SUMMARY REPORT 166 BARRACUDA DRIVE (FORMERLY 913 BARRACUDA DRIVE) 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 166 Barracuda Drive (Formerly 913 Barracuda Drive) 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 166 Barracuda Drive (Formerly 913 Barracuda Drive). 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 166 Barracuda Drive (Formerly 913 Barracuda Drive). Details regarding the soil investigation at this site are provided in the *SCDHEC UST Assessment Report – 913 Barracuda Drive* (MCAS Beaufort, 2014). The UST Assessment Report is provided in Appendix B. Details regarding the IGWA sampling activities at this site are provided in the *Initial Groundwater Investigation Report – November and December 2015* (Resolution Consultants, 2016). 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 12, 2013, a single 280 gallon heating oil UST was removed from underneath the edge of the front concrete porch and the front landscaped bed area adjacent to the driveway at 166 Barracuda Drive (Formerly 913 Barracuda Drive). 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 5'4" 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 166 Barracuda Drive (Formerly 913 Barracuda Drive) were greater than the SCDHEC RBSLs, which indicated further investigation was required. In a letter dated July 1, 2015, SCDHEC requested an IGWA for 166 Barracuda Drive (Formerly 913 Barracuda Drive) to determine if the groundwater was impacted by petroleum COPCs. SCDHEC's request letter is provided in Appendix D.

2.3 Groundwater Sampling

On November 30, 2015, a temporary monitoring well was installed at 166 Barracuda Drive (Formerly 913 Barracuda Drive), 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 *Initial Groundwater Investigation Report – November and December 2015* (Resolution Consultants, 2016).

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 *Initial Groundwater Investigation Report – November and December 2015* (Resolution Consultants, 2016).

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 166 Barracuda Drive (Formerly 913 Barracuda Drive) 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 166 Barracuda Drive (Formerly 913 Barracuda Drive). This NFA determination was obtained in a letter dated June 8, 2016. SCDHEC's NFA letter is provided in Appendix D.

4.0 **REFERENCES**

- Marine Corps Air Station Beaufort, 2014. *South Carolina Department of Health and Environmental Control (SCDHEC) Underground Storage Tank Assessment Report 913 Barracuda Drive, Laurel Bay Military Housing Area*, March 2014.
- Resolution Consultants, 2016. *Initial Groundwater Investigation Report November and December 2015 for Laurel Bay Military Housing Area, Multiple Properties, Laurel Bay Military Housing Area, Marine Corps Air Station Beaufort, Beaufort, South Carolina*, April 2016.



- 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 166 Barracuda Drive (Formerly 913 Barracuda Drive) Laurel Bay Military Housing Area Marine Corps Air Station Beaufort Beaufort, South Carolina

Constituent	SCDHEC RBSLs ⁽¹⁾	Results Sample Collected 08/12/13
Volatile Organic Compounds Analyzed	i by EPA Method 8260B (mg/kg)	
Benzene	0.003	ND
Ethylbenzene	1.15	0.209
Naphthalene	0.036	2.08
Toluene	0.627	ND
Xylenes, Total	13.01	0.00426
Semivolatile Organic Compounds Ana	lyzed by EPA Method 8270D (mg/kg)	
Benzo(a)anthracene	0.66	1.20
Benzo(b)fluoranthene	0.66	1.00
Benzo(k)fluoranthene	0.66	0.463
Chrysene	0.66	1.33
Dibenz(a,h)anthracene	0.66	0.0875

Notes:

⁽¹⁾ South Carolina Risk-Based Screening Levels from the Quality Assurance Program Plan for the Underground Storage Tank Management Division, Revision 3.0 and 3.1 (SCDHEC, May 2015 and SCDHEC, February 2016) and the Underground Storage Tank Assessment Guidelines (SCDHEC, February 2006).

Bold font indicates the analyte was detected.

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

EPA - United States Environmental Protection Agency

mg/kg - milligrams per kilogram

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

RBSL - Risk-Based Screening Level

SCDHEC - South Carolina Department Of Health and Environmental Control

Table 2 Laboratory Analytical Results - Groundwater 166 Barracuda Drive (Formerly 913 Barracuda Drive) Laurel Bay Military Housing Area Marine Corps Air Station Beaufort Beaufort, South Carolina

Constituent	SCDHEC RBSLs ⁽¹⁾	Site-Specific Groundwater VISLs (µg/L) ⁽²⁾	Results Sample Collected 11/30/15
Volatile Organic Compounds Analyzed	l 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		21
State I	Jse Only	1
DEC	EIVED	1
<u>∎</u> ∿	vp 1 4 7014	
1417	AR 1 5 Lot	
ST D	HEC - Bureau of	
Land &	Waste Management	
En la s	I. OWNERSHIP OF	U
MCAS Beaufort, Com	manding Officer Attn: NREAG	С
Owner Name (Corporation,	Individual, Public Agency, Other)	
P.O. Box 55001		
Mailing Address		
Beaufort,	South Carolina	2
City	State	

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

IST (S)

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

SITE IDENTIFICATION AND LOCATION II.

Permit I.D. # Laurel Bay Milita Facility Name or Company	- Y Housing Area, Marine Corps Air Station, Beaufort, Site Identifier	SC
913 Barracuda Str Street Address or State Ro	eet, Laurel Bay Military Housing Area I(asapplicable)	-
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

		913Barracuda
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
E.	Month/Year of Last Use	Mid 1980s
F.	Depth (ft.) To Base of Tank	5'4"
G.	Spill Prevention Equipment Y/N	No
H.	Overfill Prevention Equipment Y/N	No
	Method of Closure Removed/Filled	Removed
J	Date Tanks Removed/Filled	8/12/2013
K.	Visible Corrosion or Pitting Y/N	Yes
L.	Visible Holes Y/N	Yes

M. Method of disposal for any USTs removed from the ground (attach disposal manifests) <u>UST 913Barracuda was removed from the ground and disposed at a</u> Subtitle "D" landfill. See Attachment "A".

N. Method of disposal for any liquid petroleum, sludges, or wastewaters removed from the USTs (attach disposal manifests) UST 913Barracuda 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 and pitting were found throughout the tank.

VII. PIPING INFORMATION

		913Barracuda
		Steel
A.	Construction Material(ex. Steel, FRP)	& Copper
B.	Distance from UST to Dispenser	N/A
C.	Number of Dispensers	N/A
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 Y/N	No
H.	Age	Late 1950s
I.	If any corrosion, pitting, or holes were observed,	describe 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 residences are constructed of single wall steel and formerly contained fuel oil for heating. These USTs were installed in the late 1950s and last used in the mid 1980s.

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

IX. SITE CONDITIONS

X. SAMPLE INFORMATION

A. SCDHEC Lab Certification Number 84009

Β.

Sample #	Location	Sample Type (Soil/Water)	Soil Type (Sand/Clay)	Depth*	Date/Time of Collection	Collected by	OVA #
913Bar- racuda	Excav at fill end	Soil	Sandy	5'4"	8/12/13 1615 hrs	P. Shaw	
					-		
8							-
9							
10							
11							
12							
13							2
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
Α.	Are there any lakes, ponds, streams, or wetlands located within 1000 feet of the UST system?		X
	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?		X
	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?		X
	If yes, indicate type of structure, distance, and direction on site map.		
D.	Are there any underground utilities (e.g., telephone, electricity, gas, water, sewer, storm drain) located within 100 feet of the UST system that could potentially come in contact with the contamination? *Sewer, water, electric	*X ity,	
	cable, fiber optic & ge If yes, indicate the type of utility, distance, and direction on the site map.	othe	rmal
E.	Has contaminated soil been identified at a depth less than 3 feet below land surface in an area that is not capped by asphalt or concrete?		х
	If yes, indicate the area of contaminated soil on the site map.		

XIII. SITE MAP

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

(Attach Site Map Here)









Picture 1: Location of UST 913Barracuda.



Picture 2: UST 913Barracuda 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	913Barracuda
Benzene	ND
Toluene	ND
Ethylbenzene	0.209 mg/kg
Xylenes	0.00426 mg/kg
Naphthalene	2.08 mg/kg
Benzo (a) anthracene	1.20 mg/kg
Benzo (b) fluoranthene	1.00 mg/kg
Benzo (k) fluoranthene	0.463 mg/kg
Chrysene	1.33 mg/kg
Dibenz (a, h) anthracene	0.0875 mg/kg
TPH (EPA 3550)	
CoC	
Benzene	
Toluene	
Ethylbenzene	
Xylenes	
Naphthalene	
Benzo (a) anthracene	
Benzo (b) fluoranthene	
Benzo (k) fluoranthene	
Chrysene	
Dibenz (a, h) anthracene	
TPH (EPA 3550)	

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

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			1	
Chrysene	10			1	1.0.00
Dibenz (a, h) anthracene	10				
EDB	.05				
1,2-DCA	5			1	
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: 490-33491-1 Client Project/Site: Laurel Bay Site

For:

Small Business Group Inc. 10179 Highway 78 Ladson, South Carolina 29456

Attn: Tom McElwee

Kuth Hay

Authorized for release by: 8/28/2013 4:08:18 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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Sample Summary

Client: Small Business Group Inc. Project/Site: Laurel Bay Site TestAmerica Job ID: 490-33491-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
490-33491-1	913 Barracuda	Solid	08/12/13 16:15	08/20/13 08:20
490-33491-2	1208 Cardinal	Solid	08/14/13 14:15	08/20/13 08:20

Job ID: 490-33491-1

Laboratory: TestAmerica Nashville

Narrative

Job Narrative 490-33491-1

Comments

No additional comments.

Receipt

The samples were received on 8/20/2013 8:20 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 0.8° C.

GC/MS VOA

Method(s) 8260B: Internal standard responses were outside of acceptance limits for the following sample(s): (490-33510-6 MS), (490-33510-6 MSD). The sample(s) shows evidence of matrix interference.

Method(s) 8260B: Surrogate recovery for the following sample(s) was outside control limits: (490-33510-6 MS), (490-33510-6 MSD). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method(s) 8260B: Internal standard responses were outside of acceptance limits for the following sample(s): 1315665-06 (490-33510-6). The sample(s) shows evidence of matrix interference.

Method(s) 8260B: Surrogate recovery for the following sample(s) was outside control limits: 1315665-06 (490-33510-6). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method(s) 8260B: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with batch 101819. See Ics/Icsd

Method(s) 8260B: Due to sample matrix effect on the internal standard (ISTD), a dilution was required for the following sample(s): 1315665-06 (490-33510-6).

Method(s) 8260B: Surrogate recovery for the following sample(s) was outside control limits: 1315665-06 (490-33510-6). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

No other analytical or quality issues were noted.

GC/MS Semi VOA

Method(s) 8270C, 8270D: The matrix spike / matrix spike duplicate (MS/MSD) percent recoveries and %RPD for batch 101830 were outside control limits. This is attributed to non-homogeneity of the sample matrix and matrix interferences.

Method(s) 8270D: The matrix spike / matrix spike duplicate (MS/MSD) percent recoveries and %RPD for batch 101830 were outside control limits. This is attributed to non-homogeneity of the sample matrix and matrix interferences.

No other analytical or quality issues were noted.

Organic Prep

No analytical or quality issues were noted.

VOA Prep

No analytical or quality issues were noted.

Qualifiers

GC/MS VOA	
Qualifier	Qualifier Description
x	Surrogate is outside control limits
GC/MS Semi V	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.
	Result exceeded calibration range.
÷.	MS or MSD exceeds the control limits
F	RPD of the MS and MSD exceeds the control limits
Glossary	
Abbreviation	These commonly used abbreviations may or may not be present in this report.
1	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
INF	Contains no Free Liquid

7013	
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

TestAmerica Nashville

Client Sample ID: 913 Barracuda

Date Collected: 08/12/13 16:15 Date Received: 08/20/13 08:20

Lab Sample ID: 490-33491-1

Matrix: Solid Percent Solids: 84.2

							Dersont Cali	da: 04 2
							Percent Soli	us: 04.2
nic Compounds	GC/MS)							
Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
ND		0.00217	0.000727	mg/Kg	¤	08/21/13 14:28	08/21/13 20:38	1
0.209		0.127	0.0431	mg/Kg	ä	08/21/13 14:29	08/22/13 15:08	1
2.08		0.317	0.108	mg/Kg	ä	08/21/13 14:29	08/22/13 15:08	1
ND		0.00217	0.000803	mg/Kg	n	08/21/13 14:28	08/21/13 20:38	1
0.00426		0.00326	0.000727	mg/Kg	α	08/21/13 14:28	08/21/13 20:38	1
%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
93		70 - 130				08/21/13 14:28	08/21/13 20:38	1
89		70 - 130				08/21/13 14:29	08/22/13 15:08	1
81		70 - 130				08/21/13 14:28	08/21/13 20:38	1
103		70 - 130				08/21/13 14:29	08/22/13 15:08	1
92		70 - 130				08/21/13 14:28	08/21/13 20:38	1
88		70 - 130				08/21/13 14:29	08/22/13 15:08	1
121		70 - 130				08/21/13 14:28	08/21/13 20:38	1
102		70 - 130				08/21/13 14:29	08/22/13 15:08	1
Organic Compose	nde (CC/M	2)						
Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
0.146		0.0783	0.0117	mg/Kg	¤	08/22/13 09:18	08/23/13 18:21	1
ND		0.0783	0.0105	mg/Kg	ä	08/22/13 09:18	08/23/13 18:21	1
0.167		0.0783	0.0105	mg/Kg	¤	08/22/13 09:18	08/23/13 18:21	1
1.20		0.0783	0.0175	mg/Kg	12	08/22/13 09:18	08/23/13 18:21	1
0.582		0.0783	0.0140	mg/Kg	n	08/22/13 09:18	08/23/13 18:21	1
1.00		0.0783	0.0140	mg/Kg	x	08/22/13 09:18	08/23/13 18:21	1
0.215		0.0783	0.0105	mg/Kg	a	08/22/13 09:18	08/23/13 18:21	1
0.463		0.0783	0.0164	ma/Ka	a	08/22/13 09:18	08/23/13 18:21	1
0.807		0.0783	0.0164	ma/Ka	a	08/22/13 09:18	08/23/13 18:21	1
1.61		0.0783	0.0140	ma/Ka	12	08/22/13 09:18	08/23/13 18:21	1
ND		0.0783	0.0105	ma/Ka	-	08/22/13 09:18	08/23/13 18:21	1
1 22		0.0783	0.0105	ma/Ka		08/22/13 09:18	08/23/13 18:21	1
0.0275		0.0783	0.00818	mg/Kg	ä	08/22/13 09:18	08/23/13 18:21	1
0.0875		0.0783	0.00010	mg/Kg	p	08/22/13 00-19	08/23/13 18-21	1
1.40		0.0783	0.0100	mg/Kg	0	08/22/13 00-19	08/23/13 18-21	1
0.337		0.0783	0.0140	mg/Kg	3	08/22/13 09.10	08/23/12 19:24	1
0.220	1	0.0783	0.0105	mg/Kg	27	08/22/13 09:18	09/23/13 10:21	1
0.0451	5	0.0783	0.0105	mg/Kg	24	08/22/13 09:18	00/23/13 18:21	1
0.785		0.0783	0.0187	mg/Kg	*1	08/22/13 09:18	08/23/13 18:21	1
%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
66		29 - 120				08/22/13 09:18	08/23/13 18:21	1
75		13 - 120				08/22/13 09:18	08/23/13 18:21	1
71		27 - 120				08/22/13 09:18	08/23/13 18:21	1
Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
84		0.10	0.10	%			08/21/13 11:57	1
	nic Compounds (Result ND 0.209 2.08 ND 0.00426 %Recovery 93 89 81 103 92 88 121 102 Drganic Compou Result 0.146 ND 0.167 1.20 0.582 1.00 0.215 0.463 0.807 1.61 ND 0.215 0.463 0.807 1.48 0.377 0.220 0.755 1.48 0.755711.48 0.755711.45	Nic Compounds (GC/MS) Result Qualifier ND 0.209 2.08 ND 0.00426 %Recovery Qualifier 93 89 81 103 92 88 121 102 Drganic Compounds (GC/MS) Result Qualifier 0.146 ND 0.167 1.20 0.582 1.00 0.215 0.463 0.807 1.61 ND 1.33 0.0875 1.48 0.337 0.220 0.0451 J 0.785 %Recovery Qualifier 66 75 71	Result Qualifier RL ND 0.00217 0.209 0.127 2.08 0.317 ND 0.00217 0.00426 0.00326 %Recovery Qualifier Limits 93 70-130 89 70-130 81 70-130 92 70-130 92 70-130 92 70-130 92 70-130 92 70-130 92 70-130 92 70-130 102 70-130 102 70-130 102 70-130 102 70-130 102 70-130 102 70-130 121 70-130 122 70-130 121 70-130 122 70-130 123 0.0783 0.166 0.0783 0.167 0.0783 0.205 0.0783	ND 0.00217 0.000727 0.209 0.127 0.000727 0.209 0.127 0.00117 0.209 0.127 0.000803 ND 0.00217 0.000803 0.00426 0.00326 0.000727 %Recovery Qualifier Limits 93 70.130 0.000727 %Recovery Qualifier Limits 93 70.130 0.000727 92 70.130 0.000727 92 70.130 0.000727 92 70.130 0.000727 92 70.130 0.00783 92 70.130 0.130 102 70.130 0.146 0.102 70.130 0.117 ND 0.0783 0.0117 ND 0.0783 0.0105 0.167 0.0783 0.0117 ND 0.0783 0.0105 0.582 0.0783 0.0105 0.582 0.0783 <td< td=""><td>Nic Compounds (GC/MS) Result Qualifier RL MDL Unit ND 0.00217 0.000727 mg/Kg 0.209 0.127 0.00311 mg/Kg ND 0.00217 0.000803 mg/Kg ND 0.00426 0.00026 0.000727 mg/Kg 0.00426 0.00026 0.000727 mg/Kg 93 70-130 mg/Kg 0.000723 mg/Kg 92 70-130 gg mg/Kg 0.00733 0.0105 92 70-130 gg mg/Kg 0.00733 0.0105 mg/Kg 93 70-130 gg mg/Kg 0.0105 mg/Kg 0.161 0.0783 0.0105 mg/Kg 0.0105 mg/Kg 0.162 0.0783 0.0105 <td< td=""><td>Result Qualifier RL MDL Unit D 0.209 0.127 0.000727 mg/Kg G 0.209 0.127 0.0431 mg/Kg G 0.00126 0.00217 0.000803 mg/Kg G 0.00126 0.00226 0.000727 mg/Kg G 3 70 130 mg/Kg G 93 70 130 g G 93 70 130 g G 93 70 130 g G G 93 70 130 g G G 93 70 130 g G G 102 70 130 g G G 93 70 130 G G G 102 70 130 G G G 102 0.0783 0.0115 mg/Kg G G 0.167 <</td><td>Nic Compounds (GC/MS) Result Qualifier RL MOL Unit D Prepared ND 0.00217 0.000727 mg/Kg 0.0021/13 14:29 0.0021/13 14:29 0.209 0.127 0.00083 mg/Kg 0.0021/13 14:29 0.0021/13 14:29 ND 0.00217 0.000803 mg/Kg 0.0021/13 14:29 0.0021/13 14:29 0.00426 0.00326 0.000727 mg/Kg 0.0021/13 14:29 0.0021/13 14:29 %Recovery Qualifier Limits Prepared 0.0021/13 14:29 93 70-130 0.0021/13 14:29 0.0021/13 14:29 0.0021/13 14:29 92 70-130 0.0021/13 14:29 0.0021/13 14:29 102 70-130 0.0021/13 14:29 0.0021/13 14:29 102 70-130 0.0021/13 14:29 0.0021/13 14:29 102 70-130 0.0021/13 14:29 0.0221/13 0:18 102 70-130 0.0021/13 14:29 0.0221/13 0:18 102 70-130 0.0021/13 14:29 0.0221/13 0:18</td><td>ND 0.00217 Mol. Unit D Prepared Analyzed 0.209 0.127 0.00317 0.000727 mg/Kg 0.0021/13 14/28 08/21/13 14/29 08/22/13 15:08 ND 0.00217 0.00313 mg/Kg 0 08/21/13 14/29 08/22/13 15:08 ND 0.00217 0.00803 mg/Kg 0 08/21/13 14/29 08/21/13 20:38 0.00250 0.000277 mg/Kg 0 08/21/13 14/29 08/21/13 20:38 0.00250 0.000277 mg/Kg 0 08/21/13 14/29 08/21/13 20:38 0.00250 0.000277 mg/Kg 0 08/21/13 14/29 08/21/13 20:38 0.00217 1.000 0.000773 mg/Kg 0 08/21/13 14/29 08/21/13 20:38 0.103 70.130 0 08/21/13 14/29 08/22/13 15:08 08/21/13 14/29 08/22/13 15:08 1.21 70.130 0 08/21/13 14/29 08/22/13 15:08 08/22/13 14/29 08/22/13 15:08 Drepared Analyzed 0.01117</td></td<></td></td<>	Nic Compounds (GC/MS) Result Qualifier RL MDL Unit ND 0.00217 0.000727 mg/Kg 0.209 0.127 0.00311 mg/Kg ND 0.00217 0.000803 mg/Kg ND 0.00426 0.00026 0.000727 mg/Kg 0.00426 0.00026 0.000727 mg/Kg 93 70-130 mg/Kg 0.000723 mg/Kg 92 70-130 gg mg/Kg 0.00733 0.0105 92 70-130 gg mg/Kg 0.00733 0.0105 mg/Kg 93 70-130 gg mg/Kg 0.0105 mg/Kg 0.161 0.0783 0.0105 mg/Kg 0.0105 mg/Kg 0.162 0.0783 0.0105 <td< td=""><td>Result Qualifier RL MDL Unit D 0.209 0.127 0.000727 mg/Kg G 0.209 0.127 0.0431 mg/Kg G 0.00126 0.00217 0.000803 mg/Kg G 0.00126 0.00226 0.000727 mg/Kg G 3 70 130 mg/Kg G 93 70 130 g G 93 70 130 g G 93 70 130 g G G 93 70 130 g G G 93 70 130 g G G 102 70 130 g G G 93 70 130 G G G 102 70 130 G G G 102 0.0783 0.0115 mg/Kg G G 0.167 <</td><td>Nic Compounds (GC/MS) Result Qualifier RL MOL Unit D Prepared ND 0.00217 0.000727 mg/Kg 0.0021/13 14:29 0.0021/13 14:29 0.209 0.127 0.00083 mg/Kg 0.0021/13 14:29 0.0021/13 14:29 ND 0.00217 0.000803 mg/Kg 0.0021/13 14:29 0.0021/13 14:29 0.00426 0.00326 0.000727 mg/Kg 0.0021/13 14:29 0.0021/13 14:29 %Recovery Qualifier Limits Prepared 0.0021/13 14:29 93 70-130 0.0021/13 14:29 0.0021/13 14:29 0.0021/13 14:29 92 70-130 0.0021/13 14:29 0.0021/13 14:29 102 70-130 0.0021/13 14:29 0.0021/13 14:29 102 70-130 0.0021/13 14:29 0.0021/13 14:29 102 70-130 0.0021/13 14:29 0.0221/13 0:18 102 70-130 0.0021/13 14:29 0.0221/13 0:18 102 70-130 0.0021/13 14:29 0.0221/13 0:18</td><td>ND 0.00217 Mol. Unit D Prepared Analyzed 0.209 0.127 0.00317 0.000727 mg/Kg 0.0021/13 14/28 08/21/13 14/29 08/22/13 15:08 ND 0.00217 0.00313 mg/Kg 0 08/21/13 14/29 08/22/13 15:08 ND 0.00217 0.00803 mg/Kg 0 08/21/13 14/29 08/21/13 20:38 0.00250 0.000277 mg/Kg 0 08/21/13 14/29 08/21/13 20:38 0.00250 0.000277 mg/Kg 0 08/21/13 14/29 08/21/13 20:38 0.00250 0.000277 mg/Kg 0 08/21/13 14/29 08/21/13 20:38 0.00217 1.000 0.000773 mg/Kg 0 08/21/13 14/29 08/21/13 20:38 0.103 70.130 0 08/21/13 14/29 08/22/13 15:08 08/21/13 14/29 08/22/13 15:08 1.21 70.130 0 08/21/13 14/29 08/22/13 15:08 08/22/13 14/29 08/22/13 15:08 Drepared Analyzed 0.01117</td></td<>	Result Qualifier RL MDL Unit D 0.209 0.127 0.000727 mg/Kg G 0.209 0.127 0.0431 mg/Kg G 0.00126 0.00217 0.000803 mg/Kg G 0.00126 0.00226 0.000727 mg/Kg G 3 70 130 mg/Kg G 93 70 130 g G 93 70 130 g G 93 70 130 g G G 93 70 130 g G G 93 70 130 g G G 102 70 130 g G G 93 70 130 G G G 102 70 130 G G G 102 0.0783 0.0115 mg/Kg G G 0.167 <	Nic Compounds (GC/MS) Result Qualifier RL MOL Unit D Prepared ND 0.00217 0.000727 mg/Kg 0.0021/13 14:29 0.0021/13 14:29 0.209 0.127 0.00083 mg/Kg 0.0021/13 14:29 0.0021/13 14:29 ND 0.00217 0.000803 mg/Kg 0.0021/13 14:29 0.0021/13 14:29 0.00426 0.00326 0.000727 mg/Kg 0.0021/13 14:29 0.0021/13 14:29 %Recovery Qualifier Limits Prepared 0.0021/13 14:29 93 70-130 0.0021/13 14:29 0.0021/13 14:29 0.0021/13 14:29 92 70-130 0.0021/13 14:29 0.0021/13 14:29 102 70-130 0.0021/13 14:29 0.0021/13 14:29 102 70-130 0.0021/13 14:29 0.0021/13 14:29 102 70-130 0.0021/13 14:29 0.0221/13 0:18 102 70-130 0.0021/13 14:29 0.0221/13 0:18 102 70-130 0.0021/13 14:29 0.0221/13 0:18	ND 0.00217 Mol. Unit D Prepared Analyzed 0.209 0.127 0.00317 0.000727 mg/Kg 0.0021/13 14/28 08/21/13 14/29 08/22/13 15:08 ND 0.00217 0.00313 mg/Kg 0 08/21/13 14/29 08/22/13 15:08 ND 0.00217 0.00803 mg/Kg 0 08/21/13 14/29 08/21/13 20:38 0.00250 0.000277 mg/Kg 0 08/21/13 14/29 08/21/13 20:38 0.00250 0.000277 mg/Kg 0 08/21/13 14/29 08/21/13 20:38 0.00250 0.000277 mg/Kg 0 08/21/13 14/29 08/21/13 20:38 0.00217 1.000 0.000773 mg/Kg 0 08/21/13 14/29 08/21/13 20:38 0.103 70.130 0 08/21/13 14/29 08/22/13 15:08 08/21/13 14/29 08/22/13 15:08 1.21 70.130 0 08/21/13 14/29 08/22/13 15:08 08/22/13 14/29 08/22/13 15:08 Drepared Analyzed 0.01117

Client Sample ID: 1208 Cardinal

Date Collected: 08/14/13 14:15 Date Received: 08/20/13 08:20

Lab Sample ID: 490-33491-2

Matrix: Solid Percent Solids: 84.9

6

Method: 8260B - Volatile Organic Compounds (GC/MS) **Result** Qualifier RL MDL Unit D Prepared Analyzed Dil Fac Analyte 12 08/21/13 14:28 08/21/13 21:07 ND 0.00233 0.000781 mg/Kg 1 Benzene n 08/21/13 14:28 08/21/13 21:07 ND 0.00233 0.000781 mg/Kg 1 Ethylbenzene 12 08/21/13 21:07 0.0106 0.00583 0.00198 mg/Kg 08/21/13 14:28 1 Naphthalene 0.00233 0.000862 mg/Kg 12 08/21/13 14:28 08/21/13 21:07 ND 1 Toluene ü 0.00350 0.000781 mg/Kg 08/21/13 14:28 08/21/13 21:07 ND Xylenes, Total 1 Surrogate %Recovery Qualifier Limits Prepared Analyzed Dil Fac 1,2-Dichloroethane-d4 (Surr) 91 70 - 130 08/21/13 14:28 08/21/13 21:07 1 70 - 130 08/21/13 14:28 08/21/13 21:07 109 1 4-Bromofluorobenzene (Surr) Dibromofluoromethane (Surr) 87 70 - 130 08/21/13 14:28 08/21/13 21:07 1 Toluene-d8 (Surr) 102 70 - 130 08/21/13 14:28 08/21/13 21:07

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.0782	0.0117	mg/Kg	32	08/22/13 09:18	08/23/13 19:44	1
Acenaphthylene	ND		0.0782	0.0105	mg/Kg	Ø	08/22/13 09:18	08/23/13 19:44	1
Anthracene	ND		0.0782	0.0105	mg/Kg	a	08/22/13 09:18	08/23/13 19:44	1
Benzo[a]anthracene	ND		0.0782	0.0175	mg/Kg		08/22/13 09:18	08/23/13 19:44	1
Benzo[a]pyrene	ND		0.0782	0.0140	mg/Kg	a	08/22/13 09:18	08/23/13 19:44	1
Benzo[b]fluoranthene	ND		0.0782	0.0140	mg/Kg	22	08/22/13 09:18	08/23/13 19:44	1
Benzo[g,h,i]perylene	ND		0.0782	0.0105	mg/Kg	-	08/22/13 09:18	08/23/13 19:44	1
Benzo[k]fluoranthene	ND		0.0782	0.0163	mg/Kg	12	08/22/13 09:18	08/23/13 19:44	1
1-Methylnaphthalene	ND		0.0782	0.0163	mg/Kg		08/22/13 09:18	08/23/13 19:44	1
Pyrene	ND		0.0782	0.0140	mg/Kg	α	08/22/13 09:18	08/23/13 19:44	1
Phenanthrene	ND		0.0782	0.0105	mg/Kg	12	08/22/13 09:18	08/23/13 19:44	1
Chrysene	ND		0.0782	0.0105	mg/Kg	a	08/22/13 09:18	08/23/13 19:44	1
Dibenz(a,h)anthracene	ND		0.0782	0.00817	mg/Kg	12	08/22/13 09:18	08/23/13 19:44	1
Fluoranthene	ND		0.0782	0.0105	mg/Kg	8	08/22/13 09:18	08/23/13 19:44	1
Fluorene	ND		0.0782	0.0140	mg/Kg		08/22/13 09:18	08/23/13 19:44	1
Indeno[1,2,3-cd]pyrene	ND		0.0782	0.0117	mg/Kg	-	08/22/13 09:18	08/23/13 19:44	1
Naphthalene	ND		0.0782	0.0105	mg/Kg	12	08/22/13 09:18	08/23/13 19:44	1
2-Methylnaphthalene	ND		0.0782	0.0187	mg/Kg	ŭ	08/22/13 09:18	08/23/13 19:44	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl (Surr)	54		29 - 120				08/22/13 09:18	08/23/13 19:44	1
Terphenyl-d14 (Surr)	70		13 - 120				08/22/13 09:18	08/23/13 19:44	1
Nitrobenzene-d5 (Surr)	50		27 - 120				08/22/13 09:18	08/23/13 19:44	1
General Chemistry									
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	85		0.10	0.10	%			08/21/13 11:57	1

8/28/2013

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

Lab Sample ID: MB 490-101539/8 Matrix: Solid Analysis Batch: 101539

TestAmerica Job ID: 490-33491-1

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

	MB	MB							
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.00200	0.000670	mg/Kg			08/21/13 13:47	1
Ethylbenzene	ND		0.00200	0.000670	mg/Kg			08/21/13 13:47	1
Naphthalene	ND		0.00500	0.00170	mg/Kg			08/21/13 13:47	1
Toluene	ND		0.00200	0.000740	mg/Kg			08/21/13 13:47	1
Xylenes, Total	ND		0.00300	0.000670	mg/Kg			08/21/13 13:47	1
	МВ	МВ							
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	91		70 - 130					08/21/13 13:47	1
4-Bromofluorobenzene (Surr)	105		70 - 130					08/21/13 13:47	1
Dibromofluoromethane (Surr)	96		70 - 130					08/21/13 13:47	1
Toluene-d8 (Surr)	103		70 - 130					08/21/13 13:47	1

Lab Sample ID: LCS 490-101539/5 Matrix: Solid Analysis Batch: 101539

		Spike	LCS	LCS				%Rec.	
Analyte		Added	Result	Qualifier	Unit	D	%Rec	Limits	
Benzene		0.0500	0.04410		mg/Kg		88	75 - 127	
Ethylbenzene		0.0500	0.05112		mg/Kg		102	80 - 134	
Naphthalene		0.0500	0.06101		mg/Kg		122	69 - 150	
Toluene		0.0500	0.04798		mg/Kg		96	80 - 132	
Xylenes, Total		0.100	0.1038		mg/Kg		104	80 - 137	
	105 105								

	LUU	200	
Surrogate	%Recovery	Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	91		70 - 130
4-Bromofluorobenzene (Surr)	105		70 - 130
Dibromofluoromethane (Surr)	92		70 - 130
Toluene-d8 (Surr)	103		70 - 130

Lab Sample ID: LCSD 490-101539/6 Matrix: Solid

Analysis Batch: 101539

Constraint of a straint			Spike	LCSD	LCSD				%Rec.		RPD
Analyte			Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Benzene			0.0500	0.04409		mg/Kg		88	75 - 127	0	50
Ethylbenzene			0.0500	0.04982		mg/Kg		100	80 - 134	3	50
Naphthalene			0.0500	0.05902		mg/Kg		118	69 - 150	3	50
Toluene			0.0500	0.04669		mg/Kg		93	80 - 132	3	50
Xylenes, Total			0.100	0.1020		mg/Kg		102	80 - 137	2	50
	LCSD	LCSD									
Surrogate	%Recovery	Qualifier	Limits								
1,2-Dichloroethane-d4 (Surr)	90		70 - 130								
4-Bromofluorobenzene (Surr)	105		70 - 130								

Dibromofluoromethane (Surr)	92	70 - 130
Toluene-d8 (Surr)	102	70 - 130

Client Sample ID: Lab Control Sample Prep Type: Total/NA

Client Sample ID: La	b Control Sample Dup
	Pren Type: Total/NA

Analyte

Benzene

Toluene

Ethylbenzene

Naphthalene

Xylenes, Total

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

94 116

Lab Sample ID: 490-33510-A-6-C MS
Matrix: Solid
Analysis Batch: 101539

								Prep Typ Prep Bat	e: Total/NA tch: 101637
Sample	Sample	Spike	MS	MS				%Rec.	
Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	
ND		0.0520	0.04454		mg/Kg		86	31 - 143	
ND		0.0520	0.04702		mg/Kg		90	23 - 161	
ND		0.0520	0.01556		mg/Kg		30	10 - 176	
ND		0.0520	0.04889		mg/Kg		94	30 - 155	
ND		0.104	0.08270		mg/Kg		80	25 - 162	

	MS	MS	
Surrogate	%Recovery	Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	89		70 - 130
4-Bromofluorobenzene (Surr)	138	x	70 - 130
Dibromofluoromethane (Surr)	92		70 - 130
Toluene-d8 (Surr)	115		70 - 130

Lab Sample ID: 490-33510-A-6-D MSD Matrix: Solid Analysis Batch: 101539

Analysis Daton. 101555									i icp i	baton. i	01001
	Sample	Sample	Spike	MSD	MSD				%Rec.		RPD
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Benzene	ND		0.0562	0.04583		mg/Kg		82	31 - 143	3	50
Ethylbenzene	ND		0.0562	0.04506		mg/Kg		80	23 - 161	4	50
Naphthalene	ND		0.0562	0.01095		mg/Kg		19	10 - 176	35	50
Toluene	ND		0.0562	0.04894		mg/Kg		87	30 - 155	0	50
Xylenes, Total	ND		0.112	0.07929		mg/Kg		71	25 - 162	4	50
	MSD	MSD									
Surrogate	%Recovery	Qualifier	Limits								
1,2-Dichloroethane-d4 (Surr)	91		70 - 130								
4-Bromofluorobenzene (Surr)	131	x	70 - 130								

70 - 130

70 - 130

Lab Sample ID: MB 490-101819/7 Matrix: Solid

Analysis Batch: 101819

Dibromofluoromethane (Surr)

Toluene-d8 (Surr)

	MB	MB							
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.100	0.0335	mg/Kg			08/22/13 12:12	1
Ethylbenzene	ND		0.100	0.0335	mg/Kg			08/22/13 12:12	1
Naphthalene	ND		0.250	0.0850	mg/Kg			08/22/13 12:12	1
Toluene	ND		0.100	0.0370	mg/Kg			08/22/13 12:12	1
Xylenes, Total	ND		0.150	0.0335	mg/Kg			08/22/13 12:12	1
	MB	МВ							
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	100		70 - 130					08/22/13 12:12	1
4-Bromofluorobenzene (Surr)	101		70 - 130					08/22/13 12:12	1
Dibromofluoromethane (Surr)	99		70 - 130					08/22/13 12:12	1
Toluene-d8 (Surr)	102		70 - 130					08/22/13 12:12	1

Client Sample ID: Method Blank

Prep Type: Total/NA

Client Sample ID: Lab Control Sample

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Type: Total/NA

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

Lab Sample ID: LCS 490-101819/3 Matrix: Solid Analysis Batch: 101819

			Spike	LCS	LCS				%Rec.
Analyte			Added	Result	Qualifier	Unit	D	%Rec	Limits
Benzene			0.0500	0.04497		mg/Kg		90	75 - 127
Ethylbenzene			0.0500	0.05227		mg/Kg		105	80 - 134
Naphthalene			0.0500	0.05797		mg/Kg		116	69 - 150
Toluene			0.0500	0.04835		mg/Kg		97	80 - 132
Xylenes, Total			0.100	0.1055		mg/Kg		105	80 - 137
	LCS	LCS							
Surrogate	%Recovery	Qualifier	Limits						
1,2-Dichloroethane-d4 (Surr)	92		70 - 130						
4-Bromofluorobenzene (Surr)	102		70 - 130						

1,2-Dichloroethane-d4 (Surr)	92	70 - 130
4-Bromofluorobenzene (Surr)	102	70 - 130
Dibromofluoromethane (Surr)	93	70 - 130
Toluene-d8 (Surr)	102	70 - 130

Lab Sample ID: LCSD 490-101819/4 Matrix: Solid Analysis Batch: 101819

		Spike	LCSD	LCSD				%Rec.		RPD
Analyte		Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Benzene		0.0500	0.04607		mg/Kg		92	75 - 127	2	50
Ethylbenzene		0.0500	0.05291		mg/Kg		106	80 - 134	1	50
Naphthalene		0.0500	0.06135		mg/Kg		123	69 - 150	6	50
Toluene		0.0500	0.04976		mg/Kg		100	80 - 132	3	50
Xylenes, Total		0.100	0.1067		mg/Kg		107	80 - 137	1	50
	LCSD LCSD									

Surrogate	%Recovery	Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	92		70 - 130
4-Bromofluorobenzene (Surr)	103		70 - 130
Dibromofluoromethane (Surr)	94		70 - 130
Toluene-d8 (Surr)	102		70 - 130

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

Lab Sample ID: MB 490-101830/1-A							Client Sa	mple ID: Metho	d Blank
Matrix: Solid								Prep Type: 1	otal/NA
Analysis Batch: 102140								Prep Batch:	101830
	MB	MB							
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.0670	0.0100	mg/Kg		08/22/13 09:18	08/23/13 17:26	1
Acenaphthylene	ND		0.0670	0.00900	mg/Kg		08/22/13 09:18	08/23/13 17:26	1
Anthracene	ND		0.0670	0.00900	mg/Kg		08/22/13 09:18	08/23/13 17:26	1
Benzo[a]anthracene	ND		0.0670	0.0150	mg/Kg		08/22/13 09:18	08/23/13 17:26	1
Benzo[a]pyrene	ND		0.0670	0.0120	mg/Kg		08/22/13 09:18	08/23/13 17:26	1
Benzo[b]fluoranthene	ND		0.0670	0.0120	mg/Kg		08/22/13 09:18	08/23/13 17:26	1
Benzo[g,h,i]perylene	ND		0.0670	0.00900	mg/Kg		08/22/13 09:18	08/23/13 17:26	1
Benzo[k]fluoranthene	ND		0.0670	0.0140	mg/Kg		08/22/13 09:18	08/23/13 17:26	1
1-Methylnaphthalene	ND		0.0670	0.0140	mg/Kg		08/22/13 09:18	08/23/13 17:26	1
Pyrene	ND		0.0670	0.0120	mg/Kg		08/22/13 09:18	08/23/13 17:26	1
Phenanthrene	ND		0.0670	0.00900	mg/Kg		08/22/13 09:18	08/23/13 17:26	1

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8/28/2013

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

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Lab Sample ID: MB 490-101830/1-A Matrix: Solid Analysis Batch: 102140

and an an an an an an an	MB	MB							
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chrysene	ND		0.0670	0.00900	mg/Kg		08/22/13 09:18	08/23/13 17:26	1
Dibenz(a,h)anthracene	ND		0.0670	0.00700	mg/Kg		08/22/13 09:18	08/23/13 17:26	1
Fluoranthene	ND		0.0670	0.00900	mg/Kg		08/22/13 09:18	08/23/13 17:26	1
Fluorene	ND		0.0670	0.0120	mg/Kg		08/22/13 09:18	08/23/13 17:26	1
Indeno[1,2,3-cd]pyrene	ND		0.0670	0.0100	mg/Kg		08/22/13 09:18	08/23/13 17:26	1
Naphthalene	ND		0.0670	0.00900	mg/Kg		08/22/13 09:18	08/23/13 17:26	1
2-Methylnaphthalene	ND		0.0670	0.0160	mg/Kg		08/22/13 09:18	08/23/13 17:26	1
	MB	МВ							
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl (Surr)	69		29 - 120				08/22/13 09:18	08/23/13 17:26	1
Terphenyl-d14 (Surr)	100		13 - 120				08/22/13 09:18	08/23/13 17:26	1

27 - 120

Lab Sample ID: LCS 490-101830/2-A Matrix: Solid

Analysis Batch: 102140

Nitrobenzene-d5 (Surr)

	Spike	LCS	LCS				%Rec.
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits
Acenaphthylene	1.67	1.501		mg/Kg		90	38 - 120
Anthracene	1.67	1.569		mg/Kg		94	46 - 124
Benzo[a]anthracene	1.67	1.564		mg/Kg		94	45 - 120
Benzo[a]pyrene	1.67	1.663		mg/Kg		100	45 - 120
Benzo[b]fluoranthene	1.67	1.661		mg/Kg		100	42 - 120
Benzo[g,h,i]perylene	1.67	1.493		mg/Kg		90	38 - 120
Benzo[k]fluoranthene	1.67	1.655		mg/Kg		99	42 - 120
1-Methylnaphthalene	1.67	1.233		mg/Kg		74	32 - 120
Pyrene	1.67	1.569		mg/Kg		94	43 - 120
Phenanthrene	1.67	1.534		mg/Kg		92	45 - 120
Chrysene	1.67	1.561		mg/Kg		94	43 - 120
Dibenz(a,h)anthracene	1.67	1.650		mg/Kg		99	32 - 128
Fluoranthene	1.67	1.512		mg/Kg		91	46 - 120
Fluorene	1.67	1.526		mg/Kg		92	42 - 120
Indeno[1,2,3-cd]pyrene	1.67	1.564		mg/Kg		94	41 - 121
Naphthalene	1.67	1.367		mg/Kg		82	32 - 120
2-Methylnaphthalene	1.67	1.242		mg/Kg		75	28 - 120
10	. 105						

Surrogate	%Recovery	Qualifier	Limits
2-Fluorobiphenyl (Surr)	83		29 - 120
Terphenyl-d14 (Surr)	93		13 - 120
Nitrobenzene-d5 (Surr)	75		27 - 120

Lab Sample ID: 490-33491-1 MS Matrix: Solid

Applusia Potob: 102140

Analysis Batch: 102140									Prep Batch: 101830
	Sample	Sample	Spike	MS	MS				%Rec.
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits
Acenaphthylene	ND		1.95	1.637		mg/Kg	a	84	25 - 120
Anthracene	0.167		1.95	1.537		mg/Kg	12	70	28 - 125

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Prep Type: Total/NA

Client Sample ID: 913 Barracuda

Prep Type: Total/NA Prep Batch: 101830

Client Sample ID: Method Blank

Client Sample ID: Lab Control Sample

08/23/13 17:26

08/22/13 09:18

Prep Type: Total/NA Prep Batch: 101830

Client Sample ID: 913 Barracuda

Client Sample ID: 913 Barracuda

Prep Type: Total/NA

Prep Batch: 101830

Prep Type: Total/NA

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

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Lab Sample ID: 490-33491-1 MS Matrix: Solid ~ . . .

Analysis Batch: 102140									Prep Batch: 101830
	Sample	Sample	Spike	MS	MS				%Rec.
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits
Benzo[a]anthracene	1.20		1.95	1.815		mg/Kg	¢	31	23 - 120
Benzo[a]pyrene	0.582		1.95	1.642		mg/Kg	-	54	15 - 128
Benzo[b]fluoranthene	1.00		1.95	1.681		mg/Kg	a	35	12 - 133
Benzo[g,h,i]perylene	0.215		1.95	1.404		mg/Kg	12	61	22 - 120
Benzo[k]fluoranthene	0.463		1.95	1.454		mg/Kg	12	51	28 - 120
1-Methylnaphthalene	0.807		1.95	1.923		mg/Kg	12	57	10 - 120
Pyrene	1.61		1.95	2.090		mg/Kg	α	25	20 - 123
Phenanthrene	ND		1.95	1.944		mg/Kg	α	100	21 - 122
Chrysene	1.33		1.95	1.870		mg/Kg	n	28	20 - 120
Dibenz(a,h)anthracene	0.0875		1.95	1.486		mg/Kg	а	72	12 - 128
Fluoranthene	1.48		1.95	1.716		mg/Kg	a	12	10 - 143
Fluorene	0.337		1.95	1.938		mg/Kg	¤	82	20 - 120
Indeno[1,2,3-cd]pyrene	0.220		1.95	1.448		mg/Kg	12	63	22 - 121
Naphthalene	0.0451	J	1.95	1.320		mg/Kg	22	65	10 - 120
2-Methylnaphthalene	0.785		1.95	1.899		mg/Kg	¢	57	13 - 120
	MS	MS							
Surrogate	%Recovery	Qualifier	Limits						
2-Fluorobiphenyl (Surr)	72		29 - 120						

13 - 120

27 - 120

Lab Sample ID: 490-33491-1 MSD Matrix: Solid

Terphenyl-d14 (Surr)

Nitrobenzene-d5 (Surr)

Terphenyl-d14 (Surr)

Analysis Batch: 102140 RPD Sample Sample Spike MSD MSD %Rec. **Result Qualifier** Added **Result Qualifier** Unit D %Rec Limits RPD Limit Analyte 120 25 - 120 35 50 ND 1.94 2.331 mg/Kg Acenaphthylene Ω. 102 28 - 125 33 49 0.167 1.94 2.138 mg/Kg Anthracene 32 23 - 120 6 1.20 1.94 1.927 mg/Kg 37 50 Benzo[a]anthracene ĊĬ. 0.582 1.94 2.008 mg/Kg 74 15 - 128 20 50 Benzo[a]pyrene 12 - 133 30 50 1.94 2.270 mg/Kg 66 1.00 Benzo[b]fluoranthene 77 22 - 120 20 50 1.716 Benzo[g,h,i]perylene 0.215 1.94 mg/Kg 12 28 - 120 20 Benzo[k]fluoranthene 0.463 1.94 1.774 mg/Kg 68 45 0.807 1.94 6.000 E F mg/Kg 268 10 - 120 103 50 1-Methylnaphthalene Ċ. 2.319 mg/Kg 37 20 - 123 10 50 Pyrene 1.61 1.94 12 183 21 - 122 58 50 Phenanthrene ND 1.94 3.551 F mg/Kg 1.94 2.011 mg/Kg 22 35 20 - 120 7 49 Chrysene 1.33 0.0875 1.94 1.795 mg/Kg 88 12 - 128 19 50 Dibenz(a,h)anthracene 2.089 mg/Kg 125 31 10 - 143 20 50 Fluoranthene 1.48 1.94 0.337 1.94 3.087 F mg/Kg Ϋ́Ω. 142 20 - 120 46 50 Fluorene 0.220 1.94 1.765 mg/Kg 12 80 22 - 121 20 50 Indeno[1,2,3-cd]pyrene 1.94 1.998 mg/Kg n 101 10 - 120 41 50 0.0451 J Naphthalene 5.798 E F mg/Kg 22 259 13 - 120 101 50 2-Methylnaphthalene 0.785 1.94 MSD MSD %Recovery Qualifier Surrogate Limits 29 - 120 2-Fluorobiphenyl (Surr) 92

89 13 - 120

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TestAmerica Job ID: 490-33491-1

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

Lab Sample ID: 490-33491-	1 MSD			Client Sample ID: 913 Barracuda
Matrix: Solid				Prep Type: Total/NA
Analysis Batch: 102140				Prep Batch: 101830
	MSD	MSD		
Surrogate	%Recovery	Qualifier	Limits	
Nitrobenzene-d5 (Surr)	91		27 - 120	
a di la Maladara Dar				

Method: Moisture - Percent Moisture

Project/Site: Laurel Bay Site										
Method: 8270D - Semivolati	le Organi	c Compo	unds (GC/MS	6) (Cont	inued)					
Lab Sample ID: 490-33491-1 MS Matrix: Solid Analysis Batch: 102140	D						Client	Sample ID: 913 Barra Prep Type: Tot Prep Batch: 1	acuda tal/NA 01830	4
Surrogate	MSD %Recovery	MSD Qualifier	Limits							5
Nitrobenzene-d5 (Surr)	91		27 - 120							7
Method: Moisture - Percent	Moisture									
Lab Sample ID: 490-33491-1 DU Matrix: Solid							Client	Sample ID: 913 Barr Prep Type: To	acuda tal/NA	9
Analysis Batch: 101632	Sample	Sample		DU	DU				RPD	100
Analyte	Result	Qualifier		Result	Qualifier	Unit	D	RPD	Limit	
Percent Solids	84			85		%		1	20	
										12

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QC Association Summary

Client: Small Business Group Inc. Project/Site: Laurel Bay Site TestAmerica Job ID: 490-33491-1

GC/MS VOA

Analysis Batch: 101539

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-33491-1	913 Barracuda	Total/NA	Solid	8260B	101690
490-33491-2	1208 Cardinal	Total/NA	Solid	8260B	101690
490-33510-A-6-C MS	Matrix Spike	Total/NA	Solid	8260B	101637
490-33510-A-6-D MSD	Matrix Spike Duplicate	Total/NA	Solid	8260B	101637
LCS 490-101539/5	Lab Control Sample	Total/NA	Solid	8260B	
LCSD 490-101539/6	Lab Control Sample Dup	Total/NA	Solid	8260B	
MB 490-101539/8	Method Blank	Total/NA	Solid	8260B	
Prop Batch: 101637					
Frep Baten. 101007					
Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-33510-A-6-C MS	Matrix Spike	Total/NA	Solid	5030B	
490-33510-A-6-D MSD	Matrix Spike Duplicate	Total/NA	Solid	5030B	
Prep Batch: 101690					
Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-33491-1	913 Barracuda	Total/NA	Solid	5035	
490-33491-2	1208 Cardinal	Total/NA	Solid	5035	
Prep Batch: 101694					
Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-33491-1	913 Barracuda	Total/NA	Solid	5035	
Analysis Batch: 101819)				
Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-33491-1	913 Barracuda	Total/NA	Solid	8260B	101694
LCS 490-101819/3	Lab Control Sample	Total/NA	Solid	8260B	
LCSD 490-101819/4	Lab Control Sample Dup	Total/NA	Solid	8260B	
MB 490-101819/7	Method Blank	Total/NA	Solid	8260B	
GC/MS Semi VOA					
Prep Batch: 101830					
Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-33491-1	913 Barracuda	Total/NA	Solid	3550C	
490-33491-1 MS	913 Barracuda	Total/NA	Solid	3550C	
490-33491-1 MSD	913 Barracuda	Total/NA	Solid	3550C	
490-33491-2	1208 Cardinal	Total/NA	Solid	3550C	
LCS 490-101830/2-A	Lab Control Sample	Total/NA	Solid	3550C	
MB 490-101830/1-A	Method Blank	Total/NA	Solid	3550C	
Analysis Batch: 102140)				
Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-33491-1	913 Barracuda	Total/NA	Solid	8270D	101830
490-33491-1 MS	913 Barracuda	Total/NA	Solid	8270D	101830
490-33491-1 MSD	913 Barracuda	Total/NA	Solid	8270D	101830
490-33491-2	1208 Cardinal	Total/NA	Solid	8270D	101830
LCS 490-101830/2-A	Lab Control Sample	Total/NA	Solid	8270D	101830
MB 490-101830/1-A	Method Blank	Total/NA	Solid	8270D	101830

TestAmerica Nashville

QC Association Summary

Client: Small Business Group Inc. Project/Site: Laurel Bay Site TestAmerica Job ID: 490-33491-1

General Chemistry

Analysis Batch: 101632

Client Sample ID	Prep Type	Matrix	Method	Prep Batch
913 Barracuda	Total/NA	Solid	Moisture	
913 Barracuda	Total/NA	Solid	Moisture	
1208 Cardinal	Total/NA	Solid	Moisture	
	Client Sample ID 913 Barracuda 913 Barracuda 1208 Cardinal	Client Sample IDPrep Type913 BarracudaTotal/NA913 BarracudaTotal/NA1208 CardinalTotal/NA	Client Sample IDPrep TypeMatrix913 BarracudaTotal/NASolid913 BarracudaTotal/NASolid1208 CardinalTotal/NASolid	Client Sample IDPrep TypeMatrixMethod913 BarracudaTotal/NASolidMoisture913 BarracudaTotal/NASolidMoisture1208 CardinalTotal/NASolidMoisture

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Client Sample ID: 913 Barracuda

Date Collected: 08/12/13 16:15 Date Received: 08/20/13 08:20

Lab Sample ID: 490-33491-1

Matrix: Solid Percent Solids: 84.2

ate Receiveu.	. 00/20/13 00.2	.0							I CIUC
Bron Tuno	Batch	Batch	Run	Dilution	Batch	Prepared or Analyzed	Analyst	Lab	
	Pren	5035		, actor	101690	08/21/13 14:28	RRS	TAL NSH	
Total/NA	Analysis	8260B		1	101539	08/21/13 20:38	ккк	TAL NSH	
Total/NA	Prep	5035			101694	08/21/13 14:29	RRS	TAL NSH	
Total/NA	Analysis	8260B		1	101819	08/22/13 15:08	ККК	TAL NSH	
Total/NA	Prep	3550C			101830	08/22/13 09:18	JLP	TAL NSH	
Total/NA	Analysis	8270D		1	102140	08/23/13 18:21	BES	TAL NSH	
Total/NA	Analysis	Moisture		1	101632	08/21/13 11:57	RRS	TAL NSH	

Client Sample ID: 1208 Cardinal

Date Collected: 08/14/13 14:15 Date Received: 08/20/13 08:20

Lab	Sample	ID:	490-33491-2

Matrix: Solid Percent Solids: 84.9

	Batch	Batch		Dilution	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	5035			101690	08/21/13 14:28	RRS	TAL NSH
Total/NA	Analysis	8260B		1	101539	08/21/13 21:07	KKK	TAL NSH
Total/NA	Prep	3550C			101830	08/22/13 09:18	JLP	TAL NSH
Total/NA	Analysis	8270D		1	102140	08/23/13 19:44	BES	TAL NSH
Total/NA	Analysis	Moisture		1	101632	08/21/13 11:57	RRS	TAL NSH

Laboratory References:

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

TestAmerica Job ID: 490-33491-1

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 Nashville

Certification Summary

TestAmerica Job ID: 490-33491-1

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	10-30-13
A2LA	ISO/IEC 17025		0453.07	12-31-13
Alaska (UST)	State Program	10	UST-087	07-24-14
Arizona	State Program	9	AZ0473	05-05-14
Arkansas DEQ	State Program	6	88-0737	04-25-14
California	NELAP	9	1168CA	10-31-13
Connecticut	State Program	1	PH-0220	12-31-13
Florida	NELAP	4	E87358	06-30-14
Illinois	NELAP	5	200010	12-09-13
lowa	State Program	7	131	05-01-14
Kansas	NELAP	7	E-10229	10-31-13
Kentucky (UST)	State Program	4	19	06-30-14
Louisiana	NELAP	6	30613	06-30-14
Maryland	State Program	3	316	03-31-14
Massachusetts	State Program	1	M-TN032	06-30-14
Minnesota	NELAP	5	047-999-345	12-31-13
Mississippi	State Program	4	N/A	06-30-14
Montana (UST)	State Program	8	NA	01-01-15
Nevada	State Program	9	TN00032	07-31-13 *
New Hampshire	NELAP	1	2963	10-10-13
New Jersey	NELAP	2	TN965	06-30-14
New York	NELAP	2	11342	04-01-14
North Carolina DENR	State Program	4	387	12-31-13
North Dakota	State Program	8	R-146	06-30-14
Ohio VAP	State Program	5	CL0033	01-19-14
Oklahoma	State Program	6	9412	08-31-13
Oregon	NELAP	10	TN200001	04-29-14
Pennsylvania	NELAP	3	68-00585	06-30-14
Rhode Island	State Program	1	LAO00268	12-30-13
South Carolina	State Program	4	84009 (001)	02-28-14
South Carolina	State Program	4	84009 (002)	02-23-14
Tennessee	State Program	4	2008	02-23-14
Texas	NELAP	6	T104704077-09-TX	08-31-13
USDA	Federal		S-48469	11-02-13
Utah	NELAP	8	TN00032	07-31-14
Virginia	NELAP	3	460152	06-14-14
Washington	State Program	10	C789	07-19-14
West Virginia DEP	State Program	3	219	02-28-14
Wisconsin	State Program	5	998020430	08-31-13
Wyoming (UST)	A2LA	8	453.07	12-31-13

* Expired certification is currently pending renewal and is considered valid.

TestAmerica Nashville

HE LEADER IN ENVIRONMENTAL TESTING ashville, TN cooler Received/Opened On : 8/20/2013 @ 0820	
racking # 6/59 (last 4 digits, FedEx) 490-33	491 Chain of Custon
ourier: Fed-ex IR Gun : 12080142	
Temperature of rep. sample or temp blank when opened: $\mathcal{O}_{\mathcal{S}}$ Degrees Celsius	
. If Item #2 temperature is 0°C or less, was the representative sample or temp blank frozen	1? YES NO. (.NA)
. Were custody seals on outside of cooler?	YES NONA
If yes, how many and where: IF-ont	0
. Were the seals intact, signed, and dated correctly?	YES NO NA
. Were custody papers inside cooler?	TES. NONA
certify that I opened the cooler and answered guestions 1-6 (intial)	K
. Were custody seals on containers: YES NO and Intact	YES NO NA
Were these signed and dated correctly?	YESNO
Packing mat'l used? Bubblewrab Plastic bag Peanuts Vermiculite Foam Insert Pa	per Other None
Packing mat'l used? Bubblewrap Plastic bag Peanuts Vermiculite Foam Insert Pa	ber Other None ce Other None
Packing mat'l used? Bubblewrap Plastic bag Peanuts Vermiculite Foam Insert Page Cooling process: Ice-pack Ice (direct contact) Dry i	ce Other None
Packing mat'l used? Bubblewrap Plastic bag Peanuts Vermiculite Foam Insert Pa Cooling process: 0. Did all containers arrive in good condition (unbroken)?	ce Other None Ce Other None
 Packing mat'l used? Bubblewrap Plastic bag Peanuts Vermiculite Foam Insert Page Cooling process: Ice-pack Ice (direct contact) Dry i Did all containers arrive in good condition (unbroken)? Were all container labels complete (#, date, signed, pres., etc)? Did all container labels and tage agree with custody papers? 	ce Other None Ce Other None CesNONA VesNONA
 Packing mat'l used? Bubblewrap Plastic bag Peanuts Vermiculite Foam Insert Page Cooling process: Ice-pack Ice (direct contact) Dry i Did all containers arrive in good condition (unbroken)? Were all container labels complete (#, date, signed, pres., etc)? Did all container labels and tags agree with custody papers? 	Der Other None Ce Other None CesNONA VESNONA VESNONA
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 Packing mat'l used? Bubblewrap Plastic bag Peanuts Vermiculite Foam Insert Page Cooling process: Do Did all containers arrive in good condition (unbroken)? Were all container labels complete (#, date, signed, pres., etc)? Did all container labels and tags agree with custody papers? Were VOA vials received? Was there any observable headspace present in any VOA vial? Westhere any observable headspace present in any VOA vial? 	ber Other None Ce Other None CeSNONA VESNONA VESNONA VESNONA YESNONA
 Packing mat'l used? Bubblewrap Plastic bag Peanuts Vermiculite Foam Insert Page Cooling process: Cooling process: Did all containers arrive in good condition (unbroken)? Were all container labels complete (#, date, signed, pres., etc)? Did all container labels and tags agree with custody papers? Were VOA vials received? Was there any observable headspace present in any VOA vial? Was there a Trip Blank in this cooler? YESNA. If multiple coolers, seque 	ber Other None Ce Other None CeSNONA VESNONA VESNONA VESNONA YESNA YESNA PICA
 Packing mat'l used? Eubblewrap Plastic bag Peanuts Vermiculite Foam Insert Page Cooling process: Cooling process: Did all containers arrive in good condition (unbroken)? Were all container labels complete (#, date, signed, pres., etc)? Did all container labels and tags agree with custody papers? Were VOA vials received? Was there any observable headspace present in any VOA vial? Was there a Trip Blank in this cooler? YES. NONA If multiple coolers, seque certify that I unloaded the cooler and answered questions 7-14 (intial) 	ber Other None Ce Other None CESNONA VESNONA VESNONA VESNONA VESNONA VESNONA VESNONA VESNONA
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 Packing mat'l used? (ubblewrap) Plastic bag Peanuts Vermiculite Foam Insert Page Cooling process: Cooling process: Ice-pack Ice (direct contact) Dry in the propriate place? Did all containers arrive in good condition (unbroken)? Were all container labels complete (#, date, signed, pres., etc)? Did all container labels and tags agree with custody papers? Were VOA vials received? Was there any observable headspace present in any VOA vial? Was there a Trip Blank in this cooler? YES. (Note: NA If multiple coolers, seque certify that I unloaded the cooler and answered questions 7-14 (intial) On pres'd bottles, did pH test strips suggest preservation reached the correct pH level b. Did the bottle labels indicate that the correct preservatives were used Was residual chlorine present? Were custody papers properly filled out (ink, signed, etc)? Did you sign the custody papers in the appropriate place? Were correct containers used for the analysis requested? 	ber Other None Ce Other None Ce Other None Ce Other None Ce NoNA VESNONA VESNONA VESNONA VESNONA VESNONA VESNONA VESNONA VESNONA VESNONA VESNONA
 Packing mat'l used? (ubblewrap) Plastic bag Peanuts Vermiculite Foam Insert Paper (Cooling process: (Cooling process: (Cooling process: (Cooling here correct container labels complete (#, date, signed, pres., etc)? Did all container labels complete (#, date, signed, pres., etc)? Did all container labels and tags agree with custody papers? Were VOA vials received? Was there any observable headspace present in any VOA vial? Was there a Trip Blank in this cooler? YES. (NONA If multiple coolers, seque certify that I unloaded the cooler and answered questions 7-14 (intial) (Cooler and answered questions reached the correct pH level b. Did the bottle labels indicate that the correct preservatives were used Was residual chlorine present? Were custody papers properly filled out (ink, signed, etc)? Did you sign the custody papers in the appropriate place? Was sufficient amount of sample sent in each container? 	ber Other None Ce Other None Ce Other None Ce Other None Ce NoNA Ce NoNA Ce NoNA Ce NoNA CE NONA CE NONA CE NONA CE NONA CE NONA CE NONA

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Address:	10179 Highway	78										-		-	-		-		-		20			Entoro	ement	Action	Ŷ	res	·	NO		•
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Telephone Number: Sampler Name: (Print)	843.412.2097	PRAT	it.	S	AA	F	ax N	0.:	H	13	-2	8	79	-0	24	01	-	4	TA Quo Projec	te #:	Laurel	Bay Ho	ousing	Projec			_	_	_	_		
Sampler Signature:		- A	12	1					2	_	_	_	-	-			-		Proje	ct#		-			1		-					
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e ID / Description ,	Date Sampled	Time Sampled	No. of Containers Shipp	Grab	Composite	Field Filtered	lco	HNO ₅ (Red Label)	I'm Binger and IDA	NaOH (Orange Label)	H2SO4 Plasuo (Tellow Label) H-SO. Glass(Yellow Label)		Other (Specify)	Groundwater	Wastewater	Drinking Water	Sol	Other (specify):	BTEX + Napth - 82	PAH - 8270D						100	c: 49	° 91		RUSH TAT (Pre-Sched	Standard TAT	Fax Results
913 BARRACUDA	8/12/13	1615	5	X					2			6	2)				X		X	X					Ц.	-			L			
1208 Cardinal	8/14/13	1415	5	K					2		-		21				X		4	X					Ц				-	+	1	1
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Login Sample Receipt Checklist

Client: Small Business Group Inc.

Login Number: 33491 List Number: 1

Creator: Abernathy, Eric

Question	Answer Comment	
Radioactivity wasn't checked or is = background as measured by a<br survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are 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 containers received 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	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Job Number: 490-33491-1

List Source: TestAmerica Nashville

ATTACHMENT A

NON-HAZARDOUS MANIFEST	1. Generator's US	EPA ID No.	Manifest Doc No.	2. Page 1 of	-		
		100 A		1			
Generator's Mailing Address:		Generator's Site Address	5 (If different than mailing):	A. Manifest Nu	mber		
ALIREL BAY HOUSING				WMN	A	01519101	
EAUFORT, SC 29904				ŧ	B. State Ger	nerator's ID	
Generator's Phone 843-8	79-0411			1			
Transporter 1 Company Name	EGINC	6. US EI	PA ID Number				~
9179 Mary 78				C. State Transp	orter's ID		
Transporter 2 Company Name	1436	9 IIS EI	DA ID Number	D. Transporter	s Phone	843 819.0	400
Transporter 2 company wante		0. 03 E	A ID Number	E. State Transp	orter's ID	1	-
				F. Transporter's	s Phone		
Designated Facility Name and Site	Address	10. US I	EPA ID Number				
		1		G. State Facility	/ ID		
DGELAND SC 20036		(Alino)	(.	H. State Facility	/ Phone	843-987-464	3
JULLAND, JU 29930		pered		R.			
. Description of Waste Materials		012	. Lenny =	13. Total 14	4. Unit	I. Misc. Comme	nts
HEATING OIL TANK FILLED	WITH SAND	- 110	- 1 -	Quantity W	vi./vol.		
		11179		993 7	ON	715042	2
WM Prof	file # 102655SC	1701	- 1				
			1 - 1				
WM Profile #			-			-	
WM Profile # Additional Descriptions for Mater	rials Listed Above		K. Disposal Locatio	n			
			Cell		Le	evel	
i. Special Handling Instructions and いST'S Prom	EN14	tion 1429 Al 460 Ela EMERGENCY	batross LERBERRY	1 5352, 5)409 Ela	aurel lerbe	RBAY BA	713 RRA
) 1061 GARD rchase Order # . GENERATOR'S CERTIFICATE:	2		CONTACT / PHONE NO.:				
DIOGIGARD Inchase Order # . GENERATOR'S CERTIFICATE: ereby certify that the above-descril curately described classified and a	bed materials are no	ot hazardous wastes as o	lefined by 40 CFR Part 26	1 or any applicable s	state law, h	ave been fully and	1
D 1061 GARD inchase Order # GENERATOR'S CERTIFICATE: ereby certify that the above-descril curately described, classified and pu- inted Name	bed materials are no ackaged and are in	ot hazardous wastes as o proper condition for tran / Signature "On b	lefined by 40 CFR Part 26 sportation according to a	1 or any applicable s	state law, h s.	Month Day	Year
DIOGIGARD inchase Order # GENERATOR'S CERTIFICATE: hereby certify that the above-descrift curately described, classified and particular inted Name Timoffly	bed materials are no ackaged and are in the what	ot hazardous wastes as o proper condition for tran Signature "On b	lefined by 40 CFR Part 26 isportation according to a mehalf of	1 or any applicable s pplicable regulation	state law, h is.	Month Day	Year
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Appendix C Laboratory Analytical Report - Groundwater



Volatile Organic Compounds by GC/MS

Description: BEALB913TW01WG20151130

Laboratory ID: QL02016-001 Matrix: Aqueous

Date Sampled:11/30/2015 1435

Date Received: 12/02/2015 Analytical Method Dilution Analysis Date Analyst Prep Date Batch **Run Prep Method** 5030B 8260B 12/08/2015 1328 SES 91584 1 1 CAS Analytical Parameter Result Q LOQ LOD DL Units Run Number Method 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 8260B Toluene 108-88-3 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 0.32 ug/L 1 Run 1 Acceptance Surrogate Q % Recovery Limits Bromofluorobenzene 93 75-120 1.2-Dichloroethane-d4 96 70-120 Toluene-d8 99 85-120 Dibromofluoromethane 96 85-115

PQL = Practical quantitation limitB = Detected in the method blankE = Quantitation of compound exceeded the calibration rangeH = Out of holding timeQ = Surrogate failureND = Not detected at or above the MDLJ = Estimated result < PQL and \geq MDLP = The RPD between two GC columns exceeds 40%N = Recovery is out of criteriaL = LCS/LCSD failureWhere applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"S = MS/MSD failure

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

Client: AECOM - Resolution Consultants

Description: BEALB913TW01WG20151130

Laboratory ID: QL02016-001

Date Sampled:11/30/2015 1435

Matrix: Aqueous

Date Received: 12/02/2015

Run Prep Method 1 3520C	Analytical Method 8270D (SIM)	Dilution Anal	ysis Date Analyst)/2015 1004 DRB1	Prep Date 12/06/2015 161	Batch 19 91435			
Parameter		CAS Number	Analytical Method	Result Q	LOQ	LOD	DL	Units Run
Benzo(a)anthracene		56-55-3	8270D (SIM)	0.040 UQ	0.20	0.040	0.019	ug/L 1
Benzo(b)fluoranthene		205-99-2	8270D (SIM)	0.040 UQL	0.20	0.040	0.019	ug/L 1
Benzo(k)fluoranthene		207-08-9	8270D (SIM)	0.040 UQ	0.20	0.040	0.024	ug/L 1
Chrysene		218-01-9	8270D (SIM)	0.040 UQ	0.20	0.040	0.021	ug/L 1
Dibenzo(a,h)anthracene		53-70-3	8270D (SIM)	0.080 UQ	0.20	0.080	0.040	ug/L 1
Surrogate	Q % F	Run 1 Accep Recovery Li	tance mits					
2-Methylnaphthalene-d10		98 15-	139					
Fluoranthene-d10	Ν	182 23-	154					

PQL = Practical quantitation limitB = Detected in the method blankE = Quantitation of compound exceeded the calibration rangeH = Out of holding timeQ = Surrogate failureND = Not detected at or above the MDLJ = Estimated result < PQL and ≥ MDL</td>P = The RPD between two GC columns exceeds 40%N = Recovery is out of criteriaL = LCS/LCSD failureWhere applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"S = MS/MSD failureS = MS/MSD failure

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

Appendix D Regulatory Correspondence





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

July 1, 2015

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 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 <u>et seq.</u>, 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,

that M. They

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) Bryan Beck (via email)



Catherine E. Heigel, Director

Promoting and protecting the health of the public and the environment

Attachment to:

Krieg to Drawdy Subject: IGWA Dated 7/1/2015

Laurel Bay Underground Storage Tank Assessment Reports for: (97 addresses/110 tanks)

118 Banyan	343 Ash Tank 2
126 Banyan	344 Ash Tank 2
127 Banyan	347 Ash Tank 2
130 Banyan Tank 1	378 Aspen Tank 2
141 Laurel Bay	379 Aspen
151 Laurel Bay	382 Aspen Tank 1
224 Cypress	382 Aspen Tank 2
227 Cypress	394 Acorn Tank 2
256 Beech Tank 2	400 Elderberry
257 Beech Tank 1	432 Elderberry
257 Beech Tank 2	436 Elderberry
264 Beech	473 Dogwood Tank 2
265 Beech Tank 2	482 Laurel Bay
265 Beech Tank 3	517 Laurel Bay
275 Birch	586 Aster
277 Birch Tank 1	632 Dahlia
285 Birch	639 Dahlia Tank 2
292 Birch Tank 3	643 Dahlia Tank 1
297 Birch	644 Dahlia Tank 1
301 Ash	644 Dahlia Tank 2
306 Ash	646 Dahlia Tank 1
310 Ash Tank 1	646 Dahlia Tank 2
313 Ash	665 Camellia
315 Ash Tank 2	699 Abelia
316 Ash	744 Blue Bell
319 Ash	745 Blue Bell Tank 1
320 Ash	747 Blue Bell Tank 1
321 Ash	747 Blue Bell Tank 2
329 Ash	747 Blue Bell Tank 3
330 Ash Tank 2	749 Blue Bell Tank 1
331 Ash	749 Blue Bell Tank 2
332 Ash	751 Blue Bell
333 Ash	762 Althea
335 Ash Tank 1	765 Althea Tank 2
335 Ash Tank 2	766 Althea Tank 4
341 Ash	767 Althea Tank 1
342 Ash Tank 1	768 Althea Tank 2
342 Ash Tank 2	768 Althea Tank 3

SOUTH CAROLINA DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL 2600 Bull Street • Columbia, SC 29201 • Phone: (803) 898-3432 • www.scdhec.gov Laurel Bay Underground Storage Tank Assessment Reports for: (98 addresses/110 tanks) cont.

768 Althea Tank 4	1067 Gardenia
769 Althea Tank 1	1077 Heather
769 Althea Tank 2	1081 Heather
775 Althea	1101 Iris Tank 2
819 Azalea	1104 Iris
840 Azalea	1105 Iris Tank 2
878 Cobia	1124 Iris Tank 2
891 Cobia	1142 Iris Tank 2
913 Barracuda	1146 Iris Tank 2
916 Barracuda	1218 Cardinal
923 Albacore	1240 Dove
1004 Bobwhite	1266 Dove
1022 Foxglove	1292 Eagle
1031 Foxglove	1299 Eagle Tank 1
1034 Foxglove Tank 2	1302 Eagle
1061 Gardenia Tank 3	1336 Albatross
1064 Gardenia	1351 Cardinal



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

June 8, 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-November and December 2015 Laurel Bay Military Housing Area Multiple Properties Dated April 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 attached addresses on May 2, 2016. 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 15 stated addresses. For the remaining 80 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,

LISTS

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-November and December 2015 Specific Property Recommendations Dated June 8, 2016

Draft Final Initial Groundwater Investigation Report for (95 addresses)

Permanent Monitoring We	ell Investigation recommendation (15 addresses)	
130 Banyan Drive	473 Dogwood Drive	
256 Beech Street	747 Blue Bell Lane	
285 Birch Drive	749 Blue Bell Lane	
292 Birch Drive	775 Althea Street	
330 Ash Street	1034 Foxglove Street	
331 Ash Street	1104 Iris Lane	
335 Ash Street	1124 Iris Lane	1
342 Ash Street		-
		-
		-
		-
		-
		-
and the second se		
		-

No Further Action recommendation (80 addresses)	
118 Banyan Drive	644 Dahlia Drive
126 Banyan Drive	646 Dahlia Drive
127 Banyan Drive	665 Camellia Drive
141 Laurel Bay Blvd	699 Abelia Street
151 Laurel Bay Blvd	744 Blue Bell Lane
224 Cypress Street	745 Blue Bell Lane
227 Cypress Street	751 Blue Bell Lane
257 Beech Street	762 Althea Street
264 Beech Street	765 Althea Street
265 Beech Street	766 Althea Street
275 Birch Drive	767 Althea Street
277 Birch Drive	768 Althea Street
297 Birch Drive	769 Althea Street
301 Ash Street	819 Azalea Drive
306 Ash Street	840 Azalea Drive
310 Ash Street	878 Cobia Drive
313 Ash Street	891 Cobia Drive
315 Ash Street	913 Barracuda Drive
316 Ash Street	916 Barracuda Drive
319 Ash Street	923 Wren Lane
320 Ash Street	1004 Bobwhite Drive
321 Ash Street	1022 Foxglove Street
329 Ash Street	1031 Foxglove Street
332 Ash Street	1061 Gardenia Drive
333 Ash Street	1064 Gardenia Drive
341 Ash Street	1067 Gardenia Drive
347 Ash Street	1077 Heather Street
378 Aspen Street	1081 Heather Street
379 Aspen Street	1101 Iris Lane
382 Aspen Street	1105 Iris Lane
394 Acorn Street	1142 Iris Lane
400 Elderberry Drive	1146 Iris Lane
432 Elderberry Drive	1218 Cardinal Lane
436 Elderberry Drive	1240 Dove Lane
482 Laurel Bay Blvd	1266 Dove Lane
517 Laurel Bay Blvd	1292 Eagle Lane
586 Aster Street	1299 Eagle Lane
632 Dahlia Drive	1302 Eagle Lane
639 Dahlia Drive	1336 Albatross Drive
643 Dahlia Drive	1351 Cardinal Lane

Attachment to: Petrus to Drawdy Subject: Draft Final Initial Groundwater Investigation Report-November and December 2015 Specific Property Recommendations Dated June 8, 2016, Page 2