SUMMARY REPORT
283 WEST CARDINAL LANE (FORMERLY 1346 WEST CARDINAL LANE)
LAUREL BAY MILITARY HOUSING AREA
MARINE CORPS AIR STATION BEAUFORT
BEAUFORT, SC

Revision: 0
Prepared for:

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

and

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

JUNE 2021

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Prepared by:

CDM - AECOM
Multimedia Joint Venture

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

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

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Appendices

List of Acronyms

bgs	below ground surface
BTEX	benzene, toluene, ethylbenzene, and xylenes
CTO	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 283 West Cardinal Lane (Formerly 1346 West Cardinal Lane). This NFA determination indicates that there are no unacceptable risks to human health or the environment for the petroleum constituents associated with the home heating oil USTs. The following information is included in this report:

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

1.1 Background Information

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

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

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

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

1.2 UST Removal and Assessment Process

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

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

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

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

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

2.0 SAMPLING ACTIVITIES AND RESULTS

The following section presents the sampling activities and associated results for 283 West Cardinal Lane (Formerly 1346 West Cardinal Lane). Details regarding the soil investigation at this site are provided in the *SCDHEC UST Assessment Report – 1346 Cardinal Lane* (MCAS Beaufort, 2015). The UST Assessment Report is provided in Appendix B. Details regarding the IGWA sampling activities at this site are provided in the *Initial Groundwater Investigation Report – February and March 2017* (Resolution Consultants, 2017). The laboratory report that includes the pertinent IGWA analytical results for this site is presented in Appendix C.

2.1 UST Removal and Soil Sampling

On July 13, 2015, a single 280 gallon heating oil UST was removed from underneath the edge of the front concrete porch and the front landscaped bed area at 283 West Cardinal Lane (Formerly 1346 West Cardinal Lane). The former UST location is indicated on Figures 1 and 2 of the UST Assessment Report (Appendix B). The UST was removed, cleaned, and shipped

offsite for recycling. There was no visual evidence (i.e., staining or sheen) of petroleum impact at the time of the UST removal. According to the UST Assessment Report (Appendix B), the depth to the base of the UST was 6'0 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 283 West Cardinal Lane (Formerly 1346 West Cardinal Lane) were greater than the SCDHEC RBSLs, which indicated further investigation was required. In a letter dated August 1, 2016, SCDHEC requested an IGWA for 283 West Cardinal Lane (Formerly 1346 West Cardinal Lane) to determine if the groundwater was impacted by petroleum COPCs. SCDHEC's request letter is provided in Appendix D.

2.3 Groundwater Sampling

On March 9, 2017, a temporary monitoring well was installed at 283 West Cardinal Lane (Formerly 1346 West Cardinal Lane), in accordance with the South Carolina Well Standards and Regulations (R.61-71.H-I, updated June 24, 2016). In order to provide data that can be used to determine whether COPCs are migrating to underlying groundwater, the monitoring well was placed in the same general location as the former heating oil UST. The former UST location is indicated on Figures 1 and 2 of the UST Assessment Report (Appendix B). Further

details are provided in the *Initial Groundwater Investigation Report – February and March 2017* (Resolution Consultants, 2017).

The sampling strategy for this phase of the investigation required a one-time sampling event of the temporarily installed monitoring well. Following well installation and development, groundwater samples were collected using low-flow methods and shipped to an offsite laboratory for analysis of the petroleum COPCs. Upon completion of groundwater sampling, the temporary well was abandoned in accordance with the South Carolina Well Standards and Regulations R.61-71 (SCDHEC, 2016). Field forms are provided in the *Initial Groundwater Investigation Report – February and March 2017* (Resolution Consultants, 2017).

2.4 Groundwater Analytical Results

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

The groundwater results collected from 283 West Cardinal Lane (Formerly 1346 West Cardinal Lane) were less than the SCDHEC RBSLs and the site specific groundwater VISLs (Table 2), which indicated that the groundwater was not impacted by COPCs associated with the former UST at concentrations that present a potential risk to human health and the environment.

3.0 PROPERTY STATUS

Based on the analytical results for groundwater, SCDHEC made the determination that NFA was required for 283 West Cardinal Lane (Formerly 1346 West Cardinal Lane). This NFA determination was obtained in a letter dated July 27, 2017. SCDHEC's NFA letter is provided in Appendix D.

4.0 REFERENCES

Marine Corps Air Station Beaufort, 2015. *South Carolina Department of Health and Environmental Control (SCDHEC) Underground Storage Tank Assessment Report – 1346 Cardinal Lane, Laurel Bay Military Housing Area*, November 2015.

Resolution Consultants, 2017. *Initial Groundwater Investigation Report – February and March 2017 for Laurel Bay Military Housing Area, Multiple Properties, Laurel Bay Military Housing Area, Marine Corps Air Station Beaufort, Beaufort, South Carolina*, June 2017.

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
283 West Cardinal Lane (Formerly 1346 West Cardinal Lane)
Laurel Bay Military Housing Area
Marine Corps Air Station Beaufort
Beaufort, South Carolina

Constituent	SCDHEC RBSLs [1]	Results Sample Collected 07/13/15
Volatile Organic Compounds Analyzed 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 Analyzed by EPA Method 8270D (mg/kg)		
Benzo(a)anthracene	0.66	**1.35**
Benzo(b)fluoranthene	0.66	**0.944**
Benzo(k)fluoranthene	0.66	**0.427**
Chrysene	0.66	**1.28**
Dibenz(a,h)anthracene	0.66	ND

Notes:

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

Bold font indicates the analyte was detected.

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

EPA - United States Environmental Protection Agency

mg/kg - milligrams per kilogram

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

RBSL - Risk-Based Screening Level

SCDHEC - South Carolina Department Of Health and Environmental Control

Table 2
Laboratory Analytical Results - Groundwater
283 West Cardinal Lane (Formerly 1346 West Cardinal Lane)
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 03/09/17
Volatile Organic Compounds Analyzed by EPA Method 8260B (µg/L)			
Benzene	5	16.24	ND
Ethylbenzene	700	45.95	ND
Naphthalene	25	29.33	ND
Toluene	1000	105,445	ND
Xylenes, Total	10,000	2,133	ND
Semivolatile Organic Compounds Analyzed by EPA Method 8270D (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 C.

RBSL - Risk-Based Screening Level

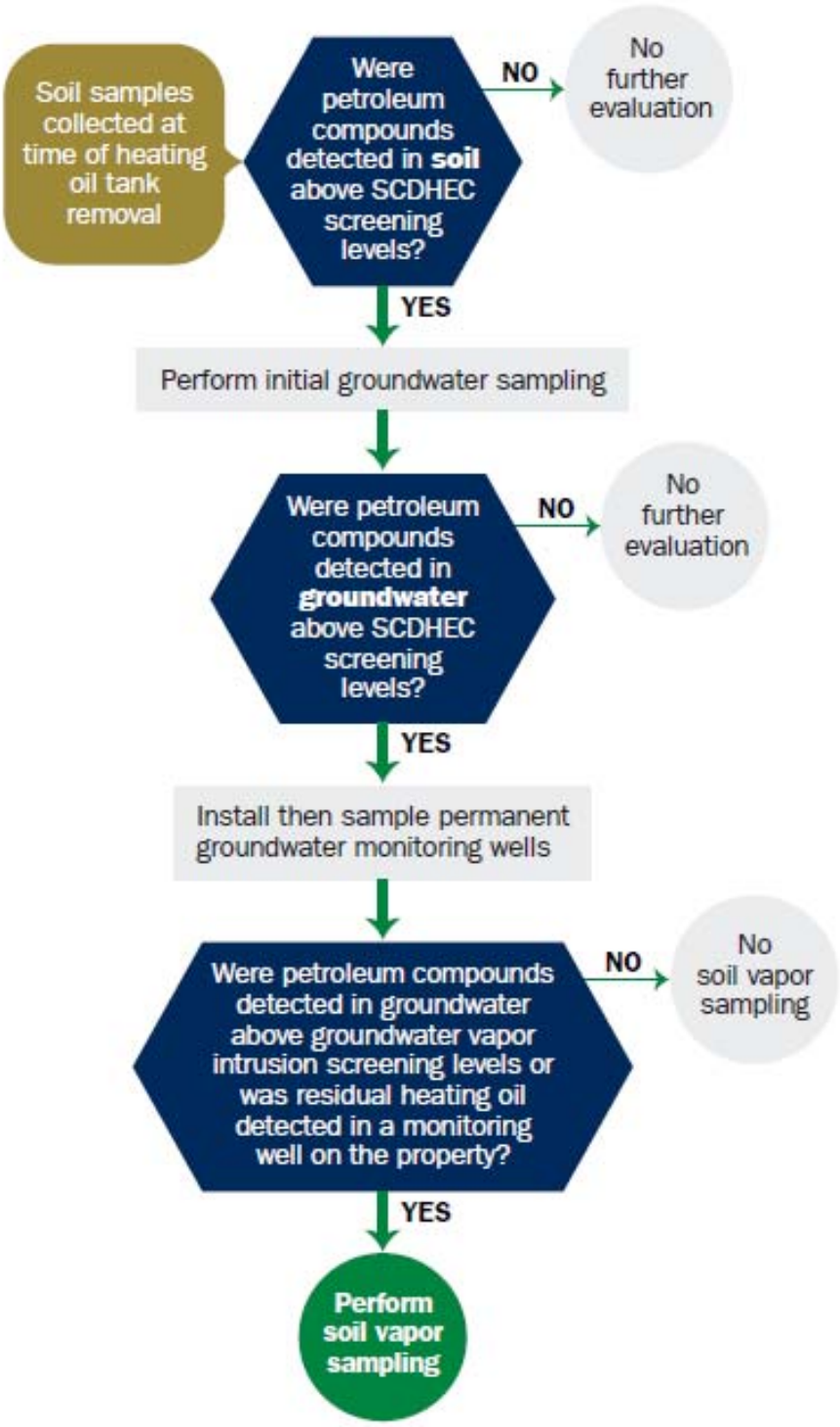
SCDHEC - South Carolina Department Of Health and Environmental Control

µg/L - micrograms per liter

VISL - Vapor Intrusion Screening Level

Appendix A
Multi-Media Selection Process for LBMH

CDM - AECOM
Multimedia Joint Venture



Appendix A - Multi-Media Selection Process for LBMH

Appendix B
UST Assessment Report

CDM - AECOM
Multimedia Joint Venture

South Carolina Department of Health and Environmental Control (SCDHEC)

Underground Storage Tank (UST) Assessment Report

Date Received State Use Only

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

I. OWNERSHIP OF UST (S)

MCAS Beaufort, Commanding Officer Attn: NREAO (Craig Ehde)
Owner Name (Corporation, Individual, Public Agency, Other)

P.O. Box 55001
Mailing Address

Beaufort,	South Carolina	29904-5001
City	State	Zip Code

843	228-7317	Craig Ehde
Area Code	Telephone Number	Contact Person

II. SITE IDENTIFICATION AND LOCATION

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

1346 Cardinal Lane, Laurel Bay Military Housing Area
Street Address or State Road (as applicable)

Beaufort,	Beaufort
City	County

III. INSURANCE INFORMATION

Insurance Statement

The petroleum release reported to DHEC on _____ at Permit ID Number _____ may qualify to receive state monies to pay for appropriate site rehabilitation activities. Before participation is allowed in the State Clean-up fund, written confirmation of the existence or non-existence of an environmental insurance policy is required. **This section must be completed.**

Is there now, or has there ever been an insurance policy or other financial mechanism that covers this UST release? **YES**____ **NO**_____ (check one)

If you answered **YES** to the above question, please complete the following information:

My policy provider is:_____
The policy deductible is: _____
The policy limit is: _____

If you have this type of insurance, please include a copy of the policy with this report.

IV. REQUEST FOR SUPERB FUNDING

I **DO** / DO **NOT** wish to participate in the SUPERB Program. (Circle one.)

V. CERTIFICATION (To be signed by the UST owner)

I certify that I have personally examined and am familiar with the information submitted in this and all attached documents; and that based on my inquiry of those individuals responsible for obtaining this information, I believe that the submitted information is true, accurate, and complete.

_____
Name (Type or print.)

_____
Signature

To be completed by Notary Public:

Sworn before me this _____ day of_____, 20____

_____
(Name)

Notary Public for the state of_____.
Please affix State seal if you are commissioned outside South Carolina

VI. UST INFORMATION

A.	Product...(ex. Gas, Kerosene).....	1346 Cardinal	
B.	Capacity..(ex. 1k, 2k).....	Heating oil	
C.	Age.....	280 gal	
D.	Construction Material..(ex. Steel, FRP).....	Late 1950s	
E.	Month/Year of Last Use.....	Steel	
F.	Depth (ft.) To Base of Tank.....	Mid 80s	
G.	Spill Prevention Equipment Y/N.....	6'	
H.	Overfill Prevention Equipment Y/N.....	No	
I.	Method of Closure Removed/Filled.....	No	
J.	Date Tanks Removed/Filled.....	Removed	
K.	Visible Corrosion or Pitting Y/N.....	7/13/2015	
L.	Visible Holes Y/N.....	Yes	
		Yes	

M. Method of disposal for any USTs removed from the ground (attach disposal manifests)
UST 1346Cardinal 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 1346Cardinal 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

A.	Construction Material..(ex. Steel, FRP).....	1346 Cardinal	
B.	Distance from UST to Dispenser.....	Steel & Copper	
C.	Number of Dispensers.....	N/A	
D.	Type of System Pressure or Suction.....	N/A	
E.	Was Piping Removed from the Ground? Y/N	Suction	
F.	Visible Corrosion or Pitting Y/N.....	No	
G.	Visible Holes Y/N.....	Yes	
H.	Age.....	No	
		Late 1950s	

I. If any corrosion, pitting, or holes were observed, describe the location and extent for each piping run.

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

VIII. BRIEF SITE DESCRIPTION AND HISTORY

The USTs at the residences are constructed of single wall steel and formerly contained fuel oil for heating. These USTs were installed in the late 1950s and last used in the mid 1980s.

IX. SITE CONDITIONS

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

X. SAMPLE INFORMATION

A. SCDHEC Lab Certification Number 84009

B.

Sample #	Location	Sample Type (Soil/Water)	Soil Type (Sand/Clay)	Depth*	Date/Time of Collection	Collected by	OVA #
1346 Cardinal	Excav at fill end	Soil	Sandy	6'	7/13/15 1445 hrs	P. Shaw	
8							
9							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							

* = Depth Below the Surrounding Land Surface

XI. SAMPLING METHODOLOGY

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

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

XII. RECEPTORS

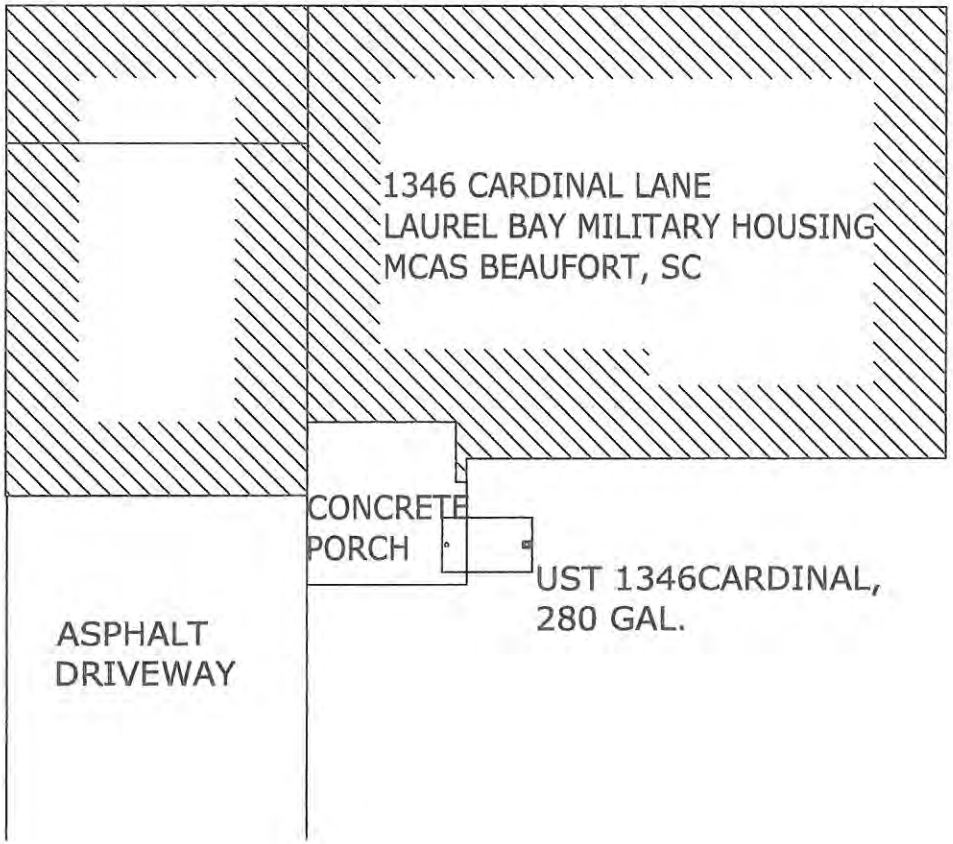
	Yes	No
A. Are there any lakes, ponds, streams, or wetlands located within 1000 feet of the UST system? *Stormwater drainage canal If yes, indicate type of receptor, distance, and direction on site map.	*X	
B. Are there any public, private, or irrigation water supply wells within 1000 feet of the UST system? If yes, indicate type of well, distance, and direction on site map.		X
C. Are there any underground structures (e.g., basements) Located within 100 feet of the UST system? If yes, indicate type of structure, distance, and direction on site map.		X
D. Are there any underground utilities (e.g., telephone, electricity, gas, water, sewer, storm drain) located within 100 feet of the UST system that could potentially come in contact with the contamination? *Sewer, water, electricity cable, fiber optic & geothermal If yes, indicate the type of utility, distance, and direction on the site map.	*X	
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? If yes, indicate the area of contaminated soil on the site map.		X

XIII. SITE MAP

You must supply a scaled 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)

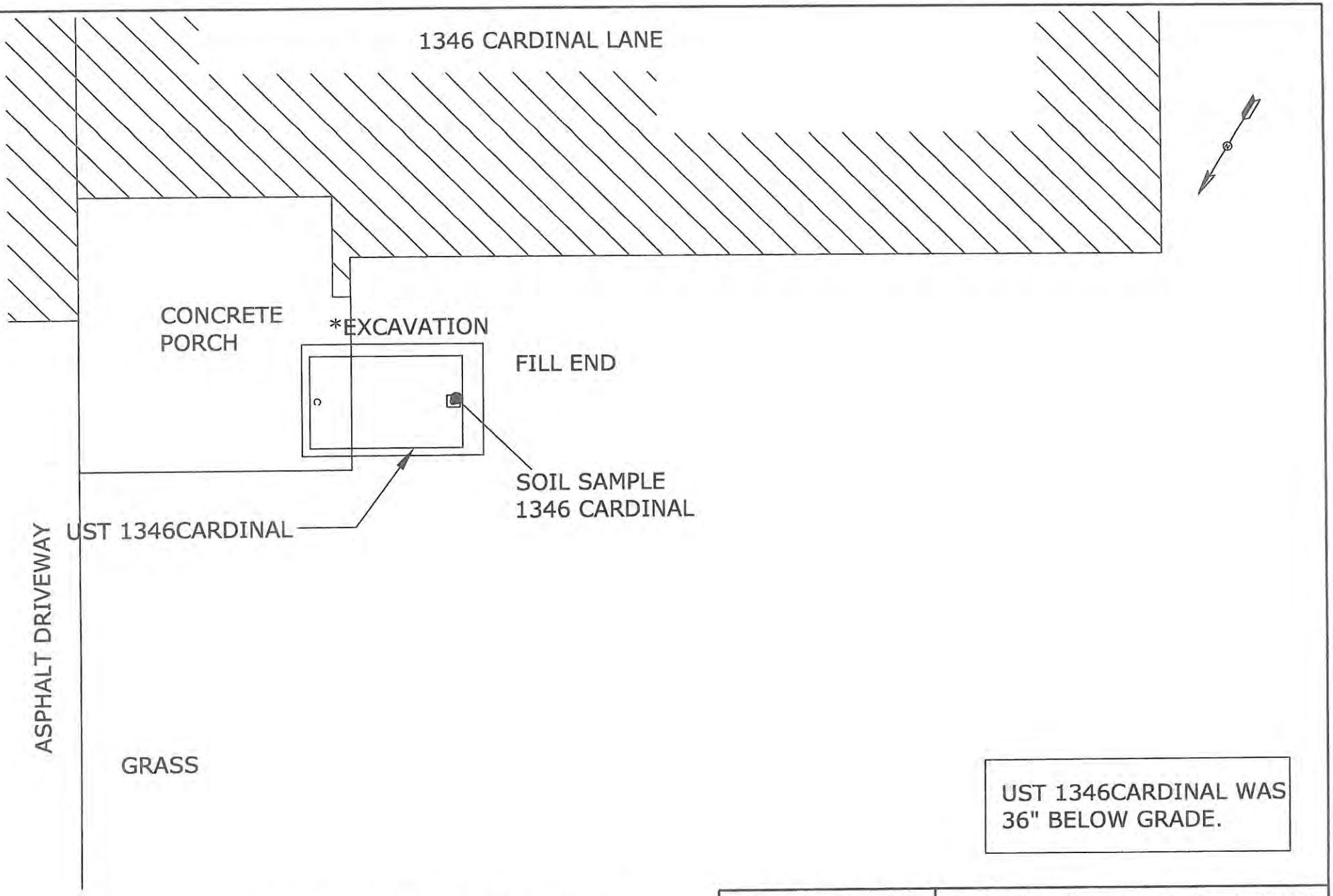
STORMWATER
CANAL ≈ 230'



GRAPHIC SCALE

0 5' 10' 20'

SBG-EEG 10179 HWY 78 LADSON, SC 29456	FIGURE 1 SITE MAP 1346 CARDINAL LANE, LAUREL BAY MCAS BEAUFORT SC	
	SCALE: GRAPHIC	DWG DATE AUG 2015



SBG-EEG

10179 HWY 78
LADSON, SC
29456

FIGURE 2 UST SAMPLE LOCATIONS
1346 CARDINAL LANE, LAUREL BAY
MCAS BEAUFORT SC

SCALE: GRAPHIC | DWG DATE AUG 2015

Picture 1: Location of UST 1346Cardinal.

Picture 2: UST 1346Cardinal.

Picture 3: Tank excavation.

Picture 4: Site after completion of tank removal.

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	1346Cardinal					
Benzene	ND					
Toluene	ND					
Ethylbenzene	ND					
Xylenes	ND					
Naphthalene	ND					
Benzo (a) anthracene	1.35 mg/kg					
Benzo (b) fluoranthene	0.944 mg/kg					
Benzo (k) fluoranthene	0.427 mg/kg					
Chrysene	1.28 mg/kg					
Dibenz (a, h) anthracene	ND					
TPH (EPA 3550)						

CoC								
Benzene								
Toluene								
Ethylbenzene								
Xylenes								
Naphthalene								
Benzo (a) anthracene								
Benzo (b) fluoranthene								
Benzo (k) fluoranthene								
Chrysene								
Dibenz (a, h) anthracene								
TPH (EPA 3550)								

SUMMARY OF ANALYSIS RESULTS (cont'd)

Enter the ground water analytical data for each sample for all CoC in the table below. If free product is present, indicate the measured thickness to the nearest 0.01 feet.

CoC	RBSL (µg/l)	W-1	W-2	W -3	W -4
Free Product Thickness	None				
Benzene	5				
Toluene	1,000				
Ethylbenzene	700				
Xylenes	10,000				
Total BTEX	N/A				
MTBE	40				
Naphthalene	25				
Benzo (a) anthracene	10				
Benzo (b) flouranthene	10				
Benzo (k) flouranthene	10				
Chrysene	10				
Dibenz (a, h) anthracene	10				
EDB	.05				
1,2-DCA	5				
Lead	Site specific				

XV. ANALYTICAL RESULTS

You must submit the laboratory report and chain-of-custody form for the samples. These samples must be analyzed by a South Carolina certified laboratory.

(Attach Certified Analytical Results and Chain-of-Custody Here)
(Please see Form #4)

TestAmerica

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: 490-83204-1
Client Project/Site: Laurel Bay Housing Project

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

Attn: Tom McElwee

Authorized for release by:
7/29/2015 1:28:36 PM

Ken Hayes, Project Manager II
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Sample Summary

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

TestAmerica Job ID: 490-83204-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
490-83204-1	1346 Cardinal	Solid	07/13/15 14:45	07/18/15 09:00
490-83204-2	158 Cypress	Solid	07/14/15 14:15	07/18/15 09:00
490-83204-3	1020 Foxglove	Solid	07/16/15 11:45	07/18/15 09:00

Job ID: 490-83204-1

Laboratory: TestAmerica Nashville

Narrative

Job Narrative
490-83204-1

Comments
No additional comments.

Receipt
The samples were received on 7/18/2015 9:00 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 1.6° 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 analytical batch 490-267949.

Method(s) 8260B: Surrogate recovery for the following sample was outside control limits: 158 Cypress (490-83204-2). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

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

GC/MS Semi VOA
No analytical or quality issues were noted, other than those described 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.

Qualifiers

GC/MS VOA

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

GC/MS Semi VOA

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

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	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 Results

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

TestAmerica Job ID: 490-83204-1

Client Sample ID: 1346 Cardinal

Date Collected: 07/13/15 14:45
Date Received: 07/18/15 09:00

Lab Sample ID: 490-83204-1
Matrix: Solid

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	89		0.10	0.10	%			07/21/15 12:32	1

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Client Sample ID: 1346 Cardinal

Date Collected: 07/13/15 14:45
Date Received: 07/18/15 09:00

Lab Sample ID: 490-83204-1

Matrix: Solid
Percent Solids: 89.4

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.00214	0.000716	mg/Kg		07/13/15 14:45	07/25/15 15:19	1
Ethylbenzene	ND		0.00214	0.000716	mg/Kg		07/13/15 14:45	07/25/15 15:19	1
Naphthalene	ND		0.00535	0.00182	mg/Kg		07/13/15 14:45	07/25/15 15:19	1
Toluene	ND		0.00214	0.000791	mg/Kg		07/13/15 14:45	07/25/15 15:19	1
Xylenes, Total	ND		0.00535	0.00132	mg/Kg		07/13/15 14:45	07/25/15 15:19	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*96*		*70 - 130*	*07/13/15 14:45*	*07/25/15 15:19*	*1*
4-Bromofluorobenzene (Surr)	*96*		*70 - 130*	*07/13/15 14:45*	*07/25/15 15:19*	*1*
Dibromofluoromethane (Surr)	*99*		*70 - 130*	*07/13/15 14:45*	*07/25/15 15:19*	*1*
Toluene-d8 (Surr)	*108*		*70 - 130*	*07/13/15 14:45*	*07/25/15 15:19*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.0746	0.0111	mg/Kg		07/21/15 10:32	07/22/15 20:10	1
Acenaphthylene	ND		0.0746	0.0100	mg/Kg		07/21/15 10:32	07/22/15 20:10	1
Anthracene	0.227		0.0746	0.0100	mg/Kg		07/21/15 10:32	07/22/15 20:10	1
Benzo[a]anthracene	1.35		0.0746	0.0167	mg/Kg		07/21/15 10:32	07/22/15 20:10	1
Benzo[a]pyrene	0.467		0.0746	0.0134	mg/Kg		07/21/15 10:32	07/22/15 20:10	1
Benzo[b]fluoranthene	0.944		0.0746	0.0134	mg/Kg		07/21/15 10:32	07/22/15 20:10	1
Benzo[g,h,i]perylene	0.148		0.0746	0.0100	mg/Kg		07/21/15 10:32	07/22/15 20:10	1
Benzo[k]fluoranthene	0.427		0.0746	0.0156	mg/Kg		07/21/15 10:32	07/22/15 20:10	1
1-Methylnaphthalene	ND		0.0746	0.0156	mg/Kg		07/21/15 10:32	07/22/15 20:10	1
Pyrene	2.40		0.0746	0.0134	mg/Kg		07/21/15 10:32	07/22/15 20:10	1
Phenanthrene	1.04		0.0746	0.0100	mg/Kg		07/21/15 10:32	07/22/15 20:10	1
Chrysene	1.28		0.0746	0.0100	mg/Kg		07/21/15 10:32	07/22/15 20:10	1
Dibenz(a,h)anthracene	ND		0.0746	0.00780	mg/Kg		07/21/15 10:32	07/22/15 20:10	1
Fluoranthene	3.51		0.0746	0.0100	mg/Kg		07/21/15 10:32	07/22/15 20:10	1
Fluorene	ND		0.0746	0.0134	mg/Kg		07/21/15 10:32	07/22/15 20:10	1
Indeno[1,2,3-cd]pyrene	0.161		0.0746	0.0111	mg/Kg		07/21/15 10:32	07/22/15 20:10	1
Naphthalene	ND		0.0746	0.0100	mg/Kg		07/21/15 10:32	07/22/15 20:10	1
2-Methylnaphthalene	ND		0.0746	0.0178	mg/Kg		07/21/15 10:32	07/22/15 20:10	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl (Surr)	*80*		*29 - 120*	*07/21/15 10:32*	*07/22/15 20:10*	*1*
Terphenyl-d14 (Surr)	*84*		*13 - 120*	*07/21/15 10:32*	*07/22/15 20:10*	*1*
Nitrobenzene-d5 (Surr)	*76*		*27 - 120*	*07/21/15 10:32*	*07/22/15 20:10*	*1*

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

TestAmerica Job ID: 490-83204-1

Client Sample ID: 158 Cypress

Date Collected: 07/14/15 14:15
Date Received: 07/18/15 09:00

Lab Sample ID: 490-83204-2

Matrix: Solid

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	79		0.10	0.10	%			07/21/15 12:32	1

Client Sample ID: 158 Cypress

Date Collected: 07/14/15 14:15
Date Received: 07/18/15 09:00

Lab Sample ID: 490-83204-2

Matrix: Solid
Percent Solids: 78.5

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.00196	0.000656	mg/Kg	☼	07/14/15 14:15	07/25/15 15:49	1
Ethylbenzene	0.0143		0.00196	0.000656	mg/Kg	☼	07/14/15 14:15	07/25/15 15:49	1
Naphthalene	0.0243		0.00490	0.00167	mg/Kg	☼	07/14/15 14:15	07/25/15 15:49	1
Toluene	0.00180	J	0.00196	0.000725	mg/Kg	☼	07/14/15 14:15	07/25/15 15:49	1
Xylenes, Total	0.0235		0.00490	0.00121	mg/Kg	☼	07/14/15 14:15	07/25/15 15:49	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*105*		*70 - 130*	*07/14/15 14:15*	*07/25/15 15:49*	*1*
4-Bromofluorobenzene (Surr)	*291*	*X*	*70 - 130*	*07/14/15 14:15*	*07/25/15 15:49*	*1*
Dibromofluoromethane (Surr)	*108*		*70 - 130*	*07/14/15 14:15*	*07/25/15 15:49*	*1*
Toluene-d8 (Surr)	*146*	*X*	*70 - 130*	*07/14/15 14:15*	*07/25/15 15:49*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.0835	0.0125	mg/Kg	☼	07/21/15 10:32	07/22/15 20:33	1
Acenaphthylene	ND		0.0835	0.0112	mg/Kg	☼	07/21/15 10:32	07/22/15 20:33	1
Anthracene	0.293		0.0835	0.0112	mg/Kg	☼	07/21/15 10:32	07/22/15 20:33	1
Benzo[a]anthracene	ND		0.0835	0.0187	mg/Kg	☼	07/21/15 10:32	07/22/15 20:33	1
Benzo[a]pyrene	ND		0.0835	0.0150	mg/Kg	☼	07/21/15 10:32	07/22/15 20:33	1
Benzo[b]fluoranthene	ND		0.0835	0.0150	mg/Kg	☼	07/21/15 10:32	07/22/15 20:33	1
Benzo[g,h,i]perylene	ND		0.0835	0.0112	mg/Kg	☼	07/21/15 10:32	07/22/15 20:33	1
Benzo[k]fluoranthene	ND		0.0835	0.0174	mg/Kg	☼	07/21/15 10:32	07/22/15 20:33	1
1-Methylnaphthalene	0.439		0.0835	0.0174	mg/Kg	☼	07/21/15 10:32	07/22/15 20:33	1
Pyrene	0.182		0.0835	0.0150	mg/Kg	☼	07/21/15 10:32	07/22/15 20:33	1
Phenanthrene	1.47		0.0835	0.0112	mg/Kg	☼	07/21/15 10:32	07/22/15 20:33	1
Chrysene	ND		0.0835	0.0112	mg/Kg	☼	07/21/15 10:32	07/22/15 20:33	1
Dibenz(a,h)anthracene	ND		0.0835	0.00872	mg/Kg	☼	07/21/15 10:32	07/22/15 20:33	1
Fluoranthene	0.101		0.0835	0.0112	mg/Kg	☼	07/21/15 10:32	07/22/15 20:33	1
Fluorene	0.372		0.0835	0.0150	mg/Kg	☼	07/21/15 10:32	07/22/15 20:33	1
Indeno[1,2,3-cd]pyrene	ND		0.0835	0.0125	mg/Kg	☼	07/21/15 10:32	07/22/15 20:33	1
Naphthalene	ND		0.0835	0.0112	mg/Kg	☼	07/21/15 10:32	07/22/15 20:33	1
2-Methylnaphthalene	0.600		0.0835	0.0199	mg/Kg	☼	07/21/15 10:32	07/22/15 20:33	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl (Surr)	*80*		*29 - 120*	*07/21/15 10:32*	*07/22/15 20:33*	*1*
Terphenyl-d14 (Surr)	*98*		*13 - 120*	*07/21/15 10:32*	*07/22/15 20:33*	*1*
Nitrobenzene-d5 (Surr)	*84*		*27 - 120*	*07/21/15 10:32*	*07/22/15 20:33*	*1*

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

TestAmerica Job ID: 490-83204-1

Client Sample ID: 1020 Foxglove

Date Collected: 07/16/15 11:45
Date Received: 07/18/15 09:00

Lab Sample ID: 490-83204-3

Matrix: Solid

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	92		0.10	0.10	%			07/21/15 12:32	1

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

TestAmerica Job ID: 490-83204-1

Client Sample ID: 1020 Foxglove

Date Collected: 07/16/15 11:45
Date Received: 07/18/15 09:00

Lab Sample ID: 490-83204-3

Matrix: Solid
Percent Solids: 92.2

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.00223	0.000746	mg/Kg	☼	07/16/15 11:45	07/25/15 16:33	1
Ethylbenzene	ND		0.00223	0.000746	mg/Kg	☼	07/16/15 11:45	07/25/15 16:33	1
Naphthalene	ND		0.00557	0.00189	mg/Kg	☼	07/16/15 11:45	07/25/15 16:33	1
Toluene	ND		0.00223	0.000824	mg/Kg	☼	07/16/15 11:45	07/25/15 16:33	1
Xylenes, Total	ND		0.00557	0.00137	mg/Kg	☼	07/16/15 11:45	07/25/15 16:33	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*91*		*70 - 130*	*07/16/15 11:45*	*07/25/15 16:33*	*1*
4-Bromofluorobenzene (Surr)	*89*		*70 - 130*	*07/16/15 11:45*	*07/25/15 16:33*	*1*
Dibromofluoromethane (Surr)	*91*		*70 - 130*	*07/16/15 11:45*	*07/25/15 16:33*	*1*
Toluene-d8 (Surr)	*118*		*70 - 130*	*07/16/15 11:45*	*07/25/15 16:33*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.0706	0.0105	mg/Kg	☼	07/21/15 10:32	07/22/15 20:57	1
Acenaphthylene	ND		0.0706	0.00948	mg/Kg	☼	07/21/15 10:32	07/22/15 20:57	1
Anthracene	ND		0.0706	0.00948	mg/Kg	☼	07/21/15 10:32	07/22/15 20:57	1
Benzo[a]anthracene	0.0340	J	0.0706	0.0158	mg/Kg	☼	07/21/15 10:32	07/22/15 20:57	1
Benzo[a]pyrene	0.0142	J	0.0706	0.0126	mg/Kg	☼	07/21/15 10:32	07/22/15 20:57	1
Benzo[b]fluoranthene	0.0383	J	0.0706	0.0126	mg/Kg	☼	07/21/15 10:32	07/22/15 20:57	1
Benzo[g,h,i]perylene	ND		0.0706	0.00948	mg/Kg	☼	07/21/15 10:32	07/22/15 20:57	1
Benzo[k]fluoranthene	ND		0.0706	0.0148	mg/Kg	☼	07/21/15 10:32	07/22/15 20:57	1
1-Methylnaphthalene	ND		0.0706	0.0148	mg/Kg	☼	07/21/15 10:32	07/22/15 20:57	1
Pyrene	0.0615	J	0.0706	0.0126	mg/Kg	☼	07/21/15 10:32	07/22/15 20:57	1
Phenanthrene	ND		0.0706	0.00948	mg/Kg	☼	07/21/15 10:32	07/22/15 20:57	1
Chrysene	0.0357	J	0.0706	0.00948	mg/Kg	☼	07/21/15 10:32	07/22/15 20:57	1
Dibenz(a,h)anthracene	ND		0.0706	0.00738	mg/Kg	☼	07/21/15 10:32	07/22/15 20:57	1
Fluoranthene	0.0425	J	0.0706	0.00948	mg/Kg	☼	07/21/15 10:32	07/22/15 20:57	1
Fluorene	ND		0.0706	0.0126	mg/Kg	☼	07/21/15 10:32	07/22/15 20:57	1
Indeno[1,2,3-cd]pyrene	ND		0.0706	0.0105	mg/Kg	☼	07/21/15 10:32	07/22/15 20:57	1
Naphthalene	ND		0.0706	0.00948	mg/Kg	☼	07/21/15 10:32	07/22/15 20:57	1
2-Methylnaphthalene	ND		0.0706	0.0169	mg/Kg	☼	07/21/15 10:32	07/22/15 20:57	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl (Surr)	*81*		*29 - 120*	*07/21/15 10:32*	*07/22/15 20:57*	*1*
Terphenyl-d14 (Surr)	*88*		*13 - 120*	*07/21/15 10:32*	*07/22/15 20:57*	*1*
Nitrobenzene-d5 (Surr)	*84*		*27 - 120*	*07/21/15 10:32*	*07/22/15 20:57*	*1*

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

Lab Sample ID: MB 490-267949/7
Matrix: Solid
Analysis Batch: 267949

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.00200	0.000670	mg/Kg			07/25/15 14:44	1
Ethylbenzene	ND		0.00200	0.000670	mg/Kg			07/25/15 14:44	1
Naphthalene	ND		0.00500	0.00170	mg/Kg			07/25/15 14:44	1
Toluene	ND		0.00200	0.000740	mg/Kg			07/25/15 14:44	1
Xylenes, Total	ND		0.00500	0.00123	mg/Kg			07/25/15 14:44	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*95*		*70 - 130*		*07/25/15 14:44*	*1*
4-Bromofluorobenzene (Surr)	*92*		*70 - 130*		*07/25/15 14:44*	*1*
Dibromofluoromethane (Surr)	*99*		*70 - 130*		*07/25/15 14:44*	*1*
Toluene-d8 (Surr)	*106*		*70 - 130*		*07/25/15 14:44*	*1*

Lab Sample ID: LCS 490-267949/3
Matrix: Solid
Analysis Batch: 267949

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	0.0500	0.04565		mg/Kg		91	75 - 127
Ethylbenzene	0.0500	0.05000		mg/Kg		100	80 - 134
Naphthalene	0.0500	0.04852		mg/Kg		97	69 - 150
Toluene	0.0500	0.04952		mg/Kg		99	80 - 132
Xylenes, Total	0.100	0.09817		mg/Kg		98	80 - 137

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*96*		*70 - 130*
4-Bromofluorobenzene (Surr)	*92*		*70 - 130*
Dibromofluoromethane (Surr)	*101*		*70 - 130*
Toluene-d8 (Surr)	*106*		*70 - 130*

Lab Sample ID: LCSD 490-267949/4
Matrix: Solid
Analysis Batch: 267949

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

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	0.0500	0.04558		mg/Kg		91	75 - 127	0	50
Ethylbenzene	0.0500	0.05054		mg/Kg		101	80 - 134	1	50
Naphthalene	0.0500	0.05016		mg/Kg		100	69 - 150	3	50
Toluene	0.0500	0.04963		mg/Kg		99	80 - 132	0	50
Xylenes, Total	0.100	0.09787		mg/Kg		98	80 - 137	0	50

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*92*		*70 - 130*
4-Bromofluorobenzene (Surr)	*93*		*70 - 130*
Dibromofluoromethane (Surr)	*102*		*70 - 130*
Toluene-d8 (Surr)	*106*		*70 - 130*

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

Lab Sample ID: MB 490-266619/1-A
Matrix: Solid
Analysis Batch: 267018

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 266619

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.0670	0.0100	mg/Kg		07/21/15 10:32	07/22/15 15:48	1
Acenaphthylene	ND		0.0670	0.00900	mg/Kg		07/21/15 10:32	07/22/15 15:48	1
Anthracene	ND		0.0670	0.00900	mg/Kg		07/21/15 10:32	07/22/15 15:48	1
Benzo[a]anthracene	ND		0.0670	0.0150	mg/Kg		07/21/15 10:32	07/22/15 15:48	1
Benzo[a]pyrene	ND		0.0670	0.0120	mg/Kg		07/21/15 10:32	07/22/15 15:48	1
Benzo[b]fluoranthene	ND		0.0670	0.0120	mg/Kg		07/21/15 10:32	07/22/15 15:48	1
Benzo[g,h,i]perylene	ND		0.0670	0.00900	mg/Kg		07/21/15 10:32	07/22/15 15:48	1
Benzo[k]fluoranthene	ND		0.0670	0.0140	mg/Kg		07/21/15 10:32	07/22/15 15:48	1
1-Methylnaphthalene	ND		0.0670	0.0140	mg/Kg		07/21/15 10:32	07/22/15 15:48	1
Pyrene	ND		0.0670	0.0120	mg/Kg		07/21/15 10:32	07/22/15 15:48	1
Phenanthrene	ND		0.0670	0.00900	mg/Kg		07/21/15 10:32	07/22/15 15:48	1
Chrysene	ND		0.0670	0.00900	mg/Kg		07/21/15 10:32	07/22/15 15:48	1
Dibenz(a,h)anthracene	ND		0.0670	0.00700	mg/Kg		07/21/15 10:32	07/22/15 15:48	1
Fluoranthene	ND		0.0670	0.00900	mg/Kg		07/21/15 10:32	07/22/15 15:48	1
Fluorene	ND		0.0670	0.0120	mg/Kg		07/21/15 10:32	07/22/15 15:48	1
Indeno[1,2,3-cd]pyrene	ND		0.0670	0.0100	mg/Kg		07/21/15 10:32	07/22/15 15:48	1
Naphthalene	ND		0.0670	0.00900	mg/Kg		07/21/15 10:32	07/22/15 15:48	1
2-Methylnaphthalene	ND		0.0670	0.0160	mg/Kg		07/21/15 10:32	07/22/15 15:48	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl (Surr)	*71*		*29 - 120*	*07/21/15 10:32*	*07/22/15 15:48*	*1*
Terphenyl-d14 (Surr)	*84*		*13 - 120*	*07/21/15 10:32*	*07/22/15 15:48*	*1*
Nitrobenzene-d5 (Surr)	*69*		*27 - 120*	*07/21/15 10:32*	*07/22/15 15:48*	*1*

Lab Sample ID: LCS 490-266619/2-A
Matrix: Solid
Analysis Batch: 267018

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 266619

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acenaphthylene	1.67	1.281		mg/Kg		77	38 - 120
Anthracene	1.67	1.432		mg/Kg		86	46 - 124
Benzo[a]anthracene	1.67	1.443		mg/Kg		87	45 - 120
Benzo[a]pyrene	1.67	1.453		mg/Kg		87	45 - 120
Benzo[b]fluoranthene	1.67	1.489		mg/Kg		89	42 - 120
Benzo[g,h,i]perylene	1.67	1.624		mg/Kg		97	38 - 120
Benzo[k]fluoranthene	1.67	1.392		mg/Kg		84	42 - 120
1-Methylnaphthalene	1.67	1.329		mg/Kg		80	32 - 120
Pyrene	1.67	1.392		mg/Kg		84	43 - 120
Phenanthrene	1.67	1.358		mg/Kg		81	45 - 120
Chrysene	1.67	1.413		mg/Kg		85	43 - 120
Dibenz(a,h)anthracene	1.67	1.602		mg/Kg		96	32 - 128
Fluoranthene	1.67	1.476		mg/Kg		89	46 - 120
Fluorene	1.67	1.395		mg/Kg		84	42 - 120
Indeno[1,2,3-cd]pyrene	1.67	1.571		mg/Kg		94	41 - 121
Naphthalene	1.67	1.161		mg/Kg		70	32 - 120
2-Methylnaphthalene	1.67	1.223		mg/Kg		73	28 - 120

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

Lab Sample ID: LCS 490-266619/2-A
Matrix: Solid
Analysis Batch: 267018

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 266619

Surrogate	LCS %Recovery	LCS Qualifier	Limits
2-Fluorobiphenyl (Surr)	78		29 - 120
Terphenyl-d14 (Surr)	89		13 - 120
Nitrobenzene-d5 (Surr)	79		27 - 120

Lab Sample ID: LCSD 490-266619/3-A
Matrix: Solid
Analysis Batch: 267018

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 266619

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Acenaphthylene	1.67	1.367		mg/Kg		82	38 - 120	6	50
Anthracene	1.67	1.532		mg/Kg		92	46 - 124	7	49
Benzo[a]anthracene	1.67	1.530		mg/Kg		92	45 - 120	6	50
Benzo[a]pyrene	1.67	1.599		mg/Kg		96	45 - 120	10	50
Benzo[b]fluoranthene	1.67	1.668		mg/Kg		100	42 - 120	11	50
Benzo[g,h,i]perylene	1.67	1.495		mg/Kg		90	38 - 120	8	50
Benzo[k]fluoranthene	1.67	1.584		mg/Kg		95	42 - 120	13	45
1-Methylnaphthalene	1.67	1.504		mg/Kg		90	32 - 120	12	50
Pyrene	1.67	1.442		mg/Kg		87	43 - 120	4	50
Phenanthrene	1.67	1.440		mg/Kg		86	45 - 120	6	50
Chrysene	1.67	1.403		mg/Kg		84	43 - 120	1	49
Dibenz(a,h)anthracene	1.67	1.644		mg/Kg		99	32 - 128	3	50
Fluoranthene	1.67	1.470		mg/Kg		88	46 - 120	0	50
Fluorene	1.67	1.447		mg/Kg		87	42 - 120	4	50
Indeno[1,2,3-cd]pyrene	1.67	1.587		mg/Kg		95	41 - 121	1	50
Naphthalene	1.67	1.333		mg/Kg		80	32 - 120	14	50
2-Methylnaphthalene	1.67	1.414		mg/Kg		85	28 - 120	14	50

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
2-Fluorobiphenyl (Surr)	82		29 - 120
Terphenyl-d14 (Surr)	89		13 - 120
Nitrobenzene-d5 (Surr)	91		27 - 120

Lab Sample ID: 490-83093-G-1-B MS
Matrix: Solid
Analysis Batch: 267018

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 266619

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Acenaphthylene	ND		1.73	1.167		mg/Kg	☼	67	25 - 120
Anthracene	ND		1.73	1.287		mg/Kg	☼	74	28 - 125
Benzo[a]anthracene	ND		1.73	1.262		mg/Kg	☼	73	23 - 120
Benzo[a]pyrene	ND		1.73	1.294		mg/Kg	☼	75	15 - 128
Benzo[b]fluoranthene	ND		1.73	1.323		mg/Kg	☼	76	12 - 133
Benzo[g,h,i]perylene	ND		1.73	1.382		mg/Kg	☼	80	22 - 120
Benzo[k]fluoranthene	ND		1.73	1.225		mg/Kg	☼	71	28 - 120
1-Methylnaphthalene	ND		1.73	1.224		mg/Kg	☼	71	10 - 120
Pyrene	ND		1.73	1.224		mg/Kg	☼	71	20 - 123
Phenanthrene	ND		1.73	1.209		mg/Kg	☼	70	21 - 122
Chrysene	ND		1.73	1.237		mg/Kg	☼	71	20 - 120

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

Lab Sample ID: 490-83093-G-1-B MS
Matrix: Solid
Analysis Batch: 267018

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 266619

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Dibenz(a,h)anthracene	ND		1.73	1.391		mg/Kg	☼	80	12 - 128
Fluoranthene	ND		1.73	1.346		mg/Kg	☼	78	10 - 143
Fluorene	ND		1.73	1.241		mg/Kg	☼	72	20 - 120
Indeno[1,2,3-cd]pyrene	ND		1.73	1.362		mg/Kg		79	22 - 121
Naphthalene	ND		1.73	1.091		mg/Kg	☼	63	10 - 120
2-Methylnaphthalene	ND		1.73	1.127		mg/Kg		65	13 - 120

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
2-Fluorobiphenyl (Surr)	*73*		*29 - 120*
Terphenyl-d14 (Surr)	*81*		*13 - 120*
Nitrobenzene-d5 (Surr)	*70*		*27 - 120*

Lab Sample ID: 490-83093-G-1-C MSD
Matrix: Solid
Analysis Batch: 267018

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 266619

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Acenaphthylene	ND		1.75	1.343		mg/Kg	☼	77	25 - 120	14	50
Anthracene	ND		1.75	1.424		mg/Kg	☼	81	28 - 125	10	49
Benzo[a]anthracene	ND		1.75	1.429		mg/Kg		82	23 - 120	12	50
Benzo[a]pyrene	ND		1.75	1.446		mg/Kg	☼	83	15 - 128	11	50
Benzo[b]fluoranthene	ND		1.75	1.376		mg/Kg	☼	79	12 - 133	4	50
Benzo[g,h,i]perylene	ND		1.75	1.529		mg/Kg	☼	87	22 - 120	10	50
Benzo[k]fluoranthene	ND		1.75	1.453		mg/Kg	☼	83	28 - 120	17	45
1-Methylnaphthalene	ND		1.75	1.426		mg/Kg		82	10 - 120	15	50
Pyrene	ND		1.75	1.387		mg/Kg		79	20 - 123	12	50
Phenanthrene	ND		1.75	1.350		mg/Kg	☼	77	21 - 122	11	50
Chrysene	ND		1.75	1.362		mg/Kg	☼	78	20 - 120	10	49
Dibenz(a,h)anthracene	ND		1.75	1.538		mg/Kg	☼	88	12 - 128	10	50
Fluoranthene	ND		1.75	1.515		mg/Kg	☼	87	10 - 143	12	50
Fluorene	ND		1.75	1.418		mg/Kg	☼	81	20 - 120	13	50
Indeno[1,2,3-cd]pyrene	ND		1.75	1.500		mg/Kg		86	22 - 121	10	50
Naphthalene	ND		1.75	1.268		mg/Kg	☼	73	10 - 120	15	50
2-Methylnaphthalene	ND		1.75	1.307		mg/Kg	☼	75	13 - 120	15	50

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
2-Fluorobiphenyl (Surr)	*79*		*29 - 120*
Terphenyl-d14 (Surr)	*85*		*13 - 120*
Nitrobenzene-d5 (Surr)	*80*		*27 - 120*

QC Sample Results

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

TestAmerica Job ID: 490-83204-1

Method: Moisture - Percent Moisture

Lab Sample ID: 490-83204-1 DU
Matrix: Solid
Analysis Batch: 266688

Client Sample ID: 1346 Cardinal
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Percent Solids	89		89		%		0.1	20

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QC Association Summary

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

TestAmerica Job ID: 490-83204-1

GC/MS VOA

Prep Batch: 266691

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-83204-1	1346 Cardinal	Total/NA	Solid	5035	
490-83204-2	158 Cypress	Total/NA	Solid	5035	
490-83204-3	1020 Foxglove	Total/NA	Solid	5035	

Analysis Batch: 267949

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-83204-1	1346 Cardinal	Total/NA	Solid	8260B	266691
490-83204-2	158 Cypress	Total/NA	Solid	8260B	266691
490-83204-3	1020 Foxglove	Total/NA	Solid	8260B	266691
LCS 490-267949/3	Lab Control Sample	Total/NA	Solid	8260B	
LCSD 490-267949/4	Lab Control Sample Dup	Total/NA	Solid	8260B	
MB 490-267949/7	Method Blank	Total/NA	Solid	8260B	

GC/MS Semi VOA

Prep Batch: 266619

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-83093-G-1-B MS	Matrix Spike	Total/NA	Solid	3550C	
490-83093-G-1-C MSD	Matrix Spike Duplicate	Total/NA	Solid	3550C	
490-83204-1	1346 Cardinal	Total/NA	Solid	3550C	
490-83204-2	158 Cypress	Total/NA	Solid	3550C	
490-83204-3	1020 Foxglove	Total/NA	Solid	3550C	
LCS 490-266619/2-A	Lab Control Sample	Total/NA	Solid	3550C	
LCSD 490-266619/3-A	Lab Control Sample Dup	Total/NA	Solid	3550C	
MB 490-266619/1-A	Method Blank	Total/NA	Solid	3550C	

Analysis Batch: 267018

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-83093-G-1-B MS	Matrix Spike	Total/NA	Solid	8270D	266619
490-83093-G-1-C MSD	Matrix Spike Duplicate	Total/NA	Solid	8270D	266619
490-83204-1	1346 Cardinal	Total/NA	Solid	8270D	266619
490-83204-2	158 Cypress	Total/NA	Solid	8270D	266619
490-83204-3	1020 Foxglove	Total/NA	Solid	8270D	266619
LCS 490-266619/2-A	Lab Control Sample	Total/NA	Solid	8270D	266619
LCSD 490-266619/3-A	Lab Control Sample Dup	Total/NA	Solid	8270D	266619
MB 490-266619/1-A	Method Blank	Total/NA	Solid	8270D	266619

General Chemistry

Analysis Batch: 266688

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-83204-1	1346 Cardinal	Total/NA	Solid	Moisture	
490-83204-1 DU	1346 Cardinal	Total/NA	Solid	Moisture	
490-83204-2	158 Cypress	Total/NA	Solid	Moisture	
490-83204-3	1020 Foxglove	Total/NA	Solid	Moisture	

Lab Chronicle

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

TestAmerica Job ID: 490-83204-1

Client Sample ID: 1346 Cardinal

Date Collected: 07/13/15 14:45
Date Received: 07/18/15 09:00

Lab Sample ID: 490-83204-1
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1			266688	07/21/15 12:32	MAA	TAL NSH

Client Sample ID: 1346 Cardinal

Date Collected: 07/13/15 14:45
Date Received: 07/18/15 09:00

Lab Sample ID: 490-83204-1
Matrix: Solid
Percent Solids: 89.4

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.231 g	5.0 mL	266691	07/13/15 14:45	JLP	TAL NSH
Total/NA	Analysis	8260B		1	5.231 g	5.0 mL	267949	07/25/15 15:19	JPH	TAL NSH
Total/NA	Prep	3550C			30.13 g	1 mL	266619	07/21/15 10:32	LDC	TAL NSH
Total/NA	Analysis	8270D		1	30.13 g	1 mL	267018	07/22/15 20:10	SNR	TAL NSH

Client Sample ID: 158 Cypress

Date Collected: 07/14/15 14:15
Date Received: 07/18/15 09:00

Lab Sample ID: 490-83204-2
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1			266688	07/21/15 12:32	MAA	TAL NSH

Client Sample ID: 158 Cypress

Date Collected: 07/14/15 14:15
Date Received: 07/18/15 09:00

Lab Sample ID: 490-83204-2
Matrix: Solid
Percent Solids: 78.5

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			6.501 g	5.0 mL	266691	07/14/15 14:15	JLP	TAL NSH
Total/NA	Analysis	8260B		1	6.501 g	5.0 mL	267949	07/25/15 15:49	JPH	TAL NSH
Total/NA	Prep	3550C			30.66 g	1 mL	266619	07/21/15 10:32	LDC	TAL NSH
Total/NA	Analysis	8270D		1	30.66 g	1 mL	267018	07/22/15 20:33	SNR	TAL NSH

Client Sample ID: 1020 Foxglove

Date Collected: 07/16/15 11:45
Date Received: 07/18/15 09:00

Lab Sample ID: 490-83204-3
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1			266688	07/21/15 12:32	MAA	TAL NSH

Client Sample ID: 1020 Foxglove

Date Collected: 07/16/15 11:45
Date Received: 07/18/15 09:00

Lab Sample ID: 490-83204-3
Matrix: Solid
Percent Solids: 92.2

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.867 g	5.0 mL	266691	07/16/15 11:45	JLP	TAL NSH

Lab Chronicle

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

TestAmerica Job ID: 490-83204-1

Client Sample ID: 1020 Foxglove

Date Collected: 07/16/15 11:45
Date Received: 07/18/15 09:00

Lab Sample ID: 490-83204-3

Matrix: Solid
Percent Solids: 92.2

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	4.867 g	5.0 mL	267949	07/25/15 16:33	JPH	TAL NSH
Total/NA	Prep	3550C			30.87 g	1 mL	266619	07/21/15 10:32	LDC	TAL NSH
Total/NA	Analysis	8270D		1	30.87 g	1 mL	267018	07/22/15 20:57	SNR	TAL NSH

Laboratory References:

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

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Method Summary

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

TestAmerica Job ID: 490-83204-1

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

Certification Summary

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

TestAmerica Job ID: 490-83204-1

Laboratory: TestAmerica Nashville

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

Authority	Program	EPA Region	Certification ID	Expiration Date
South Carolina	State Program	4	84009 (001)	02-28-16

The following analytes are included in this report, but certification is not offered by the governing authority:

Analysis Method	Prep Method	Matrix	Analyte
8270D	3550C	Solid	1-Methylnaphthalene
Moisture		Solid	Percent Solids

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING
Nashville, TN

COOLER RECEIPT FORM

490-83204 Chain of Custody

Cooler Received/Opened On 7/18/2015 @ 0900

1. Tracking # 3775 (last 4 digits, FedEx)

Courier: Fed-ex IR Gun ID 17960357

2. Temperature of rep. sample or temp blank when opened: 1.6 *Degrees Celsius*

3. If Item #2 temperature is 0°C or less, was the representative sample or temp blank frozen? YES NO...NA

4. Were custody seals on outside of cooler? YES...NO...NA

If yes, how many and where: 1 Front / 1 Back

5. Were the seals intact, signed, and dated correctly? YES...NO...NA

6. Were custody papers inside cooler? YES...NO...NA

I certify that I opened the cooler and answered questions 1-6 (intial) _____

7. Were custody seals on containers: YES NO and Intact YES...NO...NA

Were these signed and dated correctly? YES...NO...NA

8. Packing mat'l used? Bubblewrap Plastic bag Peanuts Vermiculite Foam Insert Paper Other None

9. Cooling process: Ice Ice-pack Ice (direct contact) Dry ice Other None

10. Did all containers arrive in good condition (unbroken)? YES...NO...NA

11. Were all container labels complete (#, date, signed, pres., etc)? YES...NO...NA

12. Did all container labels and tags agree with custody papers? YES...NO...NA

13a. Were VOA vials received? YES...NO...NA

b. Was there any observable headspace present in any VOA vial? YES...NO...NA

14. Was there a Trip Blank in this cooler? YES...NO...NA If multiple coolers, sequence # _____

I certify that I unloaded the cooler and answered questions 7-14 (intial) _____

15a. On pres'd bottles, did pH test strips suggest preservation reached the correct pH level? YES...NO...NA

b. Did the bottle labels indicate that the correct preservatives were used YES...NO...NA

16. Was residual chlorine present? YES...NO...NA

I certify that I checked for chlorine and pH as per SOP and answered questions 15-16 (intial) _____

17. Were custody papers properly filled out (ink, signed, etc)? YES...NO...NA

18. Did you sign the custody papers in the appropriate place? YES...NO...NA

19. Were correct containers used for the analysis requested? YES...NO...NA

20. Was sufficient amount of sample sent in each container? YES...NO...NA

I certify that I entered this project into LIMS and answered questions 17-20 (intial) _____

I certify that I attached a label with the unique LIMS number to each container (intial) _____

21. Were there Non-Conformance issues at login? YES...NO Was a NCM generated? YES...NO...# _____

BIS = Broken in shipment
Cooler Receipt Form.doc

LF-1
End of Form

Revised 11/28/12

7/29/2015

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING
Nashville Division
2960 Foster Creighton
Nashville, TN 37204
Phone: 615-726-0177
Toll Free: 800-765-0980
Fax: 615-726-3404

To assist us in using the proper analytical methods, is this work being conducted for regulatory purposes?
Compliance Monitoring? Yes ____ No ____
Enforcement Action? Yes ____ No ____

Client Name/Account #: SBG - EEG # 2449
Address: 10179 Highway 78
City/State/Zip: Ladson, SC 29456
Project Manager: Tom McElwee email: mcelwee@eeginc.net
Telephone Number: 843.412.2097 Fax No.: (843) 879-0401
Sampler Name: (Print) Pratt Shaw
Sampler Signature:
Site State: SC
PO#: 1406
TA Quote #:
Project ID: Laurel Bay Housing Project
Project #:

Loc: 490
83204

Sample ID / Description	Date Sampled	Time Sampled	No. of Containers Shipped	Grab	Composite	Field Filtered	Preservative: Ice	HNO_3 (Red Label)	HCl (Blue Label)	NaOH (Orange Label)	H_2SO_4 Plastic (Yellow Label)	H_2SO_4 Glass(Yellow Label)	None (Black Label)	Other (Specify)	Matrix: Groundwater	Wastewater	Drinking Water	Sludge	Soil	Other (specify):	Analyze: BTEX + Napth - 8260	PAH - 8270D									RUSH TAT (Pre-Schedule)	Standard TAT	Fax Results	Send QC with report
1346 Cardinal	7/13/15	1445	5	X					2				2	1					X		X	X							01					
158 Cypress	7/14/15	1415	5	X					2				2	1					X		X	X							2					
1020 Foxglove	7/16/15	1145	5	X					2				2	1					X		X	X							3					

Special Instructions:

Method of Shipment: FEDEX

Relinquished by:	Date	Time	Received by:	Date	Time
	7/16/15	0930	FedEx		
Relinquished by:	Date	Time	Received by TestAmerica:	Date	Time
			COOLAN 1.6	07/16/15	0940

Laboratory Comments:
Temperature Upon Receipt: 1.6
VOCs Free of Headspace? Y N

Login Sample Receipt Checklist

Client: Small Business Group Inc.

Job Number: 490-83204-1

Login Number: 83204
List Number: 1
Creator: Gambill, Shane

List Source: TestAmerica Nashville

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	1.6
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").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

ATTACHMENT A

NON-HAZARDOUS MANIFEST

WASTE MANAGEMENT

NON-HAZARDOUS MANIFEST	1. Generator's US EPA ID No.	Manifest Doc No.	2. Page 1 of 1

3. Generator's Mailing Address: MCAS BEAUFORT LAUREL BAY HOUSING BEAUFORT, SC 29904 4. Generator's Phone 843-879-0411	Generator's Site Address (If different than mailing):	A. Manifest Number WMNA 01519122 B. State Generator's ID
5. Transporter 1 Company Name	6. US EPA ID Number	C. State Transporter's ID D. Transporter's Phone
7. Transporter 2 Company Name	8. US EPA ID Number	E. State Transporter's ID F. Transporter's Phone
9. Designated Facility Name and Site Address HICKORY HILL LANDFILL 2621 LOW COUNTRY DRIVE RIDGELAND, SC 29936	10. US EPA ID Number	G. State Facility ID H. State Facility Phone 843-987-4643

GENERATOR

11. Description of Waste Materials	12. Containers		13. Total Quantity	14. Unit Wt./Vol.	I. Misc. Comments
	No.	Type			
a. HEATING OIL TANK FILLED WITH SAND WM Profile # 102655SC	1	[illegible]	[illegible]	[illegible]	[illegible]
b. WM Profile #					
c. WM Profile #					
d. WM Profile #					

J. Additional Descriptions for Materials Listed Above	K. Disposal Location Cell Grid	Level

15. Special Handling Instructions and Additional Information
UST's from: 1) 121 Banyan 2) 724 Bluebell 3) 1139 Iris 4) 1346 Cardinal 5) 1020 Foxglove 6) 1065 Gardenia

Purchase Order #   EMERGENCY CONTACT / PHONE NO.:

16. GENERATOR'S CERTIFICATE:

I hereby certify that the above-described materials are not hazardous wastes as defined by 40 CFR Part 261 or any applicable state law, have been fully and accurately described, classified and packaged and are in proper condition for transportation according to applicable regulations.

Printed Name	Signature "On behalf of"	Month	Day	Year

TRANSPORTER

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed Name	Signature	Month	Day	Year

18. Transporter 2 Acknowledgement of Receipt of Materials

Printed Name	Signature	Month	Day	Year

FACILITY

19. Certificate of Final Treatment/Disposal

I certify, on behalf of the above listed treatment facility, that to the best of my knowledge, the above-described waste was managed in compliance with all applicable laws, regulations, permits and licenses on the dates listed above.

20. Facility Owner or Operator: Certification of receipt of non-hazardous materials covered by this manifest.

Printed Name	Signature	Month	Day	Year

White- TREATMENT, STORAGE, DISPOSAL FACILITY COPY   Blue- GENERATOR #2 COPY   Yellow- GENERATOR #1 COPY

Pink- FACILITY USE ONLY   Gold- TRANSPORTER #1 COPY

Appendix C
Laboratory Analytical Report - Groundwater

CDM - AECOM
Multimedia Joint Venture

Volatile Organic Compounds by GC/MS

Client: AECOM - Resolution Consultants
Laboratory ID: SC11009-012
Description: BEALB1346TW01WG20170309
Matrix: Aqueous
Date Sampled: 03/09/2017 1715
Date Received: 03/11/2017

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	03/15/2017 1552	PMV		37143

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	LOD	DL	Units	Run
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	Q	Run 1 % Recovery	Acceptance Limits
Bromofluorobenzene		107	85-114
Dibromofluoromethane		92	80-119
1,2-Dichloroethane-d4		105	81-118
Toluene-d8		92	89-112

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

Semivolatile Organic Compounds by GC/MS

Client: AECOM - Resolution Consultants
Laboratory ID: SC11009-012
Description: BEALB1346TW01WG20170309
Matrix: Aqueous
Date Sampled: 03/09/2017 1715
Date Received: 03/11/2017

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	3520C	8270D	1	03/18/2017 0056	RBH	03/15/2017 1020	37108

Parameter	CAS Number	Analytical 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	Q	Run 1 % Recovery	Acceptance Limits
Nitrobenzene-d5		56	44-120
2-Fluorobiphenyl		52	44-119
Terphenyl-d14		72	50-134

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

Appendix D
Regulatory Correspondence

CDM - AECOM
Multimedia Joint Venture

dhec
Healthy People Healthy Communities

August 1, 2016

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 Tank Assessment Reports
Dated July 2015, November 2015, March 2016

Dear Mr. Drawdy,

The South Carolina Department of Health and Environmental Control (the Department) received the Underground Storage Tanks (USTs) Assessment Reports for the addresses listed in the attachment. 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 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 these sites.

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,

Laurel Petrus, Environmental Engineer Associate
Bureau of Land and Waste Management

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, August 1, 2016
Subject: IGWA, Laurel Bay Underground Tank Assessment Reports
Dated July 2015, November 2015, March 2016

Draft Final Initial Groundwater Investigation Report for (7 addresses/8 tanks)

Permanent Monitoring Well Investigation recommendation	
465 Dogwood Tank 2	254 Beech Tank 2
1352 Cardinal Tank 2*	641 Dahlia Tank 2
121 Banyan	1346 Cardinal
254 Beech Tank 1	1177 Bobwhite
* IGWA well has already been installed along with 1352 Cardinal Tank 1 and a recommendation for permanent wells and groundwater monitoring was approved 2/22/16	

dhec
Healthy People. Healthy Communities.

July 27, 2017

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

RE: Draft Final Initial Groundwater Investigation Report, February and March 2017

Dear Mr. Drawdy:

The South Carolina Department of Health and Environmental Control (DHEC) received groundwater data from temporary monitoring well installations in the Draft Final Groundwater Investigation Report, Laurel Bay Military Housing Area for the fifty two (52) addresses shown in the attachment. 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 DHEC's request, groundwater samples were collected from the attached referenced addresses. DHEC 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 groundwater monitoring wells should be installed at the three (3) stated addresses. For the remaining forty nine (49) addresses, there is no indication of contamination on the property and therefore no further investigation is required at this time.

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,

Laurel Petrus, Environmental Engineer Associate
Bureau of Land and Waste Management

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

Attachment to: Petrus to Drawdy Dated July 27, 2017

Draft Final Initial Groundwater Investigation Report for (52 addresses)

Permanent Well Installation recommedation (3 Addresses):

- 254 Beech Street (110 ug/L)
- 268 Beech Street (28 ug/L)
- 774 Althea Street (35 ug/L)

No Further Action recommendation (49 addresses):

- 113 Birch Drive
- 121 Banyan Drive
- 122 Banyan Drive
- 159 Cypress Street
- 221 Cypress Street
- 274 Birch Drive
- 279 Birch Drive
- 283 Birch Drive
- 328 Ash Street
- 346 Ash Street
- 359 Aspen Street
- 370 Aspen Street
- 377 Aspen Street
- 409 Elderberry Drive
- 465 Dogwood Drive
- 480 Laurel Bay Boulevard
- 486 Laurel Bay Boulevard
- 515 Laurel Bay Boulevard
- 542 Laurel Bay Boulevard
- 593 Aster Street
- 630 Dahlia Drive
- 641 Dahlia Drive
- 693 Camelia Drive
- 723 Bluebell Lane
- 860 Dolphin Street
- 873 Cobia Drive
- 883 Cobia Drive
- 905 Barracuda Drive
- 921 Barracuda Drive
- 935 Albacore Street
- 946 Albacore Street
- 1037 Iris Lane
- 1039 Iris Lane
- 1110 Iris Lane
- 1134 Iris Lane
- 1143 Iris Lane
- 1177 Bobwhite Drive
- 1202 Cardinal Lane
- 1212 Cardinal Lane
- 1222 Cardinal Lane
- 1224 Cardinal Lane
- 1226 Dove Lane
- 1236 Dove Lane
- 1245 Dove Lane
- 1247 Dove Lane
- 1274 Albatross Drive
- 1319 Albatross Drive
- 1337 Albatross Drive
- 1346 Cardinal Lane