

SUMMARY REPORT
316 WEST CARDINAL LANE (FORMERLY 1349 WEST CARDINAL LANE)
LAUREL BAY MILITARY HOUSING AREA
MARINE CORPS AIR STATION BEAUFORT
BEAUFORT, SC

Revision: 0
Prepared for:

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

and



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

JUNE 2021

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Prepared by:



CDM - AECOM Multimedia Joint Venture
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 316 West Cardinal Lane (Formerly 1349 West Cardinal Lane). This NFA determination indicates that there are no unacceptable risks to human health or the environment for the petroleum constituents associated with the home heating oil USTs. The following information is included in this report:

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

1.1 Background Information

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

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

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

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

1.2 UST Removal and Assessment Process

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

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

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

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

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

2.0 SAMPLING ACTIVITIES AND RESULTS

The following section presents the sampling activities and associated results for 316 West Cardinal Lane (Formerly 1349 West Cardinal Lane). Details regarding the soil investigation at this site are provided in the *SCDHEC UST Assessment Report – 1349 West Cardinal Lane* (MCAS Beaufort, 2012). The UST Assessment Report is provided in Appendix B.

2.1 UST Removal and Soil Sampling

On January 16, 2012, a single 280 gallon heating oil UST was removed from the front yard adjacent to the porch area at 316 West Cardinal Lane (Formerly 1349 West Cardinal Lane). 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 316 West Cardinal Lane (Formerly 1349 West Cardinal Lane) 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 316 West Cardinal Lane (Formerly 1349 West Cardinal Lane). This NFA determination was obtained in a letter dated May 15, 2014. SCDHEC's NFA letter is provided in Appendix C.

4.0 REFERENCES

Marine Corps Air Station Beaufort, 2012. *South Carolina Department of Health and Environmental Control (SCDHEC) Underground Storage Tank Assessment Report – 1349 West Cardinal Lane, Laurel Bay Military Housing Area*, April 2012.

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
316 West Cardinal Lane (Formerly 1349 West Cardinal Lane)
Laurel Bay Military Housing Area
Marine Corps Air Station Beaufort
Beaufort, South Carolina

Constituent	SCDHEC RBSLs ⁽¹⁾	Results Sample Collected 01/16/12
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 2.0 (SCDHEC, April 2013).

Bold font indicates the analyte was detected.

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

EPA - United States Environmental Protection Agency

mg/kg - 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

Attachment 1

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

Date Received

State Use Only

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

I. OWNERSHIP OF UST (S)

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

P.O. Box 55001

Mailing Address

Beaufort,

South Carolina

29904-5001

City

State

Zip Code

843

228-7317

Craig Ehde

Area Code

Telephone Number

Contact Person

II. SITE IDENTIFICATION AND LOCATION

Permit I.D. #

Laurel Bay Military Housing Area, Marine Corps Air Station, Beaufort, SC
 Facility Name or Company Site Identifier

1349 Cardinal Lane, Laurel Bay Military Housing Area

Street Address or State Road (as applicable)

Beaufort,

Beaufort

City

County

Attachment 2

III. INSURANCE INFORMATION

Insurance Statement

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

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

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

My policy provider is: _____

The policy deductible is: _____

The policy limit is: _____

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

IV. REQUEST FOR SUPERB FUNDING

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

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

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

Name (Type or print.) _____

Signature _____

To be completed by Notary Public:

Sworn before me this _____ day of _____, 20_____

(Name) _____

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

VI. UST INFORMATION

A. Product...(ex. Gas, Kerosene).....

1349		
Cardinal		
Heating oil		
280 gal		
Late 1950s		
Steel		
Mid 80s		
6'		
No		
No		
Removed		
1/16/12		
Yes		
Yes		

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 1349Cardinal was removed from the ground and disposed

of at a Subtitle "D" landfill. See Attachment "A".

N. Method of disposal for any liquid petroleum, sludges, or wastewaters removed from the USTs (attach disposal manifests)

UST 1349Cardinal was previously filled with sand by others.

O. If any corrosion, pitting, or holes were observed, describe the location and extent for each UST

Corrosion, pitting and holes were found throughout the tank.

VII. PIPING INFORMATION

- A. Construction Material..(ex. Steel, FRP).....
- 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.

1349 Cardinal		
Steel & Copper		
N/A		
N/A		
Suction		
No		
Yes		
No		
Late 1950s		

Steel vent piping was corroded and pitted. Copper supply and return piping was sound.

VIII. BRIEF SITE DESCRIPTION AND HISTORY

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

IX. SITE CONDITIONS

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

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 #
1349 Cardinal	Excav at fill end	Soil	Sandy	6'	1/16/12 1500 hrs	P. Shaw	
8							
9							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							

* = Depth Below the Surrounding Land Surface

XI. SAMPLING METHODOLOGY

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

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

XII. RECEPTORS

	Yes	No
A. Are there any lakes, ponds, streams, or wetlands located within 1000 feet of the UST system? If yes, indicate type of receptor, distance, and direction on site map.	*X *~155' stormwater drainage canal	
B. Are there any public, private, or irrigation water supply wells within 1000 feet of the UST system? If yes, indicate type of well, distance, and direction on site map.		X
C. Are there any underground structures (e.g., basements) Located within 100 feet of the UST system? If yes, indicate type of structure, distance, and direction on site map.		X
D. Are there any underground utilities (e.g., telephone, electricity, gas, water, sewer, storm drain) located within 100 feet of the UST system that could potentially come in contact with the contamination? If yes, indicate the type of utility, distance, and direction on the site map.	*X *Sewer, water, electricity cable & fiber optic	
E. Has contaminated soil been identified at a depth less than 3 feet below land surface in an area that is not capped by asphalt or concrete? If yes, indicate the area of contaminated soil on the site map.		X

XIII. SITE MAP

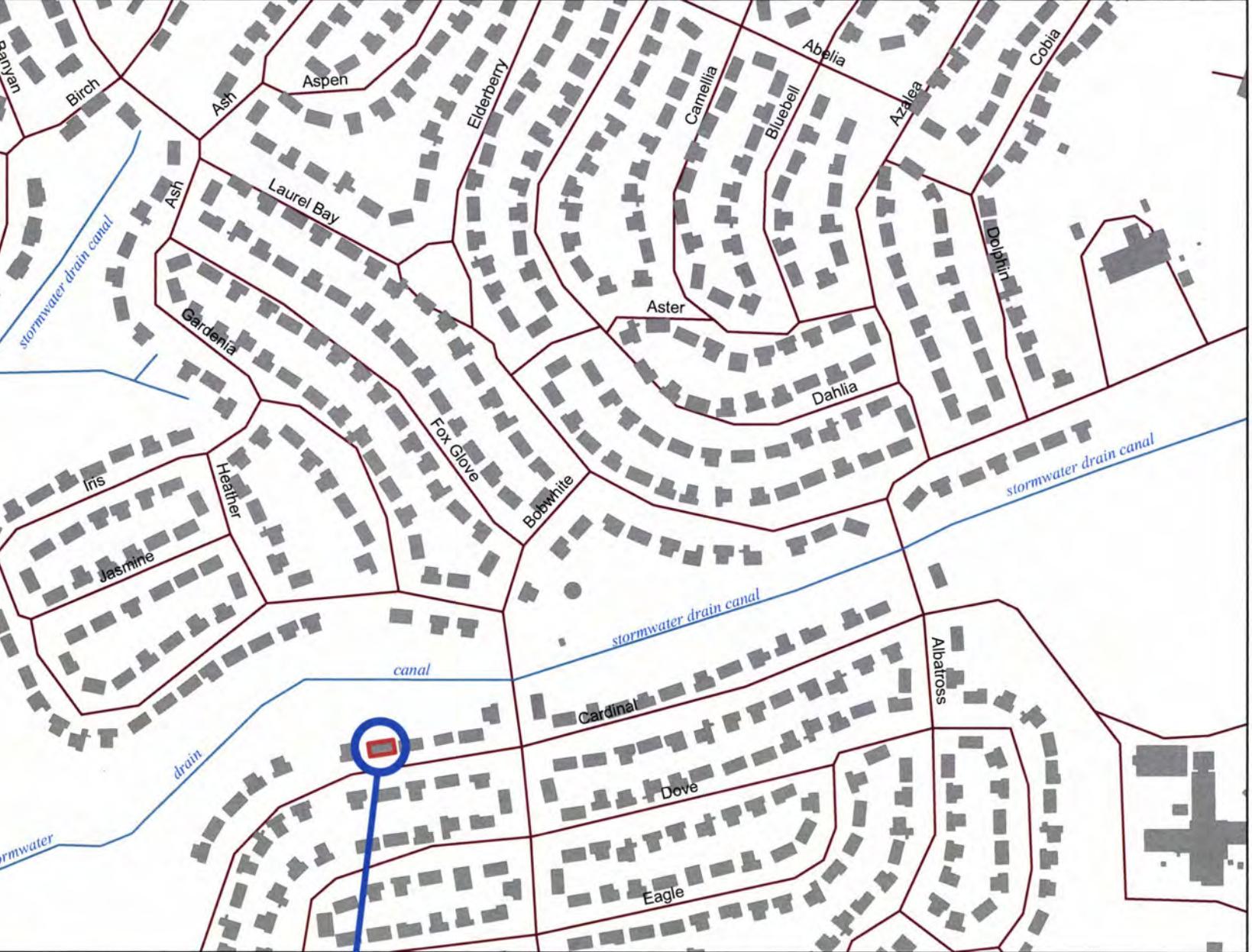
You must supply a scaled site map. It should include all buildings, road names, utilities, tank and dispenser island locations, labeled sample locations, extent of excavation, and any other pertinent information.

(Attach Site Map Here)

Broad River

0 120 240 480 720 960 1,200
Feet

1349 CARDINAL



SBG-EEG, Inc.

7301 Rivers Ave., Suite 245
N. Charleston SC 29406-9643

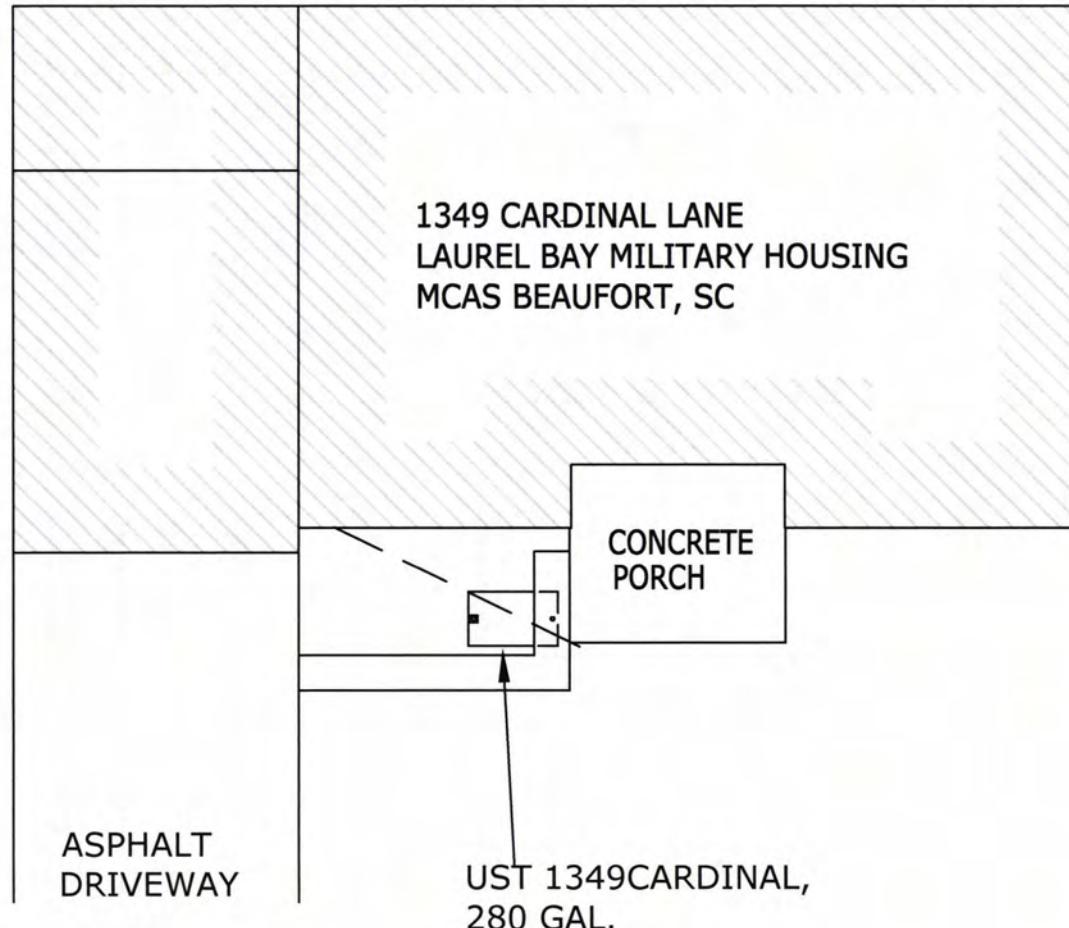
Ph. (843) 573-7140

Drawn By: L. DiAsio

Dwg Date: FEB 2012

**FIGURE 1: LOCATION MAP
1349 CARDINAL LANE
LAUREL BAY, BEAUFORT SC**

STORMWATER DRAINAGE
CANAL ≈ 155'



GRAPHIC SCALE
0 5' 10' 20'

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

FIGURE 2 SITE MAP
1349 CARDINAL LN., LAUREL BAY
MCAS BEAUFORT SC

SCALE: GRAPHIC

DWG DATE JAN 2012

STORMWATER DRAINAGE
CANAL ≈ 155'



GARAGE

ASPHALT
DRIVEWAY

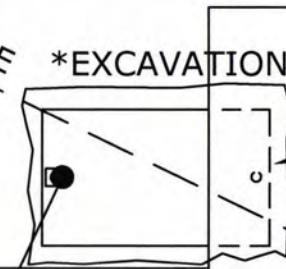
1349 CARDINAL LANE



PORCH

WATER LINE

FILL END



UST 1349CARDINAL

GRASS

SIDEWALK

SOIL SAMPLE
1349 CARDINAL

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

GRAPHIC SCALE
0 5'

UST 1349CARDINAL WAS
36" BELOW GRADE.

SBG-EEG

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

FIGURE 3 UST SAMPLE LOCATIONS
1349 CARDINAL LN., LAUREL BAY
MCAS BEAUFORT SC

SCALE: GRAPHIC

DWG DATE JAN 2012



Picture 1: Location of UST 1349Cardinal.



Picture 2: UST 1349Cardinal excavation in progress.

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	1349Cardinal				
Benzene		ND				
Toluene		ND				
Ethylbenzene		ND				
Xlenes		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						
Xlenes						
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 ($\mu\text{g/l}$)	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 Road

Nashville, TN 37204

Tel: 800-765-0980

TestAmerica Job ID: NWA3573

Client Project/Site: [none]

Client Project Description: Laurel Bay Housing Project

For:

EEG - Small Business Group, Inc. (2449)
10179 Highway 78
Ladson, SC 29456

Attn: Tom McElwee



Authorized for release by:

2/6/2012 3:50:28 PM

Ken A. Hayes

Senior Project Manager

ken.hayes@testamericainc.com

LINKS

Review your project
results through

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Ask
The
Expert

Visit us at:

www.testamericainc.com

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: EEG - Small Business Group, Inc. (2449)

TestAmerica Job ID: NWA3573

Project/Site: [none]

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
NWA3573-01	1349 Cardinal	Soil	01/16/12 15:00	01/21/12 08:30
NWA3573-02	334 Ash	Soil	01/18/12 16:15	01/21/12 08:30
NWA3573-03	518 Laurel Bay	Soil	01/19/12 12:00	01/21/12 08:30

Definitions/Glossary

Client: EEG - Small Business Group, Inc. (2449)
Project/Site: [none]

TestAmerica Job ID: NWA3573

Qualifiers

GCMS Volatiles

Qualifier	Qualifier Description
ZX	Due to sample matrix effects, the surrogate recovery was outside the acceptance limits.

GCMS Semivolatiles

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
DL, RA, RE, IN	Indicates a Dilution, Reanalysis, Re-extraction, or additional Initial metals/anion analysis of the sample
EDL	Estimated Detection Limit
EPA	United States Environmental Protection Agency
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RL	Reporting Limit
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: EEG - Small Business Group, Inc. (2449)
Project/Site: [none]

TestAmerica Job ID: NWA3573

Client Sample ID: 334 Ash

Date Collected: 01/18/12 16:15
Date Received: 01/21/12 08:30

Lab Sample ID: NWA3573-02

Matrix: Soil

Percent Solids: 85.1

Method: SW846 8260B - Volatile Organic Compounds by EPA Method 8260B

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.00220	0.00121	mg/kg dry	⊕	01/18/12 16:15	01/24/12 20:49	1.00
Ethylbenzene	ND		0.00220	0.00121	mg/kg dry	⊕	01/18/12 16:15	01/24/12 20:49	1.00
Naphthalene	ND		0.00550	0.00275	mg/kg dry	⊕	01/18/12 16:15	01/24/12 20:49	1.00
Toluene	ND		0.00220	0.00121	mg/kg dry	⊕	01/18/12 16:15	01/24/12 20:49	1.00
Xylenes, total	ND		0.00550	0.00275	mg/kg dry	⊕	01/18/12 16:15	01/24/12 20:49	1.00

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4	99		70 - 130	01/18/12 16:15	01/24/12 20:49	1.00
Dibromofluoromethane	102		70 - 130	01/18/12 16:15	01/24/12 20:49	1.00
Toluene-d8	104		70 - 130	01/18/12 16:15	01/24/12 20:49	1.00
4-Bromofluorobenzene	123		70 - 130	01/18/12 16:15	01/24/12 20:49	1.00

Method: SW846 8270D - Polycyclic Aromatic Hydrocarbons by EPA 8270D

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.0775	0.0393	mg/kg dry	⊕	01/24/12 09:05	01/24/12 23:12	1.00
Acenaphthylene	ND		0.0775	0.0393	mg/kg dry	⊕	01/24/12 09:05	01/24/12 23:12	1.00
Anthracene	ND		0.0775	0.0393	mg/kg dry	⊕	01/24/12 09:05	01/24/12 23:12	1.00
Benzo (a) anthracene	ND		0.0775	0.0393	mg/kg dry	⊕	01/24/12 09:05	01/24/12 23:12	1.00
Benzo (a) pyrene	ND		0.0775	0.0393	mg/kg dry	⊕	01/24/12 09:05	01/24/12 23:12	1.00
Benzo (b) fluoranthene	ND		0.0775	0.0393	mg/kg dry	⊕	01/24/12 09:05	01/24/12 23:12	1.00
Benzo (g,h,i) perlylene	ND		0.0775	0.0393	mg/kg dry	⊕	01/24/12 09:05	01/24/12 23:12	1.00
Benzo (k) fluoranthene	ND		0.0775	0.0393	mg/kg dry	⊕	01/24/12 09:05	01/24/12 23:12	1.00
Chrysene	ND		0.0775	0.0393	mg/kg dry	⊕	01/24/12 09:05	01/24/12 23:12	1.00
Dibenz (a,h) anthracene	ND		0.0775	0.0393	mg/kg dry	⊕	01/24/12 09:05	01/24/12 23:12	1.00
Fluoranthene	ND		0.0775	0.0393	mg/kg dry	⊕	01/24/12 09:05	01/24/12 23:12	1.00
Fluorene	ND		0.0775	0.0393	mg/kg dry	⊕	01/24/12 09:05	01/24/12 23:12	1.00
Indeno (1,2,3-cd) pyrene	ND		0.0775	0.0393	mg/kg dry	⊕	01/24/12 09:05	01/24/12 23:12	1.00
Naphthalene	ND		0.0775	0.0393	mg/kg dry	⊕	01/24/12 09:05	01/24/12 23:12	1.00
Phenanthrene	ND		0.0775	0.0393	mg/kg dry	⊕	01/24/12 09:05	01/24/12 23:12	1.00
Pyrene	ND		0.0775	0.0393	mg/kg dry	⊕	01/24/12 09:05	01/24/12 23:12	1.00
1-Methylnaphthalene	ND		0.0775	0.0393	mg/kg dry	⊕	01/24/12 09:05	01/24/12 23:12	1.00
2-Methylnaphthalene	ND		0.0775	0.0393	mg/kg dry	⊕	01/24/12 09:05	01/24/12 23:12	1.00

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Terphenyl-d14	78		18 - 120	01/24/12 09:05	01/24/12 23:12	1.00
2-Fluorobiphenyl	58		14 - 120	01/24/12 09:05	01/24/12 23:12	1.00
Nitrobenzene-d5	57		17 - 120	01/24/12 09:05	01/24/12 23:12	1.00

Method: SW-846 - General Chemistry Parameters

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
% Dry Solids	85.1		0.500	0.500	%	⊕	01/24/12 15:50	01/25/12 08:57	1.00

Client Sample Results

Client: EEG - Small Business Group, Inc. (2449)
Project/Site: [none]

TestAmerica Job ID: NWA3573

Client Sample ID: 518 Laurel Bay

Lab Sample ID: NWA3573-03

Date Collected: 01/19/12 12:00
Date Received: 01/21/12 08:30

Matrix: Soil

Percent Solids: 85.2

Method: SW846 8270D - Polycyclic Aromatic Hydrocarbons by EPA 8270D - RE1 (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	49		14 - 120	01/24/12 09:05	01/26/12 00:23	10.0
Nitrobenzene-d5	97		17 - 120	01/24/12 09:05	01/26/12 00:23	10.0

Method: SW846 8270D - Polycyclic Aromatic Hydrocarbons by EPA 8270D - RE2

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Methylnaphthalene	59.7		3.91	1.98	mg/kg dry	⊗	01/24/12 09:05	01/27/12 00:12	50.0

Method: SW-846 - General Chemistry Parameters

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
% Dry Solids	85.2		0.500	0.500	%		01/24/12 15:50	01/25/12 08:57	1.00

QC Association Summary

Client: EEG - Small Business Group, Inc. (2449)

TestAmerica Job ID: NWA3573

Project/Site: [none]

GCMS Semivolatiles (Continued)

Analysis Batch: V001286

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
NWA3573-03 - RE1	518 Laurel Bay	Total	Soil	SW846 8270D	12A5304_P

Prep Batch: 12A5304_P

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
12A5304-BLK1	Method Blank	Total	Soil	EPA 3550C	
12A5304-BS1	Lab Control Sample	Total	Soil	EPA 3550C	
12A5304-MS1	1349 Cardinal	Total	Soil	EPA 3550C	
12A5304-MSD1	1349 Cardinal	Total	Soil	EPA 3550C	
NWA3573-01	1349 Cardinal	Total	Soil	EPA 3550C	
NWA3573-02	334 Ash	Total	Soil	EPA 3550C	
NWA3573-03 - RE1	518 Laurel Bay	Total	Soil	EPA 3550C	
NWA3573-03 - RE2	518 Laurel Bay	Total	Soil	EPA 3550C	

Extractions

Analysis Batch: 12A5758

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
12A5758-DUP1	Duplicate	Total	Soil	SW-846	12A5758_P
NWA3573-01	1349 Cardinal	Total	Soil	SW-846	12A5758_P
NWA3573-02	334 Ash	Total	Soil	SW-846	12A5758_P
NWA3573-03	518 Laurel Bay	Total	Soil	SW-846	12A5758_P

Prep Batch: 12A5758_P

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
12A5758-DUP1	Duplicate	Total	Soil	% Solids	
NWA3573-01	1349 Cardinal	Total	Soil	% Solids	
NWA3573-02	334 Ash	Total	Soil	% Solids	
NWA3573-03	518 Laurel Bay	Total	Soil	% Solids	

Method Summary

Client: EEG - Small Business Group, Inc. (2449)
Project/Site: [none]

TestAmerica Job ID: NWA3573

Method	Method Description	Protocol	Laboratory
SW-846	General Chemistry Parameters		TAL NSH
SW846 8260B	Volatile Organic Compounds by EPA Method 8260B		TAL NSH
SW846 8270D	Polyaromatic Hydrocarbons by EPA 8270D		TAL NSH

Protocol References:

Laboratory References:

TAL NSH = TestAmerica Nashville, 2960 Foster Creighton Road, Nashville, TN 37204, TEL 800-765-0980

Certification Summary

Client: EEG - Small Business Group, Inc. (2449)

TestAmerica Job ID: NWA3573

Project/Site: [none]

Laboratory	Authority	Program	EPA Region	Certification ID
TestAmerica Nashville		ACIL		393
TestAmerica Nashville	A2LA	ISO/IEC 17025		0453.07
TestAmerica Nashville	A2LA	WY UST		453.07
TestAmerica Nashville	Alabama	State Program	4	41150
TestAmerica Nashville	Alaska	Alaska UST	10	UST-087
TestAmerica Nashville	Arizona	State Program	9	AZ0473
TestAmerica Nashville	Arkansas	State Program	6	88-0737
TestAmerica Nashville	California	NELAC	9	1168CA
TestAmerica Nashville	Canada (CALA)	Canada (CALA)		3744
TestAmerica Nashville	Colorado	State Program	8	N/A
TestAmerica Nashville	Connecticut	State Program	1	PH-0220
TestAmerica Nashville	Florida	NELAC	4	E87358
TestAmerica Nashville	Illinois	NELAC	5	200010
TestAmerica Nashville	Iowa	State Program	7	131
TestAmerica Nashville	Kansas	NELAC	7	E-10229
TestAmerica Nashville	Kentucky	Kentucky UST	4	19
TestAmerica Nashville	Kentucky	State Program	4	90038
TestAmerica Nashville	Louisiana	NELAC	6	30613
TestAmerica Nashville	Louisiana	NELAC	6	LA110014
TestAmerica Nashville	Maryland	State Program	3	316
TestAmerica Nashville	Massachusetts	State Program	1	M-TN032
TestAmerica Nashville	Mississippi	State Program	4	N/A
TestAmerica Nashville	Montana	MT DEQ UST	8	NA
TestAmerica Nashville	New Hampshire	NELAC	1	2963
TestAmerica Nashville	New Jersey	NELAC	2	TN965
TestAmerica Nashville	New York	NELAC	2	11342
TestAmerica Nashville	North Carolina	North Carolina DENR	4	387
TestAmerica Nashville	North Dakota	State Program	8	R-146
TestAmerica Nashville	Ohio	OVAP	5	CL0033
TestAmerica Nashville	Oklahoma	State Program	6	9412
TestAmerica Nashville	Oregon	NELAC	10	TN200001
TestAmerica Nashville	Pennsylvania	NELAC	3	68-00585
TestAmerica Nashville	Rhode Island	State Program	1	LAO00268
TestAmerica Nashville	South Carolina	State Program	4	84009
TestAmerica Nashville	South Carolina	State Program	4	84009
TestAmerica Nashville	Tennessee	State Program	4	2008
TestAmerica Nashville	Texas	NELAC	6	T104704077-09-TX
TestAmerica Nashville	USDA	USDA		S-48469
TestAmerica Nashville	Utah	NELAC	8	TAN
TestAmerica Nashville	Virginia	NELAC Secondary AB	3	460152
TestAmerica Nashville	Virginia	State Program	3	00323
TestAmerica Nashville	Washington	State Program	10	C789
TestAmerica Nashville	West Virginia	West Virginia DEP	3	219
TestAmerica Nashville	Wisconsin	State Program	5	998020430

Accreditation may not be offered or required for all methods and analytes reported in this package. Please contact your project manager for the laboratory's current list of certified methods and analytes.

TestAmerica

A LEADER IN ENVIRONMENTAL TESTING

Nashville Division
2660 Foster Creighton
Nashville, TN 37204

Phone: 615-726-0177
Toll Free: 800-765-0990
Fax: 615-726-3404

Client Name/Account #: EEG-SBG # 2449

Address: 10179 Highway 78

City/State/Zip: Ladson, SC 29455

Project Manager: Tom McElwee email: maelwee@eeginc.net

Telephone Number: 843-412-2097

Fax No.: (843) 829-0401

Sampler Name: (Print) PRAH SPAW

Sampler Signature:

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

Site State: SC 1027

Po#:

TA Quote #:

Project ID: Laurel Bay Housing Project

Project #: NWA3573

Analyze For:

Sample ID / Description	Date Sampled	Time Sampled	No. of Containers Shipped	Grab	Composite	Field Filtered	Specimen Type	Matrix	Analysis For:
1349 Cardina	11/16/12	1500	5	X		Ice	HNO ₃ (Red Label)		
334 Ash	11/18/12	1615	5	X		HNO ₃ (Blue Label)	Buoyant		
518 Laurel Bay	11/19/12	1200	5	X		NaOH (Orange Label)			
						H ₂ SO ₄ Plastic (Yellow Label)			
						H ₂ SO ₄ Glass(Yellow Label)			
						None (Black Label)			
						Other (Specify) Methanol			
						Groundwater			
						Wastewater			
						Drinking Water			
						Sludge			
						Soil			
						Other (specify):			
						BTEX + Napth - 8260E			
						PAH - 8270D			
						RUSH TAT (Pre-Schedule)			

Special Instructions:

Method of Shipment:

FEDEX

Laboratory Comments:
Temperature Upon Receipt:
VOCs Free of Headspace?

Requisitioned by:	Date	Time	Received by:	Date	Time
<i>J. M. H.</i>	11/20/12	1000	<i>Endek</i>	11/21/12	08:30

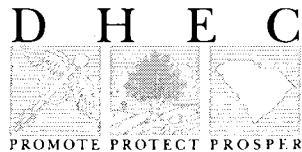
ATTACHMENT A



NON-HAZARDOUS MANIFEST

NON-HAZARDOUS MANIFEST		1. Generator's US EPA ID No.	Manifest Doc No.	2. Page 1 of 1				
3. Generator's Mailing Address: MCAS, BEAUFORT LAUREL BAY HOUSING BEAUFORT, SC 29907		Generator's Site Address (If different than mailing):		A. Manifest Number WMNA	00316823			
4. Generator's Phone 843-228-6461				B. State Generator's ID				
5. Transporter 1 Company Name EEG, INC.		6. US EPA ID Number		C. State Transporter's ID				
7. Transporter 2 Company Name		8. US EPA ID Number		D. Transporter's Phone 843-879-0411				
9. Designated Facility Name and Site Address HICKORY HILL LANDFILL 2621 LOW COUNTRY ROAD RIDGELAND, SC 29936		10. US EPA ID Number		E. State Transporter's ID				
				F. Transporter's Phone				
11. Description of Waste Materials		12. Containers		13. Total Quantity	14. Unit Wt./Vol.			
a. HEATING OIL TANKS FILLED WITH SAND WM Profile # 102655SC		No.	Type					
b. WM Profile #								
c. WM Profile #								
d. WM Profile #								
J. Additional Descriptions for Materials Listed Above		K. Disposal Location						
		Cell		Level				
		Grid						
15. Special Handling Instructions and Additional Information User's fiction 2) 518 Laurel Bay 7) 371 Aspen 6) 377 Aspen D1349 Cardinal 3) 325 Ash-2 5) 1452 Cardinal								
Purchase Order #		EMERGENCY CONTACT / PHONE NO.:						
16. GENERATOR'S CERTIFICATE: I hereby certify that the above-described materials are not hazardous wastes as defined by CFR Part 261 or any applicable state law, have been fully and accurately described, classified and packaged and are in proper condition for transportation according to applicable regulations.								
Printed Name Timothy Whaley		Signature "On behalf of" Timothy Whaley		Month	Day	Year		
				12	29	12		
17. Transporter 1 Acknowledgement of Receipt of Materials								
Printed Name James Baldwin		Signature James Baldwin		Month	Day	Year		
				3	1	12		
18. Transporter 2 Acknowledgement of Receipt of Materials								
Printed Name		Signature		Month	Day	Year		
19. Certificate of Final Treatment/Disposal I certify, on behalf of the above listed treatment facility, that to the best of my knowledge, the above-described waste was managed in compliance with all applicable laws, regulations, permits and licenses on the dates listed above.								
20. Facility Owner or Operator: Certification of receipt of non-hazardous materials covered by this manifest.								
Printed Name Toni Cofield		Signature Toni Cofield		Month	Day	Year		
				3	1	12		
White- TREATMENT, STORAGE, DISPOSAL FACILITY COPY			Blue- GENERATOR #2 COPY			Yellow- GENERATOR #1 COPY		
Pink- FACILITY USE ONLY			Gold- TRANSPORTER #1 COPY					

Appendix C
Regulatory Correspondence



Catherine B. Templeton, Director

Promoting and protecting the health of the public and the environment

May 15, 2014

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 above 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)



Catherine B. Templeton, Director

Promoting and protecting the health of the public and the environment

Attachment to: Krieg to Drawdy
Subject: NFA
Dated 5/15/2014

Laurel Bay Underground Storage Tank Assessment Reports for: (143 addresses/146 tanks)

212 Balsam	503 Laurel Bay
219 Balsam	508 Laurel Bay
260 Beech Tank 1	510 Laurel Bay
260 Beech Tank 2	523 Laurel Bay
267 Birch	525 Laurel Bay
287 Birch	529 Laurel Bay
302 Ash	533 Laurel Bay
305 Ash	537 Laurel Bay
334 Ash	556 Dahlia
338 Ash Tank 1	557 Dahlia
338 Ash Tank 2	559 Dahlia
361 Aspen	562 Dahlia
371 Aspen	568 Dahlia
372 Aspen Tank 1	581 Aster
372 Aspen Tank 2	582 Aster
375 Aspen	584 Aster
385 Aspen	602 Dahlia
403 Elderberry	607 Dahlia
407 Elderberry	614 Dahlia
411 Elderberry	616 Dahlia
414 Elderberry	619 Dahlia
415 Elderberry	625 Dahlia
421 Elderberry	629 Dahlia
427 Elderberry	631 Dahlia
428 Elderberry	634 Dahlia
431 Elderberry	660 Camellia
455 Elderberry	661 Camellia
484 Laurel Bay	666 Camellia
490 Laurel Bay	669 Camellia
502 Laurel Bay	672 Camellia

Laurel Bay Underground Storage Tank Assessment Reports for: (143 addresses/146 tanks) cont.

674 Camellia	880 Cobia
677 Camellia	890 Cobia
679 Camellia	892 Cobia
686 Camellia	900 Barracuda
690 Camellia	906 Barracuda
698 Abelia	911 Barracuda
700 Bluebell	912 Barracuda
704 Bluebell	917 Barracuda
705 Bluebell	919 Barracuda
708 Bluebell	928 Albacore
710 Bluebell	1024 Foxglove
711 Bluebell	1028 Foxglove
714 Bluebell	1029 Foxglove
715 Bluebell	1038 Iris
726 Bluebell	1049 Gardenia
728 Bluebell	1079 Heather
731 Bluebell	1103 Iris
734 Bluebell	1122 Iris
759 Althea	1136 Iris
761 Althea	1173 Bobwhite
773 Althea	1200 Cardinal
778 Laurel Bay	1221 Cardinal
807 Azalea	1238 Dove
814 Azalea	1241 Dove
815 Azalea	1242 Dove
818 Azalea	1248 Dove
820 Azalea	1262 Dove
821 Azalea	1265 Dove
831 Azalea	1267 Dove
832 Azalea	1289 Eagle
834 Azalea	1298 Eagle
835 Azalea	1300 Eagle
841 Azalea	1303 Eagle
853 Dolphin	1304 Eagle
858 Dolphin	1315 Albatross
869 Cobia	1316 Albatross
874 Cobia	1320 Albatross
875 Cobia	1338 Albatross

Laurel Bay Underground Storage Tank Assessment Reports for: (143 addresses/146 tanks) cont.

1340 Albatross	
1342 Albatross	
1344 Cardinal	
1345 Cardinal	
1349 Cardinal	
1355 Cardinal	
1366 Cardinal	
1374 Dove	
1375 Dove	
1415 Albatross	