

**GEOPHYSICAL SURVEY AND
PRELIMINARY SITE ASSESSMENT REPORT**

**Randolph Oil Company
Short Stop 1 Gas Station
Parcel 9
1407 East Dixie Drive
Asheboro, North Carolina
WBS Element # 34935.1.1
State Project U-3401
Randolph 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 10, 2006

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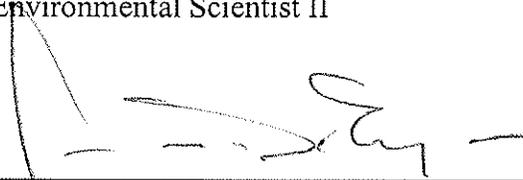
Signature Page

This document, entitled "Geophysical Survey and Preliminary Site Assessment Report," has been prepared for the Randolph Oil Company, Parcel 9, located at 1407 East Dixie Drive in Asheboro, North Carolina. It has been prepared by General Engineering and Environmental of NC, Inc. 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



Andrew D. Eyer, L.G.
Senior Project Manager



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



3-10-06

3-10-06

Date

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Executive Summary

The subject site is located north of the intersection of NC Highway 64 and NC Highway 42 in Asheboro, North Carolina (1407 East Dixie Drive, Asheboro, 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 a BP gas station, which operates four underground storage tanks (USTs) that were installed in 1981. 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 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 samples. Underground utilities were identified during the geophysical survey.

Soil samples were collected for analysis from borings constructed within the NCDOT ROW. The soil samples were analyzed for diesel range organics (DRO) and gasoline range organics (GRO). Results of the soil analysis for the soil sample from soil boring SB-10 indicated that the detected DRO concentration was 21 milligrams per kilogram (mg/kg), which is above the recommended DRO action level of 10 mg/kg. Therefore, these analytical results are indicative of soil impact. The estimated quantity of soil contamination in this area is approximately 47 cubic yards in a localized area encompassing soil boring SB-10. Refusal was encountered at 3.5 feet for boring SB-10.

Based on the data generated from this investigation, there is no evidence that a significant release(s) of constituents of concern has occurred at the subject site. No additional environmental investigation of the site soil is recommended at this time.

GEOPHYSICAL SURVEY AND PRELIMINARY SITE ASSESSMENT REPORT

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Parcel 9
1407 East Dixie Drive
Asheboro, North Carolina
WBS Element # 34935.1.1
State Project U-3401
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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 referenced as Parcel 9. The site is located north of the intersection of NC Highway 64 and NC Highway 42 in Asheboro, North Carolina (1407 East Dixie Drive, Asheboro, North Carolina). The subject site is owned by Randolph Oil Company. The site location is shown on Figure 1, an excerpt from the United States Geological Survey (USGS) 7.5-minute quadrangle map of Asheboro, 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 North Carolina Department of Transportation (NCDOT) on January 10, 2006.

The primary purpose of this investigation was to determine the presence or absence of on-site petroleum hydrocarbon impact to soil and/or groundwater within the NCDOT right-of-way (ROW) located on the subject site a result of the operation of the gasoline station located at the site.

2.0 Background

NCDOT is planning road improvements to the area in the vicinity of NC Highway 64 and NC Highway 42. A portion of the subject site is part of the NCDOT ROW for this project. NCDOT wanted to assess the ROW within the subject site 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.

Randolph Oil Company (a BP gas station, North Carolina Department of Environment and Natural Resources (NCDENR) Facility ID No. 0-018120), currently operates four registered 10,000-gallon capacity petroleum underground storage tanks (USTs) that were installed in 1981. NCDENR 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 Randolph County, North Carolina, in the Carolina Slate Belt of the Piedmont Physiographic Province. The Carolina Slate Belt within Randolph County is predominately underlain by metavolcanic and metasedimentary rock of Late Proterozoic to Early Paleozoic age. Most of the County is characterized by gently rolling to hilly landscapes. According to the United States Department of Agriculture's "Soil Survey of Randolph County, North Carolina," the soils in the vicinity of the subject site (Georgeville and Callison-Lignum Series) were formed from fine grained metamorphic rocks that are mostly felsic volcanic, argillite, rhyolite, and volcanoclastic-epiclastic. Groundwater is typically encountered at depths of less than 40 feet below land surface (bls), and perched groundwater zones are common. However, most water supplies in Randolph County are from surface water and deep crystalline bedrock aquifers.

The soils encountered in the vicinity of this site during the preliminary site assessment consisted predominately of red/tan/orange clayey silt, red/yellow clayey silt, red/brown/tan silty clay, orange clay, tan clay, and red clay.

Groundwater was not encountered during the preliminary site assessment; therefore, a groundwater assessment was not performed.

According to the contour lines on the topographic map in Figure 1 and the handheld GPS unit used during the assessment, the study area is located approximately 794 feet to 810 feet above mean sea level (MSL).

The nearest perennial surface water body to the subject site is Penwood Branch which is located approximately 1,000 feet southwest of the site. Based on the United States Geological Survey topographic map, the groundwater flow direction underlying the subject site is most likely southwesterly towards Penwood Branch.

4.0 Subsurface Investigation

To determine the presence or absence of impact to subsurface soil at the subject 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, and other underground anomalies, including utilities, at the subject site and their locations.

- Soil vapor screening of soil samples from subsurface soil borings to determine the presence or absence of soil impact from constituents of concern.
- Laboratory analysis of the soil samples collected.

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 that 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 buried utility. To accomplish this, a cable from the transmitter is clamped onto an exposed section of the buried utility and a signal propagates along the buried line. This technique minimizes any interference caused by parasitic emissions from adjacent cables in

congested areas. When the system is utilized in the “passive” mode, the receiver is responding to a 60-Hertz cycle current energized by underground utilities.

Interference can and may occur when buried utilities intersect or are adjacent to each other. This effect, referred to as “bleed-off,” may provide a false response to the identification of the tracked utility. “Bleed-off” is caused by utilities that may be energized in the “active” or “passive” mode.

4.1.3 Time Domain Electromagnetic Methodology

The Time Domain Electromagnetic (TDEM) methods measure the electrical conductivity of subsurface materials. The conductivity is determined by inducing (from a transmitter) a time or frequency-varying magnetic field and measuring (with a receiver) the amplitude and phase shift of an induced secondary magnetic field. The secondary magnetic field is created by subsurface conductive materials behaving as an inductor as the primary magnetic field is passed through them.

The Geonics EM-61 system used in this investigation operates within these principles. However, the EM-61 TDEM system can discriminate between moderately conductive earth materials and very conductive metallic targets. The EM-61 consists of a portable coincident loop time domain transmitter and receiver with a 0.5-meter by 1.0-meter coil system. The EM-61 generates 150 pulses per second and measures the response from the ground after transmission or between pulses. The secondary EM responses from metallic targets are of longer duration than those created by conductive earth materials. By recording the later time EM arrivals, only the response from metallic targets is measured, rather than the field generated by the earth material.

4.1.4 Field Procedures

The GPR, EM, and TDEM field investigation was performed on January 23 and January 24, 2006. A GPR system time range setting of 90 nanoseconds (ns) was used during the entire investigation. This range was determined after a series of test lines were conducted to evaluate the GPR response in the local geologic section. The anticipated maximum depth of penetration was approximately 3 to 4 feet throughout the study area. These depths were based on a dielectric constant of 9 (dimensionless) and the estimated radar propagation velocity of 0.33 feet per nanosecond (ft/ns). A preliminary interpretation of 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 and unknown subsurface anomalies were identified during the survey. The unidentified subsurface anomalies are most likely buried metallic objects. Since the available documentation we reviewed identifies the current locations of the existing USTs, the anomaly is most likely not a UST. 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 impact to subsurface soil by constituents of concern, General Engineering collected soil samples from 12 subsurface soil borings at the subject site on January 31, 2006, for analysis. Soil borings SB-5 through SB-16 were constructed within the NCDOT ROW. The locations of soil borings SB-5 through SB-16 are shown on Figure 2 and the longitude and latitude coordinates using the North American Datum of 1983 (NAD83) coordinate system are listed in the table below. All borings except SB-10 were advanced to a depth of 8 feet bls. Soil samples were collected at 0-1 foot bls, 3-4 feet bls, and 7-8 feet bls from each borehole. Refusal was encountered at a depth of 3.5 feet bls in soil boring SB-10; therefore, soil samples were collected at depths of 0-1 foot bls and 2.5-3.5 feet bls in this boring. All soil samples were inspected for indications of impact by petroleum hydrocarbons, such as petroleum odors, discoloration, or visible sheen. This sampling was accomplished using direct push technology (DPT) provided by Geologic Exploration, Inc. of Statesville, North Carolina (Geologic Exploration). Soil boring logs are attached as Appendix I of this document. No groundwater was encountered during construction of the borings.

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.

To assess the subsurface soil quality, one soil sample was collected from each soil boring at the sampled depth interval with the highest PID reading and submitted for laboratory analysis. The soil samples listed below from each boring were sent to the laboratory for analysis:

Soil Boring	Depth of Interval of Collected Sample (feet bls)	PID reading in parts per million (ppm)	Latitude/Longitude (NAD83)
SB-5	3-4	31.7	35°41'57.30"N/79°47'11.94"W
SB-6	0-1	17.2	35°41'56.69"N/79°47'12.59"W
SB-7	3-4	3.6	35°41'56.33"N/79°47'13.13"W
SB-8	0-1	13.9	35°41'56.22"N/79°47'13.44"W
SB-9	7-8	1.1	35°41'55.75"N/79°47'13.80"W
SB-10	2.5-3.5	0.3	35°41'55.61"N/79°47'14.28"W
SB-11	7-8	0.6	35°41'55.25"N/79°47'14.82"W
SB-12	7-8	101	35°41'55.43"N/79°47'15.18"W
SB-13	7-8	7.1	35°41'55.39"N/79°47'15.84"W
SB-14	7-8	20.5	35°41'55.50"N/79°47'16.08"W
SB-15	7-8	14.9	35°41'55.97"N/79°47'16.98"W
SB-16	7.5-8	21.3	35°41'55.61"N/79°47'15.30"W

Following completion of the sampling activities, all borings were abandoned by filling the boreholes with hydrated bentonite. Soil samples were submitted to Pace Analytical Service, Inc. in Huntersville, North Carolina (North Carolina Certification No. 37706) for analysis of diesel range organics (DRO) by EPA Method 8015 with EPA 3545

sample preparation and gasoline range organics (GRO) by EPA Method 8015B with EPA 5030 sample preparation. The analytical results are summarized below and are included on the Certificates of Analysis in Appendix II.

Summary of Analytical Results for Soil Samples

Soil Boring	DRO	GRO
SB-5	ND	ND
SB-6	ND	ND
SB-7	ND	ND
SB-8	ND	ND
SB-9	ND	ND
SB-10	21	ND
SB-11	ND	ND
SB-12	ND	ND
SB-13	ND	ND
SB-14	ND	ND
SB-15	ND	ND
SB-16	ND	ND
NCDENR Action Level	10*	10

- Notes: 1. ND = Not Detected
2. Concentrations shown are in milligram per kilogram (mg/kg).
3. **Bold** = above NCDENR action level
4. * = This is a recommended action level for DRO. Currently the NCDENR action level is 40 mg/kg.

DRO and GRO were not detected in 11 of the 12 soil borings. However, the results of the analysis for the soil sample collected from soil boring SB-10 indicate that the DRO concentration was 21 milligrams per kilogram (mg/kg), which is above the recommended DRO action level.

The analytical results for soil samples collected from all other borings showed no contamination; therefore, it is estimated that there is an approximate volume of 47 cubic yards of impacted soil (DRO >10 mg/kg) in the vicinity of boring SB-10, based on an

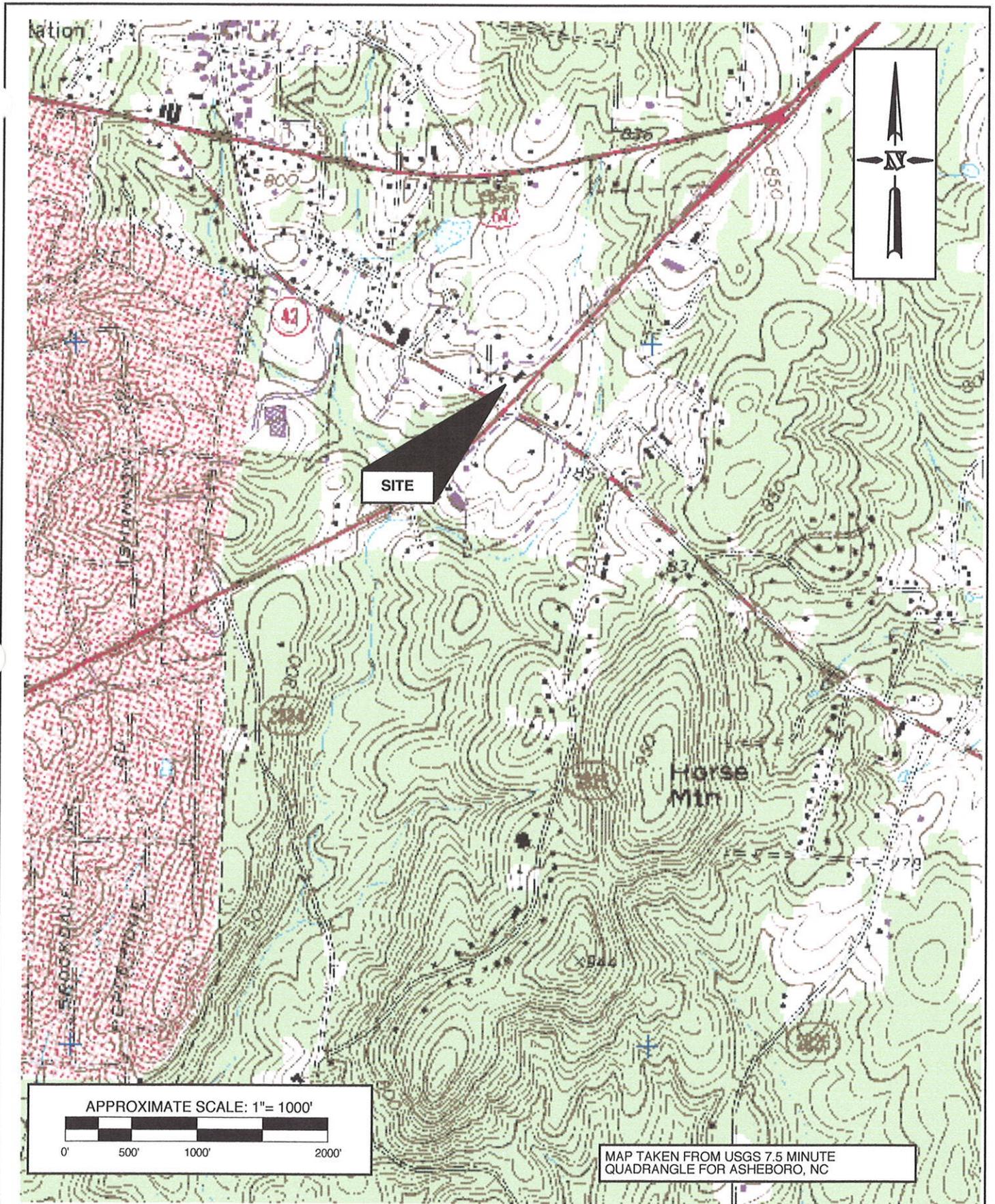
assumed area of 345 square feet and depth of 3.5 feet of impacted soil in the vicinity of SB-10, as shown in Figure 2.

5.0 Conclusions and Recommendations

To determine the presence or absence of impact to subsurface soil by constituents of concern at the subject site, General Engineering performed a geophysical evaluation and a preliminary site assessment that included the collection and analysis of soil samples. Underground utilities, as well as buried metallic objects (not suspected USTs), were identified during the geophysical survey.

Soil samples were collected for analysis from borings constructed within the NCDOT ROW. The soil samples were analyzed for DRO and GRO. Results of the analysis of the soil sample from soil boring SB-10 indicated that the detected DRO concentration was 21 mg/kg, which is above the recommended DRO action level of 10 mg/kg. Therefore, these analytical results are indicative of soil impact. The estimated quantity of soil contamination in this area is approximately 47 cubic yards in a localized area encompassing soil boring SB-10.

Based on the data generated from this investigation, there is no evidence that a significant release(s) of constituents of concern has occurred at the subject site. No additional environmental investigation of the site soil is recommended at this time.



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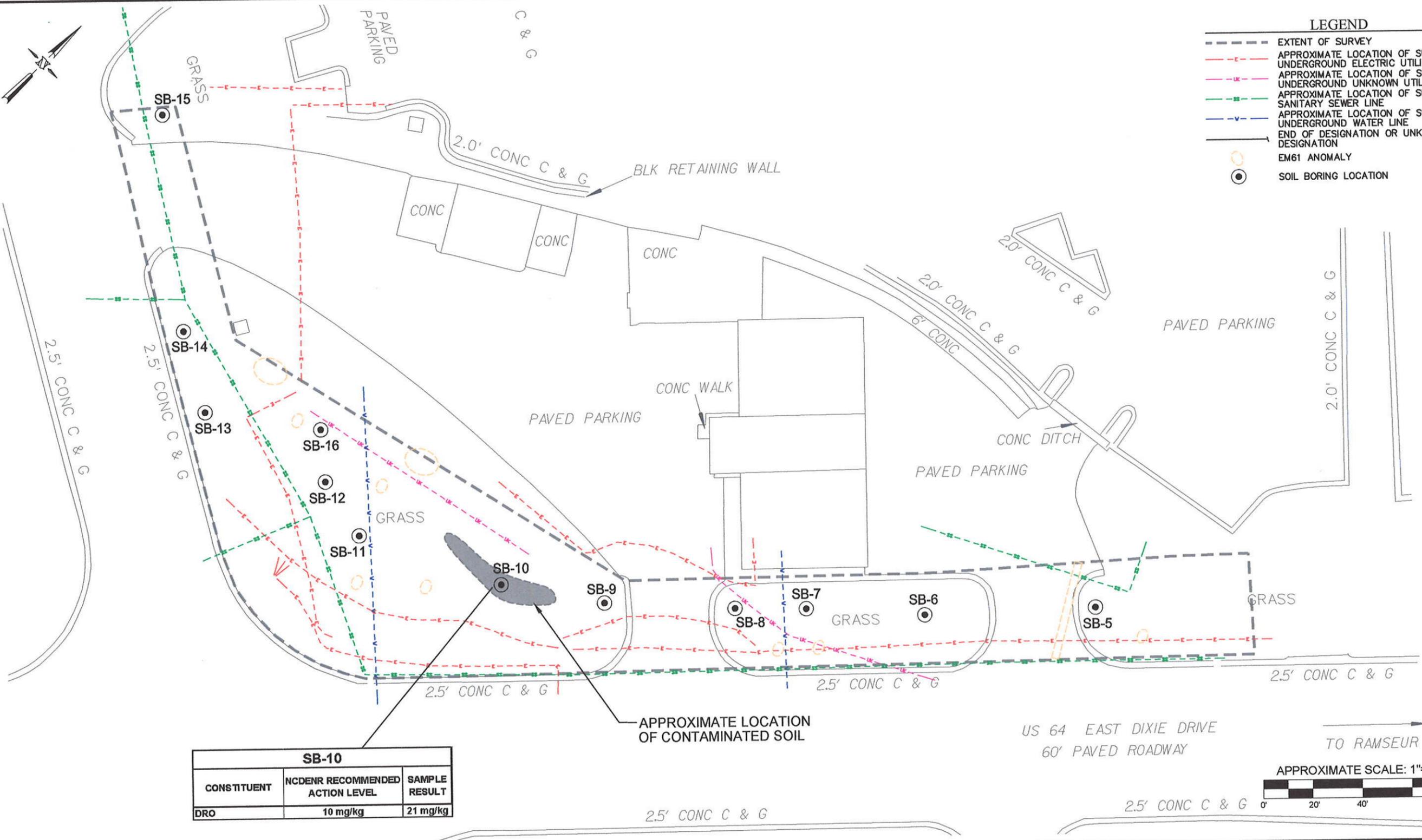
Post Office Box 14262
 Research Triangle Park, NC 27709
 (919) 544-1100

PROJECT: ncdt00106C			
RANDOLPH OIL COMPANY PARCEL 9 1407 EAST DIXIE DRIVE ASHEBORO, NORTH CAROLINA WBS ELEMENT NO. 34935.1.1	SITE LOCATION MAP		FIGURE 1
DATE: MARCH 10, 2006	DRAWN BY: LKH	APPRV. BY: RMM	

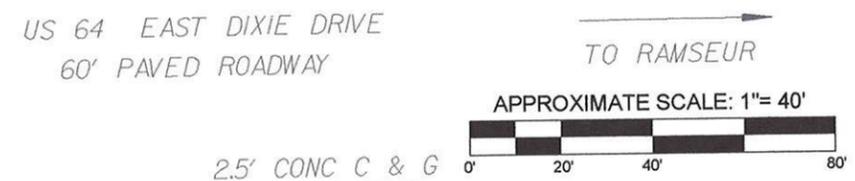


LEGEND

- EXTENT OF SURVEY
- - - APPROXIMATE LOCATION OF SUSPECTED UNDERGROUND ELECTRIC UTILITY LINE
- - - APPROXIMATE LOCATION OF SUSPECTED UNDERGROUND UNKNOWN UTILITY LINE
- - - APPROXIMATE LOCATION OF SUSPECTED SANITARY SEWER LINE
- - - APPROXIMATE LOCATION OF SUSPECTED UNDERGROUND WATER LINE
- END OF DESIGNATION OR UNKNOWN DESIGNATION
- EM61 ANOMALY
- SOIL BORING LOCATION



SB-10		
CONSTITUENT	NCDENR RECOMMENDED ACTION LEVEL	SAMPLE RESULT
DRO	10 mg/kg	21 mg/kg



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Post Office Box 14262
 Research Triangle Park, NC 27709
 (909) 554-1100

PROJECT: ncdt0106c
 RANDOLPH OIL COMPANY
 PARCEL 9
 1407 EAST DIXIE DRIVE
 ASHEBORO, NORTH CAROLINA
 WBS ELEMENT #34935.1.1
 DATE: March 10, 2006

SITE MAP SHOWING
 GEOPHYSICAL DATA AND
 SOIL SAMPLE LOCATIONS
 DRAWN BY: TJP APPRV. BY: RMM

FIGURE
 2

APPENDIX I

SOIL BORING LOGS

SOIL BORING LOG

Boring/Well No.: **SB-5**
 Date Started: 01/31/06
 Date Completed: 01/31/06

No.	Depth Interval	Blow Counts	PID (ppm)	Soil Description	Soil Type
1	0.0'-1.0'	--	12.2	Brown/tan/orange clayey silt; plastic to friable; damp; no odor. Sample collected at 0.0'-1.0'	OL/OH
2	1.0'-3.0'	--		Brown/tan/orange clayey silt with increasing clay and becoming redder; plastic; damp; no odor.	OL/OH
3	3.0'-4.0'	--	31.7	Red silty clay; plastic to stiff; slightly damp; no odor. Sample collected at 3.0'-4.0'.	OH
4	4.0'-7.0'	--		Brown silty clay; plastic to stiff; slightly damp; no odor.	OH
5	7.0'-8.0'	--	6.8	Tan clay; very stiff; damp; no odor. Sample collected at 7.0'-8.0'.	CL
6				Total depth = 8 feet below land surface	
7					
8					
9					
10					
11					
12					

Notes:

- 1) 4-foot continuous cores using DPT.
- 2) PID readings shown are for discrete samples collected at indicated depth intervals.

SOIL BORING LOG

Boring/Well No.: **SB-6**
 Date Started: 01/31/06
 Date Completed: 01/31/06

No.	Depth Interval	Blow Counts	PID (ppm)	Soil Description	Soil Type
1	0.0'-1.0'	--	17.2	Brown/tan/orange clayey silt; plastic to friable; damp; no odor. Sample collected at 0.0'-1.0'	OL/OH
2	1.0'-3.0'	--		Brown/tan/orange clayey silt with increasing clay and becoming redder; plastic; damp; no odor.	OL/OH
3	3.0'-4.0'	--	2.4	Red silty clay; plastic to stiff; slightly damp; no odor. Sample collected at 3.0'-4.0'.	OH
4	4.0'-7.0'	--		Red/tan/brown/orange clayey silt alternating with clayey stratifications; stiff; slightly damp; no odor.	CL/OL/OH
5	7.0'-8.0'	--	1.9	Tan clayey silt; somewhat friable; damp; no odor. Sample collected at 7.0'-8.0'.	OL/OH
6				Total depth = 8 feet below land surface	
7					
8					
9					
10					
11					
12					

Notes:

- 1) 4-foot continuous cores using DPT.
- 2) PID readings shown are for discrete samples collected at indicated depth intervals.

SOIL BORING LOG

Boring/Well No.: **SB-7**
 Date Started: 01/31/06
 Date Completed: 01/31/06

No.	Depth Interval	Blow Counts	PID (ppm)	Soil Description	Soil Type
1	0.0'-1.0'	--	1.3	Red/tan/orange clayey silt; plastic to friable; damp; no odor. Sample collected at 0.0'-1.0'	OL/OH
2	1.0'-3.0'	--		Red/tan/orange clayey silt; plastic to friable; damp; no odor.	OL/OH
3	3.0'-4.0'	--	3.6	Red/tan/brown clayey silt alternating with clayey stratifications; stiff; slightly damp; no odor. Sample collected at 3.0'-4.0'.	CL/OL/OH
4	4.0'-5.0'	--		Red/tan/orange clayey silt; plastic to friable; damp; no odor.	OL/OH
5	5.0'-7.0'	--		Orange clay; very stiff; damp; no odor.	CL
6	7.0'-8.0'	--	2.7	Orange clay; very stiff; damp; no odor. Sample collected at 7.0'-8.0'.	CL
7				Total depth = 8 feet below land surface	
8					
9					
10					
11					
12					

Notes:

- 1) 4-foot continuous cores using DPT.
- 2) PID readings shown are for discrete samples collected at indicated depth intervals.

SOIL BORING LOG

Boring/Well No.: **SB-8**
 Date Started: 01/31/06
 Date Completed: 01/31/06

No.	Depth Interval	Blow Counts	PID (ppm)	Soil Description	Soil Type
1	0.0'-1.0'	--	13.9	Red/yellow clayey silt; plastic to friable; slightly damp; no odor. Sample collected at 0.0'-1.0'	OL/OH
2	1.0'-3.0'	--		Red/yellow clayey silt becoming redder with more clay; plastic; damp; no odor.	OL/OH
3	3.0'-4.0'	--	11.2	Red silty clay; damp; no odor. Sample collected at 3.0'-4.0'.	OH
4	4.0'-7.0'	--		Tan/red silty clay; very stiff; damp; no odor.	OH
5	7.0'-8.0'	--	4.8	Tan silty clay; very stiff; damp; no odor Sample collected at 7.0'-8.0'.	OH
6				Total depth = 8 feet below land surface	
7					
8					
9					
10					
11					

Notes:

- 1) 4-foot continuous cores using DPT.
- 2) PID readings shown are for discrete samples collected at indicated depth intervals.

SOIL BORING LOG

Boring/Well No.: **SB-9**
 Date Started: 01/31/06
 Date Completed: 01/31/06

No.	Depth Interval	Blow Counts	PID (ppm)	Soil Description	Soil Type
1	0.0'-1.0'	--	0.2	Red/brown silty clay; plastic; slightly damp; no odor. Sample collected at 0.0'-1.0'	OH
2	1.0'-3.0'	--		Red/brown silty clay; plastic; slightly damp; no odor.	OH
3	3.0'-4.0'	--	0.9	Red clay; very stiff; damp; no odor. Sample collected at 3.0'-4.0'.	CL
4	4.0'-5.5'	--		Red clay; very stiff; damp; no odor	CL
5	5.5'-7.0'	--		Tan/yellow clayey, sandy silt; somewhat friable; damp; no odor	OH/OL/ML
6	7.0'-8.0'	--	1.1	Tan/yellow clayey, sandy silt; somewhat friable; damp; no odor. Sample collected at 7.0'-8.0'.	OH/OL/ML
7				Total depth = 8 feet below land surface	
8					
9					
10					
11					

Notes:

- 1) 4-foot continuous cores using DPT.
- 2) PID readings shown are for discrete samples collected at indicated depth intervals.

SOIL BORING LOG

Boring/Well No.: **SB-10**
 Date Started: 01/31/06
 Date Completed: 01/31/06

No.	Depth Interval	Blow Counts	PID (ppm)	Soil Description	Soil Type
1	0.0'-1.0'	--	0.1	Red clayey silt; somewhat friable; slightly damp; no odor. Sample collected at 0.0'-1.0'	OL/MH
2	1.0'-2.5'	--		Red clayey silt; somewhat friable; slightly damp; no odor.	OL/MH
3	2.5'-3.5'	--	0.3	Red/yellow silty clay with gravel at bottom of core; very stiff; damp; no odor. Sample collected at 3.5 feet'.	OH
4				Total depth = 3.5 feet below land surface (Refusal at 3.5')	
5					
6					
7					
8					
9					
10					
11					

Notes:

- 1) 4-foot continuous cores using DPT.
- 2) PID readings shown are for discrete samples collected at indicated depth intervals.

SOIL BORING LOG

Boring/Well No.: **SB-11**

Date Started: 01/31/06

Date Completed: 01/31/06

No.	Depth Interval	Blow Counts	PID (ppm)	Soil Description	Soil Type
1	0.0'-1.0'	--	0.3	Red silty clay; plastic; damp; no odor. Sample collected at 0.0'-1.0'	OH
2	1.0'-2.0'	--		Red silty clay; plastic; damp; no odor	OH
3	2.0'-3.0'	--		Tan clay with gravel and rock fragments; plastic to stiff; damp; no odor.	OH
4	3.0'-4.0'	--	0.6	Red/yellow silty clay; plastic; damp; no odor. Sample collected at 3.0'-4.0'.	OL/OH
5	4.0'-7.0'	--		Tan/brown clayey silt with increasing silt; somewhat friable; slightly damp; no odor	OL
6	7.0'-8.0'	--	0.6	Tan/white silt; friable; micaceous; dry to slightly damp; no odor. Sample collected at 7.0'-8.0'.	OL
7				Total depth = 8 feet below land surface	
8					
9					
10					
11					

Notes:

- 1) 4-foot continuous cores using DPT.
- 2) PID readings shown are for discrete samples collected at indicated depth intervals.

SOIL BORING LOG

Boring/Well No.: **SB-12**

Date Started: 01/31/06

Date Completed: 01/31/06

No.	Depth Interval	Blow Counts	PID (ppm)	Soil Description	Soil Type
1	0.0'-1.0'	--	16.9	Tan/red/yellow clayey silt; plastic to friable; slightly damp; no odor. Sample collected at 0.0'-1.0'	OL/OH
2	1.0'-3.0'	--		Tan/red/yellow clayey silt becoming redder with more clay; plastic; damp; no odor.	OL/OH
3	3.0'-4.0'	--	39.8	Tan/red silty clay; 2-inch fractured rock layer at 3.5 feet; damp; no odor. Sample collected at 3.0'-4.0'.	OH
4	5.0'-7.0'	--		Tan/red silty clay; damp; no odor	OH
5	7.0'-8.0'	--	101.0	Tan/red clayey silt; soft; wet; no odor Sample collected at 7.0'-8.0'.	OL
6				Total depth = 8 feet below land surface	
7					
8					
9					
10					
11					

Notes:

- 1) 4-foot continuous cores using DPT.
- 2) PID readings shown are for discrete samples collected at indicated depth intervals.

SOIL BORING LOG

Boring/Well No.: **SB-13**

Date Started: 01/31/06

Date Completed: 01/31/06

No.	Depth Interval	Blow Counts	PID (ppm)	Soil Description	Soil Type
1	0.0'-1.0'	--	3.0	Tan/red/yellow silty clay; plastic; damp; no odor. Sample collected at 0.0'-1.0'	OH
2	1.0'-3.0'	--		Tan/red/yellow silty clay; plastic; damp; no odor.	OL/OH
3	3.0'-4.0'	--	3.3	Tan/red silty clay becoming siltier; damp; no odor. Sample collected at 3.0'-4.0'.	OL/OH
4	4.0'-7.0'	--		Brown clayey silt alternating with clayey stratifications; stiff; slightly damp; no odor.	CL/OL/OH
5	7.0'-8.0'	--	7.1	Tan/brown silty clay clayey silt; soft; wet; no odor Sample collected at 7.0'-8.0'.	OL
6				Total depth = 8 feet below land surface	
7					
8					
9					
10					
11					

Notes:

- 1) 4-foot continuous cores using DPT.
- 2) PID readings shown are for discrete samples collected at indicated depth intervals.

SOIL BORING LOG

Boring/Well No.: **SB-14**
 Date Started: 01/31/06
 Date Completed: 01/31/06

No.	Depth Interval	Blow Counts	PID (ppm)	Soil Description	Soil Type
1	0.0'-1.0'	--	3.8	Red clayey silt; plastic; plastic to friable; slightly damp; no odor. Sample collected at 0.0'-1.0'	OL/OH
2	1.0'-3.0'	--		Red clayey silt; plastic; plastic to friable; slightly damp; no odor.	OL/OH
3	3.0'-4.0'	--	6.0	Red silty clay; damp; plastic to stiff; no odor. Sample collected at 3.0'-4.0'.	OH
4	4.0'-7.0'	--		Red silty clay; damp; plastic to stiff; no odor.	OH
5	7.0'-8.0'	--	20.5	Red silty clay with a 4-inch silty sand layer; plastic to friable; slightly damp; no odor Sample collected at 7.0'-8.0'.	OL/OH/GC
6				Total depth = 8 feet below land surface	
7					
8					
9					
10					
11					

Notes:

- 1) 4-foot continuous cores using DPT.
- 2) PID readings shown are for discrete samples collected at indicated depth intervals.

SOIL BORING LOG

Boring/Well No.: **SB-15**

Date Started: 01/31/06

Date Completed: 01/31/06

No.	Depth Interval	Blow Counts	PID (ppm)	Soil Description	Soil Type
1	0.0'-1.0'	--	6.0	Red/brown clayey silt; plastic; damp; no odor. Sample collected at 0.0'-1.0'	OL/OH
2	1.0'-3.0'	--		Red/brown clayey silt; plastic; damp; no odor	OL/OH
3	3.0'-4.0'	--	7.6	Brown silty clay with layer of rock fragments; damp; plastic to stiff; no odor. Sample collected at 3.0'-4.0'.	OH
4	4.0'-7.0'	--		Grey/brown interlayered silty clay and clayey silt; slightly damp; plastic to stiff; no odor.	OL/OH
5	7.0'-8.0'	--	14.9	Brown silty clay; plastic; slightly damp; no odor Sample collected at 7.0'-8.0'.	OH
6				Total depth = 8 feet below land surface	
7					
8					
9					
10					
11					

Notes:

- 1) 4-foot continuous cores using DPT.
- 2) PID readings shown are for discrete samples collected at indicated depth intervals.

SOIL BORING LOG

Boring/Well No.: **SB-16**

Date Started: 01/31/06

Date Completed: 01/31/06

No.	Depth Interval	Blow Counts	PID (ppm)	Soil Description	Soil Type
1	0.0'-1.0'	--	5.1	Red/brown silty clay; plastic; plastic; damp; no odor. Sample collected at 0.0'-1.0'	OH
2	1.0'-3.0'	--		Red/brown silty clay; plastic; damp; no odor.	OH
3	3.0'-4.0'	--	5.9	Tan/yellow/red/orange mottled silty clay with 1 to 2-inch layer of rock fragments; damp; plastic to stiff; no odor. Sample collected at 3.0'-4.0'.	OH
4	4.0'-6.5'	--		Red/orange/yellow interlayered clayey silt and silty clay; slightly damp; plastic to stiff; no odor.	OL/OH
5	6.5'-7.5'	--		Rock fragments	
6	7.5'-8.0'		21.3	Grey clay; plastic to stiff; very damp; no odor. Sample collected at 7.0'-8.0'.	CL
7				Total depth = 8 feet below land surface	
8					
9					
10					
11					

Notes:

- 1) 4-foot continuous cores using DPT.
- 2) PID readings shown are for discrete samples collected at indicated depth intervals.

APPENDIX II

SOIL CERTIFICATES OF ANALYSIS AND CHAIN OF CUSTODY



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

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

February 14, 2006

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

RE: Lab Project Number: 92112643
Client Project ID: 00106C/WBS#34935.1.1

Dear Ms. Hamburg:

Enclosed are the analytical results for sample(s) received by the laboratory on February 2, 2006. Results reported herein conform to the most current NELAC standards, where applicable, unless otherwise narrated in the body of the report.

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.

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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NC Wastewater 40
NC Drinking Water 37712
SC 99030
FL NELAP E87648

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

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

Lab Project Number: 92112643
 Client Project ID: 00106C/WBS#34935.1.1

Lab Sample No: 926608894 Project Sample Number: 92112643-005 Date Collected: 01/31/06 11:00
 Client Sample ID: SB-5 4FT Matrix: Soil Date Received: 02/02/06 15:50

Parameters	Results	Units	Report Limit	Analyzed	By	CAS No.	Qual	RegLmt
Wet Chemistry								
Percent Moisture	Method: % Moisture							
Percent Moisture	25.3	%		02/03/06 10:05	KDF			
GC Semivolatiles								
TPH in Soil by 3545/8015	Prep/Method: EPA 3545 / EPA 8015							
Diesel Fuel	ND	mg/kg	6.7	02/12/06 22:49	KBS	68334-30-5		
n-Pentacosane (S)	75	%		02/12/06 22:49	KBS	629-99-2		
Date Extracted	02/08/06			02/08/06				
GC Volatiles								
GAS, Soil	Method: EPA 8015							
Gasoline	ND	mg/kg	8.0	02/06/06 22:31	DHW			
4-Bromofluorobenzene (S)	71	%		02/06/06 22:31	DHW	460-00-4		

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 Huntersville, NC 28078
 Phone: 704.875.9092
 Fax: 704.875.9091

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

Lab Project Number: 92112643
 Client Project ID: 00106C/WBS#34935.1.1

Lab Sample No: 926608902 Project Sample Number: 92112643-006 Date Collected: 01/31/06 11:15
 Client Sample ID: SB-6 1FT Matrix: Soil Date Received: 02/02/06 15:50

Parameters	Results	Units	Report Limit	Analyzed	By	CAS No.	Qual	RegLmt
Wet Chemistry								
Percent Moisture	Method: % Moisture							
Percent Moisture	23.5	%		02/03/06 10:05	KDF			
GC Semivolatiles								
TPH in Soil by 3545/8015	Prep/Method: EPA 3545 / EPA 8015							
Diesel Fuel	ND	mg/kg	6.5	02/10/06 19:24	KBS	68334-30-5		
n-Pentacosane (S)	50	%		02/10/06 19:24	KBS	629-99-2		
Date Extracted	02/09/06			02/09/06				
GC Volatiles								
GAS, Soil	Method: EPA 8015							
Gasoline	ND	mg/kg	7.8	02/06/06 22:58	DHW			
4-Bromofluorobenzene (S)	78	%		02/06/06 22:58	DHW	460-00-4		

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 Huntersville, NC 28078
 Phone: 704.875.9092
 Fax: 704.875.9091

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

Lab Project Number: 92112643
 Client Project ID: 00106C/WBS#34935.1.1

Lab Sample No: 926608928 Project Sample Number: 92112643-007 Date Collected: 01/31/06 11:25
 Client Sample ID: SB-7 4FT Matrix: Soil Date Received: 02/02/06 15:50

Parameters	Results	Units	Report Limit	Analyzed	By	CAS No.	Qual	ReqLmt
Wet Chemistry								
Percent Moisture	Method: % Moisture							
Percent Moisture	18.7	%		02/03/06 10:06	KDF			
GC Semivolatiles								
TPH in Soil by 3545/8015	Prep/Method: EPA 3545 / EPA 8015							
Diesel Fuel	ND	mg/kg	6.2	02/10/06 19:58	KBS	68334-30-5		
n-Pentacosane (S)	62	%		02/10/06 19:58	KBS	629-99-2		
Date Extracted	02/09/06			02/09/06				
GC Volatiles								
GAS, Soil	Method: EPA 8015							
Gasoline	ND	mg/kg	7.4	02/06/06 23:26	DHW			
4-Bromofluorobenzene (S)	72	%		02/06/06 23:26	DHW	460-00-4		

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

Lab Project Number: 92112643
 Client Project ID: 00106C/WBS#34935.1.1

Lab Sample No: 926608944 Project Sample Number: 92112643-008 Date Collected: 01/31/06 11:30
 Client Sample ID: SB-8 1FT Matrix: Soil Date Received: 02/02/06 15:50

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

Percent Moisture	Method: % Moisture							
Percent Moisture	21.0	%		02/03/06 10:06	KDF			

GC Semivolatiles

TPH in Soil by 3545/8015	Prep/Method: EPA 3545 / EPA 8015							
Diesel Fuel	ND	mg/kg	6.3	02/10/06 20:32	KBS	68334-30-5		
n-Pentacosane (S)	73	%		02/10/06 20:32	KBS	629-99-2		
Date Extracted	02/09/06			02/09/06				

GC Volatiles

GAS, Soil	Method: EPA 8015							
Gasoline	ND	mg/kg	7.6	02/06/06 23:54	DHW			
4-Bromofluorobenzene (S)	73	%		02/06/06 23:54	DHW	460-00-4		

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 Huntersville, NC 28078
 Phone: 704.875.9092
 Fax: 704.875.9091

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

Lab Project Number: 92112643
 Client Project ID: 00106C/WBS#34935.1.1

Lab Sample No: 926608951 Project Sample Number: 92112643-009 Date Collected: 01/31/06 11:40
 Client Sample ID: SB-9 8FT Matrix: Soil Date Received: 02/02/06 15:50

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

Percent Moisture	Method: % Moisture							
Percent Moisture	13.1	%		02/03/06 10:06	KDF			

GC Semivolatiles

TPH in Soil by 3545/8015	Prep/Method: EPA 3545 / EPA 8015							
Diesel Fuel	ND	mg/kg	5.8	02/10/06 21:41	KBS	68334-30-5		
n-Pentacosane (S)	22	%		02/10/06 21:41	KBS	629-99-2	1	
Date Extracted	02/09/06			02/09/06				

GC Volatiles

GAS, Soil	Method: EPA 8015							
Gasoline	ND	mg/kg	6.9	02/07/06 00:22	DHW			
4-Bromofluorobenzene (S)	72	%		02/07/06 00:22	DHW	460-00-4		

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

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

Lab Project Number: 92112643
 Client Project ID: 00106C/WBS#34935.1.1

Lab Sample No: 926608969 Project Sample Number: 92112643-010 Date Collected: 01/31/06 11:45
 Client Sample ID: SB-10 4FT Matrix: Soil Date Received: 02/02/06 15:50

Parameters	Results	Units	Report Limit	Analyzed	By	CAS No.	Qual	ReqLmt
Wet Chemistry								
Percent Moisture	Method: % Moisture							
Percent Moisture	17.0	%		02/03/06 10:06	KDF			
GC Semivolatiles								
TPH in Soil by 3545/8015	Prep/Method: EPA 3545 / EPA 8015							
Diesel Fuel	21.	mg/kg	6.0	02/14/06 12:24	KBS	68334-30-5		
n-Pentacosane (S)	63	%		02/14/06 12:24	KBS	629-99-2		
Date Extracted	02/14/06			02/14/06				
GC Volatiles								
GAS, Soil	Method: EPA 8015							
Gasoline	ND	mg/kg	7.2	02/07/06 00:50	DHW			
4-Bromofluorobenzene (S)	73	%		02/07/06 00:50	DHW	460-00-4		

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 Phone: 704.875.9092
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 2225 Riverside Drive
 Asheville, NC 28804
 Phone: 828.254.7176
 Fax: 828.252.4618

Lab Project Number: 92112643
 Client Project ID: 00106C/WBS#34935.1.1

Lab Sample No: 926608977 Project Sample Number: 92112643-011 Date Collected: 01/31/06 11:55
 Client Sample ID: SB-11 8FT Matrix: Soil Date Received: 02/02/06 15:50

Parameters	Results	Units	Report Limit	Analyzed	By	CAS No.	Qual	ReqLmt
Wet Chemistry								
Percent Moisture	Method: % Moisture							
Percent Moisture	10.0	%		02/03/06 10:07	KDF			
GC Semivolatiles								
TPH in Soil by 3545/8015	Prep/Method: EPA 3545 / EPA 8015							
Diesel Fuel	ND	mg/kg	5.6	02/10/06 20:32	KBS	68334-30-5		
n-Pentacosane (S)	58	%		02/10/06 20:32	KBS	629-99-2		
Date Extracted	02/09/06			02/09/06				
GC Volatiles								
GAS, Soil	Method: EPA 8015							
Gasoline	ND	mg/kg	6.7	02/07/06 02:14	DHW			
4-Bromofluorobenzene (S)	74	%		02/07/06 02:14	DHW	460-00-4		

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

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

Lab Project Number: 92112643
 Client Project ID: 00106C/WBS#34935.1.1

Lab Sample No: 926608985 Project Sample Number: 92112643-012 Date Collected: 01/31/06 12:05
 Client Sample ID: SB-12 6FT Matrix: Soil Date Received: 02/02/06 15:50

Parameters	Results	Units	Report Limit	Analyzed	By	CAS No.	Qual	ReqLmt
Wet Chemistry								
Percent Moisture	Method: % Moisture							
Percent Moisture	23.5	%		02/06/06 08:38	TNM			
GC Semivolatiles								
TPH in Soil by 3545/8015	Prep/Method: EPA 3545 / EPA 8015							
Diesel Fuel	ND	mg/kg	6.5	02/10/06 21:06	KBS	68334-30-5		
n-Pentacosane (S)	66	%		02/10/06 21:06	KBS	629-99-2		
Date Extracted	02/09/06			02/09/06				
GC Volatiles								
GAS, Soil	Method: EPA 8015							
Gasoline	ND	mg/kg	7.8	02/07/06 02:42	DHW			
4-Bromofluorobenzene (S)	71	%		02/07/06 02:42	DHW	460-00-4		

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

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

Lab Project Number: 92112643
 Client Project ID: 00106C/WBS#34935.1.1

Lab Sample No: 926608993 Project Sample Number: 92112643-013 Date Collected: 01/31/06 12:15
 Client Sample ID: SB-13 8FT Matrix: Soil Date Received: 02/02/06 15:50

Parameters	Results	Units	Report Limit	Analyzed	By	CAS No.	Qual	ReqLmt
Wet Chemistry								
Percent Moisture	Method: % Moisture							
Percent Moisture	26.9	%		02/06/06 08:38	TNM			
GC Semivolatiles								
TPH in Soil by 3545/8015	Prep/Method: EPA 3545 / EPA 8015							
Diesel Fuel	ND	mg/kg	6.8	02/10/06 22:49	KBS	68334-30-5		
n-Pentacosane (S)	61	%		02/10/06 22:49	KBS	629-99-2		
Date Extracted	02/09/06			02/09/06				
GC Volatiles								
GAS. Soil	Method: EPA 8015							
Gasoline	ND	mg/kg	8.2	02/07/06 03:10	DHW			
4-Bromofluorobenzene (S)	71	%		02/07/06 03:10	DHW	460-00-4		

REPORT OF LABORATORY ANALYSIS

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

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

Lab Project Number: 92112643
 Client Project ID: 00106C/WBS#34935.1.1

Lab Sample No: 926609009 Project Sample Number: 92112643-014 Date Collected: 01/31/06 12:20
 Client Sample ID: SB-14 8FT Matrix: Soil Date Received: 02/02/06 15:50

Parameters	Results	Units	Report Limit	Analyzed	By	CAS No.	Qual	RegLmt
Wet Chemistry								
Percent Moisture	Method: % Moisture							
Percent Moisture	22.2	%		02/06/06 08:38	TNM			
GC Semivolatiles								
TPH in Soil by 3545/8015	Prep/Method: EPA 3545 / EPA 8015							
Diesel Fuel	ND	mg/kg	6.4	02/12/06 23:23	KBS	68334-30-5		
n-Pentacosane (S)	78	%		02/12/06 23:23	KBS	629-99-2		
Date Extracted	02/09/06			02/09/06				
GC Volatiles								
GAS, Soil	Method: EPA 8015							
Gasoline	ND	mg/kg	7.7	02/07/06 03:37	DHW			
4-Bromofluorobenzene (S)	71	%		02/07/06 03:37	DHW	460-00-4		

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

Lab Project Number: 92112643
 Client Project ID: 00106C/WBS#34935.1.1

Lab Sample No: 926609025 Project Sample Number: 92112643-015 Date Collected: 01/31/06 12:35
 Client Sample ID: SB-15 8FT Matrix: Soil Date Received: 02/02/06 15:50

Parameters	Results	Units	Report Limit	Analyzed	By	CAS No.	Qual	ReqLmt
Wet Chemistry								
Percent Moisture	Method: % Moisture							
Percent Moisture	21.1	%		02/06/06 08:38	TNM			
GC Semivolatiles								
TPH in Soil by 3545/8015	Prep/Method: EPA 3545 / EPA 8015							
Diesel Fuel	ND	mg/kg	6.3	02/10/06 17:07	KBS	68334-30-5		
n-Pentacosane (S)	64	%		02/10/06 17:07	KBS	629-99-2		
Date Extracted	02/09/06			02/09/06				
GC Volatiles								
GAS, Soil	Method: EPA 8015							
Gasoline	ND	mg/kg	7.6	02/07/06 04:05	DHW			
4-Bromofluorobenzene (S)	70	%		02/07/06 04:05	DHW	460-00-4		

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 2225 Riverside Drive
 Asheville, NC 28804
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 Fax: 828.252.4618

Lab Project Number: 92112643
 Client Project ID: 00106C/WBS#34935.1.1

Lab Sample No: 926609033 Project Sample Number: 92112643-016 Date Collected: 01/31/06 12:45
 Client Sample ID: SB-16 8FT Matrix: Soil Date Received: 02/02/06 15:50

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

Percent Moisture	Method: % Moisture							
Percent Moisture	19.4	%		02/06/06 08:39	TNM			

GC Semivolatiles

TPH in Soil by 3545/8015	Prep/Method: EPA 3545 / EPA 8015							
Diesel Fuel	ND	mg/kg	6.2	02/10/06 21:41	KBS	68334-30-5		
n-Pentacosane (S)	78	%		02/10/06 21:41	KBS	629-99-2		
Date Extracted	02/09/06			02/09/06				

GC Volatiles

GAS, Soil	Method: EPA 8015							
Gasoline	ND	mg/kg	7.4	02/07/06 04:33	DHW			
4-Bromofluorobenzene (S)	72	%		02/07/06 04:33	DHW	460-00-4		

Asheville Certification IDs

NC Wastewater 40
 NC Drinking Water 37712
 SC 99030
 FI NFI.AP E87648

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Charlotte Certification IDs

NC Wastewater 12
 NC Drinking Water 37706
 SC 99006
 FI NFI.AP E87627



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

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

Lab Project Number: 92112643
Client Project ID: 00106C/WBS#34935.1.1

PARAMETER FOOTNOTES

Method 9071B modified to use ASE.

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

Depending on the moisture content the PRLs can be elevated for all soil samples reported on a dry weight basis.

2-Chloroethyl vinyl ether has been shown to degrade in the presence of acid.

- 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] Low surrogate recovery was confirmed as a matrix effect by a second analysis.

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QUALITY CONTROL DATA

Lab Project Number: 92112643
 Client Project ID: 00106C/WBS#34935.1.1

QC Batch: 149061	Analysis Method: EPA 8015				
QC Batch Method: EPA 8015	Analysis Description: GAS, Soil				
Associated Lab Samples:	926608852	926608860	926608878	926608886	926608894
	926608902	926608928	926608944	926608951	926608969
	926608977	926608985	926608993	926609009	926609025
	926609033				

METHOD BLANK: 926617663							
Associated Lab Samples:	926608852	926608860	926608878	926608886	926608894	926608902	926608928
	926608944	926608951	926608969	926608977	926608985	926608993	926609009
	926609025	926609033					

Parameter	Units	Blank Result	Reporting Limit	Footnotes
Gasoline	mg/kg	ND	6.0	
4-Bromofluorobenzene (S)	%	81		

LABORATORY CONTROL SAMPLE: 926617671

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	Footnotes
Gasoline	mg/kg	31.25	39.09	125	
4-Bromofluorobenzene (S)				78	

MATRIX SPIKE: 926617689

Parameter	Units	926608852 Result	Spike Conc.	MS Result	MS % Rec	Footnotes
Gasoline	mg/kg	3.024	46.99	55.84	112	
4-Bromofluorobenzene (S)					77	

SAMPLE DUPLICATE: 926617697

Parameter	Units	926608860 Result	DUP Result	RPD	Footnotes
Gasoline	mg/kg	ND	ND	NC	
4-Bromofluorobenzene (S)	%	76	74		

Date: 02/14/06

Page: 20 of 24

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 Huntersville, NC 28078
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QUALITY CONTROL DATA

Lab Project Number: 92112643
 Client Project ID: 00106C/WBS#34935.1.1

QC Batch: 149028	Analysis Method: % Moisture
QC Batch Method:	Analysis Description: Percent Moisture
Associated Lab Samples:	926608985 926608993 926609009 926609025 926609033

SAMPLE DUPLICATE: 926616087

Parameter	Units	926612201 Result	DUP Result	RPD	Footnotes
Percent Moisture	%	17.00	16.80	1	

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Lab Project Number: 92112643
Client Project ID: 00106C/WBS#34935.1.1

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 calculated RPD was outside QC acceptance limits.

Asheville Certification IDs

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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: 2 of 2
0946422

Section A Required Client Information:

Company Name: DRINKING WATER LABORATORIES
 Address: 300 112 Ave
 City: SPRINGFIELD
 State: VT
 Zip: 05156
 Phone: 802-277-7777
 Fax: 802-277-7777
 Attention: DRINKING WATER
 Company Name: DRINKING WATER LABORATORIES
 Address: 300 112 Ave
 City: SPRINGFIELD
 State: VT
 Zip: 05156
 Project Name: DRINKING WATER
 Project Number: 2/13/06
 Purchase Order No.: 2/13/06
 Pace Quote Reference: DRINKING WATER
 Pace Project Manager: DRINKING WATER
 Pace Profile #:

Section B Required Project Information:

Report To: DRINKING WATER LABORATORIES
 Copy To: DRINKING WATER LABORATORIES
 Invoice Information:
 Attention: DRINKING WATER LABORATORIES
 Company Name: DRINKING WATER LABORATORIES
 Address: 300 112 Ave
 City: SPRINGFIELD
 State: VT
 Zip: 05156
 Project Name: DRINKING WATER
 Project Number: 2/13/06
 Purchase Order No.: 2/13/06
 Pace Quote Reference: DRINKING WATER
 Pace Project Manager: DRINKING WATER
 Pace Profile #:

Section C Invoice Information:

Report To: DRINKING WATER LABORATORIES
 Copy To: DRINKING WATER LABORATORIES
 Invoice Information:
 Attention: DRINKING WATER LABORATORIES
 Company Name: DRINKING WATER LABORATORIES
 Address: 300 112 Ave
 City: SPRINGFIELD
 State: VT
 Zip: 05156
 Project Name: DRINKING WATER
 Project Number: 2/13/06
 Purchase Order No.: 2/13/06
 Pace Quote Reference: DRINKING WATER
 Pace Project Manager: DRINKING WATER
 Pace Profile #:

Section D Required Client Information:

Requested Due Date/TAT: 2/13/06
 Project Name: DRINKING WATER
 Project Number: 2/13/06
 Purchase Order No.: 2/13/06
 Pace Quote Reference: DRINKING WATER
 Pace Project Manager: DRINKING WATER
 Pace Profile #:

SAMPLE ID	Valid Matrix Codes	MATRIX CODE	Q-GRAB TYPE	COLLECTED		SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	PRESERVATIVES								Filtered (Y/N)	Requested Analysis:	Pace Project Number	Lab ID
				DATE	TIME			COMPOSITE START	COMPOSITE END/GRAB	DATE	TIME	UNPRESERVED	H2SO4	HNO3	HCl				
S13-13	DRINKING WATER	DW	SL G	1/31/06	12:15		4											7993	
S13-14	DRINKING WATER	DW	SL G	1/31/06	12:20		4											7609	
S13-15	DRINKING WATER	DW	SL G	1/31/06	12:35		4											225	
S13-16	DRINKING WATER	DW	SL G	1/31/06	12:45		4											033	

RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITION
<u>DRINKING WATER LABORATORIES</u>	<u>2/13/06</u>	<u>10:58</u>	<u>DRINKING WATER LABORATORIES</u>	<u>2/13/06</u>	<u>10:50</u>	Temp in °C
<u>DRINKING WATER LABORATORIES</u>	<u>2/13/06</u>	<u>15:10</u>	<u>DRINKING WATER LABORATORIES</u>	<u>2/13/06</u>	<u>15:10</u>	Received on Ice
						Custody
						Sealed Cooler
						Samples

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER:
DRINKING WATER LABORATORIES

SIGNATURE of SAMPLER:
DRINKING WATER LABORATORIES

DATE Signed (MM/DD/YY):
2/13/06