

SUMMARY REPORT
114 ASH STREET (FORMERLY 309 ASH STREET)
LAUREL BAY MILITARY HOUSING AREA
MARINE CORPS AIR STATION BEAUFORT
BEAUFORT, SC

Revision: 0
Prepared for:

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

and



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

JUNE 2021

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Prepared by:



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

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

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List of Acronyms

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

1.0 INTRODUCTION

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

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

This report summarizes the results the environmental investigation activities associated with the storage of home heating oil and the potential release of petroleum constituents at the referenced property. Based on the results of the investigation, a No Further Action (NFA) determination has been made by the South Carolina Department of Health and Environmental Control (SCDHEC) for 114 Ash Street (Formerly 309 Ash Street). 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 114 Ash Street (Formerly 309 Ash Street). Details regarding the soil investigation at this site are provided in the *SCDHEC UST Assessment Report – 309 Ash Street* (MCAS Beaufort, 2015). The UST Assessment Report is provided in Appendix B.

2.1 UST Removal and Soil Sampling

On February 5, 2015, a single 280 gallon heating oil UST was removed from the front landscaped area adjacent to the garage at 114 Ash Street (Formerly 309 Ash Street). 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 5'9" 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 114 Ash Street (Formerly 309 Ash Street) were less than the SCDHEC RBSLs, which indicated the subsurface was not impacted by COPCs associated with the former UST at concentrations that presented a potential risk to human health and the environment.

3.0 PROPERTY STATUS

Based on the analytical results for soil, SCDHEC made the determination that NFA was required for 114 Ash Street (Formerly 309 Ash Street). This NFA determination was obtained in a letter dated August 3, 2016. SCDHEC's NFA letter is provided in Appendix C.

4.0 REFERENCES

Marine Corps Air Station Beaufort, 2015. *South Carolina Department of Health and Environmental Control (SCDHEC) Underground Storage Tank Assessment Report – 309 Ash Street, Laurel Bay Military Housing Area, July 2015.*

South Carolina Department of Health and Environmental Control Bureau of Land and Waste Management, 2013. *Quality Assurance Program Plan for the Underground Storage Tank Management Division, Revision 2.0, April 2013.*

South Carolina Department of Health and Environmental Control Bureau of Land and Waste Management, 2015. *Quality Assurance Program Plan for the Underground Storage Tank Management Division, Revision 3.0*, May 2015.

South Carolina Department of Health and Environmental Control Bureau of Land and Waste Management, 2016. *Quality Assurance Program Plan for the Underground Storage Tank Management Division, Revision 3.1*, February 2016.

South Carolina Department of Health and Environmental Control Bureau of Land and Waste Management, 2017. *R.61-92, Part 280, Underground Storage Tank Control Regulations*, March 2017.

South Carolina Department of Health and Environmental Control Bureau of Land and Waste Management, 2018. *Underground Storage Tank Assessment Instructions for Permanent Closure and Change-In-Service*, March 2018.

Table

Table 1
Laboratory Analytical Results - Soil
114 Ash Street (Formerly 309 Ash Street)
Laurel Bay Military Housing Area
Marine Corps Air Station Beaufort
Beaufort, South Carolina

Constituent	SCDHEC RBSLs ⁽¹⁾	Results Sample Collected 02/05/15
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	ND
Benzo(b)fluoranthene	0.66	ND
Benzo(k)fluoranthene	0.66	ND
Chrysene	0.66	ND
Dibenz(a,h)anthracene	0.66	ND

Notes:

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

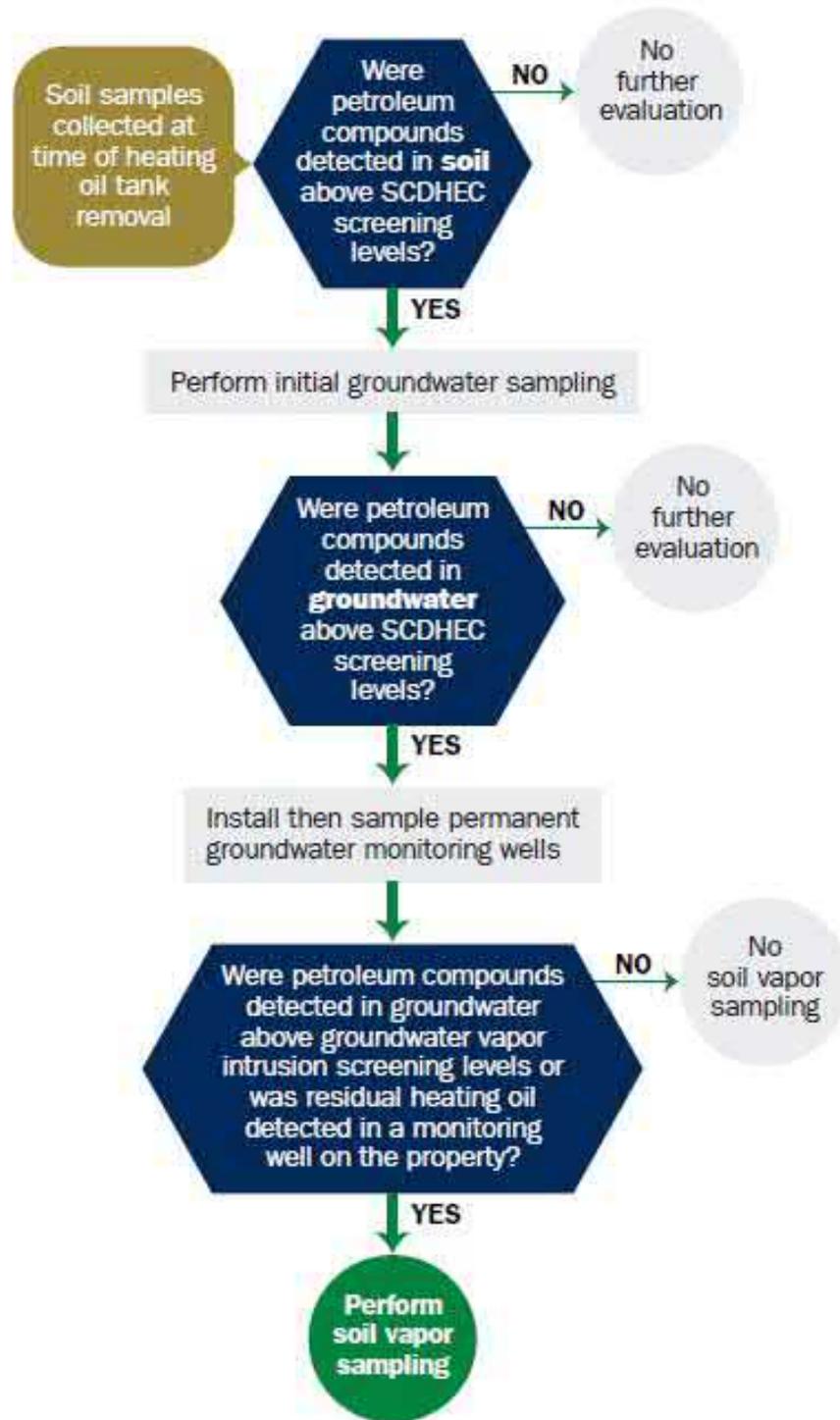
mg/kg - milligram per kilogram

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

RBSL - Risk-Based Screening Level

SCDHEC - South Carolina Department Of Health and Environmental Control

Appendix A
Multi-Media Selection Process for LBMH



Appendix A - Multi-Media Selection Process for LBMH

Appendix B
UST Assessment Report

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

<p>Date Received</p> <p style="text-align: center;">State Use Only</p>

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
309 Ash Street, 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).....
- B. Capacity..(ex. 1k, 2k).....
- C. Age.....
- D. Construction Material..(ex. Steel, FRP).....
- E. Month/Year of Last Use.....
- F. Depth (ft.) To Base of Tank.....
- G. Spill Prevention Equipment Y/N.....
- H. Overfill Prevention Equipment Y/N.....
- I. Method of Closure Removed/Filled.....
- J. Date Tanks Removed/Filled.....
- K. Visible Corrosion or Pitting Y/N.....
- L. Visible Holes Y/N.....

309Ash				
Heating oil				
280 gal				
Late 1950s				
Steel				
Mid 1980s				
5'9"				
No				
No				
Removed				
2/5/2015				
Yes				
Yes				

M. Method of disposal for any USTs removed from the ground (attach disposal manifests)
UST 309Ash was removed from the ground, cleaned and recycled. See Attachment "A."

N. Method of disposal for any liquid petroleum, sludges, or wastewaters removed from the USTs (attach disposal manifests)
Contaminated water was pumped from UST 309Ash and disposed by MCAS.

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).....
- B. Distance from UST to Dispenser.....
- C. Number of Dispensers.....
- D. Type of System Pressure or Suction.....
- E. Was Piping Removed from the Ground? Y/N
- F. Visible Corrosion or Pitting Y/N.....
- G. Visible Holes Y/N.....
- H. Age.....
- I. If any corrosion, pitting, or holes were observed, describe the location and extent for each piping run.

309Ash				
Steel & Copper				
N/A				
N/A				
Suction				
No				
Yes				
No				
Late 1950s				

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
<p>A. Were any petroleum-stained or contaminated soils found in the UST excavation, soil borings, trenches, or monitoring wells?</p> <p>If yes, indicate depth and location on the site map.</p>		X	
<p>B. Were any petroleum odors detected in the excavation, soil borings, trenches, or monitoring wells?</p> <p>If yes, indicate location on site map and describe the odor (strong, mild, etc.)</p>		X	
<p>C. Was water present in the UST excavation, soil borings, or trenches?</p> <p>If yes, how far below land surface (indicate location and depth)?</p>		X	
<p>D. Did contaminated soils remain stockpiled on site after closure?</p> <p>If yes, indicate the stockpile location on the site map.</p> <p>Name of DHEC representative authorizing soil removal:</p>		X	
<p>E. Was a petroleum sheen or free product detected on any excavation or boring waters?</p> <p>If yes, indicate location and thickness.</p>		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 #
309Ash	Excav at fill end	Soil	Sandy	5'9"	2/5/15 1415 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
<p>A. Are there any lakes, ponds, streams, or wetlands located within 1000 feet of the UST system?</p> <p style="text-align: right;">*stormwater drainage canal</p> <p>If yes, indicate type of receptor, distance, and direction on site map.</p>	*X	
<p>B. Are there any public, private, or irrigation water supply wells within 1000 feet of the UST system?</p> <p>If yes, indicate type of well, distance, and direction on site map.</p>		X
<p>C. Are there any underground structures (e.g., basements) Located within 100 feet of the UST system?</p> <p>If yes, indicate type of structure, distance, and direction on site map.</p>		X
<p>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?</p> <p style="text-align: right;">*Sewer, water, electricity, cable & fiber optic</p> <p>If yes, indicate the type of utility, distance, and direction on the site map.</p>	*X	
<p>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?</p> <p>If yes, indicate the area of contaminated soil on the site map.</p>		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)

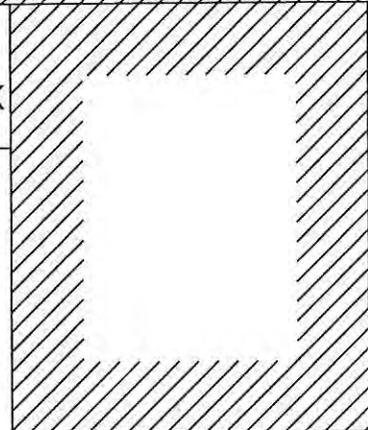
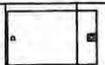


309 ASH STREET
LAUREL BAY MILITARY HOUSING
MCAS BEAUFORT, SC



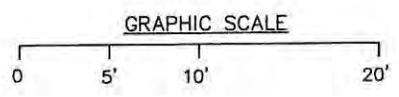
CONCRETE
PORCH & WALK

UST 309ASH,
280 GAL.



ASPHALT
DRIVEWAY

STORMWATER DRAINAGE
CANAL \approx 650'



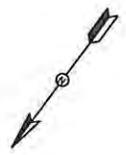
GRAPHIC SCALE

SBG-EEG
7301 RIVERS AVE., SUITE 245
N. CHARLESTON SC 29406-9643
(843) 573-7140

FIGURE 1 SITE MAP
309 ASH ST., LAUREL BAY
MCAS BEAUFORT SC

SCALE: GRAPHIC	DWG DATE MAR 2015
----------------	-------------------

309 ASH STREET



PORCH

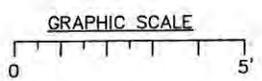
FILL END

*EXCAVATION

SOIL SAMPLE
309 ASH

SIDE
WALK

*A PORTION OF THE CONCRETE
SIDEWALK WAS REMOVED TO
FACILITATE TANK EXTRACTION.



TANK DEPTH BELOW GRADE
309ASH = 33"

SBG-EEG
7301 RIVERS AVE., SUITE 245
N. CHARLESTON SC 29406-9643
(843) 573-7140

FIGURE 2 UST SAMPLE LOCATION
309 ASH ST., LAUREL BAY
MCAS BEAUFORT SC
SCALE: GRAPHIC | DWG DATE MAR 2015



Picture 1: Location of UST 309Ash.



Picture 2: The tank being lifted from the excavation.



Picture 3: Tank excavation. 114 Ash St. was formerly known as 309 Ash Street.



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	309Ash						
Benzene		ND						
Toluene		ND						
Ethylbenzene		ND						
Xylenes		ND						
Naphthalene		ND						
Benzo (a) anthracene		ND						
Benzo (b) fluoranthene		ND						
Benzo (k) fluoranthene		ND						
Chrysene		ND						
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: 490-72080-1
 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:
 2/13/2015 11:24:10 AM

Ken Hayes, Project Manager II
 (615)301-5035
ken.hayes@testamericainc.com

LINKS

Review your project
 results through
Total Access

Have a Question?

**Ask
 The
 Expert**

Visit us at:
www.testamericainc.com

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

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

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



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Sample Summary

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

TestAmerica Job ID: 490-72080-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
490-72080-1	477 Dogwood - 2	Soil	02/03/15 15:00	02/07/15 08:30
490-72080-2	309 Ash	Soil	02/05/15 14:15	02/07/15 08:30



Case Narrative

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

TestAmerica Job ID: 490-72080-1

Job ID: 490-72080-1

Laboratory: TestAmerica Nashville

Narrative

Job Narrative
490-72080-1

Comments

No additional comments.

Receipt

The samples were received on 2/7/2015 8:30 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 1.1° C.

GC/MS VOA

Method(s) 8260B: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for batch 226828 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

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.

Definitions/Glossary

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

TestAmerica Job ID: 490-72080-1

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
F1	MS and/or MSD Recovery exceeds the control limits

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
μ	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: 490-72080-1

Client Sample ID: 477 Dogwood - 2

Lab Sample ID: 490-72080-1

Date Collected: 02/03/15 15:00

Matrix: Soil

Date Received: 02/07/15 08:30

Percent Solids: 76.8

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.00256	0.000858	mg/Kg	☒	02/03/15 15:00	02/11/15 19:01	1
Ethylbenzene	ND		0.00256	0.000858	mg/Kg	☒	02/03/15 15:00	02/11/15 19:01	1
Naphthalene	ND		0.00640	0.00218	mg/Kg	☒	02/03/15 15:00	02/11/15 19:01	1
Toluene	ND		0.00256	0.000948	mg/Kg	☒	02/03/15 15:00	02/11/15 19:01	1
Xylenes, Total	ND		0.00384	0.000858	mg/Kg	☒	02/03/15 15:00	02/11/15 19:01	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	115		70 - 130	02/03/15 15:00	02/11/15 19:01	1
4-Bromofluorobenzene (Surr)	102		70 - 130	02/03/15 15:00	02/11/15 19:01	1
Dibromofluoromethane (Surr)	112		70 - 130	02/03/15 15:00	02/11/15 19:01	1
Toluene-d8 (Surr)	96		70 - 130	02/03/15 15:00	02/11/15 19:01	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.0869	0.0130	mg/Kg	☒	02/09/15 10:52	02/10/15 19:35	1
Acenaphthylene	ND		0.0869	0.0117	mg/Kg	☒	02/09/15 10:52	02/10/15 19:35	1
Anthracene	ND		0.0869	0.0117	mg/Kg	☒	02/09/15 10:52	02/10/15 19:35	1
Benzo[a]anthracene	ND		0.0869	0.0195	mg/Kg	☒	02/09/15 10:52	02/10/15 19:35	1
Benzo[a]pyrene	ND		0.0869	0.0156	mg/Kg	☒	02/09/15 10:52	02/10/15 19:35	1
Benzo[b]fluoranthene	ND		0.0869	0.0156	mg/Kg	☒	02/09/15 10:52	02/10/15 19:35	1
Benzo[g,h,i]perylene	ND		0.0869	0.0117	mg/Kg	☒	02/09/15 10:52	02/10/15 19:35	1
Benzo[k]fluoranthene	ND		0.0869	0.0182	mg/Kg	☒	02/09/15 10:52	02/10/15 19:35	1
1-Methylnaphthalene	ND		0.0869	0.0182	mg/Kg	☒	02/09/15 10:52	02/10/15 19:35	1
Pyrene	ND		0.0869	0.0156	mg/Kg	☒	02/09/15 10:52	02/10/15 19:35	1
Phenanthrene	ND		0.0869	0.0117	mg/Kg	☒	02/09/15 10:52	02/10/15 19:35	1
Chrysene	ND		0.0869	0.0117	mg/Kg	☒	02/09/15 10:52	02/10/15 19:35	1
Dibenz(a,h)anthracene	ND		0.0869	0.00908	mg/Kg	☒	02/09/15 10:52	02/10/15 19:35	1
Fluoranthene	ND		0.0869	0.0117	mg/Kg	☒	02/09/15 10:52	02/10/15 19:35	1
Fluorene	ND		0.0869	0.0156	mg/Kg	☒	02/09/15 10:52	02/10/15 19:35	1
Indeno[1,2,3-cd]pyrene	ND		0.0869	0.0130	mg/Kg	☒	02/09/15 10:52	02/10/15 19:35	1
Naphthalene	ND		0.0869	0.0117	mg/Kg	☒	02/09/15 10:52	02/10/15 19:35	1
2-Methylnaphthalene	ND		0.0869	0.0207	mg/Kg	☒	02/09/15 10:52	02/10/15 19:35	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl (Surr)	58		29 - 120	02/09/15 10:52	02/10/15 19:35	1
Terphenyl-d14 (Surr)	64		13 - 120	02/09/15 10:52	02/10/15 19:35	1
Nitrobenzene-d5 (Surr)	51		27 - 120	02/09/15 10:52	02/10/15 19:35	1

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	77		0.10	0.10	%			02/07/15 16:40	1

Client Sample Results

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

TestAmerica Job ID: 490-72080-1

Client Sample ID: 309 Ash

Date Collected: 02/05/15 14:15

Date Received: 02/07/15 08:30

Lab Sample ID: 490-72080-2

Matrix: Soil

Percent Solids: 85.4

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.00200	0.000671	mg/Kg	☒	02/05/15 14:15	02/11/15 19:29	1
Ethylbenzene	ND		0.00200	0.000671	mg/Kg	☒	02/05/15 14:15	02/11/15 19:29	1
Naphthalene	ND		0.00501	0.00170	mg/Kg	☒	02/05/15 14:15	02/11/15 19:29	1
Toluene	ND		0.00200	0.000741	mg/Kg	☒	02/05/15 14:15	02/11/15 19:29	1
Xylenes, Total	ND		0.00300	0.000671	mg/Kg	☒	02/05/15 14:15	02/11/15 19:29	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	106		70 - 130	02/05/15 14:15	02/11/15 19:29	1
4-Bromofluorobenzene (Surr)	105		70 - 130	02/05/15 14:15	02/11/15 19:29	1
Dibromofluoromethane (Surr)	103		70 - 130	02/05/15 14:15	02/11/15 19:29	1
Toluene-d8 (Surr)	94		70 - 130	02/05/15 14:15	02/11/15 19:29	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.0774	0.0116	mg/Kg	☒	02/09/15 10:52	02/10/15 19:57	1
Acenaphthylene	ND		0.0774	0.0104	mg/Kg	☒	02/09/15 10:52	02/10/15 19:57	1
Anthracene	ND		0.0774	0.0104	mg/Kg	☒	02/09/15 10:52	02/10/15 19:57	1
Benzo[a]anthracene	ND		0.0774	0.0173	mg/Kg	☒	02/09/15 10:52	02/10/15 19:57	1
Benzo[a]pyrene	ND		0.0774	0.0139	mg/Kg	☒	02/09/15 10:52	02/10/15 19:57	1
Benzo[b]fluoranthene	ND		0.0774	0.0139	mg/Kg	☒	02/09/15 10:52	02/10/15 19:57	1
Benzo[g,h,i]perylene	ND		0.0774	0.0104	mg/Kg	☒	02/09/15 10:52	02/10/15 19:57	1
Benzo[k]fluoranthene	ND		0.0774	0.0162	mg/Kg	☒	02/09/15 10:52	02/10/15 19:57	1
1-Methylnaphthalene	ND		0.0774	0.0162	mg/Kg	☒	02/09/15 10:52	02/10/15 19:57	1
Pyrene	ND		0.0774	0.0139	mg/Kg	☒	02/09/15 10:52	02/10/15 19:57	1
Phenanthrene	ND		0.0774	0.0104	mg/Kg	☒	02/09/15 10:52	02/10/15 19:57	1
Chrysene	ND		0.0774	0.0104	mg/Kg	☒	02/09/15 10:52	02/10/15 19:57	1
Dibenz(a,h)anthracene	ND		0.0774	0.00809	mg/Kg	☒	02/09/15 10:52	02/10/15 19:57	1
Fluoranthene	ND		0.0774	0.0104	mg/Kg	☒	02/09/15 10:52	02/10/15 19:57	1
Fluorene	ND		0.0774	0.0139	mg/Kg	☒	02/09/15 10:52	02/10/15 19:57	1
Indeno[1,2,3-cd]pyrene	ND		0.0774	0.0116	mg/Kg	☒	02/09/15 10:52	02/10/15 19:57	1
Naphthalene	ND		0.0774	0.0104	mg/Kg	☒	02/09/15 10:52	02/10/15 19:57	1
2-Methylnaphthalene	ND		0.0774	0.0185	mg/Kg	☒	02/09/15 10:52	02/10/15 19:57	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl (Surr)	54		29 - 120	02/09/15 10:52	02/10/15 19:57	1
Terphenyl-d14 (Surr)	61		13 - 120	02/09/15 10:52	02/10/15 19:57	1
Nitrobenzene-d5 (Surr)	48		27 - 120	02/09/15 10:52	02/10/15 19:57	1

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	85		0.10	0.10	%			02/07/15 16:40	1

TestAmerica Nashville

QC Sample Results

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

TestAmerica Job ID: 490-72080-1

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

Lab Sample ID: 490-72069-D-14-A MS
Matrix: Solid
Analysis Batch: 226828

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 226230

Analyte	Sample	Sample	Spike	MS MS		Unit	D	%Rec	%Rec.
	Result	Qualifier	Added	Result	Qualifier				
Benzene	ND		0.0571	0.05973		mg/Kg	☒	105	31 - 143
Ethylbenzene	ND		0.0571	0.05971		mg/Kg	☒	105	23 - 161
Naphthalene	ND		0.0571	0.06535		mg/Kg	☒	114	10 - 176
Toluene	ND		0.0571	0.05735		mg/Kg	☒	100	30 - 155
Xylenes, Total	ND		114	0.1223	F1	mg/Kg	☐	0.1	25 - 162

Surrogate	MS	MS	Limits
	%Recovery	Qualifier	
1,2-Dichloroethane-d4 (Surr)	99		70 - 130
4-Bromofluorobenzene (Surr)	101		70 - 130
Dibromofluoromethane (Surr)	103		70 - 130
Toluene-d8 (Surr)	96		70 - 130

Lab Sample ID: 490-72069-D-14-B MSD
Matrix: Solid
Analysis Batch: 226828

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 226230

Analyte	Sample	Sample	Spike	MSD MSD		Unit	D	%Rec	%Rec.	Limits	RPD	Limit
	Result	Qualifier	Added	Result	Qualifier							
Benzene	ND		0.0578	0.06024		mg/Kg	☒	104	31 - 143	1	50	
Ethylbenzene	ND		0.0578	0.06132		mg/Kg	☒	106	23 - 161	3	50	
Naphthalene	ND		0.0578	0.06261		mg/Kg	☒	108	10 - 176	4	50	
Toluene	ND		0.0578	0.05925		mg/Kg	☒	103	30 - 155	3	50	
Xylenes, Total	ND		116	0.1247	F1	mg/Kg	☒	0.1	25 - 162	2	50	

Surrogate	MSD	MSD	Limits
	%Recovery	Qualifier	
1,2-Dichloroethane-d4 (Surr)	97		70 - 130
4-Bromofluorobenzene (Surr)	101		70 - 130
Dibromofluoromethane (Surr)	103		70 - 130
Toluene-d8 (Surr)	94		70 - 130

Lab Sample ID: MB 490-226828/8
Matrix: Solid
Analysis Batch: 226828

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

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Benzene	ND		0.00200	0.000670	mg/Kg			02/11/15 12:48	1
Ethylbenzene	ND		0.00200	0.000670	mg/Kg			02/11/15 12:48	1
Naphthalene	ND		0.00500	0.00170	mg/Kg			02/11/15 12:48	1
Toluene	ND		0.00200	0.000740	mg/Kg			02/11/15 12:48	1
Xylenes, Total	ND		0.00300	0.000670	mg/Kg			02/11/15 12:48	1

Surrogate	MB	MB	Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
1,2-Dichloroethane-d4 (Surr)	118		70 - 130		02/11/15 12:48	1
4-Bromofluorobenzene (Surr)	102		70 - 130		02/11/15 12:48	1
Dibromofluoromethane (Surr)	110		70 - 130		02/11/15 12:48	1
Toluene-d8 (Surr)	100		70 - 130		02/11/15 12:48	1

TestAmerica Nashville

QC Sample Results

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

TestAmerica Job ID: 490-72080-1

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

Lab Sample ID: LCS 490-226828/4
Matrix: Solid
Analysis Batch: 226828

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

Analyte	Spike Added	LCS		Unit	D	%Rec	%Rec. Limits
		Result	Qualifier				
Benzene	0.0500	0.05219		mg/Kg		104	75 - 127
Ethylbenzene	0.0500	0.04995		mg/Kg		100	80 - 134
Naphthalene	0.0500	0.05366		mg/Kg		107	69 - 150
Toluene	0.0500	0.04864		mg/Kg		97	80 - 132
Xylenes, Total	0.100	0.1037		mg/Kg		104	80 - 137

Surrogate	LCS		Limits
	%Recovery	Qualifier	
1,2-Dichloroethane-d4 (Surr)	114		70 - 130
4-Bromofluorobenzene (Surr)	99		70 - 130
Dibromofluoromethane (Surr)	109		70 - 130
Toluene-d8 (Surr)	94		70 - 130

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

Lab Sample ID: MB 490-226322/1-A
Matrix: Solid
Analysis Batch: 226554

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 226322

Analyte	MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Acenaphthene	ND		0.0670	0.0100	mg/Kg		02/09/15 10:52	02/10/15 12:05	1
Acenaphthylene	ND		0.0670	0.00900	mg/Kg		02/09/15 10:52	02/10/15 12:05	1
Anthracene	ND		0.0670	0.00900	mg/Kg		02/09/15 10:52	02/10/15 12:05	1
Benzo[a]anthracene	ND		0.0670	0.0150	mg/Kg		02/09/15 10:52	02/10/15 12:05	1
Benzo[a]pyrene	ND		0.0670	0.0120	mg/Kg		02/09/15 10:52	02/10/15 12:05	1
Benzo[b]fluoranthene	ND		0.0670	0.0120	mg/Kg		02/09/15 10:52	02/10/15 12:05	1
Benzo[g,h,i]perylene	ND		0.0670	0.00900	mg/Kg		02/09/15 10:52	02/10/15 12:05	1
Benzo[k]fluoranthene	ND		0.0670	0.0140	mg/Kg		02/09/15 10:52	02/10/15 12:05	1
1-Methylnaphthalene	ND		0.0670	0.0140	mg/Kg		02/09/15 10:52	02/10/15 12:05	1
Pyrene	ND		0.0670	0.0120	mg/Kg		02/09/15 10:52	02/10/15 12:05	1
Phenanthrene	ND		0.0670	0.00900	mg/Kg		02/09/15 10:52	02/10/15 12:05	1
Chrysene	ND		0.0670	0.00900	mg/Kg		02/09/15 10:52	02/10/15 12:05	1
Dibenz(a,h)anthracene	ND		0.0670	0.00700	mg/Kg		02/09/15 10:52	02/10/15 12:05	1
Fluoranthene	ND		0.0670	0.00900	mg/Kg		02/09/15 10:52	02/10/15 12:05	1
Fluorene	ND		0.0670	0.0120	mg/Kg		02/09/15 10:52	02/10/15 12:05	1
Indeno[1,2,3-cd]pyrene	ND		0.0670	0.0100	mg/Kg		02/09/15 10:52	02/10/15 12:05	1
Naphthalene	ND		0.0670	0.00900	mg/Kg		02/09/15 10:52	02/10/15 12:05	1
2-Methylnaphthalene	ND		0.0670	0.0160	mg/Kg		02/09/15 10:52	02/10/15 12:05	1

Surrogate	MB		Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
2-Fluorobiphenyl (Surr)	83		29 - 120	02/09/15 10:52	02/10/15 12:05	1
Terphenyl-d14 (Surr)	81		13 - 120	02/09/15 10:52	02/10/15 12:05	1
Nitrobenzene-d5 (Surr)	78		27 - 120	02/09/15 10:52	02/10/15 12:05	1

TestAmerica Nashville

QC Sample Results

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

TestAmerica Job ID: 490-72080-1

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

Lab Sample ID: LCS 490-226322/2-A
Matrix: Solid
Analysis Batch: 226554

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 226322

Analyte	Spike Added	LCS		Unit	D	%Rec	%Rec. Limits
		Result	Qualifier				
Acenaphthylene	1.67	1.381		mg/Kg		83	38 - 120
Anthracene	1.67	1.337		mg/Kg		80	46 - 124
Benzo[a]anthracene	1.67	1.451		mg/Kg		87	45 - 120
Benzo[a]pyrene	1.67	1.393		mg/Kg		84	45 - 120
Benzo[b]fluoranthene	1.67	1.349		mg/Kg		81	42 - 120
Benzo[g,h,i]perylene	1.67	1.675		mg/Kg		101	38 - 120
Benzo[k]fluoranthene	1.67	1.425		mg/Kg		85	42 - 120
1-Methylnaphthalene	1.67	1.350		mg/Kg		81	32 - 120
Pyrene	1.67	1.553		mg/Kg		93	43 - 120
Phenanthrene	1.67	1.282		mg/Kg		77	45 - 120
Chrysene	1.67	1.395		mg/Kg		84	43 - 120
Dibenz(a,h)anthracene	1.67	1.629		mg/Kg		98	32 - 128
Fluoranthene	1.67	1.361		mg/Kg		82	46 - 120
Fluorene	1.67	1.386		mg/Kg		83	42 - 120
Indeno[1,2,3-cd]pyrene	1.67	1.583		mg/Kg		95	41 - 121
Naphthalene	1.67	1.321		mg/Kg		79	32 - 120
2-Methylnaphthalene	1.67	1.388		mg/Kg		83	28 - 120

Surrogate	LCS		Limits
	%Recovery	Qualifier	
2-Fluorobiphenyl (Surr)	77		29 - 120
Terphenyl-d14 (Surr)	90		13 - 120
Nitrobenzene-d5 (Surr)	76		27 - 120

Lab Sample ID: LCSD 490-226322/3-A
Matrix: Solid
Analysis Batch: 226554

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 226322

Analyte	Spike Added	LCSD		Unit	D	%Rec	%Rec. Limits	RPD	
		Result	Qualifier					RPD	Limit
Acenaphthylene	1.67	1.387		mg/Kg		83	38 - 120	0	50
Anthracene	1.67	1.298		mg/Kg		78	46 - 124	3	49
Benzo[a]anthracene	1.67	1.441		mg/Kg		86	45 - 120	1	50
Benzo[a]pyrene	1.67	1.388		mg/Kg		83	45 - 120	0	50
Benzo[b]fluoranthene	1.67	1.227		mg/Kg		74	42 - 120	9	50
Benzo[g,h,i]perylene	1.67	1.458		mg/Kg		88	38 - 120	14	50
Benzo[k]fluoranthene	1.67	1.204		mg/Kg		72	42 - 120	17	45
1-Methylnaphthalene	1.67	1.373		mg/Kg		82	32 - 120	2	50
Pyrene	1.67	1.290		mg/Kg		77	43 - 120	18	50
Phenanthrene	1.67	1.283		mg/Kg		77	45 - 120	0	50
Chrysene	1.67	1.383		mg/Kg		83	43 - 120	1	49
Dibenz(a,h)anthracene	1.67	1.426		mg/Kg		86	32 - 128	13	50
Fluoranthene	1.67	1.386		mg/Kg		83	46 - 120	2	50
Fluorene	1.67	1.446		mg/Kg		87	42 - 120	4	50
Indeno[1,2,3-cd]pyrene	1.67	1.396		mg/Kg		84	41 - 121	13	50
Naphthalene	1.67	1.323		mg/Kg		79	32 - 120	0	50
2-Methylnaphthalene	1.67	1.357		mg/Kg		81	28 - 120	2	50

TestAmerica Nashville

QC Sample Results

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

TestAmerica Job ID: 490-72080-1

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

Lab Sample ID: LCSD 490-226322/3-A
 Matrix: Solid
 Analysis Batch: 226554

Client Sample ID: Lab Control Sample Dup
 Prep Type: Total/NA
 Prep Batch: 226322

Surrogate	LCSD		Limits
	%Recovery	Qualifier	
2-Fluorobiphenyl (Surr)	77		29 - 120
Terphenyl-d14 (Surr)	72		13 - 120
Nitrobenzene-d5 (Surr)	68		27 - 120

Method: Moisture - Percent Moisture

Lab Sample ID: 490-72075-D-2 DU
 Matrix: Solid
 Analysis Batch: 226186

Client Sample ID: Duplicate
 Prep Type: Total/NA

Analyte	Sample	Sample	DU	DU	Unit	D	RPD	RPD
	Result	Qualifier	Result	Qualifier			Limit	
Percent Solids	84		84		%		0	20



QC Association Summary

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

TestAmerica Job ID: 490-72080-1

GC/MS VOA

Prep Batch: 226228

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-72080-1	477 Dogwood - 2	Total/NA	Soil	5035	
490-72080-2	309 Ash	Total/NA	Soil	5035	

Prep Batch: 226230

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-72069-D-14-A MS	Matrix Spike	Total/NA	Solid	5035	
490-72069-D-14-B MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Analysis Batch: 226828

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-72069-D-14-A MS	Matrix Spike	Total/NA	Solid	8260B	226230
490-72069-D-14-B MSD	Matrix Spike Duplicate	Total/NA	Solid	8260B	226230
490-72080-1	477 Dogwood - 2	Total/NA	Soil	8260B	226228
490-72080-2	309 Ash	Total/NA	Soil	8260B	226228
LCS 490-226828/4	Lab Control Sample	Total/NA	Solid	8260B	
MB 490-226828/8	Method Blank	Total/NA	Solid	8260B	

GC/MS Semi VOA

Prep Batch: 226322

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-72080-1	477 Dogwood - 2	Total/NA	Soil	3550C	
490-72080-2	309 Ash	Total/NA	Soil	3550C	
LCS 490-226322/2-A	Lab Control Sample	Total/NA	Solid	3550C	
LCSD 490-226322/3-A	Lab Control Sample Dup	Total/NA	Solid	3550C	
MB 490-226322/1-A	Method Blank	Total/NA	Solid	3550C	

Analysis Batch: 226554

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-72080-1	477 Dogwood - 2	Total/NA	Soil	8270D	226322
490-72080-2	309 Ash	Total/NA	Soil	8270D	226322
LCS 490-226322/2-A	Lab Control Sample	Total/NA	Solid	8270D	226322
LCSD 490-226322/3-A	Lab Control Sample Dup	Total/NA	Solid	8270D	226322
MB 490-226322/1-A	Method Blank	Total/NA	Solid	8270D	226322

General Chemistry

Analysis Batch: 226186

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-72075-D-2 DU	Duplicate	Total/NA	Solid	Moisture	
490-72080-1	477 Dogwood - 2	Total/NA	Soil	Moisture	
490-72080-2	309 Ash	Total/NA	Soil	Moisture	

Lab Chronicle

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

TestAmerica Job ID: 490-72080-1

Client Sample ID: 477 Dogwood - 2

Date Collected: 02/03/15 15:00

Date Received: 02/07/15 08:30

Lab Sample ID: 490-72080-1

Matrix: Soil

Percent Solids: 76.8

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.082 g	5.0 mL	226228	02/03/15 15:00	JLP	TAL NSH
Total/NA	Analysis	8260B		1	5.082 g	5.0 mL	226828	02/11/15 19:01	KKK	TAL NSH
Total/NA	Prep	3550C			30.11 g	1 mL	226322	02/09/15 10:52	LDC	TAL NSH
Total/NA	Analysis	8270D		1	30.11 g	1 mL	226554	02/10/15 19:35	SNR	TAL NSH
Total/NA	Analysis	Moisture		1			226186	02/07/15 16:40	LOJ	TAL NSH

Client Sample ID: 309 Ash

Date Collected: 02/05/15 14:15

Date Received: 02/07/15 08:30

Lab Sample ID: 490-72080-2

Matrix: Soil

Percent Solids: 85.4

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.847 g	5.0 mL	226228	02/05/15 14:15	JLP	TAL NSH
Total/NA	Analysis	8260B		1	5.847 g	5.0 mL	226828	02/11/15 19:29	KKK	TAL NSH
Total/NA	Prep	3550C			30.40 g	1 mL	226322	02/09/15 10:52	LDC	TAL NSH
Total/NA	Analysis	8270D		1	30.40 g	1 mL	226554	02/10/15 19:57	SNR	TAL NSH
Total/NA	Analysis	Moisture		1			226186	02/07/15 16:40	LOJ	TAL NSH

Laboratory References:

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

Method Summary

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

TestAmerica Job ID: 490-72080-1

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: 490-72080-1

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
North Carolina (WW/SW)	State Program	4	387	12-31-15

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

Analysis Method	Prep Method	Matrix	Analyte
Moisture		Soil	Percent Solids

South Carolina	State Program	4	84009 (001)	02-28-15
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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	Soil	1-Methylnaphthalene
Moisture		Soil	Percent Solids



COOLER RECEIPT FORM



Cooler Received/Opened On 2/7/2015 @ 8:30

1. Tracking # 4012 (last 4 digits, FedEx)

Courier: FedEx IR Gun ID 17610176

2. Temperature of rep. sample or temp blank when opened: 1 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

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 (initial) AJH

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 # 1

I certify that I unloaded the cooler and answered questions 7-14 (initial) AJH

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 (initial) AJH

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 (initial) AJH

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

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

Login Sample Receipt Checklist

Client: Small Business Group Inc.

Job Number: 490-72080-1

Login Number: 72080

List Number: 1

Creator: Huskey, Adam

List Source: TestAmerica Nashville

Question	Answer	Comment
Radioactivity wasn't checked or is \leq 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.	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 $<6\text{mm}$ (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	



ATTACHMENT A

UST Certificate of Disposal

CONTRACTOR

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

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

TANK ID & LOCATION

UST 309Ash; 309 Ash Street, Laurel Bay Housing Area, MCAS Beaufort, S.C.

DISPOSAL LOCATION

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

TYPE OF TANK

SIZE (GAL)

Steel

280

CLEANING/DISPOSAL METHOD

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

DISPOSAL CERTIFICATION

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

T. Q. V. D. O. O. / 3 | 4 | 15
(Name) (Date)

Appendix C
Regulatory Correspondence



August 3, 2016

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

RE: No Further Action
Laurel Bay Underground Storage Tank Assessment Reports
Dated July 2015, November 2015

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 assessment reports and agrees there is no indication of soil or groundwater contamination on these properties 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,

A handwritten signature in blue ink, appearing to read "L. Petrus", is written over a light blue horizontal line.

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

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

Attachment to: Petrus to Drawdy
Subject: No Further Action
Dated August 3, 2016

Laurel Bay Underground Assessment Reports for (28 addresses/29 tanks)

No Further Action recommendation:	
309 Ash	1001 Bobwhite
477 Dogwood Tank 2	1020 Foxglove
563 Dahlia	1063 Gardenia
659 Camellia	1065 Gardenia Tank 2
1213 Cardinal	1100 Iris Tank 3*
114 Banyan	1139 Iris
158 Cypress	1141 Iris Tank 2
459 Elderberry	1174 Bobwhite
611 Dahlia	1184 Bobwhite Tank 1
656 Camellia	1184 Bobwhite Tank 2
671 Camellia	1220 Cardinal
678 Camellia	1253 Dove
724 Bluebell	1332 Albatross
732 Bluebell	1387 Dove
934 Albacore	
*1100 Iris Tank 1-NFA 12/19/2008, Tank 2-NFA 7/1/15; Paperwork for Tank 3 is labeled Tank 2	