/24/12 09:30	08/25/12 23:05	1
Terphenyl-d14 (Surr)	80		13 - 120				08/24/12 09:30	08/25/12 23:05	1
Nitrobenzene-d5 (Surr)	55		27 - 120				08/24/12 09:30	08/25/12 23:05	1
General Chemistry									
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	94		0.10	0.10	%			08/21/12 15:03	1

Lab Sample ID: 490-4605-3

Client Sample ID: 630 Dahlia - a

Date Collected: 08/14/12 15:45 Date R

Date Collected: 08/14/12 15:45								Matri	x: Solid
Date Received: 08/21/12 08:15								Percent Soli	ds: 87.4
Method: 8260B - Volatile Orga	nic Compounds	(GC/MS)							
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.110	0.0367	mg/Kg	¢	08/22/12 15:09	08/24/12 14:19	1
Ethylbenzene	ND		0.110	0.0367	mg/Kg	\$	08/22/12 15:09	08/24/12 14:19	1
Naphthalene	ND		0.274	0.0931	mg/Kg	¢	08/22/12 15:09	08/24/12 14:19	1
Toluene	ND		0.110	0.0405	mg/Kg	¢	08/22/12 15:09	08/24/12 14:19	1
Xylenes, Total	ND		0.274	0.0367	mg/Kg	\$	08/22/12 15:09	08/24/12 14:19	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	110		70 - 130				08/22/12 15:09	08/24/12 14:19	1
4-Bromofluorobenzene (Surr)	126		70 - 130				08/22/12 15:09	08/24/12 14:19	1
Dibromofluoromethane (Surr)	102		70 - 130				08/22/12 15:09	08/24/12 14:19	1
Toluene-d8 (Surr)	97		70 - 130				08/22/12 15:09	08/24/12 14:19	1

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.0667	0.00995	mg/Kg	Ø	08/24/12 09:30	08/25/12 23:31	1
Acenaphthylene	ND		0.0667	0.00896	mg/Kg	¢	08/24/12 09:30	08/25/12 23:31	1
Anthracene	ND		0.0667	0.00896	mg/Kg	\$ 2	08/24/12 09:30	08/25/12 23:31	1
Benzo[a]anthracene	ND		0.0667	0.0149	mg/Kg	¢	08/24/12 09:30	08/25/12 23:31	1
Benzo[a]pyrene	ND		0.0667	0.0119	mg/Kg	¢	08/24/12 09:30	08/25/12 23:31	1
Benzo[b]fluoranthene	ND		0.0667	0.0119	mg/Kg	ø	08/24/12 09:30	08/25/12 23:31	1
Benzo[g,h,i]perylene	ND		0.0667	0.00896	mg/Kg	0	08/24/12 09:30	08/25/12 23:31	1
Benzo[k]fluoranthene	ND		0.0667	0.0139	mg/Kg	ø	08/24/12 09:30	08/25/12 23:31	1
Pyrene	ND		0.0667	0.0119	mg/Kg	¢	08/24/12 09:30	08/25/12 23:31	1
Phenanthrene	ND		0.0667	0.00896	mg/Kg	ø	08/24/12 09:30	08/25/12 23:31	1
Chrysene	ND		0.0667	0.00896	mg/Kg	0	08/24/12 09:30	08/25/12 23:31	1
Dibenz(a,h)anthracene	ND		0.0667	0.00697	mg/Kg	ø	08/24/12 09:30	08/25/12 23:31	1
Fluoranthene	ND		0.0667	0.00896	mg/Kg	¢	08/24/12 09:30	08/25/12 23:31	1
Fluorene	ND		0.0667	0.0119	mg/Kg	\$2	08/24/12 09:30	08/25/12 23:31	1
Indeno[1,2,3-cd]pyrene	ND		0.0667	0.00995	mg/Kg	\$	08/24/12 09:30	08/25/12 23:31	1
Naphthalene	ND		0.0667	0.00896	mg/Kg	ò	08/24/12 09:30	08/25/12 23:31	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl (Surr)	62		29 - 120				08/24/12 09:30	08/25/12 23:31	1
Terphenyl-d14 (Surr)	86		13 - 120				08/24/12 09:30	08/25/12 23:31	1
Nitrobenzene-d5 (Surr)	62		27 - 120				08/24/12 09:30	08/25/12 23:31	1
General Chemistry									
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	87		0.10	0.10	%			08/21/12 15:03	1

Benzo[g,h,i]perylene

Benzo[k]fluoranthene

Dibenz(a,h)anthracene

Pyrene

Chrysene

Fluorene

Phenanthrene

Fluoranthene

08/25/12 23:57

08/25/12 23:57

08/27/12 16:43

08/25/12 23:57

08/25/12 23:57

08/25/12 23:57

08/25/12 23:57

1

1

2

1

1

1

1

Client Sample ID: 771 Alth						Lab Sar	nple ID: 490-	4605-4	
Date Collected: 08/14/12 16:15								Matri	x: Solid
Date Received: 08/21/12 08:15								Percent Soli	ds: 80.9
Method: 8260B - Volatile Orga	nic Compounds	(GC/MS)							
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	0.0602	J	0.105	0.0351	mg/Kg	0	08/22/12 15:09	08/24/12 14:48	1
Ethylbenzene	0.235		0.127	0.0431	mg/Kg	0	08/22/12 15:18	08/27/12 16:25	1
Naphthalene	8.43		0.317	0.108	mg/Kg	ø	08/22/12 15:18	08/27/12 16:25	1
Toluene	0.575		0.105	0.0388	mg/Kg	0	08/22/12 15:09	08/24/12 14:48	1
Xylenes, Total	1.13	В	0.317	0.0431	mg/Kg	¢	08/22/12 15:18	08/27/12 16:25	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	114		70 - 130				08/22/12 15:09	08/24/12 14:48	1
1,2-Dichloroethane-d4 (Surr)	99		70 - 130				08/22/12 15:18	08/27/12 16:25	1
4-Bromofluorobenzene (Surr)	0	X	70 - 130				08/22/12 15:09	08/24/12 14:48	1
4-Bromofluorobenzene (Surr)	103		70 - 130				08/22/12 15:18	08/27/12 16:25	1
Dibromofluoromethane (Surr)	106		70 - 130				08/22/12 15:09	08/24/12 14:48	1
Dibromofluoromethane (Surr)	92		70 - 130				08/22/12 15:18	08/27/12 16:25	1
Toluene-d8 (Surr)	162	x	70 - 130				08/22/12 15:09	08/24/12 14:48	1
Toluene-d8 (Surr)	101		70 - 130				08/22/12 15:18	08/27/12 16:25	1
Method: 8270D - Semivolatile	Organic Compou	inds (GC/M	5)						
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	0.800		0.0657	0.00981	mg/Kg	¢	08/24/12 09:30	08/25/12 23:57	1
Acenaphthylene	ND		0.0657	0.00883	mg/Kg	¢.	08/24/12 09:30	08/25/12 23:57	1
Anthracene	0.341		0.0657	0.00883	mg/Kg	¢	08/24/12 09:30	08/25/12 23:57	1
Benzo[a]anthracene	0.221		0.0657	0.0147	mg/Kg	¢	08/24/12 09:30	08/25/12 23:57	1
Benzo[a]pyrene	0.0981		0.0657	0.0118	mg/Kg	¢	08/24/12 09:30	08/25/12 23:57	1
Benzo[b]fluoranthene	0.195		0.0657	0.0118	mg/Kg	\$	08/24/12 09:30	08/25/12 23:57	1
Benzo[g,h,i]perylene	0.0552	J	0.0657	0.00883	mg/Kg	\$2	08/24/12 09:30	08/25/12 23:57	1

Indeno[1,2,3-cd]pyrene	0.0575	J	0.0657	0.00981	mg/Kg	\$	08/24/12 09:30	08/25/12 23:57	1
Naphthalene	0.917		0.0657	0.00883	mg/Kg	¢	08/24/12 09:30	08/25/12 23:57	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl (Surr)	55		29 - 120				08/24/12 09:30	08/25/12 23:57	1
Terphenyl-d14 (Surr)	83		13 - 120				08/24/12 09:30	08/25/12 23:57	1
Nitrobenzene-d5 (Surr)	61		27 - 120				08/24/12 09:30	08/25/12 23:57	1
General Chemistry									
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	81		0.10	0.10	%			08/21/12 15:03	1

0.0657

0.0657

0.131

0.0657

0.0657

0.0657

0.0657

0.0552 J

0.0744

0.626

4.22

0.271

0.443

1.34

0.0432 J

0.00883 mg/Kg

0.0137 mg/Kg

0.0118 mg/Kg

0.0177 mg/Kg

0.00883 mg/Kg

0.00687 mg/Kg

0.00883 mg/Kg

0.0118 mg/Kg

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08/24/12 09:30

08/24/12 09:30

08/24/12 09:30

08/24/12 09:30

08/24/12 09:30

08/24/12 09:30

08/24/12 09:30

Client Sample Results

Client: Environmental Enterprise Group Project/Site: Laurel Bay Housing Project

Date Collected: 08/15/12 15:30 Date Received: 08/21/12 08:15

Lab Sample ID: 490-4605-5 Matrix: Solid Percent Solids: 97.6

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Method: 8260B - Volatile Orga	nic Compounds	(GC/MS)							
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.108	0.0362	mg/Kg	Ф	08/22/12 15:09	08/24/12 15:17	1
Ethylbenzene	ND		0.108	0.0362	mg/Kg	Ø.	08/22/12 15:09	08/24/12 15:17	1
Naphthalene	0.118	J	0.270	0.0920	mg/Kg	¢	08/22/12 15:09	08/24/12 15:17	1
Toluene	ND		0.108	0.0400	mg/Kg	¢.	08/22/12 15:09	08/24/12 15:17	1
Xylenes, Total	ND		0.270	0.0362	mg/Kg	¢	08/22/12 15:09	08/24/12 15:17	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	106		70 - 130				08/22/12 15:09	08/24/12 15:17	1
4-Bromofluorobenzene (Surr)	98		70 - 130				08/22/12 15:09	08/24/12 15:17	1
Dibromofluoromethane (Surr)	95		70 - 130				08/22/12 15:09	08/24/12 15:17	1
Toluene-d8 (Surr)	117		70 - 130				08/22/12 15:09	08/24/12 15:17	1

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.0665	0.00993	mg/Kg	¢	08/24/12 09:30	08/26/12 00:22	1
Acenaphthylene	ND		0.0665	0.00894	mg/Kg	¢	08/24/12 09:30	08/26/12 00:22	1
Anthracene	ND		0.0665	0.00894	mg/Kg	¢	08/24/12 09:30	08/26/12 00:22	1
Benzo[a]anthracene	ND		0.0665	0.0149	mg/Kg	¢.	08/24/12 09:30	08/26/12 00:22	1
Benzo[a]pyrene	ND		0.0665	0.0119	mg/Kg	ø	08/24/12 09:30	08/26/12 00:22	1
Benzo[b]fluoranthene	ND		0.0665	0.0119	mg/Kg	¢	08/24/12 09:30	08/26/12 00:22	1
Benzo[g,h,i]perylene	ND		0.0665	0.00894	mg/Kg	¢	08/24/12 09:30	08/26/12 00:22	1
Benzo[k]fluoranthene	ND		0.0665	0.0139	mg/Kg	Ø	08/24/12 09:30	08/26/12 00:22	1
Pyrene	ND		0.0665	0.0119	mg/Kg	¢	08/24/12 09:30	08/26/12 00:22	1
Phenanthrene	ND		0.0665	0.00894	mg/Kg	¢	08/24/12 09:30	08/26/12 00:22	1
Chrysene	ND		0.0665	0.00894	mg/Kg	Q	08/24/12 09:30	08/26/12 00:22	1
Dibenz(a,h)anthracene	ND		0.0665	0.00695	mg/Kg	\$	08/24/12 09:30	08/26/12 00:22	1
Fluoranthene	ND		0.0665	0.00894	mg/Kg	0	08/24/12 09:30	08/26/12 00:22	1
Fluorene	ND		0.0665	0.0119	mg/Kg	Q	08/24/12 09:30	08/26/12 00:22	1
Indeno[1,2,3-cd]pyrene	ND		0.0665	0.00993	mg/Kg	¢	08/24/12 09:30	08/26/12 00:22	1
Naphthalene	ND		0.0665	0.00894	mg/Kg	¢	08/24 <mark>/1</mark> 2 09:30	08/26/12 00:22	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl (Surr)	59		29 - 120				08/24/12 09:30	08/26/12 00:22	1
Terphenyl-d14 (Surr)	79		13 - 120				08/24/12 09:30	08/26/12 00:22	1
Nitrobenzene-d5 (Surr)	58		27 - 120				08/24/12 09:30	08/26/12 00:22	1
General Chemistry									
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	98		0.10	0.10	%			08/21/12 15:03	1

Client Sample ID: 1417 Albatross

Date Collected: 08/16/12 15:45 Date Received: 08/21/12 08:15

Lab Sample ID: 490-4605-6 Matrix: Solid Percent Solids: 81.2

19

Method: 8260B - Volatile Organic	Compounds	(GC/MS)							
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.102	0.0343	mg/Kg	¢	08/22/12 15:09	08/24/12 15:47	1
Ethylbenzene	ND		0.102	0.0343	mg/Kg	¢	08/22/12 15:09	08/24/12 15:47	1
Naphthalene	ND		0.256	0.0870	mg/Kg	\$	08/22/12 15:09	08/24/12 15:47	1
Toluene	ND		0.102	0.0379	mg/Kg	¢	08/22/12 15:09	08/24/12 15:47	1
Xylenes, Total	ND		0.256	0.0343	mg/Kg	¢.	08/22/12 15:09	08/24/12 15:47	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	107		70 - 130				08/22/12 15:09	08/24/12 15:47	1
4-Bromofluorobenzene (Surr)	125		70 - 130				08/22/12 15:09	08/24/12 15:47	1
Dibromofluoromethane (Surr)	89		70 - 130				08/22/12 15:09	08/24/12 15:47	1
Toluene-d8 (Surr)	106		70 - 130				08/22/12 15:09	08/24/12 15:47	1

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.0658	0.00982	mg/Kg	¢	08/24/12 09:30	08/26/12 00:48	1
Acenaphthylene	ND		0.0658	0.00884	mg/Kg	0	08/24/12 09:30	08/26/12 00:48	1
Anthracene	ND		0.0658	0.00884	mg/Kg	\$	08/24/12 09:30	08/26/12 00:48	1
Benzo[a]anthracene	ND		0.0658	0.0147	mg/Kg	\$	08/24/12 09:30	08/26/12 00:48	1
Benzo[a]pyrene	ND		0.0658	0.0118	mg/Kg	¢	08/24/12 09:30	08/26/12 00:48	1
Benzo[b]fluoranthene	ND		0.0658	0.0118	mg/Kg	\$	08/24/12 09:30	08/26/12 00:48	1
Benzo[g,h,i]perylene	ND		0.0658	0.00884	mg/Kg	¢	08/24/12 09:30	08/26/12 00:48	1
Benzo[k]fluoranthene	ND		0.0658	0.0137	mg/Kg	¢	08/24/12 09:30	08/26/12 00:48	1
Pyrene	ND		0.0658	0.0118	mg/Kg	¢	08/24/12 09:30	08/26/12 00:48	1
Phenanthrene	ND		0.0658	0.00884	mg/Kg	\$	08/24/12 09:30	08/26/12 00:48	1
Chrysene	ND		0.0658	0.00884	mg/Kg	¢	08/24/12 09:30	08/26/12 00:48	1
Dibenz(a,h)anthracene	ND		0.0658	0.00687	mg/Kg	Ø	08/24/12 09:30	08/26/12 00:48	1
Fluoranthene	ND		0.0658	0.00884	mg/Kg	\$	08/24/12 09:30	08/26/12 00:48	1
Fluorene	ND		0.0658	0.0118	mg/Kg	¢.	08/24/12 09:30	08/26/12 00:48	1
Indeno[1,2,3-cd]pyrene	ND		0.0658	0.00982	mg/Kg	¢.	08/24/12 09:30	08/26/12 00:48	1
Naphthalene	ND		0.0658	0.00884	mg/Kg	¢	08/24/12 09:30	08/26/12 00:48	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl (Surr)	65		29 - 120				08/24/12 09:30	08/26/12 00:48	1
Terphenyl-d14 (Surr)	85		13 - 120				08/24/12 09:30	08/26/12 00:48	1
Nitrobenzene-d5 (Surr)	61		27 - 120				08/24/12 09:30	08/26/12 00:48	1
General Chemistry									
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	81		0.10	0.10	%			08/21/12 15:03	1

1,2-Dichloroethane-d4 (Surr)

4-Bromofluorobenzene (Surr)

Dibromofluoromethane (Surr)

Toluene-d8 (Surr)

101

97

96

108

1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 490-15022/6 Matrix: Solid											Client S	Sample ID: Methe Prep Type:	od Blank Total/NA
Analysis Batch: 15022		мв	мв										
Analyte	Re	sult	Qualifier	RL	3	MDL	Unit		D	Pr	epared	Analyzed	Dil Fac
Benzene		ND		0.00200	0.00	0670	mg/Kg	1			2	08/24/12 11:53	1
Ethylbenzene		ND		0.00200	0.00	0670	mg/Kg	1				08/24/12 11:53	1
Naphthalene		ND		0.00500	0.0	0170	mg/Kg	e R				08/24/12 11:53	1
Toluene		ND		0.00200	0.00	0740	mg/Kg	a. É				08/24/12 11:53	1
Xylenes, Total		ND		0.00500	0.00	0670	mg/Kg	l.				08/24/12 11:53	1
		ΜВ	МВ										
Surrogate	%Recov	ery	Qualifier	Limits						Pr	repared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)		106		70 - 130								08/24/12 11:53	1
4-Bromofluorobenzene (Surr)	1	100		70 - 130								08/24/12 11:53	1
Dibromofluoromethane (Surr)		98		70 - 130								08/24/12 11:53	1
Toluene-d8 (Surr)		102		70 - 130								08/24/12 11:53	1
Lab Sample ID: MB 490-15022/7										ð	Client S	Sample ID: Metho	d Blank
Matrix: Solid												Prep Type:	Total/NA
Analysis Batch: 15022		MR	MB										
Analyte	Res	sult	Qualifier	RL		MDL	Unit		D	Pr	epared	Analyzed	Dil Fac
Benzene		ND		0.100	0	0335	mg/Kg					08/24/12 12:22	1
Ethylbenzene		ND		0.100	0	0335	mg/Kg					08/24/12 12:22	1
Naphthalene		ND		0.250	0	0850	mg/Kg					08/24/12 12:22	1
Toluene		ND		0.100	0	0370	mg/Kg					08/24/12 12:22	1
Xylenes, Total		ND		0.250	0	0335	mg/Kg					08/24/12 12:22	1
		ΜВ	MB										
Surrogate	%Recov	ery	Qualifier	Limits						Pr	epared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)		108		70 - 130								08/24/12 12:22	1
4-Bromofluorobenzene (Surr)	ł	104		70 - 130								08/24/12 12:22	1
Dibromofluoromethane (Surr)		101		70 - 130								08/24/12 12:22	1
Toluene-d8 (Surr)		99		70 - 130								08/24/12 12:22	1
Lab Sample ID: LCS 490-15022/3	3								Clie	ent	Sample	ID: Lab Control	Sample
Matrix: Solid												Prep Type:	Total/NA
Analysis Batch: 15022				A 1									
Analyte				Added	Result	Qual	lifier	Unit		D	%Rec	%Rec. Limits	
Benzene				0.0500	0.04735			mg/Kg			95	75 - 127	
Ethylbenzene				0.0500	0.05154			mg/Kg			103	80 - 134	
Naphthalene				0.0500	0.05063			mg/Kg			101	69 - 150	
Toluene				0.0500	0.05479			mg/Kg			110	80 - 132	
Xylenes, Total				0.150	0.1512			mg/Kg			101	80 - 137	
	LCS	cs											
Surrogate	%Recoverv (Dual	ifier	Limits									

70 - 130

70 - 130

70 - 130

70 - 130

i.

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCSD 490-150	022/4					Clie	nt San	ple ID:	Lab Contro	Sampl	e Dup
Matrix: Solid								8	Prep T	ype: To	tal/NA
Analysis Batch: 15022											
			Spike	LCSD	LCSD				%Rec.		RPD
Analyte			Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Benzene			0.0500	0.04753		mg/Kg		95	75 - 127	0	50
Ethylbenzene			0.0500	0.04869		mg/Kg		97	80 - 134	6	50
Naphthalene			0.0500	0.05278		mg/Kg		106	69 - 150	4	50
Toluene			0.0500	0.04803		mg/Kg		96	80 - 132	13	50
Xylenes, Total			0.150	0.1444		mg/Kg		96	<mark>80</mark> - 137	5	50
	LCSD	LCSD									
Surrogate	%Recovery	Qualifier	Limits								
1,2-Dichloroethane-d4 (Surr)	108		70 - 130								
4-Bromofluorobenzene (Surr)	125		70 - 130								
Dibromofluoromethane (Surr)	98		70 - 130								
Toluene-d8 (Surr)	99		70 - 130								
Lab Sample ID: MB 490-15621	1/6							Client S	ample ID:	Method	Blank
Matrix: Solid									Prep T	vpe: To	tal/NA
Analysis Batch: 15621											
Contract Contractory Contractory		MB MB									

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.00200	0.000680	mg/Kg			08/27/12 12:30	1
Ethylbenzene	ND		0.00200	0.000680	mg/Kg			08/27/12 12:30	1
Naphthalene	ND		0.00500	0.00170	mg/Kg			08/27/12 12:30	1
Toluene	0.001202	J	0.00200	0.000740	mg/Kg			08/27/12 12:30	1
Xylenes, Total	0.001207	J	0.00500	0.000680	mg/Kg			08/27/12 12:30	1
	MP	MP							

MD	MD				
%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
99		70 - 130		08/27/12 12:30	1
104		70 - 130		08/27/12 12:30	1
94		70 - 130		08/27/12 12:30	1
99		70 - 130		08/27/12 12:30	1
	%Recovery 99 104 94 99	%Recovery Qualifier 99 104 94 99	%Recovery Qualifier Limits 99 70 - 130 104 70 - 130 94 70 - 130 99 70 - 130	%Recovery Qualifier Limits Prepared 99 70 - 130 104 70 - 130 94 70 - 130 99 70 - 130 99 70 - 130 99 70 - 130	MB Limits Prepared Analyzed 99 70 - 130 08/27/12 12:30 08/27/12 12:30 104 70 - 130 08/27/12 12:30 08/27/12 12:30 94 70 - 130 08/27/12 12:30 08/27/12 12:30 99 70 - 130 08/27/12 12:30 08/27/12 12:30

Lab Sample ID: MB 490-15621/7 Matrix: Solid

Analysis Batch: 15621

	MB	MB							
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.100	0.0340	mg/Kg			08/27/12 12:59	1
Ethylbenzene	ND		0.100	0.0340	mg/Kg			08/27/12 12:59	1
Naphthalene	ND		0.250	0.0850	mg/Kg			08/27/12 12:59	1
Toluene	0.05284	J	0.100	0.0370	mg/Kg			08/27/12 12:59	1
Xylenes, Total	0.05238	J	0.250	0.0340	mg/Kg			08/27/12 12:59	1
	MB	мв							
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	101		70 - 130					08/27/12 12:59	1
4-Bromofluorobenzene (Surr)	105		70 - 130					08/27/12 12:59	1
Dibromofluoromethane (Surr)	94		70 - 130					08/27/12 12:59	1
Toluene-d8 (Surr)	101		70 - 130					08/27/12 12:59	1

Client Sample ID: Method Blank

Prep Type: Total/NA

0.0500

0.150

Client Sample ID: Lab Control Sample

80 - 132

80 - 137

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

108

98

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 490-15621/3 Matrix: Solid Analysis Batch: 15621

Analyte Benzene Ethylbenzene Naphthalene

Toluene

Xylenes, Total

45004							Prep Typ	e: Total/NA
15621	Spike	LCS	LCS				%Rec.	
	Added	Result	Qualifier	Unit	D	%Rec	Limits	
	0.0500	0.04607		mg/Kg		92	75 - 127	
	0.0500	0.04670		mg/Kg		93	80 - 134	
	0.0500	0.05064		mg/Kg		101	69 - 150	

0.05422

0.1466

mg/Kg

mg/Kg

	LCS	LCS	
Surrogate	%Recovery	Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	107		70 - 130
4-Bromofluorobenzene (Surr)	100		70 - 130
Dibromofluoromethane (Surr)	100		70 - 130
Toluene-d8 (Surr)	115		70 - 130

Lab Sample ID: LCSD 490-15621/4 Matrix: Solid Analysis Batch: 15621

			Spike	LCSD	LCSD				%Rec.		RPD
Analyte			Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Benzene			0.0500	0.04323		mg/Kg		86	75 - 127	6	50
Ethylbenzene			0.0500	0.04667		mg/Kg		93	80 - 134	0	50
Naphthalene			0.0500	0.05099		mg/Kg		102	69 - 150	1	50
Toluene			0.0500	0.04755		mg/Kg		95	80 - 132	13	50
Xylenes, Total			0.150	0.1451		mg/Kg		97	80 - 137	1	50
	LCSD	LCSD									
Surrogate	%Recovery	Qualifier	Limits								
1,2-Dichloroethane-d4 (Surr)	103		70 - 130								
4-Bromofluorobenzene (Surr)	100		70 - 130								
Dibromofluoromethane (Surr)	98		70 - 130								
Toluene-d8 (Surr)	106		70 130								

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Lab Sample ID:	MB 490-15031/1-A
Matrix: Solid	
Analysis Batch:	15380

Client Sample ID: Method Blank Prep Type: Total/NA Prep Batch: 15031

	MB	MB							
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.0670	0.0100	mg/Kg		08/24/12 09:30	08/25/12 20:55	1
Acenaphthylene	ND		0.0670	0.00900	mg/Kg		08/24/12 09:30	08/25/12 20:55	1
Anthracene	ND		0.0670	0.00900	mg/Kg		08/24/12 09:30	08/25/12 20:55	1
Benzo[a]anthracene	ND		0.0670	0.0150	mg/Kg		08/24/12 09:30	08/25/12 20:55	1
Benzo[a]pyrene	ND		0.0670	0.0120	mg/Kg		08/24/12 09:30	08/25/12 20:55	1
Benzo[b]fluoranthene	ND		0.0670	0.0120	mg/Kg		08/24/12 09:30	08/25/12 20:55	1
Benzo[g,h,i]perylene	ND		0.0670	0.00900	mg/Kg		08/24/12 09:30	08/25/12 20:55	1
Benzo[k]fluoranthene	ND		0.0670	0.0140	mg/Kg		08/24/12 09:30	08/25/12 20:55	1
Pyrene	ND		0.0670	0.0120	mg/Kg		08/24/12 09:30	08/25/12 20:55	1
Phenanthrene	ND		0.0670	0.00900	mg/Kg		08/24/12 09:30	08/25/12 20:55	1
Chrysene	ND		0.0670	0.00900	mg/Kg		08/24/12 09:30	08/25/12 20:55	1
Dibenz(a,h)anthracene	ND		0.0670	0.00700	mg/Kg		08/24/12 09:30	08/25/12 20:55	1
Fluoranthene	ND		0.0670	0.00900	mg/Kg		08/24/12 09:30	08/25/12 20:55	1

Lab Sample ID: MB 490-15031/1-A

Client Sample ID: Method Blank

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Matrix: Solid								Prep Type: 1	otal/NA
Analysis Batch: 15380								Prep Batch	1: 15031
	MB	MB							
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluorene	ND		0.0670	0.0120	mg/Kg		08/24/12 09:30	08/25/12 20:55	1
Indeno[1,2,3-cd]pyrene	ND		0.0670	0.0100	mg/Kg		08/24/12 09:30	08/25/12 20:55	1
Naphthalene	ND		0.0670	0.00900	mg/Kg		08/24/12 09:30	08/25/12 20:55	1
	MB	МВ							
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl (Surr)	78		29 - 120				08/24/12 09:30	08/25/12 20:55	1
Terphenyl-d14 (Surr)	102		13 - 120				08/24/12 09:30	08/25/12 20:55	1
Nitrobenzene-d5 (Surr)	70		27 - 120				08/24/12 09:30	08/25/12 20:55	1

Lab Sample ID: LCS 490-15031/2-A

Matrix: Solid

Analysis Batch: 15380

Client Sample ID: Lab Control Sample

Prep Type: Total/NA Prep Batch: 15031

Analysis Daten. 10000							rich	Dati
	Spike	LCS	LCS				%Rec.	
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Acenaphthylene	1.67	1.504		mg/Kg		90	38 - 120	
Anthracene	1.67	1.458		mg/Kg		87	46 - 124	
Benzo[a]anthracene	1.67	1.500		mg/Kg		90	45 - 120	
Benzo[a]pyrene	1.67	1.613		mg/Kg		97	45 - 120	
Benzo[b]fluoranthene	1.67	1.500		mg/Kg		90	42 - 120	
Benzo[g,h,i]perylene	1.67	1.415		mg/Kg		85	38 - 120	
Benzo[k]fluoranthene	1.67	1.407		mg/Kg		84	42 - 120	
Pyrene	1.67	1.576		mg/Kg		95	43 - 120	
Phenanthrene	1.67	1.457		mg/Kg		87	45 - 120	
Chrysene	1.67	1.461		mg/Kg		88	43 - 120	
Dibenz(a,h)anthracene	1.67	1.466		mg/Kg		88	32 - 128	
Fluoranthene	1.67	1.438		mg/Kg		86	46 - 120	
Fluorene	1.67	1.511		mg/Kg		91	42 - 120	
Indeno[1,2,3-cd]pyrene	1.67	1.461		mg/Kg		88	41 - 121	
Naphthalene	1.67	1.298		mg/Kg		78	32 - 120	

	LCS	LCS	
Surrogate	%Recovery	Qualifier	Limits
2-Fluorobiphenyl (Surr)	66		29 - 120
Terphenyl-d14 (Surr)	82		13 - 120
Nitrobenzene-d5 (Surr)	60		27 - 120

Lab Sample ID: 490-4605-1 MS Matrix: Solid

Analysis Batch: 15380									Prep	Batch: 15031
	Sample	Sample	Spike	MS	MS				%Rec.	
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Acenaphthylene	ND		1.67	1.312		mg/Kg	Q	79	25 - 120	
Anthracene	0.169		1.67	1.701		mg/Kg	¢	92	28 - 125	
Benzo[a]anthracene	0.0378	J	1.67	1.466		mg/Kg	¢	86	23 - 120	
Benzo[a]pyrene	ND		1.67	1.568		mg/Kg	Ø	94	15 - 128	
Benzo[b]fluoranthene	0.0398	J	1.67	1.538		mg/Kg	¢	90	12 - 133	
Benzo[g,h,i]perylene	ND		1.67	1.507		mg/Kg	¢	90	22 - 120	
Benzo[k]fluoranthene	ND		1.67	1.434		mg/Kg	\$	86	28 - 120	
Pyrene	0.155		1.67	1.490		mg/Kg	¢	80	20 - 123	
Phenanthrene	1.45		1.67	2.904		mg/Kg	¢	87	21 - 122	

Client Sample ID: 1167 Jasmine

Prep Type: Total/NA

Client Sample ID: 1167 Jasmine

Prep Type: Total/NA Prep Batch: 15031

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

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Lab Sample ID: 490-4605-1 MS								Client S	Sample ID:	1167 Jasmine
Matrix: Solid									Prep T	ype: Total/NA
Analysis Batch: 15380									Prep	Batch: 15031
	Sample	Sample	Spike	MS	MS				%Rec.	
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Chrysene	0.0454	J	1.67	1.591		mg/Kg	¢	93	20 - 120	
Dibenz(a,h)anthracene	ND		1.67	1.539		mg/Kg	0	92	12 - 128	
Fluoranthene	0.122		1.67	1.570		mg/Kg	\$	87	10 - 143	
Fluorene	0.581		1.67	1.931		mg/Kg	¢	81	20 - 120	
Indeno[1,2,3-cd]pyrene	ND		1.67	1.505		mg/Kg	¢	90	22 - 121	
Naphthalene	0.738		1.67	1.636		mg/Kg	\$	54	10 - 120	
	MS	MS								
Surrogate	%Recovery	Qualifier	Limits							
2-Fluorobiphenyl (Surr)	60		29 - 120							
Terphenyl-d14 (Surr)	77		13 - 120							

27 - 120

Lab Sample ID: 490-4605-1 MSD Matrix: Solid Analysis Batch: 15380

Nitrobenzene-d5 (Surr)

	Sample	Sample	Spike	MSD	MSD				%Rec.		RPD
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Acenaphthylene	ND		1.66	1.609		mg/Kg	\$	97	25 - 120	20	50
Anthracene	0.169		1.66	1.869		mg/Kg	\$	102	28 - 125	9	49
Benzo[a]anthracene	0.0378	J	1.66	1.593		mg/Kg	\$	94	23 - 120	8	50
Benzo[a]pyrene	ND		1.66	1.890		mg/Kg	\Diamond	114	15 - 128	19	50
Benzo[b]fluoranthene	0.0398	J	1.66	1.608		mg/Kg	\$	94	12 - 133	4	50
Benzo[g,h,i]perylene	ND		1.66	1.572		mg/Kg	¢	95	22 - 120	4	50
Benzo[k]fluoranthene	ND		1.66	1.580		mg/Kg	\$	95	28 - 120	10	45
Pyrene	0.155		1.66	1.715		mg/Kg	\$	94	20 - 123	14	50
Phenanthrene	1.45		1.66	3.068		mg/Kg	¢	98	21 - 122	6	50
Chrysene	0.0454	J	1.66	1.596		mg/Kg	Q.	93	20 - 120	0	49
Dibenz(a,h)anthracene	ND		1.66	1.660		mg/Kg	¢	100	12 - 128	8	50
Fluoranthene	0.122		1.66	1.690		mg/Kg	Q	94	10 - 143	7	50
Fluorene	0.581		1.66	2.096		mg/Kg	$\tilde{\varphi}$	91	20 - 120	8	50
Indeno[1,2,3-cd]pyrene	ND		1.66	1.596		mg/Kg	\$	96	22 - 121	6	50
Naphthalene	0.738		1.66	1.789		mg/Kg	\$	63	10 - 120	9	50
	MSD	MSD									
Surrogate	%Recovery	Qualifier	Limits								
2-Fluorobiphenyl (Surr)	64		29 - 120								
Terphenyl-d14 (Surr)	78		13 - 120								
Nitrobenzene-d5 (Surr)	63		27 - 120								

Method: Moisture - Percent Moisture

Lab Sample ID: 490-4605-1 DU						Clie	nt Sample ID: 1167 Ja	smine
Matrix: Solid							Prep Type: To	tal/NA
Analysis Batch: 14093								
	Sample	Sample	DU	DU				RPD
Analyte	Result	Qualifier	Result	Qualifier	Unit	D	RPD	Limit
Percent Solids	82		82		%		0.08	20

GC/MS VOA

Prep Batch: 14487

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batc
490-4605-1	1167 Jasmine	Total/NA	Solid	5035	
490-4605-2	1236 Dove - a	Total/NA	Solid	5035	
490-4605-3	630 Dahlia - a	Total/NA	Solid	5035	
490-4605-4	771 Althea - a	Total/NA	Solid	5035	
490-4605-5	1305 Eagle	Total/NA	Solid	5035	
490-4605-6	1417 Albatross	Total/NA	Solid	5035	
rep Batch: 14489					
Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batc
190-4605-1	1167 Jasmine	Total/NA	Solid	5035	
190-4605-4	771 Althea - a	Total/NA	Solid	5035	
nalysis Batch: 15022	2				
Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batc
90-4605-1	1167 Jasmine	Total/NA	Solid	8260B	1448
90-4605-2	1236 Dove - a	Total/NA	Solid	8260B	1448
90-4605-3	630 Dahlia - a	Total/NA	Solid	8260B	1448
490-4605-4	771 Althea - a	Total/NA	Solid	8260B	1448
490-4605-5	1305 Eagle	Total/NA	Solid	8260B	1448
490-4605-6	1417 Albatross	Total/NA	Solid	8260B	1448
LCS 490-15022/3	Lab Control Sample	Total/NA	Solid	8260B	
LCSD 490-15022/4	Lab Control Sample Dup	Total/NA	Solid	8260B	
MB 490-15022/6	Method Blank	Total/NA	Solid	8260B	
MB 490-15022/7	Method Blank	Total/NA	Solid	8260B	
nalysis Batch: 15621	i.				
Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batc
490-4605-1	1167 Jasmine	Total/NA	Solid	8260B	1448
490-4605-4	771 Althea - a	Total/NA	Solid	8260B	1448
_CS 490-15621/3	Lab Control Sample	Total/NA	Solid	8260B	
LCSD 490-15621/4	Lab Control Sample Dup	Total/NA	Solid	8260B	
MB 490-15621/6	Method Blank	Total/NA	Solid	8260B	
MB 490-15621/7	Method Blank	Total/NA	Solid	8260B	

GC/MS Semi VOA

Prep Batch: 15031

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-4605-1	1167 Jasmine	Total/NA	Solid	3550C	
490-4605-1 MS	1167 Jasmine	Total/NA	Solid	3550C	
490-4605-1 MSD	1167 Jasmine	Total/NA	Solid	3550C	
490-4605-2	1236 Dove - a	Total/NA	Solid	3550C	
490-4605-3	630 Dahlia - a	Total/NA	Solid	3550C	
490-4605-4	771 Althea - a	Total/NA	Solid	3550C	
490-4605-5	1305 Eagle	Total/NA	Solid	3550C	
490-4605-6	1417 Albatross	Total/NA	Solid	3550C	
LCS 490-15031/2-A	Lab Control Sample	Total/NA	Solid	3550C	
MB 490-15031/1-A	Method Blank	Total/NA	Solid	3550C	
Analysis Batch: 15380	D				
Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-4605-1	1167 Jasmine	Total/NA	Solid	8270D	15031

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GC/MS Semi VOA (Continued)

Analysis Batch: 15380 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-4605-1 MS	1167 Jasmine	Total/NA	Solid	8270D	15031
490-4605-1 MSD	1167 Jasmine	Total/NA	Solid	8270D	15031
490-4605-2	1236 Dove - a	Total/NA	Solid	8270D	15031
490-4605-3	630 Dahlia - a	Total/NA	Solid	8270D	15031
490-4605-4	771 Althea - a	Total/NA	Solid	8270D	15031
490-4605-5	1305 Eagle	Total/NA	Solid	8270D	15031
490-4605-6	1417 Albatross	Total/NA	Solid	8270D	15031
LCS 490-15031/2-A	Lab Control Sample	Total/NA	Solid	8270D	15031
MB 490-15031/1-A	Method Blank	Total/NA	Solid	8270D	15031
Analysis Batch: 15732	2				
Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-4605-4	771 Althea - a	Total/NA	Solid	8270D	15031

General Chemistry

Analysis Batch: 14093

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-4605-1	1167 Jasmine	Total/NA	Solid	Moisture	
490-4605-1 DU	1167 Jasmine	Total/NA	Solid	Moisture	
490-4605-2	1236 Dove - a	Total/NA	Solid	Moisture	
490-4605-3	630 Dahlia - a	Total/NA	Solid	Moisture	
490-4605-4	771 Althea - a	Total/NA	Solid	Moisture	
490-4605-5	1305 Eagle	Total/NA	Solid	Moisture	
490-4605-6	1417 Albatross	Total/NA	Solid	Moisture	

Client Samp	le ID: 1167	Jasmine					Lab Sample	D: 490-4605-1
Date Collected	: 08/14/12 10:4	45						Matrix: Solid
Date Received	: 08/21/12 08:1	15					P	ercent Solids: 81.6
	Batch	Batch		Dilution	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	5035			14487	08/22/12 15:09	кк	TAL NSH
Total/NA	Analysis	8260B		1	15022	08/24/12 13:21	кк	TAL NSH
Total/NA	Prep	5035			14489	08/22/12 15:18	кк	TAL NSH
Total/NA	Analysis	8260B		1	15621	08/27/12 15:56	кк	TAL NSH
Total/NA	Prep	3550C			15031	08/24/12 09:30	AK	TAL NSH
Total/NA	Analysis	8270D		1	15380	08/25/12 21:47	JS	TAL NSH

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14093

Client Sample ID: 1236 Dove - a

Analysis

Moisture

Date Collected: 08/14/12 15:15 Date Received: 08/21/12 08:15

Total/NA

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			14487	08/22/12 15:09	кк	TAL NSH
Total/NA	Analysis	8260B		1	15022	08/24/12 13:50	кк	TAL NSH
Total/NA	Prep	3550C			15031	08/24/12 09:30	AK	TAL NSH
Total/NA	Analysis	8270D		1	15380	08/25/12 23:05	JS	TAL NSH
Total/NA	Analysis	Moisture		1	14093	08/21/12 15:03	ML	TAL NSH

Client Sample ID: 630 Dahlia - a Date Collected: 08/14/12 15:45

Date Received: 08/21/12 08:15

Ргер Туре	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			14487	08/22/12 15:09	кк	TAL NSH
Total/NA	Analysis	8260B		1	15022	08/24/12 14:19	KK	TAL NSH
Total/NA	Prep	3550C			15031	08/24/12 09:30	AK	TAL NSH
Total/NA	Analysis	8270D		1	15380	08/25/12 23:31	JS	TAL NSH
Total/NA	Analysis	Moisture		1	14093	08/21/12 15:03	ML	TAL NSH

Client Sample ID: 771 Althea - a Date Collected: 08/14/12 16:15

Date Received: 08/21/12 08:15

	Batch	Batch		Dilution	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	5035			14487	08/22/12 15:09	KK	TAL NSH
Total/NA	Analysis	8260B		1	15022	08/24/12 14:48	кк	TAL NSH
Fotal/NA	Prep	5035			14489	08/22/12 15:18	КК	TAL NSH
fotal/NA	Analysis	8260B		1	15621	08/27/12 16:25	KK	TAL NSH
Total/NA	Prep	3550C			15031	08/24/12 09:30	AK	TAL NSH
fotal/NA	Analysis	8270D		1	15380	08/25/12 23:57	JS	TAL NSH
Total/NA	Analysis	8270D		2	15732	08/27/12 16:43	BS	TAL NSH
Fotal/NA	Analysis	Moisture		1	14093	08/21/12 15:03	ML	TAL NSH

08/21/12 15:03 ML TAL NSH

Lab Sample ID: 490-4605-2

Matrix: Solid

Percent Solids: 93.7

Lab Sample ID: 490-4605-3 Matrix: Solid

Lab Sample ID: 490-4605-4

Percent Solids: 87.4

Matrix: Solid

Percent Solids: 80.9

Client Samp	le ID: 1305	Eagle					Lab Sample	D: 490-4605-5
Date Collected	: 08/15/12 15:3	30						Matrix: Solid
Date Received:	08/21/12 08:1	15					P	ercent Solids: 97.6
	Batch	Batch		Dilution	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	5035			14487	08/22/12 15:09	кк	TAL NSH
Total/NA	Analysis	8260B		1	15022	08/24/12 15:17	кк	TAL NSH
Total/NA	Prep	3550C			15031	08/24/12 09:30	AK	TAL NSH
Total/NA	Analysis	8270D		1	15380	08/26/12 00:22	JS	TAL NSH
Total/NA	Analysis	Moisture		1	14093	08/21/12 15:03	ML	TAL NSH

Client Sample ID: 1417 Albatross

Date Collected: 08/16/12 15:45 Date Received: 08/21/12 08:15

Pron Type	Batch	Batch	Run	Dilution	Batch	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035	Run	Tuctor	14487	08/22/12 15:09	KK	TAL NSH
Total/NA	Analysis	8260B		1	15022	08/24/12 15:47	кк	TAL NSH
Total/NA	Prep	3550C			15031	08/24/12 09:30	AK	TAL NSH
Total/NA	Analysis	8270D		1	15380	08/26/12 00:48	JS	TAL NSH
Total/NA	Analysis	Moisture		1	14093	08/21/12 15:03	ML	TAL NSH

Laboratory References:

TAL NSH = TestAmerica Nashville, 2960 Foster Creighton Drive, Nashville, TN 37204, TEL (615)726-0177

Lab Sample ID: 490-4605-6 Matrix: Solid

Percent Solids: 81.2

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Method Summary

Client: Environmental Enterprise Group Project/Site: Laurel Bay Housing Project

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Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL NSH
8270D	Semivolatile Organic Compounds (GC/MS)	SW846	TAL NSH
Moisture	Percent Moisture	EPA	TAL NSH

Protocol References:

EPA = US Environmental Protection Agency

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL NSH = TestAmerica Nashville, 2960 Foster Creighton Drive, Nashville, TN 37204, TEL (615)726-0177

TestAmerica Job ID: 490-4605-1

Laboratory: TestAmerica Nashville

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date		
	ACIL		393	10-30-12		
A2LA	ISO/IEC 17025		0453.07	12-31-13		
Alabama	State Program	4	41150	05-31-13		
Alaska (UST)	State Program	10	UST-087	07-24-13		
Arizona	State Program	9	AZ0473	05-05-13		
Arkansas DEQ	State Program	6	88-0737	04-25-13		
California	NELAC	9	1168CA	10-31-12		
Canadian Assoc Lab Accred (CALA)	Canada		3744	03-08-14		
Colorado	State Program	8	N/A	02-28-13		
Connecticut	State Program	1	PH-0220	12-31-13		
Florida	NELAC	4	E87358	06-30-13		
Illinois	NELAC	5	200010	12-09-12		
lowa	State Program	7	131	05-01-14		
Kansas	NELAC	7	E-10229	10-31-12		
Kentucky	State Program	4	90038	12-31-12		
Kentucky (UST)	State Program	4	19	09-15-13		
Louisiana	NELAC	6	LA110014	12-31-12		
Louisiana	NELAC	6	30613	06-30-13		
Maryland	State Program	3	316	03-31-13		
Massachusetts	State Program	1	M-TN032	06-30-13		
Minnesota	NELAC	5	047-999-345	12-31-12		
Mississippi	State Program	4	N/A	06-30-13		
Montana (UST)	State Program	8	NA	01-01-15		
Nevada	State Program	9	TN00032	09-30-12		
New Hampshire	NELAC	1	2963	10-09-1 <mark>2</mark>		
New Jersey	NELAC	2	TN965	06-30-13		
New York	NELAC	2	11342	04-01-13		
North Carolina DENR	State Program	4	387	12-31-12		
North Dakota	State Program	8	R-146	06-30-13		
Ohio VAP	State Program	5	CL0033	01-19-14		
Oklahoma	State Program	6	9412	08-31-12		
Oregon	NELAC	10	TN200001	04-30-13		
Pennsylvania	NELAC	3	68-00585	06-30-13		
Rhode Island	State Program	1	LAO00268	12-30-12		
South Carolina	State Program	4	84009 (001)	02-28-13		
South Carolina	State Program	4	84009 (002)	02-23-14		
Tennessee	State Program	4	2008	02-23-14		
Texas	NELAC	6	T104704077-09-TX	08-31-13		
USDA	Federal		S-48469	11-02-13		
Utah	NELAC	8	TAN	06-30-13		
Virginia	NELAC	3	460152	06-14-13		
Washington	State Program	10	C789	07-19-13		
West Virginia DEP	State Program	3	219	02-28-13		
Wisconsin	State Program	5	998020430	08-31-13		
Wyoming (UST)	A2LA	8	453.07	12-31-13		

IestAmerica	
THE LEADER IN ENVIRONMENTAL TESTING Nashville, TN COOLER RECEIPT FORM	
Cooler Received/Opened On <u>8/21/2012 @ 8:15</u> 1. Tracking #(last 4 digits, FedEx)	490-4605 Chain of 530502
Courier: Fed-ex IR Gun ID 12080142	
2. Temperature of rep. sample or temp blank when opened: 3, 9 Degrees Celsius	
3. If Item #2 temperature is 0°C or less, was the representative sample or temp blank fro	Zen2 YES NO NA
4. Were custody seals on outside of cooler?	AFS NO NA
If yes, how many and where: 2 front Jback	(Les into inte
5. Were the seals intact, signed, and dated correctly?	YES. NONA
6. Were custody papers inside cooler?	YES NO NA
I certify that I opened the cooler and answered questions 1-6 (intial)	
7. Were custody seals on containers: YES and Intact	YESNO
Were these signed and dated correctly?	YESNO.
8. Packing mat'l used? Bubblewrap Plastic bag Peanuts Vermiculite Foam Insert	Paper Other None
9. Cooling process: Ice-pack Ice (direct contact) D	ry ice Other None
10. Did all containers arrive in good condition (unbroken)?	ESNONA
11. Were all container labels complete (#, date, signed, pres., etc)?	AESNONA
12. Did all container labels and tags agree with custody papers?	TES.NONA
13a. Were VOA vials received?	ESNONA
b. Was there any observable headspace present in any VOA vial?	YES. MNA ~ Solls
14. Was there a Trip Blank in this cooler? YESNO	quence #
I certify that I unloaded the cooler and answered questions 7-14 (intial)	Ð
15a. On pres'd bottles, did pH test strips suggest preservation reached the correct pH le	evel? YESNONA
b. Did the bottle labels indicate that the correct preservatives were used	YES NONA
16. Was residual chlorine present?	YESNONA
I certify that I checked for chlorine and pH as per SOP and answered questions 15-16 (in	tial)
17. Were custody papers properly filled out (ink, signed, etc)?	ESNONA
18. Did you sign the custody papers in the appropriate place?	ESNONA
19. Were correct containers used for the analysis requested?	SESNONA
20. Was sufficient amount of sample sent in each container?	YES .NO NA
I certify that I entered this project into LIMS and answered questions 17-20 (intial)	F
I certify that I attached a label with the unique LIMS number to each container (intial)	5
21. Were there Non-Conformance issues at login? YES NO Was a PIPE generated? Y	ES

	YesNo	Yes No_						Γ	(eluberio2-erq) TAT H2U5									1	~		
s in using the proper analytical s this work being conducted for purposes?	Compliance Monitoring?	Enforcement Action?	2 2 2	1063		Housing Project		Analyze For:	Loc: 490 4605										y Comments: nperature Upon Receipt: Cs Free of Headspace?		
To assist u methods, is regulatory j			tte: SC)#: #0	.#6	ID: Laurel Bay	t#:		00728 - HA9		×	×	×	×	~				Laborator Ter VO		
			Site Sta	P	Quote	roject	Projec		30828 - ntqeN + X3T8	P	×	X	X	J	X	+	+	\vdash		Time	Time
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-017 -098					3			7	Other (Specify) M (Specify)	1	2	~	-	~	-	+	1	t	1		-
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8/31/2012

1

Login Sample Receipt Checklist

Client: Environmental Enterprise Group

Login Number: 4605

List Number: 1 Creator: Ford, Easton

Question	Answer	Comment
Radioactivity either was not measured or, if measured, is at or below background	N/A	
The cooler's custody seal, if present, is intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the sample IDs on the containers and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Job Number: 490-4605-1

List Source: TestAmerica Nashville

ATTACHMENT A

N.	Δ '	I A V A L	
WA	STE M	ANAGEMENT	

NON-HAZARDOUS MANIFEST

	1. Generator's US EPA ID No. Manifest Doc No.					2. Page 1 of					
NON-HAZARDOUS MANIFEST	and a summer au				1			#28 m			
3. Generator's Mailing Address:	Ger	erator's Site Address (If di	ferent than ma	ailing):	A, Manife	st Number		Page 1	A CAR		
MCAS, BEAUFORT					W	MNA	00316	830			
LAUREL BAY HOUSING	TAN					B State G	tate Generator's ID				
BEAUFORT, SC 29907	THE REAL AR					D. State G	enerator s l				
4. Generator's Phone 843-22	28-6461										
5. Transporter 1 Company Name		6. US EPA ID	Number	100	The second	N. S. Beanta	IN DEPE	推測	No control		
		alloc and			C. State T	ransporter's ID	h i lbh s	LURAL C	13117		
EEG, INC.			8. US EPA ID Number				843-8	79-041	.1		
7. Transporter 2 Company Name		8. US EPA ID					N TEAL OF T				
		and the second			E. State T	ransporter's ID	S DURE				
	10	D Alum have		F. Transpo	orter's Phone	Charles and	DEVEL 1	S 19912			
9. Designated Facility Name and Site	Address	IU. US EPA I	DNumber		C. Chata F	a stilling ID	allitte Artis		1 2151		
ACCOUNTRY POAD		A Deal & Million in			G. State F	acility ID	042.0	07.464			
RIDGELAND SC 20026					H. State F	acility Phone	843-9	87-464	.3		
RIDGELAND, SC 29930	NIDOLLAND, SC 23330										
	A STOLET		12. Cor	ntainers	13. Total	14. Unit	1.64	. Commo			
an Description of waste Materials			No.	Туре	Quantity	Wt./Vol.	L MI	ic. comme			
a. HEATING OIL TANKS FILLED	WITH SAND		I	- West		1.1.1.1.1.1.1.	- The	-			
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J. Additional Descriptions for Mater	ials Listed Above	A CONTRACTOR OF	K. Dispos	al Location			DEPEN		1000		
The sector pues to the sector of the							121	- 18			
			Cell	38	S. 81. 31		Level				
15 Special Handling Instructions and	Additional Information		Grid	2218	APDA	cu dall	1000	0-1	1		
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DIJOS EAGLES	5/1791	AURAL BAJ	514	114 E	GERE	ZARI					
Purchase Order #	State	EMERGENCY CON	TACT / PHO	ONE NO .:		1	1112 12 11	TO REAL	diana ang		
16 GENERATOR'S CERTIFICATE					With The	and Printing	1		105		
I hereby certify that the above-describ	ed materials are not h	azardous wastes as define	d by CFR P	art 261 or a	any applicable	e state law, ha	ve been full	y and			
accurately described, classified and pa	ackaged and are in pro	per condition for transpor	tation acco	rding to ap	plicable regu	lations.		20. m			
Printed Name		Signature "On behalt	of"	1			Month	Day	Year		
17 Transporter 1 Askenuladeservet	of Perceint of Material		101				10	1	112		
Printed Name	or necerpt of waterials	Signature -	14/1				Month	Day	Year		
MRATT SAAI	w)	PAR	1st				X	1	12		
18. Transporter 2 Acknowledgement	of Receipt of Materials	SAT & STORAGE BOARD	1	States and		APD	10	11.2.1			
Printed Name	THE ALL STRAM	Signature	/		Survey State	11	Month	Day	Year		
Thmes Pall	ilial.	Anne	IBO	a.	115		10	1	12		
19. Certificate of Final Treatment/Dis	posal	- warreso	0.00	- car			1.01				
I certify, on behalf of the above listed	treatment facility, that	to the best of my knowle	dge, the ab	ove-descril	bed waste w	as managed in	compliance	e with al	12.5		
applicable laws, regulations, permits a	and licenses on the dat	es listed above.	and the second					0.00	11111		
20. Facility Owner or Operator: Certi	fication of receipt of n	on-hazardous materials co	vered by th	is manifest			1. 16-1	ALL C			
Printed Name	Int	Signature			n al		Month	Day	Year		
Iono Lot	elu	Ion	~ \	you	ala		103	1	13		
White- TREATMENT, STORAGE, DISPO	SAL FACILITY COPY	Blue- GENERATOR #	12 COPY	1	Ye	now- GENERAT	OK #1 COP	Y			
Pink- FACILITY USE ON	VLY	Gold- TRANSPORTER	#1 COPY	U							

Appendix C Laboratory Analytical Report - Groundwater



Semivolatile	Organic	Compounds	by	GC/MS	(SIM)
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Description: BEALB1305TW01WG20150619

Laboratory ID: QF20008-003

Date Sampled:06/18/2015 0910

Matrix: Aqueous

Date Received: 06/20/2015

RunPrepMethod13520C	Analytical Method Dilut 8270D (SIM) 1	ion Anal 06/23	ysis Date Analyst /2015 1813 RBH	Prep 06/22/2	Date 015 1610	Batch 77836				
Parameter		CAS Number	Analytical Method	Result	Q	LOQ	LOD	DL	Units	Run
Benzo(a)anthracene		56-55-3	8270D (SIM)	0.040	U	0.20	0.040	0.019	ug/L	1
Benzo(b)fluoranthene	2	205-99-2	8270D (SIM)	0.040	U	0.20	0.040	0.019	ug/L	1
Benzo(k)fluoranthene	2	207-08-9	8270D (SIM)	0.040	U	0.20	0.040	0.024	ug/L	1
Chrysene	2	218-01-9	8270D (SIM)	0.040	U	0.20	0.040	0.021	ug/L	1
Dibenzo(a,h)anthracene		53-70-3	8270D (SIM)	0.080	U	0.20	0.080	0.040	ug/L	1
Surrogate	Run 1 Q % Recov	Accep ery Lir	tance nits							
2-Methylnaphthalene-d10	74	15-	139							
Fluoranthene-d10	78	23-	154							

PQL = Practical quantitation limit B = Detected in the method blank E = Quantitation of compound exceeded the calibration range H = Out of holding time Q = Surrogate failure ND = Not detected at or above the MDL J = Estimated result < PQL and \geq MDL P = The RPD between two GC columns exceeds 40% N = Recovery is out of criteria L = LCS/LCSD failure S = MS/MSD failure Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Shealy Environmental Services, Inc. 106 Vantage Point Drive West Columbia, SC 29172 (803) 791-9700 Fax (803) 791-9111 www.shealylab.com

Volatile Organic Compounds by GC/MS

Run Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
Date Received: 06/20/2015						
Date Sampled:06/18/2015 0910						
Description: BEALB1305TW01		Matrix: Aqueous				
Client: AECOM - Resoluti	Laboratory ID: QF20008-004					

1 5030B	8260B	1	06/26/201	5 1619 ALL			78249				
Parameter		Nu	CAS /	Analytical Method	Result	Q	LOQ	LOD	DL	Units	Run
Benzene		71·	-43-2	8260B	0.45	U	5.0	0.45	0.21	ug/L	1
Ethylbenzene		100-	-41-4	8260B	0.51	U	5.0	0.51	0.21	ug/L	1
Naphthalene		91·	-20-3	8260B	0.96	U	5.0	0.96	0.14	ug/L	1
Toluene		108-	-88-3	8260B	0.48	U	5.0	0.48	0.24	ug/L	1
Xylenes (total)		1330	-20-7	8260B	0.57	U	5.0	0.57	0.19	ug/L	1
Surrogate	Q %	Run 1 Recovery	Acceptanc Limits	e							
Bromofluorobenzene		90	75-120								
1,2-Dichloroethane-d4		97	70-120								
Toluene-d8		101	85-120								
Dibromofluoromethane		101	85-115								

PQL = Practical quantitation limit B = Detected in the method blank E = Quantitation of compound exceeded the calibration range H = Out of holding time Q = Surrogate failure ND = Not detected at or above the MDL $J = Estimated result < PQL and <math>\ge MDL$ $\mathsf{P}=\mathsf{The}\;\mathsf{RPD}$ between two GC columns exceeds 40% N = Recovery is out of criteria L = LCS/LCSD failure S = MS/MSD failure Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Shealy Environmental Services, Inc. 106 Vantage Point Drive West Columbia, SC 29172 (803) 791-9700 Fax (803) 791-9111 www.shealylab.com Appendix D Regulatory Correspondence



DHEC

PROMOTE PROTECT PROSPER Catherine B. Templeton, Director

May 15, 2014

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

RE: IGWA

Laurel Bay Underground Storage Tank Assessment Reports for: *See attached sheet*

Dear Mr. Drawdy,

The South Carolina Department of Health and Environmental Control (the Department) received the above referenced Underground Storage Tank Assessment Reports for the addresses listed above. The regulatory authority for the investigation and cleanup of releases from these tank systems is the South Carolina Pollution Control Act (S.C. Code Ann. §48-1-10 et seq., as amended).

The Department has reviewed the referenced assessment reports. The submitted analytical results indicate that petroleum constituents are above established Risk-Based Screening Levels and additional investigation is warranted. Specifically, the Department requests that a groundwater sampling proposal be generated to determine if there has been an impact to groundwater at this site.

Please note that the Department's decision is based on information provided by the Marine Corps 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 kriegkm@dhec.sc.gov or 803-898-0255.

Sincerely,

Kent Krieg Department of Defense Corrective Action Section Bureau of Land and Waste Management South Carolina Department of Health and Environmental Control

Cc: Russell Berry (via email) Craig Ehde (via email)

DHEC

PROMOLE PROTECT PROSPER

Catherine B. Templeton, Director

Attachment to: Krieg to Drawdy Subject: IGWA Dated 5/15/2014

Laurel Bay Underground Storage Tank Assessment Reports for: (121 addresses/139 tanks)

137 Laurel Bay Tank 2	387 Acorn
139 Laurel Bay	392 Acorn Tank 2
229 Cypress Tank 2 ·	396 Acorn Tank 1
261 Beech Tank 1 •	396 Acorn Tank 2
261 Beech Tank 3	430 Elderberry
273 Birch Tank 1	433 Elderberry
273 Birch Tank 2	439 Elderberry
273 Birch Tank 3	440 Elderberry
276 Birch Tank 2	442 Elderberry
278 Birch Tank 2	443 Elderberry
291 Birch Tank 2	444 Elderberry Tank 1
300 Ash •	445 Elderberry
304 Ash •	446 Elderberry
314 Ash Tank 1	448 Elderberry
314 Ash Tank 2	449 Elderberry
322 Ash Tank 2 *	451 Elderberry
323 Ash *	453 Elderberry
324 Ash *	456 Elderberry Tank 1
325 Ash Tank 1 -	456 Elderberry Tank 2
325 Ash Tank 2	458 Elderberry Tank 1
326 Ash -	458 Elderberry Tank 3
336 Ash •	464 Dogwood
339 Ash •	466 Dogwood
343 Ash Tank 1 *	467 Dogwood
344 Ash Tank 1 *	468 Dogwood
348 Ash *	469 Dogwood
349 Ash Tank 1 *	471 Dogwood Tank 2
353 Ash Tank 1 *	471 Dogwood Tank 3
362 Aspen *	475 Dogwood Tank 1
376 Aspen *	475 Dogwood Tank 2
380 Aspen	516 Laurel Bay Tank 1 (UST#03747)
383 Aspen Tank 2 *	518 Laurel Bay

2600 Bull Street * Columbia, SC23201 * Phone; (803) 808/3452 * www.scdhee.gow

Laurel Bay Underground Storage Tank Assessment Reports for: (121 addresses/139 tanks) cont.

531 Laurel Bay	1219 Cardinal	
532 Laurel Bay	1272 Albatross	_
635 Dahlia Tank 2	1305 Fagle	
638 Dahlia	1353 Cardinal	-
640 Dablia Tank 1	1356 Cardinal	
640 Dahlia Tank 2	1357 Cardinal	-
645 Dahlia	1359 Cardinal	_
647 Dahlia	1360 Cardinal	
648 Dahlia Tank 2	1361 Cardinal	
650 Dahlia Tank 1	1368 Cardinal	
650 Dahlia Tank 2	1370 Cardinal Tank 1	
652 Dahlia Tank 1	1377 Dove	_
652 Dahlia Tank 2	1381 Dove	-
760 Althea	1382 Dove	-
763 Althea	1384 Dove	
771 Althea	1385 Dove	-
927 Albacore	1389 Dove	-
1015 Foxglove	1391 Dove	
1046 Gardenia	1392 Dove	-
1062 Gardenia Tank 2	1393 Dove Tank 1	-
1070 Heather	1393 Dove Tank 2	
1072 Heather	1406 Eagle	
1102 Iris Tank 1	1407 Eagle Tank 1	-
1107 Iris	1411 Eagle Tank 1	
1126 Iris	1411 Eagle Tank 2	
1129 Iris	1412 Eagle	
1132 Iris	1413 Albatross	
1133 Iris Tank 1	1414 Albatross	
1138 Iris	1422 Albatross	
1144 Iris Tank 1	1425 Albatross	
1144 Iris Tank 2	1426 Albatross	
1148 Iris Tank 1	1432 Dove	
1148 Iris Tank 2	1434 Dove	
1161 Jasmine	1436 Dove	
1167 Jasmine	1438 Dove Tank 1	
1170 Jasmine	1440 Dove	
1190 Bobwhite	1442 Dove Tank 1	
1192 Bobwhite		1



Catherine E. Heigel, Director Promoting and protecting the health of the public and the environment

> Division of Waste Management Bureau of Land and Waste Management

February 22, 2016

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

RE: Approval and Concurrence with Draft Final Initial Groundwater Investigation Report-May and June 2015 Laurel Bay Military Housing Area Multiple Properties Dated October 2015

Dear Mr. Drawdy,

The South Carolina Department of Health and Environmental Control (the Department) received groundwater data in the above referenced Groundwater Investigation Report for the addresses attached. The regulatory authority for the investigation and cleanup of releases from these tank systems is the South Carolina Pollution Control Act (S.C. Code Ann. §48-1-10 et seq., as amended).

Per the Department's request, groundwater samples were collected from the attached referenced addresses. The Department reviewed the groundwater data and previous investigations and it agrees with the conclusions and recommendations included in the document. To further assess the impact to groundwater, permanent wells should be installed at the 52 stated addresses. For the remaining 91 addresses, there is no indication of contamination on the property 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 Corps 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 petruslb@dhec.sc.gov or 803-898-0294.

Sincerely,

LINT

Laurel Petrus RCRA Federal Facilities Section

Attachment: Specific Property Recommendations

Cc: Russell Berry, EQC Region 8 (via email) Shawn Dolan, Resolution Consultants (via email) Bryan Beck, NAVFAC MIDATLANTIC (via email) Craig Ehde (via email)

Attachment to: Petrus to Drawdy Subject: Draft Final Initial Groundwater Investigation Report-May and June 2015 Specific Property Recommendations Dated February 22, 2016

Draft Final Initial Groundwater Investigation Report for (143 addresses)

Permanent Monitoring Well Investigation recommendation (52 addresses)				
273 Birch Drive	1192 Bobwhite Drive			
325 Ash Street	1194 Bobwhite Drive			
326 Ash Street	1272 Albatross Drive			
336 Ash Street	1352 Cardinal Lane			
343 Ash Street	1356 Cardinal Lane			
353 Ash Street	1359 Cardinal Lane			
430 Elderberry Drive	1360 Cardinal Lane			
440 Elderberry Drive	1362 Cardinal Lane			
456 Elderberry Drive	1370 Cardinal Lane			
458 Elderberry Drive	1382 Dove Lane			
468 Dogwood Drive	1384 Dove lane			
518 Laurel Bay Blvd	1385 Dove Lane			
635 Dahlia Drive	1389 Dove Lane			
638 Dahlia Drive	1392 Dove Lane			
640 Dahlia Drive	1393 Dove Lane			
647 Dahlia Drive	1407 Eagle Lane			
648 Dahlia Drive	1411 Eagle Lane			
650 Dahlia Drive	1418 Albatross Drive			
652 Dahlia Drive	1420 Albatross Drive			
760 Althea Street	1426 Albatross Drive			
1102 Iris Lane	1429 Albatross Drive			
1132 Iris Lane	1434 Dove Lane			
1133 Iris Lane	1436 Dove Lane			
1144 Iris Lane	1440 Dove Lane			
1148 Iris Lane	1442 Dove Lane			
1186 Bobwhite Drive	1444 Dove Lane			
No Further Action recommendation (91 addresses):				
137 Laurel Bay Blvd	771 Althea Street			
139 Laurel Bay Blvd	927 Albacore Street			
229 Cypress Street	1015 Foxglove Street			
261 Beech Street	1046 Gardenia Drive			
276 Birch Drive	1062 Gardenia Drive			
278 Birch Drive 1070 Heather Street				
291 Birch Drive	1072 Heather Street			

300 Ash Street	1107 Iris Lane
304 Ash Street	1126 Iris Lane
314 Ash Street	1129 Iris Lane
322 Ash Street	1138 Iris Lane
323 Ash Street	1161 Jasmine Street
324 Ash Street	1167 Jasmine Street
339 Ash Street	1170 Jasmine Street
344 Ash Street	1190 Bobwhite Drive
348 Ash Street	1219 Cardinal Lane
349 Ash Street	1305 Eagle Lane
362 Aspen Street	1353 Cardinal Lane
376 Aspen Street	1354 Cardinal Lane
380 Aspen Street	1357 Cardinal Lane
383 Aspen Street	1361 Cardinal Lane
387 Acom Drive	1364 Cardinal Lane
392 Acom Drive	1368 Cardinal Lane
396 Acom Drive	1377 Dove Lane
433 Elderberry Drive	1381 Dove Lane
439 Elderberry Drive	1391 Dove Lane
442 Elderberry Drive	1403 Eagle Lane
443 Elderberry Drive	1404 Eagle Lane
444 Elderberry Drive	1405 Eagle Lane
445 Elderberry Drive	1406 Eagle Lane
446 Elderberry Drive	1408 Eagle Lane
448 Elderberry Drive	1410 Eagle Lane
449 Elderberry Drive	1412 Eagle Lane
451 Elderberry Drive	1413 Albatross Drive
453 Elderberry Drive	1414 Albatross Drive
464 Dogwood Drive	1417 Albatross Drive
466 Dogwood Drive	1421 Albatross Drive
467 Dogwood Drive	1422 Albatross Drive
469 Dogwood Drive	1425 Albatross Drive
471 Dogwood Drive	1427 Albatross Drive
475 Dogwood Drive	1430 Dove Lane
516 Laurel Bay Blvd	1432 Dove Lane
531 Laurel Bay Blvd	1438 Dove Lane
532 Laurel Bay Blvd	1453 Cardinal Lane
645 Dablia Drive	1455 Cardinal Lane
763 Althea Street	

Attachment to: Petrus to Drawdy Subject: Draft Final Initial Groundwater Investigation Report-May and June 2015 Specific Property Recommendations Dated February 22, 2016, Page 2