

**SUMMARY REPORT  
41 BAY CIRCLE (FORMERLY 9 BAY CIRCLE)  
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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Norfolk, Virginia 23511-3095**

**Prepared by:**

**CDM - AECOM**  
Multimedia Joint Venture

**CDM - AECOM Multimedia Joint Venture  
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**Contract Number: N62470-14-D-9016  
CTO WE52  
JUNE 2021**

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### **List of Acronyms**

bgs	below ground surface
BTEX	benzene, toluene, ethylbenzene, and xylenes
CTO	Contract Task Order
COPC	constituents of potential concern
ft	feet
IDIQ	Indefinite Delivery, Indefinite Quantity
IGWA	Initial Groundwater Assessment
JV	Joint Venture
LBMH	Laurel Bay Military Housing
MCAS	Marine Corps Air Station
NAVFAC Mid-Lant	Naval Facilities Engineering Command Mid-Atlantic
NFA	No Further Action
PAH	polynuclear aromatic hydrocarbon
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 41 Bay Circle (Formerly 9 Bay Circle). 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

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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.

The LBMH UST removal and assessment process is described below in Section 1.2. The LBMH multi-media investigation selection process tree, used to evaluate the environmental impact of USTs for most sites at LBMH, is presented in Appendix A. It should be noted that because the USTs were removed prior to 2007, the subject property of this report did not follow the typical multi-media investigation selection process presented in Appendix A.

## **1.2 UST Removal and Assessment Process**

As stated above, the assessment process at this property did not follow the typical process presented in Appendix A.

During the UST removal process, soil samples were collected from around 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 hydrocarbons (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.

A groundwater sample was also collected from the base of the excavation and analyzed for the petroleum COPCs.

The results of the soil and groundwater sampling at each former UST location were used to determine the presence or absence of petroleum COPCs in soil and/or groundwater and identify whether former UST locations may require additional delineation of COPCs in soil and groundwater. The results of the additional soil sampling and initial groundwater assessment (IGWA) sampling (if necessary) are used to determine the presence or absence of the aforementioned COPCs in groundwater and identify whether former UST locations will require additional delineation of COPCs in groundwater. In order to delineate the extent of impact to groundwater, permanent wells are installed and a sampling program is established for those former UST locations where IGWA sampling has indicated the presence of COPCs in excess of the SCDHEC RBSLs for groundwater. Groundwater analytical results are also compared to the site specific groundwater vapor intrusion screening levels (VISLs) to evaluate the potential for vapor intrusion and the necessity for an investigation associated with this media.

## **2.0 SAMPLING ACTIVITIES AND RESULTS**

The following section presents the sampling activities and associated results for 41 Bay Circle (Formerly 9 Bay Circle). Details regarding the soil and groundwater investigation conducted during the UST removals at this site are provided in the *SCDHEC UST Assessment Report – 9 Bay Circle* (MCAS Beaufort, 2004). The UST Assessment Report is provided in Appendix B. Details regarding the additional soil and IGWA sampling activities at this site are provided in the

*Tier II Assessment Report Laurel Bay Housing Area 1, 7, 8, 9 and 10 Bay Circle* (ADVENT Environmental, Inc., 2005). The laboratory reports that includes the pertinent soil and IGWA analytical results for this site are presented in Appendices C and D, respectively.

## **2.1 UST Removal and Sampling Activities**

On August 27, 2004, three 280 gallon heating oil USTs were removed from the front grassed area adjacent to the house at 41 Bay Circle (Formerly 9 Bay Circle). The former UST locations are indicated on the sketch included in the UST Assessment Report (Appendix B). The USTs were removed and properly disposed of (i.e., shipped offsite for recycling or transported to a landfill). Visual evidence (i.e., staining or sheen) of petroleum impact was recorded at the time of the UST removals. According to the UST Assessment Report (Appendix B), the depths to the bases of the USTs were 4'6" bgs (Tank 1), 4'0" bgs (Tank 2) and 4'0" bgs (Tank 3). Delineation soil samples were collected prior to excavation.

A groundwater sample was collected from the base of the excavation, following the UST removal at 41 Bay Circle (Formerly 9 Bay Circle). Further details are provided in the *SCDHEC UST Assessment Report – 9 Bay Circle* (MCAS Beaufort, 2004).

Soil and groundwater samples were collected 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 UST Removal Soil and Groundwater Analytical Results**

A summary of the soil laboratory analytical results and SCDHEC RBSLs is presented in Table 1. A summary of the groundwater laboratory analytical results and SCDHEC RBSLs is presented in Table 2. A copy of the laboratory analytical data reports are included in the UST Assessment Report presented in Appendix B. The laboratory analytical data reports include the soil and groundwater results for the additional PAHs that were analyzed, but do not have associated RBSLs.

The soil and groundwater sample results were submitted by MCAS Beaufort to SCDHEC utilizing SCDHEC's UST Assessment Report form (Appendix B). The results of the soil and groundwater 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 and groundwater results collected from 41 Bay Circle (Formerly 9 Bay Circle) were greater



than the SCDHEC RBSLs, which indicated further investigation was required. In a letter dated December 2, 2004, SCDHEC requested additional assessment for 41 Bay Circle (Formerly 9 Bay Circle). SCDHEC's request letter is provided in Appendix E.

### **2.3 Tier 2 Soil Sampling**

In May 2005, three soil borings were advanced at 41 Bay Circle (Formerly 9 Bay Circle). The soil borings were collocated with the temporary monitoring wells discussed in Section 2.5. A single soil sample was collected from each soil boring and shipped to an offsite laboratory for analysis of the petroleum COPCs. Further details are provided in the *Tier II Assessment Report Laurel Bay Housing Area 1, 7, 8, 9 and 10 Bay Circle* (ADVENT Environmental, Inc., 2005).

### **2.4 Tier 2 Soil Analytical Results**

A summary of the laboratory analytical results and SCDHEC RBSLs is presented in Table 3. A copy of the laboratory analytical data reports are included as Appendix C.

The soil results collected from 41 Bay Circle (Formerly 9 Bay Circle) were less than the SCDHEC RBSLs (Table 3), which indicated that the soil 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 Tier 2 Groundwater Sampling**

In May 2005, the three soil borings were converted into temporary monitoring wells and then sampled at 41 Bay Circle (Formerly 9 Bay Circle), in accordance with the South Carolina Well Standards and Regulations (R.61-71.H-I, updated June 24, 2016). Further details are provided in the *Tier II Assessment Report Laurel Bay Housing Area 1, 7, 8, 9 and 10 Bay Circle* (ADVENT Environmental, Inc, 2005).

The sampling strategy for this phase of the investigation required a one-time sampling event of the temporarily installed monitoring wells. Following well installation, groundwater samples were collected via grab methods and shipped to an offsite laboratory for analysis of the petroleum COPCs. Upon completion of groundwater sampling, the temporary wells were abandoned in accordance with the South Carolina Well Standards and Regulations R.61-71 (SCDHEC, 2016). Field forms are provided in the *Tier II Assessment Report Laurel Bay Housing Area 1, 7, 8, 9 and 10 Bay Circle* (ADVENT Environmental, Inc, 2005).

## **2.6 Tier 2 Groundwater Analytical Results**

A summary of the laboratory analytical results and SCDHEC RBSLs is presented in Table 4. A copy of the laboratory analytical data report is included in Appendix D.

The groundwater results collected from 41 Bay Circle (Formerly 9 Bay Circle) were less than the SCDHEC RBSLs and the site-specific groundwater VISLs (Table 4), 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.

## **3.0 PROPERTY STATUS**

Based on the analytical results for groundwater from the temporary monitoring wells, SCDHEC made the determination that NFA was required for 41 Bay Circle (Formerly 9 Bay Circle). This NFA determination was obtained in a letter dated October 27, 2005. SCDHEC's NFA letter is provided in Appendix D.

## **4.0 REFERENCES**

Marine Corps Air Station Beaufort, 2004. *South Carolina Department of Health and Environmental Control (SCDHEC) Underground Storage Tank Assessment Report – 9 Bay Circle, Laurel Bay Military Housing Area, September 2004.*

ADVENT Environmental, Inc., 2005. *Tier II Assessment Report Laurel Bay Housing Area 1, 7, 8, 9 and 10 Bay Circle Marine Corps Air Station, Beaufort, South Carolina, September 2005.*

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.

## Tables

**Table 1**  
**Laboratory Analytical Results - Soil - UST Assessment Report**  
**41 Bay Circle (Formerly 9 Bay Circle)**  
**Laurel Bay Military Housing Area**  
**Marine Corps Air Station Beaufort**  
**Beaufort, South Carolina**

Constituent	SCDHEC RBSLs <sup>(1)</sup>	Results					
		Sample Collected 07/12/04					
		09SB01	09SB02	09SB03	09SB04	09SB05	09SB06
<b>Volatile Organic Compounds Analyzed by EPA Method 8260B (mg/kg)</b>							
Benzene	0.003	ND	ND	ND	ND	ND	ND
Ethylbenzene	1.551	ND	ND	ND	<b>0.130</b>	ND	ND
Naphthalene	0.047	<b>0.0079</b>	ND	<b>0.016</b>	<b>0.350</b>	<b>0.0029</b>	<b>0.014</b>
Toluene	0.627	ND	ND	ND	ND	ND	ND
Xylenes, Total	13.01	ND	ND	ND	<b>0.0064</b>	ND	ND
<b>Semivolatile Organic Compounds Analyzed by EPA Method 8270C (mg/kg)</b>							
Benzo(a)anthracene	0.066	ND	ND	ND	ND	ND	ND
Benzo(b)fluoranthene	0.066	ND	ND	ND	ND	ND	ND
Benzo(k)fluoranthene	0.066	ND	ND	ND	ND	ND	ND
Chrysene	0.066	ND	ND	ND	ND	ND	ND
Dibenz(a,h)anthracene	0.066	ND	ND	ND	ND	ND	ND

**Notes:**

<sup>(1)</sup> South Carolina Risk-Based Screening Levels from the Quality Assurance Program Plan for the Underground Storage Tank Management Division, Revision 1.0 (SCDHEC, May 2001).

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 - UST Assessment Report**  
**41 Bay Circle (Formerly 9 Bay Circle)**  
**Laurel Bay Military Housing Area**  
**Marine Corps Air Station Beaufort**  
**Beaufort, South Carolina**

Constituent	SCDHEC RBSLs <sup>(1)</sup>	Results Sample Collected 08/26/04
<b>Volatile Organic Compounds Analyzed by EPA Method 8260B (µg/L)</b>		
Benzene	5	ND
Ethylbenzene	700	ND
Naphthalene	25	<b>120</b>
Toluene	1,000	ND
Xylenes, Total	10,000	ND
<b>Semivolatile Organic Compounds Analyzed by EPA Method 8270D (µg/L)</b>		
Benzo(a)anthracene	10	<b>85</b>
Benzo(b)fluoranthene	10	<b>77</b>
Benzo(k)fluoranthene	10	<b>64</b>
Chrysene	10	<b>110</b>
Dibenz(a,h)anthracene	10	ND

**Notes:**

<sup>(1)</sup> South Carolina Risk-Based Screening Levels from the Quality Assurance Program Plan for the Underground Storage Tank Management Division, Revision 1.0 (SCDHEC, May 2001).

Bold font indicates the analyte was detected.

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

EPA - United States Environmental Protection Agency

JE - Johnson & Ettinger

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 B.

RBSL - Risk-Based Screening Level

SCDHEC - South Carolina Department Of Health and Environmental Control

µg/L - micrograms per liter

**Table 3**  
**Laboratory Analytical Results - Soil - Tier 2 Assessment**  
**41 Bay Circle (Formerly 9 Bay Circle)**  
**Laurel Bay Military Housing Area**  
**Marine Corps Air Station Beaufort**  
**Beaufort, South Carolina**

Constituent	SCDHEC RBSLs <sup>(1)</sup>	Results		
		Sample Collected 05/19/05		
		010SB04	010SB05	010SB06
<b>Volatile Organic Compounds Analyzed by EPA Method 8260B (mg/kg)</b>				
Benzene	0.007	ND	ND	ND
Ethylbenzene	1.15	ND	ND	ND
Naphthalene	0.036	ND	ND	ND
Toluene	1.45	ND	ND	ND
Xylenes, Total	14.5	ND	ND	ND
<b>Semivolatile Organic Compounds Analyzed by EPA Method 8270C (mg/kg)</b>				
Benzo(a)anthracene	0.066	ND	ND	ND
Benzo(b)fluoranthene	0.066	ND	ND	ND
Benzo(k)fluoranthene	0.066	ND	ND	ND
Chrysene	0.066	ND	ND	ND
Dibenz(a,h)anthracene	0.066	ND	ND	ND

**Notes:**

<sup>(1)</sup> South Carolina Risk-Based Screening Levels from the Quality Assurance Program Plan for the Underground Storage Tank Management Division, Revision 1.0 (SCDHEC, May 2001).

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 C.

RBSL - Risk-Based Screening Level

SCDHEC - South Carolina Department Of Health and Environmental Control

**Table 4**  
**Laboratory Analytical Results - Groundwater - Tier 2 Assessment**  
**41 Bay Circle (Formerly 9 Bay Circle)**  
**Laurel Bay Military Housing Area**  
**Marine Corps Air Station Beaufort**  
**Beaufort, South Carolina**

Constituent	SCDHEC RBSLs <sup>(1)</sup>	Site-Specific Groundwater VISLs (µg/L) <sup>(2)</sup>	Results Sample Collected 05/20/05		
			10TMW04	10TMW05	10TMW06
<b>Volatile Organic Compounds Analyzed by EPA Method 8260B (µg/L)</b>					
Benzene	5	16.24	ND	ND	ND
Ethylbenzene	700	45.95	ND	ND	ND
Naphthalene	25	29.33	ND	ND	ND
Toluene	1,000	105,445	ND	ND	ND
Xylenes, Total	10,000	2,133	ND	ND	ND
<b>Semivolatile Organic Compounds Analyzed by EPA Method 8270D (µg/L)</b>					
Benzo(a)anthracene	10	NA	ND	ND	ND
Benzo(b)fluoranthene	10	NA	ND	ND	ND
Benzo(k)fluoranthene	10	NA	ND	ND	ND
Chrysene	10	NA	ND	ND	ND
Dibenz(a,h)anthracene	10	NA	ND	ND	ND

**Notes:**

(1) South Carolina Risk-Based Screening Levels from the Quality Assurance Program Plan for the Underground Storage Tank Management Division, Revision 1.0 (SCDHEC, May 2001).

(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  $1 \times 10^{-6}$ , a target hazard quotient of 1 (per target organ), and a default residential exposure scenario, assuming exposure for 24 hours/day, 350 days/year, for 26 years. Modeling was performed for a range of depths to groundwater for application as appropriate in different areas of the Laurel Bay Military Housing Area. The most conservative levels are presented for comparison. Refer to Appendix H of the Uniform Federal Policy Sampling Analysis and Sampling Plan for Vapor Media, Revision 4 (Resolution Consultants, April 2017) for additional information.

Bold font indicates the analyte was detected.

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

EPA - United States Environmental Protection Agency

JE - Johnson & Ettinger

NA - Not Applicable

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

RBSL - Risk-Based Screening Level

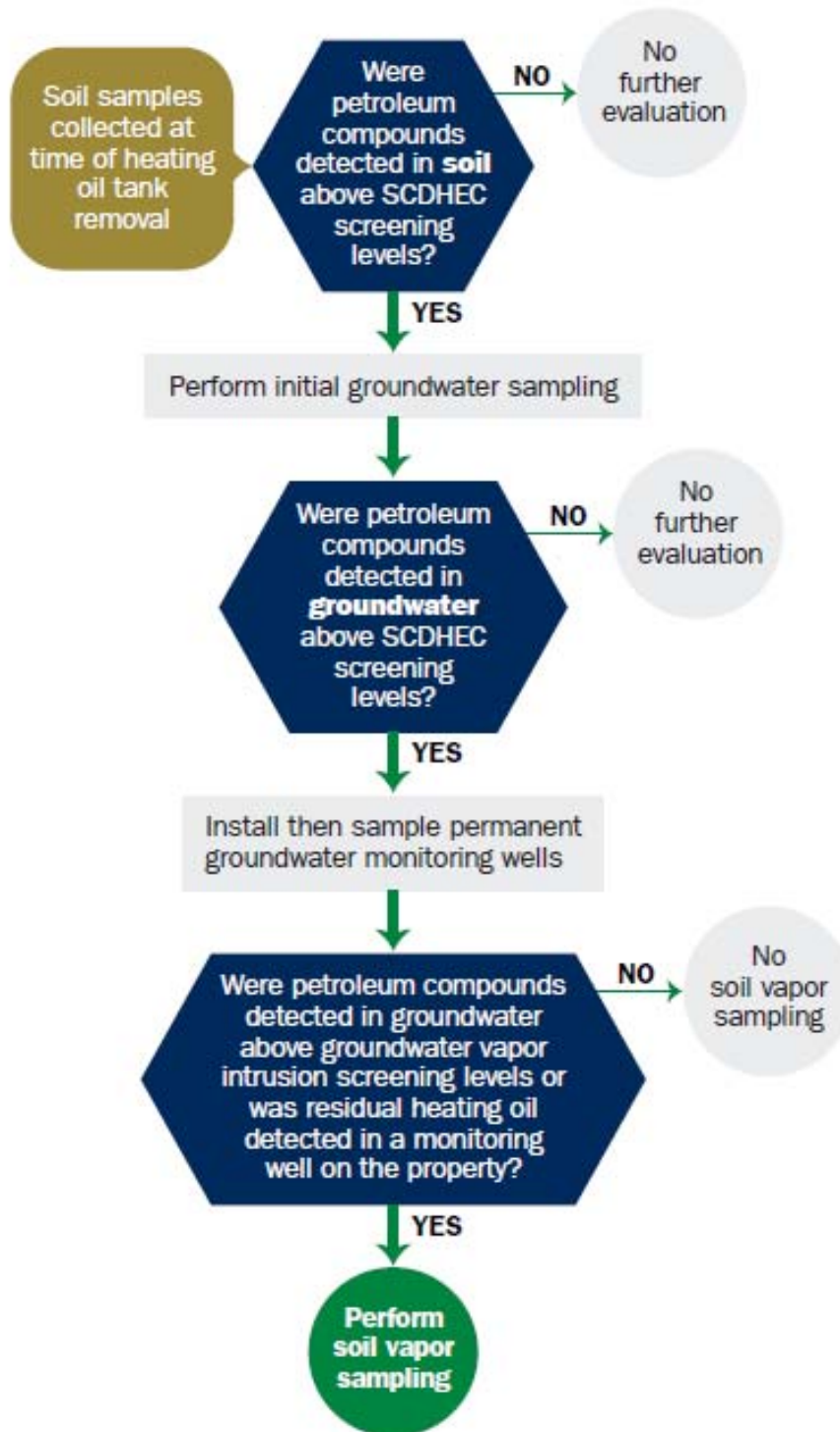
SCDHEC - South Carolina Department Of Health and Environmental Control

µg/L - micrograms per liter

VISL - Vapor Intrusion Screening Level



**Appendix A**  
**Multi-Media Selection Process for LBMH**



Appendix A - Multi-Media Selection Process for LBMH

**Appendix B**  
**UST Assessment Report**

02770

**ASSESSMENT REPORT**

LAUREL BAY HOUSING AREA, # 9-LAUREL BAY  
MARINE CORPS AIR STATION, BEAUFORT, SOUTH CAROLINA

Prepared for:



Naval Facilities Engineering Command  
North Charleston, South Carolina

**Contract Number**  
N62467-04-M-0113

**Prepared By:**

ADVENT Environmental, Inc.  
498 Wando Park Blvd.  
Suite 500  
Mt. Pleasant SC 29464

**RECEIVED**  
NOV 29 2004  
Water Monitoring Assessment & Protection Division

A handwritten signature in black ink, appearing to read "BRC".

Brian R. Crawford, R.E.M.  
Project Manager

A handwritten signature in black ink, appearing to read "Jeffrey C. Smoak".

Jeffrey C. Smoak, P.E.  
Principal

September 2004  
ADVENT 04-515

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U.S. DEPARTMENT OF AGRICULTURE  
WASHINGTON, D.C.

## **Executive Summary**

The initial Statement of Work was to remove two Underground Storage Tanks (UST) at 9 Bay Circle in the Laurel Bay Housing Area at the Marine Corps Air Station in Beaufort, South Carolina.

Soils were sampled prior to excavation and were used as delineation samples for soil removal. While onsite performing the UST removal, one additional UST was found in relation to the site. A NAVFAC Southern Division representative was onsite and approved the removal of the additional UST. Because all three tanks were within the boundaries of the delineation soil samples, no additional soil samples were needed.

The three Uses, along with the contaminated soils, were removed and disposed of (see assessment report). During the tank removal one (1) ground-water sample was collected from the excavation. Samples were sent to a certified laboratory and tested for constituents as required by the South Carolina Department of Health and Environmental Control (DHEC) guidance document dated March 15, 2000. Personal Protective Equipment (PPE) and other plastic debris were contained in the 20 yard dumpsters along with the contaminated soils. Decon water was vacuumed out of the decon pad area with the vacuum truck.

The excavation was backfilled and compacted in two separate lifts. Each lift was compacted to >95% as demonstrated on the attached compaction test results.

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

Date Received
Site Use Only

Submit Completed Form To:  
 UST Program  
 SCDHEC  
 2600 Bull Street  
 Columbia, South Carolina 29201  
 Telephone (803) 896-6240

**I. OWNERSHIP OF UST(S)**

Marine Corp Air Station		
Owner Name (Corporation, Individual, Public Agency, Other)		
Bldg 601 2nd Floor Geiger Blvd MCAS		
Mailing Address		
Beaufort	South Carolina	29904-5001
City	State	Zip Code
843	228-7317	Alice Howard
Area Code	Telephone Number	Contact Person

**II. SITE IDENTIFICATION AND LOCATION**

Permit I.D. #	Laurel Bay Housing- MCAS Beaufort, SC
Facility Name or Company Site Identifier	
Street Address or State Road (as applicable)	9 Laurel Bay Circle
Beaufort	Beaufort
City	County

**III. CLOSURE INFORMATION**

August 26, 2004	August 27, 2004	three
Closure Started	Closure Completed	Number of USTs Closed
ADVENT Environmental, Inc		
Consultant	UST Removal Contractor	

**IV. CERTIFICATION (To be signed by the UST owner/operator.)**

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.) A. G. Howard

Signature A. G. Howard

**V. UST INFORMATION**

- A. Product...(ex. Gas, Kerosene).....
- B. Capacity..(ex. 1k, 2k).....
- C. Age.....
- D. Construction Material..(ex. Steel, FRP).....
- E. Month/Year of Last Use.....
- F. Depth (ft.) To Base of Tank.....
- G. Spill Prevention Equipment Y/N.....
- H. Overfill Prevention Equipment Y/N.....
- I. Method of Closure Removed/Filled.....
- J. Date Tanks Removed/Filled.....
- K. Visible Corrosion or Pitting Y/N.....
- L. Visible Holes Y/N.....

Tank 1	Tank 2	Tank 3	Tank 4	Tank 5	Tank 6
heating oil	heating oil	heating oil			
280 Gal	280 Gal.	280 Gal			
> 40	> 40	> 40			
steel	steel	steel			
N/A	N/A	N/A			
4.5 ft	4.0 ft	4.0 ft			
no	no	no			
no	no	no			
removal	removal	removal			
8-27-04	8-27-04	8-27-04			
yes	yes	yes			
yes	yes	yes			

M. Method of disposal for any USTs removed from the ground (attach disposal manifests)  
Tanks were cut up and cleaned for scrap metal. All metal was taken to Beaufort County Recycling landfill.

---

N. Method of disposal for any liquid petroleum, sludges, or waste waters removed from the USTs (attach disposal manifests)  
Water found inside in Tank # 9-1 and 9-2 was vacuumed out (see manifest). Tank # 9-3 was full of sand.

---

O. If any corrosion, pitting, or holes were observed, describe the location and extent for each UST  
The UST had visual corrosion and pitting located on the body of the tank.

---



## VI. PIPING INFORMATION

- A. Construction Material..(ex. Steel, FRP).....
- B. Distance from UST to Dispenser.....
- C. Number of Dispensers.....
- D. Type of System Pressure or Suction.....
- E. Was Piping Removed from the Ground? Y/N
- F. Visible Corrosion or Pitting Y/N.....
- G. Visible Holes Y/N.....
- H. Age.....

Tank 1	Tank 2	Tank 3	Tank 4	Tank 5	Tank 6
copper	copper	copper			
3'	3'	3'			
1	1	1			
S	S	S			
yes	yes	yes			
no	no	no			
no	no	no			
> 40 years	> 40	> 40			

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

none

---



---



---

## VII. BRIEF SITE DESCRIPTION AND HISTORY

Site is used for military housing for MCAS. The structure ( 9 Laruel Bay Circle) was built

---

in the 1950's (see attached pictures for more detail of site). The onsite underground

---

storage tanks were used to heat 9 Laurel Bay Circle. There are no records

---

available confirming date the tanks were last used.

---



---



---

## VIII. SITE CONDITIONS

	Yes	No	Unk
<p>A. Were any petroleum-stained or contaminated soils found in the UST excavation, soil borings, trenches, or monitoring wells?</p> <p>If yes, indicate depth and location on the site map.</p>	X		
<p>B. Were any petroleum odors detected in the excavation, soil borings, trenches, or monitoring wells?</p> <p>If yes, indicate location on site map and describe the odor (strong, mild, etc.)</p> <p style="padding-left: 40px;">Mild odor in Excavations</p>	X		
<p>C. Was water present in the UST excavation, soil borings, or trenches?</p> <p>If yes, how far below land surface (indicate location and depth)?</p>	X		
<p>D. Did contaminated soils remain stockpiled on site after closure?</p> <p>If yes, indicate the stockpile location on the site map.</p> <p>Name of DHEC representative authorizing soil removal:</p>		X	
<p>E. Was a petroleum sheen or free product detected on any excavation or boring waters?</p> <p>If yes, indicate location and thickness.</p>		X	

IX. SAMPLE INFORMATION

A. SCDHEC Lab Certification Number: 99030

B.

SAMPLE #	LOCATION	SAMPLE TYPE (SOIL/WATER)	SOIL TYPE (SAND/CLAY)	DEPTH*	DATE/TIME OF COLLECTION	COLLECTED BY	OVA PPM
09SB01		Soil	sand	4-6'	7-12-04/0945	BRC	2700
09SB02		Soil	sand	4-6'	7-12-04/1015	BRC	543
09SB03		Soil	sand	4-6'	7-12-04/1105	BRC	305
09SB04		Soil	sand	2-4'	7-12-04/1130	BRC	138
09SB05		Soil	sand	2-4'	7-12-04/1145	BRC	22
09SB06		Soil	sand	2-4'	7-12-04/1200	BRC	17
09GW01		Water	n/a	6'		BRC	

\* Depth Below Surrounding Land Surface (bls)

X.

## 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.

Soil samples were collected using "grab method" and stored at 4 C using ice.  
Groundwater samples were collected using Grab Method and stored at 4 C using ice.

Methods: Soil: BTEX-8260; Naphthalene 8260; PAH 8270. Soil samples were collected prior to excavation and used as delineation boundaries.

Methods Water: BTEX-8260; Naphthalene-8260; PAH-8270; MtBE-8260. Groundwater was sampled after removal of the tanks.

Prior to excavating, soil samples were collected in two foot intervals and screened with an OVA. The interval from each boring with the highest reading was sent to a certified laboratory to be analysed for BTEX, Naphthalene, and PAHs. These borings were used as the delineation points for the UST excavation area.

## XI. RECEPTORS

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

**SITE MAP**  
**MARINE CORPS AIR STATION**  
**9 LAUREL BAY, BEAUFORT, SOUTH CAROLINA**

# 9 BAY CIRCLE MCAS BEAUFORT



BROAD RIVER

1542

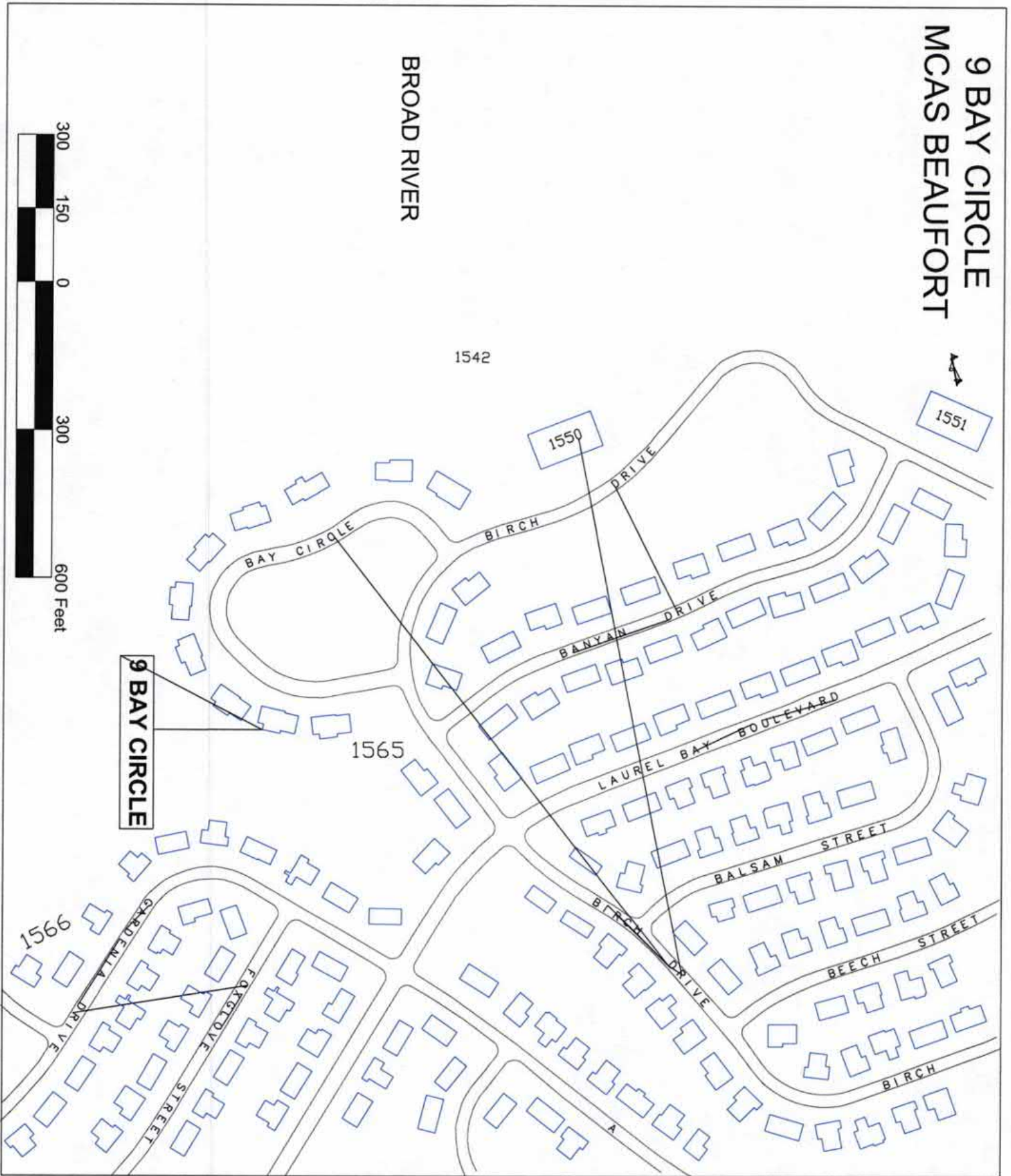
1551

1550

1565

1566

**9 BAY CIRCLE**



# LAUREL BAY #9

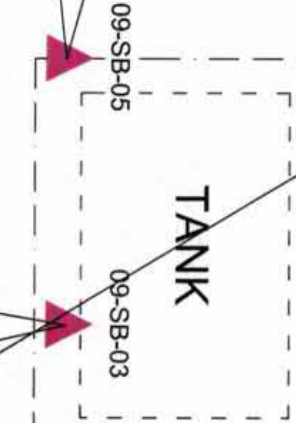
09SB06		7/12/2004	
RBSL		Clay Rich Soils	
Constituents			
Volatile Organic Compounds		Result	(ug/kg)
Method 8260			
Benzene	ND	3	627
Toluene	ND	130	1551
Ethylbenzene	ND	13010	47
Xylenes	ND		
Naphthalene	14.0		
Semi-Volatile Organic Compounds			
Method 8270	(ug/kg)	(ug/kg)	
Benzol(a)anthracene	ND	66	
Benzol(b)fluoranthene	ND	66	
Benzol(k)fluoranthene	ND	66	
Chrysene	ND	66	
Dibenz(a,h)anthracene	ND	66	

TANK

TANK

09SB04		7/12/2004	
RBSL		Clay Rich Soils	
Constituents			
Volatile Organic Compounds		Result	(ug/kg)
Method 8260			
Benzene	ND	3	627
Toluene	ND	130	1551
Ethylbenzene	6.4	13010	47
Xylenes	350.0		
Naphthalene			
Semi-Volatile Organic Compounds			
Method 8270	(ug/kg)	(ug/kg)	
Benzol(a)anthracene	ND	66	
Benzol(b)fluoranthene	ND	66	
Benzol(k)fluoranthene	ND	66	
Chrysene	ND	66	
Dibenz(a,h)anthracene	ND	66	

09SB05		7/12/2004	
RBSL		Clay Rich Soils	
Constituents			
Volatile Organic Compounds		Result	(ug/kg)
Method 8260			
Benzene	ND	3	627
Toluene	ND	1551	47
Ethylbenzene	ND	13010	
Xylenes	ND		
Naphthalene	2.9		
Semi-Volatile Organic Compounds			
Method 8270	(ug/kg)	(ug/kg)	
Benzol(a)anthracene	ND	66	
Benzol(b)fluoranthene	ND	66	
Benzol(k)fluoranthene	ND	66	
Chrysene	ND	66	
Dibenz(a,h)anthracene	ND	66	



09SB03		7/12/2004	
RBSL		Clay Rich Soils	
Constituents			
Volatile Organic Compounds		Result	(ug/kg)
Method 8260			
Benzene	ND	3	627
Toluene	ND	1551	47
Ethylbenzene	ND	13010	
Xylenes	16.0		
Naphthalene			
Semi-Volatile Organic Compounds			
Method 8270	(ug/kg)	(ug/kg)	
Benzol(a)anthracene	ND	66	
Benzol(b)fluoranthene	ND	66	
Benzol(k)fluoranthene	ND	66	
Chrysene	ND	66	
Dibenz(a,h)anthracene	ND	66	

09SB02		7/12/2004	
RBSL		Clay Rich Soils	
Constituents			
Volatile Organic Compounds		Result	(ug/kg)
Method 8260			
Benzene	ND	3	627
Toluene	ND	1551	47
Ethylbenzene	ND	13010	
Xylenes	ND		
Naphthalene			
Semi-Volatile Organic Compounds			
Method 8270	(ug/kg)	(ug/kg)	
Benzol(a)anthracene	ND	66	
Benzol(b)fluoranthene	ND	66	
Benzol(k)fluoranthene	ND	66	
Chrysene	ND	66	
Dibenz(a,h)anthracene	ND	66	

09SB01		7/12/2004	
RBSL		Clay Rich Soils	
Constituents			
Volatile Organic Compounds		Result	(ug/kg)
Method 8260			
Benzene	ND	3	627
Toluene	ND	1551	47
Ethylbenzene	ND	13010	
Xylenes	7.9		
Naphthalene			
Semi-Volatile Organic Compounds			
Method 8270	(ug/kg)	(ug/kg)	
Benzol(a)anthracene	ND	66	
Benzol(b)fluoranthene	ND	66	
Benzol(k)fluoranthene	ND	66	
Chrysene	ND	66	
Dibenz(a,h)anthracene	ND	66	

**LEGEND**

▲ SOIL BORING POINTS

▭ BUILDING

--- EXCAVATION EDGE

9 LAUREL BAY CIRCLE  
MARINE CORPS AIR STATION  
BEAUFORT, SC

CONCENTRATIONS OF CONSTITUENTS OF  
CONCERN DETECTED AT SOIL BORINGS





## **SITE PHOTOS OF TANK REMOVALS**



Laurel Bay # 9/ During excavation



Laurel Bay # 9/ Decon of Tank # 9-1.



Laurel Bay # 9/ Tank # 9-2.





Laurel Bay # 9 / Tank # 9-3.



Laurel Bay #9 / Backfilling

**MANIFESTS FOR OILY WATER  
DISPOSAL**

# US Water Recovery

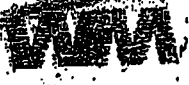
<b>Non-Hazardous Wastewater Manifest</b>		<b>Number:</b> 565		
1. Generator's EPA ID# (if applicable):		Waste ID Number:		
2. Generator's Name and Mailing Address: Marine Corp Air Station <del>Leural Bay Housing</del> Beaufort, SC 29902		Phone (843) 225-7124 APIN: A.G. Newman PO#: Commanding Officer APIN: WREAO PO Box 5501 Beaufort SC 29904		
3. Agent of Generator and Mailing Address:		Phone ( ) PO#:		
4. Transporter Company Name: Sani-Tech Environment, LLC P O Box 71619 Charleston, SC 29415		Phone (843) 744-0406		
5. Transporter U.S. EPA ID#: SCR000005363				
6. Facility Name and Site Address: U S Water Recovery 435 Old Mt. Holly Rd. Mt. Holly, SC 29445		Phone: (843) 797-8874 Fac: (843) 797-2125 Mailing Address: U S Water Recovery P O Box 70397 North Charleston, SC 29415 Phone: (843) 744-0118 Fax: (843) 744-0730		
7. Facility U.S. EPA ID#:		Total Gallons:		
Start Level:	End Level:	Tank Number: 1		
8. U.S. DOT Description	Container		Unit	Quantity
	No.	Type		
Non-Hazardous, non-regulated waste water	1	T	20-102	1,000
9. Generator's Certification: I hereby declare that the contents of this consignment are not hazardous by definition or listing and are fully and accurately described above by proper shipping name and are classified, packed, marked and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations and the laws of the State of South Carolina. I further certify that the contents of this consignment are as represented by the description contained on the Waste Profile Form previously submitted to and approved by the Designated Facility.				
Printed/Typed Name: [Signature]		Signature: [Signature]	Date: 8-26-04	
10. Transporter Acknowledgment of Receipt of Materials		Signature: [Signature]	Date: 8/26/04	
11. Discrepancy Indication space:				
12. Facility Owner or Operator, Certification of Receipt of Materials		Signature: [Signature]	Date: 9-8-04	

White - Facility    Yellow - Transporter    Pink - Generator

*[Handwritten mark]*



**MANIFESTS FOR  
CONTAMINATED SOILS**



OAKRIDGE LANDFILL  
WASTE MANAGEMENT COMPANY

SPECIAL WASTE MANIFEST

Manifest #: 090304

LR # 9

Approval # VB 3878  
Expiration 06/25/05

Generator: MCAS BEAUFORT

Account Number: 490-385

Location/Address: HIGHWAY 21'S BEAUFORT, SC (07)

Tele Number: 843-563-2016 Contact: W G DUKES JR  
125-6461

Generator Signature: [Signature]  
W.G. Dukes, Jr.

\*\*\*\*\* TO BE COMPLETED BY TRANSPORTER \*\*\*\*\*

Transporter of Waste: GLOBAL ENVIRO ASSURANCE Truck: 003

Date: 9-3-04 Driver's Signature: [Signature]

\*\*\*\*\* TO BE COMPLETED BY OAKRIDGE LANDFILL \*\*\*\*\*

Disposal Site: Oakridge Landfill DWP 130

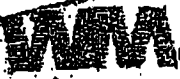
Description of Waste: SOLID WASTE REMOVAL

Ticket Number: 290003

Tonnage: 15.80

Received By: [Signature]

Date: 9-3-04



OAKRIDGE LANDFILL  
A WASTE MANAGEMENT COMPANY

SPECIAL WASTE MANIFEST

Approval # VB 3878  
Expiration 06/25/05

Manifest # 090005

LB # 9+7

Generator: MCAS BEAUFORT

Account Number: 490-335

Location/Address: HIGHWAY 21 S BEAUFORT, SC (07)

Tele Number: 843-663-8916 Contact: W G DUKES JR

Generator Signature: *[Signature]*

*W G Dukes Jr*

\*\*\*\*\* TO BE COMPLETED BY TRANSPORTER \*\*\*\*\*

Transporter of Waste: GLOBAL ENVIRO ASSURANCE

Track: 003

Date: 9-5-04

Driver's Signature: *[Signature]*

\*\*\*\*\* TO BE COMPLETED BY OAKRIDGE LANDFILL \*\*\*\*\*

Disposal Site: Oakridge Landfill DWP 130

Description of Waste: SOLUST REMOVAL

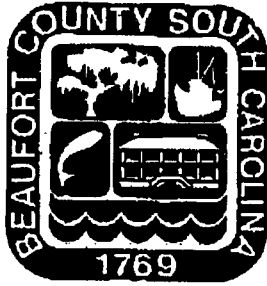
Ticket Number: 290050

Tonnage: 13.54

Received By: *[Signature]*

Date: 9/3/04

**MANIFESTS FOR SCRAP  
METAL DISPOSAL**



Beaufort County Public Works  
Solid Waste and Recycling Division  
120 Shanklin Road  
Beaufort, South Carolina 29906  
843-470-6406 phone 843-470-6422 fax

## FACSIMILE TRANSMISSION

To: BRIAN CRAWFORD

Phone: \_\_\_\_\_ Fax: 843-388-1891

From: Jim Minor, Superintendent  
Solid Waste and Recycling

Date: Aug 10, 2004 # of pages: 2

Comments: Hope this helps.

Jim Minor



**BEAUFORT COUNTY PUBLIC WORKS**  
120 Shanklin Road  
Beaufort, South Carolina 29906  
Voice (843) 470-6400 Facsimile (843) 470-6418



Date August 10, 2004

**TO WHOM IT MAY CONCERN:**

Beaufort County maintains a facility for scrap metal and white goods at Shanklin Road, Beaufort, S.C. Receipts are not issued for the material as it is received, as we have no requirement or means for weighing the material.

Through an agreement between Beaufort County and Charleston Steel, Inc. all material we receive is removed and recycled as scrap metal.

James S. Minor, Jr.  
Solid Waste and Recycling Superintendent





ADVENT Environmental Inc.  
498 Wando Park Blvd.  
Mt. Pleasant, SC 29464

(843) 388-1851 Phone  
(843) 388-1891 Fax

Origination of recyclable materials:

Laurel Bay #9, Tanks (9-2)(9-3) Job # 04-515

Disposal Location: Beaufort County Public Works  
Solid Waste and Recycling Division  
120 Shanklin Road  
Beaufort, South Carolina 29906  
(843) 470-6406-Phone

I certify that the above scrap metal equipment has been properly cleaned.

James Weeg  
PRINT (ADVENT REPRESENTATIVE)

[Signature] 27 Aug 04  
SIGNATURE DATE

I certify that the above tanks have been accepted and will be recycled by the Beaufort County Solid Waste and Recycling Division.

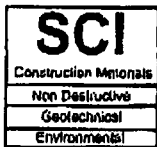
Robert Wells  
PRINT (BCPW REPRESENTATIVE)

[Signature] 8-27-04  
SIGNATURE DATE

BCPW Contact information:  
Gary Jones (843) 812-2052  
Darrell Hylton (843) 812-3864

## **PROCTOR TESTING RESULTS**





# SOIL CONSULTANTS, INC.

04-515-40

P.O. DRAWER 698  
 CHARLESTON, SC 29402  
 (843)723-4539

P.O. BOX 30457  
 MYRTLE BEACH, SC 29568  
 (843)236-6616

ORDER NO. ....

DATE 8-30-2004.....

REPORT NO. CMT-04-1212.....

**REPORT OF IN-PLACE FIELD DENSITY TESTS**

CLIENT: ADVENT ENVIRONMENTAL.....

PROJECT: MARINE CORPS AIR BASE - 7.9.10 BAY CIRCLE.....  
BEAUFORT, SC

METHOD OF TEST: ASTM D2922.....

LABORATORY TEST RESULTS:

MAXIMUM DRY DENSITY: 103.0..... lbs./cu.ft.

OPTIMUM MOISTURE CONTENT: 15.0..... %

PERCENT COMPACTION REQUIRED: 95.0..... %

SEE SKETCH ATTACHED

DATE	LOCATION	FIELD DRY DENSITY lbs./cu. ft.	FIELD MOISTURE %	ACTUAL FIELD COMPACTION %	REMARKS*
8-27-2004	LIFT #1 BAYCIRCLE #10				
	3" BELOW LAND SURFACE	101.4	7.1	98.4	S
	LIFT #2				
	6" BELOW LAND SURFACE	97.6	16.9	95.0	S
	LIFT #1 BAY CIRCLE #9				
	3" BELOW LAND SURFACE	100.4	13.3	97.5	S
	LIFT #2				
	6" BELOW LAND SURFACE	98.3	10.2	95.4	S
	LIFT #1 BAY CIRCLE #7				
	3" BELOW LAND SURFACE	98.7	8.4	95.8	S
	LIFT #2				
	6" BELOW LAND SURFACE	104.1	14.1	100+	S

\* S - SATISFACTORY    U - UNSATISFACTORY

REMARKS:

RESPECTFULLY SUBMITTED:  
 SOIL CONSULTANTS, INC. BY:

**ANALYTICAL RESULT SUMMARY PAGE**

Table 1: Summary of Soil Analytical Data  
Housing 9 Laurel Bay MCAS Beaufort

Soil Results

Constituents	08SB01 7/12/2004		08SB02 7/12/2004		08SB03 7/12/2004		08SB04 7/12/2004		08SB05 7/12/2004		08SB06 7/12/2004	
	Result	RBSL Clay Rich Soils	Result	RBSL Clay Rich Soils	Result	RBSL Clay Rich Soils	Result	RBSL Clay Rich Soils	Result	RBSL Clay Rich Soils	Result	RBSL Clay Rich Soils
<b>Method 8260</b>												
<b>Volatiles Organic Compounds</b>												
Benzene	ND	3	ND	3	ND	3	ND	3	ND	3	ND	3
Toluene	ND	627	ND	627	ND	627	ND	627	ND	627	ND	627
Ethylbenzene	ND	1551	ND	1551	ND	1551	ND	1551	ND	1551	ND	1551
Xylenes	ND	13070	ND	13070	ND	13070	ND	13070	ND	13070	ND	13070
Naphthalene	7.9	47	ND	47	16.0	47	350.0	47	2.9	47	14.0	47
<b>Method 8270</b>												
<b>Semi-Volatile Organic Compounds</b>												
Benz(a)anthracene	ND	66	ND	66	ND	66	ND	66	ND	66	ND	66
Benzo(b)fluoranthene	ND	66	ND	66	ND	66	ND	66	ND	66	ND	66
Benzo(k)fluoranthene	ND	66	ND	66	ND	66	ND	66	ND	66	ND	66
Chrysene	ND	66	ND	66	ND	66	ND	66	ND	66	ND	66
Dibenz(a,h)anthracene	ND	66	ND	66	ND	66	ND	66	ND	66	ND	66

Ground-water Results

Constituents	08GW01 8/26/2004	
	Result	RBSL Ground-water
<b>Method 8260</b>		
<b>Volatiles Organic Compounds</b>		
Benzene	ND	5
Toluene	ND	1000
Ethylbenzene	ND	700
Xylenes	ND	10000
Naphthalene	120.0	25
MIBE	ND	40
<b>Method 8270</b>		
<b>Semi-Volatile Organic Compounds</b>		
Benzo(a)anthracene	85.0	10
Benzo(b)fluoranthene	77.0	10
Benzo(k)fluoranthene	64.0	10
Chrysene	116.0	10
Dibenz(a,h)anthracene	ND	10

ND = Not Detected/ Below the RBSLs  
RBSL = Risk Based Screening Levels (May 15, 2001).  
ug/mg = Micrograms per kilogram  
ug/L = Micrograms per Liter

**CHAIN OF CUSTODY AND ANALYTICAL  
RESULTS**



# CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

854981

To Be Completed by Pace Analytical and Client  
Quote Reference: Section C

Required Client Information: Section A  
 Company: **ADVENT ENV**  
 Address: **498 Lando PK**  
**Sike SD**  
**Ms. Pleasant SC 29464**  
 Phone: **803-3881851** Fax: **3881891**

Required Client Information: Section B  
 Report To: **BRIAN CROPPER**  
 Copy To: **SARAH STABLE**  
 Invoice To: **ADVENT ENV**  
 P.O. #:  
 Project Name: **04-515**  
 Project Number: **04-515**

ITEM #	SITE LOCATION	REGULATORY AGENCY	SAMPLE TYPE	MATRIX CODE	DATE	TIME	END	DATE	TIME	SAMPLE TEMP	PRESERVATIVES						REMARKS / LAB ID
											Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2SO4	
1	095B01	NC	GROUND WATER	GW	7-12-05	0945											924947032
2	095B02	NC	GROUND WATER	GW	7-12-05	1015											924947040
3	095B03	NC	GROUND WATER	GW	7-12-05	1105											924947057
4	095B04	NC	GROUND WATER	GW	7-12-05	1130											9249470715
5	095B05	NC	GROUND WATER	GW	7-12-05	1145											9249470723
6	095B06	NC	GROUND WATER	GW	7-12-05	1200											9249470722
7	085B01	NC	GROUND WATER	GW	7-12-05	1400											9249470780
8	085B02	NC	GROUND WATER	GW	7-12-05	1415											9249470790
9	085B03	NC	GROUND WATER	GW	7-12-05	1500											9249470855
10	085B04	NC	GROUND WATER	GW	7-12-05	1600											9249470863
11	085B05	NC	GROUND WATER	GW	7-13-05	0905											9249470871
12	085B06	NC	GROUND WATER	GW	7-13-05	0930											9249470889

Client Information (Check quote/contract):  
 Requested Due Date: **TAT**  
 \*Turn around time less than 14 days subject to laboratory and contractual obligations and may result in a Rush Turnaround Surcharge.  
 Turn Around Time (TAT) in calendar days.

Project Manager: **9277542**  
 Profile #: **155415**  
 Requested Analysis: **DRINK - MAP**

REGULATORY AGENCY:  NPDES  GROUND WATER  DRINKING WATER  
 Other  RCRA  Other

SAMPLE NOTES

Temp in °C: **13**  
 Received on Ice: **DN**  
 Sealed Cooler: **DN**  
 Samples Intact: **DN**

Additional Comments:

SAMPLER NAME AND SIGNATURE: **ERIC MILLER**  
 PRINT Name of SAMPLER:  
 SIGNATURE of SAMPLER:  
 DATE Signed: **7/14/05**

SEE REVERSE SIDE FOR INSTR.

# CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

854979

Page: 2 of 2

To Be Completed by Pace Analytical and Client: Section G  
Quote Reference:

## Section B

Required Client Information:  
Report To:  
Copy To:  
Invoice To:  
P.O.  
Project Name:  
Project Number:

## Section A

Company:  
Address:  
Phone:  
Fax:

Client Information (Check quote/contract):  
Requested Due Date: \*TAT:  
\*Turn around time less than 14 days subject to laboratory and contractual obligations and may result in a Rush Turnaround Surcharge.  
Turn Around Time (TAT) in calendar days.

Project Manager:  
Project #:  
Profile #:  
Requested Analysis:

Remarks / Lab ID

Preservatives

Unpreserved
H2SO4
HNO3
HCl
NaOH
Na2SO4
Methanol
Other

AT COLLECTION

DATE	COLLECTED		DATE	TIME
	START	END		
7-13	0945			
7-13	1015			
	1045			
	1115			
	1130			
	1145			
	1300			
	1310			
	1330			
	1345			

SAMPLE TEMP

MATRIX CODE	SAMPLE TYPE	DATE	TIME	REMARKS / LAB ID
		7-13	0945	9124967997
		7-13	1015	9124467905
			1045	9124467913
			1115	9124967921
			1130	9124967933
			1145	9124967954
			1300	9124967962
			1310	9124967970
			1330	9124967980
			1345	9124967990

Valid Matrix Codes

DRINKING WATER	CODE	
GROUND WATER	GW	
SURFACE WATER	SW	
WASTE WATER	WW	
PRODUCT	P	
SOIL	S	
WIFE	W	
AIR	A	
OTHER	OT	

Section D Required Client Information:

**SAMPLE ID**  
One character per box.  
(A-Z, 0-9, /, -)  
Sample IDs MUST BE UNIQUE

ITEM #	1	2	3	4	5	6	7	8	9	10	11	12
	075B01	075B02	075B03	075B04	075B05	075B06	015B01	015B02	015B03	015B04		

REGULATORY AGENCY

NC  SC  GA  NPDES  GROUND WATER  DRINKING WATER  
 Other  UST  RCRA  Other

SAMPLE NOTES

Temp in °C 43

Received on Ice  N

Sealed Cooler  N

Samples intact  N

Additional Comments:

SITE LOCATION

RELINQUISHED BY / AFFILIATION

DATE

TIME

ACCEPTED BY / AFFILIATION

DATE

TIME

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER:

SIGNATURE of SAMPLER:

DATE Signed: (MM/DD/YY)



Pace Analytical Services, Inc.  
9800 Kincsey Avenue, Suite 100  
Huntersville, NC 28078  
Phone: 704.875.9082  
Fax: 704.875.9091

July 22, 2004

Mr. Brian Crawford  
Advent Environmental  
498 Wando Pk Blvd  
Suite 500  
Mt. Pleasant, SC 29464

RE: Lab Project Number: 9271562  
Client Project ID: 04-515

Dear Mr. Crawford:

Enclosed are the analytical results for sample(s) received by the laboratory on July 14, 2004. Results reported herein conform to the most current NELAP standards, where applicable, unless otherwise narrated in the body of the report.

If you have any questions concerning this report please feel free to contact me.

Sincerely,

Sherri Stabel  
Sherri.Stabel@pacelabs.com  
Project Manager

Enclosures

Asheville Certification IDs  
NC Wastewater 40  
NC Drinking Water 37712  
SC Environmental 88090  
FL NELAP E87648

### REPORT OF LABORATORY ANALYSIS

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Charlotte Certification IDs  
NC Wastewater 12  
NC Drinking Water 37706  
SC 99006  
FL NELAP E87627



Pace Analytical Services, Inc.  
 9800 Kinsey Avenue, Suite 100  
 Huntersville, NC 28078  
 Phone: 704.875.9092  
 Fax: 704.875.9091

Lab Project Number: 9271562  
 Client Project ID: 04-515

Solid results are reported on a dry weight basis

Lab Sample No: 924467632 Project Sample Number: 9271562-001 Date Collected: 07/12/04 09:45  
 Client Sample ID: 098B01 Matrix: Soil Date Received: 07/14/04 09:45

Parameters Results Units Report Limit DF Analyzed By CAS No. Qual. ReqInt

Wet Chemistry

Percent Moisture Method: % Moisture  
 Percent Moisture 18.3 % 1.0 07/15/04 10:42 TEE

GC/MS Semivolatiles

Semivolatile Organics Prep/Method: EPA 3545 / EPA 8270  
 Benzo(k)fluoranthene ND ug/kg 810 2.5 07/16/04 17:28 BET 207-08-9  
 Benzo(b)fluoranthene ND ug/kg 810 2.5 07/16/04 17:28 BET 205-99-2  
 Benzo(a)anthracene ND ug/kg 810 2.5 07/16/04 17:28 BET 56-55-3  
 Chrysene ND ug/kg 810 2.5 07/16/04 17:28 BET 218-01-9  
 Dibenz(a,h)anthracene ND ug/kg 810 2.5 07/16/04 17:28 BET 53-70-3  
 Nitrobenzene-d5 (S) 36 % 1.0 07/16/04 17:28 BET 4165-60-0  
 2-Fluorobiphenyl (S) 39 % 1.0 07/16/04 17:28 BET 321-60-8  
 Terphenyl-d14 (S) 65 % 1.0 07/16/04 17:28 BET 1718-51-0  
 Date Extracted 07/15/04 07/15/04

GC/MS Volatiles

GC/MS VOCs 5035/8260 low level Method: EPA 8260  
 Benzene ND ug/kg 3.2 0.6 07/17/04 05:10 RWS 71-43-2  
 Ethylbenzene ND ug/kg 3.2 0.6 07/17/04 05:10 RWS 100-41-4  
 Naphthalene 7.9 ug/kg 3.2 0.6 07/17/04 05:10 RWS 91-20-3 1  
 Toluene ND ug/kg 3.2 0.6 07/17/04 05:10 RWS 108-88-3  
 m,p-Xylene ND ug/kg 6.4 0.6 07/17/04 05:10 RWS  
 o-Xylene ND ug/kg 3.2 0.6 07/17/04 05:10 RWS 95-47-6  
 Toluene-d8 (S) 90 % 1.0 07/17/04 05:10 RWS 2037-26-5  
 4-Bromofluorobenzene (S) 85 % 1.0 07/17/04 05:10 RWS 460-00-4  
 Dibromofluoromethane (S) 110 % 1.0 07/17/04 05:10 RWS 1868-53-7  
 1,2-Dichloroethane-d4 (S) 94 % 1.0 07/17/04 05:10 RWS 17060-07-0

Date: 07/22/04

Page: 1 of 34

Asheville Certification IDs  
 NC Wastewater 40  
 ND Drinking Water 37712  
 SC Environmental 96030  
 FL NELAP E87648

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 NC Wastewater 12  
 NC Drinking Water 37706  
 SC 98006  
 FL NELAP E87627





Pace Analytical Services, Inc.  
 9800 Kincsey Avenue, Suite 100  
 Huntersville, NC 28078  
 Phone: 704.875.9092  
 Fax: 704.875.9091

Lab Project Number: 9271562  
 Client Project ID: 04-515

Lab Sample No: 924467640 Project Sample Number: 9271562-002 Date Collected: 07/12/04 10:15  
 Client Sample ID: 09SB02 Matrix: Soil Date Received: 07/14/04 09:45

Parameters Results Units Report Limit DF Analyzed By CAS No. Qual Req/Lmt

Wet Chemistry

Percent Moisture Method: % Moisture  
 Percent Moisture 18.1 % 1.0 07/15/04 10:43 TSE

GC/MS Semivolatiles

Semivolatile Organics Prep/Method: EPA 3545 / EPA 8270  
 Benzo(k)fluoranthene ND ug/kg 800 2.4 07/16/04 18:06 BET 207-08-9  
 Benzo(b)fluoranthene ND ug/kg 800 2.4 07/16/04 18:06 BET 205-99-2  
 Benzo(a)anthracene ND ug/kg 800 2.4 07/16/04 18:06 BET 56-55-3  
 Chrysene ND ug/kg 800 2.4 07/16/04 18:06 BET 218-01-9  
 Dibenz(a,h)anthracene ND ug/kg 800 2.4 07/16/04 18:06 BET 53-70-3  
 Nitrobenzene-d5 (S) 38 % 1.0 07/16/04 18:06 BET 4165-60-0  
 2-Fluorobiphenyl (S) 41 % 1.0 07/16/04 18:06 BET 321-60-8  
 Terphenyl-d14 (S) 58 % 1.0 07/16/04 18:06 BET 1718-51-0  
 Date Extracted 07/15/04 07/15/04

GC/MS Volatiles

GC/MS VOCs 5035/8260 low level Method: EPA 8260  
 Benzene ND ug/kg 2.6 0.5 07/20/04 16:53 MSF 71-43-2  
 Ethylbenzene ND ug/kg 2.6 0.5 07/20/04 16:53 MSF 100-41-4  
 Naphthalene ND ug/kg 2.6 0.5 07/20/04 16:53 MSF 91-20-3  
 Toluene ND ug/kg 2.6 0.5 07/20/04 16:53 MSF 108-88-3  
 m,p-Xylene ND ug/kg 5.1 0.5 07/20/04 16:53 MSF  
 o-Xylene ND ug/kg 2.6 0.5 07/20/04 16:53 MSF 95-47-6  
 Toluene-d8 (S) 95 % 1.0 07/20/04 16:53 MSF 2037-26-5  
 4-Bromofluorobenzene (S) 95 % 1.0 07/20/04 16:53 MSF 460-00-4  
 Dibromofluoromethane (S) 99 % 1.0 07/20/04 16:53 MSF 1868-53-7  
 1,2-Dichloroethane-d4 (S) 96 % 1.0 07/20/04 16:53 MSF 17060-07-0

Date: 07/22/04

Page: 2 of 34

Asheville Certification IDs  
 NC Wastewater 40  
 NC Drinking Water S7712  
 SC Environmental 89030  
 FL NELAP E87648

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Charlotte Certification IDs  
 NC Wastewater 12  
 NC Drinking Water 37706  
 SC 98006  
 FL NELAP E87627



Pace Analytical Services, Inc.  
 9800 Kincsey Avenue, Suite 100  
 Huntersville, NC 28078  
 Phone: 704.875.9092  
 Fax: 704.875.9091

Lab Project Number: 9271562  
 Client Project ID: 04-515

Lab Sample No: 924467657 Project Sample Number: 9271562-003 Date Collected: 07/12/04 11:05  
 Client Sample ID: 098803 Matrix: Soil Date Received: 07/14/04 09:45

Parameters	Results	Units	Report Limit	DF	Analyzed	By	CAS No.	Qual	Req/Lmt
<b>Wet Chemistry</b>									
Percent Moisture	Method: % Moisture								
Percent Moisture	17.5	%			1.0	07/15/04 10:43	TSE		
<b>GC/MS Semivolatiles</b>									
Semivolatile Organics	Prep/Method: EPA 3545 / EPA 8270								
Benzo(k)fluoranthene	ND	ug/kg	800		2.4	07/16/04 18:45	BET 207-08-9		
Benzo(b)fluoranthene	ND	ug/kg	800		2.4	07/16/04 18:45	BET 205-99-2		
Benzo(a)anthracene	ND	ug/kg	800		2.4	07/16/04 18:45	BET 56-55-3		
Chrysene	ND	ug/kg	800		2.4	07/16/04 18:45	BET 218-01-9		
Dibenz(a,h)anthracene	ND	ug/kg	800		2.4	07/16/04 18:45	BET 53-70-3		
Nitrobenzene-d5 (S)	40	%			1.0	07/16/04 18:45	BET 4165-60-0		
2-Fluorobiphenyl (S)	40	%			1.0	07/16/04 18:45	BET 321-60-8		
Terphenyl-d14 (S)	63	%			1.0	07/16/04 18:45	BET 1718-51-0		
Date Extracted	07/15/04					07/15/04			

<b>GC/MS Volatiles</b>									
GC/MS VOCs 5035/8260 low level	Method: EPA 8260								
Benzene	ND	ug/kg	4.2		0.8	07/17/04 05:44	RWS 71-43-2		
Ethylbenzene	ND	ug/kg	4.2		0.8	07/17/04 05:44	RWS 100-41-4		
Naphthalene	16.	ug/kg	4.2		0.8	07/17/04 05:44	RWS 91-20-3		1
Toluene	ND	ug/kg	4.2		0.8	07/17/04 05:44	RWS 108-88-3		
m,p-Xylene	ND	ug/kg	8.4		0.8	07/17/04 05:44	RWS		
o-Xylene	ND	ug/kg	4.2		0.8	07/17/04 05:44	RWS 95-47-6		
Toluene-d8 (S)	88	%			1.0	07/17/04 05:44	RWS 2037-26-5		
4-Bromofluorobenzene (S)	84	%			1.0	07/17/04 05:44	RWS 460-00-4		
Dibromofluoromethane (S)	111	%			1.0	07/17/04 05:44	RWS 1868-53-7		
1,2-Dichloroethane-d4 (S)	97	%			1.0	07/17/04 05:44	RWS 17060-07-0		

Date: 07/22/04

Page: 3 of 34

Ashville Certification IDs  
 NC Wastewater 40  
 NC Drinking Water 37712  
 SC Environmental 98030  
 FL NELAP E87648

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 NC Wastewater 12  
 NC Drinking Water 37708  
 SC 99006  
 FL NELAP E87627



Pace Analytical Services, Inc.  
 9800 Kincey Avenue, Suite 100  
 Huntersville, NC 28078  
 Phone: 704.875.9092  
 Fax: 704.875.9091

Lab Project Number: 9271562  
 Client Project ID: 04-515

Lab Sample No: 924467715 Project Sample Number: 9271562-004 Date Collected: 07/12/04 11:30  
 Client Sample ID: 098B04 Matrix: Soil Date Received: 07/14/04 09:45

Parameters	Results	Units	Report Limit	DF	Analyzed	By	CAS No.	Qual	Req/Lmt
<b>Wet Chemistry</b>									
Percent Moisture	Method: % Moisture								
Percent Moisture	17.8	%			1.0	07/15/04 10:43	TSE		
<b>GC/MS Semivolatiles</b>									
Semivolatile Organics	Prep/Method: EPA 3545 / EPA 8270								
Benzo(k)fluoranthene	ND	ug/kg	800		2.4	07/16/04 19:24	BET	207-08-9	
Benzo(b)fluoranthene	ND	ug/kg	800		2.4	07/16/04 19:24	BET	205-99-2	
Benzo(a)anthracene	ND	ug/kg	800		2.4	07/16/04 19:24	BET	56-55-3	
Chrysene	ND	ug/kg	800		2.4	07/16/04 19:24	BET	218-01-9	
Dibenz(a,h)anthracene	ND	ug/kg	800		2.4	07/16/04 19:24	BET	53-70-3	
Nitrobenzene-d5 (S)	34	%			1.0	07/16/04 19:24	BET	4165-60-0	
2-Fluorobiphenyl (S)	37	%			1.0	07/16/04 19:24	BET	321-60-8	
Terphenyl-d14 (S)	65	%			1.0	07/16/04 19:24	BET	1718-51-0	
Date Extracted	07/15/04					07/15/04			

**GC/MS Volatiles**

GC/MS VOCs 5035/8260 low level	Method: EPA 8260								
Benzene	ND	ug/kg	2.0		0.4	07/17/04 06:01	RWS	71-43-2	
Ethylbenzene	130	ug/kg	2.0		0.4	07/17/04 06:01	RWS	100-41-4	1,2
Naphthalene	350	ug/kg	2.0		0.4	07/17/04 06:01	RWS	91-20-3	1,2
Toluene	ND	ug/kg	2.0		0.4	07/17/04 06:01	RWS	108-88-3	
m,p-Xylene	6.4	ug/kg	4.0		0.4	07/17/04 06:01	RWS		1
o-Xylene	ND	ug/kg	2.0		0.4	07/17/04 06:01	RWS	95-47-6	
Toluene-d8 (S)	91	%			1.0	07/17/04 06:01	RWS	2037-26-5	
4-Bromofluorobenzene (S)	83	%			1.0	07/17/04 06:01	RWS	460-00-4	
Dibromofluoromethane (S)	98	%			1.0	07/17/04 06:01	RWS	1868-53-7	
1,2-Dichloroethane-d4 (S)	80	%			1.0	07/17/04 06:01	RWS	17060-07-0	

Date: 07/22/04

Page: 4 of 34

Ashville Certification IDs  
 NC Wastewater 40  
 NC Drinking Water 37712  
 SC Environmental 99030  
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 NC Wastewater 12  
 NC Drinking Water 37706  
 SC 99006  
 FL NELAP E87627



Pace Analytical Services, Inc.  
 9800 Kincsey Avenue, Suite 100  
 Huntersville, NC 28078  
 Phone: 704.875.9092  
 Fax: 704.875.9091

Lab Project Number: 9271562  
 Client Project ID: 04-515

Lab Sample No: 924467723 Project Sample Number: 9271562-005 Date Collected: 07/12/04 11:45  
 Client Sample ID: 09SB05 Matrix: Soil Date Received: 07/14/04 09:45

Parameters	Results	Units	Report Limit	DF	Analyzed	By	CAS No.	Qual	Req/Lmt
<b>Wet Chemistry</b>									
Percent Moisture	Method: % Moisture								
Percent Moisture	16.8	%			1.0	07/15/04 10:43	TSE		

**GC/MS Semivolatiles**

Prep/Method: EPA 3545 / EPA 8270	Results	Units	Report Limit	DF	Analyzed	By	CAS No.	Qual	Req/Lmt
<b>Semivolatile Organics</b>									
Benzo(k)fluoranthene	ND	ug/kg	400		1.2	07/16/04 20:02	BET	207-08-9	
Benzo(b)fluoranthene	ND	ug/kg	400		1.2	07/16/04 20:02	BET	205-99-2	
Benzo(a)anthracene	ND	ug/kg	400		1.2	07/16/04 20:02	BET	56-55-3	
Chrysene	ND	ug/kg	400		1.2	07/16/04 20:02	BET	218-01-9	
Dibenz(a,h)anthracene	ND	ug/kg	400		1.2	07/16/04 20:02	BET	53-70-3	
Nitrobenzene-d5 (S)	33	%			1.0	07/16/04 20:02	BET	4165-60-0	
2-Fluorobiphenyl (S)	36	%			1.0	07/16/04 20:02	BET	321-60-8	
Terphenyl-d14 (S)	62	%			1.0	07/16/04 20:02	BET	1718-51-0	
Date Extracted	07/15/04					07/15/04			

**GC/MS Volatiles**

GC/MS VOCs 5035/8260 low level Method: EPA 8260	Results	Units	Report Limit	DF	Analyzed	By	CAS No.	Qual	Req/Lmt
Benzene	ND	ug/kg	2.8		0.6	07/20/04 15:09	MSF	71-43-2	
Ethylbenzene	ND	ug/kg	2.8		0.6	07/20/04 15:09	MSF	100-41-4	
Naphthalene	2.9	ug/kg	2.8		0.6	07/20/04 15:09	MSF	91-20-3	
Toluene	ND	ug/kg	2.8		0.6	07/20/04 15:09	MSF	108-88-3	
m,p-Xylene	ND	ug/kg	5.6		0.6	07/20/04 15:09	MSF		
o-Xylene	ND	ug/kg	2.8		0.6	07/20/04 15:09	MSF	95-47-6	
Toluene-d8 (S)	96	%			1.0	07/20/04 15:09	MSF	2037-26-5	
4-Bromofluorobenzene (S)	101	%			1.0	07/20/04 15:09	MSF	460-00-4	
Dibromofluoromethane (S)	89	%			1.0	07/20/04 15:09	MSF	1868-53-7	
1,2-Dichloroethane-d4 (S)	88	%			1.0	07/20/04 15:09	MSF	17060-07-0	

Date: 07/22/04

Page: 5 of 34

Asheville Certification IDs  
 NC Wastewater 40  
 NC Drinking Water 37712  
 SC Environmental 99030  
 FL NELAP E87648

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 NC Wastewater 12  
 NC Drinking Water 37708  
 SC 99008  
 FL NELAP E87827



Pace Analytical Services, Inc.  
 9800 Kincay Avenue, Suite 100  
 Huntersville, NC 28078  
 Phone: 704.875.9092  
 Fax: 704.875.9091

Lab Project Number: 9271562  
 Client Project ID: 04-515

Lab Sample No: 924467822 Project Sample Number: 9271562-006 Date Collected: 07/12/04 12:00  
 Client Sample ID: 09SB06 Matrix: Soil Date Received: 07/14/04 09:45

Parameters	Results	Units	Report Limit	DF	Analyzed	By	CAS No.	Qual	Req/Lmt
<b>Wet Chemistry</b>									
Percent Moisture	Method: % Moisture								
Percent Moisture	14.9	%			1.0 07/15/04 10:44	TSE			

<b>GC/MS Semivolatiles</b>									
Prep/Method: EPA 3545 / EPA 8270									
Semivolatile Organics	ND	ug/kg	780		2.4 07/16/04 20:41	BET	207-08-9		
Benzo(k)fluoranthene	ND	ug/kg	780		2.4 07/16/04 20:41	BET	205-99-2		
Benzo(h)fluoranthene	ND	ug/kg	780		2.4 07/16/04 20:41	BET	56-55-3		
Benzo(a)anthracene	ND	ug/kg	780		2.4 07/16/04 20:41	BET	218-01-9		
Chrysene	ND	ug/kg	780		2.4 07/16/04 20:41	BET	53-70-3		
Dibenz(a,h)anthracene	30	%			1.0 07/16/04 20:41	BET	4165-60-0		
Nitrobenzene-d5 (S)	31	%			1.0 07/16/04 20:41	BET	321-60-8		
2-Fluorobiphenyl (S)	63	%			1.0 07/16/04 20:41	BET	1718-51-0		
Terphenyl-d14 (S)									
Date Extracted	07/15/04				07/15/04				

<b>GC/MS Volatiles</b>									
GC/MS VOCs 5035/8260 low level Method: EPA 8260									
Benzene	ND	ug/kg	2.4		0.5 07/20/04 17:28	MSF	71-43-2		
Ethylbenzene	ND	ug/kg	2.4		0.5 07/20/04 17:28	MSF	100-41-4		
Naphthalene	14.	ug/kg	2.4		0.5 07/20/04 17:28	MSF	91-20-3		1
Toluene	ND	ug/kg	2.4		0.5 07/20/04 17:28	MSF	108-88-3		
m&p-Xylene	ND	ug/kg	4.8		0.5 07/20/04 17:28	MSF			
o-Xylene	ND	ug/kg	2.4		0.5 07/20/04 17:28	MSF	95-47-6		
Toluene-d8 (S)	95	%			1.0 07/20/04 17:28	MSF	2037-26-5		
4-Bromofluorobenzene (S)	101	%			1.0 07/20/04 17:28	MSF	460-00-4		
Dibromofluoromethane (S)	123	%			1.0 07/20/04 17:28	MSF	1868-53-7		
1,2-Dichloroethane-d4 (S)	165	%			1.0 07/20/04 17:28	MSF	17060-07-0		3

Date: 07/22/04

Page: 6 of 34

Asheville Certification IDs  
 NC Wastewater 40  
 NC Drinking Water 37712  
 SC Environmental 89030  
 FL NELAP E87848

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 NC Wastewater 12  
 NC Drinking Water 37708  
 SC 99006  
 FL NELAP E87827



**Pace Analytical Services, Inc.**  
9800 Kinsey Avenue, Suite 100  
Huntersville, NC 28078  
Phone: 704.875.9092  
Fax: 704.875.9091

September 07, 2004

Mr. Brian Crawford  
Advent Environmental  
498 Wando Pk Blvd  
Suite 500  
Mt. Pleasant, SC 29464

RE: Lab Project Number: 9275329  
Client Project ID: MCAS-LB 04-515-40

Dear Mr. Crawford:

Enclosed are the analytical results for sample(s) received by the laboratory on August 31, 2004. Results reported herein conform to the most current NELAC standards, where applicable, unless otherwise narrated in the body of the report.

If you have any questions concerning this report please feel free to contact me.

Sincerely,

Sherri Stabel  
Sherri.Stabel@pacelabs.com  
Project Manager

Enclosures

Asheville Certification IDs  
NC Wastewater 40  
NC Drinking Water 37712  
SC Environmental 99030  
FL NELAP E87648

### REPORT OF LABORATORY ANALYSIS

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Charlotte Certification IDs  
NC Wastewater 12  
NC Drinking Water 37706  
SC 99006  
FL NELAP E87627



**Pace Analytical Services, Inc.**  
 9800 Kincey Avenue, Suite 100  
 Huntersville, NC 28078  
 Phone: 704.875.9092  
 Fax: 704.875.9091

Lab Project Number: 9275329  
 Client Project ID: MCAS-LB 04-515-40

Lab Sample No: 924655715      Project Sample Number: 9275329-001      Date Collected: 08/26/04 11:30  
 Client Sample ID: 09GW001      Matrix: Water      Date Received: 08/31/04 09:30

Parameters	Results	Units	Report Limit	DF	Analyzed	By	CAS No.	Qual	ReqLmt
<b>GC/MS Semivolatiles</b>									
Semivolatile Organics      Prep/Method: EPA 3510 / EPA 8270									
Benzo(k)fluoranthene	64.	ug/l	14.		1.4 09/02/04 17:56	BET	207-08-9		
Benzo(b)fluoranthene	77.	ug/l	14.		1.4 09/02/04 17:56	BET	205-99-2		
Benzo(a)anthracene	85.	ug/l	14.		1.4 09/02/04 17:56	BET	56-55-3		
Chrysene	110	ug/l	14.		1.4 09/02/04 17:56	BET	218-01-9		
Dibenz(a,h)anthracene	ND	ug/l	14.		1.4 09/02/04 17:56	BET	53-70-3		
Nitrobenzene-d5 (S)	93	%			1.0 09/02/04 17:56	BET	4165-60-0		
2-Fluorobiphenyl (S)	81	%			1.0 09/02/04 17:56	BET	321-60-8		
Terphenyl-d14 (S)	90	%			1.0 09/02/04 17:56	BET	1718-51-0		
Date Extracted	08/31/04				08/31/04				

<b>GC/MS Volatiles</b>									
GC/MS VOCs by 8260, low level      Method: EPA 8260									
Benzene	ND	ug/l	100	100	09/01/04 11:25	BCK	71-43-2		
Ethylbenzene	ND	ug/l	100	100	09/01/04 11:25	BCK	100-41-4		
Methyl-tert-butyl ether	ND	ug/l	100	100	09/01/04 11:25	BCK	1634-04-4		
Naphthalene	120	ug/l	100	100	09/01/04 11:25	BCK	91-20-3		
Toluene	ND	ug/l	100	100	09/01/04 11:25	BCK	108-88-3		
m&p-Xylene	ND	ug/l	200	100	09/01/04 11:25	BCK			
o-Xylene	ND	ug/l	100	100	09/01/04 11:25	BCK	95-47-6		
Toluene-d8 (S)	101	%			1.0 09/01/04 11:25	BCK	2037-26-5		
4-Bromofluorobenzene (S)	98	%			1.0 09/01/04 11:25	BCK	460-00-4		
Dibromofluoromethane (S)	105	%			1.0 09/01/04 11:25	BCK	1868-53-7		
1,2-Dichloroethane-d4 (S)	108	%			1.0 09/01/04 11:25	BCK	17060-07-0		1

Date: 09/07/04

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# CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

558276

To Be Completed by Pace Analytical and Client **Section C**

Page: 1 of 1

Required Client Information: **Section B**

Required Client Information: **Section A**

Company: **ADVENT ENV.**

Address: **498 Wendo PK Bldg Suite 500**

City: **Wk. Pleasant Gd**

State: **GA**

Zip: **30189**

Report To: **Brian Crawford**

Invoice To: **Brian Crawford**

P.O. **04-515-40**

Project Name: **MCAS-LB**

Project Number: **04-515-40**

Phone: **3881891**

Quote Reference: **558276**

Project Manager: **9275329**

Profile #: **1534**

Requested Analysis: **15**

Client Information (Check quote/contract): **TAT**

Requested Due Date: **TAT**

\* Turn around times less than 14 days subject to laboratory and contractual obligations and may result in a Rush Turnaround Surcharge.

Turn Around Time (TAT) in calendar days.

#	SAMPLE ID	Matrix	Matrix Code	Date Collected	Time Collected	# Containers	Preservatives							Remarks / Lab ID	
							Unpreserved	H <sub>2</sub> SO <sub>4</sub>	HNO <sub>3</sub>	HCl	NaOH	Na <sub>2</sub> S <sub>2</sub> O <sub>8</sub>			
1	096W001	WATER	WT	08/26	1130	6									X + 929455715 Grab
2	076W001	WATER	WT	08/26	1045	6									X + 929455723 Grab

Sample Condition	Temp in °C	Received on ICE:	Cooled:	Sealed Cooler:	Yes Intact:	Comments:
	3.8	<input checked="" type="checkbox"/> / N	<input checked="" type="checkbox"/> / N	<input checked="" type="checkbox"/> / N	<input checked="" type="checkbox"/> / N	

Signature of Sampler: **Brian B. Crawford**

Print Name of Sampler: **Brian B. Crawford**

Date Signed: **8/28/04**

Accepted By / Company: **ADVENT ENV.**

Date: **8/31/04**

Time: **0830**





**Pace Analytical Services, Inc.**  
9800 Kinsey Avenue, Suite 100  
Huntersville, NC 28078  
Phone: 704.875.9092  
Fax: 704.875.9091

Lab Project Number: 9275329  
Client Project ID: MCAS-LB 04-515-40

---

**PARAMETER FOOTNOTES**

Dilution factor shown represents the factor applied to the reported result and reporting limit due to changes in sample preparation, dilution of the extract, or moisture content

Inorganic Wet Chemistry and Metals Analyses were performed at our Pace Asheville laboratory and Organic testing was performed at our Pace Charlotte laboratory unless otherwise footnoted.

Method 9071B modified to use ASE.

All pH, Free Chlorine, Total Chlorine and Ferrous Iron analyses conducted outside of EPA recommended immediate hold time.

- ND Not detected at or above adjusted reporting limit
- NC Not Calculable
- J Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit
- MDL Adjusted Method Detection Limit
- (S) Surrogate
- [1] The sample was diluted due to the presence of high levels of non-target analytes resulting in elevated reporting limits.
- [2] Surrogate standards were not recovered due to sample dilution.
- [3] The sample extract could not be concentrated to the normal final volume. This resulted in an elevated reporting limit.
- [4] The sample was diluted to reduce matrix interference, resulting in elevated reporting limits.

Date: 09/07/04

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Asheville Certification IDs  
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**QUALITY CONTROL DATA**

Lab Project Number: 9275329  
Client Project ID: MCAS-LB 04-515-40

QC Batch: 108639	Analysis Method: EPA 8270
QC Batch Method: EPA 3510	Analysis Description: Semivolatile Organics
Associated Lab Samples: 924655715	924655723

METHOD BLANK: 924656838  
Associated Lab Samples: 924655715 924655723

<u>Parameter</u>	<u>Units</u>	<u>Blank Result</u>	<u>Reporting Limit</u>	<u>Footnotes</u>
Benzo(k) fluoranthene	ug/l	ND	10.	
Benzo(b) fluoranthene	ug/l	ND	10.	
Benzo(a) anthracene	ug/l	ND	10.	
Chrysene	ug/l	ND	10.	
Dibenz(a,h) anthracene	ug/l	ND	10.	
Nitrobenzene-d5 (S)	%	72		
2-Fluorobiphenyl (S)	%	71		
Terphenyl-d14 (S)	%	101		

LABORATORY CONTROL SAMPLE & LCSD: 924656903 924656911

<u>Parameter</u>	<u>Units</u>	<u>Spike Conc.</u>	<u>LCS Result</u>	<u>LCSD Result</u>	<u>LCS % Rec</u>	<u>LCSD % Rec</u>	<u>RPD</u>	<u>Footnotes</u>
Benzo(k) fluoranthene	ug/l	50.00	43.80	48.03	88	96	9	
Benzo(b) fluoranthene	ug/l	50.00	43.74	42.81	88	86	2	
Benzo(a) anthracene	ug/l	50.00	39.05	39.68	78	79	2	
Chrysene	ug/l	50.00	39.54	39.92	79	80	1	
Dibenz(a,h) anthracene	ug/l	50.00	27.83	27.03	56	54	3	
Nitrobenzene-d5 (S)					78	76		
2-Fluorobiphenyl (S)					85	84		
Terphenyl-d14 (S)					96	99		

Date: 09/07/04

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NC Wastewater 40  
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 9800 Kincey Avenue, Suite 100  
 Huntersville, NC 28078  
 Phone: 704.875.9092  
 Fax: 704.875.9091

QUALITY CONTROL DATA

Lab Project Number: 9275329  
 Client Project ID: MCAS-LB 04-515-40

QC Batch: 108728 Analysis Method: EPA 8260  
 QC Batch Method: EPA 8260 Analysis Description: GC/MS VOCs by 8260, low level  
 Associated Lab Samples: 924655715 924655723

METHOD BLANK: 924660160  
 Associated Lab Samples: 924655715 924655723

Parameter	Units	Blank Result	Reporting Limit	Footnotes
Benzene	ug/l	ND	1.0	
Ethylbenzene	ug/l	ND	1.0	
Methyl-tert-butyl ether	ug/l	ND	1.0	
Naphthalene	ug/l	ND	1.0	
Toluene	ug/l	ND	1.0	
m&p-Xylene	ug/l	ND	2.0	
o-Xylene	ug/l	ND	1.0	
Toluene-d8 (S)	%	101		
4-Bromofluorobenzene (S)	%	96		
Dibromofluoromethane (S)	%	98		
1,2-Dichloroethane-d4 (S)	%	94		

LABORATORY CONTROL SAMPLE: 924660178

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	Footnotes
Benzene	ug/l	50.00	46.93	94	
Ethylbenzene	ug/l	50.00	49.79	100	
Methyl-tert-butyl ether	ug/l	50.00	45.10	90	
Naphthalene	ug/l	50.00	57.50	115	
Toluene	ug/l	50.00	44.54	89	
m&p-Xylene	ug/l	100.00	99.41	99	
o-Xylene	ug/l	50.00	48.98	98	
Toluene-d8 (S)				99	
4-Bromofluorobenzene (S)				105	
Dibromofluoromethane (S)				92	
1,2-Dichloroethane-d4 (S)				102	

Date: 09/07/04

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Lab Project Number: 9275329  
Client Project ID: MCAS-LB 04-515-40

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**QUALITY CONTROL DATA PARAMETER FOOTNOTES**

Consistent with EPA guidelines, unrounded concentrations are displayed and have been used to calculate % Rec and RPD values.

LCS(D) Laboratory Control Sample (Duplicate)  
MS(D) Matrix Spike (Duplicate)  
DUP Sample Duplicate  
ND Not detected at or above adjusted reporting limit  
NC Not Calculable  
J Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit  
MDL Adjusted Method Detection Limit  
RPD Relative Percent Difference  
(S) Surrogate

Date: 09/07/04

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**Appendix C**  
**Laboratory Analytical Reports – Soil – Tier 2 Assessment**



**Pace Analytical Services, Inc.**  
 9800 Kinney Avenue, Suite 100  
 Huntersville, NC 28078  
 Phone: 704.875.9092  
 Fax: 704.875.9091

**Pace Analytical Services, Inc.**  
 2225 Riverside Drive  
 Asheville, NC 28804  
 Phone: 828.254.7176  
 Fax: 828.252.4618

Lab Project Number: 9294936  
 Client Project ID: LaurelBay Tier-II/04-504

Lab Sample No: 925659757 Project Sample Number: 9294936-004 Date Collected: 05/19/05 15:30  
 Client Sample ID: LB09SB-04 Matrix: Soil Date Received: 05/21/05 09:10

Parameters                      Results                      Units                      Report Limit                      Analyzed                      By                      CAS No.                      Qual                      RegLmt

**Wet Chemistry**

Percent Moisture                      Method: % Moisture  
 Percent Moisture                      18.5                      %                      05/23/05 09:05 TNS

**GC/MS Semivolatiles**

Semivolatile Organics                      Prep/Method: EPA 3545 / EPA 8270  
 Acenaphthene                      ND                      ug/kg                      410                      05/28/05 09:13 BET 83-32-9  
 Acenaphthylene                      ND                      ug/kg                      410                      05/28/05 09:13 BET 208-96-8  
 Anthracene                      ND                      ug/kg                      410                      05/28/05 09:13 BET 120-12-7  
 Benzo (a) anthracene                      ND                      ug/kg                      410                      05/28/05 09:13 BET 56-55-3  
 Benzo (a) pyrene                      ND                      ug/kg                      410                      05/28/05 09:13 BET 50-32-8  
 Benzo (b) fluoranthene                      ND                      ug/kg                      410                      05/28/05 09:13 BET 205-99-2  
 Benzo (g, h, i) perylene                      ND                      ug/kg                      410                      05/28/05 09:13 BET 191-24-2  
 Benzo (k) fluoranthene                      ND                      ug/kg                      410                      05/28/05 09:13 BET 207-08-9  
 Chrysene                      ND                      ug/kg                      410                      05/28/05 09:13 BET 218-01-9  
 Dibenz (a, h) anthracene                      ND                      ug/kg                      410                      05/28/05 09:13 BET 53-70-3  
 Fluoranthene                      ND                      ug/kg                      410                      05/28/05 09:13 BET 206-44-0  
 Fluorene                      ND                      ug/kg                      410                      05/28/05 09:13 BET 86-73-7  
 Indeno (1, 2, 3-cd) pyrene                      ND                      ug/kg                      410                      05/28/05 09:13 BET 193-39-5  
 Naphthalene                      ND                      ug/kg                      410                      05/28/05 09:13 BET 91-20-3  
 Phenanthrene                      ND                      ug/kg                      410                      05/28/05 09:13 BET 85-01-8  
 Pyrene                      ND                      ug/kg                      410                      05/28/05 09:13 BET 129-00-0  
 Nitrobenzene-d5 (S)                      39                      %                      05/28/05 09:13 BET 4165-60-0  
 2-Fluorobiphenyl (S)                      28                      %                      05/28/05 09:13 BET 321-60-8  
 Terphenyl-d14 (S)                      34                      %                      05/28/05 09:13 BET 1718-51-0  
 Date Extracted                      05/26/05                      05/26/05

**GC Semivolatiles**

TPH in Soil by 3545/8015                      Prep/Method: EPA 3545 / EPA 8015  
 Diesel Fuel                      ND                      mg/kg                      6.1                      05/26/05 11:45 KBS 68334-30-5  
 n-Pentacosane (S)                      58                      %                      05/26/05 11:45 KBS 629-99-2  
 Date Extracted                      05/25/05                      05/25/05

**GC/MS Volatiles**

GC/MS VOCs 5035/8260 low level                      Method: EPA 8260  
 Benzene                      ND                      ug/kg                      2.7                      05/27/05 00:43 RWS 71-43-2  
 Ethylbenzene                      ND                      ug/kg                      2.7                      05/27/05 00:43 RWS 100-41-4  
 Methyl-tert-butyl ether                      ND                      ug/kg                      2.7                      05/27/05 00:43 RWS 1634-04-4  
 Naphthalene                      ND                      ug/kg                      2.7                      05/27/05 00:43 RWS 91-20-3

Date: 06/08/05

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**Pace Analytical Services, Inc.**  
 2225 Riverside Drive  
 Asheville, NC 28804  
 Phone: 828.254.7176  
 Fax: 828.252.4618

Lab Project Number: 9294936  
 Client Project ID: LaurelBay Tier-II/04-504

Lab Sample No: 925659757      Project Sample Number: 9294936-004      Date Collected: 05/19/05 15:30  
 Client Sample ID: LB09SB-04      Matrix: Soil      Date Received: 05/21/05 09:10

Parameters	Results	Units	Report Limit	Analyzed	By	CAS No.	Qual	ReqLmt
Toluene	ND	ug/kg	2.7	05/27/05 00:43	RWS	108-88-3		
m&p-Xylene	ND	ug/kg	5.4	05/27/05 00:43	RWS			
o-Xylene	ND	ug/kg	2.7	05/27/05 00:43	RWS	95-47-6		
Toluene-d8 (S)	90	%		05/27/05 00:43	RWS	2037-26-5		
4-Bromofluorobenzene (S)	84	%		05/27/05 00:43	RWS	460-00-4		
Dibromofluoromethane (S)	107	%		05/27/05 00:43	RWS	1868-53-7		
1,2-Dichloroethane-d4 (S)	106	%		05/27/05 00:43	RWS	17060-07-0		

Date: 06/08/05

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**Pace Analytical Services, Inc.**  
 2225 Riverside Drive  
 Asheville, NC 28804  
 Phone: 828.254.7176  
 Fax: 828.252.4618

Lab Project Number: 9294936  
 Client Project ID: LaurelBay Tier-II/04-504

Lab Sample No: 925659765 Project Sample Number: 9294936-005 Date Collected: 05/19/05 16:00  
 Client Sample ID: LB09SB-05 Matrix: Soil Date Received: 05/21/05 09:10

Parameters                      Results                      Units    Report Limit                      Analyzed    By                      CAS No.                      Qual    RegLmt

**Wet Chemistry**

Percent Moisture                      Method: % Moisture  
 Percent Moisture                      19.5                      %                      05/23/05 09:06 TNS

**GC/MS Semivolatiles**

Semivolatile Organics                      Prep/Method: EPA 3545 / EPA 8270  
 Acenaphthene                      ND                      ug/kg                      410                      05/28/05 09:48 BET 83-32-9  
 Acenaphthylene                      ND                      ug/kg                      410                      05/28/05 09:48 BET 208-96-8  
 Anthracene                      ND                      ug/kg                      410                      05/28/05 09:48 BET 120-12-7  
 Benzo(a)anthracene                      ND                      ug/kg                      410                      05/28/05 09:48 BET 56-55-3  
 Benzo(a)pyrene                      ND                      ug/kg                      410                      05/28/05 09:48 BET 50-32-8  
 Benzo(b)fluoranthene                      ND                      ug/kg                      410                      05/28/05 09:48 BET 205-99-2  
 Benzo(g,h,i)perylene                      ND                      ug/kg                      410                      05/28/05 09:48 BET 191-24-2  
 Benzo(k)fluoranthene                      ND                      ug/kg                      410                      05/28/05 09:48 BET 207-08-9  
 Chrysene                      ND                      ug/kg                      410                      05/28/05 09:48 BET 218-01-9  
 Dibenz(a,h)anthracene                      ND                      ug/kg                      410                      05/28/05 09:48 BET 53-70-3  
 Fluoranthene                      ND                      ug/kg                      410                      05/28/05 09:48 BET 206-44-0  
 Fluorene                      ND                      ug/kg                      410                      05/28/05 09:48 BET 86-73-7  
 Indeno(1,2,3-cd)pyrene                      ND                      ug/kg                      410                      05/28/05 09:48 BET 193-39-5  
 Naphthalene                      ND                      ug/kg                      410                      05/28/05 09:48 BET 91-20-3  
 Phenanthrene                      ND                      ug/kg                      410                      05/28/05 09:48 BET 85-01-8  
 Pyrene                      ND                      ug/kg                      410                      05/28/05 09:48 BET 129-00-0  
 Nitrobenzene-d5 (S)                      36                      %                      05/28/05 09:48 BET 4165-60-0  
 2-Fluorobiphenyl (S)                      36                      %                      05/28/05 09:48 BET 321-60-8  
 Terphenyl-d14 (S)                      56                      %                      05/28/05 09:48 BET 1718-51-0  
 Date Extracted                      05/26/05                      05/26/05

**GC Semivolatiles**

TPH in Soil by 3545/8015                      Prep/Method: EPA 3545 / EPA 8015  
 Diesel Fuel                      ND                      mg/kg                      6.2                      05/26/05 12:15 KBS 68334-30-5  
 n-Pentacosane (S)                      63                      %                      05/26/05 12:15 KBS 629-99-2  
 Date Extracted                      05/25/05                      05/25/05

**GC/MS Volatiles**

GC/MS VOCs 5035/8260 low level                      Method: EPA 8260  
 Benzene                      ND                      ug/kg                      2.5                      05/27/05 00:09 RWS 71-43-2  
 Ethylbenzene                      ND                      ug/kg                      2.5                      05/27/05 00:09 RWS 100-41-4  
 Methyl-tert-butyl ether                      ND                      ug/kg                      2.5                      05/27/05 00:09 RWS 1634-04-4  
 Naphthalene                      ND                      ug/kg                      2.5                      05/27/05 00:09 RWS 91-20-3

Date: 06/08/05

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 Fax: 828.252.4618

Lab Project Number: 9294936  
 Client Project ID: LaurelBay Tier-II/04-504

Lab Sample No: 925659765 Project Sample Number: 9294936-005 Date Collected: 05/19/05 16:00  
 Client Sample ID: LB09SB-05 Matrix: Soil Date Received: 05/21/05 09:10

Parameters	Results	Units	Report Limit	Analyzed	By	CAS No.	Qual	RegLmt
Toluene	ND	ug/kg	2.5	05/27/05 00:09	RWS	108-88-3		
m&p-Xylene	ND	ug/kg	5.0	05/27/05 00:09	RWS			
o-Xylene	ND	ug/kg	2.5	05/27/05 00:09	RWS	95-47-6		
Toluene-d8 (S)	98	%		05/27/05 00:09	RWS	2037-26-5		
4-Bromofluorobenzene (S)	91	%		05/27/05 00:09	RWS	460-00-4		
Dibromofluoromethane (S)	86	%		05/27/05 00:09	RWS	1868-53-7		
1,2-Dichloroethane-d4 (S)	77	%		05/27/05 00:09	RWS	17060-07-0		

Date: 06/08/05

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Lab Project Number: 9294936  
 Client Project ID: LaurelBay Tier-II/04-504

Lab Sample No: 925659773 Project Sample Number: 9294936-006 Date Collected: 05/19/05 16:30  
 Client Sample ID: LB09SB-06 Matrix: Soil Date Received: 05/21/05 09:10

Parameters                      Results                      Units                      Report Limit                      Analyzed                      By                      CAS No.                      Qual                      RegLmt

**Wet Chemistry**

Percent Moisture                      Method: % Moisture  
 Percent Moisture                      11.5                      %                      05/23/05 09:06 TNS

**GC/MS Semivolatiles**

Semivolatile Organics                      Prep/Method: EPA 3545 / EPA 8270  
 Acenaphthene                      ND                      ug/kg                      370                      05/28/05 10:22 BET                      83-32-9  
 Acenaphthylene                      ND                      ug/kg                      370                      05/28/05 10:22 BET                      208-96-8  
 Anthracene                      ND                      ug/kg                      370                      05/28/05 10:22 BET                      120-12-7  
 Benzo (a) anthracene                      ND                      ug/kg                      370                      05/28/05 10:22 BET                      56-55-3  
 Benzo (a) pyrene                      ND                      ug/kg                      370                      05/28/05 10:22 BET                      50-32-8  
 Benzo (b) fluoranthene                      ND                      ug/kg                      370                      05/28/05 10:22 BET                      205-99-2  
 Benzo (g,h,i) perylene                      ND                      ug/kg                      370                      05/28/05 10:22 BET                      191-24-2  
 Benzo (k) fluoranthene                      ND                      ug/kg                      370                      05/28/05 10:22 BET                      207-08-9  
 Chrysene                      ND                      ug/kg                      370                      05/28/05 10:22 BET                      218-01-9  
 Dibenz (a,h) anthracene                      ND                      ug/kg                      370                      05/28/05 10:22 BET                      53-70-3  
 Fluoranthene                      ND                      ug/kg                      370                      05/28/05 10:22 BET                      206-44-0  
 Fluorene                      ND                      ug/kg                      370                      05/28/05 10:22 BET                      86-73-7  
 Indeno (1,2,3-cd) pyrene                      ND                      ug/kg                      370                      05/28/05 10:22 BET                      193-39-5  
 Naphthalene                      ND                      ug/kg                      370                      05/28/05 10:22 BET                      91-20-3  
 Phenanthrene                      ND                      ug/kg                      370                      05/28/05 10:22 BET                      85-01-8  
 Pyrene                      ND                      ug/kg                      370                      05/28/05 10:22 BET                      129-00-0  
 Nitrobenzene-d5 (S)                      67                      %                      05/28/05 10:22 BET                      4165-60-0  
 2-Fluorobiphenyl (S)                      42                      %                      05/28/05 10:22 BET                      321-60-8  
 Terphenyl-d14 (S)                      22                      %                      05/28/05 10:22 BET                      1718-51-0  
 Date Extracted                      05/26/05                      05/26/05

**GC Semivolatiles**

TPH in Soil by 3545/8015                      Prep/Method: EPA 3545 / EPA 8015  
 Diesel Fuel                      ND                      mg/kg                      5.7                      05/26/05 12:45 KBS                      68334-30-5  
 n-Pentacosane (S)                      71                      %                      05/26/05 12:45 KBS                      629-99-2  
 Date Extracted                      05/25/05                      05/25/05

**GC/MS Volatiles**

GC/MS VOCs 5035/8260 low level                      Method: EPA 8260  
 Benzene                      ND                      ug/kg                      5.5                      05/27/05 00:26 RWS                      71-43-2  
 Ethylbenzene                      ND                      ug/kg                      5.5                      05/27/05 00:26 RWS                      100-41-4  
 Methyl-tert-butyl ether                      ND                      ug/kg                      5.5                      05/27/05 00:26 RWS                      1634-04-4  
 Naphthalene                      ND                      ug/kg                      5.5                      05/27/05 00:26 RWS                      91-20-3

Date: 06/08/05

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 Phone: 828.254.7176  
 Fax: 828.252.4618

Lab Project Number: 9294936  
 Client Project ID: LaurelBay Tier-II/04-504

Lab Sample No: 925659773      Project Sample Number: 9294936-006      Date Collected: 05/19/05 16:30  
 Client Sample ID: LB09SB-06      Matrix: Soil      Date Received: 05/21/05 09:10

Parameters	Results	Units	Report Limit	Analyzed	By	CAS No.	Qual	RegLmt
Toluene	ND	ug/kg	5.5	05/27/05 00:26	RWS	108-88-3		
m&p-Xylene	ND	ug/kg	11.	05/27/05 00:26	RWS			
o-Xylene	ND	ug/kg	5.5	05/27/05 00:26	RWS	95-47-6		
Toluene-d8 (S)	95	%		05/27/05 00:26	RWS	2037-26-5		
4-Bromofluorobenzene (S)	80	%		05/27/05 00:26	RWS	460-00-4		
Dibromofluoromethane (S)	92	%		05/27/05 00:26	RWS	1868-53-7		
1,2-Dichloroethane-d4 (S)	94	%		05/27/05 00:26	RWS	17060-07-0		

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**Appendix D**  
**Laboratory Analytical Reports – Groundwater – Tier 2 Assessment**



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 Fax: 828.252.4618

Lab Project Number: 9294933  
 Client Project ID: Laurel Bay

Lab Sample No: 925659534 Project Sample Number: 9294933-004 Date Collected: 05/20/05 00:00  
 Client Sample ID: 10TMW-04 Matrix: Water Date Received: 05/21/05 09:10

Parameters	Results	Units	Report Limit	Analyzed	By	CAS No.	Qual	RegLmt
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**Metals**

Dissolved Metals, Trace ICP	Prep/Method: EPA 3010 / EPA 6010							
Lead, Dissolved	ND	mg/l	0.0050	05/28/05 03:08	ALV	7439-92-1		
Date Digested	05/23/05 06:00			05/23/05 06:00				

**Wet Chemistry**

Iron, Ferrous	Method: SM 3500-Fe D#4							
Iron, Ferrous	4.6	mg/l	0.50	05/21/05 14:20	TCM		1	
48 Hour NO3 / NO2 / NOX	Method: EPA 353.2							
Nitrate as N	ND	mg/l	0.10	05/21/05 14:07	ARH			
Oxygen, Dissolved	Method: EPA 360.1							
Oxygen, Dissolved	6.8	mg/l	1.0	05/24/05 13:20	TMR	7782-44-7	1	

**GC/MS Semivolatiles**

Semivolatile Organics	Prep/Method: EPA 3510 / EPA 8270							
Acenaphthene	ND	ug/l	10.	05/31/05 18:04	BET	83-32-9		
Acenaphthylene	ND	ug/l	10.	05/31/05 18:04	BET	208-96-8		
Anthracene	ND	ug/l	10.	05/31/05 18:04	BET	120-12-7		
Benzo (a) anthracene	ND	ug/l	10.	05/31/05 18:04	BET	56-55-3		
Benzo (a) pyrene	ND	ug/l	10.	05/31/05 18:04	BET	50-32-8		
Benzo (b) fluoranthene	ND	ug/l	10.	05/31/05 18:04	BET	205-99-2		
Benzo (g,h,i) perylene	ND	ug/l	10.	05/31/05 18:04	BET	191-24-2		
Benzo (k) fluoranthene	ND	ug/l	10.	05/31/05 18:04	BET	207-08-9		
Chrysene	ND	ug/l	10.	05/31/05 18:04	BET	218-01-9		
Dibenz (a,h) anthracene	ND	ug/l	10.	05/31/05 18:04	BET	53-70-3		
Fluoranthene	ND	ug/l	10.	05/31/05 18:04	BET	206-44-0		
Fluorene	ND	ug/l	10.	05/31/05 18:04	BET	86-73-7		
Indeno (1,2,3-cd) pyrene	ND	ug/l	10.	05/31/05 18:04	BET	193-39-5		
Naphthalene	ND	ug/l	10.	05/31/05 18:04	BET	91-20-3		
Phenanthrene	ND	ug/l	10.	05/31/05 18:04	BET	85-01-8		
Pyrene	ND	ug/l	10.	05/31/05 18:04	BET	129-00-0		
Nitrobenzene-d5 (S)	59	%		05/31/05 18:04	BET	4165-60-0		
2-Fluorobiphenyl (S)	41	%		05/31/05 18:04	BET	321-60-8		
Terphenyl-d14 (S)	41	%		05/31/05 18:04	BET	1718-51-0		
Date Extracted	05/31/05			05/31/05				

Date: 06/08/05

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Lab Project Number: 9294933  
 Client Project ID: Laurel Bay

Lab Sample No: 925659534      Project Sample Number: 9294933-004      Date Collected: 05/20/05 00:00  
 Client Sample ID: 10TMW-04      Matrix: Water      Date Received: 05/21/05 09:10

Parameters      Results      Units      Report Limit      Analyzed      By      CAS No.      Qual      RegLmt

**GC Semivolatiles**

EDE and DBCP in Water		Method: EPA 8011						
1,2-Dibromoethane (EDB)	ND	ug/l	0.020	05/23/05	18:03	JEM	106-93-4	
1,2-Dibromo-3-chloropropane	ND	ug/l	0.050	05/23/05	18:03	JEM	96-12-8	
1,2,3-Trichloropropane	ND	ug/l	0.050	05/23/05	18:03	JEM	96-18-4	
1-Chloro-2-bromopropane (S)	95	%		05/23/05	18:03	JEM	301-79-56	

**GC/MS Volatiles**

GC/MS VOCs by 8260, low level		Method: EPA 8260						
Benzene	ND	ug/l	1.0	05/27/05	05:51	BCK	71-43-2	
Ethylbenzene	ND	ug/l	1.0	05/27/05	05:51	BCK	100-41-4	
Methyl-tert-butyl ether	ND	ug/l	1.0	05/27/05	05:51	BCK	1634-04-4	
Naphthalene	ND	ug/l	1.0	05/27/05	05:51	BCK	91-20-3	
Toluene	ND	ug/l	1.0	05/27/05	05:51	BCK	108-88-3	
m&p-Xylene	ND	ug/l	2.0	05/27/05	05:51	BCK		
o-Xylene	ND	ug/l	1.0	05/27/05	05:51	BCK	95-47-6	
Toluene-d8 (S)	96	%		05/27/05	05:51	BCK	2037-26-5	
4-Bromofluorobenzene (S)	99	%		05/27/05	05:51	BCK	460-00-4	
Dibromofluoromethane (S)	98	%		05/27/05	05:51	BCK	1868-53-7	
1,2-Dichloroethane-d4 (S)	88	%		05/27/05	05:51	BCK	17060-07-0	

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Lab Project Number: 9294933  
 Client Project ID: Laurel Bay

Lab Sample No: 925659542 Project Sample Number: 9294933-005 Date Collected: 05/20/05 00:00  
 Client Sample ID: 10TMW-05 Matrix: Water Date Received: 05/21/05 09:10

Parameters      Results      Units      Report Limit      Analyzed      By      CAS No.      Qual      ReqLmt

**Metals**

Dissolved Metals, Trace ICP      Prep/Method: EPA 3010 / EPA 6010  
 Lead, Dissolved      ND      mg/l      0.0050      05/28/05 03:12 ALV      7439-92-1  
 Date Digested      05/23/05 06:00      05/23/05 06:00

**Wet Chemistry**

Iron, Ferrous      Method: SM 3500-Fe D#4  
 Iron, Ferrous      1.6      mg/l      0.50      05/21/05 14:20 TCM      1  
 48 Hour NO3 / NO2 / NOX      Method: EPA 353.2  
 Nitrate as N      ND      mg/l      0.10      05/21/05 14:07 ARH  
 Oxygen, Dissolved      Method: EPA 360.1  
 Oxygen, Dissolved      8.3      mg/l      1.0      05/24/05 13:20 TMR      7782-44-7      1

**GC/MS Semivolatiles**

Semivolatile Organics      Prep/Method: EPA 3510 / EPA 8270  
 Acenaphthene      ND      ug/l      10.      05/31/05 18:38 BET      83-32-9  
 Acenaphthylene      ND      ug/l      10.      05/31/05 18:38 BET      208-96-8  
 Anthracene      ND      ug/l      10.      05/31/05 18:38 BET      120-12-7  
 Benzo(a)anthracene      ND      ug/l      10.      05/31/05 18:38 BET      56-55-3  
 Benzo(a)pyrene      ND      ug/l      10.      05/31/05 18:38 BET      50-32-8  
 Benzo(b)fluoranthene      ND      ug/l      10.      05/31/05 18:38 BET      205-99-2  
 Benzo(g,h,i)perylene      ND      ug/l      10.      05/31/05 18:38 BET      191-24-2  
 Benzo(k)fluoranthene      ND      ug/l      10.      05/31/05 18:38 BET      207-08-9  
 Chrysene      ND      ug/l      10.      05/31/05 18:38 BET      218-01-9  
 Dibenz(a,h)anthracene      ND      ug/l      10.      05/31/05 18:38 BET      53-70-3  
 Fluoranthene      ND      ug/l      10.      05/31/05 18:38 BET      206-44-0  
 Fluorene      ND      ug/l      10.      05/31/05 18:38 BET      86-73-7  
 Indeno(1,2,3-cd)pyrene      ND      ug/l      10.      05/31/05 18:38 BET      193-39-5  
 Naphthalene      ND      ug/l      10.      05/31/05 18:38 BET      91-20-3  
 Phenanthrene      ND      ug/l      10.      05/31/05 18:38 BET      85-01-8  
 Pyrene      ND      ug/l      10.      05/31/05 18:38 BET      129-00-0  
 Nitrobenzene-d5 (S)      51      %      05/31/05 18:38 BET      4165-60-0  
 2-Fluorobiphenyl (S)      37      %      05/31/05 18:38 BET      321-60-8  
 Terphenyl-d14 (S)      44      %      05/31/05 18:38 BET      1718-51-0  
 Date Extracted      05/31/05      05/31/05

Date: 06/08/05

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Lab Project Number: 9294933  
 Client Project ID: Laurel Bay

Lab Sample No: 925659542      Project Sample Number: 9294933-005      Date Collected: 05/20/05 00:00  
 Client Sample ID: 10TMW-05      Matrix: Water      Date Received: 05/21/05 09:10

Parameters      Results      Units      Report Limit      Analyzed      By      CAS No.      Qual      ReqLmt

**GC Semivolatiles**

EDB and DBCP in Water		Method: EPA 8011						
1,2-Dibromoethane (EDB)	ND	ug/l	0.020	05/23/05	18:23	JEM	106-93-4	
1,2-Dibromo-3-chloropropane	ND	ug/l	0.050	05/23/05	18:23	JEM	96-12-8	
1,2,3-Trichloropropane	ND	ug/l	0.050	05/23/05	18:23	JEM	96-18-4	
1-Chloro-2-bromopropane (S)	109	%		05/23/05	18:23	JEM	301-79-56	

**GC/MS Volatiles**

GC/MS VOCs by 8260, low level		Method: EPA 8260						
Benzene	ND	ug/l	1.0	05/27/05	06:16	BCK	71-43-2	
Ethylbenzene	ND	ug/l	1.0	05/27/05	06:16	BCK	100-41-4	
Methyl-tert-butyl ether	ND	ug/l	1.0	05/27/05	06:16	BCK	1634-04-4	
Naphthalene	ND	ug/l	1.0	05/27/05	06:16	BCK	91-20-3	
Toluene	ND	ug/l	1.0	05/27/05	06:16	BCK	108-88-3	
m&p-Xylene	ND	ug/l	2.0	05/27/05	06:16	BCK		
o-Xylene	ND	ug/l	1.0	05/27/05	06:16	BCK	95-47-6	
Toluene-d8 (S)	96	%		05/27/05	06:16	BCK	2037-26-5	
4-Bromofluorobenzene (S)	99	%		05/27/05	06:16	BCK	460-00-4	
Dibromofluoromethane (S)	95	%		05/27/05	06:16	BCK	1868-53-7	
1,2-Dichloroethane-d4 (S)	88	%		05/27/05	06:16	BCK	17060-07-0	

Date: 06/08/05

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Lab Project Number: 9294933  
 Client Project ID: Laurel Bay

Lab Sample No: 925659559 Project Sample Number: 9294933-006 Date Collected: 05/20/05 00:00  
 Client Sample ID: 10TMW-06 Matrix: Water Date Received: 05/21/05 09:10

Parameters	Results	Units	Report Limit	Analyzed	By	CAS No.	Qual	RegLmt
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**Metals**

Dissolved Metals, Trace ICP	Prep/Method: EPA 3010 / EPA 6010							
Lead, Dissolved	ND	mg/l	0.0050	05/28/05 03:16	ALV	7439-92-1		
Date Digested	05/23/05 06:00			05/23/05 06:00				

**Wet Chemistry**

Iron, Ferrous	Method: SM 3500-Fe D#4							
Iron, Ferrous	5.0	mg/l	0.50	05/21/05 14:20	TCM		1	
48 Hour NO3 / NO2 / NOX	Method: EPA 353.2							
Nitrate as N	ND	mg/l	0.10	05/21/05 14:07	ARH			
Oxygen, Dissolved	Method: EPA 360.1							
Oxygen, Dissolved	7.5	mg/l	1.0	05/24/05 13:20	TMR	7782-44-7	1	

**GC/MS Semivolatiles**

Semivolatile Organics	Prep/Method: EPA 3510 / EPA 8270							
Acenaphthene	ND	ug/l	10.	05/31/05 19:12	BET	83-32-9		
Acenaphthylene	ND	ug/l	10.	05/31/05 19:12	BET	208-96-8		
Anthracene	ND	ug/l	10.	05/31/05 19:12	BET	120-12-7		
Benzo (a) anthracene	ND	ug/l	10.	05/31/05 19:12	BET	56-55-3		
Benzo (a) pyrene	ND	ug/l	10.	05/31/05 19:12	BET	50-32-8		
Benzo (b) fluoranthene	ND	ug/l	10.	05/31/05 19:12	BET	205-99-2		
Benzo (g,h,i) perylene	ND	ug/l	10.	05/31/05 19:12	BET	191-24-2		
Benzo (k) fluoranthene	ND	ug/l	10.	05/31/05 19:12	BET	207-08-9		
Chrysene	ND	ug/l	10.	05/31/05 19:12	BET	218-01-9		
Dibenz (a,h) anthracene	ND	ug/l	10.	05/31/05 19:12	BET	53-70-3		
Fluoranthene	ND	ug/l	10.	05/31/05 19:12	BET	206-44-0		
Fluorene	ND	ug/l	10.	05/31/05 19:12	BET	86-73-7		
Indeno (1,2,3-cd) pyrene	ND	ug/l	10.	05/31/05 19:12	BET	193-39-5		
Naphthalene	ND	ug/l	10.	05/31/05 19:12	BET	91-20-3		
Phenanthrene	ND	ug/l	10.	05/31/05 19:12	BET	85-01-8		
Pyrene	ND	ug/l	10.	05/31/05 19:12	BET	129-00-0		
Nitrobenzene-d5 (S)	66	%		05/31/05 19:12	BET	4165-60-0		
2-Fluorobiphenyl (S)	56	%		05/31/05 19:12	BET	321-60-8		
Terphenyl-d14 (S)	54	%		05/31/05 19:12	BET	1718-51-0		
Date Extracted	05/31/05			05/31/05				

Date: 06/08/05

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 NC Drinking Water 37712  
 SC Environmental 99030  
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 NC Wastewater 12  
 NC Drinking Water 37706  
 SC 99006  
 FL NELAP E87627



**Pace Analytical Services, Inc.**  
 9800 Kincey Avenue, Suite 100  
 Huntersville, NC 28078  
 Phone: 704.875.9092  
 Fax: 704.875.9091

**Pace Analytical Services, Inc.**  
 2225 Riverside Drive  
 Asheville, NC 28804  
 Phone: 828.254.7176  
 Fax: 828.252.4618

Lab Project Number: 9294933  
 Client Project ID: Laurel Bay

Lab Sample No: 925659559      Project Sample Number: 9294933-006      Date Collected: 05/20/05 00:00  
 Client Sample ID: 10TMW-06      Matrix: Water      Date Received: 05/21/05 09:10

Parameters      Results      Units      Report Limit      Analyzed      By      CAS No.      Qual      ReqLmt

**GC Semivolatiles**

EDB and DBCP in Water		Method: EPA 8011						
1,2-Dibromoethane (EDB)	ND	ug/l	0.020	05/23/05 18:44	JEM	106-93-4		
1,2-Dibromo-3-chloropropane	ND	ug/l	0.050	05/23/05 18:44	JEM	96-12-8		
1,2,3-Trichloropropane	ND	ug/l	0.050	05/23/05 18:44	JEM	96-18-4		
1-Chloro-2-bromopropane (S)	96	%		05/23/05 18:44	JEM	301-79-56		

**GC/MS Volatiles**

GC/MS VOCs by 8260, low level		Method: EPA 8260						
Benzene	ND	ug/l	1.0	05/27/05 06:42	BCK	71-43-2		
Ethylbenzene	ND	ug/l	1.0	05/27/05 06:42	BCK	100-41-4		
Methyl-tert-butyl ether	ND	ug/l	1.0	05/27/05 06:42	BCK	1634-04-4		
Naphthalene	ND	ug/l	1.0	05/27/05 06:42	BCK	91-20-3		
Toluene	ND	ug/l	1.0	05/27/05 06:42	BCK	108-88-3		
m&p-Xylene	ND	ug/l	2.0	05/27/05 06:42	BCK			
o-Xylene	ND	ug/l	1.0	05/27/05 06:42	BCK	95-47-6		
Toluene-d8 (S)	97	%		05/27/05 06:42	BCK	2037-26-5		
4-Bromofluorobenzene (S)	98	%		05/27/05 06:42	BCK	460-00-4		
Dibromofluoromethane (S)	93	%		05/27/05 06:42	BCK	1868-53-7		
1,2-Dichloroethane-d4 (S)	86	%		05/27/05 06:42	BCK	17060-07-0		

Date: 06/08/05

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**Appendix E**  
**Regulatory Correspondence**

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C. Earl Hunter, Commissioner

*Promoting and protecting the health of the public and the environment.*

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Louisiana W. Wright  
L. Michael Blackmon  
Coleman F. Buckhouse, MD

2 December 2004

United States Marine Corps Air Station  
Attention: S-4 NREA0 (A.G. Howard)  
P.O. Box 55001  
Beaufort, SC 29904-5001

Re: MCAS – Laurel Bay Housing – Laurel Bay Circle Unit # 9  
**Site ID # 02770**  
Tank Closure Report received 29 November 2004  
Beaufort County

Dear Ms. Howard:

The purpose of this letter is to verify a release of fuel oil at the referenced facility. According to information received by the Department, the source of the release is from past onsite use of fuel oil USTs. To date, initial activities by the facility have included tank & soil removal, soil sampling, and collection of a groundwater sample. Based on the information contained in the closure report, a violation of the South Carolina Pollution Control Act has occurred in that there has been an unauthorized release of petroleum to the environment. Further, the data indicates that a violation of the South Carolina Water Classification and Standards has occurred in that Class GB Groundwater Standards have been exceeded.

Assessment and remediation activities in the vicinity of Laurel Bay Circle Unit # 9 indicate that Naphthalene remains in soils in excess of established RBSL limits. In addition, groundwater sampling conducted in this area indicates that Naphthalene also exceeds the RBSL for groundwater. Therefore, additional assessment or remedial measures are required for Laurel Bay Circle Unit # 9.

Please submit a proposal to conduct the necessary assessment and/or remedial measures at this site no later than 29 April 2005. Should you have any questions, please contact me at 803-898-3553 (office phone), 803-898-2893 (fax) or [bishopma@dhec.sc.gov](mailto:bishopma@dhec.sc.gov).

Sincerely,

Michael Bishop, Hydrogeologist  
Groundwater Quality Section  
Bureau of Water

cc: Low Country District EQC  
Matt Tetrault – BLWM  
Mike Danielsen – BLWM  
Commander NAVFACENGCOM Southern Division, Attn: Code ES24 (Gabriel Magwood), P.O. Box 190010, North  
Charleston, SC 29419-9010  
Technical File

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C. Earl Hunter, Commissioner

*Promoting and protecting the health of the public and the environment.*  
27 October 2005

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Paul C. Aughtry, III  
Glenn A. McCall  
Coleman F. Buckhouse, MD

United States Marine Corps Air Station  
Attention: S-4 NREAO (A.G. Howard)  
P.O. Box 55001  
Beaufort, SC 29904-5001

Re: MCAS – Laurel Bay Circle #'s 10, 9, 8, 7, and 1  
**Site ID #'s 02696, 02770, 02771, 02769, and 02768**  
Tier II Assessment Report received 11 October 2005  
**No Further Action**  
Beaufort County

Dear Ms. Howard:

The Department has reviewed the referenced assessment report. As submitted, the report documents current and historical efforts to monitor soil and groundwater for hydrocarbon contamination at the subject site. Based on this review, it appears that identified contamination at this site is below established maximum contaminant levels.

Based on the information and analytical data submitted, the Department recognizes that MCAS has adequately addressed the known environmental contamination identified on the property to date in accordance with the approved scope of work. Consequently, no further investigation is required at this time. Please note, this statement pertains only to the portion of the site addressed in the referenced report and does not apply to other areas of the site and/or any other potential regulatory violations. Further, the Department retains the right to request further investigation if deemed necessary.

Should you have any questions, please contact me at 803-898-3553 (office phone), 803-898-2893 (fax) or [bishopma@dhec.sc.gov](mailto:bishopma@dhec.sc.gov).

Sincerely,

Michael A. Bishop, Hydrogeologist  
Groundwater Quality Section  
Bureau of Water

B. Thomas Knight, Manager  
Groundwater Quality Section  
Bureau of Water

cc: Region 8 District EQC  
Commander NAVFACENCOM Southern Division, Attn: Code ES24 (Gabriel Magwood), P.O. Box 190010, North  
Charleston, SC 29419-9010  
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