SUMMARY REPORT 81 BAY CIRCLE (FORMERLY 7 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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9324 Virginia Avenue Norfolk, Virginia 23511-3095

Prepared by:



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

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



Summary Report 81 Bay Circle (Formerly 7 Bay Circle) Laurel Bay Military Housing Area, Marine Corps Air Station Beaufort June 2021

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- Appendix B UST Assessment Report
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List of Acronyms

bgs	below ground surface
BTEX	benzene, toluene, ethylbenzene, and xylenes
СТО	Contract Task Order
COPC	constituents of potential concern
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 81 Bay Circle (Formerly 7 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



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 81 Bay Circle (Formerly 7 Bay Circle). Details regarding the soil and groundwater investigation conducted during the UST removal at this site are provided in the *SCDHEC UST Assessment Report – 7 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 include 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, a single 280 gallon heating oil UST was removed from the front grassed area adjacent to the house at 81 Bay Circle (Formerly 7 Bay Circle). The former UST location is indicated on the figure included in the UST Assessment Report (Appendix B). The UST was removed and properly disposed of (i.e., shipped offsite for recycling or transported to a landfill). Visual evidence (i.e., staining or sheen) of petroleum impact was recorded at the time of the UST removal. According to the UST Assessment Report (Appendix B), the depth to the base of the UST was 4'6" bgs. Delineation soil samples were collected prior to excavation.

A groundwater sample was collected from the base of the excavation, following the UST removal at 81 Bay Circle (Formerly 7 Bay Circle). Further details are provided in the *SCDHEC UST Assessment Report – 7 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 81 Bay Circle (Formerly 7 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 81 Bay Circle (Formerly 7 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 81 Bay Circle (Formerly 7 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 81 Bay Circle (Formerly 7 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 81 Bay Circle (Formerly 7 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 81 Bay Circle (Formerly 7 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 81 Bay Circle (Formerly 7 Bay Circle). This NFA determination was obtained in a letter dated October 27, 2005. SCDHEC's NFA letter is provided in Appendix E.

4.0 **REFERENCES**

- Marine Corps Air Station Beaufort, 2004. *South Carolina Department of Health and Environmental Control (SCDHEC) Underground Storage Tank Assessment Report 7 Bay Circle, Laurel Bay Military Housing Area*, November 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 1Laboratory Analytical Results - Soil - UST Assessment Report81 Bay Circle (Formerly 7 Bay Circle)Laurel Bay Military Housing AreaMarine Corps Air Station BeaufortBeaufort, South Carolina

Constituent		Results Samples Collected 07/13/04					
Constituent	SCDHEC RBSLS	07SB01	07SB02	07SB03	07SB04	07SB05	07SB06
Volatile Organic Compounds Analyze	d by EPA Method 8260B (mg/kg)	•	•	•	•	•	•
Benzene	0.003	ND	ND	ND	ND	ND	ND
Ethylbenzene	1.551	ND	0.058	ND	ND	ND	ND
Naphthalene	0.047	ND	0.450	0.0091	ND	ND	ND
Toluene	0.627	ND	ND	ND	ND	ND	ND
Xylenes, Total	13.01	ND	0.0215	ND	ND	ND	ND
Semivolatile Organic Compounds Ana	alyzed by EPA Method 8270C (mg/kg)						
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:

⁽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).

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 81 Bay Circle (Formerly 7 Bay Circle) Laurel Bay Military Housing Area Marine Corps Air Station Beaufort Beaufort, South Carolina

Constituent	SCDHEC RBSLs ⁽¹⁾	Results Sample Collected 08/26/04
Volatile Organic Compounds Analyzed	by EPA Method 826	0B (µg/L)
Benzene	5	ND
Ethylbenzene	700	470
Naphthalene	25	3700
Toluene	1,000	760
Xylenes, Total	10,000	2,800
Semivolatile Organic Compounds Ana	lyzed by EPA Method	8270D (µg/L)
Benzo(a)anthracene	10	ND
Benzo(b)fluoranthene	10	ND
Benzo(k)fluoranthene	10	ND
Chrysene	10	ND
Dibenz(a,h)anthracene	10	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). 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

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 B.

RBSL - Risk-Based Screening Level

SCDHEC - South Carolina Department Of Health and Environmental Control

µg/L - micrograms per liter

Table 3Laboratory Analytical Results - Soil - Tier 2 Assessment81 Bay Circle (Formerly 7 Bay Circle)Laurel Bay Military Housing AreaMarine Corps Air Station BeaufortBeaufort, South Carolina

Quality		Results Sample Collected 05/20/05			
Constituent	SCDHEC RBSLS	010SB10	010SB11	010SB12	
Volatile Organic Compounds Analyzed	i by EPA Method 8260B (mg/kg)	•			
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	
Semivolatile Organic Compounds Ana	lyzed by EPA Method 8270C (mg/kg)				
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:

⁽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).

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 81 Bay Circle (Formerly 7 Bay Circle) Laurel Bay Military Housing Area Marine Corps Air Station Beaufort Beaufort, South Carolina

Constituent	SCDHEC RBSLs (1)	Site-Specific Groundwater VISLs	Results Sample Collected 05/23/05			
		(µg/L) ⁽²⁾	10TMW10	10TMW11	10TMW12	
Volatile Organic Compounds Analyzed	d by EPA Method 826	50B (µg/L)				
Benzene	5	16.24	ND	ND	ND	
Ethylbenzene	700	45.95	ND	ND	1.4	
Naphthalene	25	29.33	ND	ND	16	
Toluene	1,000	105,445	ND	ND	ND	
Xylenes, Total	10,000	2,133	ND	ND	ND	
Semivolatile Organic Compounds Ana	lyzed by EPA Metho	d 8270D (µg/L)				
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 1x10⁻⁶, a target hazard quotient of 1 (per target organ), and a default residential exposure scenario, assuming exposure for 24 hours/day, 350 days/year, for 26 years. Modeling was performed for a range of depths to groundwater for application as appropriate in different areas of the Laurel Bay Military Housing Area. The most conservative levels are presented for comparison. Refer to Appendix H of the Uniform Federal Policy Sampling Analysis and Sampling Plan for Vapor Media, Revision 4 (Resolution Consultants, April 2017) for additional information.

Bold font indicates the analyte was detected.

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

EPA - United States Environmental Protection Agency

JE - Johnson & Ettinger

NA - Not Applicable

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

RBSL - Risk-Based Screening Level

SCDHEC - South Carolina Department Of Health and Environmental Control

µg/L - micrograms per liter

VISL - Vapor Intrusion Screening Level

Appendix A Multi-Media Selection Process for LBMH





Appendix A - Multi-Media Selection Process for LBMH

Appendix B UST Assessment Report



ASSESSMENT REPORT

LAUREL BAY HOUSING AREA, # 7-LAUREL BAY MARINE CORPS AIR STATION, BEAUFORT, SOUTH CAROLINA

Prepared for:



Naval Facilities Engineering Command North Charleston, South Carolina 2 ECENTER DO TON TON TON TON

Contract Number N62467-04-M-0113

Prepared By:

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

SR

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

liffuy C Smool

Jeffrey C. Smoak, P.E. Principal

02769

September 2004 ADVENT 04-515





Executive Summary

The initial Statement of Work was to remove two Underground Storage Tanks (UST) at 7 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 USTs, 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

Dine Ravelveti Shie Un Only

I. OWNERSHIP OF UST(S)

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

Marine Corp Air Station Owner Name (Corporation, Individual, Public Agency, Other)							
Bldg 601 2nd Floor Ge	Bldg 601 2nd Floor Geiger Blvd MCAS						
Mailing Address		<u> </u>		<u> </u>			
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

-rermit 1.D. #	Laurel Bay Housing- MCAS Beaufort, SC							
Facility Name or Com	Facility Name or Company Site Identifier							
7 Laurel Bay Circle								
Street Address or State	e Road (as applicable)							
Beaufort	Beaufort							
City	County							
1								

III. CLOSURE INFORMATION

August 26, 2004	August 27, 2004	one
Closure Started ADVENT Environmental, Inc	Closure Completed	Number of USTs Closed
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 hased on my inquiry of those individuals responsible for obtaining this information. I believe that the submitted information is true, accurate, and complete. A. G. HD WARD Name (Type or print.)
ار	Signature
{	

	V. UST INFORMATION	Tank 1	Tank 2	Tank 3	Tank 4	Tank 5	Tank 6
٨	Product (or Cos Karacana)	heating oil					
А.	Product(ex. Gas, Kerosene)	280					
B.	Capacity(ex. 1k, 2k)	Gal					
C.	Age	> 40					
D.	Construction Material(ex. Steel, FRP)	steel					
-		N/A					
E.	Month/Year of Last Use	4.5 ft					
F.	Depth (ft.) To Base of Tank	00					
G.	Spill Prevention Equipment Y/N						
		no					
H.	Overfill Prevention Equipment Y/N	removal					
I.	Method of Closure Removed/Filled	8-27-04					
J.	Date Tanks Removed/Filled	0-27-04					
K.	Visible Corrosion or Pitting Y/N	yes					
L.	Visible Holes Y/N	yes					

M. Method of disposal for any USTs removed from the ground (attach disposal manifests) Tank was 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 #7-1 was vacuumed out (see manifest).

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

		Tank 1	Tank 2	Tank 3	Tank 4	Tank 5	Tank 6
A.	Construction Material(ex. Steel, FRP)	copper					
В.	Distance from UST to Dispenser	3 '					
C.	Number of Dispensers	1					
D.	Type of System Pressure or Suction	S					
E.	Was Piping Removed from the Ground? Y/N	yes					
F.	Visible Corrosion or Pitting Y/N	no					
G.	Visible Holes Y/N	no					
H.	Age	> 40 years					

Æ

-1

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 (7 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 7 Laurel Bay Circle. There are no records

available confirming date the tanks were last used.

VIII. SITE CONDITIONS

i

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

IX. SAMPLE INFORMATION

A. SCDHEC Lab Certification Number: 99030

В.

							۲ •
n/a	BRC	8-26-04/1045	6'	n/a	Water		07GW01
30	BRC	7-13-04/1115	4-6'	sand	Soil		07SB04
0.0	BRC	7-13-04/1045	4-6'	sand	Soil		07SB03
320	BRC	7-13-04/1015	4-6'	sand	Soil		07SB02
7.48.0	BRC	7-13-04/0745	4-6'	sand	Soil		07SB01
		COLLECTION					
	ВҮ	OF		(SAND/CLAY)	(SOIL/WATER)		#
OVA #	COLLECTED	DATE/TIME	DEPTH*	SOIL TYPE	SAMPLE TYPE	LOCATION	SAMPLE

* Depth Below Surrounding Land Surface (bls)

SAMPLING METHODOLOGY

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

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 sampes 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.

X.

XI. RECEPTORS

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

SITE PHOTOS OF TANK REMOVALS



7 Bay Circle- Fill cap



7 Bay Circle- Tank 7-1 being cut and deconed.



7 Bay Circle- During compaction testing

SITE MAP MARINE CORPS AIR STATION 7 LAUREL BAY, BEAUFORT, SOUTH CAROLINA



RBSL Clay Rich Soils Clay Rich Soils Ground-water (ug/) 5 700 700 25 25 (gy/g) 3 627 1551 13010 47 ug/kg) 66 66 66 66 66 (By/Bn) 3 627 1551 13010 47 RBSL RBSL 10 10 10 10 10 ADVENT 2 07SB03 7/13/2004 07GW01 8/26/2004 07SB05 7/13/2004 Result Result ND ND 1760 Result NON DE LE DE Semi-Volatile Organic Compounds Method 8270 Benzo(a)anthracene Benzo(b)fluoranthene Berzo(k)fluoranthene semi-Volatile Organic Compounds smi-Volatile Organic Compounds Constituents Voiatile Organic Compounds Method 8260 Benner Constituents Votatile Organic Compounds Method 8260 Benner Volatile Constituents Method 8260 Barren Benzo(a)anthracene Benzo(b)fluoranthene Benzo(k)fluoranthene Benzo(a)anthracene Benzo(b)fluoranthene Benzo(k)fluoranthene Chrysene Dibenz(a,h)anthracene libenz(a,h)anthracene Chrysene Dibenz(a,h)anthracene Toluene Ethylbenzene Xylenes Naphthalene Toluene Ethylbenzene Xylenes Naphthalene Xylenes Naphthalene Aethod 8270 ylbenzene ethod 8270 Chrysene Benzene Toluene enzene 2 CONCENTRATIONS OF CONSTITUENTS OF SOIL BORING POINTS CONCERN DETECTED AT SOIL BORINGS **EXCAVATION EDGE** 07-SB-05 LAUREL BAY #7 07-SB-03 BUILDING 07-SB-01 LEGEND TANK i 5 i 07-SB-02 07-SB-06 0 07-SB-04 RBSL Clay Rich Soils ug/kg) 66 66 66 66 66 (ug/kg) 627 1551 13010 47 5 FEET 07SB02 7/13/2004 RBSL Clay Rich Solls Clay Rich Soils ug/kg) 66 66 66 66 00/kg) 66 66 66 66 (ug/kg) 3 627 1551 13010 47 (BX/Bn 3 627 1551 3010 47 RBSL Result 075B06 7/13/2004 7/13/2004 07SB04 mi-Volatile Organic Compounds MARINE CORPS AIR STATION Result Result (Byon QN QN QN QN QN UN UN UN UN Constituents Volatile Organic Compounds Method 8260 Benzo(a)anthracene Benzo(b)fluoranthene Benzo(k)fluoranthene Chrysene Dibenz(a,h)anthracene semi-Volatile Organic Compounds Method 8270 Barzold Barthracene Barzoldyfluoranthene Barzoldyfluoranthene 7 LAUREL BAY CIRCLE Semi-Volatile Organic Compounds Method 8270 Volatile Organic Compounds Method 8260 Barrowness Volatile Organic Complituents Method 8260 thylbenzene Xylenes Naphthalene Aethod 8270 oluene Benzo(a)anthracene Benzo(b)fluoranthene Benzo(k)fluoranthene Chrysene Dibenz(a,h)anthracene Chrysene Dibenz(a,h)anthracene BEAUFORT, SC Toluene Ethylbenzene Xylenes thylbenzene Vaphthalene laphthalene anazas nzene nene ylenes
MANIFESTS FOR OILY WATER DISPOSAL



No.5849 P. 2

Sep.13. 2004	11:41AM SANI-TECH	ENVIROMENT.
TATC	• Water	
	Recov	ery

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Non-Hazardous wastewater manifed	Weste	1D Number				
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gent of Generator and Mailing Address:		•				
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	Ph	one (84)	B 744-0	406		
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5 A Box 71619	¥*				•	
Charleston, SC 29415	\mathbf{X}					
c & Troller License Number:			•			•••
ransporter U.S. EPA ID#: SCR000005363	1	a Address		Phone: (843)	744-0118	
Facility Name and Site Address: Phone: (643) 797-8874	LI S MA	ter Recova	riy .			
U S Water Recovery	PO No.	Bax 70397	· · ·	Fac (843) 74	4-0790	•
435 Old Mt. Holly Rd. Fac. (843) 797-2128	North Char	eston, SC	29415	:	· .	
Mil Holly, SC 29445	1			•••		
				•. •		
Facility U.S. EPA IDE:	··· To	aj Gallons:			Tank Number	,
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according to applicable international and national government regu	Notice Profile Fo	m previous	ly submitted to	and approv	ed by the Designat	ean active
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2. Facility Owner or Operator: Certification of Receipt of Materiala	Λ		n in the second s	1.	. Date:	Served
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MANIFESTS FOR CONTAMINATED SOILS

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FROM : MCAS BEAUFORT NREAD 88/31/2884 15:12

N0% ON

BC

08/31/2004 15:12 GLOBAL ENVIRONMENTALASSLIGANCE + 18433981891 ND. 484 0802

OAKRIDGE LANDITLL A WASTE MANAGEMENT COMPANY

SPECIAL WASTE MANIFEST

Approval # VB 3878 Expiration 06/25/65

Generator: ... MCAS BEAUFORT

Account Number: 490-335

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

Tele Numbary 843-552-8916 UNC Contact: W G DUKES JR.

Generator Signature:

Dater

we show the

Transporter of Weste: GLOBAL ENVIRO ASSURANCE. Track:

Driver's Signature:

Disposal Site: Onlyidge Landfill DWP 130

Description of Waste: SOL/UST REMOVAL

Ticket Number: _____ Tennage: _____ Received By: _____ Date: _____

> 1183 UNY 78, (POR 145), DORCHESTER, 5C. 29437 121 - 243-563-2607, FAX: 243-563-4158

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 PROW ford

Phone:_____ Fax: 843-388-1841

From:

Jim Minor, Superintendent Solid Waste and Recycling

Date:

Aug 10, 2004 # of pages: 2

Comments:

Hope this helps.

in Minon



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.

Jomes & Minor Dr.

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: Project 04-515 aund Bay Lourd BOH TONKS

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.

PRINT (ADVENT REPRESENTATIVE)

27/

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

RUBLE WEIS PRINT (BCPW REPRESENTATIVE)

<u>7-04</u>

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

498 Wando Park Blvd • Suite 500 • Mt. Pleasant, SC 29464 • 843-388-1851 • FAX 843-388-1891

PROCTOR TESTING RESULTS

AUG-31 04 14:46 FROM:

TO:843 388 1891

PAGE:01

04.515-40

SCI
Construction Matonals
Non Desirudiva
Geolechnical
Environmental

P.O. DRAWER 698 CHARLESTON, SC 29402 (843)723-4539 P.O. BOX 30457 MYRTLE BEACH, SC 29588 (843)236-6616 OF

RDER NO.	
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DATE 8-30-2004

REPORT NO. CMT-04-1212

REPORT OF IN-PLACE FIELD DENSITY TESTS

SOIL CONSULTANTS, INC.

CLIENT: ADVENT ENVIRONMENTAL

LABORATORY TEST RESULTS:

OPTIMUM MOISTURE CONTENT: ______15.0_____%

PERCENT COMPACTION REQUIRED: _____95.0

SEE SKETCH ATTACHED

DATE	LOCATION	FIELD DRY DENSITY	FIELD MOISTURE	ACTUAL FIELD COMPACTION	REMARKS*
		lbs./cu. ft.	%	%	
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	5
	LIFT #1 BAY CIRCLE #9				
	3' BELOW LAND SURFACE	100.4	13.3	97.5	5
	LIFT#2				
·····	6" BELOW LAND SURFACE	98.3	10.2	95.4	S
	LIFT #1 BAY CIRCLE #7				
<u></u>	3' BELOW LAND SURFACE	98.7	8.4	95.8	S
	LIFT #2				
	6" BELOW LAND SURFACE	104.1	14.1	100+	S
					
		• • • • • • • • • • • • • • • • •			
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*S-SATISFACTORY U-UNSATISFACTORY

REMARKS:

RESPECTFULLY SUBMITZED: SOIL CONSULTANTS, MC.

ANALYTICAL RESULT SUMMARY PAGE

Table 1: Summary of Soil Analytical Data Housing 7 Laurel Bay MCAS Beaufort

Soll Results

	717	3/2004	112 112	3/2004	10	32004	112	32004	20	SB05	10	5806 212000
Constituents	Result	RBSL Clay Rich Soils	Result	RBSL Clav Rich Soils	Result	RBSL Clav Rich Soile	Based	RBSL Claubick Colle	-	RBSL		RBSL
Volatile Organic Compounds Method 8260	(ua/ka)	(notica)	(ua/ka)	(uo%co)	(unition)	(uedici)	(under)	finded	lineari	Linkel	result	Ciay rich Solis
Benzene	QN	3	QN	3	QN	3	UN	Rukol	IRUNON	Invited	(Bully)	(Dw/bn)
Toluene	QN	627	QN	627	QN	627	GN	627	QN	637		5 and
Ethylbenzene	QN	1551	58	1551	QN	1551	QN	1551	GN	1661		150
Xylenes	QN	13010	21.5	13010	QN	13010	QN	13010	QN	13010		1001
Naphthalene	QN	13	450	14	9.1	47	QN	47	QN	47	QN	11001
Semi-Volatile Organic Compounds Method 8270	(ug/ka)	(inoka)	(uc/ka)	(uo/ta)	(unita)	(uzokor)	fundiori	fundint	finded	finded.	Indian I	6
Benzo(a)anthracene	QN	66	QN	66	QN	66	UN	Rusal	IRUAN	(fruiter)	(Bullo)	(Davion)
Benzo(b)fluoranthene	QN	99	QN	99	QN	99	QN	89	CN CN	8 5		00
Benzo(k)fluoranthene	QN	99	QN	99	QN	99	QN	99	QN	99	C N	200
Chrysene	QN	99	QN	99	QN	99	QN	99	CN	yy	UN	20
Dibenz(a,h)anthracene	QN	99	QN	99	QN	99	CN	R.	GN	20		-

Ground-water Results

	07 8/2	GW01 6/2004
Constituents	Result	RBSL Ground-water
Volatile Organic Compounds Method 8260	linell	linch
Benzene	NON	5
Toluene	760	1000
Ethylbenzene	470	200
Xylenes	2800	10000
Naphthalene	3700	25
Semi-Volatile Organic Compounds	a the state of	A Sector
Method 82/0	(1000)	(100)
Benzo(a)anthracene	QN	10
Benzo(b)fluoranthene	QN	10
Benzo(k)fluoranthene	QN	10
Chrysene	QN	10
Dibenz(a,h)anthracene	QN	10

ND = Not detected Bakew the RBSLs RBSL = Ratked Based Screening Levels upAg = micrograms per kilogram ugA = micrograms per Liter

CHAIN OF CUSTODY AND ANALYTICAL RESULTS

al Request Document	elds must be completed accurately. 854981	To Be Completed by Pace Analytical and Citeric Section C +		Phoject Manager:	Project 07715U7	Profile #: 1/7/ 1/			- 1 1 1	/////AM		V. 1 9 2 4 9 U 2 U 2)	11/2 DIJ44110 11/2	VV Diana CV	N DUM JJK	X Y G1441, 77 2	x 1 d 4 4 7 9 02	×1 024 410 7020	× 1 124 4 07040	KY 974 40 7055	XX 0144107963	KI 924457871 ***	84 61496 1895	ACCEPTED BY / AFFILIATION DATE TIME						DATE Stand: (NAW /	
AIN-OF-CUSTODY / Analytic	am-or-custody is a LEGAL DOCUMENT. All relevant fie	Page: / of /	lent information (Check quote/contract):	rquested Due Date: *TAT:	*Turm arcund time less than 14 days subject to laboratory and contractual obligations and may result in a	Push Tumaround Surcharge. Turit Around Time (TAT) in calendar daws.		sevitavies -	e LEWb			<i>\$</i> #60	1012	105	Q2/1		1200	/ / @		1580	1600 4	0905	976	RELINQUISHED BY / AFFILIATION DATE TIME				SAMPLER NAME AND SIGNATURE	PRINT Name of SAMPLER	Spanture of Sampler.	SEE REVERSE SIDE FOR INS
CHI	Required Clerk Information: Section B	Copy Test And Copy Test Copy Test	8	ADVENT ENU.	P.0.	ULY Project Name. ULY DA-515	71 Project Number 04 - 515	omfatton: Vend Marter Codes Codes				1//2/0						7.7				73		HEGULATORY AGENCY B GROUND WATER	D RCRA D Dother	3				·	• •
Enco Anali dinal	www.pacciata.com	Required Client Information: Section A	TUNG TUNG	498 wards PL	Sik ON	MA. Plast SC ZA	123381651 H 388185	Section D Required Client Info	SÄMPLEI	M One Character per box	E Sample IDS MUST BE UN	- 09 58 0 -	2095502	3095623	4 5 9 5 0 C C	5075305	6095806	7085801	8 0 \$ 52 0 2	9 6 8 5 3 6 3	10 O S 58 & 4	11 28 5 30 5	12 0 8 5 3 0 6			Temp In °C 1, 3	Received on Ice	Sealed Cooler (ON	Samples Intact	Additional Comments:	V





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

Lab Sample No: 924467897 Client Sample ID: 078B01			Project Sample	Number Matrix	: 9271562-0 : Soil	13 D	ate Collected Date Received	: 07/13/04 09:45 : 07/14/04 09:45
Parameters	Regults	Units	Report Limit	DF	<u>Analyze</u>	d By	CAS No.	Oual Regimt
Wet Chemistry		_						
Percent Moisture	Method: * Mo.	isture			AT /SE /A4 30			
Percent Moisture	10.6	*		1.0	0//13/04 10			
GC/MS Semivolatiles								
Semivolatile Organics	Prep/Method:	EPA 3545	/ EPA 8270					
Benzo (k) fluoranthens	ND	ug/)cg	370	1.1	07/19/04 16	5:22 BBT	207-08-9	
Benso (b) fluoranthene		ug/kg	370	1.1	07/19/04 16	:22 BET	205-99-2	
Benzo (a) anthracens	ND	ug/kg	370	1.1	07/19/04 16	5:22 BET	56-55-3	
Chrysens	ND	ug/kg	370	1.1	07/19/04 16	5:22 BET	218-01-9	
Dibens (a, h) anthracene	ND	ug/kg	370	1.1	07/19/04 16	5:22 BET	53-70-3	
Mitrobengene-d5 (S)	28	¥		1.0	07/19/04 16	5:22 BET	4165-60-0	
2-Fluorobiphenyl (S)	34	*		1.0	07/19/04 10	5:22 BET	321-60-8	
Terphenyl-d14 (5)	68	\$		1.0	07/19/04 10	5:22 BET	1718-51-0	
Date Extracted	07/18/04				07/18/04			
GC/MB Volatiles								
GC/MS VOCs 5035/8260 low level	Method: EPA	8260						
Benzens	ND	ug/kg	5.6	1.1	07/20/04 19	9:12 MSF	71-43-2	
Ethylbenzene	ND	ug/kg	5.6	1.1	07/20/04 1	9:12 NSF	100-41-4	
Naphthalene	ND	ug/kg	5.6	1.1	07/20/04 1	9:12 MSF	91-29-3	
Toluene	ND	ug/kg	5.6	1.1	07/20/04 1	9:12 MSF	108-88-3	
mip-Xylene	ND	ug/kg	11.	1.1	07/20/04 1	9:12 MBF		
o-Xylene	ND	ug/kg	5.6	1.1	07/20/04 1	9:12 NSP	95-47-6	
Toluene-dB (S)	94	4		1.0	07/20/04 1	9:12 MSF	2037-26-5	
4-Bromofluorobenzene (S)	102	4		1.0	07/20/04 1	9:12 NSF	450-00-4	
Dibromofluoromethane (S)	90	4		1.0	07/20/04 1	9:12 MSF	1868-53-7	
1,2-Dichlorosthans-d4 (8)	90	*		1.0	07/20/04 1	9:12 MSF	17060-07-0	

Data: 07/22/04

Page: 13 of 34

Ashaville Cartification IDs NC Wastawater 40 NC Drinking Water 37712 SC Environmental 98030 RL NELAP E87848

REPORT OF LABORATORY ANALYSIS This report shall not be reproduced, except in full, without the written consent of Pace Analytical Services, Inc.



 Charlotte Certification IDs.

 NC Westswater
 12

 NC Drinking Water
 37706

 SC
 99006

 FL NELAP
 587627



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

Lab Sample No: 924467905			Project Sample	Nunber	r: 927156	2-014	I	Date Collected	: 07/13/04	10:15
Client Sample ID: 078302				Matri	r: Soil			Date Received	: 07/14/04	09:45
Derswaterd	Results	Units	Report Limit	DF	Anal.	vzed	By	CAS No.	Oual Reg	Lont
Wet Chemistry										
Percent Moisture	Mathod: % No:	isture								
Percent Moisture	17.5	4		1.0	07/15/04	10:47	tse			
GC/MS Semivolatiles										
Semivolatile Organics	Prep/Method:	HPA 3545	/ EPA 8270							
Benzo (k) fluoranthens	ND	ug/kg	400	1.2	07/19/04	17:01	BET	207-08-9		
Benzo (b) fluoranthene	ND	ug/kg	400	1.2	07/19/04	17:01	BET	205-99-2		
Benzo (a) anthracene	ND	ug/kg	400	1.2	07/19/04	17:01	BET	56-55-3		
Chrysene	ND	ug/kg	400	1.2	07/19/04	17:01	BET	218-01-9		
Dibens (a, h) anthracens	ND	ug/kg	400	1.2	07/19/04	17:01	BET	53-70-3		
Nitrobenzene-d5 (S)	22	ŧ		1.0	07/19/04	17:01	BET	4165-60-0		
2-Fluorobiphenyl (S)	25	*		1.0	07/19/04	17:01	BET	321-60-8		
Terphenyl-dl4 (S)	62	*		1.0	07/19/04	17:01	BFT	1718-51-0		
Date Extracted	07/18/04				07/18/04					
GC/MS Volatiles										
GC/MS VOCs 5035/8260 low level	Method: EPA	8260								
Benzene	ND	ug/kg	2.9	0.6	07/21/04	13:05	msp	71-43-2	_	
Ethylbensena	58.	ug/kg	2.9	0.6	07/21/04	13:05	KSP	100-41-4	1	
Naphthalene	450	ug/kg	2.9	0.6	07/21/04	13:05	MSP	91-20-3	1,2	
Toluens	ND	ug/kg	2.9	0.6	07/21/04	13:05	MSF	108-88-3	_	
mip-Xylene	18.	ug/kg	5.8	0.6	07/21/04	13:05	Mef		1	
o-Xylane	3.5	ug/kg	2.9	0.6	07/21/04	13:05	MSF	95-47-6	1	
Toluene-d8 (S)	89	4		1.0	07/21/04	13:05	Mer	2037-26-5		
4-Bromofluorobensene (S)	86	*		1.0	07/21/04	13:05	NS7	460-00-4		
Dibromofluoromethane (S)	115	4		1.0	07/21/04	13:05	NSF	1868-53-7		
1,2-Dichloroethane-d4 (S)	114	*		1.0	07/21/04	13:05	MSF	17060-07-0		

Date: 07/22/04

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

Lab Sample No: 924467913 Client Sample ID: 078B03			Project Sample	Number Matrix	: 9271562-015 : Soil	D	ate Collected Date Received	: 07/13/04 10:45 : 07/14/04 09:45
Parameters	Results	Units	Report Limit	D7	Analyzed	By.	CAS No.	<u>Oual Regimt</u>
Wet Chemistry								
Percent Moisture	Method: % No	isture						
Percent Moisture	17.2	*		1.0	07/15/04 10:47	TSE		
GC/MS Semivolatiles								
Semivolatile Organics	Prep/Method:	EPA 3545	/ EPA 8270					
Benzo (k) fluoranthene	ND	ug/kg	400	1.2	07/19/04 17:40	BET	207-08-9	
Benso (b) fluoranthena	סא	ug/kg	400	1.2	07/19/04 17:40) BET	205-99-2	
Benzo (a) anthracene	ND	ug/kg	400	1.2	07/19/04 17:40) BET	56-55-3	
Chrysens	ND	ug/kg	400	1.2	07/19/04 17:40) BET	218-01-9	
Dibens (a, h) anthradene	ND	ug/kg	400	1.2	07/19/04 17:40	BIT	53-70-3	
Nitrobenzene-d5 (S)	16	4		1.0	07/19/04 17:40) BET	4165-60-0	
2-Fluorobiphenyl (S)	25	*		1.0	07/19/04 17:44) BET	321-60-8	
Terphenyl-d14 (S)	58	*		1.0	07/19/04 17:40	BET	1718-51-0	
Date Extracted	07/18/04				07/18/04			
GC/MS Volatiles								
GC/MS VOCs 5035/8260 low level	Method: EPA	8260						
Benzene	ND	ug/kg	3.6	0.7	07/20/04 19:4		100 41.4	
Sthylbenzene	ND.	ug/kg	3.6	0.7	07/20/04 19:4		100-41-4	1
Naphthalene	9.1	ug/kg	3.6	0.7	07/20/04 19:4		31-20-3	•
Toluene	ND	ug/kg	3.6	0.7	07/20/04 19:4	I MAR	100-00-3	
mip-Xylene	ND	ug/kg	7.1	0.7	07/20/04 19:4	/ 3131	05-47-5	
o-Xylane	ND	ug/kg	3.6	0.7	07/20/04 19:4	7 MBE	33-4/-0 2027.26 F	
Toluane-d8 (S)	95	4		1.0	07/20/04 19:4	7 1138	2037-20-3	
4-Bromofluorobenzene (S)	91	4		1.0	07/20/04 19:4	7 852	\$0U-VU-\$	
Dibromofluoromethane (S)	102	*		1.0	07/20/04 19:4	7 1451	T868-33-1	
1,2-Dichlorosthans-d4 (S)	97	ł		1.0	07/20/04 19:4	7 1481	T1000-01-0	

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

Lab Sample No: 924467921 Client Sample ID: 075B04	<u>, , , , , , , , , , , , , , , , , , , </u>		Project Sample	Number Natrix	: 9271562-016 : Soil	D	ate Collected: Date Received:	07/13/04 07/14/04	4 11:15 4 09:45
Parameters	Regults		Report Limit	DF .	Analyzed	<u>By</u>	<u>CAS No.</u>	<u>Oual Rec</u>	Int
Wet Chemistry									
Percent Moisture	Nethod: % No:	isture							
Percent Moisture	20.0	4		1.0	07/15/04 10:47	tse			
GC/MS Semivolatiles									
Semivolatile Organics	Prep/Method:	EPA 3545	/ EPA 8270			= 20.00			
Benzo (k) fluoranthens	ND	ug/kg	410	1.2	07/19/04 18:19	BET	207-08-9		
Benzo (b) fluoranthene		vg/)sg	410	1.2	07/19/04 18:19	BET	205-99-2		
Benzo (a) anthracene	ND	ug/kg	410	1.2	07/19/04 18:19	BET	56-55-3		
Chrysens	ND	ug/kg	410	1.2	07/19/04 18:19	BET	218-01-9		
Dibenz(z, h) anthradene	ND	ug/kg	410	1.2	07/19/04 18:19	BFT	53-70-3		
Nitrobenzene-d5 (8)	33	\$		1.0	07/19/04 18:19	BET	4165-60-0		
2-Fluorobiphenyl (S)	33	*		1.0	07/19/04 18:19	BET	321-60-8		
Terphenyl-d14 (S)	62	*		1.0	07/19/04 18:19	BET	1718-51-0		
Date Extracted	07/18/04				07/18/04				
GC/MS Volatiles									
GC/MS VOCE 5035/8260 low level	Method: EPA	8260							
Benzene	ND	ug/kg	2.5	0.5	07/20/04 20:04	MSP	71-43-2		
Ethylbenzene	ND	ug/kg	2.5	0.5	07/20/04 20:04	NST	100-41-4		
Naphthalene	ND	ug/kg	2.5	0.5	07/20/04 20:04	MSF	91-20-3		
Toluene	ND	ug/kg	2.5	0.5	07/20/04 20:04	MST	108-88-3		
mfp-Xylene	ND	ug/kg	5.1	0.5	07/20/04 20:04	MSF			
o-Xylene	ND	ug/kg	2.5	0.5	07/20/04 20:04	MSF	95-47-6		
Toluene-dB (S)	94	*		1.0	07/20/04 20:04	Mex	2037-26-5		
4-Bronofluorobenzane (S)	102	4		1.0	07/20/04 20:04	i nst	460-00-4		
Dibromofluoromethane (8)	94	k		1.0	07/20/04 20:04	MST	1868-53-7		
1,2-Dichloroethane-d4 (S)	53	*		1.0	07/20/04 20:04	NS7	17060-07-0		

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

Lab Sample No: 924467939 Client Sample ID: 075B05			Project Sample	Number Matrix	: 9271563 : Soil	2-017	D	ate Collected: Date Received:	07/13	1/04 11:30 1/04 09:45
	Results	Units	Report Limit	DF	Analy	vzed	By	CAS No.	Qual	RegInt
Parameters										
Ret Chemistry	Nethod: % NO.	isture								
Persent Moisture	15.7	*		1.0	07/15/04	10:48	tse			
Percent milecute										
GC/MS Semivolatiles										
Semivolatile Organics	Prep/Method:	EPA 3545	/ EPA 8270			10.70	-	207-08-9		
Benzo(k) fluoranthens), ND	ug/kg	390	1.2	07/19/04	18:57	DEL	207-08-3		
Benro (h) fluoranthene	ND	ug/kg	390	1.2	07/19/04	18:57	RIET.	203-35-2		
Benzo (a) anthracens	ND	ug/kg	390	1.2	07/19/04	18:57	BET	56=55-3		
Benzo (a) anchi acomo	ND	ug/kg	390	1.2	07/19/04	18:57	Bet	218-01-9		
	ND	ug/kg	390	1.2	07/19/04	18:57	BRT	53-70-3		
Dibens (8, A) anthraceus	29			1.0	07/19/04	18:57	BET	4165-60-0		
Nitrobangang-d5 (S)	21			1.0	07/19/04	18:57	BET	321-60-8		
2-Fluorobiphenyl (S)	51			1.0	07/19/04	18:57	BET	1718-51-0		
Terphenyl-di4 (S)	00	•			07/18/04					
Date Extracted	07/18/04									
GC/MS Volatiles										
CC/NS VOCE 5035/B260 low level	Method: EPA	8260						71 1 1		
Bonrene	ND	ug/kg	3.2	0.6	07/21/04	13:40	NSY	71-43-2		
Jenseno Stimilhenveno	ND	ug/kg	3.2	0.6	07/21/04	13:40	XSP	100-41-4		
Markha Jeso	ND	ug/kg	3.2	0.6	07/21/04	13:40	nsf	91-20-3		
Maphinarana	ND	ug/kg	3.2	0.6	07/21/04	13:40	MOT	108-88-3		
TOLUEDE	ND	va/ka	6.3	0.6	07/21/04	13:40	MSF			
mLp-Xylene	10	ng/kg	3.2	0.6	07/21/04	13:40) NAT	95-47-6		
o-Xylene	AD 05	49/ <i>1</i> -9		1.0	07/21/04	1 13:40) nsp	2037-26-5		
Toluene-dB (S)	35			1.0	07/21/04	13:40	NST	460-00-4		
4-Bromofluorobensene (S)	T04			1.0	07/21/0	13:40) NSF	1868-53-7		
Dibromofluoromethane (S)	94	•		1 0	07/21/0	4 13:4) MSF	17060-07-0		
1,2-Dichloroethane-d4 (S)	95	4		2.14						

Date: 07/22/04

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

Lab Sample No: 924467954 Client Sample ID: 078B06			Project Sample	Number Natrix	: 9271562-018 : Soil	עם ו	ate Collected: Date Received:	07/13/04 11:45 07/14/04 09:45
Paraneters	Regults	Units	Report Limit	<u>_D</u> F	Analyzed	<u>By</u>	CAS No.	Oual Regimt
Wet Chemistry								
Percent Moisture	Mathod: % Mo	isture						
Percent Moisture	12.1	4		1.0	07/15/04 10:48	tse		
GC/MS Semivolatiles								
Semivolatile Organics	Prep/Mathod:	EPA 3545	/ EPA 8270					
Benzo (k) fluoranthene	ND	ug/kg	380	1.1	07/19/04 19:35	BET	20/-08-3	
Benzo (b) fluoranthena	ND	ug/kg	380	1.1	07/19/04 19:35	BET	203-99-4	
Banzo (a) anthradene	ND	ug/kg	380	1.1	07/19/04 19:35	BAT	56-55-3	
Chrysene	ND	ug/kg	380	1.1	07/19/04 19:35	BBT	718-01-y	
Dibenz(a, h) anthracene	ND	ug/kg	380	1.1	07/19/04 19:35	BET	53-74-3	
Nitrobenzene-d5 (8)	26	4		1.0	07/19/04 19:35	BET	4165-60-0	
2-Fluorobiphenyl (S)	27	*		1.0	07/19/04 19:35	BET	321-60-8	
Terphenyl-d14 (S)	58	4		1.0	07/19/04 19:35	BET	1718-51-0	
Date Extracted	07/18/04				07/18/04			
GC/MS Volatiles								
GC/MS VOCs 5035/8260 low level	Method: EPA	8260					51 (7 0	
Benzene	ND	ug/kg	2.3	0.5	07/20/04 20:3		71-43-4	
Ethylbenzene	ND	ug/kg	2.3	0.5	07/20/04 20:3		100-41-4	
Naphthalene	ND	ug/kg	2.3	0.5	07/20/04 20:3		y1-20-3	
Toluene	ND	ug/kg	2.3	0.5	07/20/04 20:3	I MBF	TA8-08-3	
map-Xylene	ND	ug/kg	4.7	0.5	07/20/04 20:3		AF 48 6	
o-Xylene	ND.	ug/kg	2.3	0.5	07/20/04 20:3) XSF	95-47-8	
Toluene-d8 (S)	95	*		1.0	07/20/04 20:3	9 MSF	2037-26-5	
4-Bromofluorobenzene (S)	99	Ł		1.0	07/20/04 20:3	9 XSP	460-00-4	
Dibromofluoromethane (5)	100	4		1.0	07/20/04 20:3	y NSP	1868-53-7	
1,2-Dichlorosthane-d4 (S)	97	8 -		1.0	07/20/04 20:3	9 MSF	17060-07-0	

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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.

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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

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

Lab Sample No: 924655723			Project Sample	Numbe	r: 927532	9-002	I	ate Collected	1: 08/2	6/04 10:45
Client Sample ID: 07GW001				Matri	x: Water			Date Received	1: 08/3	1/04 09:30
Parameters	Results	Units	Report Limit	DF	Analy	zed	By	CAS No.	Oual	RegLmt
GC/MS Semivolatiles									-	
Semivolatile Organics	Prep/Method:	EPA 3510	/ EPA 8270							
Benzo(k) fluoranthene	ND	ug/1	2500	250	09/02/04	18:32	BET	207-08-9		
Benzo(b) fluoranthene	ND	ug/l	2500	250	09/02/04	18:32	BET	205-99-2		
Benzo(a) anthracene	ND	ug/l	2500	250	09/02/04	18:32	BET	56-55-3		
Chrysene	ND	ug/l	2500	250	09/02/04	18:32	BET	218-01-9		
Dibenz(a, h) anthracene	ND	ug/l	2500	250	09/02/04	18:32	BET	53-70-3		
Nitrobenzene-d5 (S)	0	8		1.0	09/02/04	18:32	BET	4165-60-0	2,3,4	
2-Fluorobiphenyl (S)	0	8		1.0	09/02/04	18:32	BET	321-60-8	2.3.4	
Terphenyl-d14 (S)	0	8		1.0	09/02/04	18:32	BET	1718-51-0	2,3,4	
Date Extracted	08/31/04				08/31/04					
GC/MS Volatiles										
GC/MS VOCs by 8260, low level	Method: EPA	3260								
Benzene	ND	ug/1	100	100	09/01/04	11.51	BCK	71-43-2		
Ethylbenzene	470	ug/l	100	100	09/01/04	11:51	BCK	100-41-4		
Methyl-tert-butyl ether	ND	ug/l	100	100	09/01/04	11.51	BCK	1634-04-4		
Naphthalene	3700	ug/l	100	100	09/01/04	11:51	BCK	91-20-3		
Toluene	760	ug/l	100	100	09/01/04	11:51	BCK	108-88-3		
m&p-Xylene	1900	ug/l	200	100	09/01/04	11:51	BCK			
o-Xylene	900	ug/l	100	100	09/01/04	11:51	BCK	95-47-6		
Toluene-d8 (S)	100	8	1999 B	1.0	09/01/04	11:51	BCK	2037-26-5		
4-Bromofluorobenzene (S)	96	*		1.0	09/01/04	11:51	BCK	460-00-4		
Dibromofluoromethane (S)	104	8		1.0	09/01/04	11:51	BCK	1868-53-7	1	
1,2-Dichloroethane-d4 (S)	98	8		1.0	09/01/04	11:51	BCK	17060-07-0		

Date: 09/07/04

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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
- 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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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 Associated Lab Samples:	924655715	Analysis Description: Semivolatile Organics 924655723	

METHOD BLANK: 924656838 Associated Lab Samples: 924655715

		Blank	Reporting
	Units	Result	Limit
ranthene	ug/l	ND	10.
ranthene	ug/1	ND	10.

Parameter	Units	Result	Limit	Footnotes
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)	8	72		
2-Fluorobiphenyl (S)	8	71		
Terphenyl-d14 (S)	8	101		

924655723

LABORATORY CONTROL SAMPLE & LCSD: 924656903 924656911

Parameter	Unite	Spike	LCS	LCSD	LCS	LCSD		
Benzo (k) fluoranthone				Kebuit	b Rec	5 Rec	RPD	Footnotes
Denzo (K) LIGOLANCHENE	ug/1	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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QUALITY CONTROL DATA

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

QC Batch: 108728		Analysis Method:	EPA 8	260				
QC Batch Method: EPA 8260 Associated Lab Samples:	924655715	Analysis Description: 924655723	GC/MS	VOCs	by	8260,	low	level

METHOD BLANK: 924660160				
Associated Lab Samples:	924655715	924655723		
		Blank	Reporting	
Parameter	Units	Result	Limit	Footnotes
Benzene	ug/1	ND	1.0	
Ethylbenzene	ug/l	ND	1.0	
Methyl-tert-butyl ether	ug/l	ND	1.0	
Naphthalene	ug/1	ND	1.0	
Toluene	ug/l	ND	1.0	
m&p-Xylene	ug/l	ND	2.0	
o-Xylene	ug/1	ND	1.0	
Toluene-d8 (S)	8	101		
4-Bromofluorobenzene (S)	8	96		
Dibromofluoromethane (S)	8	98		
1,2-Dichloroethane-d4 (S)	8	94		

LABORATORY CONTROL SAMPLE: 924660178

		Spike	LCS	LCS	
Parameter	Units	Conc.	Result	% 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/1	50.00	57.50	115	
Toluene	ug/1	50.00	44.54	89	
m&p-Xylene	ug/1	100.00	99.41	99	
o-Xylene	ug/l	50.00	48.98	98	
Toluene-d8 (S)	252			99	
4-Bromofluorobenzene (S)				105	
Dibromofluoromethane (S)				92	
1,2-Dichloroethane-d4 (S)				102	

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

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. 2225 Riverside Drive Asheville, NC 28804 Phone: 828.254.7176 Fax: 828.252.4618

Lab Project Number: 9294935 Client Project ID: LaurelBay Tier-II/05-504

Solid results are reported on a dry weight basis

Lab Sample No: 925659682 Client Sample ID: 010SB10			Project Sample	Number: 92 Matrix: So	294935-001 5il	Date (Date	Collected: Received:	05/20/05 05/21/05	14:55 09:10
Parameters	Peeulte	Unite	Perort Limit	Inalw	red By	CAS NO	Oual	PogImt	
Wet Chemistry	<u>Neoutro</u>	Onres	<u>Report Dimit</u>	<u> </u>	aeu <u>by</u>	NO.	<u>Vuar</u>	Vedunc	
Percent Moisture	Method: % Mo	isture							
Percent Moisture	14.3	8		05/23/05 (09:07 TNS				
GC/MS Semivolatiles									
Semivolatile Organics	Prep/Method:	EPA 3545	/ EPA 8270						
Acenaphthene	ND	ug/kg	380	05/28/05 1	17:16 BET	83-32-9			
Acenaphthylene	ND	ug/kg	380	05/28/05 1	17:16 BET	208-96-8			
Anthracene	ND	ug/kg	380	05/28/05 1	17:16 BET	120-12-7			
Benzo (a) anthracene	ND	ug/kg	380	05/28/05 1	17:16 BET	56-55-3			
Benzo (a) pyrene	ND	ug/kg	380	05/28/05 1	L7:16 BET	50-32-8			
Benzo(b) fluoranthene	ND	ug/kg	380	05/28/05 1	17:16 BET	205-99-2			
Benzo(g,h,i)perylene	ND	ug/kg	380	05/28/05 1	L7:16 BET	191-24-2			
Benzo(k)fluoranthene	ND	ug/kg	380	05/28/05 1	17:16 BET	207-08-9			
Chrysene	ND	ug/kg	380	05/28/05 1	L7:16 BET	218-01-9			
Dibenz (a, h) anthracene	ND	ug/kg	380	05/28/05 1	17:16 BET	53-70-3			
Fluoranthene	ND	ug/kg	380	05/28/05 1	17:16 BET	206-44-0			
Fluorene	ND	ug/kg	380	05/28/05 1	L7:16 BET	86-73-7			
Indeno (1, 2, 3-cd) pyrene	ND	ug/kg	380	05/28/05 1	L7:16 BET	193-39-5			
Naphthalene	ND	ug/kg	380	05/28/05 1	17:16 BET	91-20-3			
Phenanthrene	ND	ug/kg	380	05/28/05 1	17:16 BET	85-01-8			
Pyrene	ND	ug/kg	380	05/28/05 1	L7:16 BET	129-00-0			
Nitrobenzene-d5 (S)	38	8		05/28/05 1	17:16 BET	4165-60-0			
2-Fluorobiphenyl (S)	36	%		05/28/05 1	17:16 BET	321-60-8			
Terphenyl-d14 (S)	58	8		05/28/05 1	L7:16 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	5.8	05/27/05 2	20:13 KBS	68334-30-5	5		
n-Pentacosane (S)	69	8		05/27/05 2	0:13 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	2.9	05/27/05 0)4:44 RWS	71-43-2			
Ethylbenzene	ND	ug/kg	2.9	05/27/05 0)4:44 RWS	100-41-4			
Naphthalene	ND	ug/kg	2.9	05/27/05 0)4:44 RWS	91-20-3			

Date: 06/07/05

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Lab Project Number: 9294935 Client Project ID: LaurelBay Tier-II/05-504

Lab Sample No:	925659682			Project Sample	Number: 9294935	-001	Date C	collected: 0	5/20/05	14:55
Client Sample ID:	010SB10				Matrix: Soil		Date Received		5/21/05	09:10
Parameters		Results	Units	Report Limit	Analyzed	By	CAS No.	Qual Re	gLmt	
Toluene		ND	ug/kg	2.9	05/27/05 04:44 1	RWS	108-88-3			
m&p-Xylene		ND	ug/kg	5.8	05/27/05 04:44 1	RWS				
o-Xylene		ND	ug/kg	2.9	05/27/05 04:44 H	RWS	95-47-6			
Toluene-d8 (S)		99	8		05/27/05 04:44 1	RWS	2037-26-5			
4-Bromofluorober	nzene (S)	93	*		05/27/05 04:44 1	RWS	460-00-4			
Dibromofluoromet	hane (S)	89	8		05/27/05 04:44 1	RWS	1868-53-7			
1,2-Dichloroetha	ane-d4 (S)	82	8		05/27/05 04:44 1	RWS	17060-07-0	1		

Date: 06/07/05

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Asheville Certification IDSNC Wastewater40NC Drinking Water37712SC Environmental99030FL NELAPE87648

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 Charlotte Certification IDs

 NC Wastewater
 12

 NC Drinking Water
 37706

 SC
 99006

 FL NELAP
 E87627



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

Lab Project Number: 9294935 Client Project ID: LaurelBay Tier-II/05-504

Lab Sample No: 925659690			Project Sample	Number:	9294935-002	Date C	ollected:	05/20/05	14:55
Client Sample ID: 010SB11			riojece sampro	Matrix:	Soil	Date	Received:	05/21/05	09:10
•								,,	
Parameters	Results	Units	Report Limit	Anal	yzed By	CAS No.	<u>Qual</u>	RegLmt	
Wet Chemistry									
Percent Moisture	Method: % Mo	isture							
Percent Moisture	16.4	8		05/23/05	09:08 TNS				
GC/MS Semivolatiles									
Semivolatile Organics	Prep/Method:	EPA 3545	/ EPA 8270						
Acenaphthene	ND	ug/kg	390	05/28/05	17:51 BET	83-32-9			
Acenaphthylene	ND	ug/kg	390	05/28/05	17:51 BET	208-96-8			
Anthracene	ND	ug/kg	390	05/28/05	17:51 BET	120-12-7			
Benzo (a) anthracene	ND	ug/kg	390	05/28/05	17:51 BET	56-55-3			
Benzo (a) pyrene	ND	ug/kg	390	05/28/05	17:51 BET	50-32-8			
Benzo(b)fluoranthene	ND	ug/kg	390	05/28/05	17:51 BET	205-99-2			
Benzo(g,h,i)perylene	ND	ug/kg	390	05/28/05	17:51 BET	191-24-2			
Benzo(k)fluoranthene	ND	ug/kg	390	05/28/05	17:51 BET	207-08-9			
Chrysene	ND	ug/kg	390	05/28/05	17:51 BET	218-01-9			
Dibenz (a, h) anthracene	ND	ug/kg	390	05/28/05	17:51 BET	53-70-3			
Fluoranthene	ND	ug/kg	390	05/28/05	17:51 BET	206-44-0			
Fluorene	ND	ug/kg	390	05/28/05	17:51 BET	86-73-7			
Indeno (1, 2, 3-cd) pyrene	ND	ug/kg	390	05/28/05	17:51 BET	193-39-5			
Naphthalene	ND	ug/kg	390	05/28/05	17:51 BET	91-20-3			
Phenanthrene	ND	ug/kg	390	05/28/05	17:51 BET	85-01-8			
Pyrene	ND	ug/kg	390	05/28/05	17:51 BET	129-00-0			
Nitrobenzene-d5 (S)	59	¥		05/28/05	17:51 BET	4165-60-0			
2-Fluorobiphenyl (S)	49	36		05/28/05	17:51 BET	321-60-8			
Terphenyl-d14 (S)	65	9 6		05/28/05	17:51 BET	1718-51-0			
Date Extracted	05/26/05			05/26/05	i				
GC Semivolatiles									
TPH in Soil by 3545/8015	Prep/Method:	EPA 3545	/ EPA 8015						
Diesel Fuel	ND	mq/kq	6.0	05/27/05	20:43 KBS	68334-30-5			
n-Pentacosane (S)	68	8		05/27/05	20:43 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/kq	2.8	05/27/05	05:01 RWS	71-43-2			
Ethylbenzene	ND	ug/kg	2.8	05/27/05	05:01 RWS	100-41-4			
Naphthalene	ND	ug/kg	2.8	05/27/05	05:01 RWS	91-20-3			
Toluene	ND	ug/kg	2.8	05/27/05	05:01 RWS	108-88-3			

Date: 06/07/05

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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: 9294935 Client Project ID: LaurelBay Tier-II/05-504

Lab Sample No: Client Sample ID:	925659690 0108B11		1	Project Sample	Number: 929493 Matrix: Soil	5-002	Date Col Date Re	llected: aceived:	05/20/05 05/21/05	14:55 09:10
Parameters		Results	Units	Report Limit	Analyzed	Bv	CAS No.	Oual 1	RegLmt	
m&p-Xylene		ND	ug/kg	5.7	05/27/05 05:01	RWS				
o-Xylene		ND	ug/kg	2.8	05/27/05 05:01	RWS	95-47-6			
Toluene-d8 (S)		99	% %		05/27/05 05:01	RWS	2037-26-5			
4-Bromofluoroben	zene (S)	94	8		05/27/05 05:01	RWS	460-00-4			
Dibromofluoromet	hane (S)	91	*		05/27/05 05:01	RWS	1868-53-7			
1,2-Dichloroetha	ne-d4 (S)	89	8		05/27/05 05:01	RWS	17060-07-0			

Date: 06/07/05

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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: 9294935 Client Project ID: LaurelBay Tier-II/05-504

Lab Sample No: 925659708			Project Sample	Number:	9294935-	003	Date Col	lected	05/20/05	14:55
Client Sample ID: 010SB12				Matrix:	Soil		Date Re	ceived	05/21/05	09:10
Daramatora	Degulte	The iter	Descub timib	3		D	010 No	0	Deartwit	
Wet Chemistry	Kesuics	Units	<u>Report Limit</u>	Allar	yzeu .	DY_	CAS NO.	<u>Quar</u>	Redimir	
Percent Moisture	Method · % Mo	isturo								
Percent Moisture	16.7	8		05/23/05	09:27 T	ns				
GC/MS Semivolatiles										
Semivolatile Organics	Prep/Method:	EPA 3545	/ EPA 8270							
Acenaphthene	ND	ug/kg	400	05/28/05	18:25 B	ET	83-32-9			
Acenaphthylene	ND	ug/kg	400	05/28/05	18:25 B	ET	208-96-8			
Anthracene	ND	ug/kg	400	05/28/05	18:25 B	ET	120-12-7			
Benzo (a) anthracene	ND	ug/kg	400	05/28/05	18:25 B	ET	56-55-3			
Benzo (a) pyrene	ND	ug/kg	400	05/28/05	18:25 B	ET	50-32-8			
Benzo(b)fluoranthene	ND	ug/kg	400	05/28/05	18:25 B	ET	205-99-2			
Benzo(g,h,i)perylene	ND	ug/kg	400	05/28/05	18:25 B	ET	191-24-2			
Benzo(k)fluoranthene	ND	ug/kg	400	05/28/05	18:25 B	ET	207-08-9			
Chrysene	ND	ug/kg	400	05/28/05	18:25 B	ET	218-01-9			
Dibenz (a, h) anthracene	ND	ug/kg	400	05/28/05	18:25 B	ET	53-70-3			
Fluoranthene	ND	ug/kg	400	05/28/05	18:25 B	ET	206-44-0			
Fluorene	ND	ug/kg	400	05/28/05	18:25 B	ET	86-73-7			
Indeno(1,2,3-cd)pyrene	ND	ug/kg	400	05/28/05	18:25 B	ET	193-39-5			
Naphthalene	ND	ug/kg	400	05/28/05	18:25 B	ET	91-20-3			
Phenanthrene	ND	ug/kg	400	05/28/05	18:25 B	ET	85-01-8			
Pyrene	ND	ug/kg	400	05/28/05	18:25 B	ET	129-00-0			
Nitrobenzene-d5 (S)	70	8		05/28/05	18:25 B	ET	4165-60-0			
2-Fluorobiphenyl (S)	59	8		05/28/05	18:25 B	ET	321-60-8			
Terphenyl-d14 (S)	70	8		05/28/05	18:25 B	ET	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	2000	mg/kg	120	05/31/05	14:30 K	BS	68334-30-5			
n-Pentacosane (S)	0	ક		05/31/05	14:30 K	BS	629-99-2	1		
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	2.3	05/27/05	05:35 R	WS	71-43-2			
Ethylbenzene	ND	ug/kg	2.3	05/27/05	05:35 R	WS	100-41-4			
Naphthalene	ND	ug/kg	2.3	05/27/05	05:35 R	WS	91-20-3			
Toluene	ND	ug/kg	2.3	05/27/05	05:35 R	WS	108-88-3			

Date: 06/07/05

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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: 9294935 Client Project ID: LaurelBay Tier-II/05-504

Lab Sample No:	925659708		I	Project Sample	Number: 929493	5-003	Date C	ollected:	05/20/05	14:55
Client Sample ID:	010SB12				Matrix: Soil		Date	Received:	05/21/05	09:10
Parameters		Results	Units	Report Limit	Analyzed	By	CAS No.	Qual 1	RegLmt	
m&p-Xylene		ND	ug/kg	4.7	05/27/05 05:35	RWS				
o-Xylene		ND	ug/kg	2.3	05/27/05 05:35	RWS	95-47-6			
Toluene-d8 (S)		97	8		05/27/05 05:35	RWS	2037-26-5			
4-Bromofluoroben	zene (S)	88	8		05/27/05 05:35	RWS	460-00-4			
Dibromofluoromet	hane (S)	83	8		05/27/05 05:35	RWS	1868-53-7			
1,2-Dichloroetha	ne-d4 (S)	69	8		05/27/05 05:35	RWS	17060-07-0			

Date: 06/07/05

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Appendix D Laboratory Analytical Reports – Groundwater – Tier 2 Assessment





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

Lab Project Number: 9295080 Client Project ID: Laural Bay/05-504

Lab Sample No: 925669764 Client Sample ID: 10TMW10			Project Sample	Number: Matrix:	929508 Water	0-002	Date Co Date Re	llected: 05/23/05 09:4 eceived: 05/24/05 09:5	3/05 09:40 4/05 09:15
Parameters	Results	Units	Report Limit	Anal	yzed	By	CAS No.	Qual RegLmt	
Metals									
Dissolved Metals, Trace ICP	Prep/Method:	EPA 3010	/ EPA 6010						
Lead, Dissolved	ND	mg/l	0.0050	06/03/05	6 03:06	ARH	7439-92-1		
Date Digested	05/27/05 12:	00		05/27/05	12:00				
Wet Chemistry									
Iron, Ferrous	Method: SM 3	500-Fe D#4							
Iron, Ferrous	1.0	mg/l	0.50	05/25/05	6 03:10	BMF		1	
48 Hour NO3 / NO2 / NOX	Method: EPA	353.2							
Nitrate as N	ND	mg/l	0.10	05/24/05	22:38	JDA1			
Oxygen, Dissolved	Method: EPA	360.1							
Oxygen, Dissolved	8.0	mg/l	1.0	05/31/05	11:00	TMR	7782-44-7	1	
GC/MS Semivolatiles									
Semivolatile Organics	Prep/Method:	EPA 3510	/ EPA 8270						
Acenaphthene	ND	ug/1	10.	05/31/05	21:30	BET	83-32-9		
Acenaphthylene	ND	ug/l	10.	05/31/05	21:30	BET	208-96-8		
Anthracene	ND	ug/l	10.	05/31/05	21:30	BET	120-12-7		
Benzo (a) anthracene	ND	ug/l	10.	05/31/05	21:30	BET	56-55-3		
Benzo (a) pyrene	ND	ug/l	10.	05/31/05	21:30	BET	50-32-8		
Benzo(b)fluoranthene	ND	ug/l	10.	05/31/05	21:30	BET	205-99-2		
Benzo(g,h,i)perylene	ND	ug/l	10.	05/31/05	21:30	BET	191-24-2		
Benzo(k)fluoranthene	ND	ug/l	10.	05/31/05	21:30	BET	207-08-9		
Chrysene	ND	ug/l	10.	05/31/05	21:30	BET	218-01-9		
Dibenz (a, h) anthracene	ND	ug/l	10.	05/31/05	21:30	BET	53-70-3		
Fluoranthene	ND	ug/l	10.	05/31/05	21:30	BET	206-44-0		
Fluorene	ND	ug/l	10.	05/31/05	21:30	BET	86-73-7		
Indeno (1, 2, 3-cd) pyrene	ND	ug/l	10.	05/31/05	21:30	BET	193-39-5		
Naphthalene	ND	ug/l	10.	05/31/05	21:30	BET	91-20-3		
Phenanthrene	ND	ug/l	10.	05/31/05	21:30	BET	85-01-8		
Pyrene	ND	ug/l	10.	05/31/05	21:30	BET	129-00-0		
Nitrobenzene-d5 (S)	39	%		05/31/05	21:30	BET	4165-60-0		
2-Fluorobiphenyl (S)	22	8		05/31/05	21:30	BET	321-60-8	2	
Terphenyl-d14 (S)	21	8		05/31/05	21:30	BET	1718-51-0		
Date Extracted	05/31/05			05/31/05					

Date: 06/13/05

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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: 9295080 Client Project ID: Laural Bay/05-504

		Project Sample	Number: 9295080-00 Matrix: Water	2 Date Collected: 05/23/05 09:40 Date Received: 05/24/05 09:15
Results	Units	Report Limit	Analyzed By	CAS No. Qual RegLmt
Method: EPA 8	1011			
ND	ug/l	0.020	05/25/05 22:32 JEM	106-93-4
ND	ug/l	0.050	05/25/05 22:32 JEM	96-12-8
ND	ug/l	0.050	05/25/05 22:32 JEM	96-18-4
105	8		05/25/05 22:32 JEM	301-79-56
Method: EPA 8	260			
ND	ug/l	1.0	05/28/05 11:31 MSF	71-43-2
ND	ug/l	1.0	05/28/05 11:31 MSF	100-41-4
ND	ug/l	1.0	05/28/05 11:31 MSF	1634-04-4
ND	ug/l	1.0	05/28/05 11:31 MSF	91-20-3
ND	ug/l	1.0	05/28/05 11:31 MSF	108-88-3
ND	ug/l	2.0	05/28/05 11:31 MSF	
ND	ug/l	1.0	05/28/05 11:31 MSF	95-47-6
101	9 6		05/28/05 11:31 MSF	2037-26-5
91	8		05/28/05 11:31 MSF	460-00-4
99	Ŷ		05/28/05 11:31 MSF	1868-53-7
98	olo Olo		05/28/05 11:31 MSF	17060-07-0
	Results Method: EPA 8 ND ND 105 Method: EPA 9 ND ND ND ND ND ND ND ND ND ND ND 101 91 99 98	Results Units Method: EPA 8011 ND ug/l ND ug/l ND ug/l 105 % Method: EPA 8260 ND ug/l ND ug/l	Project Sample Results Units Report Limit Method: EPA 8011 0.020 ND ug/l 0.020 ND ug/l 0.050 ND ug/l 0.050 ND ug/l 0.050 ND ug/l 1.0 ND ug/l 1.0	Project Sample Number: 9295080-00 Matrix: Water

Date: 06/13/05

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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: 9295080 Client Project ID: Laural Bay/05-504

Lab Sample No: 925669772 Client Sample ID: 10TMW11			Project Sample	Number: 9295080-003 Matrix: Water		<pre>3 Date Collected: 05/23/05 Date Received: 05/24/05</pre>			10:05 09:15	
Parameters	Results	Units	Report Limit	Anal	yzed	<u>By</u>	CAS No.	Qual R	<u>egLmt</u>	
Metals			-							
Dissolved Metals, Trace ICP	Prep/Method:	EPA 3010	/ EPA 6010	06/03/05	03.15	арн	7439-92-1			
Date Digested	05/27/05 12:	00	0.0050	05/27/05	12:00	11111				
Wet Chemistry										
Iron. Ferrous	Method: SM 3	500-Fe D#4								
Iron, Ferrous	1.0	mg/l	0.50	05/25/05	6 03:10	BMF		1		
48 Hour NO3 / NO2 / NOX	Method: EPA	353.2								
Nitrate as N	0.15	mg/l	0.10	05/24/05	22:38	JDA1				
Oxygen, Dissolved	Method: EPA	360.1								
Oxygen, Dissolved	9.8	mg/l	1.0	05/31/05	11:00	TMR	7782-44-7	1		
GC/MS Semivolatiles										
Semivolatile Organics	Prep/Method:	EPA 3510	/ EPA 8270							
Acenaphthene	ND	ug/l	10.	05/31/05	22:04	BET	83-3 2-9			
Acenaphthylene	ND	ug/l	10.	05/31/05	22:04	BET	208-96-8			
Anthracene	ND	ug/l	10.	05/31/05	22:04	BET	120-12-7			
Benzo (a) anthracene	ND	ug/l	10.	05/31/05	22:04	BET	56-55-3			
Benzo (a) pyrene	ND	ug/l	10.	05/31/05	22:04	BET	50-32-8			
Benzo(b)fluoranthene	ND	ug/l	10.	05/31/05	22:04	BET	205-99-2			
Benzo(g,h,i) perylene	ND	ug/l	10.	05/31/05	22:04	BET	191-24-2			
Benzo(k) fluoranthene	ND	ug/l	10.	05/31/05	22:04	BET	207-08-9			
Chrysene	ND	ug/l	10.	05/31/05	22:04	BET	218-01-9			
Dibenz (a, h) anthracene	ND	ug/l	10.	05/31/05	22:04	BET	53-70-3			
Fluoranthene	ND	ug/l	10.	05/31/05	22:04	BET	206-44-0			
Fluorene	ND	ug/l	10.	05/31/05	22:04	BET	86-73-7			
Indeno (1, 2, 3-cd) pyrene	ND	ug/l	10.	05/31/05	22:04	BET	193-39-5			
Naphthalene	ND	ug/l	10.	05/31/05	22:04	BET	91-20-3			
Phenanthrene	ND	ug/l	10.	05/31/05	22:04	BET	85-01-8			
Pyrene	ND	ug/l	10.	05/31/05	22:04	BET	129-00-0			
Nitrobenzene-d5 (S)	54	*		05/31/05	22:04	BET	4165-60-0			
2-Fluorobiphenyl (S)	36	8		05/31/05	22:04	BET	321-60-8			
Terphenyl-d14 (S)	51	¥		05/31/05	22:04	BET	1718-51-0			
Date Extracted	05/31/05			05/31/05	5					

Date: 06/13/05

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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: 9295080 Client Project ID: Laural Bay/05-504

Lab Sample No: 925669772			Project Sample	Number: 9295080-00	3 Date Collected: 05/23/05 10:05
Client Sample ID: 10TMW11				Matrix: Water	Date Received: 05/24/05 09:15
Parameters	Results	Units	Report Limit	Analyzed By	CAS No. Qual RegLmt
GC Semivolatiles					
EDB and DBCP in Water	Method: EPA	8011			
1,2-Dibromoethane (EDB)	ND	ug/l	0.020	05/27/05 15:15 JEM	106-93-4
1,2-Dibromo-3-chloropropane	ND	ug/l	0.050	05/27/05 15:15 JEM	96-12-8
1,2,3-Trichloropropane	ND	ug/l	0.050	05/27/05 15:15 JEM	96-18-4
1-Chloro-2-bromopropane (S)	113	8		05/27/05 15:15 JEM	301-79-56
GC/MS Volatiles					
GC/MS VOCs by 8260, low level	Method: EPA	8260			
Benzene	ND	ug/l	1.0	05/28/05 22:49 MSF	71-43-2
Ethylbenzene	ND	ug/l	1.0	05/28/05 22:49 MSF	100-41-4
Methyl-tert-butyl ether	ND	ug/l	1.0	05/28/05 22:49 MSF	1634-04-4
Naphthalene	ND	ug/l	1.0	05/28/05 22:49 MSF	91-20-3
Toluene	ND	ug/l	1.0	05/28/05 22:49 MSF	108-88-3
m&p-Xylene	ND	ug/l	2.0	05/28/05 22:49 MSF	
o-Xylene	ND	ug/l	1.0	05/28/05 22:49 MSF	95-47-6
Toluene-d8 (S)	98	8		05/28/05 22:49 MSF	2037-26-5
4-Bromofluorobenzene (S)	92	8		05/28/05 22:49 MSF	460-00-4
Dibromofluoromethane (S)	103	010		05/28/05 22:49 MSF	1868-53-7
1,2-Dichloroethane-d4 (S)	102	80		05/28/05 22:49 MSF	17060-07-0

Date: 06/13/05

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Asheville Certification IDsNC Wastewater40NC Drinking Water37712SC Environmental99030FL NELAPE87648

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. 2225 Riverside Drive Asheville, NC 28804 Phone: 828.254.7176 Fax: 828.252.4618

Lab Project Number: 9295080 Client Project ID: Laural Bay/05-504

Lab Sample No: 925669780			Project Sample	Number: 9295080		5080-004 Date		e Collected: 05/23/0		5 10:30
Client Sample ID: 10TMW12				Matrix:	Water		Date Ke	aceivea:	05/24/05	09:15
Parameters	Results	Units	Report Limit	Anal	yzed	By	CAS No.	Qual	<u>RegLmt</u>	
Metals										
Dissolved Metals, Trace ICP Lead, Dissolved	Prep/Method: ND	EPA 3010	/ EPA 6010 0.0050	06/03/05	5 03±19	ARH	7439-92-1			
Date Digested	05/27/05 12:	00		05/27/05	5 12:00					
Wet Chemistry										
Iron, Ferrous	Method: SM 3	500-Fe D#4								
Iron, Ferrous	4.4	mg/l	0.50	05/25/05	6 03:10	BMF		1		
48 Hour NO3 / NO2 / NOX	Method: EPA	353.2								
Nitrate as N	ND	mg/l	0.10	05/24/05	5 22:38	JDA1				
Oxygen, Dissolved	Method: EPA	360.1								
Oxygen, Dissolved	8.2	mg/l	1.0	05/31/05	11:00	TMR	7782-44-7	1		
GC/MS Semivolatiles										
Semivolatile Organics	Prep/Method:	EPA 3510	/ EPA 8270							
Acenaphthene	ND	ug/l	11.	05/31/05	22:38	BET	83-32-9			
Acenaphthylene	ND	ug/l	11.	05/31/05	22:38	BET	208-96-8			
Anthracene	ND	ug/l	11.	05/31/05	22:38	BET	120-12-7			
Benzo (a) anthracene	ND	ug/l	11.	05/31/05	22:38	BET	56-55-3			
Benzo (a) pyrene	ND	ug/l	11.	05/31/05	22:38	BET	50-32-8			
Benzo(b)fluoranthene	ND	ug/1	11.	05/31/05	22:38	BET	205-99-2			
Benzo(g,h,i)perylene	ND	ug/l	11.	05/31/05	22:38	BET	191-24-2			
Benzo(k)fluoranthene	ND	ug/l	11.	05/31/05	22:38	BET	207-08-9			
Chrysene	ND	ug/l	11.	05/31/05	22:38	BET	218-01-9			
Dibenz (a, h) anthracene	ND	ug/l	11.	05/31/05	22:38	BET	53-70-3			
Fluoranthene	ND	ug/l	11.	05/31/05	22:38	BET	206-44-0			
Fluorene	ND	ug/l	11.	05/31/05	22:38	BET	86-73-7			
Indeno (1, 2, 3-cd) pyrene	ND	ug/l	11.	05/31/05	22:38	BET	193-39-5			
Naphthalene	ND	ug/l	11.	05/31/05	22:38	BET	91-20-3			
Phenanthrene	ND	ug/l	11.	05/31/05	22:38	BET	85-01-8			
Pyrene	ND	ug/l	11.	05/31/05	22:38	BET	129-00-0			
Nitrobenzene-d5 (S)	71	26		05/31/05	22:38	BET	4165-60-0			
2-Fluorobiphenyl (S)	60	8		05/31/05	22:38	BET	321-60-8			
Terphenyl-d14 (S)	67	8		05/31/05	22:38	BET	1718-51-0			
Date Extracted	05/31/05			05/31/05	5					

Date: 06/13/05

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

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netac



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

Lab Project Number: 9295080 Client Project ID: Laural Bay/05-504

Lab Sample No: 925669780 Client Sample ID: 10TMW12			Project Sample	Number: 92 Matrix: Wa	295080-004 ater	Date Co Date R	llected: 05/23/05 10 eceived: 05/24/05 09	:30 :15
Parameters	Results	Units	<u>Report Limit</u>	Analyz	ed By	CAS No.	<u>Qual RegLmt</u>	
GC Semivolatiles								
EDB and DBCP in Water	Method: EPA 8	011						
1,2-Dibromoethane (EDB)	ND	ug/l	0.020	05/27/05 1	15:36 JEM	106-93-4		
1,2-Dibromo-3-chloropropane	ND	ug/l	0.050	05/27/05 1	L5:36 JEM	96-12-8		
1,2,3-Trichloropropane	ND	ug/l	0.050	05/27/05 1	15:36 JEM	96-18-4		
1-Chloro-2-bromopropane (S)	99	8		05/27/05 1	L5:36 JEM	301-79-56		
GC/MS Volatiles								
GC/MS VOCs by 8260, low level	Method: EPA 83	260						
Benzene	ND	ug/l	1.0	05/29/05 0	2:19 MSF	71-43-2		
Ethylbenzene	1.4	ug/l	1.0	05/29/05 0	2:19 MSF	100-41-4		
Methyl-tert-butyl ether	6.6	ug/l	1.0	05/29/05 0	2:19 MSF	1634-04-4		
Naphthalene	16.	ug/l	1.0	05/29/05 0	2:19 MSF	91-20-3		
Toluene	ND	ug/l	1.0	05/29/05 0	2:19 MSF	108-88-3		
m&p-Xylene	ND	ug/l	2.0	05/29/05 0	2:19 MSF			
o-Xylene	ND	uq/l	1.0	05/29/05 0	2:19 MSF	95-47-6		
Toluene-d8 (S)	102	8		05/29/05 0	2:19 MSF	2037-26-5		
4-Bromofluorobenzene (S)	96	80		05/29/05 0	2:19 MSF	460-00-4		
Dibromofluoromethane (S)	101	*		05/29/05 0	2:19 MSF	1868-53-7		
1,2-Dichloroethane-d4 (S)	99	0 10		05/29/05 0	2:19 MSF	17060-07-0		

Date: 06/13/05

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REPORT OF LABORATORY ANALYSIS

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Appendix E Regulatory Correspondence



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2 December 2004

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 Housing – Laurel Bay Circle Unit # 7 Site ID # 02769 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 # 7 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 # 7.

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 <u>bishopma@dhec.sc.gov</u>.

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
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Glenn A. McCall Coleman F. Buckhouse, MD

C. Earl Hunter, Commissioner Promoting and protecting the health of the public and the environment. 27 October 2005

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.

Sincerely,

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

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

cc: Region 8 District EQC

Commander NAVFACENGCOM Southern Division, Attn: Code ES24 (Gabriel Magwood), P.O. Box 190010, North Charleston, SC 29419-9010

Technical File