SUMMARY REPORT 457 BOBWHITE DRIVE (FORMERLY 1194 BOBWHITE 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

SUMMARY REPORT 457 BOBWHITE DRIVE (FORMERLY 1194 BOBWHITE 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

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



Table of Contents

1.0	INTRODUCTION	. 1
1.1 1.2	Background Information UST Removal and Assessment Process	.1 .2
2.0	SAMPLING ACTIVITIES AND RESULTS	. 3
2.1 2.2 2.3 2.4 2.5 2.6	UST REMOVAL AND SOIL SAMPLING SOIL ANALYTICAL RESULTS INITIAL GROUNDWATER SAMPLING INITIAL GROUNDWATER ANALYTICAL RESULTS PERMANENT WELL GROUNDWATER SAMPLING PERMANENT WELL GROUNDWATER ANALYTICAL RESULTS	4 5 5 5
3.0	PROPERTY STATUS	. 6
4.0	REFERENCES	. 6

Tables

- Table 2
 Free Product Measurement Initial Groundwater
- Table 3
 Laboratory Analytical Results Permanent Monitoring Well Groundwater

Appendices

- Appendix A Multi-Media Selection Process for LBMH
- Appendix B UST Assessment Report
- Appendix C Laboratory Analytical Report Initial Groundwater (Appendix C is not included due to the detection of free product)
 - (Appendix C is not included due to the detection of hee production
- Appendix D Laboratory Analytical Report Permanent Well Groundwater
- Appendix E Regulatory Correspondence



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 457 Bobwhite Drive (Formerly 1194 Bobwhite 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 heating oil 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, February 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, February 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, April 2013) and were revised again in Revision 3.0 (SCDHEC, May 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 IGWA sampling process utilizes temporary groundwater sampling points that are typically installed and sampled within the same day. The intent of the sampling point is to determine the presence or absence of the aforementioned COPCs in groundwater and identify whether former UST locations may require additional delineation of COPCs in groundwater. These sampling points are not subjected to the same installation standards as permanent monitoring wells and, as such; the data obtained from the IGWA wells can sometimes be biased high and is considered preliminary data. In order to confirm the presence of any impact to groundwater, a permanent well is installed where IGWA sampling has indicated the presence of free product and/or COPCs is in excess of the SCDHEC RBSLs for groundwater. If COPCs and/or free product are found to be present in the permanent well, additional permanent wells are installed to delineate the extent of impact to groundwater and a sampling program is established. Groundwater analytical results from permanent wells 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 457 Bobwhite Drive (Formerly 1194 Bobwhite Drive). The sampling activities at 457 Bobwhite Drive (Formerly 1194 Bobwhite Drive) comprised a soil investigation, IGWA activities and installation and sampling of a permanent well. Details regarding the soil investigation at this site are provided in the *SCDHEC UST Assessment Report – 1194 Bobwhite Drive* (MCAS Beaufort, 2015). The UST Assessment Report is provided in Appendix B. Details regarding the IGWA activities at this site are provided in the *Initial Groundwater Investigation Report – May and June 2015* (Resolution Consultants, 2015). Appendix C is reserved for the laboratory analytical results of



the IGWA; however, due to detection of free product, a groundwater sample could not be collected from this location. Details regarding the permanent well installation and sampling activities at this site are provided in the *Groundwater Assessment Report – November and December 2017* (Resolution Consultants, 2018). The laboratory report that includes the pertinent groundwater analytical results for this site is presented in Appendix D.

2.1 UST Removal and Soil Sampling

On December 3, 2014, a single 280 gallon heating oil UST was removed from the rear concrete patio area at 457 Bobwhite Drive (Formerly 1194 Bobwhite Drive). The former UST location is indicated on Figures 1 and 2 of the UST Assessment Report (Appendix B). The UST was removed and properly disposed of (i.e., shipped offsite for recycling or transported to a landfill). There was no visual evidence (i.e., staining or sheen) of petroleum impact at the time of the UST removal. According to the UST Assessment Report (Appendix B), the depth to the base of the UST was 5'6" 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 457 Bobwhite Drive (Formerly 1194 Bobwhite Drive) were greater than the SCDHEC RBSLs, which indicated further investigation was required. In a letter dated April 7, 2015, SCDHEC requested an IGWA for 457 Bobwhite Drive (Formerly 1194 Bobwhite Drive) to determine if the



groundwater was impacted by petroleum COPCs. SCDHEC's request letter is provided in Appendix E.

2.3 Initial Groundwater Sampling

On June 10, 2015, a temporary monitoring well was installed at 457 Bobwhite Drive (Formerly 1194 Bobwhite 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 1 and 2 of the UST Assessment Report (Appendix B). Further details are provided in the *Initial 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, free product was detected in the temporary well. Due to detection of free product, a groundwater sample could not be collected from this location. The temporary well was abandoned in accordance with the South Carolina Well Standards and Regulations R.61-71.H-I (SCDHEC, 2016). Field forms are provided in the *Initial Groundwater Investigation Report – May and June 2015* (Resolution Consultants, 2015).

2.4 Initial Groundwater Analytical Results

Due to detection of free product, a groundwater sample was unable to be collected from 457 Bobwhite Drive (Formerly 1194 Bobwhite Drive), and further investigation was required. A summary of the free product measurement is presented in Table 2. In a letter dated February 22, 2016, SCDHEC requested a permanent well be installed for 457 Bobwhite Drive (Formerly 1194 Bobwhite Drive) to confirm the impact to groundwater detected in the temporary well. SCDHEC's request letter is provided in Appendix E.

2.5 Permanent Well Groundwater Sampling

On November 27, 2017, a permanent monitoring well was installed at 457 Bobwhite Drive (Formerly 1194 Bobwhite 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 and the IGWA sample location. The former UST location is indicated on Figures 1 and 2 of the UST Assessment Report (Appendix B). Further details are provided in the *Groundwater Assessment Report – November and December 2017* (Resolution Consultants, 2018).

The sampling strategy for this phase of the investigation required a one-time sampling event of the permanent 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. No free product was detected in the permanent monitoring well. Field forms are provided in the *Groundwater Assessment Report – November and December 2017* (Resolution Consultants, 2018).

2.6 Permanent Well Groundwater Analytical Results

A summary of the laboratory analytical results and SCDHEC RBSLs is presented in Table 3. A copy of the laboratory analytical data report is included in Appendix D.

The groundwater results collected from 457 Bobwhite Drive (Formerly 1194 Bobwhite Drive) were less than the SCDHEC RBSLs and the site specific groundwater VISLs (Table 3), 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 collected from the permanent monitoring well, SCDHEC made the determination that NFA was required for 457 Bobwhite Drive (Formerly 1194 Bobwhite Drive). This NFA determination was obtained in a letter dated June 18, 2018. SCDHEC's NFA letter is provided in Appendix E.

4.0 **REFERENCES**

Marine Corps Air Station Beaufort, 2015. *South Carolina Department of Health and Environmental Control (SCDHEC) Underground Storage Tank Assessment Report – 1194 Bobwhite Drive, Laurel Bay Military Housing Area*, March 2015.



- Resolution Consultants, 2015. *Initial Groundwater Investigation Report May and June 2015 for Laurel Bay Military Housing Area, Multiple Properties, Marine Corps Air Station Beaufort, Beaufort, South Carolina*, October 2015.
- Resolution Consultants, 2018. *Groundwater Assessment Report November and December* 2017 for Laurel Bay Military Housing Area, Multiple Properties, Marine Corps Air Station Beaufort, Beaufort, South Carolina, March 2018.
- 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 457 Bobwhite Drive (Formerly 1194 Bobwhite Drive) Laurel Bay Military Housing Area Marine Corps Air Station Beaufort Beaufort, South Carolina

Constituent	SCDHEC RBSLs ⁽¹⁾	Results Sample Collected 12/03/14		
Volatile Organic Compounds Analyze	d by EPA Method 8260B (mg/kg)			
Benzene	0.003	ND		
Ethylbenzene	1.15	ND		
Naphthalene	0.036	ND		
Toluene	0.627	ND		
Xylenes, Total	13.01	ND		
Semivolatile Organic Compounds Ana	alyzed by EPA Method 8270D (mg/kg)			
Benzo(a)anthracene	0.66	1.88		
Benzo(b)fluoranthene	0.66	1.48		
Benzo(k)fluoranthene	0.66	0.511		
Chrysene	0.66	1.72		
Dibenz(a,h)anthracene	0.66	0.145		

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 2 Free Product Measurement - Initial Groundwater 457 Bobwhite Drive (Formerly 1194 Bobwhite Drive) Laurel Bay Military Housing Area Marine Corps Air Station Beaufort Beaufort, South Carolina

Temporary Well ID	Date Installed	Date Measured	Measured Well Depth (feet bgs)	Depth to Product (feet bgs)	Depth to Groundwater (feet bgs)	Free Product Thickness (feet)
BEALB1194-TW01	6/10/2015	6/10/2015	13.55	6.135	6.15	0.015

Notes:

bgs - below ground surface

TW - temporary well

Table 3 Laboratory Analytical Results - Permanent Well Groundwater 457 Bobwhite Drive (Formerly 1194 Bobwhite 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 12/07/17
Volatile Organic Compounds Analyze	d 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 An	alyzed by EPA Method 8	270D (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 1x10⁻⁶, 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 D.

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



SC DHEC - Bureau of Land & Waste Management 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,	Commanding Officer Attn:	NREAO (Craig Ehde)	
Owner Name (Corpor	ation, 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 Milit	ary Housing Area, Marine Corps Air Station, Beaufort, SC
Facility Name or Company	y Site Identifier
1194 Bobwhite Dr	ive, Laurel Bay Military Housing Area
Street Address or State Ro	bad (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

۸	Product (ev. Gas Kerosene)	Heating oil
А.	rioduct(ex. Gas, Kelosene)	
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 80s
E.		
F.	Depth (ft.) To Base of Tank	5.6.
G.	Spill Prevention Equipment Y/N	No
н	Overfill Prevention Equipment Y/N	No
	Method of Closure Removed/Filled	Removed
I.	Method of Closure Removed I med	
J _.	Date Tanks Removed/Filled	12/3/2014
K.	Visible Corrosion or Pitting Y/N	Yes
L.	Visible Holes Y/N	Yes

1194

Bobwhite

M. Method of disposal for any USTs removed from the ground (attach disposal manifests) UST 1194Bobwhite was removed from the ground and disposed

at a 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 1194Bobwhite was 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

		1194
		Bobwhite
		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
23.		
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, des	cribe 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.		х	
B.	Were any petroleum odors detected in the excavation, soil borings, trenches, or monitoring wells?		х	
	If yes, indicate location on site map and describe the odor (strong, mild, etc.)			
C.	Was water present in the UST excavation, soil borings, or trenches?		х	
	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:			
	<u> </u>			
E.	Was a petroleum sheen or free product detected on any excavation or boring waters?		х	
	If yes, indicate location and thickness.			

IX. SITE CONDITIONS

X. SAMPLE INFORMATION

A. SCDHEC Lab Certification Number 84009

В.

Sample #	Location	Sample Type (Soil/Water)	Soil Type (Sand/Clay)	Depth*	Date/Time of Collection	Collected by	OVA #
1194 Bobwhite	Excav at fill end	Soil	Sandy	5'6"	12/3/14 1445 hrs	P. Shaw	
8							
9							
10							
11							
12							
13							
14							
15							1
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	<u>No</u>
А.	Are there any lakes, ponds, streams, or wetlands located within 1000 feet of the UST system? *Pond	*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?		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, electr;	icity	
	cable, fiber optic & g If yes, indicate the type of utility, distance, and direction on the site map.	geothe	ermal
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 1194Bobwhite.



Picture 2: UST 1194Bobwhite excavation.



Picture 3: Excavation site after completion of work.

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	1194Bobwhite			
Benzene	ND			
Toluene	ND			
Ethylbenzene	ND			
Xylenes	ND	 		
Naphthalene	ND			
Benzo (a) anthracene	1.88 mg/kg			
Benzo (b) fluoranthene	1.48 mg/kg			
Benzo (k) fluoranthene	0.511 mg/kg			
Chrysene	1.72 mg/kg			
Dibenz (a, h) anthracene	0.145 mg/kg			
ТРН (ЕРА 3550)				
······				
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				
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: 490-68050-1 Client Project/Site: Laurel Bay Housing Project

For:

LINKS

Review your project results through

Total Access

Have a Question?

Ask

The

www.testamericainc.com

Visit us at:

Expert

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

Attn: Tom McElwee

Kuth Hay

Authorized for release by: 12/18/2014 1:01:17 PM

Ken Hayes, Project Manager II (615)301-5035 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.

Table of Contents

Cover Page	1
Table of Contents	2
Sample Summary	3
Case Narrative	4
Definitions	5
Client Sample Results	6
QC Sample Results	8
QC Association	16
Chronicle	18
Method Summary	19
Certification Summary	20
Chain of Custody	21
Receipt Checklists	23

Sample Summary

Client: Small Business Group Inc. Project/Site: Laurel Bay Housing Project

TestAmerica Job ID: 490-68050-1

Client Sample ID	Matrix	Collected	Received
1194 Bobwhite	Soil	12/03/14 14:45	12/06/14 08:30
1420 Albatross	Soil	12/04/14 15:15	12/06/14 08:30
	Client Sample ID 1194 Bobwhite 1420 Albatross	Client Sample IDMatrix1194 BobwhiteSoil1420 AlbatrossSoil	Client Sample ID Matrix Collected 1194 Bobwhite Soil 12/03/14 14:45 1420 Albatross Soil 12/04/14 15:15

TestAmerica Nashville

Job ID: 490-68050-1

Laboratory: TestAmerica Nashville

Narrative

Job Narrative 490-68050-1

Comments

No additional comments.

Receipt

The samples were received on 12/6/2014 8:30 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 1.0° C.

GC/MS VOA

Method(s) 8260B: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate/sample duplicate (MS/MSD/DUP) associated with batch 212759

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

GC/MS Semi VOA

Method(s) 8270D: The following sample was diluted due to the nature of the sample matrix: 1194 Bob White (490-68050-1). Elevated reporting limits (RLs) are provided.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Organic Prep

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

VOA Prep

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

TestAmerica Job ID: 490-68050-1

Definitions/Glossary

Client: Small Business Group Inc. Project/Site: Laurel Bay Housing Project

TestAmerica Job ID: 490-68050-1

Qualifiers

Qualifier	Qualifier Description
x	Surrogate is outside control limits
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.
E	Result exceeded calibration range.
F1	MS and/or MSD Recovery exceeds the control limits

GC/MS Semi VOA

Qualifier	Qualifier Description
1	Result is less than the RI 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.	
•	Listed under the "D" column to designate that the result is reported on a dry weight basis	
%R	Percent Recovery	
CFL	Contains Free Liquid	
CNF	Contains no Free Liquid	
DER	Duplicate error ratio (normalized absolute difference)	
Dil Fac	Dilution Factor	
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)	

Client Sample ID: 1194 Bobwhite

Date Collected: 12/03/14 14:45 Date Received: 12/06/14 08:30

Nor of a

Method: 8260B - Volatile Orga	inic Compounds	(GC/MS)							
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.00263	0.000881	mg/Kg	ŭ	12/07/14 05:17	12/10/14 18:45	1
Ethylbenzene	ND		0.00263	0.000881	mg/Kg	a	12/07/14 05:17	12/10/14 18:45	1
Naphthalene	ND		0.00657	0.00223	mg/Kg	Ci.	12/07/14 05:17	12/10/14 18:45	1
Toluene	ND		0.00263	0.000973	mg/Kg	05	12/07/14 05:17	12/10/14 18:45	1
Xylenes, Total	ND		0.00394	0.000881	mg/Kg	D.	12/07/14 05:17	12/10/14 18:45	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	104		70 - 130				12/07/14 05:17	12/10/14 18:45	1
4-Bromofluorobenzene (Surr)	111		70 - 130				12/07/14 05:17	12/10/14 18:45	1
Dibromofluoromethane (Surr)	102		70 - 130				12/07/14 05:17	12/10/14 18:45	1
Toluene-d8 (Surr)	104		70 - 130				12/07/14 05:17	12/10/14 18:45	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.157	0.0235	mg/Kg	Π	12/08/14 10:32	12/08/14 21:35	2
Acenaphthylene	ND		0.157	0.0211	mg/Kg	177	12/08/14 10:32	12/08/14 21:35	2
Anthracene	0.211		0.157	0.0211	mg/Kg	t7	12/08/14 10:32	12/08/14 21:35	2
Benzo[a]anthracene	1.88		0.157	0.0352	mg/Kg	13	12/08/14 10:32	12/08/14 21:35	2
Benzo[a]pyrene	0.786		0.157	0.0282	mg/Kg	12	12/08/14 10:32	12/08/14 21:35	2
Benzo[b]fluoranthene	1.48		0.157	0.0282	mg/Kg	12	12/08/14 10:32	12/08/14 21:35	2
Benzo[g,h,i]perylene	0.295		0.157	0.0211	mg/Kg	Ω	12/08/14 10:32	12/08/14 21:35	2
Benzo[k]fluoranthene	0.511		0.157	0.0329	mg/Kg	a.	12/08/14 10:32	12/08/14 21:35	2
1-Methylnaphthalene	ND		0.157	0.0329	mg/Kg	D.	12/08/14 10:32	12/08/14 21:35	2
Pyrene	2.58		0.157	0.0282	mg/Kg	a	12/08/14 10:32	12/08/14 21:35	2
Phenanthrene	0.888		0.157	0.0211	mg/Kg	12	12/08/14 10:32	12/08/14 21:35	2
Chrysene	1.72		0.157	0.0211	mg/Kg	D	12/08/14 10:32	12/08/14 21:35	2
Dibenz(a,h)anthracene	0.145	J	0.157	0.0164	mg/Kg	Ø	12/08/14 10:32	12/08/14 21:35	2
Fluoranthene	3.48		0.157	0.0211	mg/Kg	a	12/08/14 10:32	12/08/14 21:35	2
Fluorene	ND		0.157	0.0282	mg/Kg	D.	12/08/14 10:32	12/08/14 21:35	2
Indeno[1,2,3-cd]pyrene	0.316		0.157	0.0235	mg/Kg	12	12/08/14 10:32	12/08/14 21:35	2
Naphthalene	ND		0.157	0.0211	mg/Kg	n	12/08/14 10:32	12/08/14 21:35	2
2-Methylnaphthalene	ND		0.157	0.0376	mg/Kg	a	12/08/14 10:32	12/08/14 21:35	2
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl (Surr)	51		29 - 120				12/08/14 10:32	12/08/14 21:35	2
Terphenyl-d14 (Surr)	60		13 - 120				12/08/14 10:32	12/08/14 21:35	2
Nitrobenzene-d5 (Surr)	52		27 - 120				12/08/14 10:32	12/08/14 21:35	2
General Chemistry									
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	83		0.10	0.10	%			12/08/14 11:10	1

TestAmerica Job ID: 490-68050-1

Lab Sample ID: 490-68050-1

Matrix: Soil Percent Solids: 83.3 Client: Small Business Group Inc. Project/Site: Laurel Bay Housing Project

Client Sample ID: 1420 Albatross

Date Collected: 12/04/14 15:15 Date Received: 12/06/14 08:30

ate Received: 12/06/14 08:30								Percent Soli	ds: 84.7
Method: 8260B - Volatile Organ Analyte	nic Compounds (Result	GC/MS) Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	0.00517		0.00263	0.000882	mg/Kg	Ø	12/07/14 05:17	12/10/14 19:16	1
Ethylbenzene	7.92		0.168	0.0571	mg/Kg	α	12/07/14 05:00	12/11/14 17:53	1
Naphthalene	96.7		8.40	2.86	mg/Kg	C1	12/07/14 05:00	12/17/14 15:52	20
Toluene	0.00410		0.00263	0.000974	mg/Kg	13	12/07/14 05:17	12/10/14 19:16	1
Xylenes, Total	4.88		0.252	0.0571	mg/Kg	Ц	12/07/14 05:00	12/11/14 17:53	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	108		70 - 130				12/07/14 05:17	12/10/14 19:16	1
1,2-Dichloroethane-d4 (Surr)	85		70 - 130				12/07/14 05:00	12/11/14 17:53	1
1,2-Dichloroethane-d4 (Surr)	95		70 - 130				12/07/14 05:00	12/17/14 15:52	20
4-Bromofluorobenzene (Surr)	719	x	70 - 130				12/07/14 05:17	12/10/14 19:16	1
4-Bromofluorobenzene (Surr)	164	x	70 - 130				12/07/14 05:00	12/11/14 17:53	1
-Bromofluorobenzene (Surr)	90		70 - 130				12/07/14 05:00	12/17/14 15:52	20
Dibromofluoromethane (Surr)	95		70 - 130				12/07/14 05:17	12/10/14 19:16	1
Dibromofluoromethane (Surr)	93		70 - 130				12/07/14 05:00	12/11/14 17:53	1
Dibromofluoromethane (Surr)	97		70 - 130				12/07/14 05:00	12/17/14 15:52	20
Toluene-d8 (Surr)	108		70 - 130				12/07/14 05:17	12/10/14 19:16	1
Toluene-d8 (Surr)	100		70 - 130				12/07/14 05:00	12/11/14 17:53	1
Toluene-d8 (Surr)	87		70 - 130				12/07/14 05:00	12/17/14 15:52	20

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	0.533		0.0786	0.0117	mg/Kg	п	12/08/14 10:32	12/08/14 21:58	1
Acenaphthylene	0.453		0.0786	0.0106	mg/Kg	17	12/08/14 10:32	12/08/14 21:58	1
Anthracene	0.917		0.0786	0.0106	mg/Kg	12	12/08/14 10:32	12/08/14 21:58	1
Benzo[a]anthracene	1.28		0.0786	0.0176	mg/Kg	α	12/08/14 10:32	12/08/14 21:58	1
Benzo[a]pyrene	0.588		0.0786	0.0141	mg/Kg	12	12/08/14 10:32	12/08/14 21:58	1
Benzo[b]fluoranthene	0.953		0.0786	0.0141	mg/Kg	171	12/08/14 10:32	12/08/14 21:58	1
Benzo[g,h,i]perylene	0.191		0.0786	0.0106	mg/Kg	51	12/08/14 10:32	12/08/14 21:58	1
Benzo[k]fluoranthene	0.399		0.0786	0.0164	mg/Kg	a	12/08/14 10:32	12/08/14 21:58	1
1-Methylnaphthalene	61.7		3.93	0.821	mg/Kg	0	12/08/14 10:32	12/09/14 13:39	50
Pyrene	1.82		0.0786	0.0141	mg/Kg	6	12/08/14 10:32	12/08/14 21:58	1
Phenanthrene	20.7		3.93	0.528	mg/Kg	a	12/08/14 10:32	12/09/14 13:39	50
Chrysene	1.52		0.0786	0.0106	mg/Kg	ti.	12/08/14 10:32	12/08/14 21:58	1
Dibenz(a,h)anthracene	0.0875		0.0786	0.00821	mg/Kg	13	12/08/14 10:32	12/08/14 21:58	1
Fluoranthene	2.60		0.0786	0.0106	mg/Kg	a	12/08/14 10:32	12/08/14 21:58	1
Fluorene	2.89		0.0786	0.0141	mg/Kg	a	12/08/14 10:32	12/08/14 21:58	1
Indeno[1,2,3-cd]pyrene	0.208		0.0786	0.0117	mg/Kg	Ø	12/08/14 10:32	12/08/14 21:58	1
Naphthalene	20.9		3.93	0.528	mg/Kg	0	12/08/14 10:32	12/09/14 13:39	50
2-Methylnaphthalene	93.9		3.93	0.938	mg/Kg	a	12/08/14 10:32	12/09/14 13:39	50
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl (Surr)	64		29 - 120				12/08/14 10:32	12/08/14 21:58	1
Terphenyl-d14 (Surr)	89		13 - 120				12/08/14 10:32	12/08/14 21:58	1
Nitrobenzene-d5 (Surr)	101		27 - 120				12/08/14 10:32	12/08/14 21:58	1
General Chemistry									
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	85		0.10	0.10	%			12/08/14 11:10	1

Lab Sample ID: 490-68050-2

Matrix: Soil Percent Solids: 84.7

TestAmerica Nashville

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

Lab Sample ID: 490-68050-2 MS	
Matrix: Soil	
Analysis Batch: 213237	

Analysis Batch: 213237									Prep Batch: 212055
	Sample	Sample	Spike	MS	MS				%Rec.
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits
Benzene	ND		4.20	5.107		mg/Kg	\$2	122	31 - 143
Ethylbenzene	7.92		4.20	13.78		mg/Kg	sa.	140	23 - 161
Naphthalene	56.6	E	4.20	63.11	E 4	mg/Kg	a	155	10 - 176
Toluene	ND		4.20	6.236		mg/Kg	32	148	30 - 155
Xylenes, Total	4.88		8.40	19.75	F1	mg/Kg	ø	177	25 - 162
	MS	MS							
		-							

Surrogate	%Recovery	Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	85		70 - 130
4-Bromofluorobenzene (Surr)	163	x	70 - 130
Dibromofluoromethane (Surr)	90		70 - 130
Toluene-d8 (Surr)	101		70 - 130

Lab Sample ID: 490-68050-2 MSD Matrix: Soil Analysis Batch: 213237

Analysis Bataly 242027									Deen	Databy D	12055
Analysis Batch: 213237	Sample	Sample	Snike	MSD	MSD				%Rec	batch: 2	RPD
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Benzene	ND	Anne and a	4.20	5.070		mg/Kg	ġ.	121	31 - 143	1	50
Ethylbenzene	7.92		4.20	13.58		mg/Kg	α	135	23 - 161	1	50
Naphthalene	56.6	E	4.20	60.83	E 4	mg/Kg	a	100	10 - 176	4	50
Toluene	ND		4.20	5.860		mg/Kg	n	139	30 - 155	6	50
Xylenes, Total	4.88		8.40	17.42		mg/Kg	n	149	25 - 162	13	50
		1.12									

	MSD	MSD	
Surrogate	%Recovery	Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	87		70 - 130
4-Bromofluorobenzene (Surr)	158	x	70 - 130
Dibromofluoromethane (Surr)	92		70 - 130
Toluene-d8 (Surr)	99		70 - 130

Lab Sample ID: MB 490-212759/6 Matrix: Solid

Analysis Batch: 212759

	MB	MB							
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.100	0.0335	mg/Kg			12/10/14 14:33	1
Ethylbenzene	ND		0.100	0.0335	mg/Kg			12/10/14 14:33	1
Naphthalene	ND		0.250	0.0850	mg/Kg			12/10/14 14:33	1
Toluene	ND		0.100	0.0370	mg/Kg			12/10/14 14:33	1
Xylenes, Total	ND		0.150	0.0335	mg/Kg			12/10/14 14:33	1
	MB	мв							
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	95		70 - 130					12/10/14 14:33	1
4-Bromofluorobenzene (Surr)	112		70 - 130					12/10/14 14:33	1
Dibromofluoromethane (Surr)	97		70 - 130					12/10/14 14:33	1
Toluene-d8 (Surr)	102		70 - 130					12/10/14 14:33	1

Client Sample ID: 1420 Albatross Prep Type: Total/NA

Client Sample ID: Method Blank

Prep Type: Total/NA

TestAmerica Job ID: 490-68050-1

Client Sample ID: 1420 Albatross

Prep Type: Total/NA

TestAmerica	Nashvil

TestAmerica Job ID: 490-68050-1

Client Sample ID: Method Blank

12/10/14 15:05

Prep Type: Total/NA

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

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

102

Lab Sample ID: MB 490-212759/7 Matrix: Solid Analysis Batch: 212759

	100							
MB	MB							
Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
ND		0.00200	0.000670	mg/Kg			12/10/14 15:05	1
ND		0.00200	0.000670	mg/Kg			12/10/14 15:05	1
ND		0.00500	0.00170	mg/Kg			12/10/14 15:05	1
ND		0.00200	0.000740	mg/Kg			12/10/14 15:05	1
ND		0.00300	0.000670	mg/Kg			12/10/14 15:05	1
MB	МВ							
%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
103		70 - 130					12/10/14 15:05	1
112		70 - 130					12/10/14 15:05	1
104		70 - 130					12/10/14 15:05	1
	MB Result ND ND ND ND ND ND ND ND 103 112 104	MB Result Qualifier ND	MB Result Qualifier RL ND 0.00200 ND 0.00300 MB MB %Recovery Qualifier Limits 103 70 - 130 112 70 - 130 104 70 - 130	MB MB Result Qualifier RL MDL ND 0.00200 0.000670 ND 0.00200 0.000670 ND 0.00500 0.00170 ND 0.00200 0.000670 ND 0.00200 0.00070 ND 0.00300 0.000670 ND 0.00300 0.000670 ND 0.00300 0.000670 ND 0.00300 0.000670 MB MB 100000000 MB 70.130 112 104 70.130 104	MB MB Result Qualifier RL MDL Unit ND 0.00200 0.000670 mg/Kg ND 0.00200 0.000670 mg/Kg ND 0.00500 0.00170 mg/Kg ND 0.00200 0.000740 mg/Kg ND 0.00300 0.000670 mg/Kg MB MB %Recovery Qualifier Limits 103 70 - 130 104 70 - 130	MB Result Qualifier RL MDL Unit D ND 0.00200 0.000670 mg/Kg ND 0.00200 0.000670 mg/Kg ND 0.00200 0.000700 mg/Kg ND 0.00200 0.000740 mg/Kg ND 0.00300 0.000670 mg/Kg MB MB Image: State Image: State %Recovery Qualifier Limits Image: State 103 70 - 130 Image: State Image: State 104 70 - 130 Image: State Image: State	MB MB MDL Unit D Prepared ND 0.00200 0.000670 mg/Kg ND Prepared ND 0.00200 0.000670 mg/Kg ND ND<	MB MB Result Qualifier RL MDL Unit D Prepared Analyzed ND 0.00200 0.000670 mg/Kg 12/10/14 15:05 ND 0.00200 0.000670 mg/Kg 12/10/14 15:05 ND 0.00200 0.00070 mg/Kg 12/10/14 15:05 ND 0.00200 0.00070 mg/Kg 12/10/14 15:05 ND 0.00200 0.00070 mg/Kg 12/10/14 15:05 ND 0.00300 0.000670 mg/Kg 12/10/14 15:05 ND 0.00300 0.000670 mg/Kg 12/10/14 15:05 ND 0.00300 0.000670 mg/Kg 12/10/14 15:05 MB 12/10/14 15:05 12/10/14 15:05 MB 12/10/14 15:05 MB Prepared Analyzed 103 70 - 130 12/10/14 15:05 12/10/14 15:05 104 70 - 130 <td< td=""></td<>

70 - 130

Lab Sample ID: LCS 490-212759/3 Matrix: Solid Analysis Batch: 212759

Toluene-d8 (Surr)

		Spike	LCS	LCS				%Rec.
Analyte		Added	Result	Qualifier	Unit	D	%Rec	Limits
Benzene		0.0500	0.05245		mg/Kg		105	75 - 127
Ethylbenzene		0.0500	0.05537		mg/Kg		111	80 - 134
Naphthalene		0.0500	0.04856		mg/Kg		97	69 - 150
Toluene		0.0500	0.05380		mg/Kg		108	80 - 132
Xylenes, Total		0.100	0.1012		mg/Kg		101	80 - 137
	LCS LCS							

%Recovery	Qualifier	Limits
105		70 - 130
106		70 - 130
100		70 - 130
101		70 - 130
	%Recovery 105 106 100 101	%Recovery Qualifier 105 106 100 101

Lab Sample ID: LCSD 490-212759/4 Matrix: Solid

Analysis Batch: 212759

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

Store show and			Spike	LCSD	LCSD				%Rec.		RPD
Analyte			Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Benzene			0.0500	0.05203		mg/Kg		104	75 - 127	1	50
Ethylbenzene			0.0500	0.05317		mg/Kg		106	80 - 134	4	50
Naphthalene			0.0500	0.04277		mg/Kg		86	69 - 150	13	50
Toluene			0.0500	0.05162		mg/Kg		103	80 - 132	4	50
Xylenes, Total			0.100	0.09697		mg/Kg		97	80 - 137	4	50
	LCSD	LCSD									
Surrogate	%Recovery	Qualifier	Limits								
1.2-Dichloroethane-d4 (Surr)	104		70 - 130								

Surrogate	%Recovery	Qualifier	Limits
1.2-Dichloroethane-d4 (Surr)	104		70 - 130
4-Bromofluorobenzene (Surr)	105		70 - 130
Dibromofluoromethane (Surr)	100		70 - 130
Toluene-d8 (Surr)	101		70 - 130

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

Lab Sample ID: MB 490-213237/6 Matrix: Solid Analysis Batch: 213237

	MB	MB							
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.100	0.0340	mg/Kg			12/11/14 13:00	1
Ethylbenzene	ND		0.100	0.0340	mg/Kg			12/11/14 13:00	1
Naphthalene	ND		0.250	0.0850	mg/Kg			12/11/14 13:00	1
Toluene	ND		0.100	0.0370	mg/Kg			12/11/14 13:00	1
Xylenes, Total	ND		0.150	0.0340	mg/Kg			12/11/14 13:00	1
	MB	мв							
Surrogata	9/ Decever	Qualifier	1 imite				Deserved	Amelument	DUF

ourrogate	wither author	Lining	riepareu	Analyzeu	Dirac
1,2-Dichloroethane-d4 (Surr)	92	70 - 130		12/11/14 13:00	1
4-Bromofluorobenzene (Surr)	107	70 - 130		12/11/14 13:00	1
Dibromofluoromethane (Surr)	102	70 - 130		12/11/14 13:00	1
Toluene-d8 (Surr)	102	70 - 130		12/11/14 13:00	1

Lab Sample ID: MB 490-213237/7 Matrix: Solid Analysis Batch: 213237

	MB	MB							
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.00200	0.000680	mg/Kg			12/11/14 13:32	1
Ethylbenzene	ND		0.00200	0.000680	mg/Kg			12/11/14 13:32	1
Naphthalene	ND		0.00500	0.00170	mg/Kg			12/11/14 13:32	1
Toluene	ND		0.00200	0.000740	mg/Kg			12/11/14 13:32	1
Xylenes, Total	ND		0.00300	0.000680	mg/Kg			12/11/14 13:32	1

	MD	MD				
Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	105		70 - 130		12/11/14 13:32	1
4-Bromofluorobenzene (Surr)	111		70 - 130		12/11/14 13:32	1
Dibromofluoromethane (Surr)	101		70 - 130		12/11/14 13:32	1
Toluene-d8 (Surr)	100		70 - 130		12/11/14 13:32	1

Lab Sample ID: LCS 490-213237/9 Matrix: Solid

Analysis Batch: 213237

	Spike	LCS	LCS				%Rec.	
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Benzene	2.50	2.237		mg/Kg		89	75 - 127	
Ethylbenzene	2.50	2.264		mg/Kg		91	80 - 134	
Naphthalene	2.50	2.331		mg/Kg		93	69 - 150	
Toluene	2.50	2.246		mg/Kg		90	80 - 132	
Xylenes, Total	5.00	4.170		mg/Kg		83	80 - 137	

	LCS	LCS	
Surrogate	%Recovery	Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	103		70 - 130
4-Bromofluorobenzene (Surr)	107		70 - 130
Dibromofluoromethane (Surr)	100		70 - 130
Toluene-d8 (Surr)	101		70 - 130

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

TestAmerica Nashville

TestAmerica Job ID: 490-68050-1

Client Sample ID: Method Blank

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Type: Total/NA

TestAmerica Job ID: 490-68050-1

Client Sample ID: Method Blank

Prep Type: Total/NA

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

Lab Sample ID: MB 490-214748/6 Matrix: Solid Analysis Batch: 214748

Analysis Daton. 214140									
	MB	MB							
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.100	0.0340	mg/Kg			12/17/14 14:52	1
Ethylbenzene	ND		0.100	0.0340	mg/Kg			12/17/14 14:52	1
Naphthalene	ND		0.250	0.0850	mg/Kg			12/17/14 14:52	1
Toluene	ND		0.100	0.0370	mg/Kg			12/17/14 14:52	1
Xylenes, Total	ND		0.150	0.0340	mg/Kg			12/17/14 14:52	1
	МВ	МВ							
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1 2-Dichloroethane-d4 (Surr)	94		70 - 130					12/17/14 14:52	1

1,2-Dichloroethane-d4 (Surr)	94	70 - 130	12/17/14 14:52	1
4-Bromofluorobenzene (Surr)	93	70 - 130	12/17/14 14:52	1
Dibromofluoromethane (Surr)	97	70 - 130	12/17/14 14:52	1
Toluene-d8 (Surr)	87	70 - 130	12/17/14 14:52	1

Lab Sample ID: LCS 490-214748/3 Matrix: Solid Analysis Batch: 214748

		Spike	LCS	LCS				%Rec.
Analyte		Added	Result	Qualifier	Unit	D	%Rec	Limits
Benzene		0.0500	0.04811		mg/Kg		96	75 - 127
Ethylbenzene		0.0500	0.05092		mg/Kg		102	80 - 134
Naphthalene		0.0500	0.06972		mg/Kg		139	69 - 150
Toluene		0.0500	0.04627		mg/Kg		93	80 - 132
Xylenes, Total		0.100	0.09716		mg/Kg		97	80 - 137
	LCS LCS							

Surrogate	%Recovery	Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	101		70 - 130
4-Bromofluorobenzene (Surr)	93		70 - 130
Dibromofluoromethane (Surr)	96		70 - 130
Toluene-d8 (Surr)	87		70 - 130

Lab Sample ID: LCSD 490-214748/4 Matrix: Solid

Analysis Batch: 214748

Analysis Duton. LITITO											
			Spike	LCSD	LCSD				%Rec.		RPD
Analyte			Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Benzene			0.0500	0.04932		mg/Kg		99	75 - 127	2	50
Ethylbenzene			0.0500	0.05295		mg/Kg		106	80 - 134	4	50
Naphthalene			0.0500	0.06999		mg/Kg		140	69 - 150	0	50
Toluene			0.0500	0.04836		mg/Kg		97	80 - 132	4	50
Xylenes, Total			0.100	0.09838		mg/Kg		98	80 - 137	1	50
	LCSD	LCSD									
Surrogate	%Recovery	Qualifier	Limits								

%Recovery	Qualifier	Limits
100		70 - 130
95		70 - 130
95		70 - 130
87		70 - 130
	%Recovery 100 95 95 87	%Recovery Quaimer 100 95 95 87

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

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

TestAmerica Nashville

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

97

92

Lab Sample ID: MB 490-212165/1-A Matrix: Solid Analysis Batch: 212164

	MB	MB							
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.0670	0.0100	mg/Kg		12/08/14 10:32	12/08/14 16:07	1
Acenaphthylene	ND		0.0670	0.00900	mg/Kg		12/08/14 10:32	12/08/14 16:07	1
Anthracene	ND		0.0670	0.00900	mg/Kg		12/08/14 10:32	12/08/14 16:07	1
Benzo[a]anthracene	ND		0.0670	0.0150	mg/Kg		12/08/14 10:32	12/08/14 16:07	1
Benzo[a]pyrene	ND		0.0670	0.0120	mg/Kg		12/08/14 10:32	12/08/14 16:07	1
Benzo[b]fluoranthene	ND		0.0670	0.0120	mg/Kg		12/08/14 10:32	12/08/14 16:07	1
Benzo[g,h,i]perylene	ND		0.0670	0.00900	mg/Kg		12/08/14 10:32	12/08/14 16:07	1
Benzo[k]fluoranthene	ND		0.0670	0.0140	mg/Kg		12/08/14 10:32	12/08/14 16:07	1
1-Methylnaphthalene	ND		0.0670	0.0140	mg/Kg		12/08/14 10:32	12/08/14 16:07	1
Pyrene	ND		0.0670	0.0120	mg/Kg		12/08/14 10:32	12/08/14 16:07	1
Phenanthrene	ND		0.0670	0.00900	mg/Kg		12/08/14 10:32	12/08/14 16:07	1
Chrysene	ND		0.0670	0.00900	mg/Kg		12/08/14 10:32	12/08/14 16:07	1
Dibenz(a,h)anthracene	ND		0.0670	0.00700	mg/Kg		12/08/14 10:32	12/08/14 16:07	1
Fluoranthene	ND		0.0670	0.00900	mg/Kg		12/08/14 10:32	12/08/14 16:07	1
Fluorene	ND		0.0670	0.0120	mg/Kg		12/08/14 10:32	12/08/14 16:07	1
Indeno[1,2,3-cd]pyrene	ND		0.0670	0.0100	mg/Kg		12/08/14 10:32	12/08/14 16:07	1
Naphthalene	ND		0.0670	0.00900	mg/Kg		12/08/14 10:32	12/08/14 16:07	1
2-Methylnaphthalene	ND		0.0670	0.0160	mg/Kg		12/08/14 10:32	12/08/14 16:07	1
	мв	МВ							
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl (Surr)	86		29 - 120				12/08/14 10:32	12/08/14 16:07	1

13 - 120

27 - 120

Lab Sample ID: LCS 490-212165/2-A	
Matrix: Solid	

Analysis Batch: 212164

Terphenyl-d14 (Surr)

Nitrobenzene-d5 (Surr)

	Spike	LCS	LCS				%Rec.	
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Acenaphthylene	1.67	1.613		mg/Kg		97	38 - 120	
Anthracene	1.67	1.651		mg/Kg		99	46 - 124	
Benzo[a]anthracene	1.67	1.720		mg/Kg		103	45 - 120	
Benzo[a]pyrene	1.67	1.751		mg/Kg		105	45 - 120	
Benzo[b]fluoranthene	1.67	1.727		mg/Kg		104	42 - 120	
Benzo[g,h,i]perylene	1.67	1.637		mg/Kg		98	38 - 120	
Benzo[k]fluoranthene	1.67	1.674		mg/Kg		100	42 - 120	
1-Methylnaphthalene	1.67	1.581		mg/Kg		95	32 - 120	
Pyrene	1.67	1.594		mg/Kg		96	43 - 120	
Phenanthrene	1.67	1,547		mg/Kg		93	45 - 120	
Chrysene	1.67	1.579		mg/Kg		95	43 - 120	
Dibenz(a,h)anthracene	1.67	1.767		mg/Kg		106	32 - 128	
Fluoranthene	1.67	1.647		mg/Kg		99	46 - 120	
Fluorene	1.67	1.693		mg/Kg		102	42 - 120	
Indeno[1,2,3-cd]pyrene	1.67	1.684		mg/Kg		101	41 - 121	
Naphthalene	1.67	1.569		mg/Kg		94	32 - 120	
2-Methylnaphthalene	1.67	1.606		mg/Kg		96	28 - 120	

Client Sample ID: Method Blank

12/08/14 16:07

12/08/14 16:07

Prep Type: Total/NA

Prep Batch: 212165

Client Sample ID: Lab Control Sample

12/08/14 10:32

12/08/14 10:32

Prep Type: Total/NA

Prep Batch: 212165

1

1

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

Lab Sample ID: LCS 490-212165/2-A Matrix: Solid Analysis Batch: 212164

	LCS	LCS	
Surrogate	%Recovery	Qualifier	Limits
2-Fluorobiphenyl (Surr)	85		29 - 120
Terphenyl-d14 (Surr)	94		13 - 120
Nitrobenzene-d5 (Surr)	93		27 - 120

Lab Sample ID: LCS 490-212165/2-A Matrix: Solid

Inderive Cond									
Analysis Batch: 212491								Prep Batch: 21216	5
		Spike	LCS	LCS				%Rec.	
Analyte		Added	Result	Qualifier	Unit	D	%Rec	Limits	
Acenaphthylene		1.67	1.559		mg/Kg		94	38 - 120	
Anthracene		1.67	1.598		mg/Kg		96	46 - 124	
Benzo[a]anthracene		1.67	1.608		mg/Kg		96	45 - 120	
Benzo[a]pyrene		1.67	1.563		mg/Kg		94	45 - 120	
Benzo[b]fluoranthene		1.67	1.630		mg/Kg		98	42 - 120	
Benzo[g,h,i]perylene		1.67	1.631		mg/Kg		98	38 - 120	
Benzo[k]fluoranthene		1.67	1.517		mg/Kg		91	42 - 120	
1-Methylnaphthalene		1.67	1.592		mg/Kg		95	32 - 120	
Pyrene		1.67	1.523		mg/Kg		91	43 - 120	
Phenanthrene		1.67	1.535		mg/Kg		92	45 - 120	
Chrysene		1.67	1.530		mg/Kg		92	43 - 120	
Dibenz(a,h)anthracene		1.67	1.658		mg/Kg		99	32 - 128	
Fluoranthene		1.67	1.613		mg/Kg		97	46 - 120	
Fluorene		1.67	1.659		mg/Kg		100	42 - 120	
Indeno[1,2,3-cd]pyrene		1.67	1.626		mg/Kg		98	41 - 121	
Naphthalene		1.67	1.512		mg/Kg		91	32 - 120	
2-Methylnaphthalene		1.67	1.624		mg/Kg		97	28 - 120	
	100 100								

	LUS	LUS	
Surrogate	%Recovery	Qualifier	Limits
2-Fluorobiphenyl (Surr)	86		29 - 120
Terphenyl-d14 (Surr)	94		13 - 120
Nitrobenzene-d5 (Surr)	94		27 - 120

Lab Sample ID: 490-68001-B-1-E MS Matrix: Solid

Analysis Batch: 212164

Analysis Batch: 212164								Prep Batch:	212165
Sa	mple Sample	Spike	MS	MS				%Rec.	
Analyte R	esult Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Acenaphthylene	ND	1.66	1.290		mg/Kg		78	25 - 120	
Anthracene	ND	1.66	1.350		mg/Kg		81	28 - 125	
Benzo[a]anthracene	ND	1.66	1.418		mg/Kg		86	23 - 120	
Benzo[a]pyrene	ND	1.66	1.426		mg/Kg		86	15 - 128	
Benzo[b]fluoranthene	ND	1.66	1.438		mg/Kg		87	12 - 133	
Benzo[g,h,i]perylene	ND	1.66	1.318		mg/Kg		80	22 - 120	
Benzo[k]fluoranthene	ND	1.66	1.301		mg/Kg		78	28 - 120	
1-Methylnaphthalene	ND	1.66	1.190		mg/Kg		72	10 - 120	
Pyrene	ND	1.66	1.308		mg/Kg		79	20 - 123	
Phenanthrene	ND	1.66	1.291		mg/Kg		78	21 - 122	
Chrysene	ND	1.66	1.282		mg/Kg		77	20 - 120	

TestAmerica Nashville

Client Sample ID: Matrix Spike

Prep Type: Total/NA

TestAmerica Job ID: 490-68050-1

Client Sample ID: Lab Control Sample

Client Sample ID: Lab Control Sample

Prep Type: Total/NA Prep Batch: 212165

Prep Type: Total/NA

12/18/2014

TestAmerica Job ID: 490-68050-1

Client Sample ID: Matrix Spike

Prep Type: Total/NA

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

67

Lab Sample ID: 490-68001-B-1-E MS Matrix: Solid

Analysis Batch: 212164									Prep Ba	tch: 212165
	Sample	Sample	Spike	MS	MS				%Rec.	
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Dibenz(a,h)anthracene	ND		1.66	1.373		mg/Kg		83	12 - 128	
Fluoranthene	ND		1.66	1.372		mg/Kg		83	10 - 143	
Fluorene	ND		1.66	1.328		mg/Kg		80	20 - 120	
Indeno[1,2,3-cd]pyrene	ND		1.66	1.337		mg/Kg		81	22 - 121	
Naphthalene	ND		1.66	1.181		mg/Kg		71	10 - 120	
2-Methylnaphthalene	ND		1.66	1.218		mg/Kg		73	13 - 120	
	MS	MS								
Surrogate	%Recovery	Qualifier	Limits							
2-Fluorobiphenyl (Surr)	66		29 - 120							
Terphenyl-d14 (Surr)	74		13 - 120							

27 - 120

Lab Sample ID: 490-68001-B-1-F MSD Matrix: Solid Analysis Batch: 212164

Nitrobenzene-d5 (Surr)

	Sample	Sample	Spike	MSD	MSD				%Rec.		RPD
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Acenaphthylene	ND		1.62	1.266		mg/Kg		78	25 - 120	2	50
Anthracene	ND		1.62	1.299		mg/Kg		80	28 - 125	4	49
Benzo[a]anthracene	ND		1.62	1.371		mg/Kg		85	23 - 120	3	50
Benzo[a]pyrene	ND		1.62	1.377		mg/Kg		85	15 - 128	3	50
Benzo[b]fluoranthene	ND		1.62	1.420		mg/Kg		88	12 - 133	1	50
Benzo[g,h,i]perylene	ND		1.62	1.325		mg/Kg		82	22 - 120	1	50
Benzo[k]fluoranthene	ND		1.62	1.261		mg/Kg		78	28 - 120	3	45
1-Methylnaphthalene	ND		1.62	1.174		mg/Kg		73	10 - 120	1	50
Pyrene	ND		1.62	1.245		mg/Kg		77	20 - 123	5	50
Phenanthrene	ND		1.62	1.271		mg/Kg		79	21 - 122	2	50
Chrysene	ND		1.62	1.253		mg/Kg		77	20 - 120	2	49
Dibenz(a,h)anthracene	ND		1.62	1.390		mg/Kg		86	12 - 128	1	50
Fluoranthene	ND		1.62	1.341		mg/Kg		83	10 - 143	2	50
Fluorene	ND		1.62	1.313		mg/Kg		81	20 - 120	1	50
Indeno[1,2,3-cd]pyrene	ND		1.62	1.344		mg/Kg		83	22 - 121	1	50
Naphthalene	ND		1.62	1.138		mg/Kg		70	10 - 120	4	50
2-Methylnaphthalene	ND		1.62	1.172		mg/Kg		72	13 - 120	4	50
	MSD	MSD									
Surrogate	%Recoverv	Qualifier	Limits								

	MSD	MSD	
Surrogate	%Recovery	Qualifier	Limits
2-Fluorobiphenyl (Surr)	65		29 - 120
Terphenyl-d14 (Surr)	76		13 - 120
Nitrobenzene-d5 (Surr)	69		27 - 120

Client Sample ID: Matrix Spike Duplicate Prep Type: Total/NA

Prep Type: Total/NA Prep Batch: 212165

TestAmerica Nashville

TestAmerica Job ID: 490-68050-1

Method: Moisture - Percent Moisture

Lab Sample ID: 490-68011-C-1 I	DU						Client Sample ID: Du	olicate
Matrix: Solid							Prep Type: To	tal/NA
Analysis Batch: 212186								
	Sample	Sample	DU	DU				RPD
Analyte	Result	Qualifier	Result	Qualifier	Unit	D	RPD	Limit
Percent Solids	88		86		%		2	20

TestAmerica Nashville

QC Association Summary

Client: Small Business Group Inc. Project/Site: Laurel Bay Housing Project TestAmerica Job ID: 490-68050-1

GC/MS VOA

Prep Batch: 212055

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-68050-2	1420 Albatross	Total/NA	Soil	5035	
490-68050-2 MS	1420 Albatross	Total/NA	Soil	5035	
490-68050-2 MSD	1420 Albatross	Total/NA	Soil	5035	
Prep Batch: 212056					
Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-68050-1	1194 Bobwhite	Total/NA	Soil	5035	
490-68050-2	1420 Albatross	Total/NA	Soil	5035	
Analysis Batch: 21275	9				
Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-68050-1	1194 Bobwhite	Total/NA	Soil	8260B	212056
490-68050-2	1420 Albatross	Total/NA	Soil	8260B	212056
LCS 490-212759/3	Lab Control Sample	Total/NA	Solid	8260B	
LCSD 490-212759/4	Lab Control Sample Dup	Total/NA	Solid	8260B	
MB 490-212759/6	Method Blank	Total/NA	Solid	8260B	
MB 490-212759/7	Method Blank	Total/NA	Solid	8260B	
Analysis Batch: 21323	7				
Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-68050-2	1420 Albatross	Total/NA	Soil	8260B	212055
490-68050-2 MS	1420 Albatross	Total/NA	Soil	8260B	212055
490-68050-2 MSD	1420 Albatross	Total/NA	Soil	8260B	212055
LCS 490-213237/9	Lab Control Sample	Total/NA	Solid	8260B	
MB 490-213237/6	Method Blank	Total/NA	Solid	8260B	
MB 490-213237/7	Method Blank	Total/NA	Solid	8260B	
Analysis Batch: 21474	8				
Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-68050-2	1420 Albatross	Total/NA	Soil	8260B	212055
LCS 490-214748/3	Lab Control Sample	Total/NA	Solid	8260B	
LCSD 490-214748/4	Lab Control Sample Dup	Total/NA	Solid	8260B	
MB 490-214748/6	Method Blank	Total/NA	Solid	8260B	
GC/MS Semi VOA					
Analysis Batch: 21216	4				
Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-68001-B-1-E MS	Matrix Spike	Total/NA	Solid	8270D	212165
490-68001-B-1-F MSD	Matrix Spike Duplicate	Total/NA	Solid	8270D	212165
LCS 490-212165/2-A	Lab Control Sample	Total/NA	Solid	8270D	212165

Prep	Batch:	212165	

Method Blank

MB 490-212165/1-A

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-68001-B-1-E MS	Matrix Spike	Total/NA	Solid	3550C	
490-68001-B-1-F MSD	Matrix Spike Duplicate	Total/NA	Solid	3550C	
490-68050-1	1194 Bobwhite	Total/NA	Soil	3550C	
490-68050-2	1420 Albatross	Total/NA	Soil	3550C	
LCS 490-212165/2-A	Lab Control Sample	Total/NA	Solid	3550C	

Total/NA

Solid

TestAmerica Nashville

8270D

212165

QC Association Summary

Client: Small Business Group Inc. Project/Site: Laurel Bay Housing Project

GC/MS Semi VOA (Continued)

Prep Batch: 212165 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 490-212165/1-A	Method Blank	Total/NA	Solid	3550C	
Analysis Batch: 21224	3				
Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-68050-1	1194 Bobwhite	Total/NA	Soil	8270D	212165
490-68050-2	1420 Albatross	Total/NA	Soil	8270D	212165
Analysis Batch: 21249	1				
Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-68050-2	1420 Albatross	Total/NA	Soil	8270D	212165
LCS 490-212165/2-A	Lab Control Sample	Total/NA	Solid	8270D	212165
General Chemistry					

Analysis Batch: 212186

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-68011-C-1 DU	Duplicate	Total/NA	Solid	Moisture	
490-68050-1	1194 Bobwhite	Total/NA	Soil	Moisture	
490-68050-2	1420 Albatross	Total/NA	Soil	Moisture	

Client Sample ID: 1194 Bobwhite

Date Collected: 12/03/14 14:45 Date Received: 12/06/14 08:30

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.568 g	5.0 mL	212056	12/07/14 05:17	JLP	TAL NSH
Total/NA	Analysis	8260B		1	4.568 g	5.0 mL	212759	12/10/14 18:45	ККК	TAL NSH
Total/NA	Prep	3550C			30.68 g	1.00 mL	212165	12/08/14 10:32	LDC	TAL NSH
Total/NA	Analysis	8270D		2	30.68 g	1.00 mL	212243	12/08/14 21:35	SNR	TAL NSH
Total/NA	Analysis	Moisture		1.			212186	12/08/14 11:10	RRS	TAL NSH

Client Sample ID: 1420 Albatross Date Collected: 12/04/14 15:15

Date Received: 12/06/14 08:30

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Ргер Туре	Туре	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.487 g	5.0 mL	212056	12/07/14 05:17	JLP	TAL NSH
Total/NA	Analysis	8260B		1	4.487 g	5.0 mL	212759	12/10/14 19:16	ККК	TAL NSH
Total/NA	Prep	5035			3.94 g	5.0 mL	212055	12/07/14 05:00	JLP	TAL NSH
Total/NA	Analysis	8260B		1	3.94 g	5.0 mL	213237	12/11/14 17:53	KKK	TAL NSH
Total/NA	Prep	5035			3.94 g	5.0 mL	212055	12/07/14 05:00	JLP	TAL NSH
Total/NA	Analysis	8260B		20	3.94 g	5.0 mL	214748	12/17/14 15:52	ККК	TAL NSH
Total/NA	Prep	3550C			30.22 g	1.00 mL	212165	12/08/14 10:32	LDC	TAL NSH
Total/NA	Analysis	8270D		50	30.22 g	1.00 mL	212491	12/09/14 13:39	SNR	TAL NSH
Total/NA	Prep	3550C			30.22 g	1.00 mL	212165	12/08/14 10:32	LDC	TAL NSH
Total/NA	Analysis	8270D		1	30.22 g	1.00 mL	212243	12/08/14 21:58	SNR	TAL NSH
Total/NA	Analysis	Moisture		1			212186	12/08/14 11:10	RRS	TAL NSH

Laboratory References:

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

TestAmerica Job ID: 490-68050-1

Lab Sample ID: 490-68050-1

Lab Sample ID: 490-68050-2

Matrix: Soil

Percent Solids: 84.7

Matrix: Soil Percent Solids: 83.3

TestAmerica Job ID: 490-68050-1

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

Client: Small Business Group Inc. Project/Site: Laurel Bay Housing Project

TestAmerica Job ID: 490-68050-1

Laboratory: TestAmerica Nashville

Unless otherwise noted, all analytes for this laboratory were covered under each certification below.

uthority	Program		EPA Region	Certification ID	Expiration Date
outh Carolina	State Prog	gram	4	84009 (001)	02-28-15
The following analytes a	are included in this report, bu	t certification is not offer	ed by the governing a	authority:	
The following analytes a Analysis Method	are included in this report, bu Prep Method	t certification is not offer Matrix	ed by the governing a Analyt	authority: e	
The following analytes a Analysis Method 8270D	Prep Method 3550C	tt certification is not offer Matrix Soil	ed by the governing a Analyt 1-Meth	authority: e nylnaphthalene	

TestAmerica Nashville

the leader in environmental testin Nashville, TN	COOLER RECEIPT FORM	
ooler Received/Opened On	_12/6/2014 @ _0830	490-68050 Chain of Custody
. Tracking #909	(last 4 digits, FedEx)	530502
ourier:Fed Ex IR	Gun ID17960358	
. Temperature of rep. sample	e or temp blank when opened: Lov Degrees Celsius	
. If Item #2 temperature is 0°C	C or less, was the representative sample or temp blank fi	rozen? YES NO.
. Were custody seals on outsi	side of cooler?	YES.).NONA
If yes, how many and where	e: afront + back	
. Were the seals intact, signed	d, and dated correctly?	ENONA
. Were custody papers inside	a cooler?	ESNONA
certify that I opened the coole	er and answered questions 1-6 (intial)	A
Were custody seals on conta	tainers: YES NO and Intact	YES NOT NA
Were these signed and dated	d correctly?	YESNO. NA
Packing mat'l used? Bubble	ewrap Plastic bag Peanuts Vermiculite Foam Insert	Paper Other None
Cooling process:	Gee Ice-pack Ice (direct contact)	Dry ice Other None
0. Did all containers arrive in	good condition (unbroken)?	TES NONA
		6
1. Were all container labels co	omplete (#, date, signed, pres., etc)?	ALES NO NA
 Were all container labels co Did all container labels and 	omplete (#, date, signed, pres., etc)? d tags agree with custody papers?	TESNONA
 Were all container labels co Did all container labels and Were VOA vials received? 	omplete (#, date, signed, pres., etc)? d tags agree with custody papers? ?	YESNONA
 Were all container labels container labels and Did all container labels and Were VOA vials received? Was there any observable 	omplete (#, date, signed, pres., etc)? d tags agree with custody papers? ? e headspace present in any VOA vial?	YESNONA YESNONA YESNONA
 Were all container labels co Did all container labels and Were VOA vials received? Was there any observable Was there a Trip Blank In th 	omplete (#, date, signed, pres., etc)? d tags agree with custody papers? ? e headspace present in any VOA vial? his cooler? YESANDNA If multiple coolers, s	YESNONA YESNONA YESNONA
 Were all container labels co Did all container labels and Ba. Were VOA vials received? b. Was there any observable Was there a Trip Blank in the certify that I unloaded the cool 	omplete (#, date, signed, pres., etc)? d tags agree with custody papers? e headspace present in any VOA vial? his cooler? YESANONA If multiple coolers, s pler and answered guestions 7-14 (intial)	YESNONA YESNONA YESNONA YESNONA
 Were all container labels co Did all container labels and Were VOA vials received? Was there any observable Was there a Trip Blank in the certify that I unloaded the cool On pres'd bottles, did pH to 	omplete (#, date, signed, pres., etc)? d tags agree with custody papers? e headspace present in any VOA vial? his cooler? YESANDNA If multiple coolers, s pler and answered guestions 7-14 (intial)	VESNONA VESNONA VESNONA YESNONA VESNONA Iequence # J.H. Ievel? YESNONA
 Were all container labels container labels and Did all container labels and Were VOA vials received? Was there any observable Was there a Trip Blank in the certify that I unloaded the cool On pres'd bottles, did pH to Did the bottle labels indice 	omplete (#, date, signed, pres., etc)? d tags agree with custody papers? e headspace present in any VOA vial? his cooler? YESANDNA If multiple coolers, s oler and answered questions 7-14 (intial) test strips suggest preservation reached the correct pH cate that the correct preservatives were used	VESNONA VESNONA YESNONA YESNONA YESNONA Ievel? YESNONA YESNONA
 Were all container labels container labels and Did all container labels and Were VOA vials received? Was there any observable Was there a Trip Blank in the certify that I unloaded the cool On pres'd bottles, did pH to Did the bottle labels indic Was residual chlorine presentation 	omplete (#, date, signed, pres., etc)? d tags agree with custody papers? e headspace present in any VOA vial? his cooler? YESONONA If multiple coolers, s oler and answered questions 7-14 (intial) test strips suggest preservation reached the correct pH cate that the correct preservatives were used sent?	VESNONA VESNONA YESNONA YESNONA Hequence # J.J.J. Ievel? YESNO.(NA) YESNO.(NA) YESNO.(NA)
 Were all container labels container labels and Did all container labels and Were VOA vials received? Was there any observable Was there a Trip Blank in the certify that I unloaded the cool On pres'd bottles, did pH to Did the bottle labels indic Was residual chlorine presentify that I checked for chloring 	omplete (#, date, signed, pres., etc)? d tags agree with custody papers? e headspace present in any VOA vial? his cooler? YES NONA If multiple coolers, s oler and answered questions 7-14 (intial) test strips suggest preservation reached the correct pH cate that the correct preservatives were used sent? rine and pH as per SOP and answered questions 15-16 (integrations 15-16 (integra	VESNONA VESNONA VESNONA YESNO.(NA VESNO.(NA) YESNO.(NA) YESNO.(NA) YESNO.(NA) YESNO.(NA)
 Were all container labels color. Did all container labels and Were VOA vials received? Was there any observable Was there a Trip Blank in the certify that I unloaded the cool On pres'd bottles, did pH to Did the bottle labels indice Was residual chlorine presentify that I checked for chlorine Were custody papers propertion 	omplete (#, date, signed, pres., etc)? d tags agree with custody papers? ? e headspace present in any VOA vial? his cooler? YESANDNA If multiple coolers, s oler and answered questions 7-14 (intial) test strips suggest preservation reached the correct pH cate that the correct preservatives were used sent? rine and pH as per SOP and answered questions 15-16 (i erly filled out (ink, signed, etc)?	VESNONA VESNONA VESNONA VESNO.(NA VESNO,(NA) VESNO,(NA) VESNO,(NA) VESNO,(NA) VESNO,(NA)
 Were all container labels color. Did all container labels and Were VOA vials received? Was there any observable Was there a Trip Blank in the sertify that I unloaded the cool On pres'd bottles, did pH the bottle labels indic Was residual chlorine presentify that I checked for chlories Were custody papers properties Did you sign the custody papers 	omplete (#, date, signed, pres., etc)? d tags agree with custody papers? e headspace present in any VOA vial? his cooler? YES NONA If multiple coolers, s pler and answered questions 7-14 (intial) test strips suggest preservation reached the correct pH cate that the correct preservatives were used sent? rine and pH as per SOP and answered questions 15-16 (international strips) rine and pH as per SOP and answered questions 15-16 (international strips) erly filled out (ink, signed, etc)? Papers in the appropriate place?	VESNONA VESNONA VESNONA VESNONA VESNONA VESNONA VESNONA
 Were all container labels color. Did all container labels and Were VOA vials received? Was there any observable Was there a Trip Blank in the certify that I unloaded the cool fa. On pres'd bottles, did pH to Did the bottle labels indices. Was residual chlorine presentity that I checked for chloring. Were custody papers propers. Did you sign the custody papers. 	omplete (#, date, signed, pres., etc)? d tags agree with custody papers? ? e headspace present in any VOA vial? his cooler? YES NONA If multiple coolers, s oler and answered questions 7-14 (intial) test strips suggest preservation reached the correct pH cate that the correct preservatives were used sent? rine and pH as per SOP and answered questions 15-16 (i erly filled out (ink, signed, etc)? wapers in the appropriate place? sed for the analysis requested?	VESNONA VESNONA VESNONA VESNONA VESNONA VESNONA VESNONA VESNONA VESNONA
 Were all container labels color. Did all container labels and Were VOA vials received? Was there any observable Was there a Trip Blank in the sertify that I unloaded the cool On pres'd bottles, did pH to Did the bottle labels indic Was residual chlorine presentify that I checked for chlorine Were custody papers properties. Did you sign the custody papers used. Were correct containers used. Was sufficient amount of set 	omplete (#, date, signed, pres., etc)? d tags agree with custody papers? e headspace present in any VOA vial? his cooler? YESADNA If multiple coolers, s oler and answered questions 7-14 (intial) test strips suggest preservation reached the correct pH cate that the correct preservatives were used sent? rine and pH as per SOP and answered questions 15-16 (integration of the sent	VESNONA VESNONA VESNONA VESNO.(NA VESNO,(NA) VESNO,(NA) VESNO,(NA) VESNO,(NA) VESNO,(NA) VESNO,(NA) VESNO,(NA) VESNO,NA
 Were all container labels color. Did all container labels and Were VOA vials received? Was there any observable Was there a Trip Blank in the sertify that I unloaded the cool On pres'd bottles, did pH to Did the bottle labels indic Was residual chlorine presention of the context of the conte	omplete (#, date, signed, pres., etc)? d tags agree with custody papers? e headspace present in any VOA vial? his cooler? YES NONA If multiple coolers, s pler and answered questions 7-14 (intial) test strips suggest preservation reached the correct pH cate that the correct preservatives were used sent? rine and pH as per SOP and answered questions 15-16 (intial) rine and pH as per SOP and answered questions 15-16 (intial) erly filled out (ink, signed, etc)? sapers in the appropriate place? sed for the analysis requested? sample sent in each container? ext into LIMS and answered questions 17-20 (intial)	VESNONA VESNONA VESNONA VESNONA VESNONA VESNONA VESNONA VESNONA VESNONA VESNONA

5



12/18/2014

Login Sample Receipt Checklist

Client: Small Business Group Inc.

Login Number: 68050 List Number: 1 Creator: Huskey, Adam

Question	Answer	Comment
Radioactivity wasn't checked or is = background as measured by a<br survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	N/A	
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: 490-68050-1

List Source: TestAmerica Nashville

ATTACHMENT A



NON-HAZARDOUS MANIFEST

		1. Generator's US	EPA ID No.	Ma	nifest Doc I	No.	2. Page 1	of				
NUN-HAZARDOUS MANIFEST						1						
	3. Generator's Mailing Address:	nerator's Mailing Attress: Ge			enerator's Site Address (If different than mailing):			A. Manifest Number				
	MCAS BEAUFORT						w	MNA	01519	138		
	LAUREL BAY HOUSING							B. State	e Generator's	ID		
	BEAUFORT, SC 29904											
	4. Generator's Phone 843-8	79-0411									-	
	Carolina Contar 1005	(3-3-3-1.20	× 6.	US EPA ID	Number		C State T	ronenostos's				
	P.S. GAA (195) Strain Science Strain Strain				2		D Transn	orter's Phon			7	
				. US EPA ID Number								
	in a star and a star						E. State T	ransporter's	ID and			
		· · · ·					F. Transpo	F. Transporter's Phone				
		Address	10.	US EPA I	US EPA ID Number						*	
	2621 LOW COUNTRY DRIVE							acinty ID	042.0	07 464	2	
	RIDGELAND, SC 29936						H. State F	aciiity Phone	e 645-:	287-404	3	
G	11. Description of Waste Materials		_		12. Cor	ntainers Type	13. Total Quantity	14. Unit Wt /Vol	I. N	lisc. Comme	nts	
E	a. HEATING OIL TANK FILLED V	WITH SAND	5				the later					
N F					1	30 U	17.89	In	1940			
R	WM Prof	ile # 102655SC										
A	b.					1	1.11.4					
ו 0							- 21.		·			
R	WM Profile #		· · ·							<u> </u>		
	C. History					1. A.			-			
	WM Profile #	ter i della della				Maria				1998	alle de la c	
	d							**				
				bagy.			and the state of the	÷.,				
	WM Profile #											
J. Additional Descriptions for Materials Listed Above K. Disposal Location				<u></u>								
					Grid							
15. Special Handling Instructions and Additional Information LIST'S FROM, 21420 Albatross W 612 Dahlia						•						
	1) 1194 Bobwhite '3) 487 LAURAL BAY 5) 636 DALLA											
	Purchase Order #	¥يى		EMERGENCY COM	ТАСТ / РНО	ONE NO.:						
	16. GENERATOR'S CERTIFICATE:											
	I hereby certify that the above-descril accurately described classified and pa	bed materials are no ackaged and are in r	ot hazardou: proner cond	s wastes as define ition for transpor	ed by 40 CF	R Part 261	or any applic nlicable regu	able state la lations	aw, have bee	n fully and	d	
	Printed Name		Sigi	nature "On behal	of!				Month	Day	Year	
_		Ren 2	·		<u> </u>	and the second s			13			
T R	17. Transporter 1 Acknowledgement	of Receipt of Mater	ials		F 17							
A N	Printed Name	a n 1	Sigi	nature	11-				Month	Day	Year	
P	18. Transporter 2 Acknowledgement	of Receipt of Mater	ials							·	1	
R	Printed Name		Sig	nature /	11	-1			Month	Day	Year	
E R	Million Ble			And Kan	12	-1-			12	$\langle \rangle$	11/	
	19. Certificate of Final Treatment/Dis	posal	(/)		And the second second				<u> </u>		·	
f I certify, on behalf of the above listed treatment facility, that to the best of my knowledge, the above-described waste was managed in compliance with all												
c	applicable laws, regulations, permits and licenses on the dates listed above.											
	20. Facility Owner or Operator: Certi	fication of receipt o	f non-hazaro	dous materials co	vered by th	is manifest			<u> </u>			
Ý	Printed Name		Sig	nature		and a			Month	Day	Year	
			pi.	IE- GENERATOR	D COPY	the second se	<u>KLS</u> Vol	NOW- GENER	ATOR #1 CO	<u>, i</u> 97		
	Dink_ FACILITY LICE OF		Gol		#1 COPV		16			•		
	THIS FACILITY OUE OF		000			· · ·)						

Appendix C Laboratory Analytical Report - Initial Groundwater (Appendix C is not included due to the detection of free product)



Appendix D Laboratory Analytical Report – Permanent Well Groundwater



Client: AECOM - Resolution Consultants				Laboratory ID: SL09005-002				
Description: BEALB1194MW	Matrix: Aqueous							
Date Sampled:12/07/2017 1040								
Date Received: 12/09/2017								
Run Prep Method 1 5030B	Analytical Method Dilution Ana 8260B 1 12/1	alysis Date Analyst 3/2017 1129 JJG	Prep Date	Batch 59492				
Parameter	CAS Number	Analytical Method	Result Q	LOQ	LOD	DL	Units R	lun
Benzene	71-43-2	8260B	0.80 U	1.0	0.80	0.40	ug/L	1
Ethylbenzene	100-41-4	8260B	0.80 U	1.0	0.80	0.40	ug/L	1
Naphthalene	91-20-3	8260B	0.80 U	1.0	0.80	0.40	ug/L	1
Toluene	108-88-3	8260B	0.80 U	1.0	0.80	0.40	ug/L	1
Xylenes (total)	1330-20-7	8260B	0.80 U	1.0	0.80	0.40	ug/L	1
Surrogate	Run 1 Acce Q % Recovery Li	ptance mits						
Bromofluorobenzene	98 85	5-114						
Dibromofluoromethane	100 80)-119						
1,2-Dichloroethane-d4	95 81	-118						
Toluene-d8	101 89	9-112						

U = Not detected at or above the LOQN = Recovery is out of criteriaP = The RPD between two GC columns exceeds 40%J = Estimated result < LOQ and \geq DLL = LCS/LCSD failerH = Out of holding timeW = Reported on wet weight basisLOD = Limit of DetectionS = MS/MSD failer	LOQ = Limit of Quantitation	B = Detected in the method blank	E = Quantitation of compound exceeded the calibration range	DL = Detection Limit	Q = Surrogate failure
H = Out of holding time W = Reported on wet weight basis LOD = Limit of Detection S = MS/MSD faile	U = Not detected at or above the LOQ	N = Recovery is out of criteria	P = The RPD between two GC columns exceeds 40%	J = Estimated result < LOQ and \ge DL	L = LCS/LCSD failure
	H = Out of holding time	W = Reported on wet weight basis	LOD = Limit of Detection		S = MS/MSD failure

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

Client: AECOM - Resolution Consultants

Description: BEALB1194MW01WG20171207

Date Sampled:12/07/2017 1040

Laboratory ID: SL09005-002

Matrix: Aqueous

Date Received: 12/09/2017

Run Prep Method 1 3520C	Analytical Method Dilu 8270D	ution Analys 1 12/28/2	sis Date Analyst 017 1129 CMP2	Prep Date 12/13/2017 1	Batch 528 59419			
		CAS	Analytical		1.0.0			
Parameter		Number	Method	Result Q	LOQ	LOD	DL	Units Run
Benzo(a)anthracene		56-55-3	8270D	0.10 U	0.20	0.10	0.040	ug/L 1
Benzo(b)fluoranthene		205-99-2	8270D	0.10 U	0.20	0.10	0.040	ug/L 1
Benzo(k)fluoranthene		207-08-9	8270D	0.10 U	0.20	0.10	0.040	ug/L 1
Chrysene		218-01-9	8270D	0.10 U	0.20	0.10	0.040	ug/L 1
Dibenzo(a,h)anthracene		53-70-3	8270D	0.10 U	0.20	0.10	0.040	ug/L 1
Surrogate	Run Q % Reco	1 Accepta very Limit	nce S					
Nitrobenzene-d5	61	44-12	0					
2-Fluorobiphenyl	56	6 44-11	9					
Terphenyl-d14	62	2 50-13	4					

LOQ = Limit of QuantitationB = Detected in the method blankE = Quantitation of compound exceeded the calibration rangeDL = Detection LimitQ = Surrogate failureU = Not detected at or above the LOQN = Recovery is out of criteriaP = The RPD between two GC columns exceeds 40%J = Estimated result < LOQ and \geq DLL = LCS/LCSD failureH = Out of holding timeW = Reported on wet weight basisLOD = Limit of DetectionS = MS/MSD failure

Shealy Environmental Services, Inc.

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

Appendix E Regulatory Correspondence





W. Marshall Taylor Jr., Acting Director Promoting and protecting the health of the public and the environment

April 7, 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 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,

that M. K.

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)



Catherine B. Templeton, Director

Promoting and protecting the health of the public and the environment

Attachment to: Krieg to Drawdy Subject: IGWA Dated 4/7/2015

Laurel Bay Underground Storage Tank Assessment Reports for: (18 addresses/19 tanks)

1186 Bobwhite	1417 Albatross	
1194 Cardinal	1420 Dove	
1354 Cardinal	1421 Albatross Tank 1	P. C.
1362 Cardinal	1421 Albatross Tank 2	
1364 Cardinal Tank 1	1427 Albatross	
1403 Eagle	1429 Albatross	
1404 Eagle	1444 Dove Tank 1	
1405 Eagle	1453 Cardinal	
1408 Eagle	1455 Cardinal	
1410 Eagle		



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,

LICA

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 Acorn Drive	1364 Cardinal Lane
392 Acorn Drive	1368 Cardinal Lane
396 Acorn 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 Dahlia Drive	1455 Cardinal Lane
763 Althea Street	
	20

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



June 18, 2018

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

RE: Approved

Draft Groundwater Assessment Report November and December 2017 Laurel Bay Military Housing Area

Dear Mr. Drawdy:

The South Carolina Department of Health and Environmental Control (DHEC) received the above referenced report on April 4, 2018. 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).

DHEC has reviewed the report and based on this review, DHEC has not generated any comments. DHEC agrees with the recommendations in the report including the NFA recommendations shown on the list on the attached page. Please note that DHEC'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, DHEC 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,

Lal Pat

Laurel Petrus Department of Defense Corrective Action Section

Cc: EQC Region 8 Shawn Dolan, Resolution Consultants Bryan Beck, NAVFAC MIDLANT

Attachment

Approval Draft Final Groundwater Assessment Report November and December 2017 Laurel Bay Military Housing Area

The addresses approved for NFA are:

- 1186 Bobwhite Drive
- 1192 Bobwhite Drive
- 1194 Bobwhite Drive
- 1352 Cardinal Lane
- 1356 Cardinal Lane
- 1382 Dove Lane
- 1384 Dove Lane
- 1411 Eagle Lane
- 1418 Albatross Drive
- 1426 Albatross Drive
- 1434 Dove Lane
- 1436 Dove Lane
- 1440 Dove Lane
- 1442 Dove Lane
- 1444 Dove Lane

June 18, 2018