SUMMARY REPORT
443 BOBWHITE DRIVE (FORMERLY 1192 BOBWHITE DRIVE)
LAUREL BAY MILITARY HOUSING AREA
MARINE CORPS AIR STATION BEAUFORT
BEAUFORT, SC

Revision: 0
Prepared for:

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

and

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

JUNE 2021

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Prepared by:

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10560 Arrowhead Drive, Suite 500
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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
ft	feet
IDIQ	Indefinite Delivery, Indefinite Quantity
IGWA	Initial Groundwater Assessment
JV	Joint Venture
LBMH	Laurel Bay Military Housing
MCAS	Marine Corps Air Station
NAVFAC Mid-Lant	Naval Facilities Engineering Command Mid-Atlantic
NFA	No Further Action
PAH	polynuclear aromatic hydrocarbon
PPV	Public-Private Venture
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
UFP SAP	Uniform Federal Policy Sampling and Analysis Plan
USEPA	United States Environmental Protection Agency
UST	underground storage tank
VI	vapor intrusion
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 443 Bobwhite Drive (Formerly 1192 Bobwhite Drive). This NFA determination indicates that there are no unacceptable risks to human health or the environment for the petroleum constituents associated with the home heating oil USTs. The following information is included in this report:

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

1.1 Background Information

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

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

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

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

In 2015, the Public-Private Venture (PPV) responsible for the management of the residential area at LBMH initiated a plan to replace outdated homes in the LBMH area. The plan includes the demolition of existing homes and subsequent construction of new homes. In discussions with the PPV it was revealed that construction of the new homes could occur on portions of the property where the USTs were formerly located. In response to this plan, MCAS Beaufort assessed subsurface soil gas concentrations in the area of the former USTs at select properties within the demolition areas. The subject property of this report is one of the properties within the planned demolition area which was selected for a soil gas evaluation. It should be noted that the house at the subject property has since been demolished and this property is an empty lot. There are no current plans for construction in this 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 IGWA sampling process utilizes temporary groundwater sampling points that are typically installed and sampled within the same day. The intent of the sampling point is to determine the presence or absence of the aforementioned COPCs in groundwater and identify whether former UST locations may require additional delineation of COPCs in groundwater. These sampling points are not subjected to the same installation standards as permanent monitoring wells and, as such; the data obtained from the IGWA wells can sometimes be biased high and is considered preliminary data. In order to confirm the presence of any impact to groundwater, a permanent well is installed where IGWA sampling has indicated the presence of free product and/ or COPCs is in excess of the SCDHEC RBSLs for groundwater. If COPCs and/or free product are found to be present in the permanent well, additional permanent wells are installed to delineate the extent of impact to groundwater and a sampling program is established. A multi-media investigation selection process tree, applicable to the LBMH UST investigations, is presented as Appendix A.

In accordance with the multi-media investigation selection process (Appendix A), groundwater analytical results are typically compared to the site specific groundwater vapor intrusion

screening levels (VISLs) to evaluate the potential for vapor intrusion (VI) into existing homes and the necessity for an investigation associated with this media. However, as previously stated, this property did not have an existing home and instead was among those selected for an evaluation of soil gas because of the planned demolition and potential for construction activities. Since this property was already selected for a VI investigation, groundwater analytical results from the permanent monitoring well were compared to the site specific groundwater VISLs as another line of evidence that VI is not a concern.

2.0 SAMPLING ACTIVITIES AND RESULTS

The following section presents the sampling activities and associated results for 443 Bobwhite Drive (Formerly 1192 Bobwhite Drive). The sampling activities at 443 Bobwhite Drive (Formerly 1192 Bobwhite Drive) comprised a soil investigation, IGWA investigation, installation and sampling of a permanent well, and a VI investigation. Details regarding the soil investigation at this site are provided in the *SCDHEC UST Assessment Report – 1192 Bobwhite Drive* (MCAS Beaufort, 2012). The UST Assessment Report is provided in Appendix B. Details regarding the IGWA investigation activities at this site are provided in the *Initial Groundwater Investigation Report – May and June 2015* (Resolution Consultants, 2015). Appendix C is reserved for the laboratory analytical results of the IGWA; however, due to detection of free product, a groundwater sample could not be collected from this location. Details regarding the permanent well installation and sampling activities at this site are provided in the *Groundwater Assessment Report – November and December 2017* (Resolution Consultants, 2018). The laboratory report that includes the pertinent groundwater analytical results for this site is presented in Appendix D. Details regarding the VI investigation at this site are provided in the *Vapor Intrusion Report – July 2015, January 2016, and May 2016* (Resolution Consultants, 2017). The laboratory report that includes the pertinent soil gas analytical results for this site is presented in Appendix E.

2.1 UST Removal and Soil Sampling

On May 7, 2012, a single 280 gallon heating oil UST was removed from the rear patio area at 443 Bobwhite Drive (Formerly 1192 Bobwhite Drive). 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

5'8" 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 443 Bobwhite Drive (Formerly 1192 Bobwhite Drive) were greater than the SCDHEC RBSLs, which indicated further investigation was required. In a letter dated May 15, 2014, SCDHEC requested an IGWA for 443 Bobwhite Drive (Formerly 1192 Bobwhite Drive) to determine if the groundwater was impacted by petroleum COPCs. SCDHEC's request letter is provided in Appendix F.

2.3 Initial Groundwater Sampling

On June 10, 2015, a temporary monitoring well was installed at 443 Bobwhite Drive (Formerly 1192 Bobwhite Drive), in accordance with the South Carolina Well Standards and Regulations (R.61-71.H-I, updated June 24, 2016). In order to provide data that can be used to determine whether COPCs are migrating to underlying groundwater, the monitoring well was placed in the same general location as the former heating oil UST. The former UST location is indicated on Figures 2 and 3 of the UST Assessment Report (Appendix B). Further details are provided in the *Initial Groundwater Investigation Report – May and June 2015* (Resolution Consultants, 2015).

The sampling strategy for this phase of the investigation required a one-time sampling event of the temporarily installed monitoring well. Following well installation, free product was detected in the temporary well. Due to detection of free product, a groundwater sample could not be collected from this location. The temporary well was abandoned in accordance with the South Carolina Well Standards and Regulations R.61-71.H-I (SCDHEC, 2016). Field forms are provided in the *Initial Groundwater Investigation Report – May and June 2015* (Resolution Consultants, 2015).

2.4 Initial Groundwater Analytical Results

Due to the detection of free product, a groundwater sample was unable to be collected from 443 Bobwhite Drive (Formerly 1192 Bobwhite Drive) and further investigation was required. A summary of the free product measurement is presented in Table 2. In a letter dated February 22, 2016, SCDHEC requested a permanent well be installed for 443 Bobwhite Drive (Formerly 1192 Bobwhite Drive) to confirm the impact to groundwater detected in the temporary well. SCDHEC's request letter is provided in Appendix F.

2.5 Permanent Well Groundwater Sampling

On November 27, 2017, a permanent monitoring well was installed at 443 Bobwhite Drive (Formerly 1192 Bobwhite Drive), in accordance with the South Carolina Well Standards and Regulations (R.61-71.H-I, updated June 24, 2016). In order to provide data that can be used to determine whether COPCs are migrating to underlying groundwater, the monitoring well was placed in the same general location as the former heating oil UST and the IGWA sample location. The former UST location is indicated on Figures 2 and 3 of the UST Assessment Report (Appendix B). Further details are provided in the *Groundwater Assessment Report – November and December 2017* (Resolution Consultants, 2018).

The sampling strategy for this phase of the investigation required a one-time sampling event of the permanent monitoring well. Following well installation and development, groundwater samples were collected using low-flow methods and shipped to an offsite laboratory for analysis of the petroleum COPCs. No free product was detected in the permanent monitoring well. Field forms are provided in the *Groundwater Assessment Report – November and December 2017* (Resolution Consultants, 2018).

2.6 Permanent Well Groundwater Analytical Results

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

The groundwater results collected from 443 Bobwhite Drive (Formerly 1192 Bobwhite Drive) were less than the SCDHEC RBSLs and the site specific groundwater VISLs (Table 3), which indicated that the groundwater was not impacted by COPCs associated with the former UST at concentrations that present a potential risk to human health and the environment.

2.7 Soil Gas Sampling

On July 28, 2015, a temporary subsurface soil gas well was installed at 443 Bobwhite Drive (Formerly 1192 Bobwhite Drive) in accordance with the SCDHEC approved *Uniform Federal Policy Sampling and Analysis Plan (UFP SAP) for Vapor Media, Revision 1* (Resolution Consultants, 2015). Soil gas sampling was conducted at this property to assess the potential risk for vapor intrusion associated with the possible construction of a new home on top of former the UST location. The soil gas well was placed in the same general location as the former heating oil UST and the IGWA sample location. The former UST location is indicated on Figures 2 and 3 of the UST Assessment Report (Appendix B). Further details are provided in the *Vapor Intrusion Report – July 2015, January 2016, and May 2016* (Resolution Consultants, 2017).

The sampling strategy for this phase of the investigation required a one-time sampling event of the soil gas well. The subsurface soil gas well at 443 Bobwhite Drive (Formerly 1192 Bobwhite Drive) was sampled on July 30, 2015. A soil gas sample was collected and shipped to an offsite laboratory for analysis of the petroleum COPCs. Upon completion of soil gas sampling, the temporary well was abandoned in accordance with the *UFP SAP for Vapor Media, Revision 1* (Resolution Consultants, 2015). Field forms are provided in the *Vapor Intrusion Report – July 2015, January 2016, and May 2016* (Resolution Consultants, 2017).

2.8 Soil Gas Analytical Results

A summary of the laboratory analytical results and United States Environmental Protection Agency (USEPA) VISLs is presented in Table 4. A copy of the laboratory analytical data report is included in Appendix E.

The soil gas results collected from 443 Bobwhite Drive (Formerly 1192 Bobwhite Drive) were below the USEPA VISLs, which indicated that subsurface soil gas was not impacted by COPCs associated with the former UST at concentrations that present a potential risk to human health and the environment.

3.0 PROPERTY STATUS

The house at 443 Bobwhite Drive (Formerly 1192 Bobwhite Drive) was demolished and the property is an empty lot. There are no current plans for construction in this area. Based on the analytical results for groundwater collected from the permanent monitoring well, SCDHEC made the determination that NFA was required for 443 Bobwhite Drive (Formerly 1192 Bobwhite Drive). The NFA determination for groundwater was obtained in a letter dated June 18, 2018. Based on the analytical results for soil gas, it was determined that there was not a VI concern at this property and a recommendation was made for no additional VI assessment activities. SCDHEC approved the no further VI investigation recommendation for 443 Bobwhite Drive (Formerly 1192 Bobwhite Drive) in a letter dated June 20, 2017. SCDHEC's letters are provided in Appendix F.

4.0 REFERENCES

Marine Corps Air Station Beaufort, 2012. *South Carolina Department of Health and Environmental Control (SCDHEC) Underground Storage Tank Assessment Report – 1192 Bobwhite Drive, Laurel Bay Military Housing Area*, August 2012.

Resolution Consultants, 2015. *Uniform Federal Policy Sampling and Analysis Plan for Vapor Media for Laurel Bay Military Housing Area, Revision 1, Marine Corps Air Station Beaufort, Beaufort, South Carolina*, April 2015.

Resolution Consultants, 2015. *Initial Groundwater Investigation Report – May and June 2015 for Laurel Bay Military Housing Area, Multiple Properties, Laurel Bay Military Housing Area, Marine Corps Air Station Beaufort, Beaufort, South Carolina*, November 2015.

Resolution Consultants, 2017. *Vapor Intrusion Report – July 2015, January 2016, and May 2016 for Laurel Bay Military Housing Area, Multiple Properties, Laurel Bay Military Housing Area, Marine Corps Air Station Beaufort, Beaufort, South Carolina*, May 2017.

Resolution Consultants, 2018. *Groundwater Assessment Report – November and December 2017 for Laurel Bay Military Housing Area, Multiple Properties, Laurel Bay Military Housing Area, Marine Corps Air Station Beaufort, Beaufort, South Carolina*, March 2018.

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

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

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

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

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

South Carolina Department of Health and Environmental Control Bureau of Water, 2016. *R.61-71, Well Standards*, June 2016.

United States Environmental Protection Agency, 2015. *USEPA OSWER Vapor Intrusion Assessment, Vapor Intrusion Screening Level Calculator, Version 3.4,* June 2015.

Tables

Table 1
Laboratory Analytical Results - Soil
443 Bobwhite Drive (Formerly 1192 Bobwhite Drive)
Laurel Bay Military Housing Area
Marine Corps Air Station Beaufort
Beaufort, South Carolina

Constituent	SCDHEC RBSLs [1]	Results Sample Collected 05/07/12
Volatile Organic Compounds Analyzed by EPA Method 8260B (mg/kg)		
Benzene	0.003	ND
Ethylbenzene	1.15	**1.08**
Naphthalene	0.036	**25.3**
Toluene	0.627	ND
Xylenes, Total	13.01	**4.30**
Semivolatile Organic Compounds Analyzed by EPA Method 8270D (mg/kg)		
Benzo(a)anthracene	0.66	**1.74**
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 1.1 (SCDHEC, February 2011).

Bold font indicates the analyte was detected.

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

EPA - United States Environmental Protection Agency

mg/kg - milligrams per kilogram

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

RBSL - Risk-Based Screening Level

SCDHEC - South Carolina Department Of Health and Environmental Control

Table 2
Free Product Measurement - Initial Groundwater
443 Bobwhite Drive (Formerly 1192 Bobwhite Drive)
Laurel Bay Military Housing Area
Marine Corps Air Station Beaufort
Beaufort, South Carolina

Temporary Well ID	Date Installed	Date Measured	Measured Well Depth (feet bgs)	Depth to Product (feet bgs)	Depth to Groundwater (feet bgs)	Free Product Thickness (feet)
BEALB1192-TW01	6/10/2015	6/10/2015	12.03	5.82	5.83	0.01

Notes:
bgs - below ground surface
TW - temporary well

Table 3
Laboratory Analytical Results - Permanent Well Groundwater
443 Bobwhite Drive (Formerly 1192 Bobwhite Drive)
Laurel Bay Military Housing Area
Marine Corps Air Station Beaufort
Beaufort, South Carolina

Constituent	SCDHEC RBSLs [1]	Site-Specific Groundwater VISLs (µg/L)[2]	Results Sample Collected 12/07/17
Volatile Organic Compounds Analyzed by EPA Method 8260B (µg/L)			
Benzene	5	16.24	ND
Ethylbenzene	700	45.95	ND
Naphthalene	25	29.33	**1.6**
Toluene	1000	105,445	ND
Xylenes, Total	10,000	2,133	ND
Semivolatile Organic Compounds Analyzed by EPA Method 8270D (µg/L)			
Benzo(a)anthracene	10	NA	ND
Benzo(b)fluoranthene	10	NA	ND
Benzo(k)fluoranthene	10	NA	ND
Chrysene	10	NA	ND
Dibenz(a,h)anthracene	10	NA	ND

Notes:

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

[2] Site-specific groundwater VISLs were calculated using the EPA JE Model Spreadsheets (Version 3.1, February 2004) and conservative modeling inputs representative of a small single-story house with an 8 foot ceiling. Site-specific groundwater VISLs were developed based on a target risk level of $1x10^{-6}$, a target hazard quotient of 1 (per target organ), and a default residential exposure scenario, assuming exposure for 24 hours/day, 350 days/year, for 26 years. Modeling was performed for a range of depths to groundwater for application as appropriate in different areas of the Laurel Bay Military Housing Area. The most conservative levels are presented for comparison. Refer to Appendix H of the Uniform Federal Policy Sampling Analysis and Sampling Plan for Vapor Media, Revision 4 (Resolution Consultants, April 2017) for additional information.

Bold font indicates the analyte was detected.

Bold font and shading indicates the concentration exceeds the SCDHEC RBSL and/or the Site-Specific Groundwater VISL.

EPA - United States Environmental Protection Agency

JE - Johnson & Ettinger

NA – not applicable

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

RBSL - Risk-Based Screening Level

SCDHEC - South Carolina Department Of Health and Environmental Control

µg/L - micrograms per liter

VISL - Vapor Intrusion Screening Level

Table 4
Laboratory Analytical Results - Vapor
443 Bobwhite Drive (Formerly 1192 Bobwhite Drive)
Laurel Bay Military Housing Area
Marine Corps Air Station Beaufort
Beaufort, South Carolina

Constituent	USEPA VISL [(1)]	Soil Gas Results Sample Collected 07/30/15
Volatile Organic Compounds Analyzed by USEPA Method TO-15 (µg/m^3)		
Benzene	12	ND
Toluene	17000	**0.73**
Ethylbenzene	37	ND
m,p-Xylenes	350	ND
o-Xylene	350	ND
Naphthalene	2.8	ND

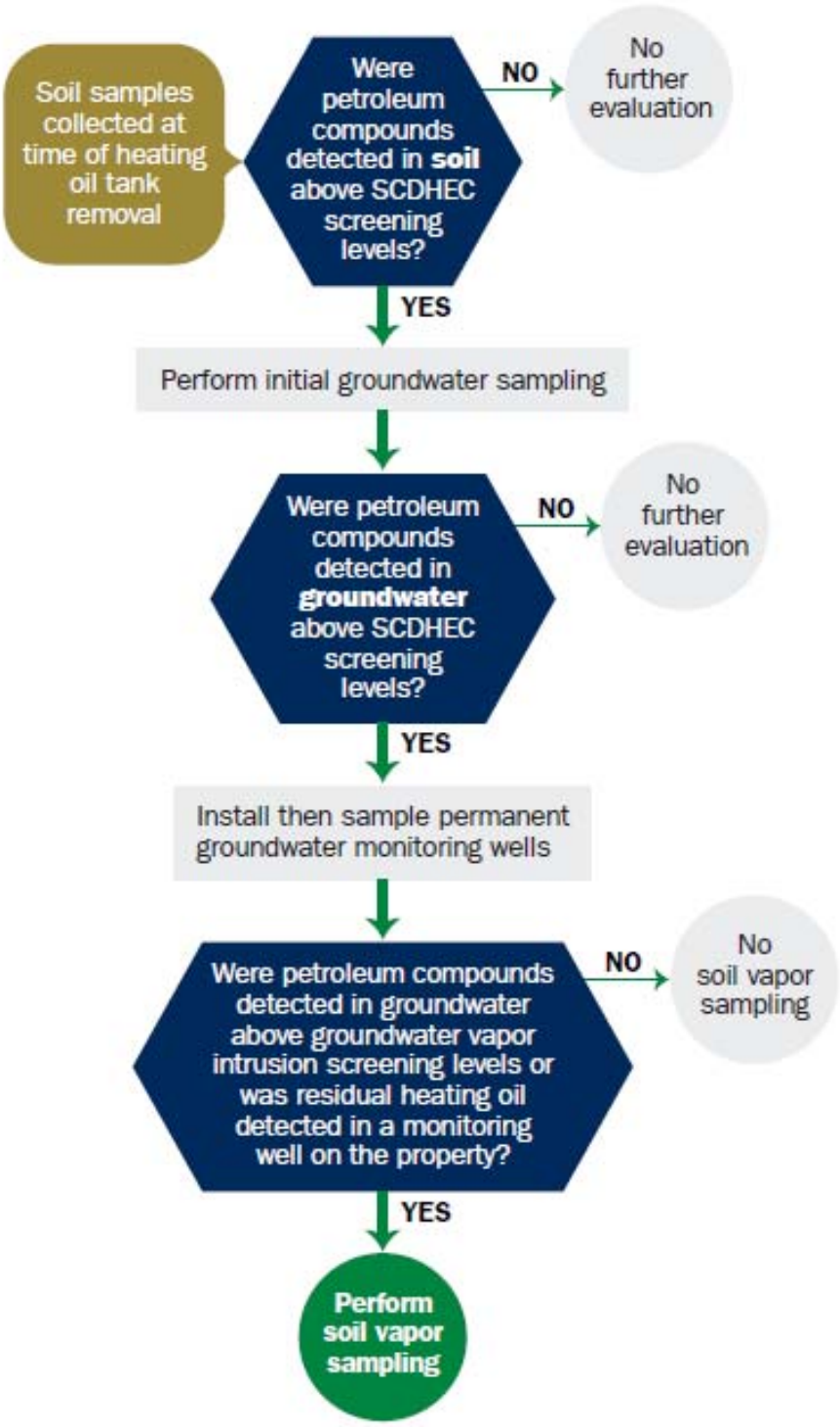
Notes:

[(1)] United States Environmental Protection Agency Exterior Soil Gas Vapor Intrusion Screening Level (VISL) from VISL Calculator (Version 3.4, June 2015). VISLs are based on a residual exposure scenario and a target risk level of 1x10-6 and a hazard quotient of 0.1.

Bold font indicates the analyte was detected.
Bold font and shading indicates the concentration exceeds the residential VISL.
ND - not detected at the reporting limit (or method detection limit if shown on the laboratory report). The vapor laboratory report is provided in Appendix E.
µg/m^3 - micrograms per cubic meter
USEPA - United States Environmental Protection Agency
VISL - Vapor Intrusion Screening Level

Appendix A
Multi-Media Selection Process for LBMH

CDM - AECOM
Multimedia Joint Venture



Appendix A - Multi-Media Selection Process for LBMH

Appendix B
UST Assessment Report

CDM - AECOM
Multimedia Joint Venture

rec'd 8/15/12

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

1192 Bobwhite Drive, 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

	1192 Bobwhite		
A.	Heating oil		
B.	280 gal		
C.	Late 1950s		
D.	Steel		
E.	Mid 80s		
F.	5'8"		
G.	No		
H.	No		
I.	Removed		
J.	5/7/2012		
K.	Yes		
L.	Yes		

M. Method of disposal for any USTs removed from the ground (attach disposal manifests)
UST 1192Bobwhite 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 1192Bobwhite 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

	1192 Bobwhite		
A. Construction Material..(ex. Steel, FRP).....	Steel & Copper		
B. Distance from UST to Dispenser.....	N/A		
C. Number of Dispensers.....	N/A		
D. Type of System Pressure or Suction.....	Suction		
E. Was Piping Removed from the Ground? Y/N	No		
F. Visible Corrosion or Pitting Y/N.....	Yes		
G. Visible Holes Y/N.....	No		
H. Age.....	Late 1950s		

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

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

VIII. BRIEF SITE DESCRIPTION AND HISTORY

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

IX. SITE CONDITIONS

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

X. SAMPLE INFORMATION

A. SCDHEC Lab Certification Number 84009

B.

Sample #	Location	Sample Type (Soil/Water)	Soil Type (Sand/Clay)	Depth*	Date/Time of Collection	Collected by	OVA #
1192 Bobwhite	Excav at fill end	Soil	Sandy	5'8"	5/7/12 1530 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.

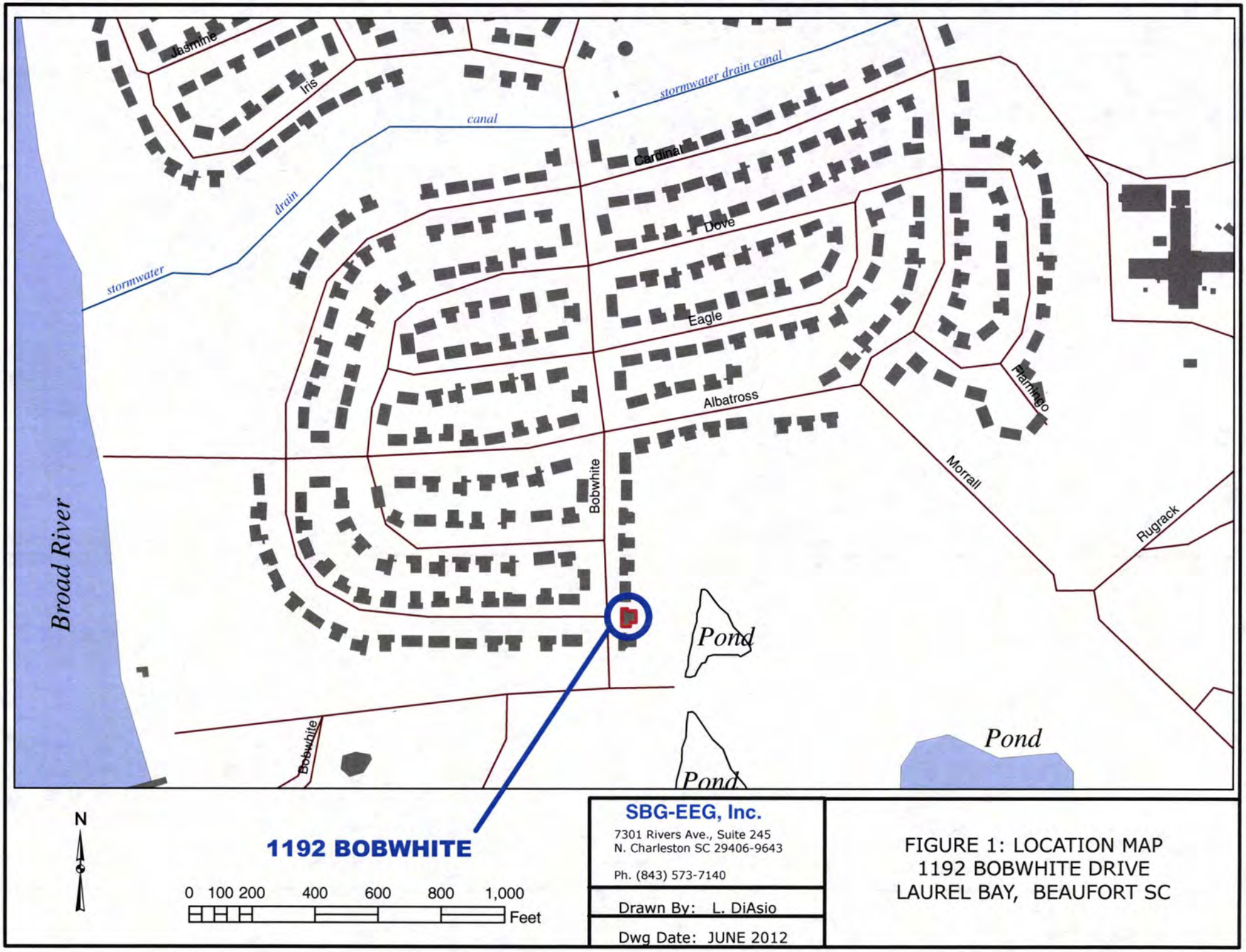
XII. RECEPTORS

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

XIII. SITE MAP

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

(Attach Site Map Here)

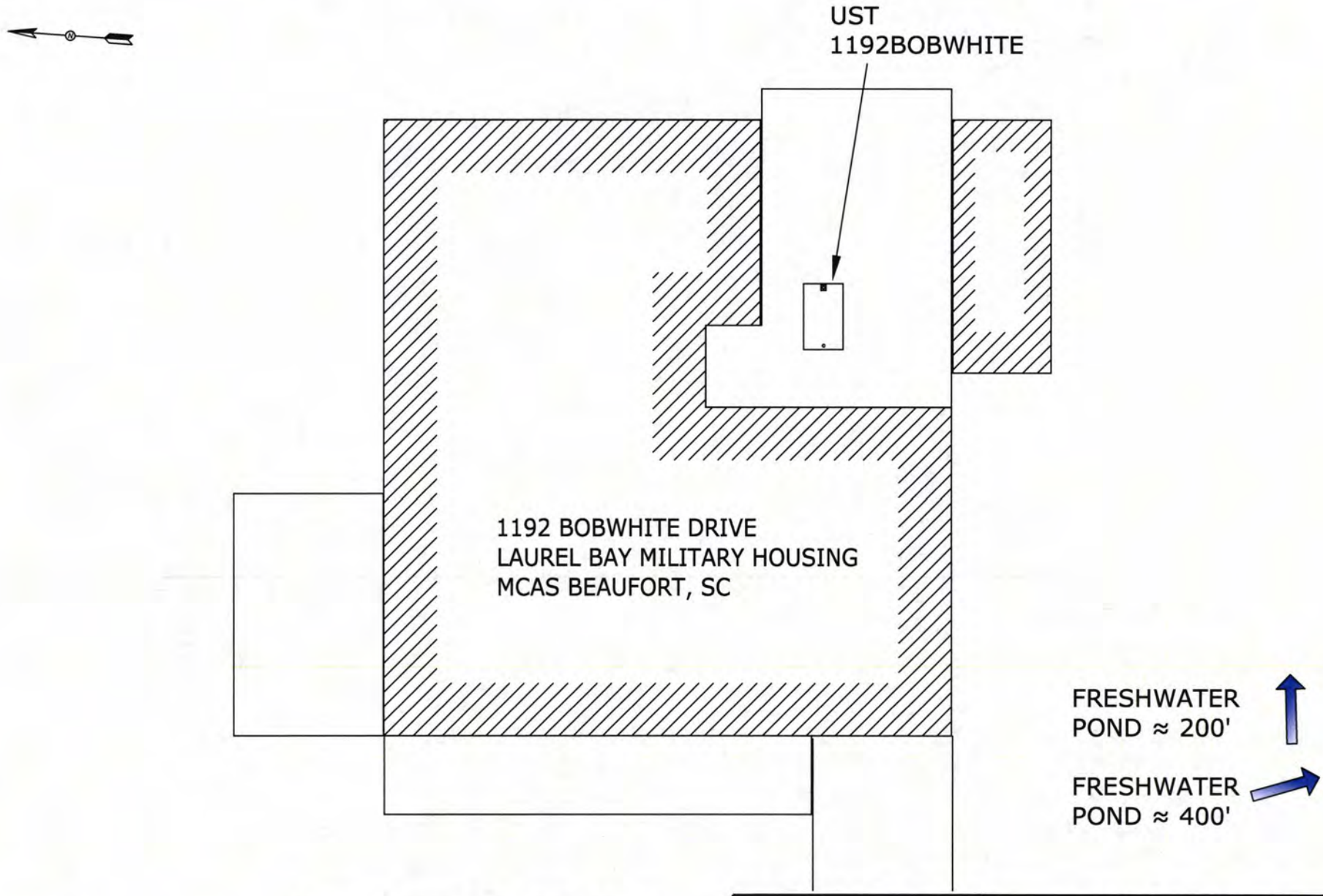


SBG-EEG, Inc.
7301 Rivers Ave., Suite 245
N. Charleston SC 29406-9643
Ph. (843) 573-7140

Drawn By: L. DiAsio

Dwg Date: JUNE 2012

FIGURE 1: LOCATION MAP
1192 BOBWHITE DRIVE
LAUREL BAY, BEAUFORT SC



GRAPHIC SCALE

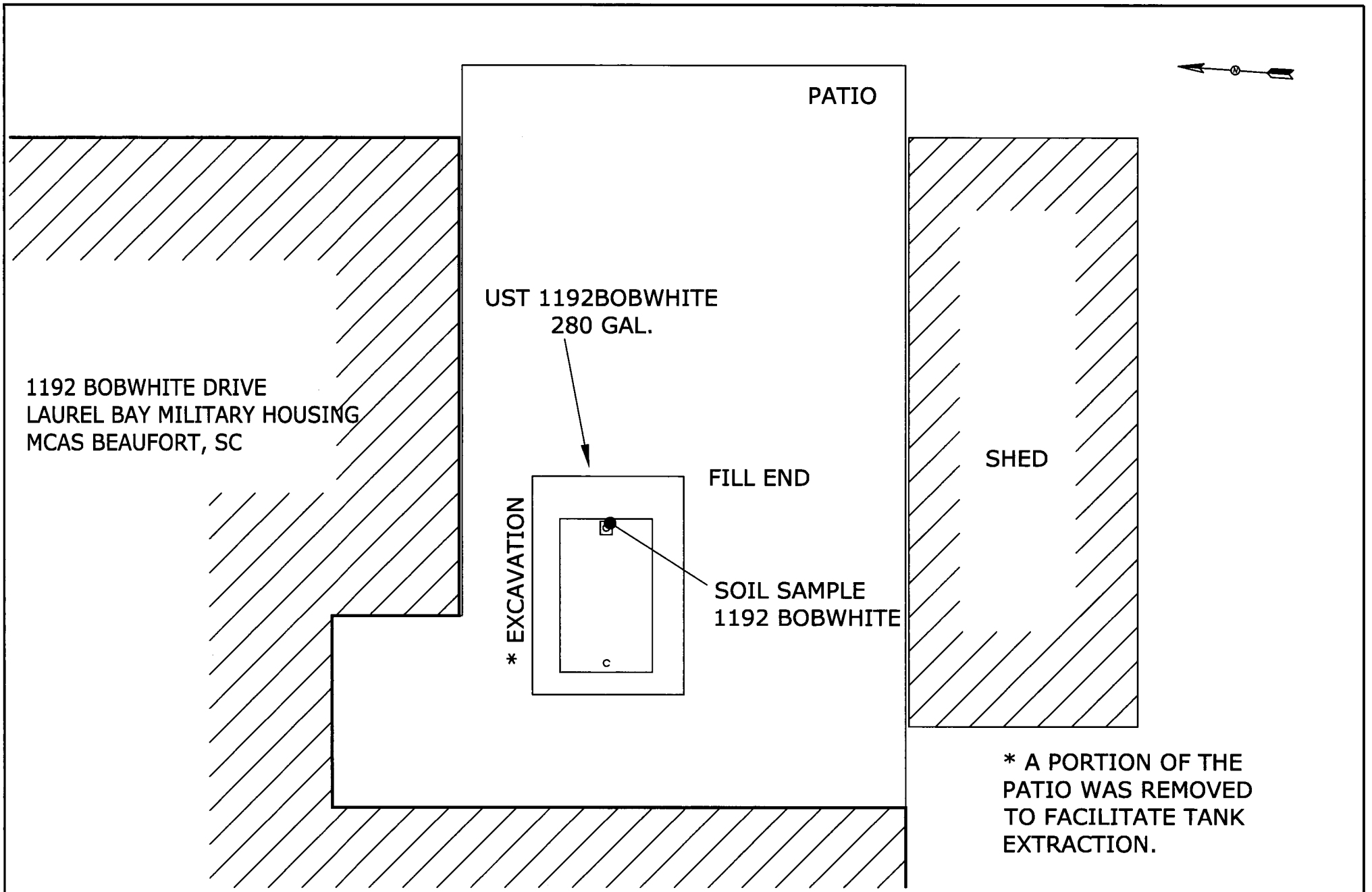
0 5' 10' 20'

TANK DEPTH BELOW GRADE
1192BOBWHITE = 32"

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

FIGURE 2 SITE MAP
1192 BOBWHITE DRIVE, LAUREL BAY
MCAS BEAUFORT SC

SCALE: GRAPHIC | DWG DATE JUNE 2012



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

FIGURE 3 UST SAMPLE LOCATIONS
1192 BOBWHITE DRIVE, LAUREL BAY
MCAS BEAUFORT SC

SCALE: GRAPHIC | DWG DATE JUNE 2012

Picture 1: Location of UST 1192Bobwhite.

Picture 2: Concrete cap being lifted from UST 1192Bobwhite.

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	1192Bobwhite					
Benzene	ND					
Toluene	ND					
Ethylbenzene	1.08 mg/kg					
Xylenes	4.30 mg/kg					
Naphthalene	25.3 mg/kg					
Benzo (a) anthracene	1.74 mg/kg					
Benzo (b) fluoranthene	ND					
Benzo (k) fluoranthene	ND					
Chrysene	ND					
Dibenz (a, h) anthracene	ND					
TPH (EPA 3550)						

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

SUMMARY OF ANALYSIS RESULTS (cont'd)

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

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

XV. ANALYTICAL RESULTS

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

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

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Nashville
2960 Foster Creighton Road
Nashville, TN 37204
Tel: 800-765-0980

TestAmerica Job ID: NWE1590
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:
5/29/2012 9:29:40 AM

Ken A. Hayes
Senior Project Manager
ken.hayes@testamericainc.com

LINKS

Review your project results through TotalAccess

Have a Question? 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.

Table of Contents

Sample Summary

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

TestAmerica Job ID: NWE1590

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
NWE1590-01	1192 Bobwhite	Soil	05/07/12 15:30	05/12/12 08:10
NWE1590-02	857 Dolphin	Soil	05/09/12 14:45	05/12/12 08:10
NWE1590-03	411 Elderberney	Soil	05/10/12 11:15	05/12/12 08:10

Definitions/Glossary

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

TestAmerica Job ID: NWE1590

Qualifiers

GCMS Volatiles

Qualifier	Qualifier Description
Z2	Surrogate recovery was above the acceptance limits. Data not impacted.
ZX	Due to sample matrix effects, the surrogate recovery was outside the acceptance limits.
RL1	Reporting limit raised due to sample matrix effects.

GCMS Semivolatiles

Qualifier	Qualifier Description
MNR	No results were reported for the MS/MSD. The sample used for the MS/MSD required dilution due to the sample matrix. Because of this, the spike compounds were diluted below the detection limit.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
ZX	Due to sample matrix effects, the surrogate recovery was outside the acceptance limits.

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: NWE1590

Client Sample ID: 1192 Bobwhite
Date Collected: 05/07/12 15:30
Date Received: 05/12/12 08:10

Lab Sample ID: NWE1590-01
Matrix: Soil
Percent Solids: 84.1

Method: SW846 8260B - Volatile Organic Compounds by EPA Method 8260B - RE1

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.00244	0.00134	mg/kg dry	☼	05/07/12 15:30	05/17/12 14:25	1.00

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4	*144*	*ZX*	*70 - 130*	*05/07/12 15:30*	*05/17/12 14:25*	*1.00*
Dibromofluoromethane	*135*	*ZX*	*70 - 130*	*05/07/12 15:30*	*05/17/12 14:25*	*1.00*
Toluene-d8	*179*	*ZX*	*70 - 130*	*05/07/12 15:30*	*05/17/12 14:25*	*1.00*
4-Bromofluorobenzene	*430*	*ZX*	*70 - 130*	*05/07/12 15:30*	*05/17/12 14:25*	*1.00*

Method: SW846 8260B - Volatile Organic Compounds by EPA Method 8260B - RE2

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethylbenzene	1.08		0.122	0.0668	mg/kg dry	☼	05/07/12 15:30	05/17/12 14:56	50.0
Toluene	ND	RL1	0.122	0.0668	mg/kg dry	☼	05/07/12 15:30	05/17/12 14:56	50.0
Xylenes, total	4.30		0.304	0.152	mg/kg dry	☼	05/07/12 15:30	05/17/12 14:56	50.0

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4	*79*		*70 - 130*	*05/07/12 15:30*	*05/17/12 14:56*	*50.0*
Dibromofluoromethane	*85*		*70 - 130*	*05/07/12 15:30*	*05/17/12 14:56*	*50.0*
Toluene-d8	*132*	*ZX*	*70 - 130*	*05/07/12 15:30*	*05/17/12 14:56*	*50.0*
4-Bromofluorobenzene	*123*		*70 - 130*	*05/07/12 15:30*	*05/17/12 14:56*	*50.0*

Method: SW846 8260B - Volatile Organic Compounds by EPA Method 8260B - RE3

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Naphthalene	25.3		3.04	1.52	mg/kg dry	☼	05/07/12 15:30	05/18/12 15:11	500

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4	*105*		*70 - 130*	*05/07/12 15:30*	*05/18/12 15:11*	*500*
Dibromofluoromethane	*100*		*70 - 130*	*05/07/12 15:30*	*05/18/12 15:11*	*500*
Toluene-d8	*111*		*70 - 130*	*05/07/12 15:30*	*05/18/12 15:11*	*500*
4-Bromofluorobenzene	*93*		*70 - 130*	*05/07/12 15:30*	*05/18/12 15:11*	*500*

Method: SW846 8270D - Polyaromatic Hydrocarbons by EPA 8270D - RE1

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	4.93		3.15	1.60	mg/kg dry	☼	05/17/12 11:09	05/18/12 15:08	20.0
Acenaphthylene	2.46	J	3.15	1.60	mg/kg dry	☼	05/17/12 11:09	05/18/12 15:08	20.0
Anthracene	1.85	J	3.15	1.60	mg/kg dry	☼	05/17/12 11:09	05/18/12 15:08	20.0
Benzo (a) anthracene	1.74	J	3.15	1.60	mg/kg dry	☼	05/17/12 11:09	05/18/12 15:08	20.0
Benzo (a) pyrene	ND		3.15	1.60	mg/kg dry	☼	05/17/12 11:09	05/18/12 15:08	20.0
Benzo (b) fluoranthene	ND		3.15	1.60	mg/kg dry	☼	05/17/12 11:09	05/18/12 15:08	20.0
Benzo (g,h,i) perylene	ND		3.15	1.60	mg/kg dry	☼	05/17/12 11:09	05/18/12 15:08	20.0
Benzo (k) fluoranthene	ND		3.15	1.60	mg/kg dry	☼	05/17/12 11:09	05/18/12 15:08	20.0
Chrysene	ND		3.15	1.60	mg/kg dry	☼	05/17/12 11:09	05/18/12 15:08	20.0
Dibenz (a,h) anthracene	ND		3.15	1.60	mg/kg dry	☼	05/17/12 11:09	05/18/12 15:08	20.0
Fluoranthene	5.18		3.15	1.60	mg/kg dry	☼	05/17/12 11:09	05/18/12 15:08	20.0
Fluorene	13.3		3.15	1.60	mg/kg dry	☼	05/17/12 11:09	05/18/12 15:08	20.0
Indeno (1,2,3-cd) pyrene	ND		3.15	1.60	mg/kg dry	☼	05/17/12 11:09	05/18/12 15:08	20.0
Naphthalene	24.0		3.15	1.60	mg/kg dry	☼	05/17/12 11:09	05/18/12 15:08	20.0
Phenanthrene	22.1		3.15	1.60	mg/kg dry	☼	05/17/12 11:09	05/18/12 15:08	20.0
Pyrene	5.12		3.15	1.60	mg/kg dry	☼	05/17/12 11:09	05/18/12 15:08	20.0
1-Methylnaphthalene	52.5		3.15	1.60	mg/kg dry	☼	05/17/12 11:09	05/18/12 15:08	20.0
2-Methylnaphthalene	97.4		3.15	1.60	mg/kg dry	☼	05/17/12 11:09	05/18/12 15:08	20.0

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

TestAmerica Job ID: NWE1590

Client Sample ID: 1192 Bobwhite
Date Collected: 05/07/12 15:30
Date Received: 05/12/12 08:10

Lab Sample ID: NWE1590-01
Matrix: Soil
Percent Solids: 84.1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Terphenyl-d14	*121*	*ZX*	*18 - 120*	*05/17/12 11:09*	*05/18/12 15:08*	*20.0*
2-Fluorobiphenyl	*97*		*14 - 120*	*05/17/12 11:09*	*05/18/12 15:08*	*20.0*
Nitrobenzene-d5	*134*	*ZX*	*17 - 120*	*05/17/12 11:09*	*05/18/12 15:08*	*20.0*

Method: SW-846 - General Chemistry Parameters

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
% Dry Solids	84.1		0.500	0.500	%		05/14/12 15:39	05/15/12 07:13	1.00

Client Sample Results

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

TestAmerica Job ID: NWE1590

Client Sample ID: 857 Dolphin
Date Collected: 05/09/12 14:45
Date Received: 05/12/12 08:10

Lab Sample ID: NWE1590-02
Matrix: Soil
Percent Solids: 76.6

Method: SW846 8260B - Volatile Organic Compounds by EPA Method 8260B - RE1

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.00624	0.00343	mg/kg dry	¤	05/09/12 14:45	05/17/12 13:24	1.00
Ethylbenzene	ND		0.00624	0.00343	mg/kg dry	¤	05/09/12 14:45	05/17/12 13:24	1.00
Naphthalene	ND		0.0156	0.00781	mg/kg dry	¤	05/09/12 14:45	05/17/12 13:24	1.00
Toluene	ND		0.00624	0.00343	mg/kg dry	¤	05/09/12 14:45	05/17/12 13:24	1.00
Xylenes, total	ND		0.0156	0.00781	mg/kg dry	¤	05/09/12 14:45	05/17/12 13:24	1.00

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4	*105*		*70 - 130*	*05/09/12 14:45*	*05/17/12 13:24*	*1.00*
Dibromofluoromethane	*100*		*70 - 130*	*05/09/12 14:45*	*05/17/12 13:24*	*1.00*
Toluene-d8	*115*		*70 - 130*	*05/09/12 14:45*	*05/17/12 13:24*	*1.00*
4-Bromofluorobenzene	*118*		*70 - 130*	*05/09/12 14:45*	*05/17/12 13:24*	*1.00*

Method: SW846 8270D - Polyaromatic Hydrocarbons by EPA 8270D

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.0871	0.0442	mg/kg dry	¤	05/17/12 11:09	05/18/12 00:34	1.00
Acenaphthylene	ND		0.0871	0.0442	mg/kg dry	¤	05/17/12 11:09	05/18/12 00:34	1.00
Anthracene	ND		0.0871	0.0442	mg/kg dry	¤	05/17/12 11:09	05/18/12 00:34	1.00
Benzo (a) anthracene	ND		0.0871	0.0442	mg/kg dry	¤	05/17/12 11:09	05/18/12 00:34	1.00
Benzo (a) pyrene	ND		0.0871	0.0442	mg/kg dry	¤	05/17/12 11:09	05/18/12 00:34	1.00
Benzo (b) fluoranthene	ND		0.0871	0.0442	mg/kg dry	¤	05/17/12 11:09	05/18/12 00:34	1.00
Benzo (g,h,i) perylene	ND		0.0871	0.0442	mg/kg dry	¤	05/17/12 11:09	05/18/12 00:34	1.00
Benzo (k) fluoranthene	ND		0.0871	0.0442	mg/kg dry	¤	05/17/12 11:09	05/18/12 00:34	1.00
Chrysene	ND		0.0871	0.0442	mg/kg dry	¤	05/17/12 11:09	05/18/12 00:34	1.00
Dibenz (a,h) anthracene	ND		0.0871	0.0442	mg/kg dry	¤	05/17/12 11:09	05/18/12 00:34	1.00
Fluoranthene	ND		0.0871	0.0442	mg/kg dry	¤	05/17/12 11:09	05/18/12 00:34	1.00
Fluorene	ND		0.0871	0.0442	mg/kg dry	¤	05/17/12 11:09	05/18/12 00:34	1.00
Indeno (1,2,3-cd) pyrene	ND		0.0871	0.0442	mg/kg dry	¤	05/17/12 11:09	05/18/12 00:34	1.00
Naphthalene	ND		0.0871	0.0442	mg/kg dry	¤	05/17/12 11:09	05/18/12 00:34	1.00
Phenanthrene	ND		0.0871	0.0442	mg/kg dry	¤	05/17/12 11:09	05/18/12 00:34	1.00
Pyrene	ND		0.0871	0.0442	mg/kg dry	¤	05/17/12 11:09	05/18/12 00:34	1.00
1-Methylnaphthalene	ND		0.0871	0.0442	mg/kg dry	¤	05/17/12 11:09	05/18/12 00:34	1.00
2-Methylnaphthalene	ND		0.0871	0.0442	mg/kg dry	¤	05/17/12 11:09	05/18/12 00:34	1.00

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Terphenyl-d14	*86*		*18 - 120*	*05/17/12 11:09*	*05/18/12 00:34*	*1.00*
2-Fluorobiphenyl	*65*		*14 - 120*	*05/17/12 11:09*	*05/18/12 00:34*	*1.00*
Nitrobenzene-d5	*60*		*17 - 120*	*05/17/12 11:09*	*05/18/12 00:34*	*1.00*

Method: SW-846 - General Chemistry Parameters

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
% Dry Solids	76.6		0.500	0.500	%		05/14/12 15:39	05/15/12 07:13	1.00

Client Sample Results

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

TestAmerica Job ID: NWE1590

Client Sample ID: 411 Elderberney
Date Collected: 05/10/12 11:15
Date Received: 05/12/12 08:10

Lab Sample ID: NWE1590-03
Matrix: Soil
Percent Solids: 93

Method: SW846 8260B - Volatile Organic Compounds by EPA Method 8260B - RE1

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.00241	0.00133	mg/kg dry	¤	05/10/12 11:15	05/17/12 13:55	1.00
Ethylbenzene	ND		0.00241	0.00133	mg/kg dry	¤	05/10/12 11:15	05/17/12 13:55	1.00
Naphthalene	ND		0.00603	0.00301	mg/kg dry	¤	05/10/12 11:15	05/17/12 13:55	1.00
Toluene	ND		0.00241	0.00133	mg/kg dry	¤	05/10/12 11:15	05/17/12 13:55	1.00
Xylenes, total	ND		0.00603	0.00301	mg/kg dry	¤	05/10/12 11:15	05/17/12 13:55	1.00

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4	*106*		*70 - 130*	*05/10/12 11:15*	*05/17/12 13:55*	*1.00*
Dibromofluoromethane	*102*		*70 - 130*	*05/10/12 11:15*	*05/17/12 13:55*	*1.00*
Toluene-d8	*120*		*70 - 130*	*05/10/12 11:15*	*05/17/12 13:55*	*1.00*
4-Bromofluorobenzene	*117*		*70 - 130*	*05/10/12 11:15*	*05/17/12 13:55*	*1.00*

Method: SW846 8270D - Polyaromatic Hydrocarbons by EPA 8270D

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.0712	0.0361	mg/kg dry	¤	05/17/12 11:09	05/18/12 00:56	1.00
Acenaphthylene	ND		0.0712	0.0361	mg/kg dry	¤	05/17/12 11:09	05/18/12 00:56	1.00
Anthracene	ND		0.0712	0.0361	mg/kg dry	¤	05/17/12 11:09	05/18/12 00:56	1.00
Benzo (a) anthracene	ND		0.0712	0.0361	mg/kg dry	¤	05/17/12 11:09	05/18/12 00:56	1.00
Benzo (a) pyrene	ND		0.0712	0.0361	mg/kg dry	¤	05/17/12 11:09	05/18/12 00:56	1.00
Benzo (b) fluoranthene	ND		0.0712	0.0361	mg/kg dry	¤	05/17/12 11:09	05/18/12 00:56	1.00
Benzo (g,h,i) perylene	ND		0.0712	0.0361	mg/kg dry	¤	05/17/12 11:09	05/18/12 00:56	1.00
Benzo (k) fluoranthene	ND		0.0712	0.0361	mg/kg dry	¤	05/17/12 11:09	05/18/12 00:56	1.00
Chrysene	ND		0.0712	0.0361	mg/kg dry	¤	05/17/12 11:09	05/18/12 00:56	1.00
Dibenz (a,h) anthracene	ND		0.0712	0.0361	mg/kg dry	¤	05/17/12 11:09	05/18/12 00:56	1.00
Fluoranthene	ND		0.0712	0.0361	mg/kg dry	¤	05/17/12 11:09	05/18/12 00:56	1.00
Fluorene	ND		0.0712	0.0361	mg/kg dry	¤	05/17/12 11:09	05/18/12 00:56	1.00
Indeno (1,2,3-cd) pyrene	ND		0.0712	0.0361	mg/kg dry	¤	05/17/12 11:09	05/18/12 00:56	1.00
Naphthalene	ND		0.0712	0.0361	mg/kg dry	¤	05/17/12 11:09	05/18/12 00:56	1.00
Phenanthrene	ND		0.0712	0.0361	mg/kg dry	¤	05/17/12 11:09	05/18/12 00:56	1.00
Pyrene	ND		0.0712	0.0361	mg/kg dry	¤	05/17/12 11:09	05/18/12 00:56	1.00
1-Methylnaphthalene	ND		0.0712	0.0361	mg/kg dry	¤	05/17/12 11:09	05/18/12 00:56	1.00
2-Methylnaphthalene	ND		0.0712	0.0361	mg/kg dry	¤	05/17/12 11:09	05/18/12 00:56	1.00

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Terphenyl-d14	*87*		*18 - 120*	*05/17/12 11:09*	*05/18/12 00:56*	*1.00*
2-Fluorobiphenyl	*65*		*14 - 120*	*05/17/12 11:09*	*05/18/12 00:56*	*1.00*
Nitrobenzene-d5	*63*		*17 - 120*	*05/17/12 11:09*	*05/18/12 00:56*	*1.00*

Method: SW-846 - General Chemistry Parameters

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
% Dry Solids	93.0		0.500	0.500	%		05/14/12 15:39	05/15/12 07:13	1.00

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

TestAmerica Job ID: NWE1590

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

Lab Sample ID: 12E3877-BLK1
Matrix: Soil
Analysis Batch: V008288

Client Sample ID: Method Blank
Prep Type: Total
Prep Batch: 12E3877_P

Analyte	Blank Result	Blank Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.00200	0.00110	mg/kg wet		05/17/12 00:28	05/17/12 12:23	1.00
Ethylbenzene	ND		0.00200	0.00110	mg/kg wet		05/17/12 00:28	05/17/12 12:23	1.00
Naphthalene	ND		0.00500	0.00250	mg/kg wet		05/17/12 00:28	05/17/12 12:23	1.00
Toluene	ND		0.00200	0.00110	mg/kg wet		05/17/12 00:28	05/17/12 12:23	1.00
Xylenes, total	ND		0.00500	0.00250	mg/kg wet		05/17/12 00:28	05/17/12 12:23	1.00

Surrogate	*Blank %Recovery*	*Blank Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4	*111*		*70 - 130*	*05/17/12 00:28*	*05/17/12 12:23*	*1.00*
Dibromofluoromethane	*103*		*70 - 130*	*05/17/12 00:28*	*05/17/12 12:23*	*1.00*
Toluene-d8	*106*		*70 - 130*	*05/17/12 00:28*	*05/17/12 12:23*	*1.00*
4-Bromofluorobenzene	*114*		*70 - 130*	*05/17/12 00:28*	*05/17/12 12:23*	*1.00*

Lab Sample ID: 12E3877-BLK2
Matrix: Soil
Analysis Batch: V008288

Client Sample ID: Method Blank
Prep Type: Total
Prep Batch: 12E3877_P

Analyte	Blank Result	Blank Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.100	0.0550	mg/kg wet		05/17/12 00:28	05/17/12 12:54	50.0
Ethylbenzene	ND		0.100	0.0550	mg/kg wet		05/17/12 00:28	05/17/12 12:54	50.0
Naphthalene	ND		0.250	0.125	mg/kg wet		05/17/12 00:28	05/17/12 12:54	50.0
Toluene	ND		0.100	0.0550	mg/kg wet		05/17/12 00:28	05/17/12 12:54	50.0
Xylenes, total	ND		0.250	0.125	mg/kg wet		05/17/12 00:28	05/17/12 12:54	50.0

Surrogate	*Blank %Recovery*	*Blank Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4	*110*		*70 - 130*	*05/17/12 00:28*	*05/17/12 12:54*	*50.0*
Dibromofluoromethane	*102*		*70 - 130*	*05/17/12 00:28*	*05/17/12 12:54*	*50.0*
Toluene-d8	*114*		*70 - 130*	*05/17/12 00:28*	*05/17/12 12:54*	*50.0*
4-Bromofluorobenzene	*113*		*70 - 130*	*05/17/12 00:28*	*05/17/12 12:54*	*50.0*

Lab Sample ID: 12E3877-BS1
Matrix: Soil
Analysis Batch: V008288

Client Sample ID: Lab Control Sample
Prep Type: Total
Prep Batch: 12E3877_P

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	50.0	49.6		ug/kg		99	75 - 127
Ethylbenzene	50.0	49.9		ug/kg		100	80 - 134
Naphthalene	50.0	40.7		ug/kg		81	69 - 150
Toluene	50.0	53.2		ug/kg		106	80 - 132
Xylenes, total	150	140		ug/kg		93	80 - 137

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4	*108*		*70 - 130*
Dibromofluoromethane	*104*		*70 - 130*
Toluene-d8	*113*		*70 - 130*
4-Bromofluorobenzene	*100*		*70 - 130*

Method: SW846 8260B - Volatile Organic Compounds by EPA Method 8260B (Continued)

Lab Sample ID: 12E3877-BSD1
Matrix: Soil
Analysis Batch: V008288

Client Sample ID: Lab Control Sample Dup
Prep Type: Total
Prep Batch: 12E3877_P

Analyte	Spike Added	LCS Dup Result	LCS Dup Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	50.0	48.3		ug/kg		97	75 - 127	3	50
Ethylbenzene	50.0	47.7		ug/kg		95	80 - 134	4	50
Naphthalene	50.0	43.6		ug/kg		87	69 - 150	7	50
Toluene	50.0	57.9		ug/kg		116	80 - 132	8	50
Xylenes, total	150	134		ug/kg		89	80 - 137	4	50

Surrogate	*LCS Dup %Recovery*	*LCS Dup Qualifier*	*Limits*
1,2-Dichloroethane-d4	*108*		*70 - 130*
Dibromofluoromethane	*103*		*70 - 130*
Toluene-d8	*131*	*Z2*	*70 - 130*
4-Bromofluorobenzene	*101*		*70 - 130*

Lab Sample ID: 12E3877-MS1
Matrix: Soil
Analysis Batch: V008288

Client Sample ID: Matrix Spike
Prep Type: Total
Prep Batch: 12E3877_P

Analyte	Sample Result	Sample Qualifier	Spike Added	Matrix Spike Result	Matrix Spike Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	ND		0.0504	0.0502		mg/kg dry	☼	100	31 - 143
Ethylbenzene	ND		0.0504	0.0485		mg/kg dry	☼	96	23 - 161
Naphthalene	ND		0.0504	0.0201		mg/kg dry	☼	40	10 - 176
Toluene	ND		0.0504	0.0514		mg/kg dry	☼	102	30 - 155
Xylenes, total	ND		0.151	0.130		mg/kg dry	☼	86	25 - 162

Surrogate	*Matrix Spike %Recovery*	*Matrix Spike Qualifier*	*Limits*
1,2-Dichloroethane-d4	*111*		*70 - 130*
Dibromofluoromethane	*103*		*70 - 130*
Toluene-d8	*110*		*70 - 130*
4-Bromofluorobenzene	*98*		*70 - 130*

Lab Sample ID: 12E3877-MSD1
Matrix: Soil
Analysis Batch: V008288

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total
Prep Batch: 12E3877_P

Analyte	Sample Result	Sample Qualifier	Spike Added	ıtrix Spike Dup Result	Matrix Spike Dup Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	ND		0.0536	0.0536		mg/kg dry	☼	100	31 - 143	6	50
Ethylbenzene	ND		0.0536	0.0522		mg/kg dry	☼	97	23 - 161	7	50
Naphthalene	ND		0.0536	0.0222		mg/kg dry	☼	41	10 - 176	10	50
Toluene	ND		0.0536	0.0539		mg/kg dry	☼	101	30 - 155	5	50
Xylenes, total	ND		0.161	0.136		mg/kg dry	☼	85	25 - 162	5	50

Surrogate	*Matrix Spike Dup %Recovery*	*Matrix Spike Dup Qualifier*	*Limits*
1,2-Dichloroethane-d4	*108*		*70 - 130*
Dibromofluoromethane	*102*		*70 - 130*
Toluene-d8	*95*		*70 - 130*
4-Bromofluorobenzene	*100*		*70 - 130*

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

TestAmerica Job ID: NWE1590

Method: SW846 8260B - Volatile Organic Compounds by EPA Method 8260B (Continued)

Lab Sample ID: 12E4742-BLK1
Matrix: Soil
Analysis Batch: V008450

Client Sample ID: Method Blank
Prep Type: Total
Prep Batch: 12E4742_P

Analyte	Blank Result	Blank Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.00200	0.00110	mg/kg wet		05/18/12 10:04	05/18/12 13:39	1.00
Ethylbenzene	ND		0.00200	0.00110	mg/kg wet		05/18/12 10:04	05/18/12 13:39	1.00
Naphthalene	ND		0.00500	0.00250	mg/kg wet		05/18/12 10:04	05/18/12 13:39	1.00
Toluene	ND		0.00200	0.00110	mg/kg wet		05/18/12 10:04	05/18/12 13:39	1.00
Xylenes, total	ND		0.00500	0.00250	mg/kg wet		05/18/12 10:04	05/18/12 13:39	1.00

Surrogate	*Blank %Recovery*	*Blank Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4	*100*		*70 - 130*	*05/18/12 10:04*	*05/18/12 13:39*	*1.00*
Dibromofluoromethane	*101*		*70 - 130*	*05/18/12 10:04*	*05/18/12 13:39*	*1.00*
Toluene-d8	*120*		*70 - 130*	*05/18/12 10:04*	*05/18/12 13:39*	*1.00*
4-Bromofluorobenzene	*112*		*70 - 130*	*05/18/12 10:04*	*05/18/12 13:39*	*1.00*

Lab Sample ID: 12E4742-BLK2
Matrix: Soil
Analysis Batch: V008450

Client Sample ID: Method Blank
Prep Type: Total
Prep Batch: 12E4742_P

Analyte	Blank Result	Blank Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.100	0.0550	mg/kg wet		05/18/12 10:04	05/18/12 14:10	50.0
Ethylbenzene	ND		0.100	0.0550	mg/kg wet		05/18/12 10:04	05/18/12 14:10	50.0
Naphthalene	ND		0.250	0.125	mg/kg wet		05/18/12 10:04	05/18/12 14:10	50.0
Toluene	ND		0.100	0.0550	mg/kg wet		05/18/12 10:04	05/18/12 14:10	50.0
Xylenes, total	ND		0.250	0.125	mg/kg wet		05/18/12 10:04	05/18/12 14:10	50.0

Surrogate	*Blank %Recovery*	*Blank Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4	*97*		*70 - 130*	*05/18/12 10:04*	*05/18/12 14:10*	*50.0*
Dibromofluoromethane	*99*		*70 - 130*	*05/18/12 10:04*	*05/18/12 14:10*	*50.0*
Toluene-d8	*113*		*70 - 130*	*05/18/12 10:04*	*05/18/12 14:10*	*50.0*
4-Bromofluorobenzene	*111*		*70 - 130*	*05/18/12 10:04*	*05/18/12 14:10*	*50.0*

Lab Sample ID: 12E4742-BS1
Matrix: Soil
Analysis Batch: V008450

Client Sample ID: Lab Control Sample
Prep Type: Total
Prep Batch: 12E4742_P

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	50.0	46.9		ug/kg		94	75 - 127
Ethylbenzene	50.0	44.8		ug/kg		90	80 - 134
Naphthalene	50.0	38.6		ug/kg		77	69 - 150
Toluene	50.0	47.5		ug/kg		95	80 - 132
Xylenes, total	150	127		ug/kg		84	80 - 137

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4	*106*		*70 - 130*
Dibromofluoromethane	*103*		*70 - 130*
Toluene-d8	*107*		*70 - 130*
4-Bromofluorobenzene	*101*		*70 - 130*

Method: SW846 8260B - Volatile Organic Compounds by EPA Method 8260B (Continued)

Lab Sample ID: 12E4742-BSD1
Matrix: Soil
Analysis Batch: V008450

Client Sample ID: Lab Control Sample Dup
Prep Type: Total
Prep Batch: 12E4742_P

Analyte	Spike Added	LCS Dup Result	LCS Dup Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	50.0	46.8		ug/kg		94	75 - 127	0.1	50
Ethylbenzene	50.0	44.6		ug/kg		89	80 - 134	0.5	50
Naphthalene	50.0	38.2		ug/kg		76	69 - 150	1	50
Toluene	50.0	45.6		ug/kg		91	80 - 132	4	50
Xylenes, total	150	126		ug/kg		84	80 - 137	0.4	50

Surrogate	*LCS Dup %Recovery*	*LCS Dup Qualifier*	*Limits*
1,2-Dichloroethane-d4	*107*		*70 - 130*
Dibromofluoromethane	*105*		*70 - 130*
Toluene-d8	*105*		*70 - 130*
4-Bromofluorobenzene	*98*		*70 - 130*

Lab Sample ID: 12E4742-MS1
Matrix: Soil
Analysis Batch: V008450

Client Sample ID: Matrix Spike
Prep Type: Total
Prep Batch: 12E4742_P

Analyte	Sample Result	Sample Qualifier	Spike Added	Matrix Spike Result	Matrix Spike Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	ND		0.0661	0.0736		mg/kg dry	¤	111	31 - 143
Ethylbenzene	ND		0.0661	0.0678		mg/kg dry	¤	102	23 - 161
Naphthalene	0.00613		0.0661	0.0234		mg/kg dry	¤	26	10 - 176
Toluene	ND		0.0661	0.0873		mg/kg dry	¤	132	30 - 155
Xylenes, total	0.00250		0.198	0.176		mg/kg dry	¤	88	25 - 162

Surrogate	*Matrix Spike %Recovery*	*Matrix Spike Qualifier*	*Limits*
1,2-Dichloroethane-d4	*103*		*70 - 130*
Dibromofluoromethane	*101*		*70 - 130*
Toluene-d8	*125*		*70 - 130*
4-Bromofluorobenzene	*160*	*ZX*	*70 - 130*

Lab Sample ID: 12E4742-MSD1
Matrix: Soil
Analysis Batch: V008450

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total
Prep Batch: 12E4742_P

Analyte	Sample Result	Sample Qualifier	Spike Added	ıtrix Spike Dup Result	Matrix Spike Du Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	ND		0.0544	0.0587		mg/kg dry	¤	108	31 - 143	22	50
Ethylbenzene	ND		0.0544	0.0503		mg/kg dry	¤	93	23 - 161	30	50
Naphthalene	0.00613		0.0544	0.0177		mg/kg dry	¤	21	10 - 176	28	50
Toluene	ND		0.0544	0.0739		mg/kg dry	¤	136	30 - 155	17	50
Xylenes, total	0.00250		0.163	0.129		mg/kg dry	¤	77	25 - 162	31	50

Surrogate	*Matrix Spike Dup %Recovery*	*Matrix Spike Dup Qualifier*	*Limits*
1,2-Dichloroethane-d4	*104*		*70 - 130*
Dibromofluoromethane	*104*		*70 - 130*
Toluene-d8	*136*	*ZX*	*70 - 130*
4-Bromofluorobenzene	*155*	*ZX*	*70 - 130*

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

TestAmerica Job ID: NWE1590

Method: SW846 8270D - Polyaromatic Hydrocarbons by EPA 8270D

Lab Sample ID: 12E3033-BLK1
Matrix: Soil
Analysis Batch: 12E3033

Client Sample ID: Method Blank
Prep Type: Total
Prep Batch: 12E3033_P

Analyte	Blank Result	Blank Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.0670	0.0340	mg/kg wet		05/17/12 11:09	05/17/12 23:49	1.00
Acenaphthylene	ND		0.0670	0.0340	mg/kg wet		05/17/12 11:09	05/17/12 23:49	1.00
Anthracene	ND		0.0670	0.0340	mg/kg wet		05/17/12 11:09	05/17/12 23:49	1.00
Benzo (a) anthracene	ND		0.0670	0.0340	mg/kg wet		05/17/12 11:09	05/17/12 23:49	1.00
Benzo (a) pyrene	ND		0.0670	0.0340	mg/kg wet		05/17/12 11:09	05/17/12 23:49	1.00
Benzo (b) fluoranthene	ND		0.0670	0.0340	mg/kg wet		05/17/12 11:09	05/17/12 23:49	1.00
Benzo (g,h,i) perylene	ND		0.0670	0.0340	mg/kg wet		05/17/12 11:09	05/17/12 23:49	1.00
Benzo (k) fluoranthene	ND		0.0670	0.0340	mg/kg wet		05/17/12 11:09	05/17/12 23:49	1.00
Chrysene	ND		0.0670	0.0340	mg/kg wet		05/17/12 11:09	05/17/12 23:49	1.00
Dibenz (a,h) anthracene	ND		0.0670	0.0340	mg/kg wet		05/17/12 11:09	05/17/12 23:49	1.00
Fluoranthene	ND		0.0670	0.0340	mg/kg wet		05/17/12 11:09	05/17/12 23:49	1.00
Fluorene	ND		0.0670	0.0340	mg/kg wet		05/17/12 11:09	05/17/12 23:49	1.00
Indeno (1,2,3-cd) pyrene	ND		0.0670	0.0340	mg/kg wet		05/17/12 11:09	05/17/12 23:49	1.00
Naphthalene	ND		0.0670	0.0340	mg/kg wet		05/17/12 11:09	05/17/12 23:49	1.00
Phenanthrene	ND		0.0670	0.0340	mg/kg wet		05/17/12 11:09	05/17/12 23:49	1.00
Pyrene	ND		0.0670	0.0340	mg/kg wet		05/17/12 11:09	05/17/12 23:49	1.00
1-Methylnaphthalene	ND		0.0670	0.0340	mg/kg wet		05/17/12 11:09	05/17/12 23:49	1.00
2-Methylnaphthalene	ND		0.0670	0.0340	mg/kg wet		05/17/12 11:09	05/17/12 23:49	1.00

Surrogate	*Blank %Recovery*	*Blank Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Terphenyl-d14	*95*		*18 - 120*	*05/17/12 11:09*	*05/17/12 23:49*	*1.00*
2-Fluorobiphenyl	*72*		*14 - 120*	*05/17/12 11:09*	*05/17/12 23:49*	*1.00*
Nitrobenzene-d5	*68*		*17 - 120*	*05/17/12 11:09*	*05/17/12 23:49*	*1.00*

Lab Sample ID: 12E3033-BS1
Matrix: Soil
Analysis Batch: 12E3033

Client Sample ID: Lab Control Sample
Prep Type: Total
Prep Batch: 12E3033_P

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acenaphthene	1.67	1.54	MNR	mg/kg wet		93	36 - 120
Acenaphthylene	1.67	1.49	MNR	mg/kg wet		89	38 - 120
Anthracene	1.67	1.60	MNR	mg/kg wet		96	46 - 124
Benzo (a) anthracene	1.67	1.62	MNR	mg/kg wet		97	45 - 120
Benzo (a) pyrene	1.67	1.75	MNR	mg/kg wet		105	45 - 120
Benzo (b) fluoranthene	1.67	1.69	MNR	mg/kg wet		101	42 - 120
Benzo (g,h,i) perylene	1.67	1.63	MNR	mg/kg wet		98	38 - 120
Benzo (k) fluoranthene	1.67	1.54	MNR	mg/kg wet		92	42 - 120
Chrysene	1.67	1.59	MNR	mg/kg wet		96	43 - 120
Dibenz (a,h) anthracene	1.67	1.58	MNR	mg/kg wet		95	32 - 128
Fluoranthene	1.67	1.67	MNR	mg/kg wet		100	46 - 120
Fluorene	1.67	1.58	MNR	mg/kg wet		95	42 - 120
Indeno (1,2,3-cd) pyrene	1.67	1.69	MNR	mg/kg wet		101	41 - 121
Naphthalene	1.67	1.40	MNR	mg/kg wet		84	32 - 120
Phenanthrene	1.67	1.57	MNR	mg/kg wet		94	45 - 120
Pyrene	1.67	1.59	MNR	mg/kg wet		96	43 - 120
1-Methylnaphthalene	1.67	1.03	MNR	mg/kg wet		62	32 - 120
2-Methylnaphthalene	1.67	1.37	MNR	mg/kg wet		82	28 - 120

Method: SW846 8270D - Polyaromatic Hydrocarbons by EPA 8270D (Continued)

Lab Sample ID: 12E3033-BS1
Matrix: Soil
Analysis Batch: 12E3033

Client Sample ID: Lab Control Sample
Prep Type: Total
Prep Batch: 12E3033_P

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Terphenyl-d14	*93*		*18 - 120*
2-Fluorobiphenyl	*69*		*14 - 120*
Nitrobenzene-d5	*59*		*17 - 120*

Method: SW-846 - General Chemistry Parameters

Lab Sample ID: 12E3045-DUP1
Matrix: Soil
Analysis Batch: 12E3045

Client Sample ID: Duplicate
Prep Type: Total
Prep Batch: 12E3045_P

Analyte	Sample Result	Sample Qualifier	Duplicate Result	Duplicate Qualifier	Unit	D	RPD	RPD Limit
% Dry Solids	86.7		86.8		%		0.07	20

QC Association Summary

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

TestAmerica Job ID: NWE1590

GCMS Volatiles

Analysis Batch: V008288

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
12E3877-BLK1	Method Blank	Total	Soil	SW846 8260B	12E3877_P
12E3877-BLK2	Method Blank	Total	Soil	SW846 8260B	12E3877_P
12E3877-BS1	Lab Control Sample	Total	Soil	SW846 8260B	12E3877_P
12E3877-BSD1	Lab Control Sample Dup	Total	Soil	SW846 8260B	12E3877_P
12E3877-MS1	Matrix Spike	Total	Soil	SW846 8260B	12E3877_P
12E3877-MSD1	Matrix Spike Duplicate	Total	Soil	SW846 8260B	12E3877_P
NWE1590-01 - RE1	1192 Bobwhite	Total	Soil	SW846 8260B	12E3877_P
NWE1590-01 - RE2	1192 Bobwhite	Total	Soil	SW846 8260B	12E3877_P
NWE1590-02 - RE1	857 Dolphin	Total	Soil	SW846 8260B	12E3877_P
NWE1590-03 - RE1	411 Elderberney	Total	Soil	SW846 8260B	12E3877_P

Analysis Batch: V008450

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
12E4742-BLK1	Method Blank	Total	Soil	SW846 8260B	12E4742_P
12E4742-BLK2	Method Blank	Total	Soil	SW846 8260B	12E4742_P
12E4742-BS1	Lab Control Sample	Total	Soil	SW846 8260B	12E4742_P
12E4742-BSD1	Lab Control Sample Dup	Total	Soil	SW846 8260B	12E4742_P
12E4742-MS1	Matrix Spike	Total	Soil	SW846 8260B	12E4742_P
12E4742-MSD1	Matrix Spike Duplicate	Total	Soil	SW846 8260B	12E4742_P
NWE1590-01 - RE3	1192 Bobwhite	Total	Soil	SW846 8260B	12E4742_P

Prep Batch: 12E3877_P

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
12E3877-BLK1	Method Blank	Total	Soil	EPA 5035	
12E3877-BLK2	Method Blank	Total	Soil	EPA 5035	
12E3877-BS1	Lab Control Sample	Total	Soil	EPA 5035	
12E3877-BSD1	Lab Control Sample Dup	Total	Soil	EPA 5035	
12E3877-MS1	Matrix Spike	Total	Soil	EPA 5035	
12E3877-MSD1	Matrix Spike Duplicate	Total	Soil	EPA 5035	
NWE1590-01 - RE1	1192 Bobwhite	Total	Soil	EPA 5035	
NWE1590-01 - RE2	1192 Bobwhite	Total	Soil	EPA 5035	
NWE1590-02 - RE1	857 Dolphin	Total	Soil	EPA 5035	
NWE1590-03 - RE1	411 Elderberney	Total	Soil	EPA 5035	

Prep Batch: 12E4742_P

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
12E4742-BLK1	Method Blank	Total	Soil	EPA 5035	
12E4742-BLK2	Method Blank	Total	Soil	EPA 5035	
12E4742-BS1	Lab Control Sample	Total	Soil	EPA 5035	
12E4742-BSD1	Lab Control Sample Dup	Total	Soil	EPA 5035	
12E4742-MS1	Matrix Spike	Total	Soil	EPA 5035	
12E4742-MSD1	Matrix Spike Duplicate	Total	Soil	EPA 5035	
NWE1590-01 - RE3	1192 Bobwhite	Total	Soil	EPA 5035	

GCMS Semivolatiles

Analysis Batch: 12E3033

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
12E3033-BLK1	Method Blank	Total	Soil	SW846 8270D	12E3033_P
12E3033-BS1	Lab Control Sample	Total	Soil	SW846 8270D	12E3033_P
NWE1590-01 - RE1	1192 Bobwhite	Total	Soil	SW846 8270D	12E3033_P
NWE1590-02	857 Dolphin	Total	Soil	SW846 8270D	12E3033_P

GCMS Semivolatiles (Continued)

Analysis Batch: 12E3033 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
NWE1590-03	411 Elderberney	Total	Soil	SW846 8270D	12E3033_P

Prep Batch: 12E3033_P

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
12E3033-BLK1	Method Blank	Total	Soil	EPA 3550B	
12E3033-BS1	Lab Control Sample	Total	Soil	EPA 3550B	
NWE1590-01 - RE1	1192 Bobwhite	Total	Soil	EPA 3550B	
NWE1590-02	857 Dolphin	Total	Soil	EPA 3550B	
NWE1590-03	411 Elderberney	Total	Soil	EPA 3550B	

Extractions

Analysis Batch: 12E3045

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
12E3045-DUP1	Duplicate	Total	Soil	SW-846	12E3045_P
NWE1590-01	1192 Bobwhite	Total	Soil	SW-846	12E3045_P
NWE1590-02	857 Dolphin	Total	Soil	SW-846	12E3045_P
NWE1590-03	411 Elderberney	Total	Soil	SW-846	12E3045_P

Prep Batch: 12E3045_P

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
12E3045-DUP1	Duplicate	Total	Soil	% Solids	
NWE1590-01	1192 Bobwhite	Total	Soil	% Solids	
NWE1590-02	857 Dolphin	Total	Soil	% Solids	
NWE1590-03	411 Elderberney	Total	Soil	% Solids	

Lab Chronicle

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

TestAmerica Job ID: NWE1590

Client Sample ID: 1192 Bobwhite

Lab Sample ID: NWE1590-01

Date Collected: 05/07/12 15:30
Matrix: Soil
Date Received: 05/12/12 08:10
Percent Solids: 84.1

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total	Prep	EPA 5035	RE1	1.03	12E3877_P	05/07/12 15:30	TSP	TAL NSH
Total	Analysis	SW846 8260B	RE1	1.00	V008288	05/17/12 14:25	KKK	TAL NSH
Total	Prep	EPA 5035	RE2	1.02	12E3877_P	05/07/12 15:30	TSP	TAL NSH
Total	Analysis	SW846 8260B	RE2	50.0	V008288	05/17/12 14:56	KKK	TAL NSH
Total	Prep	EPA 5035	RE3	1.02	12E4742_P	05/07/12 15:30	TSP	TAL NSH
Total	Analysis	SW846 8260B	RE3	500	V008450	05/18/12 15:11	KKK	TAL NSH
Total	Prep	EPA 3550B	RE1	1.98	12E3033_P	05/17/12 11:09	JJR	TAL NSH
Total	Analysis	SW846 8270D	RE1	20.0	12E3033	05/18/12 15:08	WLL	TAL NSH
Total	Prep	% Solids		1.00	12E3045_P	05/14/12 15:39	RRS	TAL NSH
Total	Analysis	SW-846		1.00	12E3045	05/15/12 07:13	KDJ	TAL NSH

Client Sample ID: 857 Dolphin

Lab Sample ID: NWE1590-02

Date Collected: 05/09/12 14:45
Matrix: Soil
Date Received: 05/12/12 08:10
Percent Solids: 76.6

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total	Prep	EPA 5035	RE1	2.39	12E3877_P	05/09/12 14:45	TSP	TAL NSH
Total	Analysis	SW846 8260B	RE1	1.00	V008288	05/17/12 13:24	KKK	TAL NSH
Total	Prep	EPA 3550B		0.996	12E3033_P	05/17/12 11:09	JJR	TAL NSH
Total	Analysis	SW846 8270D		1.00	12E3033	05/18/12 00:34	WLL	TAL NSH
Total	Prep	% Solids		1.00	12E3045_P	05/14/12 15:39	RRS	TAL NSH
Total	Analysis	SW-846		1.00	12E3045	05/15/12 07:13	KDJ	TAL NSH

Client Sample ID: 411 Elderberney

Lab Sample ID: NWE1590-03

Date Collected: 05/10/12 11:15
Matrix: Soil
Date Received: 05/12/12 08:10
Percent Solids: 93

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total	Prep	EPA 5035	RE1	1.12	12E3877_P	05/10/12 11:15	TSP	TAL NSH
Total	Analysis	SW846 8260B	RE1	1.00	V008288	05/17/12 13:55	KKK	TAL NSH
Total	Prep	EPA 3550B		0.987	12E3033_P	05/17/12 11:09	JJR	TAL NSH
Total	Analysis	SW846 8270D		1.00	12E3033	05/18/12 00:56	WLL	TAL NSH
Total	Prep	% Solids		1.00	12E3045_P	05/14/12 15:39	RRS	TAL NSH
Total	Analysis	SW-846		1.00	12E3045	05/15/12 07:13	KDJ	TAL NSH

Laboratory References:

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

Method Summary

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

TestAmerica Job ID: NWE1590

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)
Project/Site: [none]

TestAmerica Job ID: NWE1590

Laboratory	Authority	Program	EPA Region	Certification ID
TestAmerica Nashville		ACIL		393
TestAmerica Nashville	A2LA	ISO/IEC 17025		0453.07
TestAmerica Nashville	Alabama	State Program	4	41150
TestAmerica Nashville	Alaska (UST)	State Program	10	UST-087
TestAmerica Nashville	Arizona	State Program	9	AZ0473
TestAmerica Nashville	Arkansas DEQ	State Program	6	88-0737
TestAmerica Nashville	California	NELAC	9	1168CA
TestAmerica Nashville	Canadian Assoc Lab Accred (CALA)	Canada		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	State Program	4	90038
TestAmerica Nashville	Kentucky (UST)	State Program	4	19
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	Minnesota	NELAC	5	047-999-345
TestAmerica Nashville	Mississippi	State Program	4	N/A
TestAmerica Nashville	Montana (UST)	State Program	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 DENR	State Program	4	387
TestAmerica Nashville	North Dakota	State Program	8	R-146
TestAmerica Nashville	Ohio VAP	State Program	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	Federal		S-48469
TestAmerica Nashville	Utah	NELAC	8	TAN
TestAmerica Nashville	Virginia	NELAC	3	460152
TestAmerica Nashville	Virginia	State Program	3	00323
TestAmerica Nashville	Washington	State Program	10	C789
TestAmerica Nashville	West Virginia DEP	State Program	3	219
TestAmerica Nashville	Wisconsin	State Program	5	998020430
TestAmerica Nashville	Wyoming (UST)	A2LA	8	453.07

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

To assist us in using the proper analytical methods, is this work being conducted for regulatory purposes?

Compliance Monitoring? Yes ____ No ____

Enforcement Action? Yes ____ No ____

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

Site State: SC
PO#: 1027
TA Quote #:
Project ID: Laurel Bay Housing Project
Project #:

Sample ID / Description	Date Sampled	Time Sampled	No. of Containers Shipped	Grab	Composite	Field Filtered	Preservative: Ice	HNO_3 (Red Label)	HCl (Blue Label) Sodium Bisulfate	NaOH (Orange Label)	H_2SO_4 Plastic (Yellow Label)	H_2SO_4 Glass(Yellow Label)	None (Black Label)	Other (Specify) Methanol	Matrix: Groundwater	Wastewater	Drinking Water	Sludge	Soil	Other (specify)	Analyze For: BTEX + Napth - 8260B	PAH - 8270D	RUSH TAT (Pre-Schedule)
1192 Bobwhite	5/7/12	1530	5	X					2				2	1					X		X	X	
857 Dolphin	5/9/12	1445	5	X					2				2	1					X		X	X	
411 Elderberry	5/10/12	1115	5	X					2				2	1					X		X	X	

NWE1590
05/29/12 23:59

Special Instructions:

Method of Shipment: FEDEX

Relinquished by:	Date	Time	Received by:	Date	Time
	5/11/12	1000	FEDEX		
Relinquished by:	Date	Time	Received by TestAmerica:	Date	Time
			2.0 TAN 5-12-12		08:10

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

ATTACHMENT A

WASTE MANAGEMENT

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
4. Generator's Phone 843-228-6461

Generator's Site Address (If different than mailing):

A. Manifest Number: WMNA 00316836
B. State Generator's ID:

5. Transporter 1 Company Name: EEG, INC.
6. US EPA ID Number:
C. State Transporter's ID:
D. Transporter's Phone: 843-879-0411

7. Transporter 2 Company Name:
8. US EPA ID Number:
E. State Transporter's ID:
F. Transporter's Phone:

9. Designated Facility Name and Site Address:
HICKORY HILL LANDFILL
2621 LOW COUNTRY ROAD
RIDGELAND, SC 29936
10. US EPA ID Number:
G. State Facility ID:
H. State Facility Phone: 843-987-4643

GENERATOR

11. Description of Waste Materials	12. Containers No.	12. Containers Type	13. Total Quantity	14. Unit Wt./Vol.	I. Misc. Comments
a. HEATING OIL TANKS FILLED WITH SAND WM Profile # 102655SC					
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
UST's from: 1) 1359 Cardinal; 2) 1192 Bobwhite; 3) 857 Dolphin; 4) 411 Elderberry; 5) 1479 Cardinal; 6) 1202 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	Signature "On behalf of"	Month	Day	Year
[illegible]		7	11	12

TRANSPORTER

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed Name	Signature	Month	Day	Year
Pratt Shaw		7	11	12

18. Transporter 2 Acknowledgement of Receipt of Materials

Printed Name	Signature	Month	Day	Year
James Baldwin	James Baldwin	7	16	12

FACILITY

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

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

Printed Name	Signature	Month	Day	Year
Tom Cotier	Tom Cotier	7	16	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
Laboratory Analytical Report - Initial Groundwater
(Appendix C is not included due to the detection of free product)

Appendix D
Laboratory Analytical Report – Permanent Well Groundwater

CDM - AECOM
Multimedia Joint Venture

Volatile Organic Compounds by GC/MS

Client: AECOM - Resolution Consultants
Laboratory ID: SL09005-001
Description: BEALB1192MW01WG20171207
Matrix: Aqueous
Date Sampled: 12/07/2017 1035
Date Received: 12/09/2017

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	12/13/2017 1105	JJG		59492

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	LOD	DL	Units	Run
Benzene	71-43-2	8260B	0.80	U	1.0	0.80	0.40	ug/L	1
Ethylbenzene	100-41-4	8260B	0.80	U	1.0	0.80	0.40	ug/L	1
Naphthalene	91-20-3	8260B	1.6		1.0	0.80	0.40	ug/L	1
Toluene	108-88-3	8260B	0.80	U	1.0	0.80	0.40	ug/L	1
Xylenes (total)	1330-20-7	8260B	0.80	U	1.0	0.80	0.40	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
Bromofluorobenzene		97	85-114
Dibromofluoromethane		101	80-119
1,2-Dichloroethane-d4		95	81-118
Toluene-d8		103	89-112

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

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

Semivolatile Organic Compounds by GC/MS

Client: AECOM - Resolution Consultants
Laboratory ID: SL09005-001
Description: BEALB1192MW01WG20171207
Matrix: Aqueous
Date Sampled: 12/07/2017 1035
Date Received: 12/09/2017

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	3520C	8270D	1	12/28/2017 1104	CMP2	12/13/2017 1528	59419

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	LOD	DL	Units	Run
Benzo(a)anthracene	56-55-3	8270D	0.10	U	0.20	0.10	0.040	ug/L	1
Benzo(b)fluoranthene	205-99-2	8270D	0.10	U	0.20	0.10	0.040	ug/L	1
Benzo(k)fluoranthene	207-08-9	8270D	0.10	U	0.20	0.10	0.040	ug/L	1
Chrysene	218-01-9	8270D	0.10	U	0.20	0.10	0.040	ug/L	1
Dibenzo(a,h)anthracene	53-70-3	8270D	0.10	U	0.20	0.10	0.040	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
Nitrobenzene-d5		48	44-120
2-Fluorobiphenyl		45	44-119
Terphenyl-d14		57	50-134

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

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

Appendix E
Laboratory Analytical Report – Vapor

CDM - AECOM
Multimedia Joint Venture

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **AECOM** ALS Project ID: P1503199
Client Sample ID: **BEALB 1192 SG01 GS20150730** ALS Sample ID: P1503199-027
Client Project ID: **WE56-Laurel Bay Military Housing Area, MCAS Beaufort / 60342031.FI.WI**

Test Code:	EPA TO-15	Date Collected:	7/30/15
Instrument ID:	Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9	Date Received:	8/5/15
Analyst:	Simon Cao	Date Analyzed:	8/11/15
Sampling Media:	6.0 L Summa Canister	Volume(s) Analyzed:	1.00 Liter(s)
Test Notes:			
Container ID:	SC01976		

Initial Pressure (psig): -3.09 Final Pressure (psig): 3.77

Canister Dilution Factor: 1.59

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
71-43-2	Benzene	0.72	0.80	0.72	0.25	**U**
108-88-3	Toluene	**0.73**	0.80	0.70	0.27	**J**
100-41-4	Ethylbenzene	0.70	0.80	0.70	0.25	**U**
179601-23-1	m,p-Xylenes	1.4	1.6	1.4	0.48	**U**
95-47-6	o-Xylene	0.67	0.80	0.67	0.24	**U**
91-20-3	Naphthalene	0.70	0.80	0.70	0.29	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

Appendix F
Regulatory Correspondence

CDM - AECOM
Multimedia Joint Venture

D H E C

PROMOTE PROTECT PROSPER

Catherine B. Templeton, Director

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: IGWA
Laurel Bay Underground Storage Tank Assessment Reports for:
See attached sheet

Dear Mr. Drawdy,

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

The Department has reviewed the referenced assessment reports. The submitted analytical results indicate that petroleum constituents are above established Risk-Based Screening Levels and additional investigation is warranted. Specifically, the Department requests that a groundwater sampling proposal be generated to determine if there has been an impact to groundwater at this site.

Please note that the Department's decision is based on information provided by the Marine Corps Air Station (MCAS) to date. Any information found to be contradictory to this decision may require additional action. Furthermore, the Department retains the right to request further investigation if deemed necessary.

If you have any questions, please contact me at kriegkm@dhec.sc.gov or 803-898-0255.

Sincerely,

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)

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

Laurel Bay Underground Storage Tank Assessment Reports for: (121 addresses/139 tanks)

137 Laurel Bay Tank 2	387 Acorn
139 Laurel Bay	392 Acorn Tank 2
229 Cypress Tank 2	396 Acorn Tank 1
261 Beech Tank 1	396 Acorn Tank 2
261 Beech Tank 3	430 Elderberry
273 Birch Tank 1	433 Elderberry
273 Birch Tank 2	439 Elderberry
273 Birch Tank 3	440 Elderberry
276 Birch Tank 2	442 Elderberry
278 Birch Tank 2	443 Elderberry
291 Birch Tank 2	444 Elderberry Tank 1
300 Ash	445 Elderberry
304 Ash	446 Elderberry
314 Ash Tank 1	448 Elderberry
314 Ash Tank 2	449 Elderberry
322 Ash Tank 2	451 Elderberry
323 Ash	453 Elderberry
324 Ash	456 Elderberry Tank 1
325 Ash Tank 1	456 Elderberry Tank 2
325 Ash Tank 2	458 Elderberry Tank 1
326 Ash	458 Elderberry Tank 3
336 Ash	464 Dogwood
339 Ash	466 Dogwood
343 Ash Tank 1	467 Dogwood
344 Ash Tank 1	468 Dogwood
348 Ash	469 Dogwood
349 Ash Tank 1	471 Dogwood Tank 2
353 Ash Tank 1	471 Dogwood Tank 3
362 Aspen	475 Dogwood Tank 1
376 Aspen	475 Dogwood Tank 2
380 Aspen	516 Laurel Bay Tank 1 (UST#03747)
383 Aspen Tank 2	518 Laurel Bay

Laurel Bay Underground Storage Tank Assessment Reports for: (121 addresses/139 tanks) cont.

531 Laurel Bay	1219 Cardinal
532 Laurel Bay	1272 Albatross
635 Dahlia Tank 2	1305 Eagle
638 Dahlia	1353 Cardinal
640 Dahlia Tank 1	1356 Cardinal
640 Dahlia Tank 2	1357 Cardinal
645 Dahlia	1359 Cardinal
647 Dahlia	1360 Cardinal
648 Dahlia Tank 2	1361 Cardinal
650 Dahlia Tank 1	1368 Cardinal
650 Dahlia Tank 2	1370 Cardinal Tank 1
652 Dahlia Tank 1	1377 Dove
652 Dahlia Tank 2	1381 Dove
760 Althea	1382 Dove
763 Althea	1384 Dove
771 Althea	1385 Dove
927 Albacore	1389 Dove
1015 Foxglove	1391 Dove
1046 Gardenia	1392 Dove
1062 Gardenia Tank 2	1393 Dove Tank 1
1070 Heather	1393 Dove Tank 2
1072 Heather	1406 Eagle
1102 Iris Tank 1	1407 Eagle Tank 1
1107 Iris	1411 Eagle Tank 1
1126 Iris	1411 Eagle Tank 2
1129 Iris	1412 Eagle
1132 Iris	1413 Albatross
1133 Iris Tank 1	1414 Albatross
1138 Iris	1422 Albatross
1144 Iris Tank 1	1425 Albatross
1144 Iris Tank 2	1426 Albatross
1148 Iris Tank 1	1432 Dove
1148 Iris Tank 2	1434 Dove
1161 Jasmine	1436 Dove
1167 Jasmine	1438 Dove Tank 1
1170 Jasmine	1440 Dove
1190 Bobwhite	1442 Dove Tank 1
1192 Bobwhite	

D H E C
PROMOTE PROTECT PROSPER

Catherine E. Heigel, Director
Promoting and protecting the health of the public and the environment

Division of Waste Management
Bureau of Land and Waste Management

February 22, 2016

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

RE: Approval and Concurrence with Draft Final Initial Groundwater Investigation Report-May and June 2015
Laurel Bay Military Housing Area Multiple Properties
Dated October 2015

Dear Mr. Drawdy,

The South Carolina Department of Health and Environmental Control (the Department) received groundwater data in the above referenced Groundwater Investigation Report for the addresses attached. The regulatory authority for the investigation and cleanup of releases from these tank systems is the South Carolina Pollution Control Act (S.C. Code Ann. §48-1-10 et seq., as amended).

Per the Department's request, groundwater samples were collected from the attached referenced addresses. The Department reviewed the groundwater data and previous investigations and it agrees with the conclusions and recommendations included in the document. To further assess the impact to groundwater, permanent wells should be installed at the 52 stated addresses. For the remaining 91 addresses, there is no indication of contamination on the property and therefore no further investigation is required at this time.

Please note that the Department's decision is based on information provided by the Marine Corps Air Station (MCAS) to date. Any information found to be contradictory to this decision may require additional action. Furthermore, the Department retains the right to request further investigation if deemed necessary.

If you have any questions, please contact me at petruslb@dhec.sc.gov or 803-898-0294.

Sincerely,

Laurel Petrus
RCRA Federal Facilities Section

Attachment: Specific Property Recommendations

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

Attachment to: Petrus to Drawdy
Subject: Draft Final Initial Groundwater Investigation Report-May and June 2015
Specific Property Recommendations
Dated February 22, 2016

Draft Final Initial Groundwater Investigation Report for (143 addresses)

Permanent Monitoring Well Investigation recommendation (52 addresses)	
273 Birch Drive	1192 Bobwhite Drive
325 Ash Street	1194 Bobwhite Drive
326 Ash Street	1272 Albatross Drive
336 Ash Street	1352 Cardinal Lane
343 Ash Street	1356 Cardinal Lane
353 Ash Street	1359 Cardinal Lane
430 Elderberry Drive	1360 Cardinal Lane
440 Elderberry Drive	1362 Cardinal Lane
456 Elderberry Drive	1370 Cardinal Lane
458 Elderberry Drive	1382 Dove Lane
468 Dogwood Drive	1384 Dove lane
518 Laurel Bay Blvd	1385 Dove Lane
635 Dahlia Drive	1389 Dove Lane
638 Dahlia Drive	1392 Dove Lane
640 Dahlia Drive	1393 Dove Lane
647 Dahlia Drive	1407 Eagle Lane
648 Dahlia Drive	1411 Eagle Lane
650 Dahlia Drive	1418 Albatross Drive
652 Dahlia Drive	1420 Albatross Drive
760 Althea Street	1426 Albatross Drive
1102 Iris Lane	1429 Albatross Drive
1132 Iris Lane	1434 Dove Lane
1133 Iris Lane	1436 Dove Lane
1144 Iris Lane	1440 Dove Lane
1148 Iris Lane	1442 Dove Lane
1186 Bobwhite Drive	1444 Dove Lane

No Further Action recommendation (91 addresses):	
137 Laurel Bay Blvd	771 Althea Street
139 Laurel Bay Blvd	927 Albacore Street
229 Cypress Street	1015 Foxglove Street
261 Beech Street	1046 Gardenia Drive
276 Birch Drive	1062 Gardenia Drive
278 Birch Drive	1070 Heather Street
291 Birch Drive	1072 Heather Street

300 Ash Street	1107 Iris Lane
304 Ash Street	1126 Iris Lane
314 Ash Street	1129 Iris Lane
322 Ash Street	1138 Iris Lane
323 Ash Street	1161 Jasmine Street
324 Ash Street	1167 Jasmine Street
339 Ash Street	1170 Jasmine Street
344 Ash Street	1190 Bobwhite Drive
348 Ash Street	1219 Cardinal Lane
349 Ash Street	1305 Eagle Lane
362 Aspen Street	1353 Cardinal Lane
376 Aspen Street	1354 Cardinal Lane
380 Aspen Street	1357 Cardinal Lane
383 Aspen Street	1361 Cardinal Lane
387 Acorn Drive	1364 Cardinal Lane
392 Acorn Drive	1368 Cardinal Lane
396 Acorn Drive	1377 Dove Lane
433 Elderberry Drive	1381 Dove Lane
439 Elderberry Drive	1391 Dove Lane
442 Elderberry Drive	1403 Eagle Lane
443 Elderberry Drive	1404 Eagle Lane
444 Elderberry Drive	1405 Eagle Lane
445 Elderberry Drive	1406 Eagle Lane
446 Elderberry Drive	1408 Eagle Lane
448 Elderberry Drive	1410 Eagle Lane
449 Elderberry Drive	1412 Eagle Lane
451 Elderberry Drive	1413 Albatross Drive
453 Elderberry Drive	1414 Albatross Drive
464 Dogwood Drive	1417 Albatross Drive
466 Dogwood Drive	1421 Albatross Drive
467 Dogwood Drive	1422 Albatross Drive
469 Dogwood Drive	1425 Albatross Drive
471 Dogwood Drive	1427 Albatross Drive
475 Dogwood Drive	1430 Dove Lane
516 Laurel Bay Blvd	1432 Dove Lane
531 Laurel Bay Blvd	1438 Dove Lane
532 Laurel Bay Blvd	1453 Cardinal Lane
645 Dahlia Drive	1455 Cardinal Lane
763 Althea Street	

dhec
Healthy People. Healthy Communities.

June 18, 2018

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

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

Dear Mr. Drawdy:

The South Carolina Department of Health and Environmental Control (DHEC) received the above referenced report on April 4, 2018. The regulatory authority for the investigation and cleanup of releases from these tank systems is the South Carolina Pollution Control Act (S.C. Code Ann. §48-1-10 et seq., as amended).

DHEC has reviewed the report and based on this review, DHEC has not generated any comments. DHEC agrees with the recommendations in the report including the NFA recommendations shown on the list on the attached page. Please note that DHEC's decision is based on information provided by the Marine Corps Air Station (MCAS) to date. Any information found to be contradictory to this decision may require additional action. Furthermore, DHEC retains the right to request further investigation if deemed necessary. If you have any questions, please contact me at petruslb@dhec.sc.gov or 803-898-0294.

Sincerely,

Laurel Petrus
Department of Defense Corrective Action Section

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

Attachment

Approval Draft Final Groundwater Assessment Report — June 18, 2018
November and December 2017
Laurel Bay Military Housing Area

The addresses approved for NFA are:

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

dhec
Healthy People. Healthy Communities.

June 20, 2017

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

RE: Approval Response to Comments and Draft Final Revision 1 Vapor Intrusion Report July 2015, January 2016 and May 2016, Laurel Bay Military Housing Area, Multiple Properties

RE: Approval Response to Comments and Draft Final Revision 1 Letter Report - Petroleum Vapor Intrusion Investigations - June 2016 and January 2017, Multiple Properties, Laurel Bay Military Housing Area

Dear Mr. Drawdy:

The South Carolina Department of Health and Environmental Control (DHEC) received the above referenced response to comments and errata pages on May 24 and June 7, 2017. The regulatory authority for the investigation and cleanup of releases from these tank systems is the South Carolina Pollution Control Act (S.C. Code Ann. §48-1-10 et seq., as amended).

DHEC has reviewed the response to comments and errata pages. Based on this review, DHEC did not generate any additional comments. Please note that the Department's decision is based on information provided by the Marine Corps Air Station (MCAS) to date. Any information found to be contradictory to this decision may require additional action. Furthermore, the Department retains the right to request further investigation if deemed necessary. If you have any questions, please contact me at petruslb@dhec.sc.gov or 803-898-0294.

Sincerely,

Laurel Petrus
Department of Defense Corrective Action Section

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