SUMMARY REPORT
426 WEST CARDINAL LANE (FORMERLY 1361 WEST CARDINAL LANE)
LAUREL BAY MILITARY HOUSING AREA
MARINE CORPS AIR STATION BEAUFORT
BEAUFORT, SC

Revision: 0
Prepared for:

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

and


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

**JUNE** 202**1**

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Prepared by:

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

Contract Number: N62470-14-D-9016
CTO WE52
**JUNE** 202**1**

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## Tables



## Appendices

## List of Acronyms

| | |
|---|---|
| bgs | below ground surface |
| BTEX | benzene, toluene, ethylbenzene, and xylenes |
| CTO | Contract Task Order |
| COPC | constituents of potential concern |
| ft | feet |
| IDIQ | Indefinite Delivery, Indefinite Quantity |
| IGWA | Initial Groundwater Assessment |
| JV | Joint Venture |
| LBMH | Laurel Bay Military Housing |
| MCAS | Marine Corps Air Station |
| NAVFAC Mid-Lant | Naval Facilities Engineering Command Mid-Atlantic |
| NFA | No Further Action |
| PAH | polynuclear aromatic hydrocarbon |
| 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 |
| 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 426 West Cardinal Lane (Formerly 1361 West Cardinal Lane). This NFA determination indicates that there are no unacceptable risks to human health or the environment for the petroleum constituents associated with the home heating oil USTs. The following information is included in this report:

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

### 1.1 Background Information

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

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

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

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

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 results of the IGWA sampling (if necessary) are used to determine the presence or absence of the aforementioned COPCs in groundwater and identify whether former UST locations will require additional delineation of COPCs in groundwater. In order to delineate the extent of impact to groundwater, permanent wells are installed and a sampling program is established for those former UST locations where IGWA sampling has indicated the presence of COPCs in excess of the SCDHEC RBSLs for groundwater. 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 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 construction activities.

## 2.0 SAMPLING ACTIVITIES AND RESULTS

The following section presents the sampling activities and associated results for 426 West Cardinal Lane (Formerly 1361 West Cardinal Lane). The sampling activities at 426 West Cardinal Lane (Formerly 1361 West Cardinal Lane) comprised a soil investigation, IGWA sampling, and a soil gas investigation. Details regarding the soil investigation at this site are provided in the *SCDHEC UST Assessment Report – 1361 West Cardinal Lane* (MCAS Beaufort, 2013). The UST Assessment Report is provided in Appendix B. Details regarding the IGWA sampling activities at this site are provided in the *Initial Groundwater Investigation Report – May and June 2015* (Resolution Consultants, 2015). The laboratory report that includes the pertinent IGWA analytical results for this site is presented in Appendix C. Details regarding the vapor intrusion 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 D.

### 2.1 UST Removal and Soil Sampling

On November 12, 2012, a single 280 gallon heating oil UST was removed from the front landscaped area adjacent to the driveway at 426 West Cardinal Lane (Formerly 1361 West Cardinal Lane). The former UST location is indicated on Figures 2 and 3 of the UST Assessment Report (Appendix B). The UST was removed and properly disposed of (i.e., shipped offsite for recycling or transported to a landfill). There was no visual evidence (i.e., staining or sheen) of petroleum impact at the time of the UST removal. According to the UST Assessment Report (Appendix B), the depth to the base of the UST was 6'1" 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 426 West Cardinal Lane (Formerly 1361 West Cardinal Lane) were greater than the SCDHEC RBSLs, which indicated further investigation was required. In a letter dated May 15, 2014, SCDHEC requested an IGWA for 426 West Cardinal Lane (Formerly 1361 West Cardinal Lane) to determine if the groundwater was impacted by petroleum COPCs. SCDHEC's request letter is provided in Appendix E.

## 2.3 Groundwater Sampling

On June 24, 2015, a temporary monitoring well was installed at 426 West Cardinal Lane (Formerly 1361 West Cardinal Lane), in accordance with the South Carolina Well Standards and Regulations (R.61-71.H-I, updated June 24, 2016). In order to provide data that can be used to determine whether COPCs are migrating to underlying groundwater, the monitoring well was placed in the same general location as the former heating oil UST. The former UST location is indicated on Figures 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 and development, groundwater samples were collected using low-flow methods and shipped to an offsite laboratory for analysis of the petroleum COPCs. Upon completion of groundwater sampling, the temporary well was abandoned in accordance with the South Carolina Well Standards and Regulations R.61-71 (SCDHEC, May 2016). Field forms are provided in the *Initial Groundwater Investigation Report – May and June 2015* (Resolution Consultants, 2015).

## 2.4 Groundwater Analytical Results

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

The groundwater results collected from 426 West Cardinal Lane (Formerly 1361 West Cardinal Lane) were less than the SCDHEC RBSLs and the site specific groundwater VISLs (Table 2), which indicated that the groundwater was not impacted by COPCs associated with the former UST at concentrations that present a potential risk to human health and the environment.

## 2.5 Soil Gas Sampling

On July 27, 2015, a temporary subsurface soil gas well was installed at 426 West Cardinal Lane (Formerly 1361 West Cardinal Lane) 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 426 West Cardinal Lane (Formerly 1361 West Cardinal Lane) 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).

## 2.6 Soil Gas Analytical Results

A summary of the laboratory analytical results and USEPA (United States Environmental Protection Agency) VISLs is presented in Table 3. A copy of the laboratory analytical data report is included in Appendix D.

The soil gas results collected from 426 West Cardinal Lane (Formerly 1361 West Cardinal Lane) 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 426 West Cardinal Lane (Formerly 1361 West Cardinal Lane) 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, SCDHEC made the determination that NFA was required for 426 West Cardinal Lane (Formerly 1361 West Cardinal Lane). The NFA determination for groundwater was obtained in a letter dated February 22, 2016. Based on the analytical results for soil gas, it was determined that there was not a vapor intrusion concern at this property and a recommendation was made for no additional vapor intrusion assessment activities. SCDHEC approved the no further vapor intrusion investigation recommendation for 426 West Cardinal Lane (Formerly 1361 West Cardinal Lane) in a letter dated June 20, 2017. SCDHEC's letters are provided in Appendix E.

## 4.0 REFERENCES

Marine Corps Air Station Beaufort, 2013. *South Carolina Department of Health and Environmental Control (SCDHEC) Underground Storage Tank Assessment Report – 1361 West Cardinal Lane, Laurel Bay Military Housing Area*, April 2013.

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*, October 2015.

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

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
426 West Cardinal Lane (Formerly 1361 West Cardinal Lane)
Laurel Bay Military Housing Area
Marine Corps Air Station Beaufort
Beaufort, South Carolina

| Constituent | SCDHEC RBSLs [1] | Results Sample Collected 11/12/12 |
|---|---|---|
| Volatile Organic Compounds Analyzed by EPA Method 8260B (mg/kg) | | |
| Benzene | 0.007 | ND |
| Ethylbenzene | 1.15 | **6.17** |
| Naphthalene | 0.036 | **14.7** |
| Toluene | 1.45 | **1.74** |
| Xylenes, Total | 14.5 | **29.5** |
| Semivolatile Organic Compounds Analyzed by EPA Method 8270D (mg/kg) | | |
| Benzo(a)anthracene | 0.066 | ND |
| Benzo(b)fluoranthene | 0.066 | ND |
| Benzo(k)fluoranthene | 0.066 | ND |
| Chrysene | 0.066 | ND |
| Dibenz(a,h)anthracene | 0.066 | 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**
**Laboratory Analytical Results - Groundwater**
**426 West Cardinal Lane (Formerly 1361 West Cardinal Lane)**
**Laurel Bay Military Housing Area**
**Marine Corps Air Station Beaufort**
**Beaufort, South Carolina**

| Constituent | SCDHEC RBSLs [(1)] | Site-Specific Groundwater VISLs (µg/L)[(2)] | Results Sample Collected 06/24/15 |
|---|---|---|---|
| **Volatile Organic Compounds Analyzed by EPA Method 8260B (µg/L)** | | | |
| Benzene | 5 | 16.24 | ND |
| Ethylbenzene | 700 | 45.95 | ND |
| Naphthalene | 25 | 29.33 | **0.98** |
| 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 3.0 (SCDHEC, May 2015).

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

Bold font indicates the analyte was detected.

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

EPA - United States Environmental Protection Agency

JE - Johnson & Ettinger

NA - not applicable

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

RBSL - Risk-Based Screening Level

SCDHEC - South Carolina Department Of Health and Environmental Control

µg/L - micrograms per liter

VISL - Vapor Intrusion Screening Level

**Table 3**
**Laboratory Analytical Results - Vapor**
**426 West Cardinal Lane (Formerly 1361 West Cardinal Lane)**
**Laurel Bay Military Housing Area**
**Marine Corps Air Station Beaufort**
**Beaufort, South Carolina**

| Constituent | USEPA VISL [(1)] | Results Sample Collected 07/30/15 |
|---|---|---|
| **Volatile Organic Compounds Analyzed by USEPA Method TO-15 (µg/m$^3$)** | | |
| Benzene | 12 | ND |
| Toluene | 17000 | **3.4** |
| 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.

USEPA - United States Environmental Protection Agency

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 D.

RBSL - Risk-Based Screening Level

µg/m$^3$ - micrograms per cubic meter

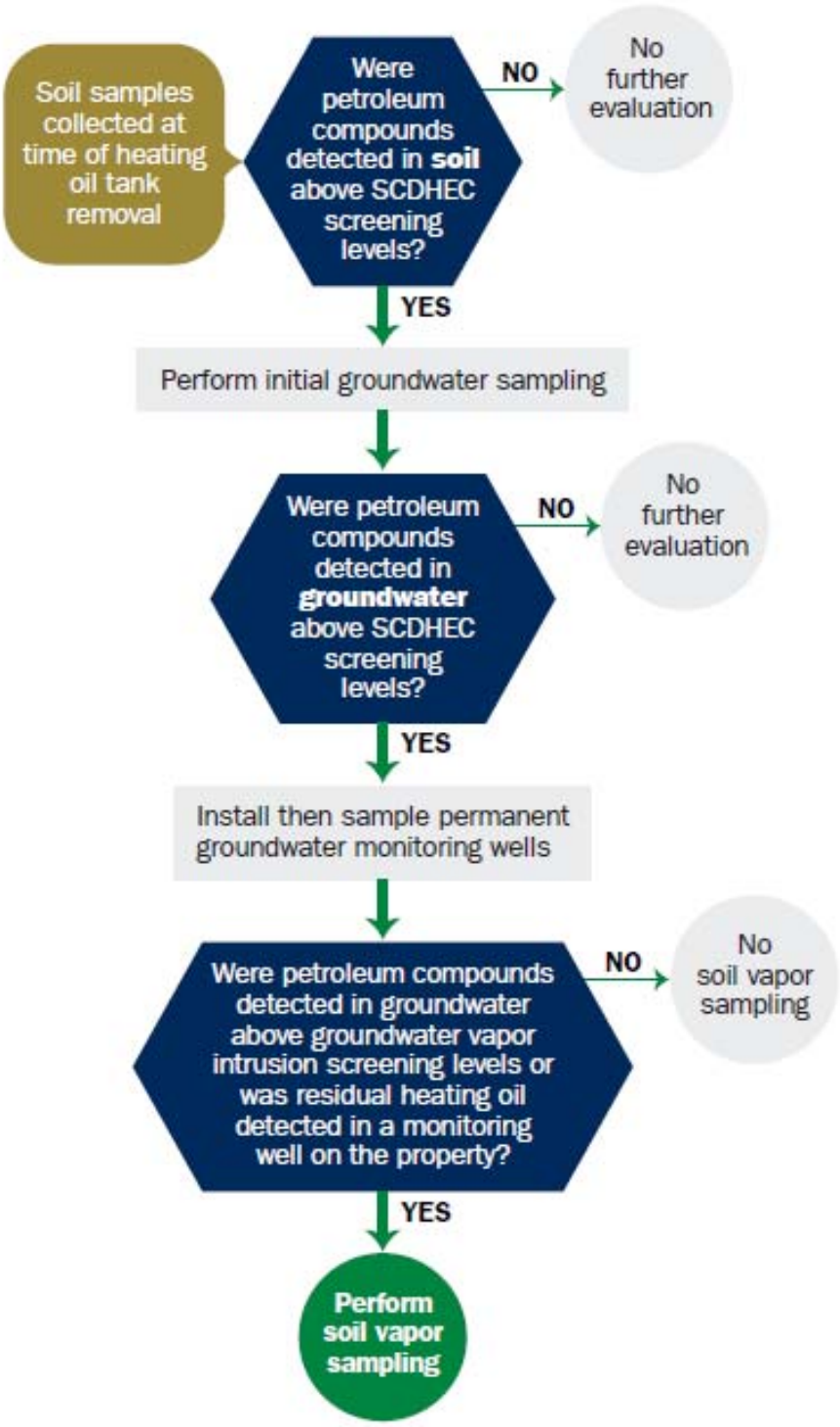
VISL - Vapor Intrusion Screening Level

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

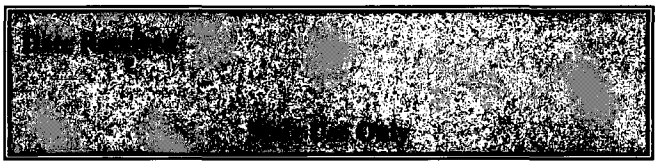
CDM - AECOM
Multimedia Joint Venture

Rec'd 4/25/13

Attachment 1

South Carolina Department of Health and Environmental Control (SCDHEC)

# Underground Storage Tank (UST) Assessment Report



**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

1361 Cardinal Lane, Laurel Bay Military Housing Area
Street Address or State Road (as applicable)

| Beaufort, | Beaufort |
|---|---|
| City | County |

Attachment 2

## III. INSURANCE INFORMATION

### Insurance Statement

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

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

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

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

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

## IV. REQUEST FOR SUPERB FUNDING

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

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

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

_____
Name (Type or print.)

_____
Signature

### To be completed by Notary Public:

Sworn before me this _____ day of_____, 20____

_____
(Name)

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

## VI. UST INFORMATION

| | | | |
|---|---|---|---|
| A. | Product...(ex. Gas, Kerosene)..... | 1361 Cardinal | |
| B. | Capacity..(ex. 1k, 2k)..... | Heating oil | |
| C. | Age..... | 280 gal | |
| D. | Construction Material..(ex. Steel, FRP)..... | Late 1950s | |
| E. | Month/Year of Last Use..... | Steel | |
| F. | Depth (ft.) To Base of Tank..... | Mid 80s | |
| G. | Spill Prevention Equipment Y/N..... | 6'1" | |
| H. | Overfill Prevention Equipment Y/N..... | No | |
| I. | Method of Closure Removed/Filled..... | No | |
| J. | Date Tanks Removed/Filled..... | Removed | |
| K. | Visible Corrosion or Pitting Y/N..... | 11/12/2012 | |
| L. | Visible Holes Y/N..... | Yes | |
| | | Yes | |

M. Method of disposal for any USTs removed from the ground (attach disposal manifests)
UST 1361Cardinal was removed from the ground and disposed at a Subtitle "D" landfill. See Attachment "A".

N. Method of disposal for any liquid petroleum, sludges, or wastewaters removed from the USTs (attach disposal manifests)
UST 1361Cardinal was previously filled with sand by others.

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

## VII. PIPING INFORMATION

| | | | |
|---|---|---|---|
| A. | Construction Material..(ex. Steel, FRP)..... | 1361 Cardinal | |
| B. | Distance from UST to Dispenser..... | Steel & Copper | |
| C. | Number of Dispensers..... | N/A | |
| D. | Type of System Pressure or Suction..... | N/A | |
| E. | Was Piping Removed from the Ground? Y/N | Suction | |
| F. | Visible Corrosion or Pitting Y/N..... | No | |
| G. | Visible Holes Y/N..... | Yes | |
| H. | Age..... | No | |
| I. | If any corrosion, pitting, or holes were observed, describe the location and extent for each piping run. | Late 1950s | |

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

## VIII. BRIEF SITE DESCRIPTION AND HISTORY

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

# IX. SITE CONDITIONS

| | Yes | No | Unk |
|---|---|---|---|
| A. Were any petroleum-stained or contaminated soils found in the UST excavation, soil borings, trenches, or monitoring wells?<br><br>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?<br><br>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?<br><br>If yes, how far below land surface (indicate location and depth)? | | X | |
| D. Did contaminated soils remain stockpiled on site after closure?<br><br>If yes, indicate the stockpile location on the site map.<br><br>Name of DHEC representative authorizing soil removal: | | X | |
| E. Was a petroleum sheen or free product detected on any excavation or boring waters?<br><br>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 # |
|---|---|---|---|---|---|---|---|
| 1361 Cardinal | Excav at fill end | Soil | Sandy | 6'1" | 11/12/12 1430 hrs | P. Shaw | |
| | | | | | | | |
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| 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.

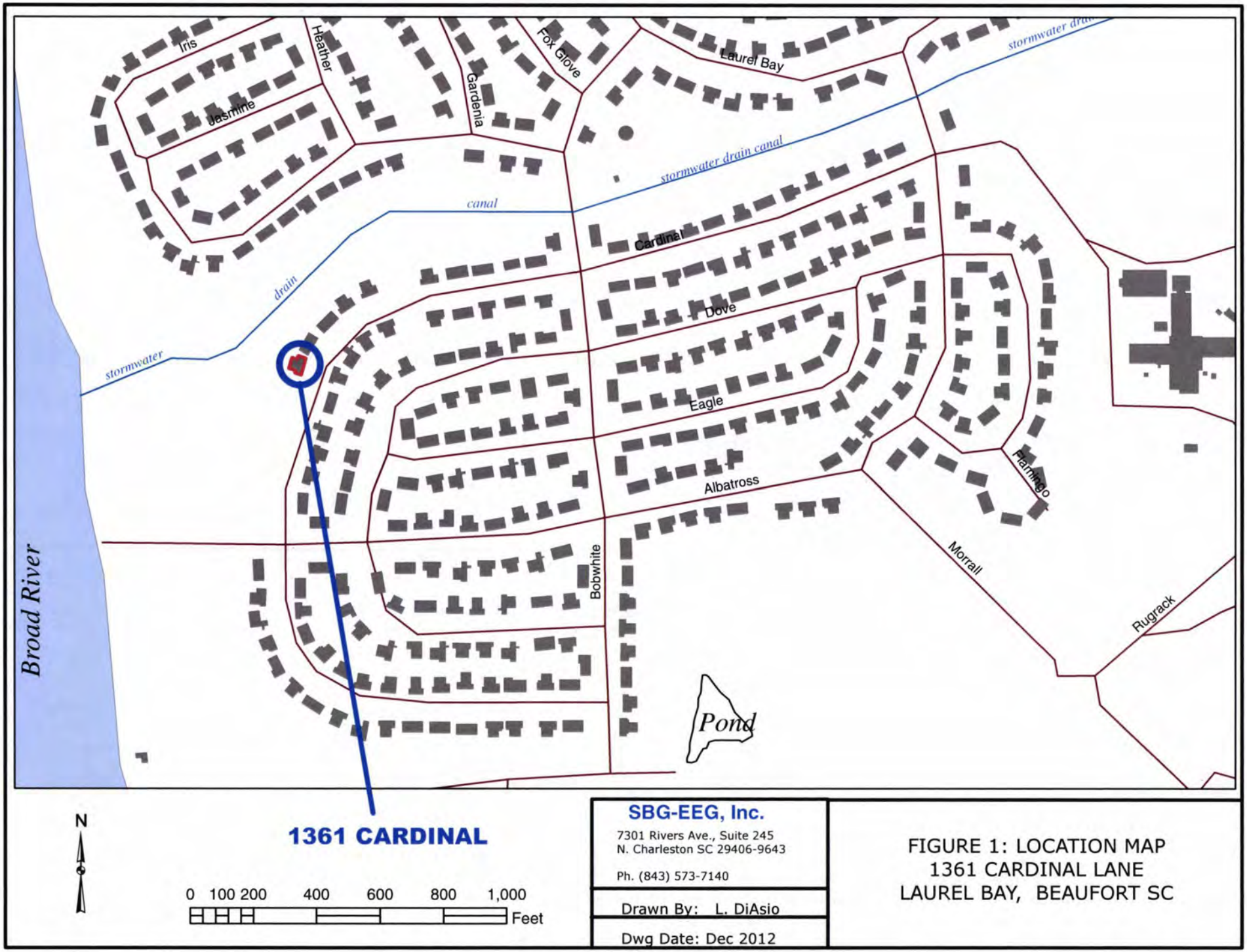
# XII. RECEPTORS

| | | Yes | No |
|---|---|---|---|
| A. | Are there any lakes, ponds, streams, or wetlands located within 1000 feet of the UST system?<br>*Stormwater canal & Broad River<br>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?<br>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?<br>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<br>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?<br>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)

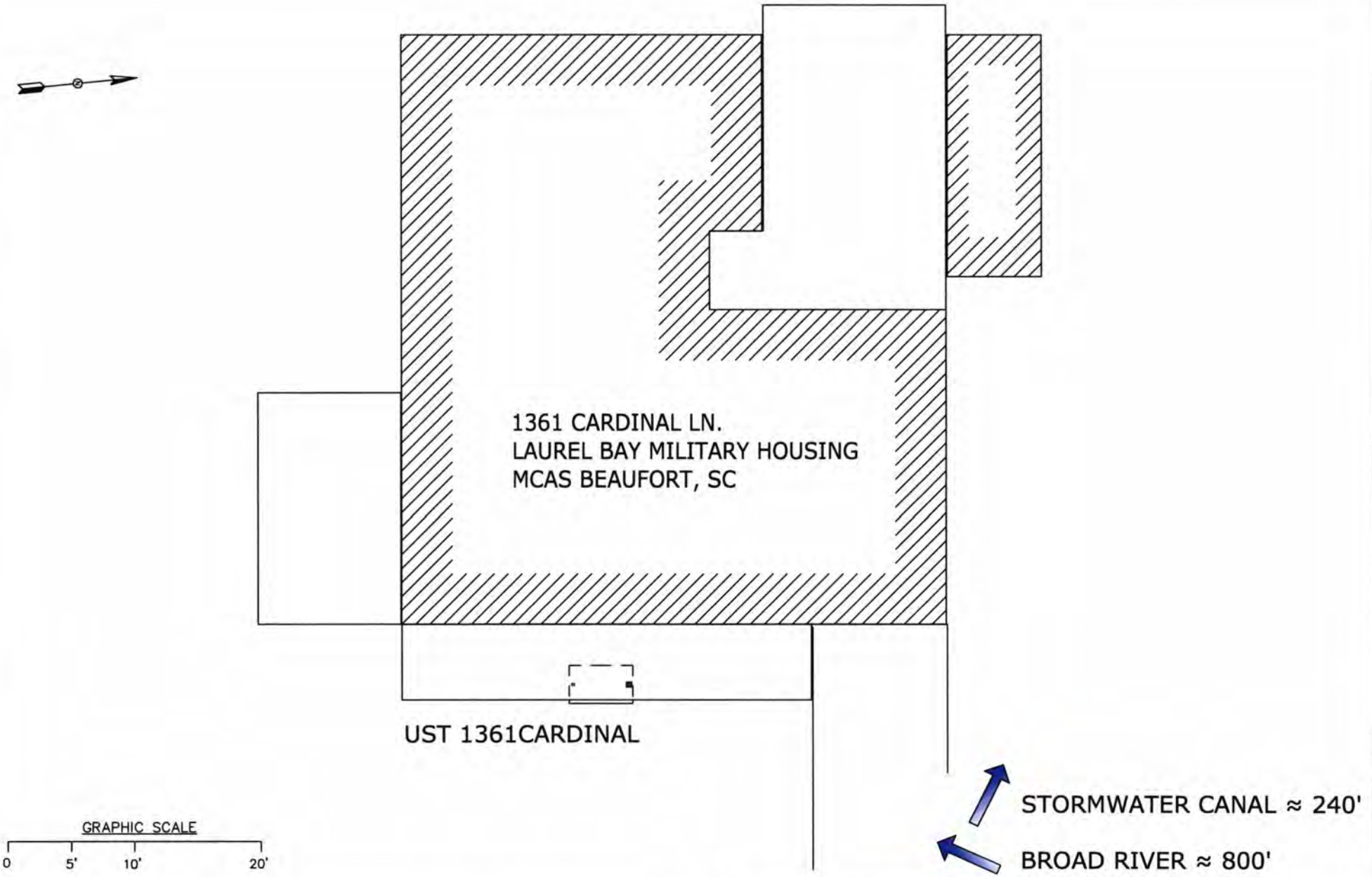



**SBG-EEG, Inc.**
7301 Rivers Ave., Suite 245
N. Charleston SC 29406-9643
Ph. (843) 573-7140

Drawn By: L. DiAsio

Dwg Date: Dec 2012

FIGURE 1: LOCATION MAP
1361 CARDINAL LANE
LAUREL BAY, BEAUFORT SC

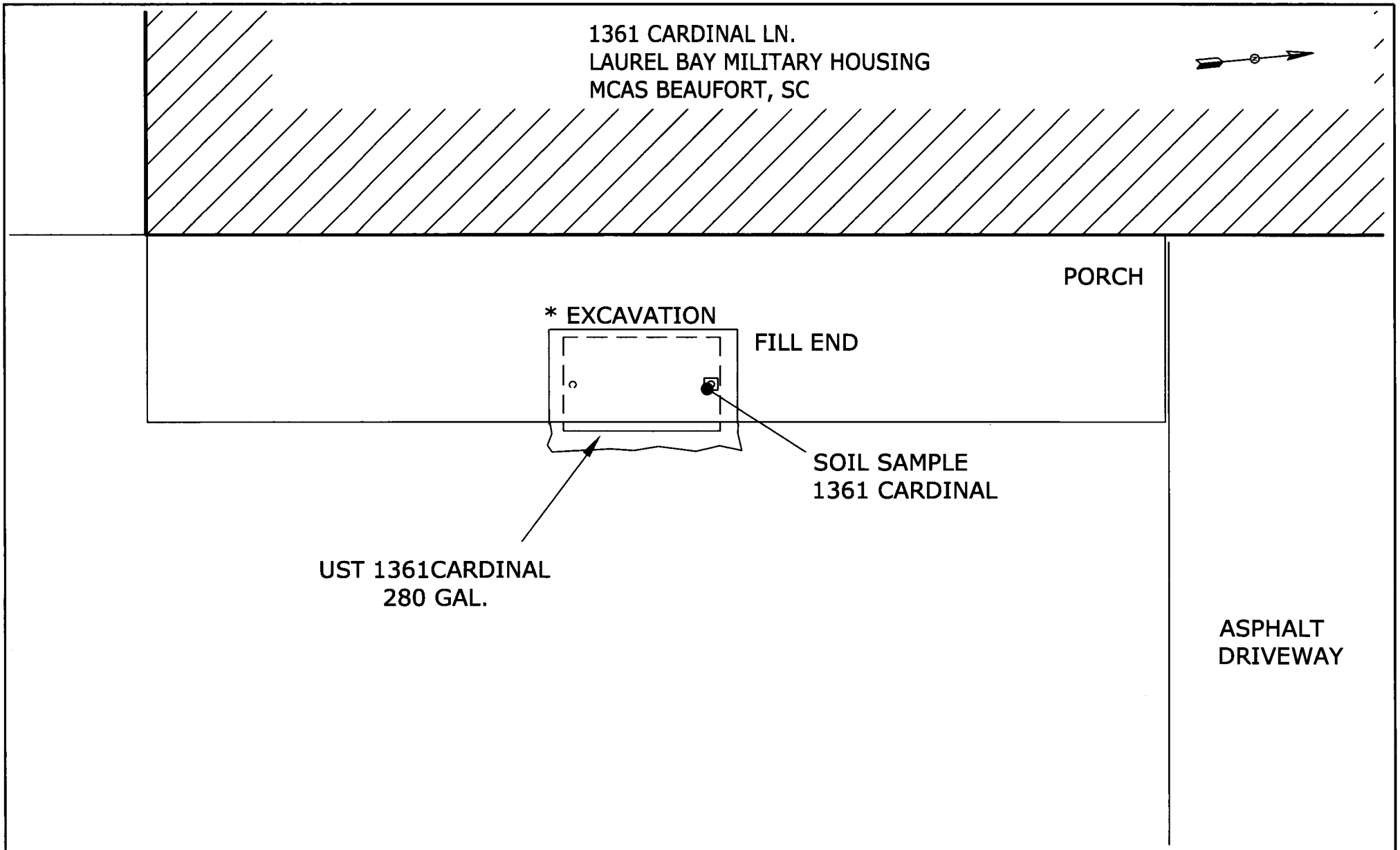



TANK DEPTH BELOW GRADE
1361CARDINAL = 37"

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

FIGURE 2 SITE MAP
1361 CARDINAL LN., LAUREL BAY
MCAS BEAUFORT SC

SCALE: GRAPHIC | DWG DATE DEC 2012




GRAPHIC SCALE
0 5'

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

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

FIGURE 3 UST SAMPLE LOCATIONS
1361 CARDINAL LN., LAUREL BAY
MCAS BEAUFORT SC

SCALE: GRAPHIC | DWG DATE DEC 2012


Picture 1: Location of UST 1361Cardinal.

Picture 2: UST 1361Cardinal.

## 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 | 1361Cardinal | | | | | |
|---|---|---|---|---|---|---|
| **Benzene** | ND | | | | | |
| **Toluene** | 1.74 mg/kg | | | | | |
| **Ethylbenzene** | 6.17 mg/kg | | | | | |
| **Xylenes** | 29.5 mg/kg | | | | | |
| **Naphthalene** | 14.7 mg/kg | | | | | |
| **Benzo (a) anthracene** | ND | | | | | |
| **Benzo (b) fluoranthene** | ND | | | | | |
| **Benzo (k) fluoranthene** | ND | | | | | |
| **Chrysene** | ND | | | | | |
| **Dibenz (a, h) anthracene** | ND | | | | | |
| **TPH (EPA 3550)** | | | | | | |

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

## SUMMARY OF ANALYSIS RESULTS (cont'd)

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

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

## XV. ANALYTICAL RESULTS

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

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

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

# ANALYTICAL REPORT


TestAmerica Laboratories, Inc.
TestAmerica Nashville
2960 Foster Creighton Drive
Nashville, TN 37204
Tel: (615)726-0177


TestAmerica Job ID: 490-12211-1
TestAmerica Sample Delivery Group: 1063
Client Project/Site: Laurel Bay Housing Project

For:
Environmental Enterprise Group
10179 Highway 78
Ladson, South Carolina 29456

Attn: Mr. Tom McElwee

*Authorized for release by:*
*11/30/2012 12:25:42 PM*


Ken Hayes
Project Manager I
ken.hayes@testamericainc.com

# Table of Contents

# Sample Summary

Client: Environmental Enterprise Group
Project/Site: Laurel Bay Housing Project

TestAmerica Job ID: 490-12211-1
SDG: 1063

| Lab Sample ID | Client Sample ID | Matrix | Collected | Received |
|---|---|---|---|---|
| 490-12211-1 | 1015 Foxglove | Solid | 11/12/12 14:45 | 11/20/12 08:10 |
| 490-12211-2 | 1361 Cardinal | Solid | 11/12/12 14:30 | 11/20/12 08:10 |
| 490-12211-3 | 1046 Gardenia | Solid | 11/13/12 13:45 | 11/20/12 08:10 |
| 490-12211-4 | 1024 Foxglove | Solid | 11/13/12 13:55 | 11/20/12 08:10 |
| 490-12211-5 | 1038 Iris | Solid | 11/14/12 12:45 | 11/20/12 08:10 |
| 490-12211-6 | 1031 Foxglove | Solid | 11/14/12 13:30 | 11/20/12 08:10 |
| 490-12211-7 | 1029 Foxglove | Solid | 11/15/12 14:45 | 11/20/12 08:10 |

## Job ID: 490-12211-1

### Laboratory: TestAmerica Nashville

**Narrative**

**Job Narrative**
**490-12211-1**

**Comments**
No additional comments.

**Receipt**
The samples were received on 11/20/2012 8:10 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 2.7° C.

**GC/MS VOA**
Method(s) 8260B: Surrogate recovery for the following sample(s) was outside control limits: 1361 Cardinal (490-12211-2). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method(s) 8260B: Surrogate recovery for the following sample(s) was outside control limits: 1046 Gardenia (490-12211-3). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method(s) 8260B: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with batch 38791. See LCS/LCSD

Method(s) 8260B: The following sample(s) was diluted due to the nature of the sample matrix: 1031 Foxglove (490-12211-6). Elevated reporting limits (RLs) are provided.

Method(s) 8260B: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with batch 39051.

No other analytical or quality issues were noted.

**GC/MS Semi VOA**
No analytical or quality issues were noted.

**Organic Prep**
No analytical or quality issues were noted.

**VOA Prep**
No analytical or quality issues were noted.

## Qualifiers

### GC/MS VOA

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

### GC/MS Semi VOA

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

## Glossary

| Abbreviation | These commonly used abbreviations may or may not be present in this report. |
|---|---|
| ☼ | Listed under the "D" column to designate that the result is reported on a dry weight basis |
| %R | Percent Recovery |
| CNF | Contains no Free Liquid |
| DER | Duplicate error ratio (normalized absolute difference) |
| DL, RA, RE, IN | Indicates a Dilution, Reanalysis, Re-extraction, or additional Initial metals/anion analysis of the sample |
| DLC | Decision level concentration |
| EDL | Estimated Detection Limit |
| EPA | United States Environmental Protection Agency |
| MDA | Minimum detectable activity |
| MDC | Minimum detectable concentration |
| 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 |
| RER | Relative error ratio |
| RL | Reporting Limit or Requested Limit (Radiochemistry) |
| RPD | Relative Percent Difference, a measure of the relative difference between two points |
| TEF | Toxicity Equivalent Factor (Dioxin) |
| TEQ | Toxicity Equivalent Quotient (Dioxin) |

## Client Sample ID: 1015 Foxglove

**Date Collected: 11/12/12 14:45**
**Date Received: 11/20/12 08:10**

## Lab Sample ID: 490-12211-1

**Matrix: Solid**
**Percent Solids: 86.0**

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

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Benzene | ND | | 2.08 | 0.696 | mg/Kg | ☼ | 11/20/12 16:30 | 11/26/12 18:25 | 1 |
| Ethylbenzene | ND | | 2.08 | 0.696 | mg/Kg | ☼ | 11/20/12 16:30 | 11/26/12 18:25 | 1 |
| Naphthalene | 2.54 | J | 5.19 | 1.76 | mg/Kg | ☼ | 11/20/12 16:30 | 11/26/12 18:25 | 1 |
| Toluene | ND | | 2.08 | 0.768 | mg/Kg | ☼ | 11/20/12 16:30 | 11/26/12 18:25 | 1 |
| Xylenes, Total | ND | | 5.19 | 0.696 | mg/Kg | ☼ | 11/20/12 16:30 | 11/26/12 18:25 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *1,2-Dichloroethane-d4 (Surr)* | *108* | | *70 - 130* | *11/20/12 16:30* | *11/26/12 18:25* | *1* |
| *4-Bromofluorobenzene (Surr)* | *109* | | *70 - 130* | *11/20/12 16:30* | *11/26/12 18:25* | *1* |
| *Dibromofluoromethane (Surr)* | *91* | | *70 - 130* | *11/20/12 16:30* | *11/26/12 18:25* | *1* |
| *Toluene-d8 (Surr)* | *115* | | *70 - 130* | *11/20/12 16:30* | *11/26/12 18:25* | *1* |

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

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Acenaphthene | ND | | 0.0659 | 0.00984 | mg/Kg | ☼ | 11/23/12 11:00 | 11/25/12 16:53 | 1 |
| Acenaphthylene | ND | | 0.0659 | 0.00886 | mg/Kg | ☼ | 11/23/12 11:00 | 11/25/12 16:53 | 1 |
| Anthracene | ND | | 0.0659 | 0.00886 | mg/Kg | ☼ | 11/23/12 11:00 | 11/25/12 16:53 | 1 |
| Benzo[a]anthracene | ND | | 0.0659 | 0.0148 | mg/Kg | ☼ | 11/23/12 11:00 | 11/25/12 16:53 | 1 |
| Benzo[a]pyrene | ND | | 0.0659 | 0.0118 | mg/Kg | ☼ | 11/23/12 11:00 | 11/25/12 16:53 | 1 |
| Benzo[b]fluoranthene | ND | | 0.0659 | 0.0118 | mg/Kg | ☼ | 11/23/12 11:00 | 11/25/12 16:53 | 1 |
| Benzo[g,h,i]perylene | ND | | 0.0659 | 0.00886 | mg/Kg | ☼ | 11/23/12 11:00 | 11/25/12 16:53 | 1 |
| Benzo[k]fluoranthene | ND | | 0.0659 | 0.0138 | mg/Kg | ☼ | 11/23/12 11:00 | 11/25/12 16:53 | 1 |
| 1-Methylnaphthalene | ND | | 0.0659 | 0.0138 | mg/Kg | ☼ | 11/23/12 11:00 | 11/25/12 16:53 | 1 |
| Pyrene | ND | | 0.0659 | 0.0118 | mg/Kg | ☼ | 11/23/12 11:00 | 11/25/12 16:53 | 1 |
| Phenanthrene | ND | | 0.0659 | 0.00886 | mg/Kg | ☼ | 11/23/12 11:00 | 11/25/12 16:53 | 1 |
| Chrysene | ND | | 0.0659 | 0.00886 | mg/Kg | ☼ | 11/23/12 11:00 | 11/25/12 16:53 | 1 |
| Dibenz(a,h)anthracene | ND | | 0.0659 | 0.00689 | mg/Kg | ☼ | 11/23/12 11:00 | 11/25/12 16:53 | 1 |
| Fluoranthene | ND | | 0.0659 | 0.00886 | mg/Kg | ☼ | 11/23/12 11:00 | 11/25/12 16:53 | 1 |
| Fluorene | ND | | 0.0659 | 0.0118 | mg/Kg | ☼ | 11/23/12 11:00 | 11/25/12 16:53 | 1 |
| Indeno[1,2,3-cd]pyrene | ND | | 0.0659 | 0.00984 | mg/Kg | ☼ | 11/23/12 11:00 | 11/25/12 16:53 | 1 |
| Naphthalene | ND | | 0.0659 | 0.00886 | mg/Kg | ☼ | 11/23/12 11:00 | 11/25/12 16:53 | 1 |
| 2-Methylnaphthalene | ND | | 0.0659 | 0.0157 | mg/Kg | ☼ | 11/23/12 11:00 | 11/25/12 16:53 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *2-Fluorobiphenyl (Surr)* | *68* | | *29 - 120* | *11/23/12 11:00* | *11/25/12 16:53* | *1* |
| *Terphenyl-d14 (Surr)* | *80* | | *13 - 120* | *11/23/12 11:00* | *11/25/12 16:53* | *1* |
| *Nitrobenzene-d5 (Surr)* | *60* | | *27 - 120* | *11/23/12 11:00* | *11/25/12 16:53* | *1* |

### General Chemistry

| Analyte | Result | Qualifier | RL | RL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Percent Solids | 86 | | 0.10 | 0.10 | % | | | 11/21/12 11:06 | 1 |

## Client Sample ID: 1361 Cardinal

**Date Collected: 11/12/12 14:30**
**Date Received: 11/20/12 08:10**

## Lab Sample ID: 490-12211-2

**Matrix: Solid**
**Percent Solids: 77.8**

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

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Benzene | ND | | 2.23 | 0.749 | mg/Kg | ☼ | 11/20/12 16:30 | 11/26/12 18:57 | 1 |
| **Ethylbenzene** | **6.17** | | 2.23 | 0.749 | mg/Kg | ☼ | 11/20/12 16:30 | 11/26/12 18:57 | 1 |
| **Naphthalene** | **14.7** | | 5.59 | 1.90 | mg/Kg | ☼ | 11/20/12 16:30 | 11/26/12 18:57 | 1 |
| **Toluene** | **1.74** | **J** | 2.23 | 0.827 | mg/Kg | ☼ | 11/20/12 16:30 | 11/26/12 18:57 | 1 |
| **Xylenes, Total** | **29.5** | | 5.59 | 0.749 | mg/Kg | ☼ | 11/20/12 16:30 | 11/26/12 18:57 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *1,2-Dichloroethane-d4 (Surr)* | *107* | | *70 - 130* | *11/20/12 16:30* | *11/26/12 18:57* | *1* |
| *4-Bromofluorobenzene (Surr)* | *395* | *X* | *70 - 130* | *11/20/12 16:30* | *11/26/12 18:57* | *1* |
| *Dibromofluoromethane (Surr)* | *93* | | *70 - 130* | *11/20/12 16:30* | *11/26/12 18:57* | *1* |
| *Toluene-d8 (Surr)* | *123* | | *70 - 130* | *11/20/12 16:30* | *11/26/12 18:57* | *1* |

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

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Acenaphthene | ND | | 0.0659 | 0.00983 | mg/Kg | ☼ | 11/23/12 11:00 | 11/25/12 17:58 | 1 |
| **Acenaphthylene** | **0.0400** | **J** | 0.0659 | 0.00885 | mg/Kg | ☼ | 11/23/12 11:00 | 11/25/12 17:58 | 1 |
| Anthracene | ND | | 0.0659 | 0.00885 | mg/Kg | ☼ | 11/23/12 11:00 | 11/25/12 17:58 | 1 |
| Benzo[a]anthracene | ND | | 0.0659 | 0.0148 | mg/Kg | ☼ | 11/23/12 11:00 | 11/25/12 17:58 | 1 |
| Benzo[a]pyrene | ND | | 0.0659 | 0.0118 | mg/Kg | ☼ | 11/23/12 11:00 | 11/25/12 17:58 | 1 |
| Benzo[b]fluoranthene | ND | | 0.0659 | 0.0118 | mg/Kg | ☼ | 11/23/12 11:00 | 11/25/12 17:58 | 1 |
| Benzo[g,h,i]perylene | ND | | 0.0659 | 0.00885 | mg/Kg | ☼ | 11/23/12 11:00 | 11/25/12 17:58 | 1 |
| Benzo[k]fluoranthene | ND | | 0.0659 | 0.0138 | mg/Kg | ☼ | 11/23/12 11:00 | 11/25/12 17:58 | 1 |
| 1-Methylnaphthalene | ND | | 0.0659 | 0.0138 | mg/Kg | ☼ | 11/23/12 11:00 | 11/25/12 17:58 | 1 |
| **Pyrene** | **0.126** | | 0.0659 | 0.0118 | mg/Kg | ☼ | 11/23/12 11:00 | 11/25/12 17:58 | 1 |
| **Phenanthrene** | **0.0563** | **J** | 0.0659 | 0.00885 | mg/Kg | ☼ | 11/23/12 11:00 | 11/25/12 17:58 | 1 |
| Chrysene | ND | | 0.0659 | 0.00885 | mg/Kg | ☼ | 11/23/12 11:00 | 11/25/12 17:58 | 1 |
| Dibenz(a,h)anthracene | ND | | 0.0659 | 0.00688 | mg/Kg | ☼ | 11/23/12 11:00 | 11/25/12 17:58 | 1 |
| **Fluoranthene** | **0.0353** | **J** | 0.0659 | 0.00885 | mg/Kg | ☼ | 11/23/12 11:00 | 11/25/12 17:58 | 1 |
| Fluorene | ND | | 0.0659 | 0.0118 | mg/Kg | ☼ | 11/23/12 11:00 | 11/25/12 17:58 | 1 |
| Indeno[1,2,3-cd]pyrene | ND | | 0.0659 | 0.00983 | mg/Kg | ☼ | 11/23/12 11:00 | 11/25/12 17:58 | 1 |
| Naphthalene | ND | | 0.0659 | 0.00885 | mg/Kg | ☼ | 11/23/12 11:00 | 11/25/12 17:58 | 1 |
| 2-Methylnaphthalene | ND | | 0.0659 | 0.0157 | mg/Kg | ☼ | 11/23/12 11:00 | 11/25/12 17:58 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *2-Fluorobiphenyl (Surr)* | *68* | | *29 - 120* | *11/23/12 11:00* | *11/25/12 17:58* | *1* |
| *Terphenyl-d14 (Surr)* | *90* | | *13 - 120* | *11/23/12 11:00* | *11/25/12 17:58* | *1* |
| *Nitrobenzene-d5 (Surr)* | *52* | | *27 - 120* | *11/23/12 11:00* | *11/25/12 17:58* | *1* |

### General Chemistry

| Analyte | Result | Qualifier | RL | RL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| **Percent Solids** | **78** | | 0.10 | 0.10 | % | | | 11/21/12 11:06 | 1 |

## Client Sample ID: 1046 Gardenia

**Date Collected: 11/13/12 13:45**
**Date Received: 11/20/12 08:10**

## Lab Sample ID: 490-12211-3

**Matrix: Solid**
**Percent Solids: 85.4**

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

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Benzene | ND | | 2.34 | 0.785 | mg/Kg | ☼ | 11/20/12 16:30 | 11/26/12 21:33 | 1 |
| Ethylbenzene | ND | | 2.34 | 0.785 | mg/Kg | ☼ | 11/20/12 16:30 | 11/26/12 21:33 | 1 |
| Naphthalene | 2.16 | J | 5.86 | 1.99 | mg/Kg | ☼ | 11/20/12 16:30 | 11/26/12 21:33 | 1 |
| Toluene | ND | | 2.34 | 0.867 | mg/Kg | ☼ | 11/20/12 16:30 | 11/26/12 21:33 | 1 |
| Xylenes, Total | ND | | 5.86 | 0.785 | mg/Kg | ☼ | 11/20/12 16:30 | 11/26/12 21:33 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *1,2-Dichloroethane-d4 (Surr)* | *108* | | *70 - 130* | *11/20/12 16:30* | *11/26/12 21:33* | *1* |
| *4-Bromofluorobenzene (Surr)* | *141* | *X* | *70 - 130* | *11/20/12 16:30* | *11/26/12 21:33* | *1* |
| *Dibromofluoromethane (Surr)* | *93* | | *70 - 130* | *11/20/12 16:30* | *11/26/12 21:33* | *1* |
| *Toluene-d8 (Surr)* | *112* | | *70 - 130* | *11/20/12 16:30* | *11/26/12 21:33* | *1* |

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

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Acenaphthene | ND | | 0.0667 | 0.00996 | mg/Kg | ☼ | 11/23/12 11:00 | 11/25/12 18:19 | 1 |
| Acenaphthylene | ND | | 0.0667 | 0.00896 | mg/Kg | ☼ | 11/23/12 11:00 | 11/25/12 18:19 | 1 |
| Anthracene | ND | | 0.0667 | 0.00896 | mg/Kg | ☼ | 11/23/12 11:00 | 11/25/12 18:19 | 1 |
| Benzo[a]anthracene | ND | | 0.0667 | 0.0149 | mg/Kg | ☼ | 11/23/12 11:00 | 11/25/12 18:19 | 1 |
| Benzo[a]pyrene | ND | | 0.0667 | 0.0120 | mg/Kg | ☼ | 11/23/12 11:00 | 11/25/12 18:19 | 1 |
| Benzo[b]fluoranthene | ND | | 0.0667 | 0.0120 | mg/Kg | ☼ | 11/23/12 11:00 | 11/25/12 18:19 | 1 |
| Benzo[g,h,i]perylene | ND | | 0.0667 | 0.00896 | mg/Kg | ☼ | 11/23/12 11:00 | 11/25/12 18:19 | 1 |
| Benzo[k]fluoranthene | ND | | 0.0667 | 0.0139 | mg/Kg | ☼ | 11/23/12 11:00 | 11/25/12 18:19 | 1 |
| 1-Methylnaphthalene | ND | | 0.0667 | 0.0139 | mg/Kg | ☼ | 11/23/12 11:00 | 11/25/12 18:19 | 1 |
| Pyrene | ND | | 0.0667 | 0.0120 | mg/Kg | ☼ | 11/23/12 11:00 | 11/25/12 18:19 | 1 |
| Phenanthrene | ND | | 0.0667 | 0.00896 | mg/Kg | ☼ | 11/23/12 11:00 | 11/25/12 18:19 | 1 |
| Chrysene | ND | | 0.0667 | 0.00896 | mg/Kg | ☼ | 11/23/12 11:00 | 11/25/12 18:19 | 1 |
| Dibenz(a,h)anthracene | ND | | 0.0667 | 0.00697 | mg/Kg | ☼ | 11/23/12 11:00 | 11/25/12 18:19 | 1 |
| Fluoranthene | ND | | 0.0667 | 0.00896 | mg/Kg | ☼ | 11/23/12 11:00 | 11/25/12 18:19 | 1 |
| Fluorene | ND | | 0.0667 | 0.0120 | mg/Kg | ☼ | 11/23/12 11:00 | 11/25/12 18:19 | 1 |
| Indeno[1,2,3-cd]pyrene | ND | | 0.0667 | 0.00996 | mg/Kg | ☼ | 11/23/12 11:00 | 11/25/12 18:19 | 1 |
| Naphthalene | ND | | 0.0667 | 0.00896 | mg/Kg | ☼ | 11/23/12 11:00 | 11/25/12 18:19 | 1 |
| 2-Methylnaphthalene | ND | | 0.0667 | 0.0159 | mg/Kg | ☼ | 11/23/12 11:00 | 11/25/12 18:19 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *2-Fluorobiphenyl (Surr)* | *62* | | *29 - 120* | *11/23/12 11:00* | *11/25/12 18:19* | *1* |
| *Terphenyl-d14 (Surr)* | *79* | | *13 - 120* | *11/23/12 11:00* | *11/25/12 18:19* | *1* |
| *Nitrobenzene-d5 (Surr)* | *54* | | *27 - 120* | *11/23/12 11:00* | *11/25/12 18:19* | *1* |

### General Chemistry

| Analyte | Result | Qualifier | RL | RL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Percent Solids | 85 | | 0.10 | 0.10 | % | | | 11/21/12 11:06 | 1 |

## Client Sample ID: 1024 Foxglove

**Date Collected: 11/13/12 13:55**
**Date Received: 11/20/12 08:10**

## Lab Sample ID: 490-12211-4

**Matrix: Solid**
**Percent Solids: 96.6**

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

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Benzene | ND | | 0.00230 | 0.000769 | mg/Kg | ☼ | 11/20/12 16:30 | 11/27/12 19:18 | 1 |
| Ethylbenzene | ND | | 0.00230 | 0.000769 | mg/Kg | ☼ | 11/20/12 16:30 | 11/27/12 19:18 | 1 |
| Naphthalene | ND | | 0.00574 | 0.00195 | mg/Kg | ☼ | 11/20/12 16:30 | 11/27/12 19:18 | 1 |
| Toluene | ND | | 0.00230 | 0.000849 | mg/Kg | ☼ | 11/20/12 16:30 | 11/27/12 19:18 | 1 |
| Xylenes, Total | ND | | 0.00574 | 0.000769 | mg/Kg | ☼ | 11/20/12 16:30 | 11/27/12 19:18 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *1,2-Dichloroethane-d4 (Surr)* | *95* | | *70 - 130* | *11/20/12 16:30* | *11/27/12 19:18* | *1* |
| *4-Bromofluorobenzene (Surr)* | *105* | | *70 - 130* | *11/20/12 16:30* | *11/27/12 19:18* | *1* |
| *Dibromofluoromethane (Surr)* | *97* | | *70 - 130* | *11/20/12 16:30* | *11/27/12 19:18* | *1* |
| *Toluene-d8 (Surr)* | *94* | | *70 - 130* | *11/20/12 16:30* | *11/27/12 19:18* | *1* |

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

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Acenaphthene | ND | | 0.0658 | 0.00982 | mg/Kg | ☼ | 11/23/12 11:00 | 11/25/12 18:41 | 1 |
| Acenaphthylene | ND | | 0.0658 | 0.00884 | mg/Kg | ☼ | 11/23/12 11:00 | 11/25/12 18:41 | 1 |
| Anthracene | ND | | 0.0658 | 0.00884 | mg/Kg | ☼ | 11/23/12 11:00 | 11/25/12 18:41 | 1 |
| Benzo[a]anthracene | ND | | 0.0658 | 0.0147 | mg/Kg | ☼ | 11/23/12 11:00 | 11/25/12 18:41 | 1 |
| Benzo[a]pyrene | ND | | 0.0658 | 0.0118 | mg/Kg | ☼ | 11/23/12 11:00 | 11/25/12 18:41 | 1 |
| Benzo[b]fluoranthene | ND | | 0.0658 | 0.0118 | mg/Kg | ☼ | 11/23/12 11:00 | 11/25/12 18:41 | 1 |
| Benzo[g,h,i]perylene | ND | | 0.0658 | 0.00884 | mg/Kg | ☼ | 11/23/12 11:00 | 11/25/12 18:41 | 1 |
| Benzo[k]fluoranthene | ND | | 0.0658 | 0.0137 | mg/Kg | ☼ | 11/23/12 11:00 | 11/25/12 18:41 | 1 |
| 1-Methylnaphthalene | ND | | 0.0658 | 0.0137 | mg/Kg | ☼ | 11/23/12 11:00 | 11/25/12 18:41 | 1 |
| Pyrene | ND | | 0.0658 | 0.0118 | mg/Kg | ☼ | 11/23/12 11:00 | 11/25/12 18:41 | 1 |
| Phenanthrene | ND | | 0.0658 | 0.00884 | mg/Kg | ☼ | 11/23/12 11:00 | 11/25/12 18:41 | 1 |
| Chrysene | ND | | 0.0658 | 0.00884 | mg/Kg | ☼ | 11/23/12 11:00 | 11/25/12 18:41 | 1 |
| Dibenz(a,h)anthracene | ND | | 0.0658 | 0.00687 | mg/Kg | ☼ | 11/23/12 11:00 | 11/25/12 18:41 | 1 |
| Fluoranthene | ND | | 0.0658 | 0.00884 | mg/Kg | ☼ | 11/23/12 11:00 | 11/25/12 18:41 | 1 |
| Fluorene | ND | | 0.0658 | 0.0118 | mg/Kg | ☼ | 11/23/12 11:00 | 11/25/12 18:41 | 1 |
| Indeno[1,2,3-cd]pyrene | ND | | 0.0658 | 0.00982 | mg/Kg | ☼ | 11/23/12 11:00 | 11/25/12 18:41 | 1 |
| Naphthalene | ND | | 0.0658 | 0.00884 | mg/Kg | ☼ | 11/23/12 11:00 | 11/25/12 18:41 | 1 |
| 2-Methylnaphthalene | ND | | 0.0658 | 0.0157 | mg/Kg | ☼ | 11/23/12 11:00 | 11/25/12 18:41 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *2-Fluorobiphenyl (Surr)* | *62* | | *29 - 120* | *11/23/12 11:00* | *11/25/12 18:41* | *1* |
| *Terphenyl-d14 (Surr)* | *75* | | *13 - 120* | *11/23/12 11:00* | *11/25/12 18:41* | *1* |
| *Nitrobenzene-d5 (Surr)* | *60* | | *27 - 120* | *11/23/12 11:00* | *11/25/12 18:41* | *1* |

### General Chemistry

| Analyte | Result | Qualifier | RL | RL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Percent Solids | 97 | | 0.10 | 0.10 | % | | | 11/21/12 11:06 | 1 |

**Client Sample ID: 1038 Iris**
**Date Collected: 11/14/12 12:45**
**Date Received: 11/20/12 08:10**

**Lab Sample ID: 490-12211-5**
**Matrix: Solid**
**Percent Solids: 85.0**

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

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Benzene | ND | | 0.00243 | 0.000813 | mg/Kg | ☼ | 11/20/12 16:30 | 11/27/12 19:45 | 1 |
| Ethylbenzene | ND | | 0.00243 | 0.000813 | mg/Kg | ☼ | 11/20/12 16:30 | 11/27/12 19:45 | 1 |
| Naphthalene | ND | | 0.00607 | 0.00206 | mg/Kg | ☼ | 11/20/12 16:30 | 11/27/12 19:45 | 1 |
| Toluene | ND | | 0.00243 | 0.000898 | mg/Kg | ☼ | 11/20/12 16:30 | 11/27/12 19:45 | 1 |
| Xylenes, Total | ND | | 0.00607 | 0.000813 | mg/Kg | ☼ | 11/20/12 16:30 | 11/27/12 19:45 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *1,2-Dichloroethane-d4 (Surr)* | *95* | | *70 - 130* | *11/20/12 16:30* | *11/27/12 19:45* | *1* |
| *4-Bromofluorobenzene (Surr)* | *104* | | *70 - 130* | *11/20/12 16:30* | *11/27/12 19:45* | *1* |
| *Dibromofluoromethane (Surr)* | *98* | | *70 - 130* | *11/20/12 16:30* | *11/27/12 19:45* | *1* |
| *Toluene-d8 (Surr)* | *95* | | *70 - 130* | *11/20/12 16:30* | *11/27/12 19:45* | *1* |

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

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Acenaphthene | ND | | 0.0662 | 0.00989 | mg/Kg | ☼ | 11/23/12 11:00 | 11/25/12 19:03 | 1 |
| Acenaphthylene | ND | | 0.0662 | 0.00890 | mg/Kg | ☼ | 11/23/12 11:00 | 11/25/12 19:03 | 1 |
| Anthracene | ND | | 0.0662 | 0.00890 | mg/Kg | ☼ | 11/23/12 11:00 | 11/25/12 19:03 | 1 |
| Benzo[a]anthracene | ND | | 0.0662 | 0.0148 | mg/Kg | ☼ | 11/23/12 11:00 | 11/25/12 19:03 | 1 |
| Benzo[a]pyrene | ND | | 0.0662 | 0.0119 | mg/Kg | ☼ | 11/23/12 11:00 | 11/25/12 19:03 | 1 |
| Benzo[b]fluoranthene | ND | | 0.0662 | 0.0119 | mg/Kg | ☼ | 11/23/12 11:00 | 11/25/12 19:03 | 1 |
| Benzo[g,h,i]perylene | ND | | 0.0662 | 0.00890 | mg/Kg | ☼ | 11/23/12 11:00 | 11/25/12 19:03 | 1 |
| Benzo[k]fluoranthene | ND | | 0.0662 | 0.0138 | mg/Kg | ☼ | 11/23/12 11:00 | 11/25/12 19:03 | 1 |
| 1-Methylnaphthalene | ND | | 0.0662 | 0.0138 | mg/Kg | ☼ | 11/23/12 11:00 | 11/25/12 19:03 | 1 |
| Pyrene | ND | | 0.0662 | 0.0119 | mg/Kg | ☼ | 11/23/12 11:00 | 11/25/12 19:03 | 1 |
| Phenanthrene | ND | | 0.0662 | 0.00890 | mg/Kg | ☼ | 11/23/12 11:00 | 11/25/12 19:03 | 1 |
| Chrysene | ND | | 0.0662 | 0.00890 | mg/Kg | ☼ | 11/23/12 11:00 | 11/25/12 19:03 | 1 |
| Dibenz(a,h)anthracene | ND | | 0.0662 | 0.00692 | mg/Kg | ☼ | 11/23/12 11:00 | 11/25/12 19:03 | 1 |
| Fluoranthene | ND | | 0.0662 | 0.00890 | mg/Kg | ☼ | 11/23/12 11:00 | 11/25/12 19:03 | 1 |
| Fluorene | ND | | 0.0662 | 0.0119 | mg/Kg | ☼ | 11/23/12 11:00 | 11/25/12 19:03 | 1 |
| Indeno[1,2,3-cd]pyrene | ND | | 0.0662 | 0.00989 | mg/Kg | ☼ | 11/23/12 11:00 | 11/25/12 19:03 | 1 |
| Naphthalene | ND | | 0.0662 | 0.00890 | mg/Kg | ☼ | 11/23/12 11:00 | 11/25/12 19:03 | 1 |
| 2-Methylnaphthalene | ND | | 0.0662 | 0.0158 | mg/Kg | ☼ | 11/23/12 11:00 | 11/25/12 19:03 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *2-Fluorobiphenyl (Surr)* | *72* | | *29 - 120* | *11/23/12 11:00* | *11/25/12 19:03* | *1* |
| *Terphenyl-d14 (Surr)* | *84* | | *13 - 120* | *11/23/12 11:00* | *11/25/12 19:03* | *1* |
| *Nitrobenzene-d5 (Surr)* | *67* | | *27 - 120* | *11/23/12 11:00* | *11/25/12 19:03* | *1* |

## General Chemistry

| Analyte | Result | Qualifier | RL | RL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Percent Solids | 85 | | 0.10 | 0.10 | % | | | 11/21/12 11:06 | 1 |

## Client Sample ID: 1031 Foxglove

**Date Collected: 11/14/12 13:30**
**Date Received: 11/20/12 08:10**

## Lab Sample ID: 490-12211-6

**Matrix: Solid**
**Percent Solids: 79.9**

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

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Benzene | ND | | 0.130 | 0.0443 | mg/Kg | ☼ | 11/20/12 16:28 | 11/27/12 20:39 | 1 |
| Ethylbenzene | ND | | 0.130 | 0.0443 | mg/Kg | ☼ | 11/20/12 16:28 | 11/27/12 20:39 | 1 |
| Naphthalene | 0.133 | J | 0.326 | 0.111 | mg/Kg | ☼ | 11/20/12 16:28 | 11/27/12 20:39 | 1 |
| Toluene | ND | | 0.130 | 0.0482 | mg/Kg | ☼ | 11/20/12 16:28 | 11/27/12 20:39 | 1 |
| Xylenes, Total | ND | | 0.326 | 0.0443 | mg/Kg | ☼ | 11/20/12 16:28 | 11/27/12 20:39 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *1,2-Dichloroethane-d4 (Surr)* | *89* | | *70 - 130* | *11/20/12 16:28* | *11/27/12 20:39* | *1* |
| *4-Bromofluorobenzene (Surr)* | *113* | | *70 - 130* | *11/20/12 16:28* | *11/27/12 20:39* | *1* |
| *Dibromofluoromethane (Surr)* | *92* | | *70 - 130* | *11/20/12 16:28* | *11/27/12 20:39* | *1* |
| *Toluene-d8 (Surr)* | *97* | | *70 - 130* | *11/20/12 16:28* | *11/27/12 20:39* | *1* |

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

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Acenaphthene | 0.0775 | | 0.0666 | 0.00994 | mg/Kg | ☼ | 11/23/12 11:00 | 11/25/12 19:24 | 1 |
| Acenaphthylene | 0.0389 | J | 0.0666 | 0.00895 | mg/Kg | ☼ | 11/23/12 11:00 | 11/25/12 19:24 | 1 |
| Anthracene | 0.144 | | 0.0666 | 0.00895 | mg/Kg | ☼ | 11/23/12 11:00 | 11/25/12 19:24 | 1 |
| Benzo[a]anthracene | 0.0491 | J | 0.0666 | 0.0149 | mg/Kg | ☼ | 11/23/12 11:00 | 11/25/12 19:24 | 1 |
| Benzo[a]pyrene | ND | | 0.0666 | 0.0119 | mg/Kg | ☼ | 11/23/12 11:00 | 11/25/12 19:24 | 1 |
| Benzo[b]fluoranthene | ND | | 0.0666 | 0.0119 | mg/Kg | ☼ | 11/23/12 11:00 | 11/25/12 19:24 | 1 |
| Benzo[g,h,i]perylene | ND | | 0.0666 | 0.00895 | mg/Kg | ☼ | 11/23/12 11:00 | 11/25/12 19:24 | 1 |
| Benzo[k]fluoranthene | ND | | 0.0666 | 0.0139 | mg/Kg | ☼ | 11/23/12 11:00 | 11/25/12 19:24 | 1 |
| 1-Methylnaphthalene | 0.381 | | 0.0666 | 0.0139 | mg/Kg | ☼ | 11/23/12 11:00 | 11/25/12 19:24 | 1 |
| Pyrene | 0.318 | | 0.0666 | 0.0119 | mg/Kg | ☼ | 11/23/12 11:00 | 11/25/12 19:24 | 1 |
| Phenanthrene | 0.933 | | 0.0666 | 0.00895 | mg/Kg | ☼ | 11/23/12 11:00 | 11/25/12 19:24 | 1 |
| Chrysene | 0.0459 | J | 0.0666 | 0.00895 | mg/Kg | ☼ | 11/23/12 11:00 | 11/25/12 19:24 | 1 |
| Dibenz(a,h)anthracene | ND | | 0.0666 | 0.00696 | mg/Kg | ☼ | 11/23/12 11:00 | 11/25/12 19:24 | 1 |
| Fluoranthene | 0.496 | | 0.0666 | 0.00895 | mg/Kg | ☼ | 11/23/12 11:00 | 11/25/12 19:24 | 1 |
| Fluorene | 0.176 | | 0.0666 | 0.0119 | mg/Kg | ☼ | 11/23/12 11:00 | 11/25/12 19:24 | 1 |
| Indeno[1,2,3-cd]pyrene | ND | | 0.0666 | 0.00994 | mg/Kg | ☼ | 11/23/12 11:00 | 11/25/12 19:24 | 1 |
| Naphthalene | ND | | 0.0666 | 0.00895 | mg/Kg | ☼ | 11/23/12 11:00 | 11/25/12 19:24 | 1 |
| 2-Methylnaphthalene | 0.659 | | 0.0666 | 0.0159 | mg/Kg | ☼ | 11/23/12 11:00 | 11/25/12 19:24 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *2-Fluorobiphenyl (Surr)* | *58* | | *29 - 120* | *11/23/12 11:00* | *11/25/12 19:24* | *1* |
| *Terphenyl-d14 (Surr)* | *68* | | *13 - 120* | *11/23/12 11:00* | *11/25/12 19:24* | *1* |
| *Nitrobenzene-d5 (Surr)* | *56* | | *27 - 120* | *11/23/12 11:00* | *11/25/12 19:24* | *1* |

### General Chemistry

| Analyte | Result | Qualifier | RL | RL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Percent Solids | 80 | | 0.10 | 0.10 | % | | | 11/21/12 11:06 | 1 |

## Client Sample ID: 1029 Foxglove

**Date Collected: 11/15/12 14:45**
**Date Received: 11/20/12 08:10**

## Lab Sample ID: 490-12211-7

**Matrix: Solid**
**Percent Solids: 92.9**

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

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Benzene | ND | | 0.00223 | 0.000748 | mg/Kg | ☼ | 11/20/12 16:30 | 11/27/12 20:12 | 1 |
| Ethylbenzene | ND | | 0.00223 | 0.000748 | mg/Kg | ☼ | 11/20/12 16:30 | 11/27/12 20:12 | 1 |
| Naphthalene | ND | | 0.00558 | 0.00190 | mg/Kg | ☼ | 11/20/12 16:30 | 11/27/12 20:12 | 1 |
| Toluene | ND | | 0.00223 | 0.000826 | mg/Kg | ☼ | 11/20/12 16:30 | 11/27/12 20:12 | 1 |
| Xylenes, Total | ND | | 0.00558 | 0.000748 | mg/Kg | ☼ | 11/20/12 16:30 | 11/27/12 20:12 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *1,2-Dichloroethane-d4 (Surr)* | *96* | | *70 - 130* | *11/20/12 16:30* | *11/27/12 20:12* | *1* |
| *4-Bromofluorobenzene (Surr)* | *106* | | *70 - 130* | *11/20/12 16:30* | *11/27/12 20:12* | *1* |
| *Dibromofluoromethane (Surr)* | *98* | | *70 - 130* | *11/20/12 16:30* | *11/27/12 20:12* | *1* |
| *Toluene-d8 (Surr)* | *95* | | *70 - 130* | *11/20/12 16:30* | *11/27/12 20:12* | *1* |

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

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Acenaphthene | ND | | 0.0658 | 0.00981 | mg/Kg | ☼ | 11/23/12 11:00 | 11/25/12 19:46 | 1 |
| Acenaphthylene | ND | | 0.0658 | 0.00883 | mg/Kg | ☼ | 11/23/12 11:00 | 11/25/12 19:46 | 1 |
| Anthracene | ND | | 0.0658 | 0.00883 | mg/Kg | ☼ | 11/23/12 11:00 | 11/25/12 19:46 | 1 |
| Benzo[a]anthracene | ND | | 0.0658 | 0.0147 | mg/Kg | ☼ | 11/23/12 11:00 | 11/25/12 19:46 | 1 |
| Benzo[a]pyrene | ND | | 0.0658 | 0.0118 | mg/Kg | ☼ | 11/23/12 11:00 | 11/25/12 19:46 | 1 |
| Benzo[b]fluoranthene | ND | | 0.0658 | 0.0118 | mg/Kg | ☼ | 11/23/12 11:00 | 11/25/12 19:46 | 1 |
| Benzo[g,h,i]perylene | ND | | 0.0658 | 0.00883 | mg/Kg | ☼ | 11/23/12 11:00 | 11/25/12 19:46 | 1 |
| Benzo[k]fluoranthene | ND | | 0.0658 | 0.0137 | mg/Kg | ☼ | 11/23/12 11:00 | 11/25/12 19:46 | 1 |
| 1-Methylnaphthalene | ND | | 0.0658 | 0.0137 | mg/Kg | ☼ | 11/23/12 11:00 | 11/25/12 19:46 | 1 |
| Pyrene | ND | | 0.0658 | 0.0118 | mg/Kg | ☼ | 11/23/12 11:00 | 11/25/12 19:46 | 1 |
| Phenanthrene | ND | | 0.0658 | 0.00883 | mg/Kg | ☼ | 11/23/12 11:00 | 11/25/12 19:46 | 1 |
| Chrysene | ND | | 0.0658 | 0.00883 | mg/Kg | ☼ | 11/23/12 11:00 | 11/25/12 19:46 | 1 |
| Dibenz(a,h)anthracene | ND | | 0.0658 | 0.00687 | mg/Kg | ☼ | 11/23/12 11:00 | 11/25/12 19:46 | 1 |
| Fluoranthene | ND | | 0.0658 | 0.00883 | mg/Kg | ☼ | 11/23/12 11:00 | 11/25/12 19:46 | 1 |
| Fluorene | ND | | 0.0658 | 0.0118 | mg/Kg | ☼ | 11/23/12 11:00 | 11/25/12 19:46 | 1 |
| Indeno[1,2,3-cd]pyrene | ND | | 0.0658 | 0.00981 | mg/Kg | ☼ | 11/23/12 11:00 | 11/25/12 19:46 | 1 |
| Naphthalene | ND | | 0.0658 | 0.00883 | mg/Kg | ☼ | 11/23/12 11:00 | 11/25/12 19:46 | 1 |
| 2-Methylnaphthalene | ND | | 0.0658 | 0.0157 | mg/Kg | ☼ | 11/23/12 11:00 | 11/25/12 19:46 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *2-Fluorobiphenyl (Surr)* | *64* | | *29 - 120* | *11/23/12 11:00* | *11/25/12 19:46* | *1* |
| *Terphenyl-d14 (Surr)* | *76* | | *13 - 120* | *11/23/12 11:00* | *11/25/12 19:46* | *1* |
| *Nitrobenzene-d5 (Surr)* | *58* | | *27 - 120* | *11/23/12 11:00* | *11/25/12 19:46* | *1* |

### General Chemistry

| Analyte | Result | Qualifier | RL | RL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Percent Solids | 93 | | 0.10 | 0.10 | % | | | 11/21/12 11:06 | 1 |

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

**Lab Sample ID: MB 490-38791/8**
**Matrix: Solid**
**Analysis Batch: 38791**

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

| Analyte | MB Result | MB Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Benzene | ND | | 2.00 | 0.670 | mg/Kg | | | 11/26/12 14:15 | 1 |
| Ethylbenzene | ND | | 2.00 | 0.670 | mg/Kg | | | 11/26/12 14:15 | 1 |
| Naphthalene | ND | | 5.00 | 1.70 | mg/Kg | | | 11/26/12 14:15 | 1 |
| Toluene | ND | | 2.00 | 0.740 | mg/Kg | | | 11/26/12 14:15 | 1 |
| Xylenes, Total | ND | | 5.00 | 0.670 | mg/Kg | | | 11/26/12 14:15 | 1 |

| *Surrogate* | *MB %Recovery* | *MB Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *1,2-Dichloroethane-d4 (Surr)* | *105* | | *70 - 130* | | *11/26/12 14:15* | *1* |
| *4-Bromofluorobenzene (Surr)* | *107* | | *70 - 130* | | *11/26/12 14:15* | *1* |
| *Dibromofluoromethane (Surr)* | *92* | | *70 - 130* | | *11/26/12 14:15* | *1* |
| *Toluene-d8 (Surr)* | *112* | | *70 - 130* | | *11/26/12 14:15* | *1* |

**Lab Sample ID: LCS 490-38791/5**
**Matrix: Solid**
**Analysis Batch: 38791**

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

| Analyte | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec. Limits |
|---|---|---|---|---|---|---|---|
| Benzene | 0.0500 | 0.04096 | | mg/Kg | | 82 | 75 - 127 |
| Ethylbenzene | 0.0500 | 0.05411 | | mg/Kg | | 108 | 80 - 134 |
| Naphthalene | 0.0500 | 0.05253 | | mg/Kg | | 105 | 69 - 150 |
| Toluene | 0.0500 | 0.04974 | | mg/Kg | | 99 | 80 - 132 |
| Xylenes, Total | 0.150 | 0.1608 | | mg/Kg | | 107 | 80 - 137 |

| *Surrogate* | *LCS %Recovery* | *LCS Qualifier* | *Limits* |
|---|---|---|---|
| *1,2-Dichloroethane-d4 (Surr)* | *103* | | *70 - 130* |
| *4-Bromofluorobenzene (Surr)* | *109* | | *70 - 130* |
| *Dibromofluoromethane (Surr)* | *92* | | *70 - 130* |
| *Toluene-d8 (Surr)* | *114* | | *70 - 130* |

**Lab Sample ID: LCSD 490-38791/6**
**Matrix: Solid**
**Analysis Batch: 38791**

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

| Analyte | Spike Added | LCSD Result | LCSD Qualifier | Unit | D | %Rec | %Rec. Limits | RPD | RPD Limit |
|---|---|---|---|---|---|---|---|---|---|
| Benzene | 0.0500 | 0.04133 | | mg/Kg | | 83 | 75 - 127 | 1 | 50 |
| Ethylbenzene | 0.0500 | 0.05162 | | mg/Kg | | 103 | 80 - 134 | 5 | 50 |
| Naphthalene | 0.0500 | 0.05170 | | mg/Kg | | 103 | 69 - 150 | 2 | 50 |
| Toluene | 0.0500 | 0.04708 | | mg/Kg | | 94 | 80 - 132 | 5 | 50 |
| Xylenes, Total | 0.150 | 0.1532 | | mg/Kg | | 102 | 80 - 137 | 5 | 50 |

| *Surrogate* | *LCSD %Recovery* | *LCSD Qualifier* | *Limits* |
|---|---|---|---|
| *1,2-Dichloroethane-d4 (Surr)* | *103* | | *70 - 130* |
| *4-Bromofluorobenzene (Surr)* | *106* | | *70 - 130* |
| *Dibromofluoromethane (Surr)* | *92* | | *70 - 130* |
| *Toluene-d8 (Surr)* | *106* | | *70 - 130* |

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

**Lab Sample ID: MB 490-39051/6**
**Matrix: Solid**
**Analysis Batch: 39051**

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

| Analyte | MB Result | MB Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Benzene | ND | | 0.100 | 0.0335 | mg/Kg | | | 11/27/12 12:05 | 1 |
| Ethylbenzene | ND | | 0.100 | 0.0335 | mg/Kg | | | 11/27/12 12:05 | 1 |
| Naphthalene | ND | | 0.250 | 0.0850 | mg/Kg | | | 11/27/12 12:05 | 1 |
| Toluene | ND | | 0.100 | 0.0370 | mg/Kg | | | 11/27/12 12:05 | 1 |
| Xylenes, Total | ND | | 0.250 | 0.0335 | mg/Kg | | | 11/27/12 12:05 | 1 |

| *Surrogate* | *MB %Recovery* | *MB Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *1,2-Dichloroethane-d4 (Surr)* | *90* | | *70 - 130* | | *11/27/12 12:05* | *1* |
| *4-Bromofluorobenzene (Surr)* | *104* | | *70 - 130* | | *11/27/12 12:05* | *1* |
| *Dibromofluoromethane (Surr)* | *94* | | *70 - 130* | | *11/27/12 12:05* | *1* |
| *Toluene-d8 (Surr)* | *96* | | *70 - 130* | | *11/27/12 12:05* | *1* |

**Lab Sample ID: MB 490-39051/7**
**Matrix: Solid**
**Analysis Batch: 39051**

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

| Analyte | MB Result | MB Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Benzene | ND | | 0.00200 | 0.000670 | mg/Kg | | | 11/27/12 12:32 | 1 |
| Ethylbenzene | ND | | 0.00200 | 0.000670 | mg/Kg | | | 11/27/12 12:32 | 1 |
| Naphthalene | ND | | 0.00500 | 0.00170 | mg/Kg | | | 11/27/12 12:32 | 1 |
| Toluene | ND | | 0.00200 | 0.000740 | mg/Kg | | | 11/27/12 12:32 | 1 |
| Xylenes, Total | ND | | 0.00500 | 0.000670 | mg/Kg | | | 11/27/12 12:32 | 1 |

| *Surrogate* | *MB %Recovery* | *MB Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *1,2-Dichloroethane-d4 (Surr)* | *91* | | *70 - 130* | | *11/27/12 12:32* | *1* |
| *4-Bromofluorobenzene (Surr)* | *107* | | *70 - 130* | | *11/27/12 12:32* | *1* |
| *Dibromofluoromethane (Surr)* | *98* | | *70 - 130* | | *11/27/12 12:32* | *1* |
| *Toluene-d8 (Surr)* | *97* | | *70 - 130* | | *11/27/12 12:32* | *1* |

**Lab Sample ID: LCS 490-39051/3**
**Matrix: Solid**
**Analysis Batch: 39051**

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

| Analyte | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec. Limits |
|---|---|---|---|---|---|---|---|
| Benzene | 0.0500 | 0.05012 | | mg/Kg | | 100 | 75 - 127 |
| Ethylbenzene | 0.0500 | 0.04909 | | mg/Kg | | 98 | 80 - 134 |
| Naphthalene | 0.0500 | 0.05516 | | mg/Kg | | 110 | 69 - 150 |
| Toluene | 0.0500 | 0.04878 | | mg/Kg | | 98 | 80 - 132 |
| Xylenes, Total | 0.150 | 0.1431 | | mg/Kg | | 95 | 80 - 137 |

| *Surrogate* | *LCS %Recovery* | *LCS Qualifier* | *Limits* |
|---|---|---|---|
| *1,2-Dichloroethane-d4 (Surr)* | *95* | | *70 - 130* |
| *4-Bromofluorobenzene (Surr)* | *106* | | *70 - 130* |
| *Dibromofluoromethane (Surr)* | *100* | | *70 - 130* |
| *Toluene-d8 (Surr)* | *95* | | *70 - 130* |

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

**Lab Sample ID: LCSD 490-39051/4**
**Matrix: Solid**
**Analysis Batch: 39051**

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

| Analyte | Spike Added | LCSD Result | LCSD Qualifier | Unit | D | %Rec | %Rec. Limits | RPD | RPD Limit |
|---|---|---|---|---|---|---|---|---|---|
| Benzene | 0.0500 | 0.05035 | | mg/Kg | | 101 | 75 - 127 | 0 | 50 |
| Ethylbenzene | 0.0500 | 0.04961 | | mg/Kg | | 99 | 80 - 134 | 1 | 50 |
| Naphthalene | 0.0500 | 0.05590 | | mg/Kg | | 112 | 69 - 150 | 1 | 50 |
| Toluene | 0.0500 | 0.04917 | | mg/Kg | | 98 | 80 - 132 | 1 | 50 |
| Xylenes, Total | 0.150 | 0.1440 | | mg/Kg | | 96 | 80 - 137 | 1 | 50 |

| *Surrogate* | *LCSD %Recovery* | *LCSD Qualifier* | *Limits* |
|---|---|---|---|
| *1,2-Dichloroethane-d4 (Surr)* | *94* | | *70 - 130* |
| *4-Bromofluorobenzene (Surr)* | *108* | | *70 - 130* |
| *Dibromofluoromethane (Surr)* | *97* | | *70 - 130* |
| *Toluene-d8 (Surr)* | *96* | | *70 - 130* |

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

**Lab Sample ID: MB 490-38418/1-A**
**Matrix: Solid**
**Analysis Batch: 38717**

**Client Sample ID: Method Blank**
**Prep Type: Total/NA**
**Prep Batch: 38418**

| Analyte | MB Result | MB Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Acenaphthene | ND | | 0.0670 | 0.0100 | mg/Kg | | 11/23/12 11:00 | 11/25/12 16:31 | 1 |
| Acenaphthylene | ND | | 0.0670 | 0.00900 | mg/Kg | | 11/23/12 11:00 | 11/25/12 16:31 | 1 |
| Anthracene | ND | | 0.0670 | 0.00900 | mg/Kg | | 11/23/12 11:00 | 11/25/12 16:31 | 1 |
| Benzo[a]anthracene | ND | | 0.0670 | 0.0150 | mg/Kg | | 11/23/12 11:00 | 11/25/12 16:31 | 1 |
| Benzo[a]pyrene | ND | | 0.0670 | 0.0120 | mg/Kg | | 11/23/12 11:00 | 11/25/12 16:31 | 1 |
| Benzo[b]fluoranthene | ND | | 0.0670 | 0.0120 | mg/Kg | | 11/23/12 11:00 | 11/25/12 16:31 | 1 |
| Benzo[g,h,i]perylene | ND | | 0.0670 | 0.00900 | mg/Kg | | 11/23/12 11:00 | 11/25/12 16:31 | 1 |
| Benzo[k]fluoranthene | ND | | 0.0670 | 0.0140 | mg/Kg | | 11/23/12 11:00 | 11/25/12 16:31 | 1 |
| 1-Methylnaphthalene | ND | | 0.0670 | 0.0140 | mg/Kg | | 11/23/12 11:00 | 11/25/12 16:31 | 1 |
| Pyrene | ND | | 0.0670 | 0.0120 | mg/Kg | | 11/23/12 11:00 | 11/25/12 16:31 | 1 |
| Phenanthrene | ND | | 0.0670 | 0.00900 | mg/Kg | | 11/23/12 11:00 | 11/25/12 16:31 | 1 |
| Chrysene | ND | | 0.0670 | 0.00900 | mg/Kg | | 11/23/12 11:00 | 11/25/12 16:31 | 1 |
| Dibenz(a,h)anthracene | ND | | 0.0670 | 0.00700 | mg/Kg | | 11/23/12 11:00 | 11/25/12 16:31 | 1 |
| Fluoranthene | ND | | 0.0670 | 0.00900 | mg/Kg | | 11/23/12 11:00 | 11/25/12 16:31 | 1 |
| Fluorene | ND | | 0.0670 | 0.0120 | mg/Kg | | 11/23/12 11:00 | 11/25/12 16:31 | 1 |
| Indeno[1,2,3-cd]pyrene | ND | | 0.0670 | 0.0100 | mg/Kg | | 11/23/12 11:00 | 11/25/12 16:31 | 1 |
| Naphthalene | ND | | 0.0670 | 0.00900 | mg/Kg | | 11/23/12 11:00 | 11/25/12 16:31 | 1 |
| 2-Methylnaphthalene | ND | | 0.0670 | 0.0160 | mg/Kg | | 11/23/12 11:00 | 11/25/12 16:31 | 1 |

| *Surrogate* | *MB %Recovery* | *MB Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *2-Fluorobiphenyl (Surr)* | *66* | | *29 - 120* | *11/23/12 11:00* | *11/25/12 16:31* | *1* |
| *Terphenyl-d14 (Surr)* | *80* | | *13 - 120* | *11/23/12 11:00* | *11/25/12 16:31* | *1* |
| *Nitrobenzene-d5 (Surr)* | *64* | | *27 - 120* | *11/23/12 11:00* | *11/25/12 16:31* | *1* |

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

**Lab Sample ID: LCS 490-38418/2-A**
**Matrix: Solid**
**Analysis Batch: 38717**

**Client Sample ID: Lab Control Sample**
**Prep Type: Total/NA**
**Prep Batch: 38418**

| Analyte | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec. Limits |
|---|---|---|---|---|---|---|---|
| Acenaphthylene | 1.67 | 1.351 | | mg/Kg | | 81 | 38 - 120 |
| Anthracene | 1.67 | 1.340 | | mg/Kg | | 80 | 46 - 124 |
| Benzo[a]anthracene | 1.67 | 1.154 | | mg/Kg | | 69 | 45 - 120 |
| Benzo[a]pyrene | 1.67 | 1.245 | | mg/Kg | | 75 | 45 - 120 |
| Benzo[b]fluoranthene | 1.67 | 1.161 | | mg/Kg | | 70 | 42 - 120 |
| Benzo[g,h,i]perylene | 1.67 | 1.397 | | mg/Kg | | 84 | 38 - 120 |
| Benzo[k]fluoranthene | 1.67 | 1.178 | | mg/Kg | | 71 | 42 - 120 |
| 1-Methylnaphthalene | 1.67 | 1.171 | | mg/Kg | | 70 | 32 - 120 |
| Pyrene | 1.67 | 1.138 | | mg/Kg | | 68 | 43 - 120 |
| Phenanthrene | 1.67 | 1.325 | | mg/Kg | | 80 | 45 - 120 |
| Chrysene | 1.67 | 1.204 | | mg/Kg | | 72 | 43 - 120 |
| Dibenz(a,h)anthracene | 1.67 | 1.334 | | mg/Kg | | 80 | 32 - 128 |
| Fluoranthene | 1.67 | 1.354 | | mg/Kg | | 81 | 46 - 120 |
| Fluorene | 1.67 | 1.226 | | mg/Kg | | 74 | 42 - 120 |
| Indeno[1,2,3-cd]pyrene | 1.67 | 1.339 | | mg/Kg | | 80 | 41 - 121 |
| Naphthalene | 1.67 | 1.312 | | mg/Kg | | 79 | 32 - 120 |
| 2-Methylnaphthalene | 1.67 | 1.211 | | mg/Kg | | 73 | 28 - 120 |

| *Surrogate* | *LCS %Recovery* | *LCS Qualifier* | *Limits* |
|---|---|---|---|
| *2-Fluorobiphenyl (Surr)* | *62* | | *29 - 120* |
| *Terphenyl-d14 (Surr)* | *67* | | *13 - 120* |
| *Nitrobenzene-d5 (Surr)* | *54* | | *27 - 120* |

**Lab Sample ID: 490-12211-1 MS**
**Matrix: Solid**
**Analysis Batch: 38717**

**Client Sample ID: 1015 Foxglove**
**Prep Type: Total/NA**
**Prep Batch: 38418**

| Analyte | Sample Result | Sample Qualifier | Spike Added | MS Result | MS Qualifier | Unit | D | %Rec | %Rec. Limits |
|---|---|---|---|---|---|---|---|---|---|
| Acenaphthylene | ND | | 1.65 | 1.496 | | mg/Kg | ☼ | 91 | 25 - 120 |
| Anthracene | ND | | 1.65 | 1.533 | | mg/Kg | ☼ | 93 | 28 - 125 |
| Benzo[a]anthracene | ND | | 1.65 | 1.332 | | mg/Kg | ☼ | 81 | 23 - 120 |
| Benzo[a]pyrene | ND | | 1.65 | 1.440 | | mg/Kg | ☼ | 87 | 15 - 128 |
| Benzo[b]fluoranthene | ND | | 1.65 | 1.327 | | mg/Kg | ☼ | 80 | 12 - 133 |
| Benzo[g,h,i]perylene | ND | | 1.65 | 1.546 | | mg/Kg | ☼ | 94 | 22 - 120 |
| Benzo[k]fluoranthene | ND | | 1.65 | 1.357 | | mg/Kg | ☼ | 82 | 28 - 120 |
| 1-Methylnaphthalene | ND | | 1.65 | 1.310 | | mg/Kg | ☼ | 79 | 10 - 120 |
| Pyrene | ND | | 1.65 | 1.308 | | mg/Kg | ☼ | 79 | 20 - 123 |
| Phenanthrene | ND | | 1.65 | 1.519 | | mg/Kg | ☼ | 92 | 21 - 122 |
| Chrysene | ND | | 1.65 | 1.365 | | mg/Kg | ☼ | 83 | 20 - 120 |
| Dibenz(a,h)anthracene | ND | | 1.65 | 1.489 | | mg/Kg | ☼ | 90 | 12 - 128 |
| Fluoranthene | ND | | 1.65 | 1.523 | | mg/Kg | ☼ | 92 | 10 - 143 |
| Fluorene | ND | | 1.65 | 1.362 | | mg/Kg | ☼ | 83 | 20 - 120 |
| Indeno[1,2,3-cd]pyrene | ND | | 1.65 | 1.516 | | mg/Kg | ☼ | 92 | 22 - 121 |
| Naphthalene | ND | | 1.65 | 1.471 | | mg/Kg | ☼ | 89 | 10 - 120 |
| 2-Methylnaphthalene | ND | | 1.65 | 1.379 | | mg/Kg | ☼ | 84 | 13 - 120 |

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

**Lab Sample ID: 490-12211-1 MS**
**Matrix: Solid**
**Analysis Batch: 38717**

**Client Sample ID: 1015 Foxglove**
**Prep Type: Total/NA**
**Prep Batch: 38418**

| Surrogate | MS %Recovery | MS Qualifier | Limits |
|---|---|---|---|
| 2-Fluorobiphenyl (Surr) | 65 | | 29 - 120 |
| Terphenyl-d14 (Surr) | 74 | | 13 - 120 |
| Nitrobenzene-d5 (Surr) | 59 | | 27 - 120 |

**Lab Sample ID: 490-12211-1 MSD**
**Matrix: Solid**
**Analysis Batch: 38717**

**Client Sample ID: 1015 Foxglove**
**Prep Type: Total/NA**
**Prep Batch: 38418**

| Analyte | Sample Result | Sample Qualifier | Spike Added | MSD Result | MSD Qualifier | Unit | D | %Rec | %Rec. Limits | RPD | RPD Limit |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Acenaphthylene | ND | | 1.66 | 1.420 | | mg/Kg | ☼ | 86 | 25 - 120 | 5 | 50 |
| Anthracene | ND | | 1.66 | 1.425 | | mg/Kg | ☼ | 86 | 28 - 125 | 7 | 49 |
| Benzo[a]anthracene | ND | | 1.66 | 1.245 | | mg/Kg | ☼ | 75 | 23 - 120 | 7 | 50 |
| Benzo[a]pyrene | ND | | 1.66 | 1.366 | | mg/Kg | ☼ | 82 | 15 - 128 | 5 | 50 |
| Benzo[b]fluoranthene | ND | | 1.66 | 1.241 | | mg/Kg | ☼ | 75 | 12 - 133 | 7 | 50 |
| Benzo[g,h,i]perylene | ND | | 1.66 | 1.486 | | mg/Kg | ☼ | 90 | 22 - 120 | 4 | 50 |
| Benzo[k]fluoranthene | ND | | 1.66 | 1.271 | | mg/Kg | ☼ | 77 | 28 - 120 | 7 | 45 |
| 1-Methylnaphthalene | ND | | 1.66 | 1.237 | | mg/Kg | ☼ | 75 | 10 - 120 | 6 | 50 |
| Pyrene | ND | | 1.66 | 1.230 | | mg/Kg | ☼ | 74 | 20 - 123 | 6 | 50 |
| Phenanthrene | ND | | 1.66 | 1.408 | | mg/Kg | ☼ | 85 | 21 - 122 | 8 | 50 |
| Chrysene | ND | | 1.66 | 1.280 | | mg/Kg | ☼ | 77 | 20 - 120 | 6 | 49 |
| Dibenz(a,h)anthracene | ND | | 1.66 | 1.429 | | mg/Kg | ☼ | 86 | 12 - 128 | 4 | 50 |
| Fluoranthene | ND | | 1.66 | 1.442 | | mg/Kg | ☼ | 87 | 10 - 143 | 5 | 50 |
| Fluorene | ND | | 1.66 | 1.277 | | mg/Kg | ☼ | 77 | 20 - 120 | 6 | 50 |
| Indeno[1,2,3-cd]pyrene | ND | | 1.66 | 1.433 | | mg/Kg | ☼ | 86 | 22 - 121 | 6 | 50 |
| Naphthalene | ND | | 1.66 | 1.406 | | mg/Kg | ☼ | 85 | 10 - 120 | 5 | 50 |
| 2-Methylnaphthalene | ND | | 1.66 | 1.290 | | mg/Kg | ☼ | 78 | 13 - 120 | 7 | 50 |

| Surrogate | MSD %Recovery | MSD Qualifier | Limits |
|---|---|---|---|
| 2-Fluorobiphenyl (Surr) | 59 | | 29 - 120 |
| Terphenyl-d14 (Surr) | 67 | | 13 - 120 |
| Nitrobenzene-d5 (Surr) | 57 | | 27 - 120 |

## Method: Moisture - Percent Moisture

**Lab Sample ID: 490-12185-C-8 DU**
**Matrix: Solid**
**Analysis Batch: 38035**

**Client Sample ID: Duplicate**
**Prep Type: Total/NA**

| Analyte | Sample Result | Sample Qualifier | DU Result | DU Qualifier | Unit | D | RPD | RPD Limit |
|---|---|---|---|---|---|---|---|---|
| Percent Solids | 75 | | 74 | | % | | 2 | 20 |

## GC/MS VOA

### Prep Batch: 37825

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 490-12211-6 | 1031 Foxglove | Total/NA | Solid | 5035 | |

### Prep Batch: 37827

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 490-12211-1 | 1015 Foxglove | Total/NA | Solid | 5035 | |
| 490-12211-2 | 1361 Cardinal | Total/NA | Solid | 5035 | |
| 490-12211-3 | 1046 Gardenia | Total/NA | Solid | 5035 | |
| 490-12211-4 | 1024 Foxglove | Total/NA | Solid | 5035 | |
| 490-12211-5 | 1038 Iris | Total/NA | Solid | 5035 | |
| 490-12211-7 | 1029 Foxglove | Total/NA | Solid | 5035 | |

### Analysis Batch: 38791

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 490-12211-1 | 1015 Foxglove | Total/NA | Solid | 8260B | 37827 |
| 490-12211-2 | 1361 Cardinal | Total/NA | Solid | 8260B | 37827 |
| 490-12211-3 | 1046 Gardenia | Total/NA | Solid | 8260B | 37827 |
| LCS 490-38791/5 | Lab Control Sample | Total/NA | Solid | 8260B | |
| LCSD 490-38791/6 | Lab Control Sample Dup | Total/NA | Solid | 8260B | |
| MB 490-38791/8 | Method Blank | Total/NA | Solid | 8260B | |

### Analysis Batch: 39051

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 490-12211-4 | 1024 Foxglove | Total/NA | Solid | 8260B | 37827 |
| 490-12211-5 | 1038 Iris | Total/NA | Solid | 8260B | 37827 |
| 490-12211-6 | 1031 Foxglove | Total/NA | Solid | 8260B | 37825 |
| 490-12211-7 | 1029 Foxglove | Total/NA | Solid | 8260B | 37827 |
| LCS 490-39051/3 | Lab Control Sample | Total/NA | Solid | 8260B | |
| LCSD 490-39051/4 | Lab Control Sample Dup | Total/NA | Solid | 8260B | |
| MB 490-39051/6 | Method Blank | Total/NA | Solid | 8260B | |
| MB 490-39051/7 | Method Blank | Total/NA | Solid | 8260B | |

## GC/MS Semi VOA

### Prep Batch: 38418

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 490-12211-1 | 1015 Foxglove | Total/NA | Solid | 3550C | |
| 490-12211-1 MS | 1015 Foxglove | Total/NA | Solid | 3550C | |
| 490-12211-1 MSD | 1015 Foxglove | Total/NA | Solid | 3550C | |
| 490-12211-2 | 1361 Cardinal | Total/NA | Solid | 3550C | |
| 490-12211-3 | 1046 Gardenia | Total/NA | Solid | 3550C | |
| 490-12211-4 | 1024 Foxglove | Total/NA | Solid | 3550C | |
| 490-12211-5 | 1038 Iris | Total/NA | Solid | 3550C | |
| 490-12211-6 | 1031 Foxglove | Total/NA | Solid | 3550C | |
| 490-12211-7 | 1029 Foxglove | Total/NA | Solid | 3550C | |
| LCS 490-38418/2-A | Lab Control Sample | Total/NA | Solid | 3550C | |
| MB 490-38418/1-A | Method Blank | Total/NA | Solid | 3550C | |

### Analysis Batch: 38717

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 490-12211-1 | 1015 Foxglove | Total/NA | Solid | 8270D | 38418 |

## GC/MS Semi VOA (Continued)

### Analysis Batch: 38717 (Continued)

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 490-12211-1 MS | 1015 Foxglove | Total/NA | Solid | 8270D | 38418 |
| 490-12211-1 MSD | 1015 Foxglove | Total/NA | Solid | 8270D | 38418 |
| 490-12211-2 | 1361 Cardinal | Total/NA | Solid | 8270D | 38418 |
| 490-12211-3 | 1046 Gardenia | Total/NA | Solid | 8270D | 38418 |
| 490-12211-4 | 1024 Foxglove | Total/NA | Solid | 8270D | 38418 |
| 490-12211-5 | 1038 Iris | Total/NA | Solid | 8270D | 38418 |
| 490-12211-6 | 1031 Foxglove | Total/NA | Solid | 8270D | 38418 |
| 490-12211-7 | 1029 Foxglove | Total/NA | Solid | 8270D | 38418 |
| LCS 490-38418/2-A | Lab Control Sample | Total/NA | Solid | 8270D | 38418 |
| MB 490-38418/1-A | Method Blank | Total/NA | Solid | 8270D | 38418 |

## General Chemistry

### Analysis Batch: 38035

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 490-12185-C-8 DU | Duplicate | Total/NA | Solid | Moisture | |
| 490-12211-1 | 1015 Foxglove | Total/NA | Solid | Moisture | |
| 490-12211-2 | 1361 Cardinal | Total/NA | Solid | Moisture | |
| 490-12211-3 | 1046 Gardenia | Total/NA | Solid | Moisture | |
| 490-12211-4 | 1024 Foxglove | Total/NA | Solid | Moisture | |
| 490-12211-5 | 1038 Iris | Total/NA | Solid | Moisture | |
| 490-12211-6 | 1031 Foxglove | Total/NA | Solid | Moisture | |
| 490-12211-7 | 1029 Foxglove | Total/NA | Solid | Moisture | |

# Lab Chronicle

Client: Environmental Enterprise Group
Project/Site: Laurel Bay Housing Project

TestAmerica Job ID: 490-12211-1
SDG: 1063

## Client Sample ID: 1015 Foxglove

**Date Collected: 11/12/12 14:45**
**Date Received: 11/20/12 08:10**

## Lab Sample ID: 490-12211-1

**Matrix: Solid**
**Percent Solids: 86.0**

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|
| Total/NA | Prep | 5035 | | | 37827 | 11/20/12 16:30 | ML | TAL NSH |
| Total/NA | Analysis | 8260B | | 1 | 38791 | 11/26/12 18:25 | KK | TAL NSH |
| Total/NA | Prep | 3550C | | | 38418 | 11/23/12 11:00 | AK | TAL NSH |
| Total/NA | Analysis | 8270D | | 1 | 38717 | 11/25/12 16:53 | KP | TAL NSH |
| Total/NA | Analysis | Moisture | | 1 | 38035 | 11/21/12 11:06 | DF | TAL NSH |

## Client Sample ID: 1361 Cardinal

**Date Collected: 11/12/12 14:30**
**Date Received: 11/20/12 08:10**

## Lab Sample ID: 490-12211-2

**Matrix: Solid**
**Percent Solids: 77.8**

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|
| Total/NA | Prep | 5035 | | | 37827 | 11/20/12 16:30 | ML | TAL NSH |
| Total/NA | Analysis | 8260B | | 1 | 38791 | 11/26/12 18:57 | KK | TAL NSH |
| Total/NA | Prep | 3550C | | | 38418 | 11/23/12 11:00 | AK | TAL NSH |
| Total/NA | Analysis | 8270D | | 1 | 38717 | 11/25/12 17:58 | KP | TAL NSH |
| Total/NA | Analysis | Moisture | | 1 | 38035 | 11/21/12 11:06 | DF | TAL NSH |

## Client Sample ID: 1046 Gardenia

**Date Collected: 11/13/12 13:45**
**Date Received: 11/20/12 08:10**

## Lab Sample ID: 490-12211-3

**Matrix: Solid**
**Percent Solids: 85.4**

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|
| Total/NA | Prep | 5035 | | | 37827 | 11/20/12 16:30 | ML | TAL NSH |
| Total/NA | Analysis | 8260B | | 1 | 38791 | 11/26/12 21:33 | KK | TAL NSH |
| Total/NA | Prep | 3550C | | | 38418 | 11/23/12 11:00 | AK | TAL NSH |
| Total/NA | Analysis | 8270D | | 1 | 38717 | 11/25/12 18:19 | KP | TAL NSH |
| Total/NA | Analysis | Moisture | | 1 | 38035 | 11/21/12 11:06 | DF | TAL NSH |

## Client Sample ID: 1024 Foxglove

**Date Collected: 11/13/12 13:55**
**Date Received: 11/20/12 08:10**

## Lab Sample ID: 490-12211-4

**Matrix: Solid**
**Percent Solids: 96.6**

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|
| Total/NA | Prep | 5035 | | | 37827 | 11/20/12 16:30 | ML | TAL NSH |
| Total/NA | Analysis | 8260B | | 1 | 39051 | 11/27/12 19:18 | MH | TAL NSH |
| Total/NA | Prep | 3550C | | | 38418 | 11/23/12 11:00 | AK | TAL NSH |
| Total/NA | Analysis | 8270D | | 1 | 38717 | 11/25/12 18:41 | KP | TAL NSH |
| Total/NA | Analysis | Moisture | | 1 | 38035 | 11/21/12 11:06 | DF | TAL NSH |

# Lab Chronicle

Client: Environmental Enterprise Group
Project/Site: Laurel Bay Housing Project

TestAmerica Job ID: 490-12211-1
SDG: 1063

## Client Sample ID: 1038 Iris

**Date Collected: 11/14/12 12:45**
**Date Received: 11/20/12 08:10**

## Lab Sample ID: 490-12211-5

**Matrix: Solid**
**Percent Solids: 85.0**

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|
| Total/NA | Prep | 5035 | | | 37827 | 11/20/12 16:30 | ML | TAL NSH |
| Total/NA | Analysis | 8260B | | 1 | 39051 | 11/27/12 19:45 | MH | TAL NSH |
| Total/NA | Prep | 3550C | | | 38418 | 11/23/12 11:00 | AK | TAL NSH |
| Total/NA | Analysis | 8270D | | 1 | 38717 | 11/25/12 19:03 | KP | TAL NSH |
| Total/NA | Analysis | Moisture | | 1 | 38035 | 11/21/12 11:06 | DF | TAL NSH |

## Client Sample ID: 1031 Foxglove

**Date Collected: 11/14/12 13:30**
**Date Received: 11/20/12 08:10**

## Lab Sample ID: 490-12211-6

**Matrix: Solid**
**Percent Solids: 79.9**

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|
| Total/NA | Prep | 5035 | | | 37825 | 11/20/12 16:28 | ML | TAL NSH |
| Total/NA | Analysis | 8260B | | 1 | 39051 | 11/27/12 20:39 | MH | TAL NSH |
| Total/NA | Prep | 3550C | | | 38418 | 11/23/12 11:00 | AK | TAL NSH |
| Total/NA | Analysis | 8270D | | 1 | 38717 | 11/25/12 19:24 | KP | TAL NSH |
| Total/NA | Analysis | Moisture | | 1 | 38035 | 11/21/12 11:06 | DF | TAL NSH |

## Client Sample ID: 1029 Foxglove

**Date Collected: 11/15/12 14:45**
**Date Received: 11/20/12 08:10**

## Lab Sample ID: 490-12211-7

**Matrix: Solid**
**Percent Solids: 92.9**

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|
| Total/NA | Prep | 5035 | | | 37827 | 11/20/12 16:30 | ML | TAL NSH |
| Total/NA | Analysis | 8260B | | 1 | 39051 | 11/27/12 20:12 | MH | TAL NSH |
| Total/NA | Prep | 3550C | | | 38418 | 11/23/12 11:00 | AK | TAL NSH |
| Total/NA | Analysis | 8270D | | 1 | 38717 | 11/25/12 19:46 | KP | TAL NSH |
| Total/NA | Analysis | Moisture | | 1 | 38035 | 11/21/12 11:06 | DF | TAL NSH |

**Laboratory References:**

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

# Method Summary

Client: Environmental Enterprise Group
Project/Site: Laurel Bay Housing Project

TestAmerica Job ID: 490-12211-1
SDG: 1063

| Method | Method Description | Protocol | Laboratory |
|---|---|---|---|
| 8260B | Volatile Organic Compounds (GC/MS) | SW846 | TAL NSH |
| 8270D | Semivolatile Organic Compounds (GC/MS) | SW846 | TAL NSH |
| Moisture | Percent Moisture | EPA | TAL NSH |

**Protocol References:**

EPA = US Environmental Protection Agency

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

**Laboratory References:**

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

# Certification Summary

Client: Environmental Enterprise Group
Project/Site: Laurel Bay Housing Project

TestAmerica Job ID: 490-12211-1
SDG: 1063

## Laboratory: TestAmerica Nashville

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

| Authority | Program | EPA Region | Certification ID | Expiration Date |
|---|---|---|---|---|
| | ACIL | | 393 | 10-30-13 |
| A2LA | ISO/IEC 17025 | | 0453.07 | 12-31-13 |
| Alabama | State Program | 4 | 41150 | 05-31-13 |
| Alaska (UST) | State Program | 10 | UST-087 | 07-24-13 |
| Arizona | State Program | 9 | AZ0473 | 05-05-13 |
| Arkansas DEQ | State Program | 6 | 88-0737 | 04-25-13 |
| California | NELAC | 9 | 1168CA | 10-31-13 |
| Canadian Assoc Lab Accred (CALA) | Canada | | 3744 | 03-08-14 |
| Colorado | State Program | 8 | N/A | 02-28-13 |
| Connecticut | State Program | 1 | PH-0220 | 12-31-13 |
| Florida | NELAC | 4 | E87358 | 06-30-13 |
| Illinois | NELAC | 5 | 200010 | 12-09-12 |
| Iowa | State Program | 7 | 131 | 05-01-14 |
| Kansas | NELAC | 7 | E-10229 | 10-31-13 |
| Kentucky | State Program | 4 | 90038 | 12-31-12 |
| Kentucky (UST) | State Program | 4 | 19 | 09-15-13 |
| Louisiana | NELAC | 6 | LA120025 | 12-31-12 |
| Louisiana | NELAC | 6 | 30613 | 06-30-13 |
| Maryland | State Program | 3 | 316 | 03-31-13 |
| Massachusetts | State Program | 1 | M-TN032 | 06-30-13 |
| Minnesota | NELAC | 5 | 047-999-345 | 12-31-12 |
| Mississippi | State Program | 4 | N/A | 06-30-13 |
| Montana (UST) | State Program | 8 | NA | 01-01-15 |
| Nevada | State Program | 9 | TN00032 | 07-31-13 |
| New Hampshire | NELAC | 1 | 2963 | 10-09-13 |
| New Jersey | NELAC | 2 | TN965 | 06-30-13 |
| New York | NELAC | 2 | 11342 | 04-01-13 |
| North Carolina DENR | State Program | 4 | 387 | 12-31-12 |
| North Dakota | State Program | 8 | R-146 | 06-30-13 |
| Ohio VAP | State Program | 5 | CL0033 | 01-19-14 |
| Oklahoma | State Program | 6 | 9412 | 08-31-13 |
| Oregon | NELAC | 10 | TN200001 | 04-30-13 |
| Pennsylvania | NELAC | 3 | 68-00585 | 06-30-13 |
| Rhode Island | State Program | 1 | LAO00268 | 12-30-12 |
| South Carolina | State Program | 4 | 84009 (001) | 02-28-13 |
| South Carolina | State Program | 4 | 84009 (002) | 02-23-14 |
| Tennessee | State Program | 4 | 2008 | 02-23-14 |
| Texas | NELAC | 6 | T104704077-09-TX | 08-31-13 |
| USDA | Federal | | S-48469 | 11-02-13 |
| Utah | NELAC | 8 | TAN | 06-30-13 |
| Virginia | NELAC | 3 | 460152 | 06-14-13 |
| Washington | State Program | 10 | C789 | 07-19-13 |
| West Virginia DEP | State Program | 3 | 219 | 02-28-13 |
| Wisconsin | State Program | 5 | 998020430 | 08-31-13 |
| Wyoming (UST) | A2LA | 8 | 453.07 | 12-31-13 |

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING
Nashville, TN

# COOLER RECEIPT FORM

Charleston

490-12211 Chain of Custody

Cooler Received/Opened On 11/20/2012 @ 0810

1. Tracking # 6231 (last 4 digits, FedEx)

Courier: FedEx IR Gun ID 14740456

2. Temperature of rep. sample or temp blank when opened: 2.7 *Degrees Celsius*

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

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

If yes, how many and where: 2 Front/Back

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

BIS = Broken in shipment

Loc: 490
12211

11/30/2012


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

Site State: SC

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

PO#: 1063

Telephone Number: 843.412.2097 Fax No.: 843-879-0401

TA Quote #:

Sampler Name: (Print) Pratt Shaw

Project ID: Laurel Bay Housing Project

Sampler Signature:

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)~~ | NaOH (Orange Label) | $H_2SO_4$ Plastic (Yellow Label) | $H_2SO_4$ Glass (Yellow Label) | None (Black Label) | Other (Specify) | Matrix: Groundwater | Wastewater | Drinking Water | Sludge | Soil | Other (specify): | Analyze For: BTEX + Napth - 8260B | PAH - 8270D | | | | | | | | | | RUSH TAT (Pre-Schedule) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1015 Foxglove | 11/12/12 | 1445 | 4 | X | | | | | 2 | | | | 1 | 1 | | | | | X | | X | X | | | | | | | | | 01 | |
| 1361 Cardinal | 11/12/12 | 1430 | 4 | X | | | | | 2 | | | | 1 | 1 | | | | | X | | X | X | | | | | | | | | 02 | |
| 1046 Gardenia | 11/13/12 | 1345 | 4 | X | | | | | 2 | | | | 1 | 1 | | | | | X | | X | X | | | | | | | | | 03 | |
| 1024 Foxglove | 11/13/12 | 1355 | 4 | X | | | | | 2 | | | | 1 | 1 | | | | | X | | X | X | | | | | | | | | 04 | |
| 1038 Iris | 11/14/12 | 1245 | 4 | X | | | | | 2 | | | | 1 | 1 | | | | | X | | X | X | | | | | | | | | 05 | |
| 1031 Foxglove | 11/14/12 | 1330 | 4 | X | | | | | 2 | | | | 1 | 1 | | | | | X | | X | X | | | | | | | | | 06 | |
| 1029 Foxglove | 11/15/12 | 1445 | 4 | X | | | | | 2 | | | | 1 | 1 | | | | | X | | X | X | | | | | | | | | 07 | |

Special Instructions:

Method of Shipment: FEDEX

| Relinquished by: | Date | Time | Received by: | Date | Time |
|---|---|---|---|---|---|
| | 11/19/12 | 0900 | FedEx | | |
| Relinquished by: | Date | Time | Received by TestAmerica: | Date | Time |
| | | | | 11-20-12 | 0910 |

Laboratory Comments:
Temperature Upon Receipt: 2.7c
VOCs Free of Headspace? Y

# Login Sample Receipt Checklist

Client: Environmental Enterprise Group

Job Number: 490-12211-1
SDG Number: 1063

**Login Number: 12211**
**List Number: 1**
**Creator: McBride, Mike**

**List Source: TestAmerica Nashville**

| Question | Answer | Comment |
|---|---|---|
| Radioactivity wasn't checked or is </= background as measured by a survey meter. | True | |
| The cooler's custody seal, if present, is intact. | True | |
| Sample custody seals, if present, are intact. | N/A | |
| The cooler or samples do not appear to have been compromised or tampered with. | True | |
| Samples were received on ice. | True | |
| Cooler Temperature is acceptable. | True | |
| Cooler Temperature is recorded. | True | |
| COC is present. | True | |
| COC is filled out in ink and legible. | True | |
| COC is filled out with all pertinent information. | True | |
| Is the Field Sampler's name present on COC? | True | |
| There are no discrepancies between the containers received and the COC. | True | |
| Samples are received within Holding Time. | True | |
| Sample containers have legible labels. | True | |
| Containers are not broken or leaking. | True | |
| Sample collection date/times are provided. | True | |
| Appropriate sample containers are used. | True | |
| Sample bottles are completely filled. | True | |
| Sample Preservation Verified. | N/A | |
| There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs | True | |
| Containers requiring zero headspace have no headspace or bubble is <6mm (1/4"). | True | |
| Multiphasic samples are not present. | True | |
| Samples do not require splitting or compositing. | True | |
| Residual Chlorine Checked. | N/A | |

ATTACHMENT A

# NON-HAZARDOUS MANIFEST

WASTE MANAGEMENT

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

**3. Generator's Mailing Address:**
MCAS, BEAUFORT
LAUREL BAY HOUSING
BEAUFORT, SC 29907
**4. Generator's Phone** 843-228-6461

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

A. Manifest Number **WMNA** 00316842
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<br>WM Profile # 102655SC | | | | | |
| b.<br>WM Profile # | | | | | |
| c.<br>WM Profile # | | | | | |
| d.<br>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: 2) 1046 Gardenia 4) 1038 Iris 6) 1029 Foxglove
1) 1361 Cardinal 3) 1024 Foxglove 5) 1031 Foxglove

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] | [signature] | 12 | 4 | 12 |

TRANSPORTER

17. Transporter 1 Acknowledgement of Receipt of Materials

| Printed Name | Signature | Month | Day | Year |
|---|---|---|---|---|
| JAMES BALDWIN | James Baldwin | 12 | 6 | 12 |

18. Transporter 2 Acknowledgement of Receipt of Materials

| Printed Name | Signature | Month | Day | Year |
|---|---|---|---|---|
| | | | | |

FACILITY

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

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

| Printed Name | Signature | Month | Day | Year |
|---|---|---|---|---|
| Toni Cofield | Toni Cofield | 12 | 6 | 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 - Groundwater

CDM - AECOM

Multimedia Joint Venture

# Volatile Organic Compounds by GC/MS

Client: **AECOM - Resolution Consultants**
Laboratory ID: **QF24009-022**
Description: **BEALB1361TW01WG20150624**
Matrix: **Aqueous**
Date Sampled: **06/24/2015 1100**
Date Received: **06/25/2015**

| Run | Prep Method | Analytical Method | Dilution | Analysis Date | Analyst | Prep Date | Batch |
|---|---|---|---|---|---|---|---|
| 1 | 5030B | 8260B | 1 | 07/06/2015 1648 | EH1 | | 78858 |

| Parameter | CAS Number | Analytical Method | Result | Q | LOQ | LOD | DL | Units | Run |
|---|---|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | 8260B | 0.45 | U | 5.0 | 0.45 | 0.21 | ug/L | 1 |
| Ethylbenzene | 100-41-4 | 8260B | 0.51 | U | 5.0 | 0.51 | 0.21 | ug/L | 1 |
| **Naphthalene** | **91-20-3** | **8260B** | **0.98** | **J** | **5.0** | 0.96 | **0.14** | **ug/L** | **1** |
| Toluene | 108-88-3 | 8260B | 0.48 | U | 5.0 | 0.48 | 0.24 | ug/L | 1 |
| Xylenes (total) | 1330-20-7 | 8260B | 0.57 | U | 5.0 | 0.57 | 0.19 | ug/L | 1 |

| Surrogate | Q | Run 1 % Recovery | Acceptance Limits |
|---|---|---|---|
| Bromofluorobenzene | | 100 | 75-120 |
| 1,2-Dichloroethane-d4 | | 92 | 70-120 |
| Toluene-d8 | | 106 | 85-120 |
| Dibromofluoromethane | | 94 | 85-115 |

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

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 (SIM)

Client: **AECOM - Resolution Consultants**
Laboratory ID: **QF24009-022**
Description: **BEALB1361TW01WG20150624**
Matrix: **Aqueous**
Date Sampled: **06/24/2015 1100**
Date Received: **06/25/2015**

| Run | Prep Method | Analytical Method | Dilution | Analysis Date | Analyst | Prep Date | Batch |
|---|---|---|---|---|---|---|---|
| 1 | 3520C | 8270D (SIM) | 1 | 07/10/2015 1105 | DRB1 | 06/29/2015 1632 | 78383 |

| Parameter | CAS Number | Analytical Method | Result | Q | LOQ | LOD | DL | Units | Run |
|---|---|---|---|---|---|---|---|---|---|
| Benzo(a)anthracene | 56-55-3 | 8270D (SIM) | 0.040 | U | 0.20 | 0.040 | 0.019 | ug/L | 1 |
| Benzo(b)fluoranthene | 205-99-2 | 8270D (SIM) | 0.040 | U | 0.20 | 0.040 | 0.019 | ug/L | 1 |
| Benzo(k)fluoranthene | 207-08-9 | 8270D (SIM) | 0.040 | U | 0.20 | 0.040 | 0.024 | ug/L | 1 |
| Chrysene | 218-01-9 | 8270D (SIM) | 0.040 | U | 0.20 | 0.040 | 0.021 | ug/L | 1 |
| Dibenzo(a,h)anthracene | 53-70-3 | 8270D (SIM) | 0.080 | U | 0.20 | 0.080 | 0.040 | ug/L | 1 |

| Surrogate | Q | Run 1 % Recovery | Acceptance Limits |
|---|---|---|---|
| 2-Methylnaphthalene-d10 | | 91 | 15-139 |
| Fluoranthene-d10 | | 95 | 23-154 |

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

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

Appendix D
Laboratory Analytical Report - Vapor

CDM - AECOM
Multimedia Joint Venture

# ALS ENVIRONMENTAL

RESULTS OF ANALYSIS



**Client:** **AECOM** ALS Project ID: P1503199
**Client Sample ID:** **BEALB 1361 SG01 GS20150730** ALS Sample ID: P1503199-021
**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: | 8/12/15 |
| Sampling Media: | 6.0 L Summa Canister | Volume(s) Analyzed: | 0.20 Liter(s) |
| Test Notes: | | | |
| Container ID: | SC00265 | | |

Initial Pressure (psig): -1.65 Final Pressure (psig): 3.79

Canister Dilution Factor: 1.42

| CAS # | Compound | Result µg/m³ | LOQ µg/m³ | LOD µg/m³ | MDL µg/m³ | Data Qualifier |
|---|---|---|---|---|---|---|
| 71-43-2 | Benzene | 3.2 | 3.6 | 3.2 | 1.1 | **U** |
| 108-88-3 | Toluene | **3.4** | 3.6 | 3.1 | 1.2 | **J** |
| 100-41-4 | Ethylbenzene | 3.1 | 3.6 | 3.1 | 1.1 | **U** |
| 179601-23-1 | m,p-Xylenes | 6.1 | 7.1 | 6.1 | 2.1 | **U** |
| 95-47-6 | o-Xylene | 3.0 | 3.6 | 3.0 | 1.1 | **U** |
| 91-20-3 | Naphthalene | 3.1 | 3.6 | 3.1 | 1.3 | **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 E
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 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