

SUMMARY REPORT
44 EAST CYPRESS STREET (FORMERLY 222 EAST CYPRESS 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

SUMMARY REPORT
44 EAST CYPRESS STREET (FORMERLY 222 EAST CYPRESS 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

Prepared by:



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

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

Table of Contents

1.0	INTRODUCTION.....	1
1.1	BACKGROUND INFORMATION.....	1
1.2	UST REMOVAL AND ASSESSMENT PROCESS.....	2
2.0	SAMPLING ACTIVITIES AND RESULTS.....	3
2.1	UST REMOVAL AND SOIL SAMPLING.....	3
2.2	SOIL ANALYTICAL RESULTS.....	4
3.0	PROPERTY STATUS.....	4
4.0	REFERENCES.....	4

Table

Table 1	Laboratory Analytical Results - Soil
---------	--------------------------------------

Appendices

Appendix A	Multi-Media Selection Process for LBMH
Appendix B	UST Assesment Report
Appendix C	Regulatory Correspondence

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 44 East Cypress Street (Formerly 222 East Cypress 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 44 East Cypress Street (Formerly 222 East Cypress Street). Details regarding the soil investigation at this site are provided in the *SCDHEC UST Assessment Report – 222 East Cypress Street* (MCAS Beaufort, 2014). The UST Assessment Report is provided in Appendix B.

2.1 UST Removal and Soil Sampling

On July 2, 2013, a single 280 gallon heating oil UST was removed from the landscaped area adjacent to the driveway at 44 East Cypress Street (Formerly 222 East Cypress Street). The former UST location is indicated on Figures 2 and 3 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 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 44 East Cypress Street (Formerly 222 East Cypress 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 44 East Cypress Street (Formerly 222 East Cypress Street). This NFA determination was obtained in a letter dated July 1, 2015. SCDHEC's NFA letter is provided in Appendix C.

4.0 REFERENCES

Marine Corps Air Station Beaufort, 2014. *South Carolina Department of Health and Environmental Control (SCDHEC) Underground Storage Tank Assessment Report – 222 East Cypress Street, Laurel Bay Military Housing Area*, March 2014.

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
44 East Cypress Street (Formerly 222 East Cypress Street)
Laurel Bay Military Housing Area
Marine Corps Air Station Beaufort
Beaufort, South Carolina

Constituent	SCDHEC RBSLs ⁽¹⁾	Results Sample Collected 07/02/13
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

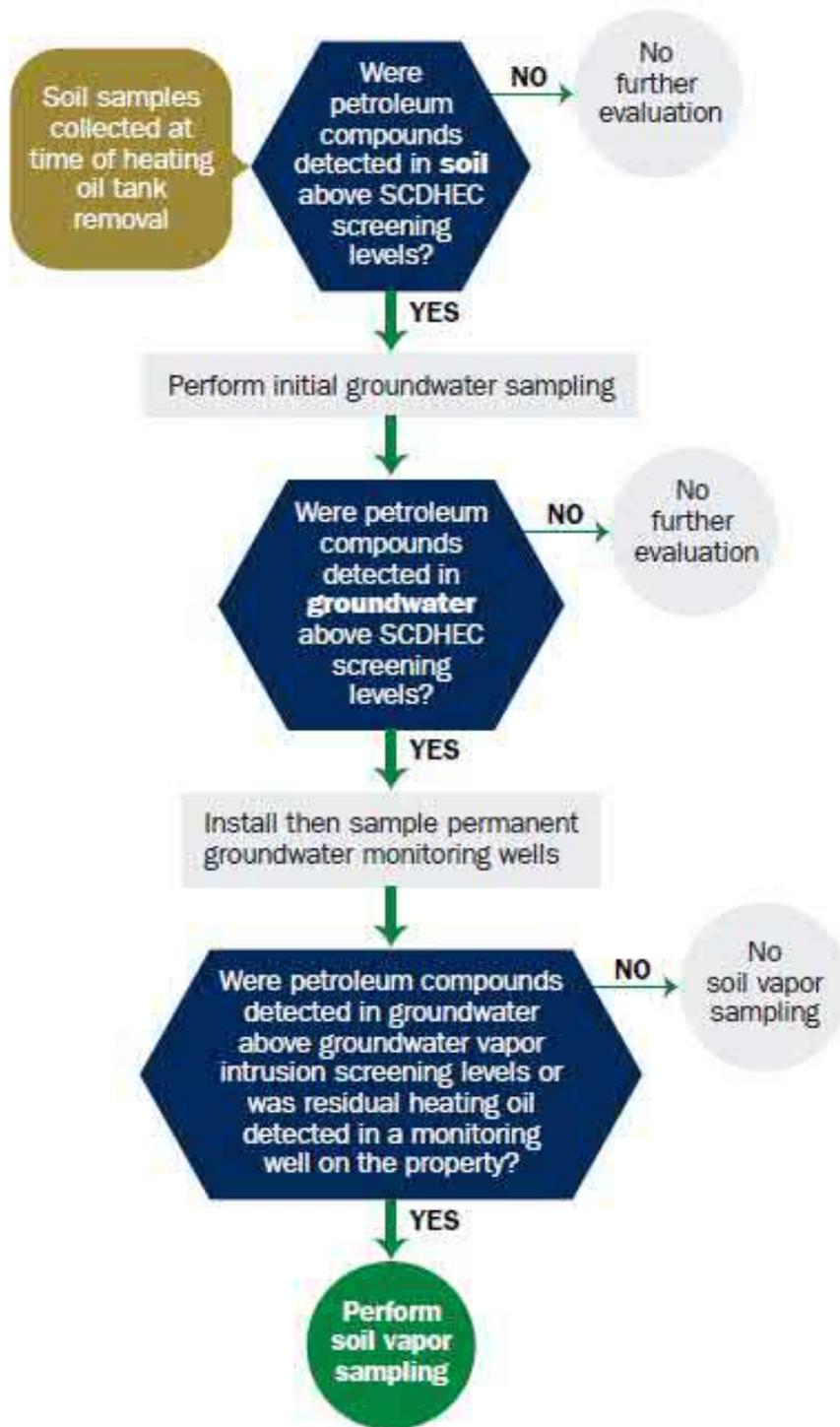
mg/kg - milligram per kilogram

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

Date Received
State Use Only

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

RECEIVED

MAR 19 2014

SCDHEC - Bureau of
Land & Waste Management

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	
222 Cypress 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

222Cypress				
Heating oil				
280 gal				
Late 1950s				
Steel				
Mid 1980s				
6'				
No				
No				
Removed				
7/2/2013				
Yes				
Yes				

- 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.....

M. Method of disposal for any USTs removed from the ground (attach disposal manifests)
UST 222Cypress 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 222Cypress 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.....

222Cypress				
Steel & Copper				
N/A				
N/A				
Suction				
No				
Yes				
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
<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 style="padding-left: 100px;">*Slight odor noted in excavation.</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 #
222 Cypress	Excav at fill end	Soil	Sandy	6'	7/2/13 1515 hrs	P. Shaw	
8							
9							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							

* = Depth Below the Surrounding Land Surface

XII. RECEPTORS

	Yes	No
<p>A. Are there any lakes, ponds, streams, or wetlands located within 1000 feet of the UST system?</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="padding-left: 100px;">*Sewer, water, electricity, cable, fiber optic & geothermal</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

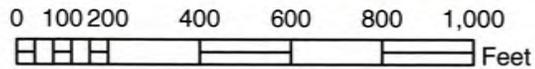
XIII. SITE MAP

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)

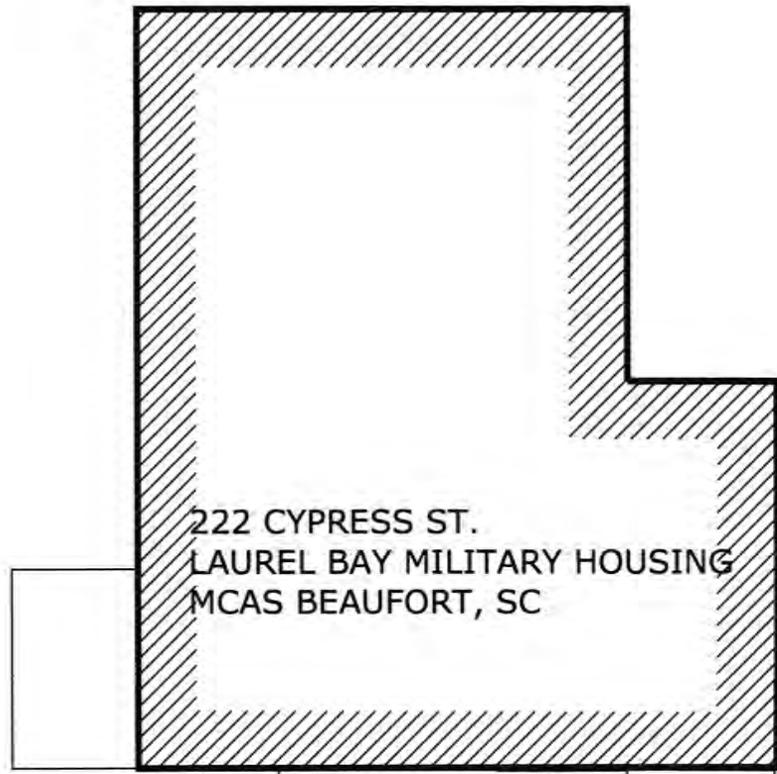


222 CYPRESS



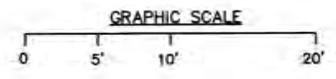
<p>SBG-EEG, Inc. 7301 Rivers Ave., Suite 245 N. Charleston SC 29406-9643 Ph. (843) 573-7140</p>
<p>Drawn By: L. DiAsio</p>
<p>Dwg Date: Oct 2013</p>

**FIGURE 1: LOCATION MAP
 222 CYPRESS STREET
 LAUREL BAY, BEAUFORT SC**



222 CYPRESS ST.
LAUREL BAY MILITARY HOUSING
MCAS BEAUFORT, SC

UST 222CYPRESS



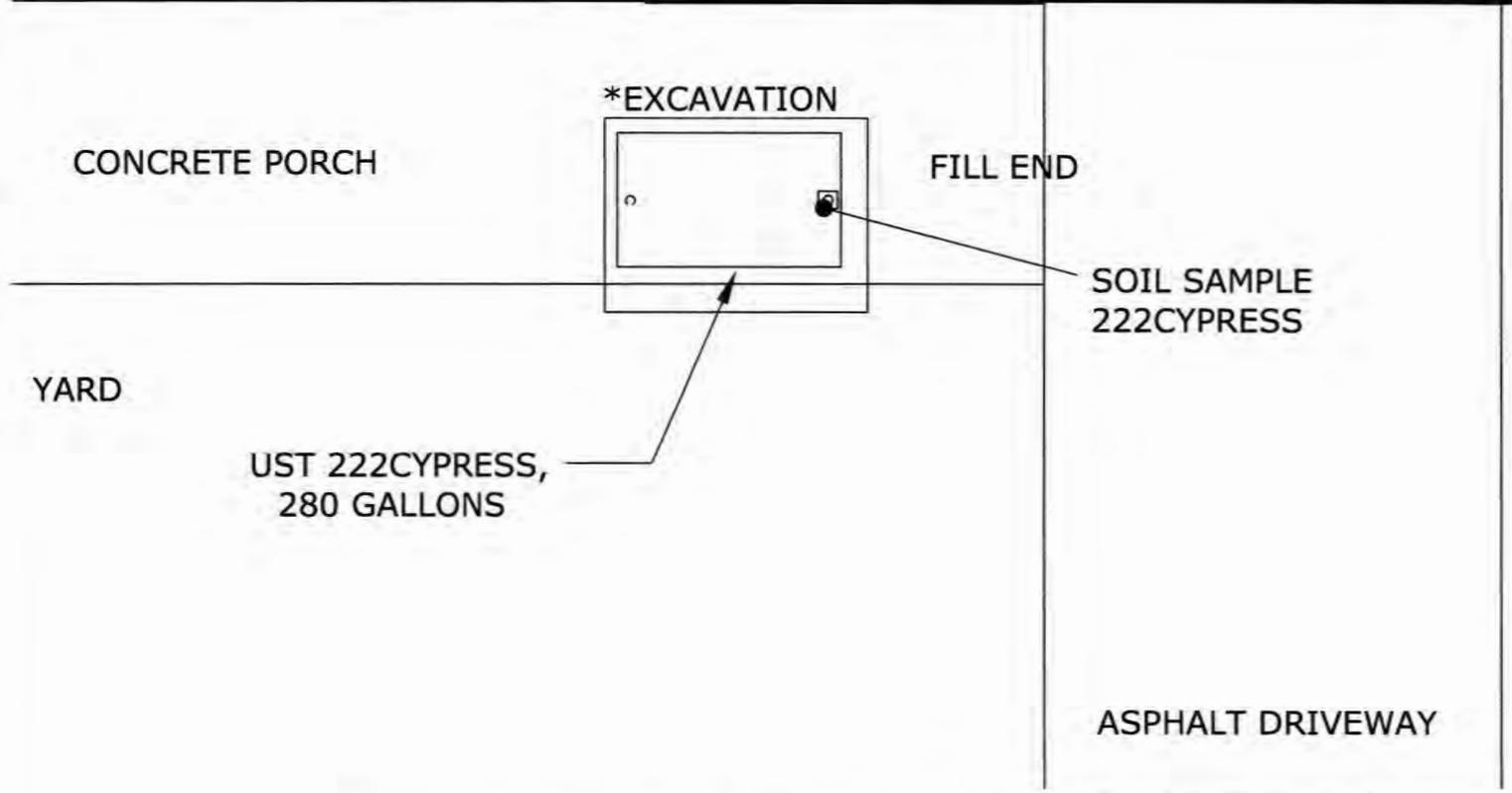
DEPTH BELOW GRADE
222CYPRESS = 36"

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

FIGURE 2 SITE MAP
222 CYPRESS ST., LAUREL BAY
MCAS BEAUFORT SC

SCALE: GRAPHIC DWG DATE OCT 2013

222 CYPRESS ST.
LAUREL BAY MILITARY HOUSING
MCAS BEAUFORT, SC



YARD

CONCRETE PORCH

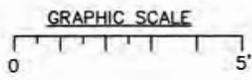
*EXCAVATION

FILL END

SOIL SAMPLE
222CYPRESS

UST 222CYPRESS,
280 GALLONS

ASPHALT DRIVEWAY



*A PORTION OF THE CONCRETE
PORCH WAS REMOVED TO
FACILITATE EXTRACTING THE TANK.

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

FIGURE 3 UST SAMPLE LOCATIONS
222 CYPRESS ST., LAUREL BAY
MCAS BEAUFORT SC

SCALE: GRAPHIC DWG DATE OCT 2013



Picture 1: Location of UST 222Cypress.



Picture 2: UST 222Cypress excavation.

XIV. SUMMARY OF ANALYSIS RESULTS

Enter the soil analytical data for each soil boring for all COC in the table below and on the following page.

CoC	UST	222Cypress						
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)

Did You Remember to Include the Following?

- Permit ID Number**
- Sample Collection and Storage Methods**
- Preservative used in the sample containers**
- Scaled Site Map with ALL Requested Information**
- Laboratory Chain-of-Custody Form**
- Certified Analytical Results**
- Completed and Notarized Insurance Statement**
- A Copy of Your Environmental Insurance Policy
(if applicable)**
- Samples from all Dispenser Islands and Piping Runs**
- Photographs (if available)**

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: 490-30480-1
Client Project/Site: Laurel Bay Site

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

Attn: Tom McElwee



Authorized for release by:
7/22/2013 12:15:22 PM

Ken Hayes, Project Manager I
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.

1

2

3

4

5

6

7

8

9

10

11

12

13



Table of Contents

Cover Page	1
Table of Contents	2
Sample Summary	3
Case Narrative	4
Definitions	5
Client Sample Results	6
QC Sample Results	8
QC Association	12
Chronicle	13
Method Summary	14
Certification Summary	15
Chain of Custody	16
Receipt Checklists	18

Sample Summary

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

TestAmerica Job ID: 490-30480-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
490-30480-1	220 Cypress	Solid	07/01/13 14:15	07/09/13 08:15
490-30480-2	222 Cypress	Solid	07/02/13 15:15	07/09/13 08:15

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13

Case Narrative

TestAmerica Job ID: 490-30480-1

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

Job ID: 490-30480-1

Laboratory: TestAmerica Nashville

Narrative

Job Narrative
490-30480-1

Comments

No additional comments.

Receipt

The samples were received on 7/9/2013 8:15 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 0.6° C.

GC/MS VOA

Method(s) 8260B: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with batch 91944. See LCS/LCSD

No other analytical or quality issues were noted.

GC/MS Semi VOA

No analytical or quality issues were noted.

Organic Prep

No analytical or quality issues were noted.

VOA Prep

No analytical or quality issues were noted.



Definitions/Glossary

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

TestAmerica Job ID: 490-30480-1

Qualifiers

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



Client Sample Results

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

TestAmerica Job ID: 490-30480-1

Client Sample ID: 220 Cypress

Lab Sample ID: 490-30480-1

Date Collected: 07/01/13 14:15

Matrix: Solid

Date Received: 07/09/13 08:15

Percent Solids: 78.4

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.00258	0.000865	mg/Kg	☒	07/10/13 10:29	07/10/13 15:21	1
Ethylbenzene	ND		0.00258	0.000865	mg/Kg	☒	07/10/13 10:29	07/10/13 15:21	1
Naphthalene	ND		0.00646	0.00219	mg/Kg	☒	07/10/13 10:29	07/10/13 15:21	1
Toluene	ND		0.00258	0.000955	mg/Kg	☒	07/10/13 10:29	07/10/13 15:21	1
Xylenes, Total	ND		0.00646	0.000865	mg/Kg	☒	07/10/13 10:29	07/10/13 15:21	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	101		70 - 130	07/10/13 10:29	07/10/13 15:21	1
4-Bromofluorobenzene (Surr)	102		70 - 130	07/10/13 10:29	07/10/13 15:21	1
Dibromofluoromethane (Surr)	103		70 - 130	07/10/13 10:29	07/10/13 15:21	1
Toluene-d8 (Surr)	103		70 - 130	07/10/13 10:29	07/10/13 15:21	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.0855	0.0128	mg/Kg	☒	07/10/13 13:49	07/13/13 21:38	1
Acenaphthylene	ND		0.0855	0.0115	mg/Kg	☒	07/10/13 13:49	07/13/13 21:38	1
Anthracene	ND		0.0855	0.0115	mg/Kg	☒	07/10/13 13:49	07/13/13 21:38	1
Benzo[a]anthracene	0.316		0.0855	0.0191	mg/Kg	☒	07/10/13 13:49	07/13/13 21:38	1
Benzo[a]pyrene	0.181		0.0855	0.0153	mg/Kg	☒	07/10/13 13:49	07/13/13 21:38	1
Benzo[b]fluoranthene	0.349		0.0855	0.0153	mg/Kg	☒	07/10/13 13:49	07/13/13 21:38	1
Benzo[g,h,i]perylene	0.0664	J	0.0855	0.0115	mg/Kg	☒	07/10/13 13:49	07/13/13 21:38	1
Benzo[k]fluoranthene	0.106		0.0855	0.0179	mg/Kg	☒	07/10/13 13:49	07/13/13 21:38	1
1-Methylnaphthalene	ND		0.0855	0.0179	mg/Kg	☒	07/10/13 13:49	07/13/13 21:38	1
Pyrene	0.231		0.0855	0.0153	mg/Kg	☒	07/10/13 13:49	07/13/13 21:38	1
Phenanthrene	ND		0.0855	0.0115	mg/Kg	☒	07/10/13 13:49	07/13/13 21:38	1
Chrysene	0.354		0.0855	0.0115	mg/Kg	☒	07/10/13 13:49	07/13/13 21:38	1
Dibenz(a,h)anthracene	ND		0.0855	0.00893	mg/Kg	☒	07/10/13 13:49	07/13/13 21:38	1
Fluoranthene	0.200		0.0855	0.0115	mg/Kg	☒	07/10/13 13:49	07/13/13 21:38	1
Fluorene	ND		0.0855	0.0153	mg/Kg	☒	07/10/13 13:49	07/13/13 21:38	1
Indeno[1,2,3-cd]pyrene	0.0676	J	0.0855	0.0128	mg/Kg	☒	07/10/13 13:49	07/13/13 21:38	1
Naphthalene	ND		0.0855	0.0115	mg/Kg	☒	07/10/13 13:49	07/13/13 21:38	1
2-Methylnaphthalene	ND		0.0855	0.0204	mg/Kg	☒	07/10/13 13:49	07/13/13 21:38	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl (Surr)	35		29 - 120	07/10/13 13:49	07/13/13 21:38	1
Terphenyl-d14 (Surr)	40		13 - 120	07/10/13 13:49	07/13/13 21:38	1
Nitrobenzene-d5 (Surr)	41		27 - 120	07/10/13 13:49	07/13/13 21:38	1

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	78		0.10	0.10	%			07/10/13 09:12	1

Client Sample Results

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

TestAmerica Job ID: 490-30480-1

Client Sample ID: 222 Cypress

Lab Sample ID: 490-30480-2

Date Collected: 07/02/13 15:15

Matrix: Solid

Date Received: 07/09/13 08:15

Percent Solids: 86.8

Method: 8260B - Volatile Organic Compounds (GC/MS)									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.00264	0.000883	mg/Kg	☒	07/10/13 10:29	07/10/13 15:51	1
Ethylbenzene	ND		0.00264	0.000883	mg/Kg	☒	07/10/13 10:29	07/10/13 15:51	1
Naphthalene	ND		0.00659	0.00224	mg/Kg	☒	07/10/13 10:29	07/10/13 15:51	1
Toluene	ND		0.00264	0.000976	mg/Kg	☒	07/10/13 10:29	07/10/13 15:51	1
Xylenes, Total	ND		0.00659	0.000883	mg/Kg	☒	07/10/13 10:29	07/10/13 15:51	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	99		70 - 130				07/10/13 10:29	07/10/13 15:51	1
4-Bromofluorobenzene (Surr)	99		70 - 130				07/10/13 10:29	07/10/13 15:51	1
Dibromofluoromethane (Surr)	103		70 - 130				07/10/13 10:29	07/10/13 15:51	1
Toluene-d8 (Surr)	103		70 - 130				07/10/13 10:29	07/10/13 15:51	1

Method: 8270D - Semivolatile Organic Compounds (GC/MS)									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.0757	0.0113	mg/Kg	☒	07/10/13 13:49	07/13/13 23:00	1
Acenaphthylene	ND		0.0757	0.0102	mg/Kg	☒	07/10/13 13:49	07/13/13 23:00	1
Anthracene	ND		0.0757	0.0102	mg/Kg	☒	07/10/13 13:49	07/13/13 23:00	1
Benzo[a]anthracene	ND		0.0757	0.0169	mg/Kg	☒	07/10/13 13:49	07/13/13 23:00	1
Benzo[a]pyrene	ND		0.0757	0.0136	mg/Kg	☒	07/10/13 13:49	07/13/13 23:00	1
Benzo[b]fluoranthene	ND		0.0757	0.0136	mg/Kg	☒	07/10/13 13:49	07/13/13 23:00	1
Benzo[g,h,i]perylene	ND		0.0757	0.0102	mg/Kg	☒	07/10/13 13:49	07/13/13 23:00	1
Benzo[k]fluoranthene	ND		0.0757	0.0158	mg/Kg	☒	07/10/13 13:49	07/13/13 23:00	1
1-Methylnaphthalene	ND		0.0757	0.0158	mg/Kg	☒	07/10/13 13:49	07/13/13 23:00	1
Pyrene	ND		0.0757	0.0136	mg/Kg	☒	07/10/13 13:49	07/13/13 23:00	1
Phenanthrene	ND		0.0757	0.0102	mg/Kg	☒	07/10/13 13:49	07/13/13 23:00	1
Chrysene	ND		0.0757	0.0102	mg/Kg	☒	07/10/13 13:49	07/13/13 23:00	1
Dibenz(a,h)anthracene	ND		0.0757	0.00791	mg/Kg	☒	07/10/13 13:49	07/13/13 23:00	1
Fluoranthene	ND		0.0757	0.0102	mg/Kg	☒	07/10/13 13:49	07/13/13 23:00	1
Fluorene	ND		0.0757	0.0136	mg/Kg	☒	07/10/13 13:49	07/13/13 23:00	1
Indeno[1,2,3-cd]pyrene	ND		0.0757	0.0113	mg/Kg	☒	07/10/13 13:49	07/13/13 23:00	1
Naphthalene	ND		0.0757	0.0102	mg/Kg	☒	07/10/13 13:49	07/13/13 23:00	1
2-Methylnaphthalene	ND		0.0757	0.0181	mg/Kg	☒	07/10/13 13:49	07/13/13 23:00	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl (Surr)	48		29 - 120				07/10/13 13:49	07/13/13 23:00	1
Terphenyl-d14 (Surr)	63		13 - 120				07/10/13 13:49	07/13/13 23:00	1
Nitrobenzene-d5 (Surr)	48		27 - 120				07/10/13 13:49	07/13/13 23:00	1

General Chemistry									
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	87		0.10	0.10	%			07/10/13 09:12	1

TestAmerica Nashville

QC Sample Results

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

TestAmerica Job ID: 490-30480-1

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

Lab Sample ID: MB 490-91944/7

Matrix: Solid

Analysis Batch: 91944

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			07/10/13 12:37	1
Ethylbenzene	ND		0.00200	0.000670	mg/Kg			07/10/13 12:37	1
Naphthalene	ND		0.00500	0.00170	mg/Kg			07/10/13 12:37	1
Toluene	ND		0.00200	0.000740	mg/Kg			07/10/13 12:37	1
Xylenes, Total	ND		0.00500	0.000670	mg/Kg			07/10/13 12:37	1

Surrogate	MB MB		Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
1,2-Dichloroethane-d4 (Surr)	97		70 - 130		07/10/13 12:37	1
4-Bromofluorobenzene (Surr)	100		70 - 130		07/10/13 12:37	1
Dibromofluoromethane (Surr)	103		70 - 130		07/10/13 12:37	1
Toluene-d8 (Surr)	105		70 - 130		07/10/13 12:37	1

Lab Sample ID: LCS 490-91944/4

Matrix: Solid

Analysis Batch: 91944

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS LCS		Unit	D	%Rec	%Rec. Limits
		Result	Qualifier				
Benzene	0.0500	0.05052		mg/Kg		101	75 - 127
Ethylbenzene	0.0500	0.05420		mg/Kg		108	80 - 134
Naphthalene	0.0500	0.05638		mg/Kg		113	69 - 150
Toluene	0.0500	0.05158		mg/Kg		103	80 - 132
Xylenes, Total	0.150	0.1615		mg/Kg		108	80 - 137

Surrogate	LCS LCS		Limits
	%Recovery	Qualifier	
1,2-Dichloroethane-d4 (Surr)	98		70 - 130
4-Bromofluorobenzene (Surr)	98		70 - 130
Dibromofluoromethane (Surr)	104		70 - 130
Toluene-d8 (Surr)	105		70 - 130

Lab Sample ID: LCSD 490-91944/5

Matrix: Solid

Analysis Batch: 91944

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Analyte	Spike Added	LCSD LCSD		Unit	D	%Rec	%Rec. Limits	RPD	Limit
		Result	Qualifier						
Benzene	0.0500	0.04905		mg/Kg		98	75 - 127	3	50
Ethylbenzene	0.0500	0.05226		mg/Kg		105	80 - 134	4	50
Naphthalene	0.0500	0.05581		mg/Kg		112	69 - 150	1	50
Toluene	0.0500	0.04996		mg/Kg		100	80 - 132	3	50
Xylenes, Total	0.150	0.1535		mg/Kg		102	80 - 137	5	50

Surrogate	LCSD LCSD		Limits
	%Recovery	Qualifier	
1,2-Dichloroethane-d4 (Surr)	100		70 - 130
4-Bromofluorobenzene (Surr)	98		70 - 130
Dibromofluoromethane (Surr)	105		70 - 130
Toluene-d8 (Surr)	104		70 - 130

TestAmerica Nashville

QC Sample Results

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

TestAmerica Job ID: 490-30480-1

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

Lab Sample ID: MB 490-92065/1-A
Matrix: Solid
Analysis Batch: 92821

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 92065

Analyte	MB MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Acenaphthene	ND		0.0670	0.0100	mg/Kg		07/10/13 13:49	07/13/13 21:10	1
Acenaphthylene	ND		0.0670	0.00900	mg/Kg		07/10/13 13:49	07/13/13 21:10	1
Anthracene	ND		0.0670	0.00900	mg/Kg		07/10/13 13:49	07/13/13 21:10	1
Benzo[a]anthracene	ND		0.0670	0.0150	mg/Kg		07/10/13 13:49	07/13/13 21:10	1
Benzo[a]pyrene	ND		0.0670	0.0120	mg/Kg		07/10/13 13:49	07/13/13 21:10	1
Benzo[b]fluoranthene	ND		0.0670	0.0120	mg/Kg		07/10/13 13:49	07/13/13 21:10	1
Benzo[g,h,i]perylene	ND		0.0670	0.00900	mg/Kg		07/10/13 13:49	07/13/13 21:10	1
Benzo[k]fluoranthene	ND		0.0670	0.0140	mg/Kg		07/10/13 13:49	07/13/13 21:10	1
1-Methylnaphthalene	ND		0.0670	0.0140	mg/Kg		07/10/13 13:49	07/13/13 21:10	1
Pyrene	ND		0.0670	0.0120	mg/Kg		07/10/13 13:49	07/13/13 21:10	1
Phenanthrene	ND		0.0670	0.00900	mg/Kg		07/10/13 13:49	07/13/13 21:10	1
Chrysene	ND		0.0670	0.00900	mg/Kg		07/10/13 13:49	07/13/13 21:10	1
Dibenz(a,h)anthracene	ND		0.0670	0.00700	mg/Kg		07/10/13 13:49	07/13/13 21:10	1
Fluoranthene	ND		0.0670	0.00900	mg/Kg		07/10/13 13:49	07/13/13 21:10	1
Fluorene	ND		0.0670	0.0120	mg/Kg		07/10/13 13:49	07/13/13 21:10	1
Indeno[1,2,3-cd]pyrene	ND		0.0670	0.0100	mg/Kg		07/10/13 13:49	07/13/13 21:10	1
Naphthalene	ND		0.0670	0.00900	mg/Kg		07/10/13 13:49	07/13/13 21:10	1
2-Methylnaphthalene	ND		0.0670	0.0160	mg/Kg		07/10/13 13:49	07/13/13 21:10	1

Surrogate	MB MB		Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
2-Fluorobiphenyl (Surr)	60		29 - 120	07/10/13 13:49	07/13/13 21:10	1
Terphenyl-d14 (Surr)	78		13 - 120	07/10/13 13:49	07/13/13 21:10	1
Nitrobenzene-d5 (Surr)	57		27 - 120	07/10/13 13:49	07/13/13 21:10	1

Lab Sample ID: LCS 490-92065/2-A
Matrix: Solid
Analysis Batch: 92821

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 92065

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec.
							Limits
Acenaphthylene	1.67	1.196		mg/Kg		72	38 - 120
Anthracene	1.67	1.392		mg/Kg		84	46 - 124
Benzo[a]anthracene	1.67	1.423		mg/Kg		85	45 - 120
Benzo[a]pyrene	1.67	1.345		mg/Kg		81	45 - 120
Benzo[b]fluoranthene	1.67	1.467		mg/Kg		88	42 - 120
Benzo[g,h,i]perylene	1.67	1.464		mg/Kg		88	38 - 120
Benzo[k]fluoranthene	1.67	1.227		mg/Kg		74	42 - 120
1-Methylnaphthalene	1.67	1.162		mg/Kg		70	32 - 120
Pyrene	1.67	1.383		mg/Kg		83	43 - 120
Phenanthrene	1.67	1.378		mg/Kg		83	45 - 120
Chrysene	1.67	1.435		mg/Kg		86	43 - 120
Dibenz(a,h)anthracene	1.67	1.449		mg/Kg		87	32 - 128
Fluoranthene	1.67	1.435		mg/Kg		86	46 - 120
Fluorene	1.67	1.335		mg/Kg		80	42 - 120
Indeno[1,2,3-cd]pyrene	1.67	1.341		mg/Kg		80	41 - 121
Naphthalene	1.67	1.151		mg/Kg		69	32 - 120
2-Methylnaphthalene	1.67	1.182		mg/Kg		71	28 - 120

TestAmerica Nashville

QC Sample Results

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

TestAmerica Job ID: 490-30480-1

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

Lab Sample ID: LCS 490-92065/2-A

Matrix: Solid

Analysis Batch: 92821

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 92065

Surrogate	LCS LCS		Limits
	%Recovery	Qualifier	
2-Fluorobiphenyl (Surr)	49		29 - 120
Terphenyl-d14 (Surr)	66		13 - 120
Nitrobenzene-d5 (Surr)	48		27 - 120

Lab Sample ID: 490-30480-1 MS

Matrix: Solid

Analysis Batch: 92821

Client Sample ID: 220 Cypress

Prep Type: Total/NA

Prep Batch: 92065

Analyte	Sample	Sample	Spike	MS MS		Unit	D	%Rec	%Rec.	
	Result	Qualifier	Added	Result	Qualifier				Limits	
Acenaphthylene	ND		2.11	1.448		mg/Kg	☒	68	25 - 120	
Anthracene	ND		2.11	1.682		mg/Kg	☒	80	28 - 125	
Benzo[a]anthracene	0.316		2.11	1.720		mg/Kg	☒	66	23 - 120	
Benzo[a]pyrene	0.181		2.11	1.593		mg/Kg	☒	67	15 - 128	
Benzo[b]fluoranthene	0.349		2.11	1.861		mg/Kg	☒	72	12 - 133	
Benzo[g,h,i]perylene	0.0664	J	2.11	1.550		mg/Kg	☒	70	22 - 120	
Benzo[k]fluoranthene	0.106		2.11	1.456		mg/Kg	☒	64	28 - 120	
1-Methylnaphthalene	ND		2.11	1.251		mg/Kg	☒	59	10 - 120	
Pyrene	0.231		2.11	1.746		mg/Kg	☒	72	20 - 123	
Phenanthrene	ND		2.11	1.608		mg/Kg	☒	76	21 - 122	
Chrysene	0.354		2.11	1.732		mg/Kg	☒	65	20 - 120	
Dibenz(a,h)anthracene	ND		2.11	1.499		mg/Kg	☒	71	12 - 128	
Fluoranthene	0.200		2.11	1.904		mg/Kg	☒	81	10 - 143	
Fluorene	ND		2.11	1.587		mg/Kg	☒	75	20 - 120	
Indeno[1,2,3-cd]pyrene	0.0676	J	2.11	1.481		mg/Kg	☒	67	22 - 121	
Naphthalene	ND		2.11	1.121		mg/Kg	☒	53	10 - 120	
2-Methylnaphthalene	ND		2.11	1.193		mg/Kg	☒	56	13 - 120	

Surrogate	MS MS		Limits
	%Recovery	Qualifier	
2-Fluorobiphenyl (Surr)	40		29 - 120
Terphenyl-d14 (Surr)	48		13 - 120
Nitrobenzene-d5 (Surr)	44		27 - 120

Lab Sample ID: 490-30480-1 MSD

Matrix: Solid

Analysis Batch: 92821

Client Sample ID: 220 Cypress

Prep Type: Total/NA

Prep Batch: 92065

Analyte	Sample	Sample	Spike	MSD MSD		Unit	D	%Rec	%Rec.		RPD	
	Result	Qualifier	Added	Result	Qualifier				Limits	RPD	Limit	
Acenaphthylene	ND		2.09	1.525		mg/Kg	☒	73	25 - 120	5	50	
Anthracene	ND		2.09	1.582		mg/Kg	☒	76	28 - 125	6	49	
Benzo[a]anthracene	0.316		2.09	1.942		mg/Kg	☒	78	23 - 120	12	50	
Benzo[a]pyrene	0.181		2.09	1.643		mg/Kg	☒	70	15 - 128	3	50	
Benzo[b]fluoranthene	0.349		2.09	1.801		mg/Kg	☒	70	12 - 133	3	50	
Benzo[g,h,i]perylene	0.0664	J	2.09	1.578		mg/Kg	☒	72	22 - 120	2	50	
Benzo[k]fluoranthene	0.106		2.09	1.553		mg/Kg	☒	69	28 - 120	6	45	
1-Methylnaphthalene	ND		2.09	1.393		mg/Kg	☒	67	10 - 120	11	50	
Pyrene	0.231		2.09	1.834		mg/Kg	☒	77	20 - 123	5	50	
Phenanthrene	ND		2.09	1.491		mg/Kg	☒	71	21 - 122	8	50	
Chrysene	0.354		2.09	1.927		mg/Kg	☒	75	20 - 120	11	49	

TestAmerica Nashville



QC Sample Results

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

TestAmerica Job ID: 490-30480-1

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

Lab Sample ID: 490-30480-1 MSD
Matrix: Solid
Analysis Batch: 92821

Client Sample ID: 220 Cypress
Prep Type: Total/NA
Prep Batch: 92065

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec.	RPD	Limit
	Result	Qualifier	Added	Result	Qualifier				Limits		
Dibenz(a,h)anthracene	ND		2.09	1.601		mg/Kg	☒	77	12 - 128	7	50
Fluoranthene	0.200		2.09	1.814		mg/Kg	☒	77	10 - 143	5	50
Fluorene	ND		2.09	1.547		mg/Kg	☒	74	20 - 120	3	50
Indeno[1,2,3-cd]pyrene	0.0676	J	2.09	1.537		mg/Kg	☒	70	22 - 121	4	50
Naphthalene	ND		2.09	1.371		mg/Kg	☒	66	10 - 120	20	50
2-Methylnaphthalene	ND		2.09	1.339		mg/Kg	☒	64	13 - 120	12	50
MSD MSD											
Surrogate	%Recovery	Qualifier	Limits								
2-Fluorobiphenyl (Surr)	43		29 - 120								
Terphenyl-d14 (Surr)	51		13 - 120								
Nitrobenzene-d5 (Surr)	44		27 - 120								

Method: Moisture - Percent Moisture

Lab Sample ID: 490-30480-1 DU
Matrix: Solid
Analysis Batch: 91951

Client Sample ID: 220 Cypress
Prep Type: Total/NA

Analyte	Sample	Sample	DU	DU	Unit	D	RPD	Limit
	Result	Qualifier	Result	Qualifier				
Percent Solids	78		81		%		3	20

TestAmerica Nashville



QC Association Summary

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

TestAmerica Job ID: 490-30480-1

GC/MS VOA

Analysis Batch: 91944

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-30480-1	220 Cypress	Total/NA	Solid	8260B	91992
490-30480-2	222 Cypress	Total/NA	Solid	8260B	91992
LCS 490-91944/4	Lab Control Sample	Total/NA	Solid	8260B	
LCSD 490-91944/5	Lab Control Sample Dup	Total/NA	Solid	8260B	
MB 490-91944/7	Method Blank	Total/NA	Solid	8260B	

Prep Batch: 91992

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-30480-1	220 Cypress	Total/NA	Solid	5035	
490-30480-2	222 Cypress	Total/NA	Solid	5035	

GC/MS Semi VOA

Prep Batch: 92065

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-30480-1	220 Cypress	Total/NA	Solid	3550C	
490-30480-1 MS	220 Cypress	Total/NA	Solid	3550C	
490-30480-1 MSD	220 Cypress	Total/NA	Solid	3550C	
490-30480-2	222 Cypress	Total/NA	Solid	3550C	
LCS 490-92065/2-A	Lab Control Sample	Total/NA	Solid	3550C	
MB 490-92065/1-A	Method Blank	Total/NA	Solid	3550C	

Analysis Batch: 92821

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-30480-1	220 Cypress	Total/NA	Solid	8270D	92065
490-30480-1 MS	220 Cypress	Total/NA	Solid	8270D	92065
490-30480-1 MSD	220 Cypress	Total/NA	Solid	8270D	92065
490-30480-2	222 Cypress	Total/NA	Solid	8270D	92065
LCS 490-92065/2-A	Lab Control Sample	Total/NA	Solid	8270D	92065
MB 490-92065/1-A	Method Blank	Total/NA	Solid	8270D	92065

General Chemistry

Analysis Batch: 91951

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-30480-1	220 Cypress	Total/NA	Solid	Moisture	
490-30480-1 DU	220 Cypress	Total/NA	Solid	Moisture	
490-30480-2	222 Cypress	Total/NA	Solid	Moisture	



Lab Chronicle

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

TestAmerica Job ID: 490-30480-1

Client Sample ID: 220 Cypress

Lab Sample ID: 490-30480-1

Date Collected: 07/01/13 14:15

Matrix: Solid

Date Received: 07/09/13 08:15

Percent Solids: 78.4

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			91992	07/10/13 10:29	MLN	TAL NSH
Total/NA	Analysis	8260B		1	91944	07/10/13 15:21	KKK	TAL NSH
Total/NA	Prep	3550C			92065	07/10/13 13:49	JLP	TAL NSH
Total/NA	Analysis	8270D		1	92821	07/13/13 21:38	BES	TAL NSH
Total/NA	Analysis	Moisture		1	91951	07/10/13 09:12	RRS	TAL NSH

Client Sample ID: 222 Cypress

Lab Sample ID: 490-30480-2

Date Collected: 07/02/13 15:15

Matrix: Solid

Date Received: 07/09/13 08:15

Percent Solids: 86.8

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			91992	07/10/13 10:29	MLN	TAL NSH
Total/NA	Analysis	8260B		1	91944	07/10/13 15:51	KKK	TAL NSH
Total/NA	Prep	3550C			92065	07/10/13 13:49	JLP	TAL NSH
Total/NA	Analysis	8270D		1	92821	07/13/13 23:00	BES	TAL NSH
Total/NA	Analysis	Moisture		1	91951	07/10/13 09:12	RRS	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 Site

TestAmerica Job ID: 490-30480-1

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

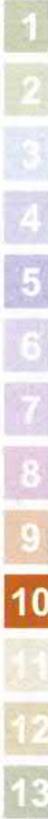
Protocol References:

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.

TestAmerica Job ID: 490-30480-1

Project/Site: Laurel Bay Site

Laboratory: TestAmerica Nashville

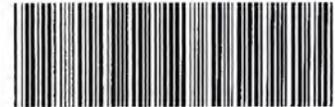
All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
	ACIL		393	10-30-13
A2LA	ISO/IEC 17025		0453.07	12-31-13
Alaska (UST)	State Program	10	UST-087	07-24-13
Arizona	State Program	9	AZ0473	05-05-14
Arkansas DEQ	State Program	6	88-0737	04-25-14
California	NELAP	9	1168CA	10-31-13
Connecticut	State Program	1	PH-0220	12-31-13
Florida	NELAP	4	E87358	06-30-14
Illinois	NELAP	5	200010	12-09-13
Iowa	State Program	7	131	05-01-14
Kansas	NELAP	7	E-10229	10-31-13
Kentucky (UST)	State Program	4	19	09-15-13
Louisiana	NELAP	6	30613	06-30-14
Maryland	State Program	3	316	03-31-14
Massachusetts	State Program	1	M-TN032	06-30-14
Minnesota	NELAP	5	047-999-345	12-31-13
Mississippi	State Program	4	N/A	06-30-14
Montana (UST)	State Program	8	NA	01-01-15
Nevada	State Program	9	TN00032	07-31-13
New Hampshire	NELAP	1	2963	10-10-13
New Jersey	NELAP	2	TN965	06-30-14
New York	NELAP	2	11342	04-01-14
North Carolina DENR	State Program	4	387	12-31-13
North Dakota	State Program	8	R-146	06-30-13 *
Ohio VAP	State Program	5	CL0033	01-19-14
Oklahoma	State Program	6	9412	08-31-13
Oregon	NELAP	10	TN200001	04-29-14
Pennsylvania	NELAP	3	68-00585	06-30-14
Rhode Island	State Program	1	LAO00268	12-30-13
South Carolina	State Program	4	84009 (001)	02-28-14
South Carolina	State Program	4	84009 (002)	02-23-14
Tennessee	State Program	4	2008	02-23-14
Texas	NELAP	6	T104704077-09-TX	08-31-13
USDA	Federal		S-48469	11-02-13
Utah	NELAP	8	TAN	07-30-13 *
Virginia	NELAP	3	460152	06-14-14
Washington	State Program	10	C789	07-19-13
West Virginia DEP	State Program	3	219	02-28-14
Wisconsin	State Program	5	998020430	08-31-13
Wyoming (UST)	A2LA	8	453.07	12-31-13



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

COOLER RECEIPT FORM



490-30480 Chain of Custody

Cooler Received/Opened On : 07/09/13 @ 0815

Tracking # 9579 (last 4 digits, FedEx)

Courier: Fed-ex IR Gun : 17960357

1. Temperature of rep. sample or temp blank when opened: 0.6 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
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) EA
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 # NA
EA
- I certify that I unloaded the cooler and answered questions 7-14 (initial) EA
- 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) EA
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) EA
- I certify that I attached a label with the unique LIMS number to each container (initial) EA
21. Were there Non-Conformance issues at login? YES NO Was a NCM generated? YES NO...#





1035
 Nashville Division
 2201 Federal Office
 Nashville, TN 37204

Phone: 615-726-0477
 Toll Free: 800-756-6200
 Fax: 615-726-3496

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 #: EEG # 2449
 Address: 10179 Highway 78
 City/State/Zip: Ladson, SC 29455
 Project Manager: Tom McEwen emt@mcweene@squnc.net
 Telephone Number: 843.412.2097
 Sampler Name: (Print) Paul Shaw
 Sampler Signature: [Signature]
 Fax No.: 843-879-0901

Site State: SC
 PO#: 1035
 TA Quote #:
 Project ID: Laurel Bay Housing Project
 Project #:

Sample ID / Description	Date Sampled	Time Sampled	No. of Containers Shipped	Grab	Composite	Field Filtered	Ice	HNO ₃ (Red Label)	H ₂ SO ₄ Plastic (Yellow Label)	H ₂ SO ₄ Glass (Yellow Label)	None (Black Label)	Other (Specify)	Groundwater	Wastewater	Drinking Water	Sludge	Soil	Other (specify)	Analyze For	Loc: 490 30480	USC TAT (Pre-Schedule)	Standard TAT	Fax Results	Send QC with report
220 Cypress	7/11/13	1415	5	X																				
222 Cypress	7/21/13	1515	5	X																				

Special Instructions:
 Requisitioned by: [Signature]
 Requisitioned by: [Signature]

Date: 7/8/13
 Time: 0900
 Received by: [Signature]
 Reported by: [Signature]
 Date: 7-9-13
 Time: 8:15 A.M.

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

Login Sample Receipt Checklist

Client: Small Business Group Inc.

Job Number: 490-30480-1

Login Number: 30480

List Source: TestAmerica Nashville

List Number: 1

Creator: Abernathy, Eric

Question	Answer	Comment
Radioactivity wasn't checked or is \leq background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is $<6\text{mm}$ (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 222 Cypress; 222 Cypress 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. L. Wilhee

(Name)

10/14/13

(Date)

Appendix C
Regulatory Correspondence



Catherine E. Heigel, Director

Promoting and protecting the health of the public and the environment

July 1, 2015

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

RE: No Further Action
Laurel Bay Underground Storage Tank Assessment Reports for:
See attached sheet

Dear Mr. Drawdy,

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

The Department has reviewed the referenced assessment reports 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 kriegkm@dhec.sc.gov or 803-898-0255.

Sincerely,

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

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



Catherine E. Heigel, Director

Promoting and protecting the health of the public and the environment

Attachment to: Krieg to Drawdy
 Subject: NFA
 Dated 7/1/2015

Laurel Bay Underground Storage Tank Assessment Reports for: (153 addresses/161 tanks)

111 Birch	363 Aspen
123 Banyan	364 Aspen
131 Banyan	366 Aspen
134 Banyan	369 Aspen
145 Laurel Bay	373 Aspen
150 Laurel Bay	381 Aspen
153 Laurel Bay	401 Elderberry
154 Laurel Bay	402 Elderberry
155 Laurel Bay	404 Elderberry
200 Balsam	410 Elderberry
202 Balsam	420 Elderberry
203 Balsam	424 Elderberry
208 Balsam	435 Elderberry Tank 3
210 Balsam	452 Elderberry
211 Balsam	460 Elderberry
220 Cypress	465 Dogwood
222 Cypress	477 Laurel Bay
223 Cypress	487 Laurel Bay
252 Beech Tank 2	513 Laurel Bay
271 Beech Tank 1	519 Laurel Bay
271 Beech Tank 2	524 Laurel Bay
284 Birch Tank 1	535 Laurel Bay
284 Birch Tank 2	553 Dahlia
308 Ash	590 Aster
311 Ash	591 Aster
312 Ash	610 Dahlia
317 Ash	612 Dahlia
318 Ash	628 Dahlia
337 Ash	636 Dahlia
351 Ash Tank 1	637 Dahlia Tank 1
351 Ash Tank 2	637 Dahlia Tank 2
355 Ash Tank 1	641 Dahlia
355 Ash Tank 2	642 Dahlia Tank 1
360 Aspen	642 Dahlia Tank 2

Laurel Bay Underground Storage Tank Assessment Reports for: (153 addresses/161 tanks) cont.

655 Camellia	920 Albacore
662 Camellia	922 Barracuda Tank 1
683 Camellia	922 Barracuda Tank 2
684 Camellia	924 Albacore
689 Abelia	925 Albacore
694 Abelia	926 Albacore
695 Abelia	930 Albacore
741 Blue Bell	931 Albacore
742 Blue Bell	933 Albacore
755 Althea	936 Albacore
757 Althea	938 Albacore
776 Laurel Bay	939 Albacore
777 Azalea	940 Albacore
779 Laurel Bay	1010 Foxglove
781 Laurel Bay	1066 Gardenia
802 Azalea	1068 Gardenia
816 Azalea	1071 Heather Tank 2
822 Azalea	1100 Iris Tank 2
823 Azalea	1128 Iris
825 Azalea	1178 Bobwhite
828 Azalea	1204 Cardinal
837 Azalea	1208 Cardinal
851 Dolphin	1209 Cardinal
856 Dolphin	1210 Cardinal
857 Dolphin	1215 Cardinal
861 Dolphin	1216 Cardinal
864 Dolphin	1217 Cardinal Tank 1
868 Dolphin	1217 Cardinal Tank 2
872 Dolphin	1233 Dove
879 Cobia	1244 Dove
886 Cobia	1250 Dove
888 Cobia	1252 Dove
889 Cobia	1254 Dove
901 Barracuda	1256 Dove
902 Barracuda	1258 Dove
903 Barracuda	1263 Dove
904 Barracuda	1269 Dove
909 Barracuda	1276 Dove
910 Barracuda	1283 Dove
914 Barracuda	1285 Dove
915 Barracuda	1288 Eagle

Laurel Bay Underground Storage Tank Assessment Reports for: (153 addresses/161 tanks) cont.

1296 Eagle	1330 Albatross
1307 Eagle	1331 Albatross
1321 Albatross	1333 Albatross
1322 Albatross	1334 Albatross
1327 Albatross	1335 Albatross
1328 Albatross	