SUMMARY REPORT 265 IRIS LANE (FORMERLY 1122 IRIS LANE) LAUREL BAY MILITARY HOUSING AREA MARINE CORPS AIR STATION BEAUFORT BEAUFORT, SC

> Revision: 0 Prepared for:

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

and



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

JUNE 2021

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Prepared by:



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

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



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| | Laboratory | ranaryticar | Results Soll |

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- Appendix B UST Assesment Report
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List of Acronyms

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



1.0 INTRODUCTION

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

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

This report summarizes the results the environmental investigation activities associated with the storage of home heating oil and the potential release of petroleum constituents at the referenced property. Based on the results of the investigation, a No Further Action (NFA) determination has been made by the South Carolina Department of Health and Environmental Control (SCDHEC) for 265 Iris Lane (Formerly 1122 Iris Lane). This NFA determination indicates that there are no unacceptable risks to human health or the environment for the petroleum constituents associated with the home heating oil USTs. The following information is included in this report:

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

The LBMH area is located approximately 3.5 miles west of MCAS Beaufort. The area is approximately 970 acres in size and serves as an enlisted and officer family housing area. The area is configured with single family and duplex residential structures, and includes recreation, open space, and community facilities. The community includes approximately 1,300 housing units, including legacy Capehart style homes and newer duplex style homes. The housing area is bordered on the west by salt marshes and the Broad River, and to the north, east and south by uplands. Forested areas lie along the northern and northeastern borders.



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

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

1.2 UST Removal and Assessment Process

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

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

Soil sample results were submitted by MCAS Beaufort to SCDHEC utilizing SCDHEC's UST Assessment Report form. In accordance with SCDHEC's *QAPP for the UST Management Division* (SCDHEC, 2016), the soil screening levels consists of SCDHEC risk-based screening levels (RBSLs). It should be noted that the RBSLs for select PAHs were revised in Revision 2.0 of the QAPP (SCDHEC, 2013) and were revised again in Revision 3.0 (SCDHEC, 2015). The screening levels



used for evaluation at each site were those levels that were in effect at the time of reporting and review by SCDHEC.

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

2.0 SAMPLING ACTIVITIES AND RESULTS

The following section presents the sampling activities and associated results for 265 Iris Lane (Formerly 1122 Iris Lane). Details regarding the soil investigation at this site are provided in the *SCDHEC UST Assessment Report – 1122 Iris Lane* (MCAS Beaufort, 2013). The UST Assessment Report is provided in Appendix B.

2.1 UST Removal and Soil Sampling

On June 26, 2012, a single 280 gallon heating oil UST was removed from the rear patio area at 265 Iris Lane (Formerly 1122 Iris 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 5'7" 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 265 Iris Lane (Formerly 1122 Iris Lane) were less than the SCDHEC RBSLs, which indicated the subsurface was not impacted by COPCs associated with the former UST at concentrations that presented a potential risk to human health and the environment.

3.0 PROPERTY STATUS

Based on the analytical results for soil, SCDHEC made the determination that NFA was required for 265 Iris Lane (Formerly 1122 Iris Lane). This NFA determination was obtained in a letter dated May 15, 2014. SCDHEC's NFA letter is provided in Appendix C.

4.0 REFERENCES

- Marine Corps Air Station Beaufort, 2013. *South Carolina Department of Health and Environmental Control (SCDHEC) Underground Storage Tank Assessment Report – 1122 Iris Lane, Laurel Bay Military Housing Area*, February 2013.
- South Carolina Department of Health and Environmental Control Bureau of Land and Waste Management, 2013. *Quality Assurance Program Plan for the Underground Storage Tank Management* Division, *Revision 2.0*, April 2013.
- South Carolina Department of Health and Environmental Control Bureau of Land and Waste Management, 2015. *Quality Assurance Program Plan for the Underground Storage Tank Management* Division, *Revision 3.0*, May 2015.



- South Carolina Department of Health and Environmental Control Bureau of Land and Waste Management, 2016. *Quality Assurance Program Plan for the Underground Storage Tank Management* Division, *Revision 3.1*, February 2016.
- South Carolina Department of Health and Environmental Control Bureau of Land and Waste Management, 2017. *R.61-92, Part 280, Underground Storage Tank Control Regulations*, March 2017.
- South Carolina Department of Health and Environmental Control Bureau of Land and Waste Management, 2018. Underground Storage Tank Assessment Instructions for Permanent Closure and Change-In-Service, March 2018.

Table



Table 1Laboratory Analytical Results - Soil265 Iris Lane (Formerly 1122 Iris Lane)Laurel Bay Military Housing AreaMarine Corps Air Station BeaufortBeaufort, South Carolina

| Constituent | SCDHEC RBSLs ⁽¹⁾ | Results Sample Collected 06/26/12 | | | | |
|---|-----------------------------|--------------------------------------|--|--|--|--|
| Volatile Organic Compounds Analyzed | by EPA Method 8260B (mg/kg) | | | | | |
| Benzene | 0.003 | ND | | | | |
| Ethylbenzene | 1.15 | ND | | | | |
| Naphthalene | 0.036 | ND | | | | |
| Toluene | 0.627 | ND | | | | |
| Xylenes, Total | 13.01 | ND | | | | |
| Semivolatile Organic Compounds Analyzed by EPA Method 8270D (mg/kg) | | | | | | |
| Benzo(a)anthracene | 0.66 | ND | | | | |
| Benzo(b)fluoranthene | 0.66 | ND | | | | |
| Benzo(k)fluoranthene | 0.66 | ND | | | | |
| Chrysene | 0.66 | ND | | | | |
| Dibenz(a,h)anthracene | 0.66 | ND | | | | |

Notes:

⁽¹⁾ South Carolina Risk-Based Screening Levels from the Quality Assurance Program Plan for the Underground Storage Tank Management Division, Revision 2.0 (SCDHEC, April 2013).

Bold font indicates the analyte was detected.

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

EPA - United States Environmental Protection Agency

mg/kg - milligram per kilogram

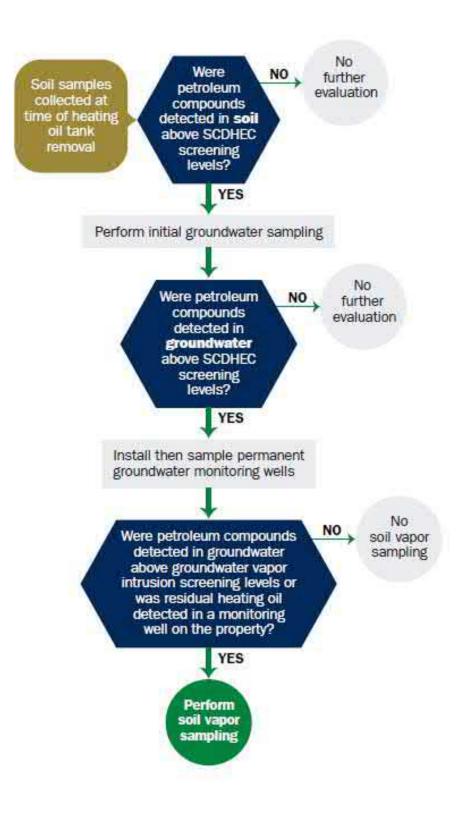
ND - not detected at the reporting limit (or method detection limit if shown on the laboratory report). The laboratory report is provided in Appendix B.

RBSL - Risk-Based Screening Level

SCDHEC - South Carolina Department Of Health and Environmental Control

Appendix A Multi-Media Selection Process for LBMH





Appendix A - Multi-Media Selection Process for LBMH

Appendix B UST Assessment Report



Attachment 1

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

| Date Received | a da a | | | • |
|---------------|---------|----------|----------------------|---------|
| | | | | |
| | State 1 | Use Only | | |
| · | State | Use Only | 2019 2019 2019 | alesta. |

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

I. OWNERSHIP OF UST (S)

| | nding Officer Attn: NR | EAO (Craig Ehde) | | | | | |
|--|------------------------|------------------|----------|--|--|--|--|
| Owner Name (Corporation, Individual, Public Agency, Other) | | | | | | | |
| P.O. Box 55001 | | | | | | | |
| Mailing Address | | | | | | | |
| Beaufort, | South Carolina | 29904-5001 | | | | | |
| City | State | Zip Code | <u> </u> | | | | |
| 843 | 228-7317 | Craig E | | | | | |
| Area Code | Telephone Number | Contact Pers | on | | | | |
| | | | | | | | |

II. SITE IDENTIFICATION AND LOCATION

| Permit I.D. # Laurel Bay Mili Facility Name or Compa | ary Housing Area, Marine Corps Air Station, Beaufor ny Site Identifier | t, SC |
|--|---|-------|
| 1122 Iris Lane, Street Address or State I | Laurel Bay Military Housing Area oad(asapplicable) | |
| 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

| | | 1122Iris |
|----------------|---------------------------------------|-------------|
| A. | Product(ex. Gas, Kerosene) | Heating oil |
| B. | Capacity(ex. 1k, 2k) | 280 gal |
| C. | Age | Late 1950s |
| D. | Construction Material(ex. Steel, FRP) | Steel |
| Е· | Month/Year of Last Use | Mid 1980s |
| F. | Depth (ft.) To Base of Tank | 5'7" |
| G. | Spill Prevention Equipment Y/N | No |
| H∙ | Overfill Prevention Equipment Y/N | No |
| I. | Method of Closure Removed/Filled | Removed |
| J _. | Date Tanks Removed/Filled | 6/26/2012 |
| K. | Visible Corrosion or Pitting Y/N | Yes |
| L. | Visible Holes Y/N | Yes |
| N | | |

M. Method of disposal for any USTs removed from the ground (attach disposal manifests) <u>UST 1122Iris was removed from the ground and disposed at a</u> 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 1122Iris had been 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

| | | 1122Iris |
|----|---|---|
| | | Steel |
| A. | Construction Material(ex. Steel, FRP) | & Copper |
| B. | Distance from UST to Dispenser | N/A |
| C. | Number of Dispensers | N/A |
| D. | Type of System Pressure or Suction | Suction |
| E. | Was Piping Removed from the Ground? Y/N | No |
| F. | Visible Corrosion or Pitting Y/N | Yes |
| G. | Visible Holes Y/N | No |
| H. | Age | Late 1950s |
| т | If any corrosion nitting or holes were observed d | escribe the location and extent for each piping run |

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

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

VIII. BRIEF SITE DESCRIPTION AND HISTORY

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

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

IX. SITE CONDITIONS

X. SAMPLE INFORMATION

A. SCDHEC Lab Certification Number 84009

В.

| Sample # | Location | Sample Type (Soil/Water) | Soil Type (Sand/Clay) | Depth* | Date/Time of Collection | Collected by | OVA # |
|----------|----------------------|-----------------------------|--------------------------|--------|----------------------------|--------------|-------|
| 1122Iris | Excav at fill end | Soil | Sandy | 5'7" | 6/26/12 1515 hrs | P. Shaw | |
| | | | <u></u> | | | | |
| | | | | | | | |
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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 <u>and</u> 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.

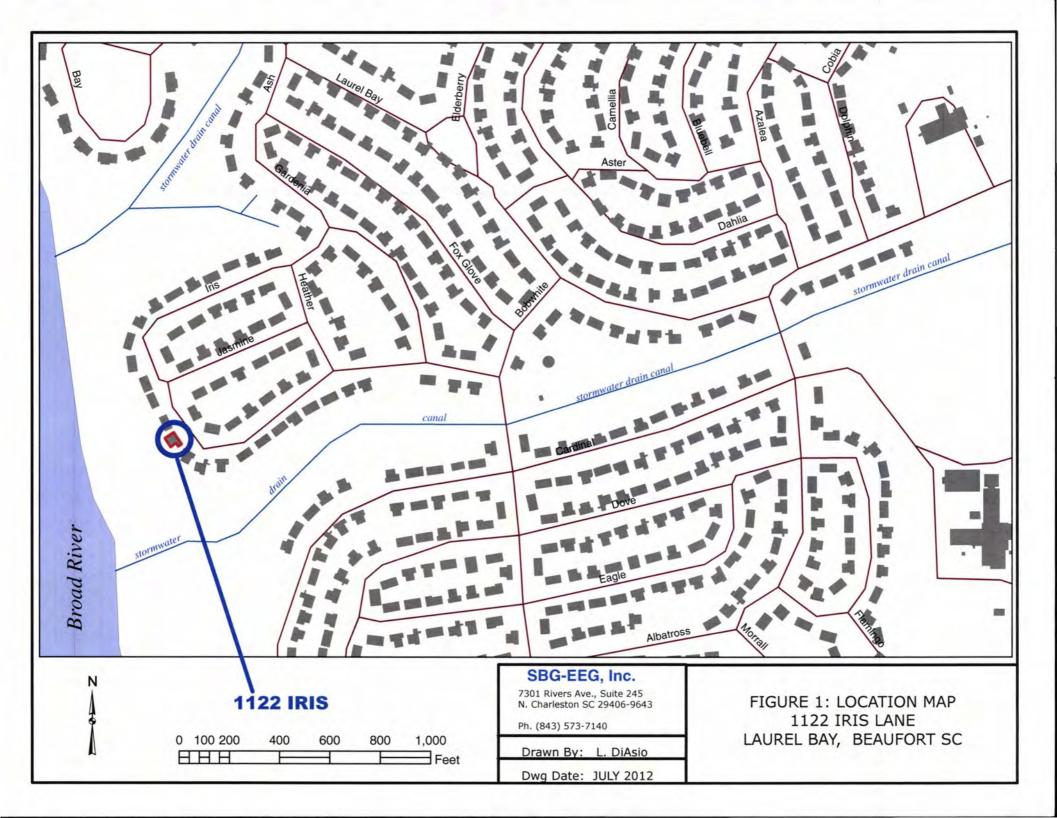
XII. RECEPTORS

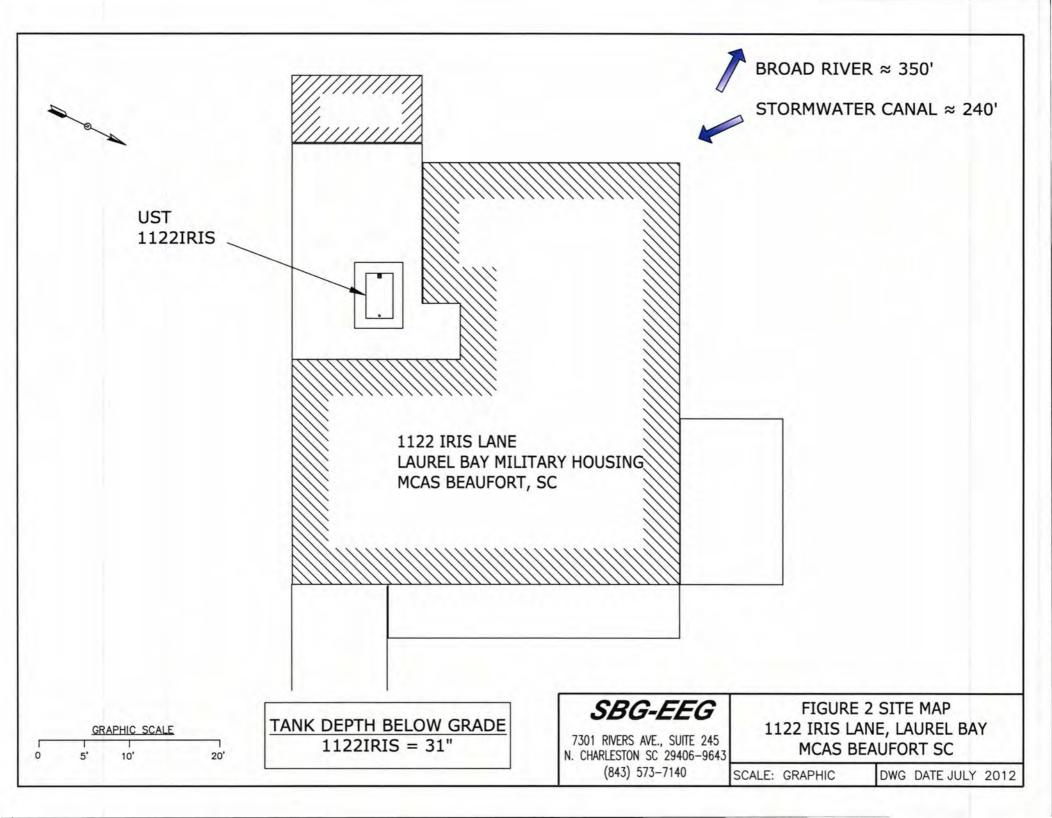
| | | Yes | No |
|----|--|------|-------|
| A. | Are there any lakes, ponds, streams, or wetlands located within | *X | |
| | 1000 feet of the UST system? *River & stormwater drain | nage | canal |
| | If yes, indicate type of receptor, distance, and direction on site map. | | |
| B. | Are there any public, private, or irrigation water supply wells within 1000 feet of the UST system? | | Х |
| | If yes, indicate type of well, distance, and direction on site map. | | |
| C. | Are there any underground structures (e.g., basements) Located within 100 feet of the UST system? | | Х |
| | If yes, indicate type of structure, distance, and direction on site map. | | |
| 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 | *X | |
| | contamination? *Sewer, water, electric | ity | |
| | cable & fiber optic If yes, indicate the type of utility, distance, and direction on the site map. | | |
| 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? | | Х |
| | If yes, indicate the area of contaminated soil on the site map. | | |

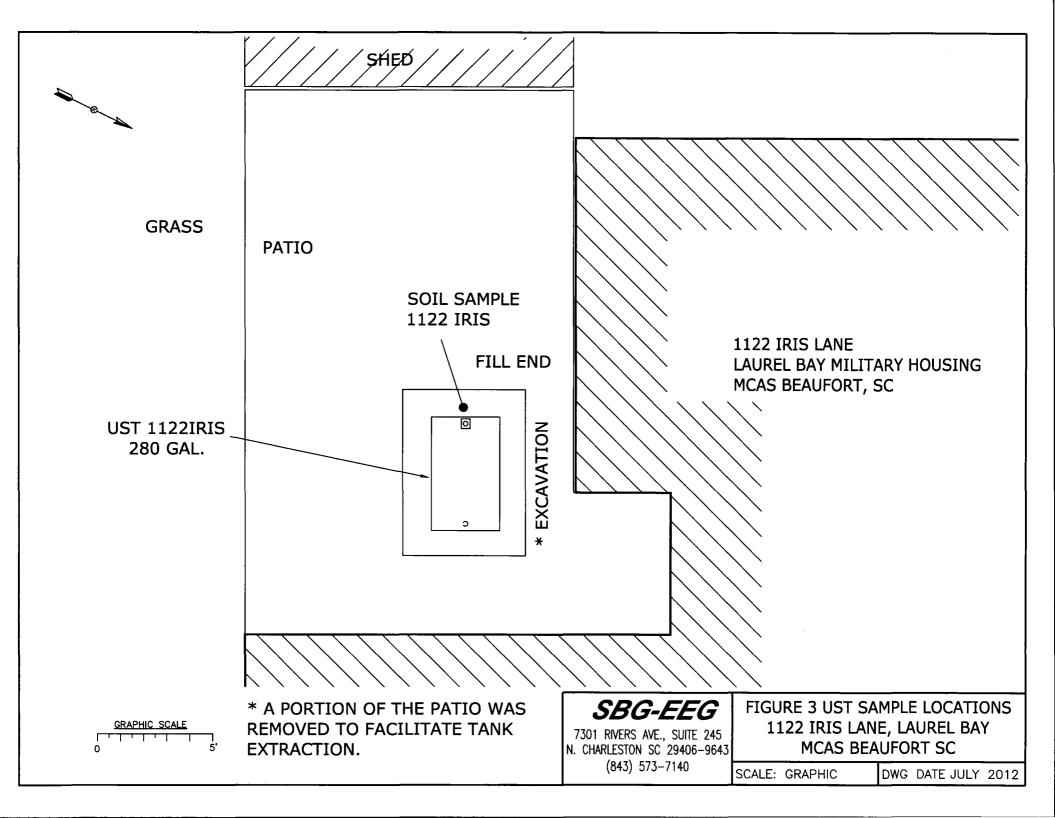
XIII. SITE MAP

You must supply a <u>scaled</u> 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)









Picture 1: Location of UST 1122Iris.



Picture 2: Excavation of UST 1122Iris.

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 | 1122Tmi a | T | |
|--------------------------|-----------|----------|------|
| CoC UST | 1122Iris | ↓ | |
| Benzene | ND | | |
| Toluene | ND | | |
| Ethylbenzene | ND | | |
| Xylenes | ND | | |
| Naphthalene | ND | | |
| Benzo (a) anthracene | ND | | |
| Benzo (b) fluoranthene | ND | | |
| Benzo (k) fluoranthene | ND | | |
| Chrysene | ND | | |
| Dibenz (a, h) anthracene | ND | | |
| TPH (EPA 3550) | | | |
| | | · | |
| CoC | | | |
| Benzene | | | |
| Toluene | | | |
| Ethylbenzene | | | |
| Xylenes | | | |
| Naphthalene | | | |
| Benzo (a) anthracene | | | |
| Benzo (b) fluoranthene | | | |
| Benzo (k) fluoranthene | | | |
| Chrysene | | | |
| Dibenz (a, h) anthracene | | | |
| ТРН (ЕРА 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 | W-1 | W-2 | W -3 | W -4 |
|-----------------------------|------------------|-----|-----|------|------|
| Free Product Thickness | (µg/l) None | | | | |
| Benzene | 5 | | | | |
| Toluene | 1,000 | | | | |
| Ethylbenzene | 700 | | | | |
| Xylenes | 10,000 | | | | |
| Total BTEX | N/A | | | | |
| МТВЕ | 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)



THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Pensacola 3355 McLemore Drive Pensacola, FL 32514 Tel: (850)474-1001

TestAmerica Job ID: 400-66746-1

Client Project/Site: Laurel Bay Housing Project

For:

LINKS

Review your project results through

Total Access

Have a Question?

www.testamericainc.com

Visit us at:

Ask-

he

Expert

Environmental Enterprise Group 10179 Highway 78 Ladson, South Carolina 29456

Attn: Mr. Tom McElwee

hyperdewithin

Authorized for release by: 7/11/2012 12:18:51 PM

Cheyenne Whitmire Project Manager II cheyenne.whitmire@testamericainc.com

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

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

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

ľ

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| | |

1

Job ID: 400-66746-1

Laboratory: TestAmerica Pensacola

Narrative

Job Narrative 400-66746-1

GC/MS VOA

Method(s) 8260B: The following sample was diluted due to the abundance of non-target analytes: 1451 DOVE (400-66746-3). Elevated reporting limits (RLs) are provided.

GC/MS Semi VOA

Method(s) 8270D: Surrogate recovery for the following sample was outside control limits: 1451 DOVE (400-66746-3). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method(s) 8270D: The following sample was diluted to bring target analyte concentration(s) within the calibration range: 1451 DOVE (400-66746-3).

Method Summary

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

| Method | Method Description | Protocol | Laboratory | |
|----------|--|----------|------------|--|
| 8260B | Volatile Organic Compounds (GC/MS) | SW846 | TAL PEN | |
| 3270D | Semivolatile Organic Compounds (GC/MS) | SW846 | TAL PEN | |
| Moisture | Percent Moisture | EPA | TAL PEN | |

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 PEN = TestAmerica Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001

Sample Summary

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

| Lab Sample ID | Client Sample ID | Matrix | Collected | Received |
|---------------|------------------|--------|----------------|----------------|
| 400-66746-1 | 1136 IRIS | Solid | 06/25/12 14:45 | 06/30/12 09:30 |
| 400-66746-2 | 1122 IRIS | Solid | 06/26/12 15:15 | 06/30/12 09:30 |
| 400-66746-3 | 1451 DOVE | Solid | 06/27/12 14:30 | 06/30/12 09:30 |

-

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

Lab Sample ID: 400-66746-1 Matrix: Solid Percent Solids: 79.5

i.

1

Date Collected: 06/25/12 14:45 Date Received: 06/30/12 09:30

Client Sample ID: 1136 IRIS

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|----------------------|-----------|-----------|----------|---------|-------|----|----------------|----------------|---------|
| Benzene | ND | | 0.0055 | 0.00054 | mg/Kg | ¢ | 07/02/12 14:30 | 07/05/12 13:05 | 1 |
| Ethylbenzene | ND | | 0.0055 | 0.00068 | mg/Kg | \$ | 07/02/12 14:30 | 07/05/12 13:05 | 1 |
| Toluene | ND | | 0.0055 | 0.00078 | mg/Kg | \$ | 07/02/12 14:30 | 07/05/12 13:05 | 1 |
| Xylenes, Total | ND | | 0.011 | 0.0021 | mg/Kg | \$ | 07/02/12 14:30 | 07/05/12 13:05 | 1 |
| Naphthalene | ND | | 0.0055 | 0.0011 | mg/Kg | \$ | 07/02/12 14:30 | 07/05/12 13:05 | 1 |
| Surrogate | %Recovery | Qualifier | Limits | | | | Prepared | Analyzed | Dil Fac |
| 4-Bromofluorobenzene | 99 | | 72 - 122 | | | | 07/02/12 14:30 | 07/05/12 13:05 | 1 |
| Dibromofluoromethane | 105 | | 79 - 118 | | | | 07/02/12 14:30 | 07/05/12 13:05 | 1 |
| Toluene-d8 (Surr) | 100 | | 80 - 120 | | | | 07/02/12 14:30 | 07/05/12 13:05 | 1 |

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

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|------------------------|-----------|-----------|----------|-------|-------|-----------|----------------|----------------|---------|
| Acenaphthene | ND | | 0.41 | 0.041 | mg/Kg | <i>\$</i> | 07/03/12 08:39 | 07/06/12 21:54 | 1 |
| Acenaphthylene | ND | | 0.41 | 0.041 | mg/Kg | ø | 07/03/12 08:39 | 07/06/12 21:54 | 1 |
| Anthracene | ND | | 0.41 | 0.041 | mg/Kg | \$ | 07/03/12 08:39 | 07/06/12 21:54 | 1 |
| Benzo[a]anthracene | ND | | 0.41 | 0.041 | mg/Kg | \$ | 07/03/12 08:39 | 07/06/12 21:54 | 1 |
| Benzo[a]pyrene | ND | | 0.41 | 0.041 | mg/Kg | \$ | 07/03/12 08:39 | 07/06/12 21:54 | 1 |
| Benzo[b]fluoranthene | 0.051 | J | 0.41 | 0.041 | mg/Kg | \$ | 07/03/12 08:39 | 07/06/12 21:54 | 1 |
| Benzo[g,h,i]perylene | ND | | 0.41 | 0.041 | mg/Kg | \$ | 07/03/12 08:39 | 07/06/12 21:54 | 1 |
| Benzo[k]fluoranthene | ND | | 0.41 | 0.041 | mg/Kg | - | 07/03/12 08:39 | 07/06/12 21:54 | 1 |
| Chrysene | 0.11 | J | 0.41 | 0.041 | mg/Kg | Ø | 07/03/12 08:39 | 07/06/12 21:54 | 1 |
| Dibenz(a,h)anthracene | ND | | 0.41 | 0.041 | mg/Kg | 0 | 07/03/12 08:39 | 07/06/12 21:54 | 1 |
| Fluoranthene | 0.10 | J | 0.41 | 0.041 | mg/Kg | <i>\$</i> | 07/03/12 08:39 | 07/06/12 21:54 | 1 |
| Fluorene | 0.043 | J | 0.41 | 0.041 | mg/Kg | ø | 07/03/12 08:39 | 07/06/12 21:54 | 1 |
| Indeno[1,2,3-cd]pyrene | ND | | 0.41 | 0.041 | mg/Kg | ¢ | 07/03/12 08:39 | 07/06/12 21:54 | 1 |
| Naphthalene | ND | | 0.41 | 0.041 | mg/Kg | ¢ | 07/03/12 08:39 | 07/06/12 21:54 | 1 |
| Phenanthrene | ND | | 0.41 | 0.041 | mg/Kg | \$ | 07/03/12 08:39 | 07/06/12 21:54 | 1 |
| Pyrene | 0.086 | J | 0.41 | 0.041 | mg/Kg | 蓯 | 07/03/12 08:39 | 07/06/12 21:54 | 1 |
| 1-Methylnaphthalene | ND | | 0.41 | 0.041 | mg/Kg | \$ | 07/03/12 08:39 | 07/06/12 21:54 | 1 |
| 2-Methylnaphthalene | ND | | 0.41 | 0.041 | mg/Kg | \$ | 07/03/12 08:39 | 07/06/12 21:54 | 1 |
| Surrogate | %Recovery | Qualifier | Limits | | | | Prepared | Analyzed | Dil Fac |
| 2-Fluorobiphenyl | 57 | | 44 - 108 | | | | 07/03/12 08:39 | 07/06/12 21:54 | 1 |
| Nitrobenzene-d5 (Surr) | 50 | | 27 - 114 | | | | 07/03/12 08:39 | 07/06/12 21:54 | 1 |
| Terphenyl-d14 (Surr) | 74 | | 36 - 134 | | | | 07/03/12 08:39 | 07/06/12 21:54 | 1 |

Client Sample ID: 1122 IRIS

Date Collected: 06/26/12 15:15 Date Received: 06/30/12 09:30

Lab Sample ID: 400-66746-2 Matrix: Solid

Percent Solids: 79.2

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|----------------------|-----------|-----------|----------|---------|-------|----|----------------|----------------|---------|
| Benzene | ND | | 0.0050 | 0.00049 | mg/Kg | ¢ | 07/02/12 14:30 | 07/05/12 13:27 | 1 |
| Ethylbenzene | ND | | 0.0050 | 0.00061 | mg/Kg | \$ | 07/02/12 14:30 | 07/05/12 13:27 | 1 |
| Toluene | ND | | 0.0050 | 0.00070 | mg/Kg | ø | 07/02/12 14:30 | 07/05/12 13:27 | 1 |
| Xylenes, Total | ND | | 0.010 | 0.0019 | mg/Kg | \$ | 07/02/12 14:30 | 07/05/12 13:27 | 1 |
| Naphthalene | ND | | 0.0050 | 0.0010 | mg/Kg | \$ | 07/02/12 14:30 | 07/05/12 13:27 | 1 |
| Surrogate | %Recovery | Qualifier | Limits | | | | Prepared | Analyzed | Dil Fac |
| 4-Bromofluorobenzene | 100 | | 72 - 122 | | | | 07/02/12 14:30 | 07/05/12 13:27 | 1 |
| Dibromofluoromethane | 110 | | 79 - 118 | | | | 07/02/12 14:30 | 07/05/12 13:27 | 1 |
| Toluene-d8 (Surr) | 100 | | 80 - 120 | | | | 07/02/12 14:30 | 07/05/12 13:27 | 1 |

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

| Analyte Resu | t Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---------------------------|-------------|----------|-------|-------|-----|----------------|----------------|---------|
| Acenaphthene NI | 0 | 0.42 | 0.042 | mg/Kg | ¢ | 07/03/12 08:39 | 07/06/12 22:28 | 1 |
| Acenaphthylene NI | 0 | 0.42 | 0.042 | mg/Kg | ¢ | 07/03/12 08:39 | 07/06/12 22:28 | 1 |
| Anthracene NI | 0 | 0.42 | 0.042 | mg/Kg | ¢ | 07/03/12 08:39 | 07/06/12 22:28 | 1 |
| Benzo[a]anthracene NI | 0 | 0.42 | 0.042 | mg/Kg | \$ | 07/03/12 08:39 | 07/06/12 22:28 | 1 |
| Benzo[a]pyrene NI | 0 | 0.42 | 0.042 | mg/Kg | 12 | 07/03/12 08:39 | 07/06/12 22:28 | 1 |
| Benzo[b]fluoranthene NI | 0 | 0.42 | 0.042 | mg/Kg | \$ | 07/03/12 08:39 | 07/06/12 22:28 | 1 |
| Benzo[g,h,i]perylene NI | 0 | 0.42 | 0.042 | mg/Kg | \$ | 07/03/12 08:39 | 07/06/12 22:28 | 1 |
| Benzo[k]fluoranthene NI | D . | 0.42 | 0.042 | mg/Kg | \$ | 07/03/12 08:39 | 07/06/12 22:28 | 1 |
| Chrysene NI | 0 | 0.42 | 0.042 | mg/Kg | ø | 07/03/12 08:39 | 07/06/12 22:28 | 1 |
| Dibenz(a,h)anthracene NI | 0 | 0.42 | 0.042 | mg/Kg | 0 | 07/03/12 08:39 | 07/06/12 22:28 | 1 |
| Fluoranthene NI | 0 | 0.42 | 0.042 | mg/Kg | \$ | 07/03/12 08:39 | 07/06/12 22:28 | 1 |
| Fluorene 0.04 | 5 J | 0.42 | 0.042 | mg/Kg | Ø | 07/03/12 08:39 | 07/06/12 22:28 | 1 |
| Indeno[1,2,3-cd]pyrene NI | 0 | 0.42 | 0.042 | mg/Kg | ø | 07/03/12 08:39 | 07/06/12 22:28 | 1 |
| Naphthalene NI | 0 | 0.42 | 0.042 | mg/Kg | ø | 07/03/12 08:39 | 07/06/12 22:28 | 1 |
| Phenanthrene NI | 0 | 0.42 | 0.042 | mg/Kg | ø | 07/03/12 08:39 | 07/06/12 22:28 | 1 |
| Pyrene NI | D | 0.42 | 0.042 | mg/Kg | ¢ | 07/03/12 08:39 | 07/06/12 22:28 | 1 |
| 1-Methylnaphthalene NI | D | 0.42 | 0.042 | mg/Kg | \$ | 07/03/12 08:39 | 07/06/12 22:28 | 1 |
| 2-Methylnaphthalene NI | 0 | 0,42 | 0.042 | mg/Kg | \$2 | 07/03/12 08:39 | 07/06/12 22:28 | 1 |
| Surrogate %Recover | Qualifier | Limits | | | | Prepared | Analyzed | Dil Fac |
| 2-Fluorobiphenyl 8 | 5 | 44 - 108 | | | | 07/03/12 08:39 | 07/06/12 22:28 | 1 |
| Nitrobenzene-d5 (Surr) 7 | 9 | 27 - 114 | | | | 07/03/12 08:39 | 07/06/12 22:28 | 1 |
| Terphenyl-d14 (Surr) 9. | 3 | 36 - 134 | | | | 07/03/12 08:39 | 07/06/12 22:28 | 1 |

Client Sample ID: 1451 DOVE

Date Collected: 06/27/12 14:30 Date Received: 06/30/12 09:30

Lab Sample ID: 400-66746-3 Matrix: Solid

Percent Solids: 77.8

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| Method: 8260B - Volatile Or | ganic Compounds | (GC/MS) | | | | | | | |
|-----------------------------|-----------------|-----------|----------|-------|-------|----|----------------|----------------|---------|
| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
| Benzene | ND | | 0.25 | 0.025 | mg/Kg | \$ | 07/02/12 14:30 | 07/05/12 14:55 | 50 |
| Ethylbenzene | ND | | 0.25 | 0.031 | mg/Kg | \$ | 07/02/12 14:30 | 07/05/12 14:55 | 50 |
| Toluene | ND | | 0.25 | 0.035 | mg/Kg | \$ | 07/02/12 14:30 | 07/05/12 14:55 | 50 |
| Xylenes, Total | ND | | 0.51 | 0.096 | mg/Kg | 0 | 07/02/12 14:30 | 07/05/12 14:55 | 50 |
| Naphthalene | 0.23 | J | 0.25 | 0.051 | mg/Kg | \$ | 07/02/12 14:30 | 07/05/12 14:55 | 50 |
| Surrogate | %Recovery | Qualifier | Limits | | | | Prepared | Analyzed | Dil Fac |
| 4-Bromofluorobenzene | 100 | | 72 - 122 | | | | 07/02/12 14:30 | 07/05/12 14:55 | 50 |
| Dibromofluoromethane | 96 | | 79 - 118 | | | | 07/02/12 14:30 | 07/05/12 14:55 | 50 |
| Toluene-d8 (Surr) | 104 | | 80 - 120 | | | | 07/02/12 14:30 | 07/05/12 14:55 | 50 |

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

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|------------------------|-----------|-----------|----------|-------|-------|----|----------------|----------------|---------|
| Acenaphthene | ND | | 0.42 | 0.042 | mg/Kg | ¢ | 07/03/12 08:39 | 07/06/12 23:02 | 1 |
| Acenaphthylene | ND | | 0.42 | 0.042 | mg/Kg | ø | 07/03/12 08:39 | 07/06/12 23:02 | 1 |
| Anthracene | 0.38 | J | 0.42 | 0.042 | mg/Kg | ¢ | 07/03/12 08:39 | 07/06/12 23:02 | 1 |
| Benzo[a]anthracene | 1.4 | | 0.42 | 0.042 | mg/Kg | \$ | 07/03/12 08:39 | 07/06/12 23:02 | 1 |
| Benzo[a]pyrene | 0.22 | J | 0.42 | 0.042 | mg/Kg | \$ | 07/03/12 08:39 | 07/06/12 23:02 | 1 |
| Benzo[b]fluoranthene | 0.91 | | 0.42 | 0.042 | mg/Kg | \$ | 07/03/12 08:39 | 07/06/12 23:02 | 1 |
| Benzo[g,h,i]perylene | 0.17 | J | 0.42 | 0.042 | mg/Kg | \$ | 07/03/12 08:39 | 07/06/12 23:02 | 1 |
| Benzo[k]fluoranthene | 0.34 | J | 0.42 | 0.042 | mg/Kg | 0 | 07/03/12 08:39 | 07/06/12 23:02 | 1 |
| Chrysene | 1.1 | | 0.42 | 0.042 | mg/Kg | \$ | 07/03/12 08:39 | 07/06/12 23:02 | 1 |
| Dibenz(a,h)anthracene | ND | | 0.42 | 0.042 | mg/Kg | \$ | 07/03/12 08:39 | 07/06/12 23:02 | 1 |
| Fluoranthene | 3.4 | | 0.42 | 0.042 | mg/Kg | \$ | 07/03/12 08:39 | 07/06/12 23:02 | 1 |
| Fluorene | ND | | 0.42 | 0.042 | mg/Kg | \$ | 07/03/12 08:39 | 07/06/12 23:02 | 1 |
| Indeno[1,2,3-cd]pyrene | 0.20 | J | 0.42 | 0.042 | mg/Kg | \$ | 07/03/12 08:39 | 07/06/12 23:02 | 1 |
| Naphthalene | 0.14 | J | 0.42 | 0.042 | mg/Kg | \$ | 07/03/12 08:39 | 07/06/12 23:02 | 1 |
| Phenanthrene | ND | | 0.42 | 0.042 | mg/Kg | \$ | 07/03/12 08:39 | 07/06/12 23:02 | 1 |
| Pyrene | 1.8 | | 0.42 | 0.042 | mg/Kg | \$ | 07/03/12 08:39 | 07/06/12 23:02 | 1 |
| 1-Methylnaphthalene | 13 | | 2.1 | 0.21 | mg/Kg | \$ | 07/03/12 08:39 | 07/09/12 23:14 | 5 |
| 2-Methylnaphthalene | 17 | | 2.1 | 0.21 | mg/Kg | ¢ | 07/03/12 08:39 | 07/09/12 23:14 | 5 |
| Surrogate | %Recovery | Qualifier | Limits | | | | Prepared | Analyzed | Dil Fac |
| 2-Fluorobiphenyl | 94 | | 44 - 108 | | | | 07/03/12 08:39 | 07/06/12 23:02 | 1 |
| Nitrobenzene-d5 (Surr) | 131 | x | 27 - 114 | | | | 07/03/12 08:39 | 07/06/12 23:02 | 1 |
| Terphenyl-d14 (Surr) | 71 | | 36 - 134 | | | | 07/03/12 08:39 | 07/06/12 23:02 | 1 |

Definitions/Glossary

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

ALL THE MARKEN

Qualifiers

| GC | MS | VOA |
|----|----|-----|
| | | |

| GC/MS VOA | A | |
|-----------|--|--|
| 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. | |
| GC/MS Sem | ni 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 | |
| | | |

Glossary

| Abbreviation | These commonly used abbreviations may or may not be present in this report. | |
|----------------|--|--|
| ₽ | Listed under the "D" column to designate that the result is reported on a dry weight basis | |
| %R | Percent Recovery | |
| CNF | Contains no Free Liquid | |
| DL, RA, RE, IN | Indicates a Dilution, Reanalysis, Re-extraction, or additional Initial metals/anion analysis of the sample | |
| EDL | Estimated Detection Limit | |
| EPA | United States Environmental Protection Agency | |
| MDL | Method Detection Limit | |
| ML | Minimum Level (Dioxin) | |
| ND | Not detected at the reporting limit (or MDL or EDL if shown) | |
| PQL | Practical Quantitation Limit | |
| QC | Quality Control | |
| RL | Reporting Limit | |
| RPD | Relative Percent Difference, a measure of the relative difference between two points | |
| TEF | Toxicity Equivalent Factor (Dioxin) | |
| TEQ | Toxicity Equivalent Quotient (Dioxin) | |

Lab Sample ID: 400-66746-2

Lab Sample ID: 400-66746-3

Matrix: Solid

Matrix: Solid

Percent Solids: 77.8

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| Client Samp | le ID: 1136 | IRIS | | | | L | ab Sample | ID: 400-66746-1 |
|--------------------|-----------------|----------|-----|----------|--------|----------------|-----------|---------------------|
| Date Collected | : 06/25/12 14:4 | 45 | | | | | | Matrix: Solid |
| Date Received | : 06/30/12 09:3 | 30 | | | | | P | ercent Solids: 79.5 |
| | Batch | Batch | | Dilution | Batch | Prepared | | |
| Prep Type | Туре | Method | Run | Factor | Number | or Analyzed | Analyst | Lab |
| Total/NA | Prep | 5035 | | | 157922 | 07/02/12 14:30 | JL | TAL PEN |
| Total/NA | Analysis | 8260B | | 1 | 157925 | 07/05/12 13:05 | JL | TAL PEN |
| Total/NA | Prep | 3550C | | | 157861 | 07/03/12 08:39 | RT | TAL PEN |
| Total/NA | Analysis | 8270D | | 1 | 158045 | 07/06/12 21:54 | DW | TAL PEN |
| Total/NA | Analysis | Moisture | | 1 | 157804 | 06/30/12 12:00 | LEC | TAL PEN |
| | | | | | | | | |

Client Sample ID: 1122 IRIS

Date Collected: 06/26/12 15:15 Date Received: 06/30/12 09:30

| Date Received | : 06/30/12 09:3 | 30 | | | | | P | ercent Solids: 79.2 |
|---------------|-----------------|----------|-----|----------|--------|----------------|---------|---------------------|
| | Batch | Batch | | Dilution | Batch | Prepared | | |
| Prep Type | Туре | Method | Run | Factor | Number | or Analyzed | Analyst | Lab |
| Total/NA | Prep | 5035 | | | 157922 | 07/02/12 14:30 | JL | TAL PEN |
| Total/NA | Analysis | 8260B | | 1 | 157925 | 07/05/12 13:27 | JL | TAL PEN |
| Total/NA | Prep | 3550C | | | 157861 | 07/03/12 08:39 | RT | TAL PEN |
| Total/NA | Analysis | 8270D | | 1 | 158045 | 07/06/12 22:28 | DW | TAL PEN |
| Total/NA | Analysis | Moisture | | 1 | 157804 | 06/30/12 12:00 | LEC | TAL PEN |

Client Sample ID: 1451 DOVE

Date Collected: 06/27/12 14:30 Date Received: 06/30/12 09:30

| Prep Type Total/NA Total/NA Total/NA | Type Prep Analysis | Method 5035 8260B | Run | Factor | Number 157922 | or Analyzed 07/02/12 14:30 | Analyst JL | Lab TAL PEN |
|---|---------------------------------|-------------------------|-----|--------|------------------|----------------------------|---------------|----------------|
| Total/NA Total/NA | | | | | 157922 | 07/02/12 14:30 | .11 | TAL PEN |
| Total/NA | Analysis | 8260B | | | | | 0L | TAL FEN |
| | | | | 50 | 157925 | 07/05/12 14:55 | JL | TAL PEN |
| | Prep | 3550C | | | 157861 | 07/03/12 08:39 | RT | TAL PEN |
| Total/NA | Analysis | 8270D | | 1 | 158045 | 07/06/12 23:02 | DW | TAL PEN |
| Total/NA | Analysis | 8270D | | 5 | 158184 | 07/09/12 23:14 | JP | TAL PEN |
| Total/NA | Analysis | Moisture | | 1 | 157804 | 06/30/12 12:00 | LEC | TAL PEN |

Laboratory References:

TAL PEN = TestAmerica Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001

QC Association Summary

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

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GC/MS VOA

Prep Batch: 157922

| Prep Batch: 157922 | | | | | |
|------------------------|------------------------|-----------|--------|--------|------------|
| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
| 400-66746-1 | 1136 IRIS | Total/NA | Solid | 5035 | |
| 400-66746-2 | 1122 IRIS | Total/NA | Solid | 5035 | |
| 400-66746-3 | 1451 DOVE | Total/NA | Solid | 5035 | |
| LCS 400-157922/2-A | Lab Control Sample | Total/NA | Solid | 5035 | |
| LCSD 400-157922/3-A | Lab Control Sample Dup | Total/NA | Solid | 5035 | |
| MB 400-157922/1-A | Method Blank | Total/NA | Solid | 5035 | |
| Analysis Batch: 157925 | 5 | | | | |
| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
| 400-66746-1 | 1136 IRIS | Total/NA | Solid | 8260B | 157922 |
| 400-66746-2 | 1122 IRIS | Total/NA | Solid | 8260B | 157922 |
| 400-66746-3 | 1451 DOVE | Total/NA | Solid | 8260B | 157922 |
| LCS 400-157922/2-A | Lab Control Sample | Total/NA | Solid | 8260B | 157922 |
| LCSD 400-157922/3-A | Lab Control Sample Dup | Total/NA | Solid | 8260B | 157922 |
| MB 400-157922/1-A | Method Blank | Total/NA | Solid | 8260B | 157922 |
| GC/MS Semi VOA | | | | | |
| Prep Batch: 157861 | | | | | |
| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
| 400-66739-E-3-B MS | Matrix Spike | Total/NA | Solid | 3550C | |
| 400-66739-E-3-C MSD | Matrix Spike Duplicate | Total/NA | Solid | 3550C | |
| 400-66746-1 | 1136 IRIS | Total/NA | Solid | 3550C | |
| 400-66746-2 | 1122 IRIS | Total/NA | Solid | 3550C | |
| 400-66746-3 | 1451 DOVE | Total/NA | Solid | 3550C | |
| LCS 400-157861/17-A | Lab Control Sample | Total/NA | Solid | 3550C | |
| MB 400-157861/18-A | Method Blank | Total/NA | Solid | 3550C | |
| Analysis Batch: 158045 | 5 | | | | |
| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
| 400-66746-1 | 1136 IRIS | Total/NA | Solid | 8270D | 157861 |
| 400-66746-2 | 1122 IRIS | Total/NA | Solid | 8270D | 157861 |
| 400-66746-3 | 1451 DOVE | Total/NA | Solid | 8270D | 157861 |
| Analysis Batch: 158085 | 5 | | | | |
| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
| 400-66739-E-3-B MS | Matrix Spike | Total/NA | Solid | 8270D | 157861 |
| 400-66739-E-3-C MSD | Matrix Spike Duplicate | Total/NA | Solid | 8270D | 157861 |
| LCS 400-157861/17-A | Lab Control Sample | Total/NA | Solid | 8270D | 157861 |
| MB 400-157861/18-A | Method Blank | Total/NA | Solid | 8270D | 157861 |

Analysis Batch: 158184

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---------------|------------------|-----------|--------|--------|------------|
| 400-66746-3 | 1451 DOVE | Total/NA | Solid | 8270D | 157861 |

General Chemistry

Analysis Batch: 157804

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|------------------|------------------|-----------|--------|----------|------------|
| 400-66743-A-1 DU | Duplicate | Total/NA | Solid | Moisture | |
| 400-66746-1 | 1136 IRIS | Total/NA | Solid | Moisture | |
| 400-66746-2 | 1122 IRIS | Total/NA | Solid | Moisture | |

QC Association Summary

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

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General Chemistry (Continued)

Analysis Batch: 157804 (Continued)

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---------------|------------------|-----------|--------|----------|------------|
| 400-66746-3 | 1451 DOVE | Total/NA | Solid | Moisture | |

R

1

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

| Lab Sample ID: MB 400-157922/ | 1-A | | | | | | | | | Client Sa | mple ID: Metho | d Blank |
|---|---------------|-----------|----------|--------|------|--------|-------|--------|------|------------------|--------------------------------------|---------|
| Matrix: Solid | | | | | | | | | | | Prep Type: T | otal/NA |
| Analysis Batch: 157925 | | | | | | | | | | | Prep Batch: | 157922 |
| | MB | MB | | | | | | | | | | |
| Analyte | | Qualifier | RL | | | Unit | | D | P | repared | Analyzed | Dil Fac |
| Benzene | ND | | 0.0050 | 0.00 | 0049 | mg/Kg | | | 06/2 | 8/12 14:00 | 07/05/12 08:49 | |
| Ethylbenzene | ND | | 0.0050 | 0.00 | 0061 | mg/Kg | | | 06/2 | 8/12 14:00 | 07/05/12 08:49 | |
| Toluene | ND | | 0.0050 | 0.00 | 0070 | mg/Kg | | | 06/2 | 8/12 14:00 | 07/05/12 08:49 | |
| Xylenes, Total | ND | | 0.010 | 0.0 | 0019 | mg/Kg | | | 06/2 | 8/12 14:00 | 07/05/12 08:49 | 1 |
| Naphthalene | ND | | 0.0050 | 0.0 | 0010 | mg/Kg | | | 06/2 | 8/12 14:00 | 07/05/12 08:49 | |
| | | MB | | | | | | | | | | |
| Surrogate | %Recovery | Qualifier | Limits | | | | | | P | repared | Analyzed | Dil Fac |
| 4-Bromofluorobenzene | 102 | | 72 - 122 | | | | | | 06/2 | 8/12 14:00 | 07/05/12 08:49 | 1 |
| Dibromofluoromethane | 104 | | 79 - 118 | | | | | | 06/2 | 8/12 14:00 | 07/05/12 08:49 | |
| Toluene-d8 (Surr) | 100 | | 80 - 120 | | | | | | 06/2 | 8/12 14:00 | 07/05/12 08:49 | 1 |
| Matrix: Solid Analysis Batch: 157925 | | | Spike | LCS | LCS | | | | | | Prep Type: T Prep Batch: %Rec. | |
| Analyte | | | Added | Result | Qual | lifier | Unit | | D | %Rec | Limits | |
| Benzene | | | 0.0500 | 0.0561 | | | mg/Kg | | | 112 | 74 - 119 | |
| Ethylbenzene | | | 0.0500 | 0.0523 | | | mg/Kg | | | 105 | 78 - 116 | |
| Toluene | | | 0.0500 | 0.0549 | | | mg/Kg | | | 110 | 76 - 116 | |
| Xylenes, Total | | | 0.150 | 0.160 | | | mg/Kg | | | 107 | 77 - 118 | |
| Naphthalene | | | 0.0500 | 0.0541 | | | mg/Kg | | | 108 | 64 - 126 | |
| | LCS LCS | 5 | | | | | | | | | | |
| Surrogate | %Recovery Qua | alifier | Limits | | | | | | | | | |
| 4-Bromofluorobenzene | 99 | | 72 - 122 | | | | | | | | | |
| Dibromofluoromethane | 105 | | 79 - 118 | | | | | | | | | |
| Toluene-d8 (Surr) | 102 | | 80 - 120 | | | | | | | | | |
| Lab Sample ID: LCSD 400-15792 | 22/3-A | | | | | | CI | ient S | Sam | ple ID: La | ab Control Sam | ple Dur |
| Matrix: Solid | | | | | | | | | | | Prep Type: T | otal/N/ |
| | | | | | | | | | | | | |

Toluene-d8 (Surr)

| Analysis Batch: 157925 | | | | | | | | | Prep | Batch: 1 | 57922 |
|---|-----------|-----------|----------|--------|-----------|-------|---|------|----------|----------|-------|
| Charles and the second s | | | Spike | LCSD | LCSD | | | | %Rec. | | RPD |
| Analyte | | | Added | Result | Qualifier | Unit | D | %Rec | Limits | RPD | Limit |
| Benzene | | | 0.0500 | 0.0557 | | mg/Kg | | 111 | 74 - 119 | 1 | 10 |
| Ethylbenzene | | | 0.0500 | 0.0526 | | mg/Kg | | 105 | 78 - 116 | 1 | 12 |
| Toluene | | | 0.0500 | 0.0551 | | mg/Kg | | 110 | 76 - 116 | 0 | 11 |
| Xylenes, Total | | | 0.150 | 0.162 | | mg/Kg | | 108 | 77 - 118 | 1 | 12 |
| Naphthalene | | | 0.0500 | 0.0555 | | mg/Kg | | 111 | 64 - 126 | 3 | 16 |
| | LCSD | LCSD | | | | | | | | | |
| Surrogate | %Recovery | Qualifier | Limits | | | | | | | | |
| 4-Bromofluorobenzene | 100 | | 72 - 122 | | | | | | | | |
| Dibromofluoromethane | 104 | | 79 - 118 | | | | | | | | |

80 - 120

100

Client Sample ID: Method Blank

Prep Type: Total/NA

1

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

Lab Sample ID: MB 400-157861/18-A Matrix: Solid A

| Analysis Batch: 158085 | | MD | | | | | | Prep Batch | : 157861 |
|------------------------|--------------|-----------------|----------|-------|-------|---|----------------|----------------|----------|
| Analyte | MB Result | MB Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
| Acenaphthene | ND | - Provincial | 0.33 | | mg/Kg | | 07/03/12 08:39 | 07/06/12 20:58 | 1 |
| Acenaphthene | ND | | 0.33 | | mg/Kg | | 07/03/12 08:39 | 07/06/12 20:58 | 1 |
| Acenaphthylene | ND | | 0.33 | | mg/Kg | | 07/03/12 08:39 | 07/06/12 20:58 | 1 |
| Acenaphthylene | ND | | 0.33 | | mg/Kg | | 07/03/12 08:39 | 07/06/12 20:58 | 1 |
| Anthracene | ND | | 0.33 | | mg/Kg | | 07/03/12 08:39 | 07/06/12 20:58 | 1 |
| Anthracene | ND | | 0.33 | | mg/Kg | | 07/03/12 08:39 | 07/06/12 20:58 | 1 |
| Benzo[a]anthracene | ND | | 0.33 | | mg/Kg | | 07/03/12 08:39 | 07/06/12 20:58 | 1 |
| Benzo[a]anthracene | ND | | 0.33 | | mg/Kg | | 07/03/12 08:39 | 07/06/12 20:58 | 1 |
| Benzo[a]pyrene | ND | | 0.33 | | mg/Kg | | 07/03/12 08:39 | 07/06/12 20:58 | 1 |
| Benzo[a]pyrene | ND | | 0.33 | | mg/Kg | | 07/03/12 08:39 | 07/06/12 20:58 | 1 |
| Benzo[b]fluoranthene | ND | | 0.33 | | | | 07/03/12 08:39 | 07/06/12 20:58 | 1 |
| Benzo[b]fluoranthene | ND | | 0.33 | | mg/Kg | | 07/03/12 08:39 | 07/06/12 20:58 | 1 |
| Benzo[g,h,i]perylene | ND | | 0.33 | | mg/Kg | | 07/03/12 08:39 | 07/06/12 20:58 | 1 |
| Benzo[g,h,i]perylene | ND | | 0.33 | 0.033 | mg/Kg | | 07/03/12 08:39 | 07/06/12 20:58 | 1 |
| Benzo[k]fluoranthene | ND | | 0.33 | 0.033 | mg/Kg | | 07/03/12 08:39 | 07/06/12 20:58 | 1 |
| Benzo[k]fluoranthene | ND | | 0.33 | | mg/Kg | | 07/03/12 08:39 | 07/06/12 20:58 | 1 |
| Chrysene | ND | | 0.33 | | mg/Kg | | 07/03/12 08:39 | 07/06/12 20:58 | 1 |
| Chrysene | ND | | 0.33 | | mg/Kg | | 07/03/12 08:39 | 07/06/12 20:58 | 1 |
| Dibenz(a,h)anthracene | ND | | 0.33 | | mg/Kg | | 07/03/12 08:39 | 07/06/12 20:58 | 1 |
| Dibenz(a,h)anthracene | ND | | 0.33 | 0.033 | mg/Kg | | 07/03/12 08:39 | 07/06/12 20:58 | 1 |
| Fluoranthene | ND | | 0.33 | 0.033 | mg/Kg | | 07/03/12 08:39 | 07/06/12 20:58 | 1 |
| Fluoranthene | ND | | 0.33 | 0.033 | mg/Kg | | 07/03/12 08:39 | 07/06/12 20:58 | 1 |
| Fluorene | ND | | 0.33 | 0.033 | mg/Kg | | 07/03/12 08:39 | 07/06/12 20:58 | 1 |
| Fluorene | ND | | 0.33 | 0.033 | mg/Kg | | 07/03/12 08:39 | 07/06/12 20:58 | 1 |
| Indeno[1,2,3-cd]pyrene | ND | | 0.33 | 0.033 | mg/Kg | | 07/03/12 08:39 | 07/06/12 20:58 | 1 |
| Indeno[1,2,3-cd]pyrene | ND | | 0.33 | 0.033 | mg/Kg | | 07/03/12 08:39 | 07/06/12 20:58 | 1 |
| Naphthalene | ND | | 0.33 | 0.033 | mg/Kg | | 07/03/12 08:39 | 07/06/12 20:58 | 1 |
| Naphthalene | ND | | 0.33 | 0.033 | mg/Kg | | 07/03/12 08:39 | 07/06/12 20:58 | 1 |
| Phenanthrene | ND | | 0.33 | 0.033 | mg/Kg | | 07/03/12 08:39 | 07/06/12 20:58 | 1 |
| Phenanthrene | ND | | 0.33 | 0.033 | mg/Kg | | 07/03/12 08:39 | 07/06/12 20:58 | 1 |
| Pyrene | ND | | 0.33 | 0.033 | mg/Kg | | 07/03/12 08:39 | 07/06/12 20:58 | 1 |
| Pyrene | ND | | 0.33 | 0.033 | mg/Kg | | 07/03/12 08:39 | 07/06/12 20:58 | 1 |
| 1-Methylnaphthalene | ND | | 0.33 | 0.033 | mg/Kg | | 07/03/12 08:39 | 07/06/12 20:58 | 1 |
| 1-Methylnaphthalene | ND | | 0.33 | 0.033 | mg/Kg | | 07/03/12 08:39 | 07/06/12 20:58 | 1 |
| 2-Methylnaphthalene | ND | | 0.33 | 0.033 | mg/Kg | | 07/03/12 08:39 | 07/06/12 20:58 | 1 |
| 2-Methylnaphthalene | ND | | 0.33 | 0.033 | mg/Kg | | 07/03/12 08:39 | 07/06/12 20:58 | 1 |
| | МВ | МВ | | | | | | | |
| Surrogate | %Recovery | Qualifier | Limits | | | | Prepared | Analyzed | Dil Fac |
| 2-Fluorobiphenyl | 88 | | 44 - 108 | | | | 07/03/12 08:39 | 07/06/12 20:58 | 1 |
| 2-Fluorobiphenyl | 88 | | 44 - 108 | | | | 07/03/12 08:39 | 07/06/12 20:58 | 1 |
| Nitrobenzene-d5 (Surr) | 73 | | 27 - 114 | | | | 07/03/12 08:39 | 07/06/12 20:58 | 1 |
| Nitrobenzene-d5 (Surr) | 73 | | 27 - 114 | | | | 07/03/12 08:39 | 07/06/12 20:58 | 1 |
| Terphenyl-d14 (Surr) | 107 | | 36 - 134 | | | | 07/03/12 08:39 | 07/06/12 20:58 | 1 |
| Terphenyl-d14 (Surr) | 107 | | 36 - 134 | | | | 07/03/12 08:39 | 07/06/12 20:58 | 1 |

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

| Lab Sample ID: LCS 400-157861/17-A | |
|------------------------------------|--|
| Matrix: Solid | |
| Analysis Batch: 158085 | |

| Lab Sample ID: LCS 400-157861/17-A | | | | | Client | Sample | ID: Lab Control Sample |
|------------------------------------|-------|------|-----------|-------|--------|--------|------------------------|
| Matrix: Solid | | | | | | | Prep Type: Total/NA |
| Analysis Batch: 158085 | | | | | | | Prep Batch: 157861 |
| | Spike | | LCS | | | | %Rec. |
| Analyte | Added | | Qualifier | Unit | D | %Rec | Limits |
| Acenaphthene | 1.67 | 1.49 | | mg/Kg | | 89 | 53 - 108 |
| Acenaphthene | 1.67 | 1.49 | | mg/Kg | | 89 | 53 - 108 |
| Acenaphthylene | 1.67 | 1.50 | | mg/Kg | | 90 | 57 - 111 |
| Acenaphthylene | 1.67 | 1.50 | | mg/Kg | | 90 | 57 - 111 |
| Anthracene | 1.67 | 1.57 | | mg/Kg | | 94 | 56 - 110 |
| Anthracene | 1.67 | 1.57 | | mg/Kg | | 94 | 56 - 110 |
| Benzo[a]anthracene | 1.67 | 1.69 | | mg/Kg | | 101 | 52 - 105 |
| Benzo[a]anthracene | 1.67 | 1.69 | | mg/Kg | | 101 | 52 - 105 |
| Benzo[a]pyrene | 1.67 | 1.33 | | mg/Kg | | 80 | 52 - 97 |
| Benzo[a]pyrene | 1.67 | 1.33 | | mg/Kg | | 80 | 52 - 97 |
| Benzo[b]fluoranthene | 1.67 | 1.34 | | mg/Kg | | 81 | 49 - 95 |
| Benzo[b]fluoranthene | 1.67 | 1.34 | | mg/Kg | | 81 | 49 - 95 |
| Benzo[g,h,i]perylene | 1.67 | 1.35 | | mg/Kg | | 81 | 47 - 122 |
| Benzo[g,h,i]perylene | 1.67 | 1.35 | | mg/Kg | | 81 | 47 - 122 |
| Benzo[k]fluoranthene | 1.67 | 1.56 | | mg/Kg | | 94 | 57 - 113 |
| Benzo[k]fluoranthene | 1.67 | 1.56 | | mg/Kg | | 94 | 57 - 113 |
| Chrysene | 1.67 | 1.60 | | mg/Kg | | 96 | 56 - 102 |
| Chrysene | 1.67 | 1.60 | | mg/Kg | | 96 | 56 - 102 |
| Dibenz(a,h)anthracene | 1.67 | 1.46 | | mg/Kg | | 87 | 46 - 114 |
| Dibenz(a,h)anthracene | 1.67 | 1.46 | | mg/Kg | | 87 | 46 - 114 |
| Fluoranthene | 1.67 | 1.70 | | mg/Kg | | 102 | 56 - 120 |
| Fluoranthene | 1.67 | 1.70 | | mg/Kg | | 102 | 56 - 120 |
| Fluorene | 1.67 | 1.57 | | mg/Kg | | 94 | 51 - 116 |
| Fluorene | 1.67 | 1.57 | | mg/Kg | | 94 | 51 - 116 |
| Indeno[1,2,3-cd]pyrene | 1.67 | 1.63 | | mg/Kg | | 98 | 48 - 119 |
| Indeno[1,2,3-cd]pyrene | 1.67 | 1.63 | | mg/Kg | | 98 | 48 - 119 |
| Naphthalene | 1.67 | 1.38 | | mg/Kg | | 83 | 52 - 99 |
| Naphthalene | 1.67 | 1.38 | | mg/Kg | | 83 | 52 - 99 |
| Phenanthrene | 1.67 | 1.59 | | mg/Kg | | 95 | 56 - 113 |
| Phenanthrene | 1.67 | 1.59 | | mg/Kg | | 95 | 56 - 113 |
| Pyrene | 1.67 | 1.47 | | mg/Kg | | 88 | 56 - 100 |
| Pyrene | 1.67 | 1.47 | | mg/Kg | | 88 | 56 - 100 |
| 1-Methylnaphthalene | 1.67 | 1.51 | | mg/Kg | | 90 | 58 - 104 |
| 1-Methylnaphthalene | 1.67 | 1.51 | | mg/Kg | | 90 | 58 - 104 |
| 2-Methylnaphthalene | 1.67 | 1.40 | | mg/Kg | | 84 | 53 - 99 |
| 2-Methylnaphthalene | 1.67 | 1.40 | | mg/Kg | | 84 | 53 - 99 |

| Surrogate | LCS %Recovery | LCS Qualifier | Limits |
|------------------------|------------------|------------------|----------|
| Surrogate | %Recovery | Quaimer | Limits |
| 2-Fluorobiphenyl | 82 | | 44 - 108 |
| 2-Fluorobiphenyl | 82 | | 44 - 108 |
| Nitrobenzene-d5 (Surr) | 69 | | 27 - 114 |
| Nitrobenzene-d5 (Surr) | 69 | | 27 - 114 |
| Terphenyl-d14 (Surr) | 91 | | 36 - 134 |
| Terphenyl-d14 (Surr) | 91 | | 36 - 134 |
| | | | |

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

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

| Matrix: Solid | | | | | | | | | Prep Type: Total/NA |
|------------------------|----------|--|-------|--------|-----------|-------|----|------|-----------------------------|
| Analysis Batch: 158085 | Sample S | 1. | Spike | | MS | | | | Prep Batch: 157861 %Rec. |
| Analyte | Result C | Qualifier | Added | Result | Qualifier | Unit | D | %Rec | Limits |
| Acenaphthene | ND | | 2.04 | 1.72 | | mg/Kg | | 85 | 10 - 150 |
| Acenaphthylene | ND | | 2.04 | 1.74 | | mg/Kg | ¢ | 85 | 10 - 150 |
| Anthracene | ND | | 2.04 | 1.84 | | mg/Kg | \$ | 90 | 10 - 150 |
| Benzo[a]anthracene | ND | | 2.04 | 1.99 | | mg/Kg | ¢ | 98 | 10 - 150 |
| Benzo[a]pyrene | ND | | 2.04 | 1.55 | | mg/Kg | \$ | 76 | 10 - 150 |
| Benzo[b]fluoranthene | ND | | 2.04 | 1.54 | | mg/Kg | \$ | 75 | 10 - 150 |
| Benzo[g,h,i]perylene | ND | | 2.04 | 1.56 | | mg/Kg | \$ | 77 | 10 - 150 |
| Benzo[k]fluoranthene | ND | | 2.04 | 1.80 | | mg/Kg | ₽ | 88 | 10 - 150 |
| Chrysene | ND | | 2.04 | 1.86 | | mg/Kg | \$ | 91 | 10 - 150 |
| Dibenz(a,h)anthracene | ND | | 2.04 | 1.68 | | mg/Kg | \$ | 82 | 32 - 111 |
| Fluoranthene | ND | | 2.04 | 2.03 | | mg/Kg | ø | 100 | 10 - 150 |
| Fluorene | ND | | 2.04 | 1.78 | | mg/Kg | ¢ | 88 | 10 - 150 |
| Indeno[1,2,3-cd]pyrene | ND | | 2.04 | 1.89 | | mg/Kg | ø | 93 | 10 - 150 |
| Naphthalene | ND | | 2.04 | 1.56 | | mg/Kg | ¢ | 77 | 10 - 150 |
| Phenanthrene | ND | | 2.04 | 1.87 | | mg/Kg | \$ | 92 | 10 - 150 |
| Pyrene | ND | | 2.04 | 1.74 | | mg/Kg | Ø | 85 | 10 - 150 |
| 1-Methylnaphthalene | | | 2.04 | 1.72 | | mg/Kg | ø | | |
| 2-Methylnaphthalene | ND | | 2.04 | 1.60 | | mg/Kg | ¢ | 78 | 10 - 150 |
| | MS M | MS | | | | | | | |
| | | and the second sec | | | | | | | |

| Surrogate | %Recovery | Qualifier | Limits |
|------------------------|-----------|-----------|----------|
| 2-Fluorobiphenyl | 73 | | 44 - 108 |
| Nitrobenzene-d5 (Surr) | 62 | | 27 - 114 |
| Terphenyl-d14 (Surr) | 83 | | 36 - 134 |
| | | | |

Lab Sample ID: 400-66739-E-3-C MSD Matrix: Solid

| Analysis Batch: 158085 | | | | | | | | | Prep | Batch: 1 | 57861 |
|------------------------|--------|-----------|-------|--------|-----------|-------|-----|------|----------|----------|-------|
| | Sample | Sample | Spike | MSD | MSD | | | | %Rec. | | RPD |
| Analyte | Result | Qualifier | Added | Result | Qualifier | Unit | D | %Rec | Limits | RPD | Limit |
| Acenaphthene | ND | | 2.03 | 1.76 | | mg/Kg | \$ | 86 | 10 - 150 | 2 | 36 |
| Acenaphthylene | ND | | 2.03 | 1.78 | | mg/Kg | ø | 88 | 10 - 150 | 3 | 29 |
| Anthracene | ND | | 2.03 | 1.86 | | mg/Kg | 菜 | 91 | 10 - 150 | 1 | 30 |
| Benzo[a]anthracene | ND | | 2.03 | 1.98 | | mg/Kg | ø | 97 | 10 - 150 | 1 | 33 |
| Benzo[a]pyrene | ND | | 2.03 | 1.55 | | mg/Kg | ¢ | 76 | 10 - 150 | 0 | 30 |
| Benzo[b]fluoranthene | ND | | 2.03 | 1.56 | | mg/Kg | \$ | 77 | 10 - 150 | 1 | 31 |
| Benzo[g,h,i]perylene | ND | | 2.03 | 1.58 | | mg/Kg | ς.Έ | 78 | 10 - 150 | 1 | 30 |
| Benzo[k]fluoranthene | ND | | 2.03 | 1.81 | | mg/Kg | ą | 89 | 10 - 150 | 1 | 29 |
| Chrysene | ND | | 2.03 | 1.86 | | mg/Kg | 35 | 92 | 10 - 150 | 0 | 33 |
| Dibenz(a,h)anthracene | ND | | 2.03 | 1.71 | | mg/Kg | Ø | 84 | 32 - 111 | 2 | 30 |
| Fluoranthene | ND | | 2.03 | 2.02 | | mg/Kg | \$ | 99 | 10 - 150 | 1 | 42 |
| Fluorene | ND | | 2.03 | 1.79 | | mg/Kg | \$ | 88 | 10 - 150 | 0 | 36 |
| Indeno[1,2,3-cd]pyrene | ND | | 2.03 | 1.93 | | mg/Kg | ø | 95 | 10 - 150 | 2 | 31 |
| Naphthalene | ND | | 2.03 | 1.61 | | mg/Kg | \$ | 79 | 10 - 150 | 3 | 33 |
| Phenanthrene | ND | | 2.03 | 1.87 | | mg/Kg | 亞 | 92 | 10 - 150 | 0 | 34 |
| Pyrene | ND | | 2.03 | 1.74 | | mg/Kg | \$ | 86 | 10 - 150 | 0 | 45 |
| 1-Methylnaphthalene | | | 2.03 | 1.75 | | mg/Kg | \$ | | | | |
| 2-Methylnaphthalene | ND | | 2.03 | 1.63 | | mg/Kg | - | 80 | 10 - 150 | 2 | 32 |
| | | | | | | | | | | | |

Nitrobenzene-d5 (Surr)

Terphenyl-d14 (Surr)

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

64

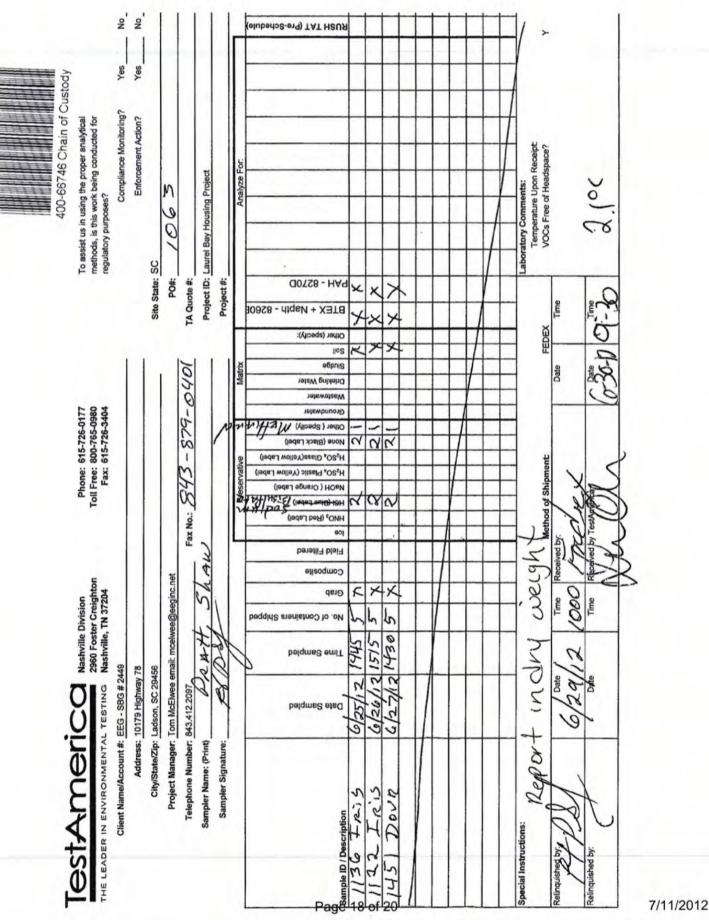
83

| Lab Sample ID: 400-66739 Matrix: Solid | -E-3-C MSD | | | Client Sample ID: Matrix Spike Duplicate Prep Type: Total/NA |
|---|------------|-----------|----------|---|
| Analysis Batch: 158085 | | | | Prep Batch: 157861 |
| | MSD | MSD | | |
| Surrogate | %Recovery | Qualifier | Limits | |
| 2-Fluorobiphenyl | 78 | | 44 - 108 | |

27 - 114

36 - 134

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Client: Environmental Enterprise Group

Login Number: 66746

List Number: 1

Job Number: 400-66746-1

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List Source: TestAmerica Pensacola

| Creator: Crawford, Lauren E | | |
|---|--------|---------|
| Question | Answer | Comment |
| Radioactivity either was not measured or, if measured, is at or below background | N/A | |
| The cooler's custody seal, if present, is intact. | True | |
| The cooler or samples do not appear to have been compromised or tampered with. | True | |
| Samples were received on ice. | True | |
| Cooler Temperature is acceptable. | True | |
| Cooler Temperature is recorded. | True | 2.1°C |
| 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 sample IDs on the containers 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. | True | |
| There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs | True | |
| VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter. | N/A | |
| Multiphasic samples are not present. | True | |
| Samples do not require splitting or compositing. | True | |
| Residual Chlorine Checked. | N/A | |

Certification Summary

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

| Laboratory | Authority | Program | EPA Region | Certification ID |
|-----------------------|---------------------------|-----------------|-----------------|------------------|
| TestAmerica Pensacola | Alabama | State Program | te Program 4 | |
| TestAmerica Pensacola | Arizona | State Program | ate Program 9 | |
| TestAmerica Pensacola | Arkansas DEQ | State Program 6 | | 88-0689 |
| TestAmerica Pensacola | Florida | NELAC | | |
| TestAmerica Pensacola | Georgia | State Program | State Program 4 | |
| TestAmerica Pensacola | Illinois | NELAC | | |
| TestAmerica Pensacola | Iowa | State Program | State Program 7 | |
| TestAmerica Pensacola | Kansas | NELAC 7 | | E-10253 |
| TestAmerica Pensacola | Kentucky (UST) | State Program 4 | | 53 |
| TestAmerica Pensacola | Louisiana | NELAC 6 | | 30976 |
| TestAmerica Pensacola | Maryland | State Program | State Program 3 | |
| TestAmerica Pensacola | Massachusetts | State Program | 1 | M-FL094 |
| TestAmerica Pensacola | Michigan | State Program | 5 | 9912 |
| TestAmerica Pensacola | New Hampshire | NELAC | 1 | 2505 |
| TestAmerica Pensacola | New Jersey | y NELAC 2 | | FL006 |
| TestAmerica Pensacola | North Carolina DENR | | | 314 |
| TestAmerica Pensacola | Oklahoma State Program 6 | | 6 | 9810 |
| TestAmerica Pensacola | Pennsylvania | NELAC | 3 | 68-00467 |
| TestAmerica Pensacola | Rhode Island | State Program | 1 | LAO00307 |
| TestAmerica Pensacola | | | 4 | 96026 |
| TestAmerica Pensacola | Tennessee State Program 4 | | 4 | TN02907 |
| TestAmerica Pensacola | Texas | NELAC | | |
| TestAmerica Pensacola | USDA | Federal | | P330-10-00407 |
| TestAmerica Pensacola | Virginia | NELAC 3 460166 | | 460166 |
| TestAmerica Pensacola | Washington | State Program | 10 | C915 |
| TestAmerica Pensacola | West Virginia DEP | State Program | 3 | 136 |

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

ATTACHMENT A



NON-HAZARDOUS MANIFEST

| | Sama | 1. Generator's U | JS EPA ID N | o. N | lanifest Doc I | No. | 2. Page 1 | of | | | |
|--------------|---|---------------------------------------|-------------------|--|--|---|-----------------------|-----------------|--|------------------|---------------------------------|
| | NON-HAZARDOUS MANIFEST | | | | | | 1 | L | | | |
|) | 3. Generator's Mailing Address: | L | Generator | 's Site Address (If | different than ma | ailing): | A. Manife | est Number | | | |
| , | MCAS, BEAUFORT | | | | | | l w | MNA | 0031 | 6821 | |
| | LAUREL BAY HOUSING | | | | | | | B. State (| Generator' | | |
| | BEAUFORT, SC 29907 | | | | | | | | | | |
| | | 28-6461 | · | | | | | | | | The second second second second |
| | 5. Transporter 1 Company Name | | 6. | US EPA I | D Number | | C Shata T | | | | |
| | EEG, INC. | | | | | | | ransporter's I | | 879-042 | 11 |
| | 7. Transporter 2 Company Name | | 8. | US EPA I | D Number | | D. Iransp | orter's Phone | 043- | 575-04. | 11 |
| | | | | | | | E. State T | ransporter's I |) | <u></u> | |
| | | | | | | | F. Transp | orter's Phone | | | |
| | 9. Designated Facility Name and Site | Address | 10. | US EPA | ID Number | | | | | | |
| | HICKORY HILL LANDFILL | | | | | | G. State Facility ID | | | | |
| | 2621 LOW COUNTRY ROAD | | | | | | H. State F | acility Phone | 843- | 987-464 | 43 |
| | RIDGELAND, SC 29936 | | | | | | | | | | |
| | 11 Description of Wester Meterials | | | <u> 18. 19. 27. 27. 27. 27. 27. 27. 27. 27. 27. 27</u> | 12. Cor | ntainers | 13. Total | 14. Unit | | <u>Alex Comm</u> | <u> (1997) (1997)</u> |
| G E | 11. Description of Waste Materials | | | | No. | Туре | Quantity | Wt./Vol. | 1. 0 | Aisc. Comme | ents |
| N | a. HEATING OIL TANKS FILLED | WITH SAND | | | | | | | | | |
| Е | | le # 102655S0 | ~ | | | | | | 2 - 25 5 - 3 | | |
| R | b. | 1020333 | <u> </u> | | | | | | | | |
| т | | | | | | | | | | | |
| 0 | WM Profile # | | | | - 19 - SQR | | | | | | |
| R | C. | | | • · · · · · · | <u></u> | | | | · · · | <u> </u> | |
| | | | | | | | [| | ĺ | | |
| \mathbf{x} | WM Profile # | · · · · · · · · · · · · · · · · · · · | | | | | | | | S. 1944 | |
| J | d. | | | | | | | | | | |
| | | | | | | | | | | | |
| | WM Profile # | | | | | | | | | | |
| | J. Additional Descriptions for Materi | als Listed Above | | | K. Dispos | al Location | | | | | |
| | | | | | Cell | · · · · · | | | Level | 1 . | |
| | | | | | Grid | | | 1.1.1 | | | |
| | 15. Special Handling Instructions and UST チ feom | Additional Informa | ation 73 Bi | rch-3 | 4) 71 | 1 Blur | = b= 11 | 011 | 22 | Ir. | 4 |
| | 1) 1300 FAS/2 - | 1 | 48 D | | 5) 113 | 36 IR | 2154 | | · Sandaragan dan dak ana per sarapang | | |
| ļ | Purchase Order # | | | EMERGENCY CO | | | | | | | |
| | 16. GENERATOR'S CERTIFICATE: | | | | | | <u></u> | | | | |
| | I hereby certify that the above-describ | ed materials are n | not hazardo | us wastes as defir | ned by CFR Pa | art 261 or a | ny applicabl | e state law, ha | ive been fu | illy and | |
| ŀ | accurately described, classified and pa | ckaged and are in | | dition for transpo gnature "On beha | | rding to app | licable regu | lations. | 1 | | |
| | Printed Name | S | 1 | ignature. On bena | III OI | in the second | | | Month | Day | Year |
| т | 17. Transporter 1 Acknowledgement of | of Receipt of Mate | erials | | | 11 | and the second second | | - I | <u> </u> | |
| RA | Printed Name | <1. | | gnature | S/IT | | | | Month | Day | Year |
| N S | [RATI | JAAN | | | Contraction of the second seco | ţ | | | 7 | 11 | 12 |
| O R | 18. Transporter 2 Acknowledgement of | of Receipt of Mate | | | | | | | 1 | T | |
| T E | Printed Name | | | ignature | 040 | | | | Month | Day | Year |
| R | JAMES BALIW, | <u>N</u> | | famer. | Ball | um | · | | <u> </u> | 11_ | 12 |
| F | 19. Certificate of Final Treatment/Disp | | | • | | | | | | | |
| A C | I certify, on behalf of the above listed t applicable laws, regulations, permits a | | | | edge, the ab | ove-describ | ed waste w | as managed ir | o complian | ce with al | |
| Υŀ | 20. Facility Owner or Operator: Certifi | | | | overed by th | is manifest | | | | | |
| Y | Printed Name | / | | ignature | | | | | Month | Day | Year |
| * | TANK CANE | (d | the second second | V Charles | $(\cdot \sigma)$ | · | | | 17 | 11 | |
| | White- TREATMENT, STORAGE, DISPOS | SAL FACILITY COPY | Y E | Blue- GENERATOR | #2 COPY | | Ye | llow- GENERA | ror #1 co | PY | <u>>*.</u> |
| | Pink- FACILITY USE ON | LY | G | old- TRANSPORTE | R #1 COPY | | | | | | |

Appendix C Regulatory Correspondence





Catherine B. Templeton, Director Promating and protecting the braith of the public and the environment

May 15, 2014

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

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

Dear Mr. Drawdy,

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

The Department has reviewed the referenced assessment reports and agrees there is no indication of soil or groundwater contamination on these properties, and therefore no further investigation is required at this time.

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

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

Sincerely,

20 m. 74;

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

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



Catherine B. Templeton, Director Promoting and pretecting the health of the public and the environment

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

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

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

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

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

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

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

NFA – 5/15/2014