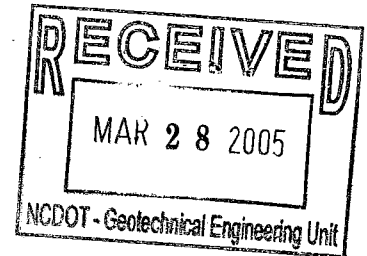


**GEOPHYSICAL SURVEY AND
PRELIMINARY SITE ASSESSMENT REPORT**

**801 Shell Service Station
Quality Oil Company
136 NC Highway 801 North
Advance, North Carolina
WBS Element # 33185.1.1
Davie County**



Submitted to:

**North Carolina Dept. of Transportation
Geotechnical Engineering Unit
1589 Mail Service Center
Raleigh, North Carolina 27699-1589**

Submitted by:

**General Engineering and Environmental of NC, Inc.
an Affiliate of The GEL Group, Inc.
Post Office Box 14262
Research Triangle Park, North Carolina 27709**

Submittal Date: March 28, 2005

GEOPHYSICAL SURVEY AND PRELIMINARY SITE ASSESSMENT REPORT

801 Shell Service Station
Quality Oil Company
136 NC Highway 801 North
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Davie County

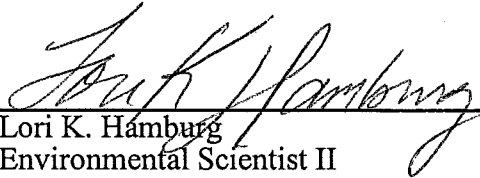
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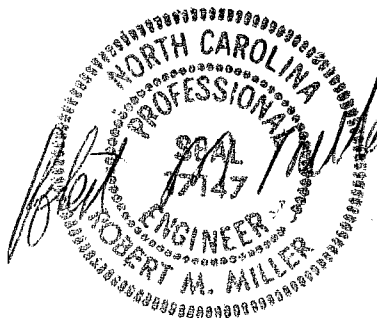
Signature Page


This document, entitled "Geophysical Survey and Preliminary Site Assessment Report," has been prepared for the 801 Shell Service Station owned by Quality Oil Company in Advance, North Carolina. It has been prepared by Ms. Lori Hamburg in accordance with the Notice to Proceed provided by the North Carolina Department of Transportation-GeoEnvironmental Section, Geotechnical Engineering Unit for the exclusive use of the North Carolina Department of Transportation. It has been prepared in accordance with accepted quality control practices and has been reviewed by the undersigned.

GENERAL ENGINEERING AND ENVIRONMENTAL
OF NC, INC.
an Affiliate of The GEL Group, Inc.




Lori K. Hamburg
Environmental Scientist II





Robert M. Miller, P.E.
Senior Staff Engineer
North Carolina License Number 17147

3/28/05



Date

GEOPHYSICAL SURVEY AND PRELIMINARY SITE ASSESSMENT REPORT

**801 Shell Service Station
Quality Oil Company
136 NC Highway 801 North
Advance, North Carolina
WBS Element # 33185.1.1
Davie County**

Executive Summary

The subject site is located northeast of the intersection of Interstate 40 and NC Highway 801 North in Advance, North Carolina. The primary purpose of this investigation was to determine the presence or absence of petroleum hydrocarbon impact to soil and/or groundwater as a result of the operation of the gasoline station currently located at the subject site.

Currently, the subject site houses the 801 Shell Service Station. The subject site currently operates three underground storage tanks (USTs) that were installed in 1989. Additionally, the subject site previously operated four petroleum USTs that were installed in 1967, 1968, and 1970 and were removed in 1989. The North Carolina Department of Environment and Natural Resources (NCDENR) does not have any records of any petroleum releases or incidents for the subject site.

To determine the presence or absence of petroleum hydrocarbon impact in subsurface soil within the proposed North Carolina Department of Transportation (NCDOT) right-of-way (ROW), General Engineering and Environmental of NC, Inc. (General Engineering) performed a geophysical evaluation and a preliminary site assessment that included the collection and analysis of soil and groundwater samples. Underground utilities were identified during the geophysical survey.

Composite soil samples were collected for analysis from borings constructed within and northeast of the proposed NCDOT ROW. The soil samples were analyzed for diesel range organics (DRO) and gasoline range organics (GRO). Results of soil analysis for the soil sample from soil boring B1-5 indicated that the detected DRO concentration was 810 milligrams per kilograms (mg/kg) and the detected GRO concentration was 25 mg/kg, which are above the respective action levels of 40 mg/kg and 10 mg/kg specified in Section 5.0 of the July 2000 NCDENR Groundwater Section Guidelines for the Investigation and Remediation of Soil and Groundwater. Additionally, results of soil

analysis for boring B1-6 indicated that the DRO concentration was 61 mg/kg, which is also above the DRO action level. Therefore, the analytical results for the soil in the vicinity of borings B1-5 and B1-6 are indicative of soil impact. The estimated quantity of soil contamination in this area is approximately 460 cubic yards extending to a depth of up to 14 feet below land surface in a localized area encompassing soil borings B1-5 and B1-6.

Constituents of potential concern were detected at concentrations exceeding the NCDENR 15A NCAC 2L .0115 Groundwater Quality Standards (GWQS) in groundwater sample collected from one on-site temporary groundwater monitoring well. These results indicate that groundwater contamination currently exists at the subject site. However, given that this is the only data point for groundwater contamination, it is not possible to accurately estimate the extent of groundwater impact.

The water table in this vicinity was measured at a depth of approximately 20 feet. Therefore, groundwater would most likely not be encountered during the proposed construction within the proposed NCDOT ROW.

Further soil and groundwater investigation is recommended to determine the extent and severity of petroleum contamination within the soil and groundwater underlying the subject site. It is recommended that the current owner and operator of the USTs notify NCDENR of the soil and groundwater contamination discovered.

GEOPHYSICAL SURVEY AND PRELIMINARY SITE ASSESSMENT REPORT

**801 Shell Service Station
Quality Oil Company
136 NC Highway 801 North
Advance, North Carolina
WBS Element # 33185.1.1
Davie County**

1.0 Introduction

This document presents the details of a geophysical survey and preliminary site assessment performed at the above referenced property (the subject site). The site is located northeast of the intersection of Interstate 40 and NC Highway 801 North in Advance, North Carolina. The site location is shown on Figure 1, an excerpt from the United States Geological Survey (USGS) 7.5-minute quadrangle map of Clemmons and Advance, North Carolina. This survey and assessment were conducted by General Engineering and Environmental of NC, Inc. (General Engineering) in accordance with the Notice to Proceed issued by the North Carolina Department of Transportation (NCDOT).

The primary purpose of this investigation was to determine the presence or absence of on-site petroleum hydrocarbon impact to soil and/or groundwater as a result of the operation of the gasoline station located at the site.

2.0 Background

NCDOT is planning to reconstruct the bridge and interchange area near the intersection of Interstate 40 and NC Highway 801. NCDOT wanted to assess the property to evaluate the extent (if any) of soil and/or groundwater contamination related to the operation of the current gas station located on site and the impact (if any) of this operation on the proposed road improvements. Figure 2 shows the general site layout.

801 Shell Service Station (North Carolina Department of Environment and Natural Resources (NCDENR) Facility ID No. 0-012847), currently operates two registered 10,000-gallon capacity petroleum USTs and one registered 8,000-gallon capacity petroleum UST that were installed on September 22, 1989.

The subject site previously operated four USTs. Two 10,000-gallon capacity petroleum USTs were installed in 1967, one 550-gallon capacity waste oil UST was installed in 1968, and one 6,000-gallon capacity petroleum UST was installed in 1970.

The USTs were removed in 1989. NCDENR does not have UST closure reports for the USTs that were removed from the site, and does not have records of any petroleum releases or incidents for the subject site.

3.0 Local Geology and Hydrogeology

The site is located in Davie County, North Carolina, in the Charlotte Belt of the Piedmont Physiographic Province. The Charlotte Belt is predominately underlain by dense bedrock that yields groundwater primarily from secondary porosity and permeability provided by fractures. The bedrock is covered by regolith consisting of saprolite, alluvium, and soil. The Charlotte Belt in the vicinity of the subject site is typically characterized by low, rounded hills and shallow valley topography underlain by metamorphic and igneous rocks of Paleozoic and Precambrian age.

The subject site is located within the Piedmont aquifer system, which consists mostly of crystalline-rock aquifers. The rocks that make up the crystalline-rock aquifers are crystalline metamorphic and igneous rocks. Regolith typically overlies the aquifers. The regolith and fractures in the bedrock serve as the principal places for the storage and transmission of groundwater, and groundwater movement is generally along short flow paths to the nearest stream.

The soils encountered at this site during the preliminary site assessment consisted predominately of brownish-orange clay and sandy clay to depths of 8 feet below land surface (bls). Based on the results of previous groundwater investigations within the vicinity of the subject site, the water table at the site is encountered at a depth of approximately 16 to 22 feet bls.

According to the contour lines on the topographic map in Figure 1, the subject site is located approximately 800 feet above mean sea level (MSL).

The nearest perennial surface water body to the subject site is Smith Creek, which is located west of the site. Based on the United States Geological Survey topographic map, the groundwater flow direction underlying the subject site could not be determined, but is possibly radial.

4.0 Subsurface Investigation

To determine the presence or absence of petroleum hydrocarbon impact in subsurface soil and groundwater at the site, General Engineering performed a limited site assessment that consisted of the following tasks:

- Performance of a geophysical evaluation to identify the presence or absence of USTs and associated appurtenances on site and their locations.
- Collection and soil vapor screening of soil samples from subsurface soil borings to determine the presence or absence of soil impact in the vicinity of the USTs identified during the geophysical investigation.
- Additionally, a groundwater sample was collected from a temporary groundwater monitoring well for analysis of petroleum hydrocarbon constituents.

The details of these tasks are discussed in the following sections.

4.1 Geophysical Evaluation

The geophysical evaluation included the deployment of ground penetrating radar technology, radio frequency electromagnetic technology, and time domain electromagnetic technology to the site. These technologies were used in concert with one another in order to identify subsurface metallic anomalies, and in particular, to identify the presence of USTs on site. A brief description of each technology is presented in the following paragraphs followed by a discussion of the results of the geophysical evaluation.

4.1.1 Ground Penetrating Radar Methodology

A RAMAC digital radar control system configured with a 250 Megahertz (MHz) antenna array was used in this investigation. Ground Penetrating Radar (GPR) is an electromagnetic geophysical method that detects interfaces between subsurface materials with differing dielectric constants. The GPR system consists of an antenna that houses the transmitter and receiver, a digital control unit that both generates and digitally records the GPR data, and a color video monitor to view data as they are collected in the field.

The transmitter radiates repetitive short-duration electromagnetic waves (at radar frequencies) into the earth from an antenna moving across the ground surface. These radar waves are reflected back to the receiver from the interface of materials with different dielectric constants. The intensity of the reflected signal is a function of the contrast in the dielectric constant between the materials, the conductivity of the material through which the wave is traveling, and the frequency of the signal. Subsurface features that commonly cause such reflections are: 1) natural geologic conditions, such as changes in sediment composition, bedding, and cementation horizons and voids; or 2) unnatural changes to the subsurface such as disturbed soils, soil backfill, buried debris, tanks,

pipelines, and utilities. The digital control unit processes the signal from the receiver and produces a continuous cross-section of the subsurface interface reflection events.

GPR data profiles are collected along transects, which are measured paths along which the GPR antenna is moved. During a survey, marks are placed in the data by the operator at designated points along the GPR transects or with a survey wheel odometer. These marks allow for a correlation between the GPR data and the position of the GPR antenna on the ground.

Depth of investigation of the GPR signal is highly site-specific and is limited by signal attenuation (absorption) in the subsurface materials. Signal attenuation is dependent on the electrical conductivity of the subsurface materials. Signal attenuation is greatest in materials with relatively high electrical conductivities, such as clays, brackish groundwater, or groundwater with a high dissolved solid content from natural or man-made sources. Signal attenuation is lowest in relatively low-conductivity materials, such as dry sand or rock. Depth of investigation is also dependent on the antenna's transmitting frequency. Depth of investigation generally increases as transmitting frequency decreases; however, the ability to resolve smaller subsurface features is diminished as frequency is decreased.

The GPR antenna used at this site is internally shielded from aboveground interference sources. Accordingly, the GPR response is not affected by overhead power lines, metallic buildings, or nearby objects.

4.1.2 Radio Frequency Electromagnetic Methodology

A Radio Detection RD4000PXL2 unit was used in this investigation. Radio Frequency Electromagnetic (EM) utility locating equipment consists of a transmitter and a dual-function receiver. The receiver can be operated in a "passive" mode or in an "active" mode. The two modes of operation provide various levels of detection capabilities depending on the specific target or application.

The system is operated in the "active" mode by either inducing or conducting a signal into the underground utility to be traced. A transmitter is placed over and in line with a suspected buried utility. The transmitter induces a signal, which propagates along the buried utility. As the receiver is moved back and forth across the suspected path of the utility, the trace signal induces a signal into the receiver's coil sensor. A visual and audio response indicates when the receiver is directly over the buried utility. Another means of detecting in the "active" mode utilizes a method to "conduct" a signal within

the GPR data was conducted in the field and potential utilities were marked on the ground. Following the completion of the fieldwork, the data were post-processed and analyzed in more detailed. GPR data processing typically included band pass filtering, background removal, horizontal smoothing, and gain adjustments.

EM was used to scan the project site using both the passive (detecting 60-Hertz cycles from active electrical lines or induced 60-Hertz cycles on other metallic lines) and active modes (putting a traceable signal on utilities at points where the utility ties into above ground installations or inducing a traceable signal from the surface). TDEM was also used to scan the project site. Electromagnetic anomalies indicative of buried metallic objects were marked in the field. Marked utilities, grid corners, buried metallic objects, and other reference points were surveyed with a surveying instrument (Trimble Geodimeter 600).

As shown on Figure 2, underground utilities were identified during the survey. Signal penetration with GPR was approximately 3 to 4 feet over the site. Utilities below the maximum penetration depth were not detected with GPR.

4.2 Subsurface Soil Investigation

To determine the presence or absence of petroleum impact to subsurface soil, General Engineering collected soil samples from seven subsurface soil borings on February 25, 2005, for analysis. This sampling was accomplished using direct push technology (DPT) provided by Geologic Exploration, Inc. of Statesville, North Carolina (Geologic Exploration). Soil borings B1-1, B1-2, and B1-4 through B1-7 were constructed within the proposed NCDOT ROW. Soil boring B1-3 was constructed northeast of the proposed NCDOT ROW and north of the existing USTs located on site. The locations of the soil borings are shown on Figure 3. These borings were advanced to a depth of 12 feet bls. Composite soil samples were collected from the borings at 0-2 feet bls, 2-4 feet bls, 4-8 feet bls, 8-10 feet bls, and 10-12 feet bls. All soil samples were inspected for indications of impact by petroleum hydrocarbons, such as petroleum odors, discoloration, or visible sheen.

The soil samples were screened for the presence of organic vapors using a portable photoionization detector (PID). The PID measures the concentration of organic compounds in the vapor space above a soil sample resulting from volatilization of organic compounds contained in the soil. To screen the soils, each sample was placed in a clean, resealable polyethylene bag. The bag was sealed, and the sample was allowed to

equilibrate for approximately 5 minutes, after which time a small opening was made in the bag. The probe of the PID was then inserted into the bag, and the airspace above the soil was screened for organic vapors. A hydrocarbon odor and elevated PID readings were measured in the following samples:

Soil Boring	Boring Depth (feet bls)	PID reading in parts per million (ppm)
B1-2	8-10	250
B1-2	10-12	500
B1-5	4-8	180
B1-5	8-10	190
B1-5	10-12	200
B1-6	4-8	920
B1-6	8-10	850
B1-6	10-12	600
B1-7	4-8	70
B1-7	8-10	720
B1-7	10-12	380

To assess the subsurface soil quality, one composite soil sample was collected from each soil boring at the sampled depth interval with the highest PID reading and submitted for laboratory analysis. However, two composite soil samples were submitted for analysis from soil boring B1-1 at 0-2 feet bls and 10-12 feet bls. Following completion of the sampling activities, all borings were abandoned by filling the boreholes with bentonite. The bentonite was then hydrated with water and the boreholes were capped with approximately 4 inches of concrete.

The soil samples selected for analysis were submitted to Pace Analytical Services, Inc. in Huntersville, North Carolina. Each sample was analyzed for diesel range organics (DRO) by EPA Method 8015 and gasoline range organics (GRO) by EPA Method 8015. The analytical results are summarized below and are included on the Certificates of Analysis in Appendix I.

Analytical Results for Soil Samples

Sample Location and Depth (in feet bls)	DRO	GRO
B1-1 (0-2)	ND	ND
B1-1/2 (10-12)	ND	ND
B1-2 (10-12)	ND	ND
B1-3 (8-10)	ND	ND
B1-4 (4-8)	ND	ND
B1-5 (10-12)	810	25
B1-6 (4-8)	61	ND
B1-7 (8-10)	ND	ND
NCDENR Regulatory Limit	40	10

Notes: ND = Not Detected

Concentrations shown are in milligrams per kilogram (mg/kg)

Bold = Above the NCDENR Regulatory Limit

DRO and GRO were detected in boring B1-5 at concentrations above the respective action levels of 40 milligrams per kilogram (mg/kg) and 10 mg/kg specified in Section 5.0 of the July 2000 NCDENR Groundwater Section Guidelines for the Investigation and Remediation of Soil and Groundwater. Additionally, DRO was detected in boring B1-6 above the DRO action level. Therefore, the analytical results for soil in the vicinity of borings B1-5 and B1-6 are indicative of soil impact. Figure 3 shows the estimated area of soil impact. The estimated volume of impacted soil is approximately 460 cubic yards. This volume assumes that soil impact extends from land surface to a depth of 14 feet below land surface within the area shown on Figure 3.

4.3 Groundwater Investigation

The groundwater investigation at the subject site consisted of the collection and analysis of one groundwater sample from a temporary groundwater monitoring well installed on site (sample B1-2W). Figure 3 shows the location of the groundwater temporary monitoring well location. The sample was collected on February 25, 2005.

Temporary groundwater monitoring well B1-2W was installed in soil boring location B1-2. The 1-inch diameter temporary groundwater monitoring well was installed by Geologic Exploration using DPT. The well was installed to a depth of 30 feet bls, with a screen interval from 5 to 30 feet bls.

Groundwater samples from the temporary well were analyzed by Pace for petroleum related contaminants in accordance with the following methods:

- USEPA 6210D including IPE and MTBE,
- MADEP VPH (Aliphatics/Aromatics),
- MADEP EPH (Aliphatics/Aromatics), and
- USEPA 625.

The detected constituents are summarized on Table 1 and are included on the Certificates of Analysis in Appendix I.

As shown in Table 1, several petroleum hydrocarbons were detected in sample B1-2W at levels exceeding the NCDENR 15A NCAC 2L .0115 Groundwater Quality Standards (GWQS).

The analytical results of the groundwater sampling indicate groundwater impact from petroleum hydrocarbons within the subject site is most likely due to a release(s) of petroleum from the USTs located on site. Given that this temporary well is the only location of groundwater contamination on site, it is not possible to accurately estimate the extent of groundwater contamination based solely on this one location.

5.0 Conclusions and Recommendations

To determine the presence or absence of petroleum hydrocarbon impact in subsurface soil and/or groundwater within the proposed NCDOT ROW, General Engineering performed a geophysical evaluation, and a preliminary site assessment that included the collection and analysis of soil samples and groundwater samples. Underground utilities were identified during the geophysical survey.

Composite soil samples were collected from borings constructed within and northeast of the proposed NCDOT ROW. The soil samples were analyzed for DRO and GRO. Results of soil analysis for soil boring B1-5 indicated that the DRO concentration was 810 mg/kg and the GRO concentration was 25 mg/kg, which are above the respective action levels of 40 mg/kg and 10 mg/kg specified in Section 5.0 of the July 2000 NCDENR Groundwater Section Guidelines for the Investigation and Remediation of Soil and Groundwater. Additionally, the results of soil analysis for soil boring B1-6 indicated that the DRO concentration was 61 mg/kg, which is also above the DRO action level. Therefore, the analytical results for soil in the vicinity of borings B1-5 and B1-6 are indicative of soil impact. It is believed that up to 460 cubic yards of soil are potentially impacted to a depth of approximately 14 feet below land surface.

Constituents of potential concern were detected at concentrations exceeding the NCDENR 15A NCAC 2L .0115 GWQS in a groundwater sample collected from one on-site temporary groundwater monitoring well. These results indicate that groundwater contamination currently exists at the subject site, however with only one data point, it is not possible to accurately estimate the extent of groundwater impact.

The water table in this vicinity was measured at a depth of approximately 20 feet. Therefore, groundwater would most likely not be encountered during the proposed construction within the proposed NCDOT ROW.

Further soil and groundwater investigation is recommended to determine the extent and severity of petroleum contamination within the soil and groundwater underlying the subject site. It is recommended that the current owner and operator of the USTs notify NCDENR of the soil and groundwater contamination discovered.

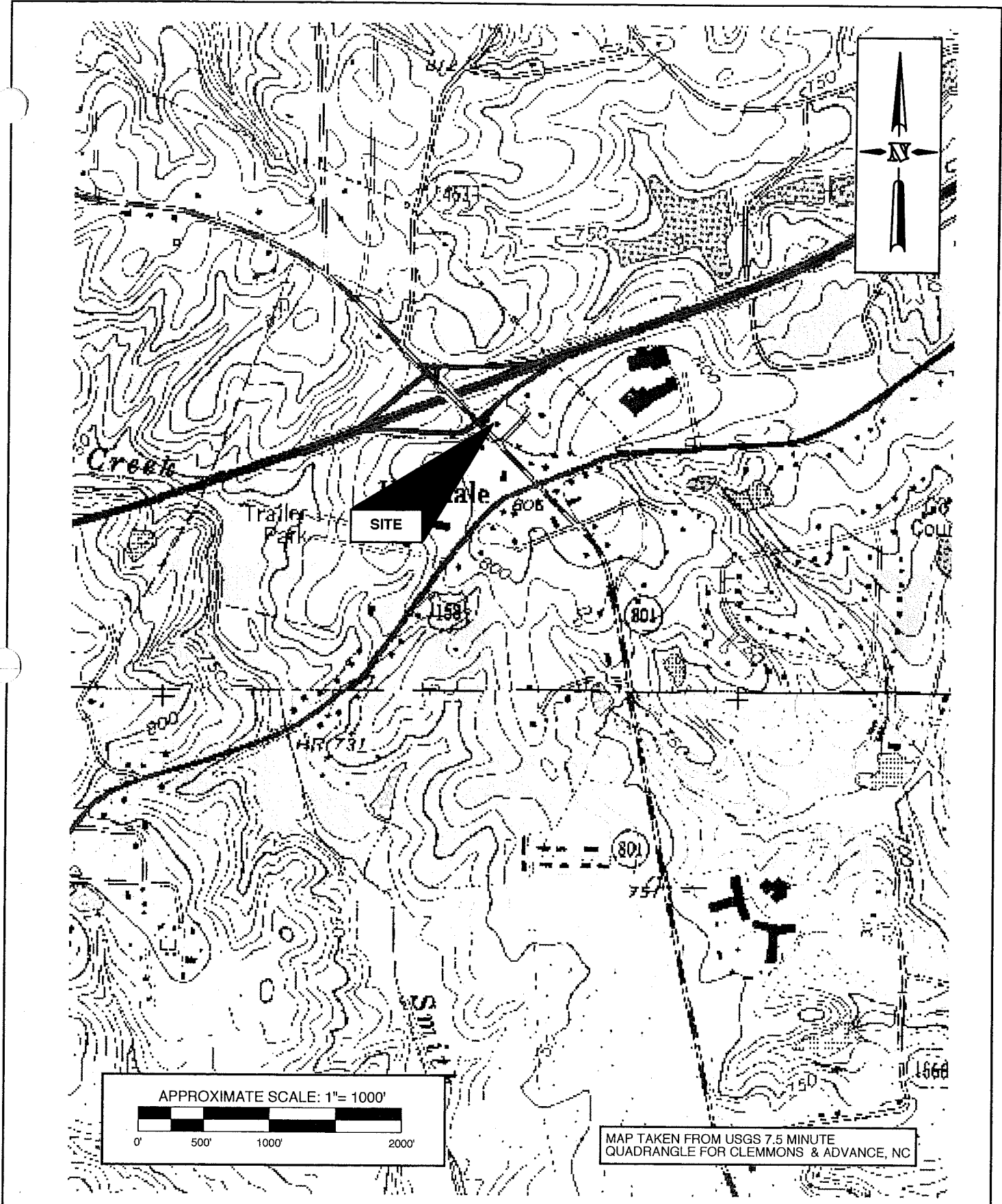
Table 1
Summary of Detected Constituents
in Temporary Groundwater Monitoring Well B1-2W

801 Shell Service Station
Quality Oil Company
136 NC Highway 801 North
Advance, North Carolina
WBS Element # 33185.1.1

Constituent	Detected Concentration	NCDENR 15A NCAC 2L .0115 GWQS Standards
Benzene	7100	1
Naphthalene	700	21
Bis(2-ethylhexyl)phthalate	17	3
1,2 Dichloroethane	210	0.38
Diisopropyl ether	380	70
Ethylbenzene	2200	29
Isopropylbenzene	550	70
MTBE	1800	200
n-Propylbenzene	300	70
Styrene	540	100
Toluene	12000	1000
1,2,4-Trimethylbenzene	2000	350
1,3,5-Trimethylbenzene	710	350
Xylene	10000	530
m&p-Xylene	6800	530
o-Xylene	3500	530
C09-C18 Aliphatics EPH	220	4200
C11-C22 Aromatics EPH	750	210
C05-C08 Aliphatics VPH	32000	420
C09-C12 Aliphatics VPH	28000	4200
C09-C10 Aromatics VPH	12000	210

Notes:

- 1) All concentrations shown are in micrograms per liter ($\mu\text{g/L}$)
- 2) ND = Not Detected
- 3) Detected concentrations exceeding the NCDENR 15A NCAC 2L .0115 GWQS Standards are shaded.
- 4) Bis(2-ethylhexyl)phthalate was detected in laboratory method blank at a concentration of 5.5 $\mu\text{g/L}$



GENERAL ENGINEERING and ENVIRONMENTAL of NC, Inc.
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Post Office Box 14262
 Research Triangle Park, NC
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PROJECT: ncdi00205C

801 SHELL SERVICE STATION
 QUALITY OIL COMPANY
 136 NC HIGHWAY 801 NORTH
 ADVANCE, NORTH CAROLINA

DATE: MARCH 28, 2005

SITE LOCATION
 MAP

DRAWN BY: LKH APPRV. BY: ADE

FIGURE
 1

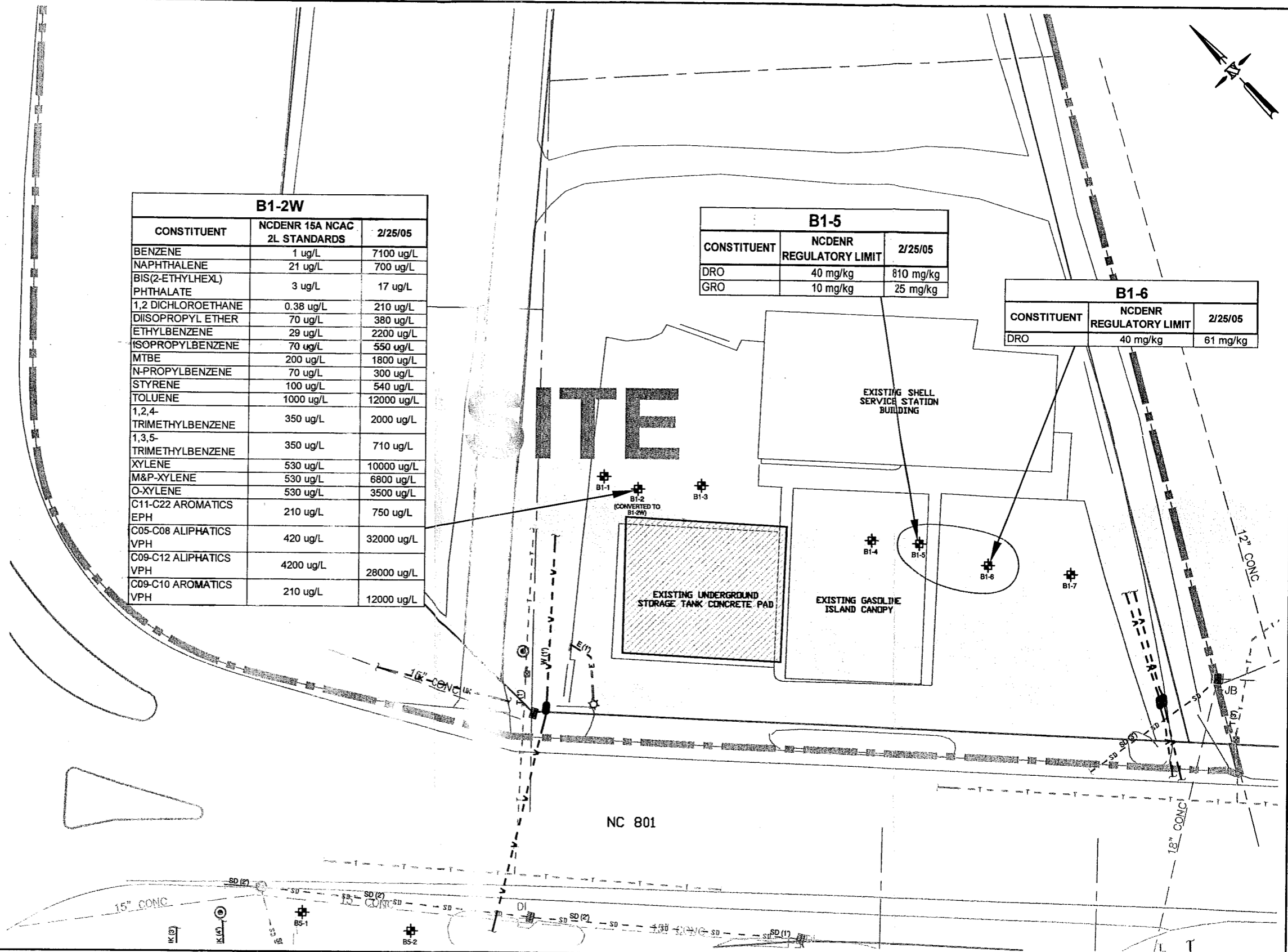
LEGEND

- UK --- UK --- APPROXIMATE LOCATION OF SUSPECTED UNDERGROUND UNKNOWN UTILITY LINE
- V --- V --- APPROXIMATE LOCATION OF SUSPECTED UNDERGROUND WATER LINE
- SD --- SD --- APPROXIMATE LOCATION OF SUSPECTED STORMWATER DRAIN LINE
- --- --- APPROXIMATE LOCATION OF SUSPECTED UNDERGROUND GAS LINE
- T --- T --- APPROXIMATE LOCATION OF SUSPECTED UNDERGROUND COMMUNICATIONS LINE
- E --- E --- APPROXIMATE LOCATION OF SUSPECTED UNDERGROUND ELECTRICAL POWER LINE
- --- --- END OF DESIGNATION OR UNKNOWN DESIGNATION
- --- --- EXISTING DOT RIGHT OF WAY
- --- --- PROPOSED DOT RIGHT OF WAY
- --- --- PROPERTY LINE
- --- --- SITE PROPERTY LINE
- ⊗ WATER VALVE
- ⊙ WATER METER
- ⊕ FIRE HYDRANT
- ⊙ IRRIGATION CONTROL VALVE
- ⊙ STORM DRAIN DROP INLET
- ⊙ STORM DRAIN MANHOLE
- ⊙ STORM DRAIN CURB INLET
- ⊗ GAS VALVE
- ⊙ GAS METER
- ⊙ MONITORING WELL
- ⊙ TELEPHONE PEDASTAL
- ⊙ POWER POLE
- ⊙ LIGHT POLE
- ⊙ ELECTRIC SURFACE BOX
- RCP REINFORCED CONCRETE PIPE
- CL CLAY PIPE
- ⊕ SOIL BORING
- ESTIMATED AREA OF SOIL IMPACT

B1-2W		
CONSTITUENT	NCDENR 15A NCAC 2L STANDARDS	2/25/05
BENZENE	1 ug/L	7100 ug/L
NAPHTHALENE	21 ug/L	700 ug/L
BIS(2-ETHYLHEXL) PHTHALATE	3 ug/L	17 ug/L
1,2 DICHLOROETHANE	0.38 ug/L	210 ug/L
DIISOPROPYL ETHER	70 ug/L	380 ug/L
ETHYLBENZENE	29 ug/L	2200 ug/L
ISOPROPYLBENZENE	70 ug/L	550 ug/L
MTBE	200 ug/L	1800 ug/L
N-PROPYLBENZENE	70 ug/L	300 ug/L
STYRENE	100 ug/L	540 ug/L
TOLUENE	1000 ug/L	12000 ug/L
1,2,4-TRIMETHYLBENZENE	350 ug/L	2000 ug/L
1,3,5-TRIMETHYLBENZENE	350 ug/L	710 ug/L
XYLENE	530 ug/L	10000 ug/L
M&P-XYLENE	530 ug/L	6800 ug/L
O-XYLENE	530 ug/L	3500 ug/L
C11-C22 AROMATICS		
EPH	210 ug/L	750 ug/L
C05-C08 ALIPHATICS		
VPH	420 ug/L	32000 ug/L
C09-C12 ALIPHATICS		
VPH	4200 ug/L	28000 ug/L
C09-C10 AROMATICS		
VPH	210 ug/L	12000 ug/L

B1-5		
CONSTITUENT	NCDENR REGULATORY LIMIT	2/25/05
DRO	40 mg/kg	810 mg/kg
GRO	10 mg/kg	25 mg/kg

B1-6		
CONSTITUENT	NCDENR REGULATORY LIMIT	2/25/05
DRO	40 mg/kg	61 mg/kg



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PROJECT: ncdt00205c	801 SHELL SERVICE STATION QUALITY OIL COMPANY 136 NC HIGHWAY 801 NORTH ADVANCE, NORTH CAROLINA WBS ELEMENT # 33185.1.1		FIGURE 3
DATE: March 28, 2005	DRAWN BY: TJP	APPRV. BY: LKH	

APPENDIX I

**SOIL AND GROUNDWATER CERTIFICATES OF ANALYSIS AND CHAIN OF
CUSTODY**



Pace Analytical[®]

www.pacelabs.com

Pace Analytical Services, Inc.
9800 Kinsey Avenue, Suite 100
Huntersville, NC 28078

Phone: 704.875.9092
Fax: 704.875.9091

March 11, 2005

Ms. Lori Hamburg
General Eng. Consultants
PO Box 14262
Research Triangle Pk, NC 27709

RE: Lab Project Number: 9288923
Client Project ID: NCDT00205C/WBS33185.1.1

Dear Ms. Hamburg:

Enclosed are the analytical results for sample(s) received by the laboratory on February 28, 2005. 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,



Annette Scott
Annette.Scott@pacelabs.com
Project Manager

Enclosures

REPORT OF LABORATORY ANALYSIS

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

Asheville Certification IDs

NC Wastewater 40
NC Drinking Water 37712
SC Environmental 00000

Charlotte Certification IDs

NC Wastewater 12
NC Drinking Water 37706
SC Environmental 00000

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 Phone: 704.875.9092
 Fax: 704.875.9091

Lab Project Number: 9288923
 Client Project ID: NCDT00205C/WBS33185.1.1

Solid results are reported on a dry weight basis

Lab Sample No: 925336638 Project Sample Number: 9288923-001 Date Collected: 02/25/05 09:55
 Client Sample ID: B1-1 Matrix: Soil Date Received: 02/28/05 13:30

Parameters	Results	Units	Report Limit	Analyzed	By	CAS No.	Qual	RegLmt
Wet Chemistry								
Percent Moisture	Method: % Moisture							
Percent Moisture	17.6	%		03/01/05 08:21	TNS			
GC Semivolatiles								
TPH in Soil by 3545/8015	Prep/Method: EPA 3545 / EPA 8015							
Diesel Fuel	ND	mg/kg	6.4	03/10/05 23:24	KBS	68334-30-5		
n-Pentacosane (S)	139	%		03/10/05 23:24	KBS	629-99-2		
Date Extracted	03/08/05			03/08/05				
GC Volatiles								
GAS, Soil	Method: EPA 8015							
Gasoline	ND	mg/kg	7.3	03/02/05 06:08	DHW			
4-Bromofluorobenzene (S)	82	%		03/02/05 06:08	DHW	460-00-4		

REPORT OF LABORATORY ANALYSIS

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Lab Project Number: 9288923
 Client Project ID: NCDT00205C/WBS33185.1.1

Lab Sample No: 925336646 Project Sample Number: 9288923-002 Date Collected: 02/25/05 10:05
 Client Sample ID: B1-2 Matrix: Soil Date Received: 02/28/05 13:30

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

Percent Moisture	Method: % Moisture							
Percent Moisture	26.8	%		03/01/05 08:22	TNS			

GC Semivolatiles

TPH in Soil by 3545/8015	Prep/Method: EPA 3545 / EPA 8015							
Diesel Fuel	ND	mg/kg	6.8	03/10/05 20:56	KBS	68334-30-5		
n-Pentacosane (S)	151	%		03/10/05 20:56	KBS	629-99-2	1	
Date Extracted	03/08/05			03/08/05				

GC Volatiles

GAS, Soil	Method: EPA 8015							
Gasoline	ND	mg/kg	8.2	03/02/05 06:39	DHW			
4-Bromofluorobenzene (S)	82	%		03/02/05 06:39	DHW	460-00-4		

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Lab Project Number: 9288923

Client Project ID: NCDT00205C/WBS33185.1.1

Lab Sample No: 925336653

Project Sample Number: 9288923-003

Date Collected: 02/25/05 10:15

Client Sample ID: B1-3

Matrix: Soil

Date Received: 02/28/05 13:30

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

Wet Chemistry

Percent Moisture	Method: % Moisture							
Percent Moisture	26.0	%		03/01/05 08:22	TNS			

GC Semivolatiles

TPH in Soil by 3545/8015	Prep/Method: EPA 3545 / EPA 8015							
Diesel Fuel	ND	mg/kg	6.8	03/10/05 21:26	KBS	68334-30-5		
n-Pentacosane (S)	135	%		03/10/05 21:26	KBS	629-99-2		
Date Extracted	03/08/05			03/08/05				

GC Volatiles

GAS, Soil	Method: EPA 8015							
Gasoline	ND	mg/kg	8.1	03/02/05 07:10	DHW			
4-Bromofluorobenzene (S)	84	%		03/02/05 07:10	DHW	460-00-4		

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Lab Project Number: 9288923

Client Project ID: NCDT00205C/WBS33185.1.1

Lab Sample No: 925336661

Project Sample Number: 9288923-004

Date Collected: 02/25/05 11:30

Client Sample ID: B1-4

Matrix: Soil

Date Received: 02/28/05 13:30

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

Wet Chemistry

Percent Moisture	Method: % Moisture							
Percent Moisture	24.5	%		03/01/05 08:23	TNS			

GC Semivolatiles

TPH in Soil by 3545/8015	Prep/Method: EPA 3545 / EPA 8015							
Diesel Fuel	ND	mg/kg	6.6	03/10/05 21:55	KBS	68334-30-5		
n-Pentacosane (S)	130	%		03/10/05 21:55	KBS	629-99-2		
Date Extracted	03/08/05			03/08/05				

GC Volatiles

GAS, Soil	Method: EPA 8015							
Gasoline	ND	mg/kg	7.9	03/02/05 07:41	DHW			
4-Bromofluorobenzene (S)	83	%		03/02/05 07:41	DHW	460-00-4		

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Lab Project Number: 9288923
 Client Project ID: NCDT00205C/WBS33185.1.1

Lab Sample No: 925336679 Project Sample Number: 9288923-005 Date Collected: 02/25/05 11:35
 Client Sample ID: B1-5 Matrix: Soil Date Received: 02/28/05 13:30

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

Wet Chemistry

Percent Moisture	Method: % Moisture							
Percent Moisture	19.6	%		03/01/05 08:23	TNS			

GC Semivolatiles

TPH in Soil by 3545/8015	Prep/Method: EPA 3545 / EPA 8015							
Diesel Fuel	810	mg/kg	120	03/11/05 14:24	KBS	68334-30-5		
n-Pentacosane (S)	0	%		03/11/05 14:24	KBS	629-99-2	2	
Date Extracted	03/08/05			03/08/05				

GC Volatiles

GAS, Soil	Method: EPA 8015							
Gasoline	25.	mg/kg	7.5	03/02/05 22:03	DHW			
4-Bromofluorobenzene (S)	112	%		03/02/05 22:03	DHW	460-00-4		

Date: 03/11/05

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Lab Project Number: 9288923
 Client Project ID: NCDT00205C/WBS33185.1.1

Lab Sample No: 925336687 Project Sample Number: 9288923-006 Date Collected: 02/25/05 11:50
 Client Sample ID: B1-6 Matrix: Soil Date Received: 02/28/05 13:30

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

Wet Chemistry

Percent Moisture	Method: % Moisture							
Percent Moisture	18.0	%		03/01/05 08:23	TNS			

GC Semivolatiles

TPH in Soil by 3545/8015	Prep/Method: EPA 3545 / EPA 8015							
Diesel Fuel	61.	mg/kg	6.1	03/11/05 13:54	KBS	68334-30-5		
n-Pentacosane (S)	192	%		03/11/05 13:54	KBS	629-99-2	3	
Date Extracted	03/08/05			03/08/05				

GC Volatiles

GAS, Soil	Method: EPA 8015							
Gasoline	ND	mg/kg	7.3	03/02/05 22:34	DHW			
4-Bromofluorobenzene (S)	124	%		03/02/05 22:34	DHW	460-00-4		

Date: 03/11/05

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Lab Project Number: 9288923
 Client Project ID: NCDT00205C/WBS33185.1.1

Lab Sample No: 925336695 Project Sample Number: 9288923-007 Date Collected: 02/25/05 11:55
 Client Sample ID: B1-7 Matrix: Soil Date Received: 02/28/05 13:30

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

Wet Chemistry

Percent Moisture	Method: % Moisture							
Percent Moisture	25.7	%		03/01/05 08:24	TNS			

GC Semivolatiles

TPH in Soil by 3545/8015	Prep/Method: EPA 3545 / EPA 8015							
Diesel Fuel	ND	mg/kg	6.7	03/10/05 23:24	KBS	68334-30-5		
n-Pentacosane (S)	130	%		03/10/05 23:24	KBS	629-99-2		
Date Extracted	03/08/05			03/08/05				

GC Volatiles

GAS, Soil	Method: EPA 8015							
Gasoline	ND	mg/kg	8.1	03/02/05 23:36	DHW			
4-Bromofluorobenzene (S)	88	%		03/02/05 23:36	DHW	460-00-4		

Date: 03/11/05

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Lab Sample No: 925336703

Project Sample Number: 9288923-008

Date Collected: 02/25/05 09:55

Client Sample ID: B1-1/2

Matrix: Soil

Date Received: 02/28/05 13:30

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

Wet Chemistry

Percent Moisture	Method: % Moisture							
Percent Moisture	26.8	%		03/01/05 08:24	TNS			

GC Semivolatiles

TPH in Soil by 3545/8015	Prep/Method: EPA 3545 / EPA 8015							
Diesel Fuel	ND	mg/kg	6.8	03/10/05 23:53	KBS	68334-30-5		
n-Pentacosane (S)	102	%		03/10/05 23:53	KBS	629-99-2		
Date Extracted	03/08/05			03/08/05				

GC Volatiles

GAS. Soil	Method: EPA 8015							
Gasoline	ND	mg/kg	8.2	03/03/05 01:10	DHW			
4-Bromofluorobenzene (S)	93	%		03/03/05 01:10	DHW	460-00-4		

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PARAMETER FOOTNOTES

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 surrogate recovery was above the QC recovery limit. The sample was not re-extracted since no target analytes were detected in the sample.
- [2] Surrogate standards were not recovered due to sample dilution.
- [3] The surrogate recovery was outside QC acceptance limits due to matrix interference.

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QUALITY CONTROL DATA

Lab Project Number: 9288923
 Client Project ID: NCDT00205C/WBS33185.1.1

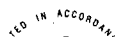
QC Batch: 122516	Analysis Method: % Moisture				
QC Batch Method:	Analysis Description: Percent Moisture				
Associated Lab Samples:	925336638	925336646	925336653	925336661	925336679
	925336687	925336695	925336703		

SAMPLE DUPLICATE: 925337628

<u>Parameter</u>	<u>Units</u>	925336638 . DUP		<u>RPD</u>	<u>Footnotes</u>
		<u>Result</u>	<u>Result</u>		
Percent Moisture	%	17.60	19.70	11	

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Phone: 704.875.9092
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Lab Project Number: 9288923
Client Project ID: NCDT00205C/WBS33185.1.1

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
- [1] The surrogate and/or spike recovery was outside acceptance limits.
- [2] The RPD value for the sample duplicate or MS/MSD was outside of QC acceptance limits due to matrix interference. QC batch accepted based on LCS and/or LCSD recovery and/or RPD values.
- [3] The surrogate recovery was above the QC recovery limit. The sample was not re-extracted since no target analytes were detected in the sample.

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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

Page: 1 OF 1

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

Quote Reference:

To Be Completed by Pace Analytical Client: **Section B**

Client Information (Check quote/contract):

Requested Due Date: _____

Report To: LORI HAMBURG

Copy To: _____

*TAT: _____

Project Manager: AS

Project #: 9700973

Profile #: 3452-3

Requested Client Information: **Section A**

Company: General Engineering and Environmental of NC, Inc.

Address: PO Box 14262

RTP, NC 27709

Phone: 919-544-1100 Fax: _____

Invoice To: NCDOT WBS33185.1.1

P.O. ncd100205c

Project Name: ncd100205c/WBS33185.1.1

Project Number: 140NC 801

Section D

Requested Client Information: **Section D**

Requested Analysis

Requested Client Information: **Section C**

ITEM NUMBER	SAMPLE ID (One character per box.)	Valid Matrix Codes: Matrix Code Water WT Soil SL Oil OL Wipe WP Air AR Tissue TS Other OT	MATRIX CODE	DATE COLLECTED	TIME COLLECTED	Preservatives										GRO	GRO	REMARKS / Lab ID
						# Containers	Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol					
1	B		SL	2/25/2005	9:55	X										X		925336030
2	B		SL	2/25/2005	10:05	X										X		925336040
3	B		SL	2/25/2005	10:15	X										X		925336093
4	B		SL	2/25/2005	11:30	X										X		925336061
5	B		SL	2/25/2005	11:35	X										X		925336079
6	B		SL	2/25/2005	11:50	X										X		925336087
7	B		SL	2/25/2005	11:55	X										X		925336095
8	B		SL	2/25/2005	9:55	X										X		925336703
9	B		SL	2/25/2005		X										X		
10	B		SL	2/25/2005		X										X		
11																		
12																		

SHIPMENT METHOD: AIRBILL NO. SHIPPING DATE: NO. OF COOLERS: ITEM #

RELINQUISHED BY / AFFILIATION: DATE TIME ACCEPTED BY / AFFILIATION: DATE TIME

SAMPLE CONDITION: SAMPLE NOTES:

Temp in C: 12

Received on Ice: (Y/N)

Sealed Cooler: (Y/N)

Sample intact: (Y/N)

SAMPLER NAME AND SIGNATURE: LORI HAMBURG

PRINT Name of SAMPLER: LORI HAMBURG

SIGNATURE OF SAMPLER: [Signature]

DATE SIGNED: 2/25/05



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

March 11, 2005

Ms. Lori Hamburg
General Eng. Consultants
PO Box 14262
Research Triangle Pk, NC 27709

RE: Lab Project Number: 9288924
Client Project ID: NCDT00205C/WBS33185.1.1

Dear Ms. Hamburg:

Enclosed are the analytical results for sample(s) received by the laboratory on February 28, 2005. 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,

Annette Scott

Annette Scott
Annette.Scott@pacelabs.com
Project Manager

Enclosures

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 Phone: 704.875.9092
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Lab Project Number: 9288924
 Client Project ID: NCDT00205C/WBS33185.1.1

Lab Sample No: 925336729 Project Sample Number: 9288924-002 Date Collected: 02/25/05 12:30
 Client Sample ID: B1-2W Matrix: Water Date Received: 02/28/05 13:30

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

GC/MS Semivolatiles

Extractables in Water by 625 Prep/Method: EPA 625 SF / EPA 625

Parameters	Results	Units	Report Limit	Analyzed	By	CAS No.	Qual	ReqLmt
Acenaphthene	ND	ug/l	5.7	03/04/05 22:45	BET	83-32-9		
Acenaphthylene	ND	ug/l	5.7	03/04/05 22:45	BET	208-96-8		
Anthracene	ND	ug/l	5.7	03/04/05 22:45	BET	120-12-7		
Benzidine	ND	ug/l	57.	03/04/05 22:45	BET	92-87-5		
Benzo(k)fluoranthene	ND	ug/l	5.7	03/04/05 22:45	BET	207-08-9		
Benzo(b)fluoranthene	ND	ug/l	5.7	03/04/05 22:45	BET	205-99-2		
Benzo(a)anthracene	ND	ug/l	5.7	03/04/05 22:45	BET	56-55-3		
Benzo(g,h,i)perylene	ND	ug/l	5.7	03/04/05 22:45	BET	191-24-2		
Benzo(a)pyrene	ND	ug/l	5.7	03/04/05 22:45	BET	50-32-8		
4-Bromophenylphenyl ether	ND	ug/l	5.7	03/04/05 22:45	BET	101-55-3		
Butylbenzylphthalate	ND	ug/l	5.7	03/04/05 22:45	BET	85-68-7		
4-Chloro-3-methylphenol	ND	ug/l	5.7	03/04/05 22:45	BET	59-50-7		
bis(2-Chloroethoxy)methane	ND	ug/l	5.7	03/04/05 22:45	BET	111-91-1		
bis(2-Chloroethyl) ether	ND	ug/l	5.7	03/04/05 22:45	BET	111-44-4		
bis(2-Chloroisopropyl) ether	ND	ug/l	5.7	03/04/05 22:45	BET	39638-32-9		
2-Chloronaphthalene	ND	ug/l	5.7	03/04/05 22:45	BET	91-58-7		
2-Chlorophenol	ND	ug/l	5.7	03/04/05 22:45	BET	95-57-8		
4-Chlorophenylphenyl ether	ND	ug/l	5.7	03/04/05 22:45	BET	7005-72-3		
Chrysene	ND	ug/l	5.7	03/04/05 22:45	BET	218-01-9		
Dibenz(a,h)anthracene	ND	ug/l	5.7	03/04/05 22:45	BET	53-70-3		
1,2-Dichlorobenzene	ND	ug/l	5.7	03/04/05 22:45	BET	95-50-1		
1,3-Dichlorobenzene	ND	ug/l	5.7	03/04/05 22:45	BET	541-73-1		
1,4-Dichlorobenzene	ND	ug/l	5.7	03/04/05 22:45	BET	106-46-7		
3,3'-Dichlorobenzidine	ND	ug/l	11.	03/04/05 22:45	BET	91-94-1		
2,4-Dichlorophenol	ND	ug/l	5.7	03/04/05 22:45	BET	120-83-2		
Diethylphthalate	ND	ug/l	5.7	03/04/05 22:45	BET	84-66-2		
2,4-Dimethylphenol	ND	ug/l	5.7	03/04/05 22:45	BET	105-67-9		
Dimethylphthalate	ND	ug/l	5.7	03/04/05 22:45	BET	131-11-3		
Di-n-butylphthalate	ND	ug/l	5.7	03/04/05 22:45	BET	84-74-2		
4,6-Dinitro-2-methylphenol	ND	ug/l	28.	03/04/05 22:45	BET	534-52-1		
2,4-Dinitrophenol	ND	ug/l	28.	03/04/05 22:45	BET	51-28-5		
2,4-Dinitrotoluene	ND	ug/l	5.7	03/04/05 22:45	BET	121-14-2		
2,6-Dinitrotoluene	ND	ug/l	5.7	03/04/05 22:45	BET	606-20-2		
Di-n-octylphthalate	ND	ug/l	5.7	03/04/05 22:45	BET	117-84-0		
bis(2-Ethylhexyl)phthalate	17.	ug/l	5.7	03/04/05 22:45	BET	117-81-7	1	
Fluoranthene	ND	ug/l	5.7	03/04/05 22:45	BET	206-44-0		
Fluorene	ND	ug/l	5.7	03/04/05 22:45	BET	86-73-7		

Date: 03/11/05

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 Fax: 704.875.9091

Lab Project Number: 9288924
 Client Project ID: NCDT00205C/WBS33185.1.1

Lab Sample No: 925336729 Project Sample Number: 9288924-002 Date Collected: 02/25/05 12:30
 Client Sample ID: B1-2W Matrix: Water Date Received: 02/28/05 13:30

Parameters	Results	Units	Report Limit	Analyzed	By	CAS No.	Qual	RegLmt
Hexachloro-1,3-butadiene	ND	ug/l	5.7	03/04/05 22:45	BET	87-68-3		
Hexachlorobenzene	ND	ug/l	5.7	03/04/05 22:45	BET	118-74-1		
Hexachlorocyclopentadiene	ND	ug/l	11.	03/04/05 22:45	BET	77-47-4		
Hexachloroethane	ND	ug/l	5.7	03/04/05 22:45	BET	67-72-1		
Indeno(1,2,3-cd)pyrene	ND	ug/l	5.7	03/04/05 22:45	BET	193-39-5		
Isophorone	ND	ug/l	5.7	03/04/05 22:45	BET	78-59-1		
Naphthalene	510	ug/l	57.	03/04/05 22:45	BET	91-20-3		
Nitrobenzene	ND	ug/l	5.7	03/04/05 22:45	BET	98-95-3		
2-Nitrophenol	ND	ug/l	5.7	03/04/05 22:45	BET	88-75-5		
4-Nitrophenol	ND	ug/l	28.	03/04/05 22:45	BET	100-02-7		
N-Nitrosodimethylamine	ND	ug/l	5.7	03/04/05 22:45	BET	62-75-9		
N-Nitroso-di-n-propylamine	ND	ug/l	5.7	03/04/05 22:45	BET	621-64-7		
N-Nitrosodiphenylamine	ND	ug/l	5.7	03/04/05 22:45	BET	86-30-6		
Pentachlorophenol	ND	ug/l	28.	03/04/05 22:45	BET	87-86-5		
Phenanthrene	ND	ug/l	5.7	03/04/05 22:45	BET	85-01-8		
Phenol	ND	ug/l	5.7	03/04/05 22:45	BET	108-95-2		
Pyrene	ND	ug/l	5.7	03/04/05 22:45	BET	129-00-0		
1,2,4-Trichlorobenzene	ND	ug/l	5.7	03/04/05 22:45	BET	120-82-1		
2,4,6-Trichlorophenol	ND	ug/l	5.7	03/04/05 22:45	BET	88-06-2		
Nitrobenzene-d5 (S)	69	%		03/04/05 22:45	BET	4165-60-0		
2-Fluorobiphenyl (S)	70	%		03/04/05 22:45	BET	321-60-8		
Terphenyl-d14 (S)	80	%		03/04/05 22:45	BET	1718-51-0		
Phenol-d5 (S)	44	%		03/04/05 22:45	BET	4165-62-2		
2-Fluorophenol (S)	44	%		03/04/05 22:45	BET	367-12-4		
2,4,6-Tribromophenol (S)	89	%		03/04/05 22:45	BET			
Date Extracted	03/02/05			03/02/05				

GC Semivolatiles

EPH in Water by Mass. Method	Prep/Method: EPA 3510 / EPH	Results	Units	Report Limit	Analyzed	By	CAS No.
Aliphatic (C09-C18)		220	ug/l	100	03/10/05 22:58	KBS	
Aliphatic (C19-C36)		ND	ug/l	100	03/10/05 22:58	KBS	
Aromatic (C11-22)		750	ug/l	100	03/10/05 22:58	KBS	
2-Fluorobiphenyl (S)		87	%		03/10/05 22:58	KBS	321-60-8
2-Bromonaphthalene (S)		94	%		03/10/05 22:58	KBS	580-13-2
Nonatriacontane (S)		119	%		03/10/05 22:58	KBS	7194-86-7
o-Terphenyl (S)		68	%		03/10/05 22:58	KBS	84-15-1
Date Extracted	03/09/05				03/09/05		

Date: 03/11/05

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 9800 Kinney Avenue, Suite 100
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 Phone: 704.875.9092
 Fax: 704.875.9091

Lab Project Number: 9288924
 Client Project ID: NCDT00205C/WBS33185.1.1

Lab Sample No: 925336729 Project Sample Number: 9288924-002 Date Collected: 02/25/05 12:30
 Client Sample ID: B1-2W Matrix: Water Date Received: 02/28/05 13:30

Parameters	Results	Units	Report Limit	Analyzed	By	CAS No.	Qual	RegLmt
GC Volatiles								
VPH in Water by Mass. Method	Method: VPH							
Aliphatic (C05-C08)	32000	ug/l	2000	03/11/05 01:32	DHW			
Aliphatic (C09-C12)	28000	ug/l	2000	03/11/05 01:32	DHW			
Aromatic (C09-C10)	12000	ug/l	2000	03/11/05 01:32	DHW			
2,5-Dibromotoluene (FID)(S)	93	%		03/11/05 01:32	DHW			
2,5-Dibromotoluene (PID)(S)	92	%		03/11/05 01:32	DHW			

Parameters	Results	Units	Report Limit	Analyzed	By	CAS No.	Qual	RegLmt
GC/MS Volatiles								
6230 VOCs by 8260, low level	Method: EPA 8260							
Benzene	7100	ug/l	50.	03/05/05 22:02	MSF	71-43-2		
Bromobenzene	ND	ug/l	50.	03/05/05 22:02	MSF	108-86-1		
Bromochloromethane	ND	ug/l	50.	03/05/05 22:02	MSF	74-97-5		
Bromodichloromethane	ND	ug/l	50.	03/05/05 22:02	MSF	75-27-4		
Bromoform	ND	ug/l	50.	03/05/05 22:02	MSF	75-25-2		
Bromomethane	ND	ug/l	50.	03/05/05 22:02	MSF	74-83-9		
n-Butylbenzene	ND	ug/l	50.	03/05/05 22:02	MSF	104-51-8		
sec-Butylbenzene	ND	ug/l	50.	03/05/05 22:02	MSF	135-98-8		
tert-Butylbenzene	ND	ug/l	50.	03/05/05 22:02	MSF	98-06-6		
Carbon tetrachloride	ND	ug/l	50.	03/05/05 22:02	MSF	56-23-5		
Chlorobenzene	ND	ug/l	50.	03/05/05 22:02	MSF	108-90-7		
Chloroethane	ND	ug/l	50.	03/05/05 22:02	MSF	75-00-3		
Chloroform	ND	ug/l	50.	03/05/05 22:02	MSF	67-66-3		
Chloromethane	ND	ug/l	50.	03/05/05 22:02	MSF	74-87-3		
2-Chlorotoluene	ND	ug/l	50.	03/05/05 22:02	MSF	95-49-8		
4-Chlorotoluene	ND	ug/l	50.	03/05/05 22:02	MSF	106-43-4		
1,2-Dibromo-3-chloropropane	ND	ug/l	200	03/05/05 22:02	MSF	96-12-8		
Dibromochloromethane	ND	ug/l	50.	03/05/05 22:02	MSF	124-48-1		
1,2-Dibromoethane (EDB)	ND	ug/l	50.	03/05/05 22:02	MSF	106-93-4		
Dibromomethane	ND	ug/l	50.	03/05/05 22:02	MSF	74-95-3		
1,2-Dichlorobenzene	ND	ug/l	100	03/05/05 22:02	MSF	95-50-1		
1,3-Dichlorobenzene	ND	ug/l	100	03/05/05 22:02	MSF	541-73-1		
1,4-Dichlorobenzene	ND	ug/l	100	03/05/05 22:02	MSF	106-46-7		
Dichlorodifluoromethane	ND	ug/l	50.	03/05/05 22:02	MSF	75-71-8		
1,1-Dichloroethane	ND	ug/l	50.	03/05/05 22:02	MSF	75-34-3		
1,2-Dichloroethane	210	ug/l	50.	03/05/05 22:02	MSF	107-06-2		
1,2-Dichloroethene (Total)	ND	ug/l	0.50	03/05/05 22:02	MSF	540-59-0		
1,1-Dichloroethene	ND	ug/l	50.	03/05/05 22:02	MSF	75-35-4		
cis-1,2-Dichloroethene	ND	ug/l	50.	03/05/05 22:02	MSF	156-59-2		

Date: 03/11/05

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 Phone: 704.875.9092
 Fax: 704.875.9091

Lab Project Number: 9288924
 Client Project ID: NCDT00205C/WBS33185.1.1

Lab Sample No: 925336729 Project Sample Number: 9288924-002 Date Collected: 02/25/05 12:30
 Client Sample ID: B1-2W Matrix: Water Date Received: 02/28/05 13:30

Parameters	Results	Units	Report Limit	Analyzed	By	CAS No.	Qual	ReqLmt
trans-1,2-Dichloroethene	ND	ug/l	50.	03/05/05 22:02	MSF	156-60-5		
1,2-Dichloropropane	ND	ug/l	50.	03/05/05 22:02	MSF	78-87-5		
1,3-Dichloropropane	ND	ug/l	50.	03/05/05 22:02	MSF	142-28-9		
2,2-Dichloropropane	ND	ug/l	50.	03/05/05 22:02	MSF	594-20-7		
1,1-Dichloropropene	ND	ug/l	50.	03/05/05 22:02	MSF	563-58-6		
cis-1,3-Dichloropropene	ND	ug/l	50.	03/05/05 22:02	MSF	10061-01-5		
trans-1,3-Dichloropropene	ND	ug/l	50.	03/05/05 22:02	MSF	10061-02-6		
Diisopropyl ether	380	ug/l	50.	03/05/05 22:02	MSF	108-20-3		
Ethylbenzene	2200	ug/l	50.	03/05/05 22:02	MSF	100-41-4		
Hexachloro-1,3-butadiene	ND	ug/l	200	03/05/05 22:02	MSF	87-68-3		
Isopropylbenzene (Cumene)	550	ug/l	50.	03/05/05 22:02	MSF	98-82-8		
p-Isopropyltoluene	ND	ug/l	50.	03/05/05 22:02	MSF	99-87-6		
Methylene chloride	ND	ug/l	200	03/05/05 22:02	MSF	75-09-2		
Methyl-tert-butyl ether	1800	ug/l	50.	03/05/05 22:02	MSF	1634-04-4		
Naphthalene	700	ug/l	200	03/05/05 22:02	MSF	91-20-3		
n-Propylbenzene	300	ug/l	50.	03/05/05 22:02	MSF	103-65-1		
Styrene	540	ug/l	50.	03/05/05 22:02	MSF	100-42-5		
1,1,1,2-Tetrachloroethane	ND	ug/l	50.	03/05/05 22:02	MSF	630-20-6		
1,1,2,2-Tetrachloroethane	ND	ug/l	50.	03/05/05 22:02	MSF	79-34-5		
Tetrachloroethene	ND	ug/l	50.	03/05/05 22:02	MSF	127-18-4		
Toluene	12000	ug/l	50.	03/05/05 22:02	MSF	108-88-3		
1,2,3-Trichlorobenzene	ND	ug/l	200	03/05/05 22:02	MSF	87-61-6		
1,2,4-Trichlorobenzene	ND	ug/l	200	03/05/05 22:02	MSF	120-82-1		
1,1,1-Trichloroethane	ND	ug/l	50.	03/05/05 22:02	MSF	71-55-6		
1,1,2-Trichloroethane	ND	ug/l	50.	03/05/05 22:02	MSF	79-00-5		
Trichloroethene	ND	ug/l	50.	03/05/05 22:02	MSF	79-01-6		
Trichlorofluoromethane	ND	ug/l	50.	03/05/05 22:02	MSF	75-69-4		
1,2,3-Trichloropropane	ND	ug/l	50.	03/05/05 22:02	MSF	96-18-4		
1,2,4-Trimethylbenzene	2000	ug/l	50.	03/05/05 22:02	MSF	95-63-6		
1,3,5-Trimethylbenzene	710	ug/l	50.	03/05/05 22:02	MSF	108-67-8		
Vinyl chloride	ND	ug/l	50.	03/05/05 22:02	MSF	75-01-4		
Xylene (Total)	10000	ug/l	0.50	03/05/05 22:02	MSF	1330-20-7		
m&p-Xylene	6800	ug/l	100	03/05/05 22:02	MSF			
o-Xylene	3500	ug/l	50.	03/05/05 22:02	MSF	95-47-6		
Toluene-d8 (S)	108	%		03/05/05 22:02	MSF	2037-26-5		
4-Bromofluorobenzene (S)	108	%		03/05/05 22:02	MSF	460-00-4		
Dibromofluoromethane (S)	138	%		03/05/05 22:02	MSF	1868-53-7	3	
1,2-Dichloroethane-d4 (S)	109	%		03/05/05 22:02	MSF	17060-07-0		

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Lab Project Number: 9288924
Client Project ID: NCDT00205C/WBS33185.1.1

PARAMETER FOOTNOTES

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] Analyte is found in the associated blank as well as in the sample (CLP B-Flag).
- [2] Surrogate recovery outside of control limits. The data was accepted based on valid recovery of remaining surrogate.
- [3] High surrogate recovery was confirmed as a matrix effect by a second analysis.

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QUALITY CONTROL DATA

Lab Project Number: 9288924
 Client Project ID: NCDT00205C/WBS33185.1.1

QC Batch: 123144 Analysis Method: EPH
 QC Batch Method: EPA 3510 Analysis Description: EPH in Water by Mass. Method
 Associated Lab Samples: 925336711 925336729 925336737 925336745

METHOD BLANK: 925373789
 Associated Lab Samples: 925336711 925336729 925336737 925336745

Parameter	Units	Blank Result	Reporting Limit	Footnotes
Aliphatic (C09-C18)	ug/l	ND	100	
Aliphatic (C19-C36)	ug/l	ND	100	
Aromatic (C11-22)	ug/l	ND	100	
2-Fluorobiphenyl (S)	%	51		
2-Bromonaphthalene (S)	%	66		
Nonatriacontane (S)	%	85		
o-Terphenyl (S)	%	63		

LABORATORY CONTROL SAMPLE: 925373797

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	Footnotes
Aliphatic (C09-C18)	ug/l	300.00	121.9	41	
Aliphatic (C19-C36)	ug/l	400.00	220.5	55	
Aromatic (C11-22)	ug/l	850.00	484.3	57	
2-Fluorobiphenyl (S)				86	
2-Bromonaphthalene (S)				77	
Nonatriacontane (S)				58	
o-Terphenyl (S)				73	

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QUALITY CONTROL DATA

Lab Project Number: 9288924
 Client Project ID: NCDT00205C/WBS33185.1.1

QC Batch: 122521 Analysis Method: VPH
 QC Batch Method: VPH Analysis Description: VPH in Water by Mass. Method
 Associated Lab Samples: 925336711 925336729 925336737 925336745

METHOD BLANK: 925337818
 Associated Lab Samples: 925336711 925336729 925336737 925336745

<u>Parameter</u>	<u>Units</u>	<u>Blank Reporting</u>		
		<u>Result</u>	<u>Limit</u>	<u>Footnotes</u>
Aliphatic (C05-C08)	ug/l	ND	100	
Aliphatic (C09-C12)	ug/l	ND	100	
Aromatic (C09-C10)	ug/l	ND	100	
2,5-Dibromotoluene (FID)(S)	%	92		
2,5-Dibromotoluene (PID)(S)	%	96		

LABORATORY CONTROL SAMPLE & LCSD: 925337826 925337834

<u>Parameter</u>	<u>Units</u>	<u>Spike Conc.</u>	<u>LCS</u>		<u>LCSD</u>		<u>RPD</u>	<u>Footnotes</u>
			<u>Result</u>	<u>Result</u>	<u>% Rec</u>	<u>% Rec</u>		
Aliphatic (C05-C08)	ug/l	400.00	388.8	383.7	97	96	1	
Aliphatic (C09-C12)	ug/l	100.00	100.2	101.0	100	101	1	
Aromatic (C09-C10)	ug/l	100.00	106.4	104.3	106	104	2	
2,5-Dibromotoluene (FID)(S)					124	120		
2,5-Dibromotoluene (PID)(S)					124	109		

SAMPLE DUPLICATE: 925343394

<u>Parameter</u>	<u>Units</u>	925326910		DUP	
		<u>Result</u>	<u>Result</u>	<u>RPD</u>	<u>Footnotes</u>
Aliphatic (C05-C08)	ug/l	ND	ND	NC	
Aliphatic (C09-C12)	ug/l	ND	ND	NC	
Aromatic (C09-C10)	ug/l	ND	ND	NC	
2,5-Dibromotoluene (FID)(S)	%	86	106		
2,5-Dibromotoluene (PID)(S)	%	90	110		

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QUALITY CONTROL DATA

Lab Project Number: 9288924
Client Project ID: NCDT00205C/WBS33185.1.1

QC Batch: 122487 Analysis Method: EPA 625
QC Batch Method: EPA 625 SF Analysis Description: Extractables in Water by 625
Associated Lab Samples: 925336711 925336729 925336737 925336745

METHOD BLANK: 925342511
Associated Lab Samples: 925336711 925336729 925336737 925336745

Parameter	Units	Blank Result	Reporting Limit	Footnotes
Acenaphthene	ug/l	ND	5.0	
Acenaphthylene	ug/l	ND	5.0	
Anthracene	ug/l	ND	5.0	
Benzidine	ug/l	ND	50.	
Benzo(k)fluoranthene	ug/l	ND	5.0	
Benzo(b)fluoranthene	ug/l	ND	5.0	
Benzo(a)anthracene	ug/l	ND	5.0	
Benzo(g,h,i)perylene	ug/l	ND	5.0	
Benzo(a)pyrene	ug/l	ND	5.0	
4-Bromophenylphenyl ether	ug/l	ND	5.0	
Butylbenzylphthalate	ug/l	ND	5.0	
4-Chloro-3-methylphenol	ug/l	ND	5.0	
bis(2-Chloroethoxy)methane	ug/l	ND	5.0	
bis(2-Chloroethyl) ether	ug/l	ND	5.0	
bis(2-Chloroisopropyl) ether	ug/l	ND	5.0	
2-Chloronaphthalene	ug/l	ND	5.0	
2-Chlorophenol	ug/l	ND	5.0	
4-Chlorophenylphenyl ether	ug/l	ND	5.0	
Chrysene	ug/l	ND	5.0	
Dibenz(a,h)anthracene	ug/l	ND	5.0	
1,2-Dichlorobenzene	ug/l	ND	5.0	
1,3-Dichlorobenzene	ug/l	ND	5.0	
1,4-Dichlorobenzene	ug/l	ND	5.0	
3,3'-Dichlorobenzidine	ug/l	ND	10.	
2,4-Dichlorophenol	ug/l	ND	5.0	
Diethylphthalate	ug/l	ND	5.0	
2,4-Dimethylphenol	ug/l	ND	5.0	
Dimethylphthalate	ug/l	ND	5.0	
Di-n-butylphthalate	ug/l	ND	5.0	
4,6-Dinitro-2-methylphenol	ug/l	ND	25.	
2,4-Dinitrophenol	ug/l	ND	25.	

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QUALITY CONTROL DATA

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Phone: 704.875.9092
Fax: 704.875.9091

Lab Project Number: 9288924
Client Project ID: NCDT00205C/WBS33185.1.1

METHOD BLANK: 925342511

Associated Lab Samples: 925336711 925336729 925336737 925336745

Parameter	Units	Blank Result	Reporting Limit	Footnotes
2,4-Dinitrotoluene	ug/l	ND	5.0	
2,6-Dinitrotoluene	ug/l	ND	5.0	
Di-n-octylphthalate	ug/l	ND	5.0	
bis(2-Ethylhexyl)phthalate	ug/l	5.5	5.0	1
Fluoranthene	ug/l	ND	5.0	
Fluorene	ug/l	ND	5.0	
Hexachloro-1,3-butadiene	ug/l	ND	5.0	
Hexachlorobenzene	ug/l	ND	5.0	
Hexachlorocyclopentadiene	ug/l	ND	10.	
Hexachloroethane	ug/l	ND	5.0	
Indeno(1,2,3-cd)pyrene	ug/l	ND	5.0	
Isophorone	ug/l	ND	5.0	
Naphthalene	ug/l	ND	5.0	
Nitrobenzene	ug/l	ND	5.0	
2-Nitrophenol	ug/l	ND	5.0	
4-Nitrophenol	ug/l	ND	25.	
N-Nitrosodimethylamine	ug/l	ND	5.0	
N-Nitroso-di-n-propylamine	ug/l	ND	5.0	
N-Nitrosodiphenylamine	ug/l	ND	5.0	
Pentachlorophenol	ug/l	ND	25.	
Phenanthrene	ug/l	ND	5.0	
Phenol	ug/l	ND	5.0	
Pyrene	ug/l	ND	5.0	
1,2,4-Trichlorobenzene	ug/l	ND	5.0	
2,4,6-Trichlorophenol	ug/l	ND	5.0	
Nitrobenzene-d5 (S)	%	72		
2-Fluorobiphenyl (S)	%	63		
Terphenyl-d14 (S)	%	92		
Phenol-d5 (S)	%	22		
2-Fluorophenol (S)	%	37		
2,4,6-Tribromophenol (S)	%	98		

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REPORT OF LABORATORY ANALYSIS

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NC Wastewater 12
NC Drinking Water 37706

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QUALITY CONTROL DATA

Lab Project Number: 9288924
Client Project ID: NCDT00205C/WBS33185.1.1

LABORATORY CONTROL SAMPLE & LCSD: 925336943 925336950

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	RPD	Footnotes
Acenaphthene	ug/l	50.00	30.12	29.23	60	58	3	
Acenaphthylene	ug/l	50.00	30.04	29.38	60	59	2	
Anthracene	ug/l	50.00	39.55	39.78	79	80	1	
Benzidine	ug/l	100.00	5.599	3.165	6	3	56	2,2,3
Benzo(k)fluoranthene	ug/l	50.00	44.17	42.26	88	84	4	
Benzo(b)fluoranthene	ug/l	50.00	37.76	40.89	76	82	8	
Benzo(a)anthracene	ug/l	50.00	41.21	42.01	82	84	2	
Benzo(g,h,i)perylene	ug/l	50.00	38.57	39.55	77	79	3	
Benzo(a)pyrene	ug/l	50.00	40.41	41.61	81	83	3	
4-Bromophenylphenyl ether	ug/l	50.00	36.12	35.47	72	71	2	
Butylbenzylphthalate	ug/l	50.00	42.97	43.59	86	87	1	
4-Chloro-3-methylphenol	ug/l	50.00	32.53	32.01	65	64	2	
bis(2-Chloroethoxy)methane	ug/l	50.00	28.25	28.31	56	57	0	
bis(2-Chloroethyl) ether	ug/l	50.00	27.79	27.62	56	55	1	
bis(2-Chloroisopropyl) ether	ug/l	50.00	26.76	26.54	54	53	1	
2-Chloronaphthalene	ug/l	50.00	28.90	28.66	58	57	1	2,2
2-Chlorophenol	ug/l	50.00	27.47	26.87	55	54	2	
4-Chlorophenylphenyl ether	ug/l	50.00	33.23	32.53	66	65	2	
Chrysene	ug/l	50.00	40.14	40.93	80	82	2	
Dibenz(a,h)anthracene	ug/l	50.00	38.04	39.16	76	78	3	
1,2-Dichlorobenzene	ug/l	50.00	24.31	24.64	49	49	1	
1,3-Dichlorobenzene	ug/l	50.00	21.92	22.79	44	46	4	
1,4-Dichlorobenzene	ug/l	50.00	22.32	23.20	45	46	4	
3,3'-Dichlorobenzidine	ug/l	100.00	38.07	38.53	38	38	1	
2,4-Dichlorophenol	ug/l	50.00	28.89	28.43	58	57	2	
Diethylphthalate	ug/l	50.00	38.33	38.73	77	78	1	
2,4-Dimethylphenol	ug/l	50.00	28.20	27.72	56	55	2	
Dimethylphthalate	ug/l	50.00	36.35	36.36	73	73	0	
Di-n-butylphthalate	ug/l	50.00	40.95	41.48	82	83	1	
4,6-Dinitro-2-methylphenol	ug/l	50.00	44.34	45.46	89	91	3	
2,4-Dinitrophenol	ug/l	50.00	42.04	42.40	84	85	1	
2,4-Dinitrotoluene	ug/l	50.00	40.43	41.30	81	83	2	
2,6-Dinitrotoluene	ug/l	50.00	38.14	38.05	76	76	0	
Di-n-octylphthalate	ug/l	50.00	43.73	44.15	88	88	1	
bis(2-Ethylhexyl)phthalate	ug/l	50.00	41.98	43.60	84	87	4	
Fluoranthene	ug/l	50.00	39.50	40.48	79	81	2	
Fluorene	ug/l	50.00	33.71	33.51	67	67	1	

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QUALITY CONTROL DATA

Lab Project Number: 9288924
 Client Project ID: NCDT00205C/WBS33185.1.1

LABORATORY CONTROL SAMPLE & LCS: 925336943 925336950

Parameter	Units	Spike Conc.	LCS Result	LCS D Result	LCS % Rec	LCS D % Rec	RPD	Footnotes
Hexachloro-1,3-butadiene	ug/l	50.00	21.53	22.84	43	46	6	
Hexachlorobenzene	ug/l	50.00	38.10	38.33	76	77	1	
Hexachlorocyclopentadiene	ug/l	50.00	22.59	21.78	45	44	4	
Hexachloroethane	ug/l	50.00	21.41	22.27	43	44	4	
Indeno(1,2,3-cd)pyrene	ug/l	50.00	37.84	38.91	76	78	3	
Isophorone	ug/l	50.00	30.54	30.31	61	61	1	
Naphthalene	ug/l	50.00	26.29	26.14	53	52	1	
Nitrobenzene	ug/l	50.00	27.63	28.64	55	57	4	
2-Nitrophenol	ug/l	50.00	28.35	28.51	57	57	1	
4-Nitrophenol	ug/l	50.00	16.57	16.22	33	32	2	
N-Nitrosodimethylamine	ug/l	50.00	16.11	16.10	32	32	0	
N-Nitroso-di-n-propylamine	ug/l	50.00	27.68	26.72	55	53	4	
N-Nitrosodiphenylamine	ug/l	50.00	39.87	39.74	80	80	0	
Pentachlorophenol	ug/l	50.00	46.06	46.01	92	92	0	
Phenanthrene	ug/l	50.00	38.22	38.59	76	77	1	
Phenol	ug/l	50.00	11.80	11.20	24	22	5	
Pyrene	ug/l	50.00	41.24	41.69	82	83	1	
1,2,4-Trichlorobenzene	ug/l	50.00	23.69	24.85	47	50	5	
2,4,6-Trichlorophenol	ug/l	50.00	32.26	30.78	64	62	5	
Nitrobenzene-d5 (S)					55	56		
2-Fluorobiphenyl (S)					58	57		
Terphenyl-d14 (S)					85	86		
Phenol-d5 (S)					23	21		
2-Fluorophenol (S)					37	35		
2,4,6-Tribromophenol (S)					79	80		

LABORATORY CONTROL SAMPLE: 925342529

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	Footnotes
Acenaphthene	ug/l	50.00	36.92	74	
Acenaphthylene	ug/l	50.00	36.59	73	
Anthracene	ug/l	50.00	44.12	88	
Benzidine	ug/l	100.00	1.416	1	2
Benzo(k)fluoranthene	ug/l	50.00	40.38	81	
Benzo(b)fluoranthene	ug/l	50.00	44.97	90	

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QUALITY CONTROL DATA

Lab Project Number: 9288924
 Client Project ID: NCDT00205C/WBS33185.1.1

LABORATORY CONTROL SAMPLE: 925342529

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	Footnotes
Benzo(a)anthracene	ug/l	50.00	43.87	88	
Benzo(g,h,i)perylene	ug/l	50.00	45.05	90	
Benzo(a)pyrene	ug/l	50.00	44.39	89	
4-Bromophenylphenyl ether	ug/l	50.00	44.86	90	
Butylbenzylphthalate	ug/l	50.00	43.10	86	
4-Chloro-3-methylphenol	ug/l	50.00	40.13	80	
bis(2-Chloroethoxy)methane	ug/l	50.00	35.01	70	
bis(2-Chloroethyl) ether	ug/l	50.00	30.34	61	
bis(2-Chloroisopropyl) ether	ug/l	50.00	31.23	62	
2-Chloronaphthalene	ug/l	50.00	32.88	66	
2-Chlorophenol	ug/l	50.00	24.33	49	
4-Chlorophenylphenyl ether	ug/l	50.00	44.68	89	
Chrysene	ug/l	50.00	43.36	87	
Dibenz(a,h)anthracene	ug/l	50.00	45.21	90	
1,2-Dichlorobenzene	ug/l	50.00	24.46	49	
1,3-Dichlorobenzene	ug/l	50.00	23.03	46	
1,4-Dichlorobenzene	ug/l	50.00	23.46	47	
3,3'-Dichlorobenzidine	ug/l	100.00	32.96	33	
2,4-Dichlorophenol	ug/l	50.00	34.31	69	
Diethylphthalate	ug/l	50.00	47.97	96	
2,4-Dimethylphenol	ug/l	50.00	37.09	74	
Dimethylphthalate	ug/l	50.00	45.39	91	
Di-n-butylphthalate	ug/l	50.00	43.86	88	
4,6-Dinitro-2-methylphenol	ug/l	50.00	43.48	87	
2,4-Dinitrophenol	ug/l	50.00	42.08	84	
2,4-Dinitrotoluene	ug/l	50.00	48.12	96	
2,6-Dinitrotoluene	ug/l	50.00	45.77	92	
Di-n-octylphthalate	ug/l	50.00	42.61	85	
bis(2-Ethylhexyl)phthalate	ug/l	50.00	47.11	94	
Fluoranthene	ug/l	50.00	43.54	87	
Fluorene	ug/l	50.00	42.31	85	
Hexachloro-1,3-butadiene	ug/l	50.00	29.39	59	
Hexachlorobenzene	ug/l	50.00	44.29	89	
Hexachlorocyclopentadiene	ug/l	50.00	26.72	53	
Hexachloroethane	ug/l	50.00	22.50	45	
Indeno(1,2,3-cd)pyrene	ug/l	50.00	44.95	90	
Isophorone	ug/l	50.00	45.05	90	

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QUALITY CONTROL DATA

Lab Project Number: 9288924

Client Project ID: NCDT00205C/WBS33185.1.1

LABORATORY CONTROL SAMPLE: 925342529

<u>Parameter</u>	<u>Units</u>	<u>Spike Conc.</u>	<u>LCS Result</u>	<u>LCS % Rec</u>	<u>Footnotes</u>
Naphthalene	ug/l	50.00	29.19	58	
Nitrobenzene	ug/l	50.00	35.34	71	
2-Nitrophenol	ug/l	50.00	31.65	63	
4-Nitrophenol	ug/l	50.00	20.80	42	
N-Nitrosodimethylamine	ug/l	50.00	19.25	38	
N-Nitroso-di-n-propylamine	ug/l	50.00	35.48	71	
N-Nitrosodiphenylamine	ug/l	50.00	48.09	96	
Pentachlorophenol	ug/l	50.00	65.35	131	
Phenanthrene	ug/l	50.00	42.84	86	
Phenol	ug/l	50.00	12.06	24	
Pyrene	ug/l	50.00	43.68	87	
1,2,4-Trichlorobenzene	ug/l	50.00	28.98	58	
2,4,6-Trichlorophenol	ug/l	50.00	39.96	80	
Nitrobenzene-d5 (S)				73	
2-Fluorobiphenyl (S)				72	
Terphenyl-d14 (S)				93	
Phenol-d5 (S)				25	
2-Fluorophenol (S)				34	
2,4,6-Tribromophenol (S)				103	

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QUALITY CONTROL DATA

Lab Project Number: 9288924

Client Project ID: NCDT00205C/WBS33185.1.1

QC Batch: 122692

Analysis Method: EPA 8260

QC Batch Method: EPA 8260

Analysis Description: 6230 VOCs by 8260, low level

Associated Lab Samples: 925336711 925336729 925336737 925336745

METHOD BLANK: 925348963

Associated Lab Samples: 925336711 925336729 925336737 925336745

Parameter	Units	Blank	Reporting	Footnotes
		Result	Limit	
Benzene	ug/l	ND	0.50	
Bromobenzene	ug/l	ND	0.50	
Bromochloromethane	ug/l	ND	0.50	
Bromodichloromethane	ug/l	ND	0.50	
Bromoform	ug/l	ND	0.50	
Bromomethane	ug/l	ND	0.50	
n-Butylbenzene	ug/l	0.93	0.50	
sec-Butylbenzene	ug/l	ND	0.50	
tert-Butylbenzene	ug/l	ND	0.50	
Carbon tetrachloride	ug/l	ND	0.50	
Chlorobenzene	ug/l	ND	0.50	
Chloroethane	ug/l	ND	0.50	
Chloroform	ug/l	ND	0.50	
Chloromethane	ug/l	ND	0.50	
2-Chlorotoluene	ug/l	ND	0.50	
4-Chlorotoluene	ug/l	ND	0.50	
1,2-Dibromo-3-chloropropane	ug/l	ND	2.0	
Dibromochloromethane	ug/l	ND	0.50	
1,2-Dibromoethane (EDB)	ug/l	ND	0.50	
Dibromomethane	ug/l	ND	0.50	
1,2-Dichlorobenzene	ug/l	ND	1.0	
1,3-Dichlorobenzene	ug/l	ND	1.0	
1,4-Dichlorobenzene	ug/l	ND	1.0	
Dichlorodifluoromethane	ug/l	ND	0.50	
1,1-Dichloroethane	ug/l	ND	0.50	
1,2-Dichloroethane	ug/l	ND	0.50	
1,2-Dichloroethene (Total)	ug/l	ND	0.50	
1,1-Dichloroethene	ug/l	ND	0.50	
cis-1,2-Dichloroethene	ug/l	ND	0.50	
trans-1,2-Dichloroethene	ug/l	ND	0.50	
1,2-Dichloropropane	ug/l	ND	0.50	

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QUALITY CONTROL DATA

Lab Project Number: 9288924
Client Project ID: NCDT00205C/WBS33185.1.1

METHOD BLANK: 925348963

Associated Lab Samples: 925336711 925336729 925336737 925336745

Parameter	Units	Blank Result	Reporting Limit	Footnotes
1,3-Dichloropropane	ug/l	ND	0.50	
2,2-Dichloropropane	ug/l	ND	0.50	
1,1-Dichloropropene	ug/l	ND	0.50	
cis-1,3-Dichloropropene	ug/l	ND	0.50	
trans-1,3-Dichloropropene	ug/l	ND	0.50	
Diisopropyl ether	ug/l	ND	0.50	
Ethylbenzene	ug/l	ND	0.50	
Hexachloro-1,3-butadiene	ug/l	ND	2.0	
Isopropylbenzene (Cumene)	ug/l	ND	0.50	
p-Isopropyltoluene	ug/l	ND	0.50	
Methylene chloride	ug/l	ND	2.0	
Methyl-tert-butyl ether	ug/l	ND	0.50	
Naphthalene	ug/l	ND	2.0	
n-Propylbenzene	ug/l	ND	0.50	
Styrene	ug/l	ND	0.50	
1,1,1,2-Tetrachloroethane	ug/l	ND	0.50	
1,1,2,2-Tetrachloroethane	ug/l	ND	0.50	
Tetrachloroethene	ug/l	ND	0.50	
Toluene	ug/l	ND	0.50	
1,2,3-Trichlorobenzene	ug/l	ND	2.0	
1,2,4-Trichlorobenzene	ug/l	ND	2.0	
1,1,1-Trichloroethane	ug/l	ND	0.50	
1,1,2-Trichloroethane	ug/l	ND	0.50	
Trichloroethene	ug/l	ND	0.50	
Trichlorofluoromethane	ug/l	ND	0.50	
1,2,3-Trichloropropane	ug/l	ND	0.50	
1,2,4-Trimethylbenzene	ug/l	ND	0.50	
1,3,5-Trimethylbenzene	ug/l	ND	0.50	
Vinyl chloride	ug/l	ND	0.50	
Xylene (Total)	ug/l	ND	0.50	
m&p-Xylene	ug/l	ND	1.0	
o-Xylene	ug/l	ND	0.50	
Toluene-d8 (S)	%	99		
4-Bromofluorobenzene (S)	%	108		
Dibromofluoromethane (S)	%	92		
1,2-Dichloroethane-d4 (S)	%	96		

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QUALITY CONTROL DATA

Lab Project Number: 9288924
Client Project ID: NCDT00205C/WBS33185.1.1

LABORATORY CONTROL SAMPLE: 925348971

<u>Parameter</u>	<u>Units</u>	<u>Spike Conc.</u>	<u>LCS Result</u>	<u>LCS % Rec</u>	<u>Footnotes</u>
Benzene	ug/l	50.00	47.58	95	
Bromobenzene	ug/l	50.00	56.44	113	
Bromochloromethane	ug/l	50.00	47.58	95	
Bromodichloromethane	ug/l	50.00	48.74	98	
Bromoform	ug/l	50.00	46.87	94	
Bromomethane	ug/l	50.00	73.38	147	
n-Butylbenzene	ug/l	50.00	47.15	94	
sec-Butylbenzene	ug/l	50.00	53.71	107	
tert-Butylbenzene	ug/l	50.00	52.71	105	
Carbon tetrachloride	ug/l	50.00	53.25	107	
Chlorobenzene	ug/l	50.00	53.95	108	
Chloroethane	ug/l	50.00	546.7	1090	4
Chloroform	ug/l	50.00	48.08	96	
Chloromethane	ug/l	50.00	56.53	113	
2-Chlorotoluene	ug/l	50.00	54.89	110	
4-Chlorotoluene	ug/l	50.00	51.86	104	
1,2-Dibromo-3-chloropropane	ug/l	50.00	57.62	115	
Dibromochloromethane	ug/l	50.00	51.53	103	
1,2-Dibromoethane (EDB)	ug/l	50.00	57.78	116	
Dibromomethane	ug/l	50.00	49.61	99	
1,2-Dichlorobenzene	ug/l	50.00	57.02	114	
1,3-Dichlorobenzene	ug/l	50.00	56.73	113	
1,4-Dichlorobenzene	ug/l	50.00	49.88	100	
Dichlorodifluoromethane	ug/l	50.00	77.92	156	4
1,1-Dichloroethane	ug/l	50.00	46.48	93	
1,2-Dichloroethane	ug/l	50.00	40.71	81	
1,2-Dichloroethene (Total)	ug/l	100.00	96.57	97	
1,1-Dichloroethene	ug/l	50.00	41.42	83	
cis-1,2-Dichloroethene	ug/l	50.00	49.30	99	
trans-1,2-Dichloroethene	ug/l	50.00	47.27	94	
1,2-Dichloropropane	ug/l	50.00	48.36	97	
1,3-Dichloropropane	ug/l	50.00	57.35	115	
2,2-Dichloropropane	ug/l	50.00	49.86	100	
1,1-Dichloropropene	ug/l	50.00	53.54	107	
cis-1,3-Dichloropropene	ug/l	50.00	46.54	93	
trans-1,3-Dichloropropene	ug/l	50.00	44.79	90	
Diisopropyl ether	ug/l	50.00	49.79	100	

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QUALITY CONTROL DATA

Lab Project Number: 9288924
 Client Project ID: NCDT00205C/WBS33185.1.1

LABORATORY CONTROL SAMPLE: 925348971

<u>Parameter</u>	<u>Units</u>	<u>Spike Conc.</u>	<u>LCS Result</u>	<u>LCS % Rec</u>	<u>Footnotes</u>
Ethylbenzene	ug/l	50.00	47.37	95	
Hexachloro-1,3-butadiene	ug/l	50.00	60.45	121	
Isopropylbenzene (Cumene)	ug/l	50.00	45.14	90	
p-Isopropyltoluene	ug/l	50.00	45.48	91	
Methylene chloride	ug/l	50.00	51.14	102	
Methyl-tert-butyl ether	ug/l	50.00	49.27	98	
Naphthalene	ug/l	50.00	46.66	93	
n-Propylbenzene	ug/l	50.00	53.05	106	
Styrene	ug/l	50.00	44.58	89	
1,1,1,2-Tetrachloroethane	ug/l	50.00	56.68	113	
1,1,2,2-Tetrachloroethane	ug/l	50.00	54.28	109	
Tetrachloroethene	ug/l	50.00	54.62	109	
Toluene	ug/l	50.00	46.33	93	
1,2,3-Trichlorobenzene	ug/l	50.00	52.85	106	
1,2,4-Trichlorobenzene	ug/l	50.00	50.10	100	
1,1,1-Trichloroethane	ug/l	50.00	52.08	104	
1,1,2-Trichloroethane	ug/l	50.00	46.81	94	
Trichloroethene	ug/l	50.00	48.12	96	
Trichlorofluoromethane	ug/l	50.00	318.7	637	4
1,2,3-Trichloropropane	ug/l	50.00	54.35	109	
1,2,4-Trimethylbenzene	ug/l	50.00	44.34	89	
1,3,5-Trimethylbenzene	ug/l	50.00	42.44	85	
Vinyl chloride	ug/l	50.00	60.57	121	
Xylene (Total)	ug/l	150.00	146.2	98	
m&p-Xylene	ug/l	100.00	98.74	99	
o-Xylene	ug/l	50.00	47.48	95	
Toluene-d8 (S)				105	
4-Bromofluorobenzene (S)				103	
Dibromofluoromethane (S)				86	
1,2-Dichloroethane-d4 (S)				93	

Date: 03/11/05

Page: 29 of 30

REPORT OF LABORATORY ANALYSIS

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Asheville Certification IDs
 NC Wastewater 40
 NC Drinking Water 37712

Charlotte Certification IDs
 NC Wastewater 12
 NC Drinking Water 37706

ED IN ACCORD



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

Lab Project Number: 9288924
Client Project ID: NCDT00205C/WBS33185.1.1

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
- [1] Common laboratory contaminant.
- [2] The surrogate and/or spike recovery was outside acceptance limits.
- [3] The calculated RPD was outside QC acceptance limits.
- [4] Recovery falls outside of QC limits, however, this compound is not found in the associated samples.

REPORT OF LABORATORY ANALYSIS

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9800 Kinsey Avenue, Suite 100
Huntersville, NC 28078
Phone: (704) 875-9092
Fax: (704) 875-9091

Pace Analytical Services, Inc.
9800 Kinsey Avenue, Suite 100

INVOICE

Number: *Huntersville, NC 28078*
Date: *03/11/11*
****** DRAFT ******
Phone: 704.875.9092
Fax: 704.875.9091

REPORT OF LABORATORY ANALYSIS

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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

Page: 1 OF 1

Required Client Information: **Section A**
 Company: General Engineering and Environmental of NC, Inc.
 Address: PO Box 14262
 RTP, NC 27709
 Phone: 919-544-1100 Fax:
 P.O. ncdt00205c

Required Client Information: **Section B**
 Report To: LORI HAMBURG
 Copy To:
 Invoice To: NCDOT WBS33185.1.1
 Project Name: ncdt00205c/WBS33185.1.1
 Project Number: 140/NC 801

Required Client Information: **Section C**
 Client Information (Check quote/contract):
 Requested Due Date:
 Quote Reference:
 Project Manager: AS
 Project #: 9100924
 Profile #: 3452-3

To Be Completed by Pace Analytical Client: **Section C**
 Project Manager: AS
 Project #: 9100924
 Profile #: 3452-3

Section D

Valid Matrix Codes
 Matrix Code
 Water WT
 Soil SL
 Oil OL
 Wipe WP
 Air AR
 Tissue TS
 Other OT

SAMPLE ID (One character per box.)

ITEM NUMBER	MATRIX CODE	DATE COLLECTED	TIME COLLECTED	Preservatives	Requested Analysis	REMARKS / Lab ID
1	GW	6/25/2005	9:00	HNO3, HCl, H2SO4, Unpreserved, # Containers	625, 6230D, EPH, MPH	07/13/05 6230D-625
2	GW	6/25/2005	12:30	HNO3, HCl, H2SO4, Unpreserved, # Containers	625, 6230D, EPH, MPH	07/13/05 6230D-625
3	GW	6/25/2005	11:20	HNO3, HCl, H2SO4, Unpreserved, # Containers	625, 6230D, EPH, MPH	07/13/05 6230D-625
4	GW	6/25/2005	14:00	HNO3, HCl, H2SO4, Unpreserved, # Containers	625, 6230D, EPH, MPH	07/13/05 6230D-625

SHIPMENT METHOD AIRBILL NO. SHIPPING DATE NO. OF COOLERS ITEM #

RELINQUISHED BY/AFFILIATION DATE TIME ACCEPTED BY/AFFILIATION DATE TIME

Mr. [Signature] 7/25/05 16:30 J.S. [Signature] 8/13/05

SAMPLE CONDITION:
 Temp in C 10
 Received on Ice Y/N
 Sealed Cooler Y/N
 Sample Intact Y/N

SAMPLE NOTES:

SAMPLER NAME AND SIGNATURE
 PRINT Name of SAMPLER: Lori Hamburg
 SIGNATURE of SAMPLER: [Signature]

Additional Comments:
 DATE Signed: 7/25/05

GEL

SOIL BORING LOG

General Engineering and Environmental of NC, Inc.
an Affiliate of THE GEL GROUP, Inc.
Research Triangle Park, North Carolina

Project Code: ncdt00205c/WBS33185.1.1 Page: of

Sample ID: B1-1 Depth of Sample Sent To Lab: 0-2' & 10-12'

Depth	% Recov.	PID/FID (ppm)	Soil Type	Color	Moisture	Sand Grain Size %			% Clay	Comments (odor, staining, compactness, etc.)
						C	M	F		
0'-2'		5.0	Sandy Clay	Brown Orange		50	30	20	60	asphalt @ 0-6"
2'-4'		1	Clay	Brown Orange		25	50	25	65	
4'-8'		1.0	Clay	Brown Orange		25	50	25	70	
8'-10'		1.0	Clay	Red Orange		60	20	20	70	rock @ 8'
10'-12'		1.0	Clay	Red Orange		25	25	50	75	yellow mottling/slight odor

Date: 2/25/2005
Drilling Method: DPT
NC Certified Well Driller: _____

GEL Personnel: Lori Hamburg
Drilling Contractor: Geologic Explorations
NC Driller Cert. No.: _____

SOIL BORING LOG

General Engineering and Environmental of NC, Inc.
an Affiliate of THE GEL GROUP, Inc.
 Research Triangle Park, North Carolina



Project Code: ncdt00205c/WBS33185.1.1 Page: of

Sample ID: B1-2 Depth of Sample Sent To Lab: 10'-12' & GW-2

Depth	% Recov.	PID/FID (ppm)	Soil Type	Color	Moisture	Sand Grain Size %			% Clay	Comments (odor, staining, compactness, etc.)
						C	M	F		
0'-2'		0.5	Sandy Clay	Brown Orange		50	30	20	60	asphalt @ 0-6"
2'-4'		1.0	Clay	Brown Orange		25	50	25	65	
4'-8'		1.0	Clay	Brown Orange		25	50	25	70	
8'-10'		#####	Clay	Red Orange		60	20	20	70	rock @ 8'/ petroleum odor
10'-12'		#####	Clay	Red Orange		25	25	50	70	petroleum odor
converted to temporary GW well										

Date: 2/25/2005 GEL Personnel: Lori Hamburg
 Drilling Method: DPT Drilling Contractor: Geologic Explorations
 NC Certified Well Driller: _____ NC Driller Cert. No.: _____



SOIL BORING LOG

General Engineering and Environmental of NC, Inc.
an Affiliate of THE GEL GROUP, Inc.
 Research Triangle Park, North Carolina

Project Code: ncdt00205c/WBS33185.1.1 Page: of

Sample ID: B1-3 Depth of Sample Sent To Lab: 8'-10'

Depth	% Recov.	PID/FID (ppm)	Soil Type	Color	Moisture	Sand Grain Size %			% Clay	Comments (odor, staining, compactness, etc.)
						C	M	F		
0'-2'		1.0	Sandy Clay	Brown Orange		50	30	20	60	asphalt @ 0-6"
2'-4'		1.0	Clay	Brown Orange		25	50	25	65	
4'-8'		1.0	Clay	Brown Orange		20	30	50	70	
8'-10'		2.0	Clay	Red Orange		10	30	60	75	petroleum odor
10'-12'		1.0	Clay	Red Orange		10	30	60	75	petroleum odor

Date: 2/25/2005
 Drilling Method: DPT
 NC Certified Well Driller:

GEL Personnel: Lori Hamburg
 Drilling Contractor: Geologic Explorations
 NC Driller Cert. No.:

SOIL BORING LOG

General Engineering and Environmental of NC, Inc.
an Affiliate of THE GEL GROUP, Inc.
 Research Triangle Park, North Carolina

GEL

Project Code: ncdt00205c/WBS33185.1.1 Page: of

Sample ID: B1-5 Depth of Sample Sent To Lab: 10'-12'

Depth	% Recov.	PID/FID (ppm)	Soil Type	Color	Moisture	Sand Grain Size %			% Clay	Comments (odor, staining, compactness, etc.)
						C	M	F		
0'-2'		1.0	Sandy Clay	Brown Orange		50	30	20	60	asphalt @ 0-6"
2'-4'		1.0	Clay	Red Orange		20	50	30	65	petroleum odor
4'-8'		180.0	Sandy Clay	Brown Orange		20	50	30	60	petroleum odor brown layer @ 6' yellow sand @ 7.5'
8'-10'		190.0	Sandy Clay	Red Orange		20	50	30	55	petroleum odor
10'-12'		200.0	Clay	Red Orange		20	30	50	75	petroleum odor

Date: 2/25/2005
 Drilling Method: DPT
 NC Certified Well Driller: _____

GEL Personnel: Lori Hamburg
 Drilling Contractor: Geologic Explorations
 NC Driller Cert. No.: _____

SOIL BORING LOG

GEL

General Engineering and Environmental of NC, Inc.
an Affiliate of THE GEL GROUP, Inc.
 Research Triangle Park, North Carolina

Project Code: ncdt00205c/WBS33185.1.1 Page: of

Sample ID: B1-6 Depth of Sample Sent To Lab: 4'-8'

Depth	% Recov.	PID/FID (ppm)	Soil Type	Color	Moisture	Sand Grain Size %			% Clay	Comments (odor, staining, compactness, etc.)
						C	M	F		
0'-2'		1.0	Sandy Clay	Brown Orange		30	50	20	60	asphalt @ 0-6"
2'-4'		2.0	Clay	Red Orange		25	50	25	65	
4'-8'		920.0	Clay	Brown Orange		20	30	50	70	brown layer @ 5'-7'
8'-10'		850.0	Clay	Red Orange		20	20	60	75	
10'-12'		600.0	Clay	Red Orange		20	20	60	75	

Date: 2/25/2005
 Drilling Method: DPT
 NC Certified Well Driller: _____

GEL Personnel: Lori Hamburg
 Drilling Contractor: Geologic Explorations
 NC Driller Cert. No.: _____

SOIL BORING LOG

General Engineering and Environmental of NC, Inc.
an Affiliate of THE GEL GROUP, Inc.
 Research Triangle Park, North Carolina

GEL

Project Code: ncdt00205c/WBS33185.1.1 Page: of

Sample ID: B1-7 Depth of Sample Sent To Lab: 8'-10'

Depth	% Recov.	PID/FID (ppt)	Soil Type	Color	Moisture	Sand Grain Size %			% Clay	Comments (odor, staining, compactness, etc.)
						C	M	F		
0'-2'		1.0	Sandy Clay	Brown Orange		50	30	20	60	asphalt @ 0-6"
2'-4'		1.0	Clay	Red Orange		25	50	25	65	
4'-8'		70.0	Clay	Red Orange		20	30	50	70	petroleum odor yellow mottling
8'-10'		720.0	Clay	Red Orange		20	30	50	75	
10'-12'		380.0	Clay	Red Orange		20	30	50	75	

Date: 2/25/2005
 Drilling Method: DPT
 NC Certified Well Driller: _____

GEL Personnel: Lori Hamburg
 Drilling Contractor: Geologic Explorations
 NC Driller Cert. No.: _____