

January 19, 2006

Mr. Greg Smith  
North Carolina Department of Transportation  
Geotechnical Engineering Unit  
1589 Mail Service Center  
Raleigh, North Carolina 27699-1589



Reference: Preliminary Site Assessment  
Margaret Lee Property  
4945 US 17 North  
Washington, Beaufort County, North Carolina  
NCDOT Project R-2510C  
WBS Element 34440.1.1  
Earth Tech Project No. 90389

Dear Mr. Smith:

Earth Tech of North Carolina, Inc., (Earth Tech) has completed the Preliminary Site Assessment conducted at the above-referenced property. The work was performed in accordance with the Technical and Cost proposal dated November 17, 2005, and the North Carolina Department of Transportation's (NCDOT's) Notice to Proceed dated November 22, 2005. Activities associated with the assessment consisted of collecting soil and groundwater samples for laboratory analysis, and reviewing applicable North Carolina Department of Environment and Natural Resources (NCDENR) records. The purpose of this report is to document the field activities, present the laboratory analyses, and provide recommendations regarding the property.

### **Location and Description**

The Margaret Lee Property is located at 4945 US 17 North in Washington, North Carolina. The property is situated on the west side of US 17 approximately 3000 feet south of the intersection of US 17 and Wharton Station Road (Figure 1). Based on information supplied by the NCDOT and the site visit, Earth Tech understands that the site is a former gas station, but the number of underground storage tanks (USTs) used at the site and their status was unknown. As of the date of this report, the site is an active automotive repair/tire installation shop. The tenant indicated that at least one UST was removed in 1988, but was unable to confirm the location of the current or former tanks. The property consists of a single-story commercial-type building with a pump island in front and UST vent pipes on the northeast corner of the building (Figure 2). Earth Tech noted tires, hubcaps, and various automotive parts stored around the property, but no evidence of oil spills or stressed vegetation. A service bay is present in the building, but no hydraulic lift was present. Because of the

unknown status of potential USTs, the NCDOT requested a Preliminary Site Assessment to evaluate the soils on the property.

Earth Tech reviewed the North Carolina Department of Environment and Natural Resources (NCDENR) Incident Management database and no incident number was listed for this location. Earth Tech also reviewed the UST registration database to evaluate if USTs were present at the location. No USTs were registered for this address.

### **Geophysical Survey**

Prior to Earth Tech's mobilization to the site, Schnabel Engineering conducted a geophysical survey to evaluate if USTs were present on the property. The geophysical survey consisted of an electromagnetic survey with a follow up with a ground penetrating radar (GPR) survey.

Several anomalies were detected in the geophysical survey. One anomaly was attributed to possible USTs. The anomaly was located approximately 20 feet east of the north side of the building and coincided with the vent pipes. The GPR results indicated two potential USTs, each about 3 feet in diameter and 5 feet long. These measurements suggest tanks equivalent to 250-gallons in size each and at a depth of about 3.5 feet below ground surface (Figure 2). The locations of the borings for the site assessment were based on this information. A detailed report of the geophysical survey is presented in Attachment A.

### **Site Assessment Activities**

On December 21, 2005, Earth Tech mobilized to the site to conduct a Geoprobe<sup>®</sup> direct push investigation to evaluate soil conditions on the property. Continuous sampling using direct push technology (Regional Probing of Wake Forest, North Carolina) resulted in generally good recovery of soil samples from the direct-push holes. Soil samples were collected and contained in 4-foot long acetate sleeves inside the direct push sampler. Each of these sleeves was divided in half for soil sample screening. Each 2-foot interval was placed in a resealable plastic bag and the bag was set aside for a sufficient amount of time to allow volatilization of organic compounds from the soil to the bag headspace. The probe of a flame-ionization detector (FID) was inserted into the bag and the reading was recorded. After terminating the sample hole, the soil sample from the depth interval with the highest FID reading was submitted to Paradigm Analytical Laboratories, Inc., in Wilmington, North Carolina, using standard chain-of-custody procedures. The laboratory analyzed the soil samples for total petroleum hydrocarbons (TPH) using extraction methods 3550 (diesel range organics) and 5030 (gasoline range organics).

Ten direct-push holes (LE-1 through LE-10) were advanced at the site to a depth of 4 feet as shown in Figure 2 and Attachment B. The borings were located to evaluate the areas where the geophysical survey identified potential USTs (Attachment C). Borings LE-1 through LE-4 were located to evaluate the potential UST anomaly. Boring LE-5 was located to assess the area south of the pump island. Borings LE-6 through LE-10 were located to evaluate the horizontal extent of the potential

soil contamination as defined by the field screening readings. The lithology encountered by the direct-push samples generally was consistent throughout the site. The ground surface for the boring locations was covered with about 4 inches of topsoil or gravel. Below the surface treatment to a depth of 2 feet was a medium to dark gray silt and clay. From a depth of 2 to 4 feet, the soil consisted of a dark gray to black plastic clay. Groundwater was encountered in the initial boring at a depth of about 3.5 feet. As a result the remaining borings were terminated at a depth of 4 feet. Based on field screening, soil samples were submitted for laboratory analysis, which are summarized in Table 1.

The shallow groundwater depth suggests that any contamination present in the soil would impact the groundwater. To evaluate the groundwater conditions, a water sample was collected from boring LE-1 (Figure 2), which was in a location that appeared to be representative of subsurface conditions in the UST area in front of the building. The groundwater sample was collected using the direct-push equipment. The direct push probe was advanced into the groundwater and the screen exposed. The water sample was collected with a peristaltic sampling pump. After purging the well to reduce turbidity, the water sample was transferred directly into laboratory-supplied containers. The containers were placed on ice and transported to the laboratory for analysis of volatile organic compounds using EPA Method 6230D and semivolatile organic compounds using EPA Method 625.

### **Analytical Results**

Based on the soil laboratory reports, summarized in Table 1 and presented in Attachment D, petroleum hydrocarbon compounds were detected in four of the ten soil samples collected from the site (Figure 3). The soil sample collected from boring LE-1 contained total petroleum hydrocarbons (TPH) identified as diesel fuel (DRO) at a concentration of 20.4 milligrams per kilogram (mg/kg) and gasoline (GRO) at a concentration of 22.3 mg/kg. The soil sample collected from boring LE-4 contained DRO at a concentration of 27.7 mg/kg and GRO at a concentration of 54.9 mg/kg. The soil sample collected from boring LE-5 contained a DRO concentration of 27.4 mg/kg and a GRO concentration of 72.6 mg/kg. The soil sample collected from boring LE-8 contained a DRO concentration of 344 mg/kg and a GRO concentration of 966 mg/kg. No TPH concentrations were detected in any of the remaining soil samples. According to the North Carolina Underground Storage Tank Section's Underground Storage Tank Closure Policy dated August 24, 1998, the action level for TPH analyses is 10 mg/kg for both gasoline and diesel fuel. However, that agency's "Guidelines for Assessment and Corrective Action," dated April 2001, does not allow for use of TPH analyses for confirmation of the extent of petroleum contamination or its cleanup. As a result, while TPH concentrations are no longer applicable in determining if soil contamination is present, this analysis is a legitimate screening tool. Based on the TPH action level for UST closures, the assumed action level for this report is 10 mg/kg for both DRO and GRO. The soil samples from borings LE-1, LE-4, LE-5, and LE-8 contained both DRO and GRO concentrations above the 10 mg/kg assumed action level.

The laboratory reports for the groundwater, summarized in Table 2 and presented in Attachment D, indicate that groundwater contamination is present at the site. The compounds detected in the groundwater sample from boring LE-1 included volatile and semivolatile organic compounds. Of these compounds, benzene (6140 µg/l), toluene (27,400 µg/l), xylenes (4990 µg/l), and naphthalene (454 µg/l) were detected at concentrations above their respective groundwater quality standards of 1 µg/l, 1000 µg/l, 530 µg/l, and 21 µg/l. The benzene concentration is also above the Gross Contamination Level (GCL) for determining the risk classification for groundwater. Based on the benzene concentration, the site would likely be classified as intermediate risk, at a minimum, and would require groundwater cleanup to the GCL concentration of 5000 µg/l.

### **Conclusions and Recommendations**

A Preliminary Site Assessment was conducted to evaluate the Margaret Lee Property located at 4945 US 17 North in Washington, Beaufort County, North Carolina. Ten soil borings were advanced to evaluate the soil and groundwater conditions on the property. The laboratory reports of four of the ten soil samples from these borings suggest that DRO and GRO concentrations are present above the assumed action level. One groundwater sample was collected for analysis. The analytical results of the groundwater sample (boring LE-1) indicated concentrations of benzene, toluene, xylenes, and naphthalene above the groundwater quality standard.

To evaluate the volume of soil requiring possible remediation, the soil samples with TPH concentrations above 10 mg/kg were considered. The analytical results of the soil samples suggest that the soil from borings LE-1, LE-4, LE-5, and LE-8 contained TPH concentrations above the assumed action level. A review of the field screening readings (Table 1) suggests that a maximum contaminated soil thickness of 4 feet (from ground surface to groundwater at 4 feet) is likely. The volume of potentially affected soil was estimated based on the 10 mg/kg isoconcentration contour shown on Figure 3. With a thickness of 4 feet and an average radius of about 40 feet, the estimated volume of contaminated soil is about 186 cubic yards. This volume is estimated from TPH analytical data, which are no longer valid for remediation of sites reported after January 2, 1998. After this date, MADEP EPH/VPH and EPA Method 8260/8270 analyses will likely be required to confirm cleanup. However, these analyses do not correlate exactly with TPH data and, as a result, the actual volume of contaminated soil may be higher or lower.

Earth Tech appreciates the opportunity to work with the NCDOT on this project. Because contamination was detected at the site, Earth Tech recommends that a copy of this report be submitted to the Division of Waste Management, UST Section, in the Washington Regional Office. If you have any questions, please contact me at (919)854-6238.

Sincerely,



Michael W. Branson, P.G.  
Project Manager

Attachments

c: Project File



TABLE 1  
 FIELD SCREENING AND ANALYTICAL RESULTS  
 LEE PROPERTY  
 WASHINGTON, BEAUFORT COUNTY, NORTH CAROLINA  
 NCDOT PROJECT NO. 9.689002T (R-967CA)  
 EARTH TECH PROJECT NO. 90389

LOCATION	DEPTH (m)	OVA READING (ppm)	SAMPLE ID	ANALYTICAL RESULTS (mg/kg)	ACTION LEVEL (mg/kg)
LE-1	0 - 2	918			
	2 - 4	2813	LE-1	<b>DRO (20.4)</b> <b>GRO (22.3)</b>	10 10
LE-2	0 - 2	12.8			
	2 - 4	43	LE-2	DRO (BQL) GRO (BQL)	10 10
LE-3	0 - 2	2.23			
	2 - 4	2.38	LE-3	DRO (BQL) GRO (BQL)	10 10
LE-4	0 - 2	102			
	2 - 4	268	LE-4	<b>DRO (27.7)</b> <b>GRO (54.9)</b>	10 10
LE-5	0 - 2	496			
	2 - 4	496	LE-5	<b>DRO (27.4)</b> <b>GRO (72.6)</b>	10 10
LE-6	0 - 2	3.71			
	2 - 4	17.13	LE-6	DRO (BQL) GRO (BQL)	10 10
LE-7	0 - 2	2.32			
	2 - 4	32	LE-7	DRO (BQL) GRO (BQL)	10 10
LE-8	0 - 2	5921	LE-8	<b>DRO (344)</b> <b>GRO (966)</b>	10 10
	2 - 4	2308			
LE-9	0 - 2	2.7			
	2 - 4	19.63	LE-9	DRO (BQL) GRO (BQL)	10 10
LE-10	0 - 2	1.7	LE-10	DRO (BQL) GRO (BQL)	10 10
	2 - 4	1.68			

DRO - Diesel range organics  
 GRO - Gasoline range organics  
 BQL - Below quantitation limit.  
 ppm - parts per million.  
 mg/kg - milligrams per kilogram.

**BOLD** values are above the assumed action level.



**TABLE 2**  
**GROUNDWATER ANALYTICAL RESULTS**  
**LEE PROPERTY**  
**WASHINGTON, BEAUFORT COUNTY, NORTH CAROLINA**  
**NCDOT PROJECT NO. 9.689002T (R-967CA)**  
**EARTH TECH PROJECT NO. 90389**

COMPOUND	CONCENTRATION	GROUNDWATER QUALITY STANDARD
Benzene	<b>6140</b>	1
Toluene	<b>27400</b>	1000
Ethylbenzene	<2000	550
Xylenes	<b>4990</b>	530
MTBE	<2000	70
1,3,5-Trimethylbenzene	<2000	350
1,2,4-Trimethylbenzene	<2000	350
Isopropyl ether	<0.5	70
2,4-Dimethylphenol	<b>11.3</b>	140
Phenol	<b>15.8</b>	300
Naphthalene	<b>454</b>	21

All concentrations expressed as micrograms per liter.

**BOLD** values are above the method detection limit.

Shaded values are above the Groundwater Quality Standard.

**FIGURES**





SCALE 1:24,000



SOURCE: U.S. GEOLOGICAL SURVEY 7.5 MIN. QUADRANGLE: WASHINGTON, NC (REV. 1983)

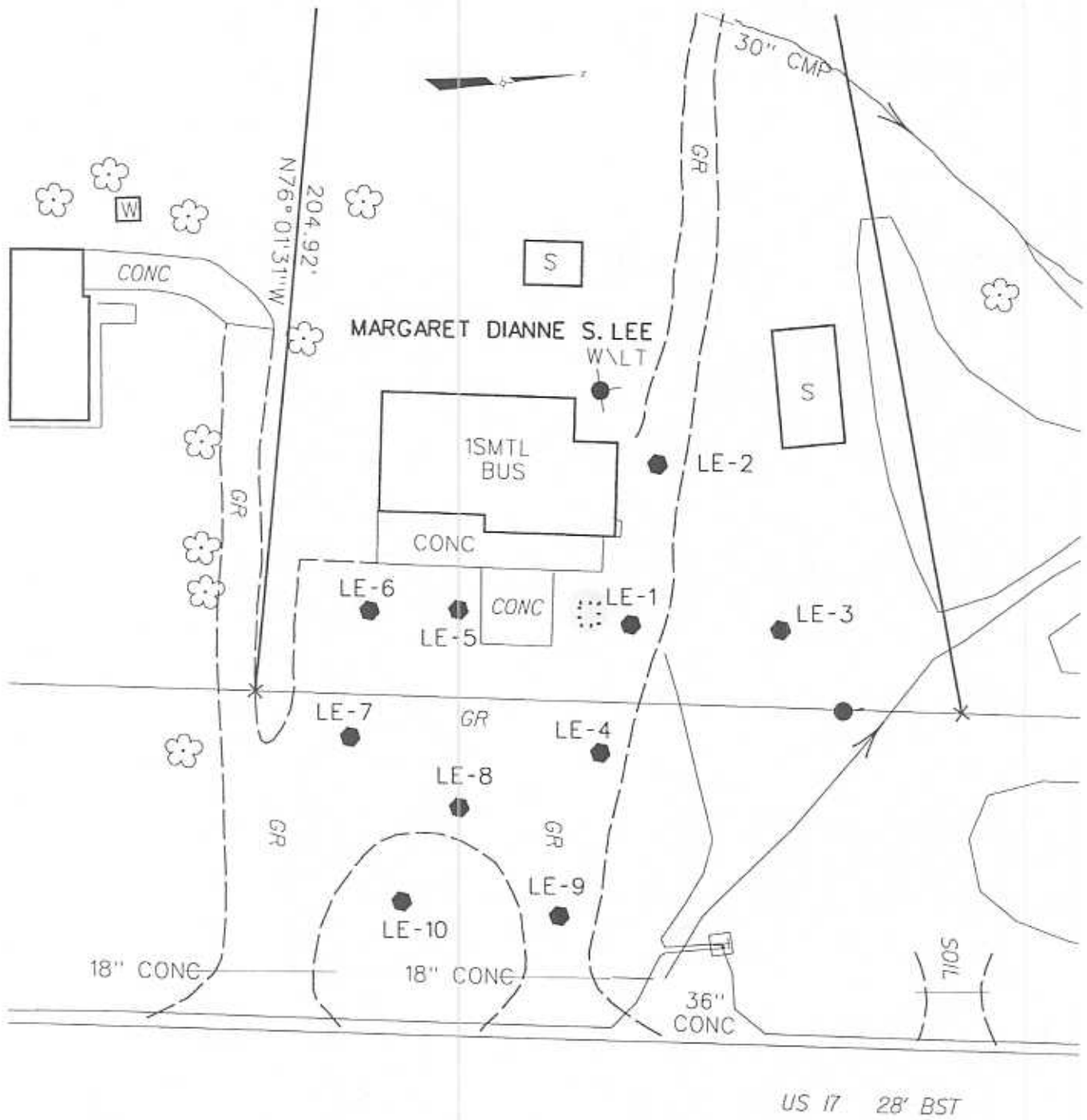
EARTH  TECH

FIGURE 1  
VICINITY MAP  
LEE PROPERTY

WASHINGTON, BEAUFORT COUNTY, NORTH CAROLINA

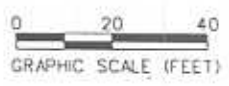
DECEMBER 2005

90389



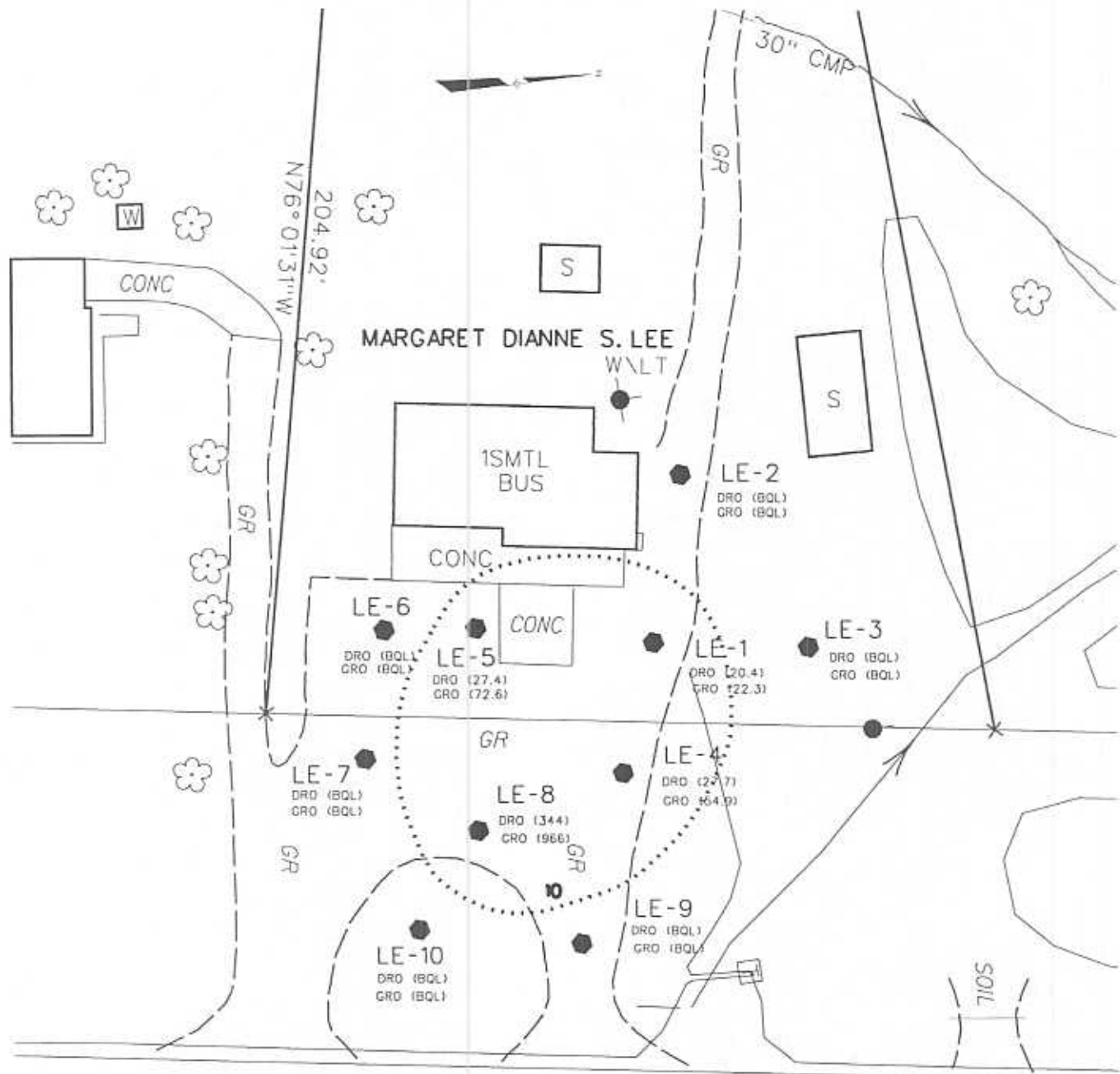
**LEGEND**

- LE-1 ● SOIL SAMPLE LOCATION AND IDENTIFICATION
- ⋯ APPROXIMATE LOCATION OF UST IDENTIFIED BY GEOPHYSICAL SURVEY



**FIGURE 2**  
SITE MAP  
LEE PROPERTY

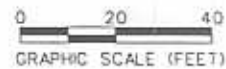
WASHINGTON, BEAUFORT COUNTY, NORTH CAROLINA  
DECEMBER 2005



**LEGEND**

- LE-1 ● SOIL SAMPLE LOCATION AND IDENTIFICATION
- DRO (123) TPH AS DIESEL FUEL IN MG/KG
- GRO (123) TPH AS GASOLINE IN MG/KG
- BQL BELOW QUANTITATION LIMIT
- ..... ISOCONCENTRATION CONTOUR IN MG/KG

US 17 28' BST



EARTH  TECH

**FIGURE 3**  
SOIL ANALYTICAL RESULTS MAP  
LEE PROPERTY

WASHINGTON, BEAUFORT COUNTY, NORTH CAROLINA

DECEMBER 2005

90389

ATTACHMENT A

North Carolina Department of Transportation

**GEOPHYSICAL SURVEYS  
FOR RIGHT-OF-WAY PROPERTIES**

State Project R-2510C, WBS Element 34440.1.1  
US 17 from South of SR 1001 to North of NC 171  
Beaufort County, North Carolina



A handwritten signature in black ink, appearing to read "Edward Davis Billington", written over the bottom portion of the professional seal.

January 12, 2006  
Project Number 05210014.01-04



11-A Oak Branch Drive, Greensboro, North Carolina 27407  
Phone (336) 274-9456; Fax (336) 274-9486

## **1.0 INTRODUCTION**

The work described in this report was conducted by Schnabel Engineering under our contract with the NCDOT. The work was conducted at the locations indicated to support environmental assessment of the subject parcels. The purpose of the geophysical surveys was to locate possible metal underground storage tanks (UST's) and associated metal product lines in the accessible areas of the sites.

Schnabel Engineering conducted geophysical surveys on November 29 & 30 and December 1, 2, 13 & 14 2005, in the accessible areas of the proposed sections of the parcels owned by [REDACTED] St. [REDACTED] 7 North), Margaret Lee (4045 US 17 North), [REDACTED] 17 North). [REDACTED] (Merrin's gas station).

Photographs of these properties and the UST'S markouts are included on Figures 1 and 2.

The geophysical investigation consisted of electromagnetic (EM) induction surveys using a Geonics EM61-MK2 instrument. The EM61 metal detector is used to locate metal objects buried up to about eight feet below ground surface. Ground-penetrating radar (GPR) investigations of selected EM61 anomalies were conducted using a Geophysical Survey Systems SIR-2000 system equipped with a 400 MHz antenna. A Fisher Gemini-3 was used in the conduction mode to trace exposed vent pipes and product lines. Photographs of these instruments are shown in Figure 3.

## **2.0 FIELD METHODOLOGY**

### **2.1 Location Control**

Locations of geophysical data points and site features were obtained using a sub-meter Trimble Pro-XRS DGPS system. References to direction and location in this report are based on the US State Plane 1983 System, North Carolina 3200 Zone, using the NAD 83 datum, with units in feet. The locations of existing site features (building, curbs, signs, etc.) were recorded for later correlation with the geophysical data and for location references to the NCDOT drawings.

## 2.2 Data Collection

The EM61 data were collected along parallel survey lines spaced approximately 2.5 feet apart. The EM61 and DGPS data were recorded digitally using a field computer and later transferred to a desktop computer for data processing. The GPR data were collected along survey lines spaced one to two feet apart in two orthogonal directions over anomalous EM readings that did not appear to be caused by known metal objects. The GPR data were reviewed in the field to evaluate the possible presence of UST's. The GPR data also were recorded digitally and later transferred to a desktop computer for further review. The Gemini-3 was used in the conduction mode on some of the properties by grounding the transmitter and clamping it onto an exposed vent pipe or product line, and then tracing the location of the charged pipe out with the receiver.

Preliminary results were sent to Mike Branson of Earth Tech on December 16, 2005.

## 3.0 DISCUSSION OF RESULTS

The contoured EM61 data are shown on Figures 4 through 11. The EM61 early time gate results are plotted on Figures 4, 6, 8, and 10. The early time gate data provide the most sensitive detection of metal object targets, regardless of size. Figures 5, 7, 9, and 11 show the difference between the response of the top and bottom coils of the EM61 instrument (differential response). The difference is taken to remove the effect of surface and very shallowly buried metallic objects. Typically, the differential response emphasizes anomalies from deeper and larger objects such as UST's.

[REDACTED]

T [REDACTED]

S [REDACTED]

[REDACTED]

a [REDACTED]

ca [REDACTED]



[REDACTED] not attributed to  
[REDACTED]  
[REDACTED]  
[REDACTED]  
[REDACTED] are each about three feet in diameter and about five feet  
[REDACTED] they appear to be buried about 3.5 feet

### 3.2 Margaret Lee Property

The parcel owned by Margaret Lee is located on the west side of US 17 approximately 3000 feet south of Wharton Station Road in Oldford, NC. This parcel is currently occupied by Smallwood Tire Center. The EM61 results are shown on Figure 6 (early time gate) and Figure 7 (differential). The early time gate results show a number of anomalies caused by known site features, and several large anomalies probably caused by influence from the building. Anomalies in the differential set not attributed to known cultural features were further investigated with GPR. An example GPR image showing the reflections from the two probable UST's is shown on Figures 6 and 7. The GPR data indicates two probable UST's each about 5 feet long and 3 feet in diameter, equivalent to two 250-gallon tanks. Both tanks appear to be buried about 3.5 feet below the ground surface. The Gemini-3 was used in the conduction mode to trace out the locations of the product lines and the vent pipes, which were then marked on the ground surface.

### 3.3 [REDACTED] Property

[REDACTED]  
[REDACTED]  
[REDACTED]  
[REDACTED] Some of the observed anomalies  
[REDACTED]

[REDACTED]

**4.0 CONCLUSIONS**

Our evaluation of the geophysical data collected over the five parcels on State Project R-2510-C in Beaufort County, NC indicate the following:

- The geophysical data indicate the presence of possible UST's within the survey areas on the [REDACTED] Lee, and [REDACTED] properties, as detailed below.

- [REDACTED] the Sheppard  
[REDACTED]  
[REDACTED]

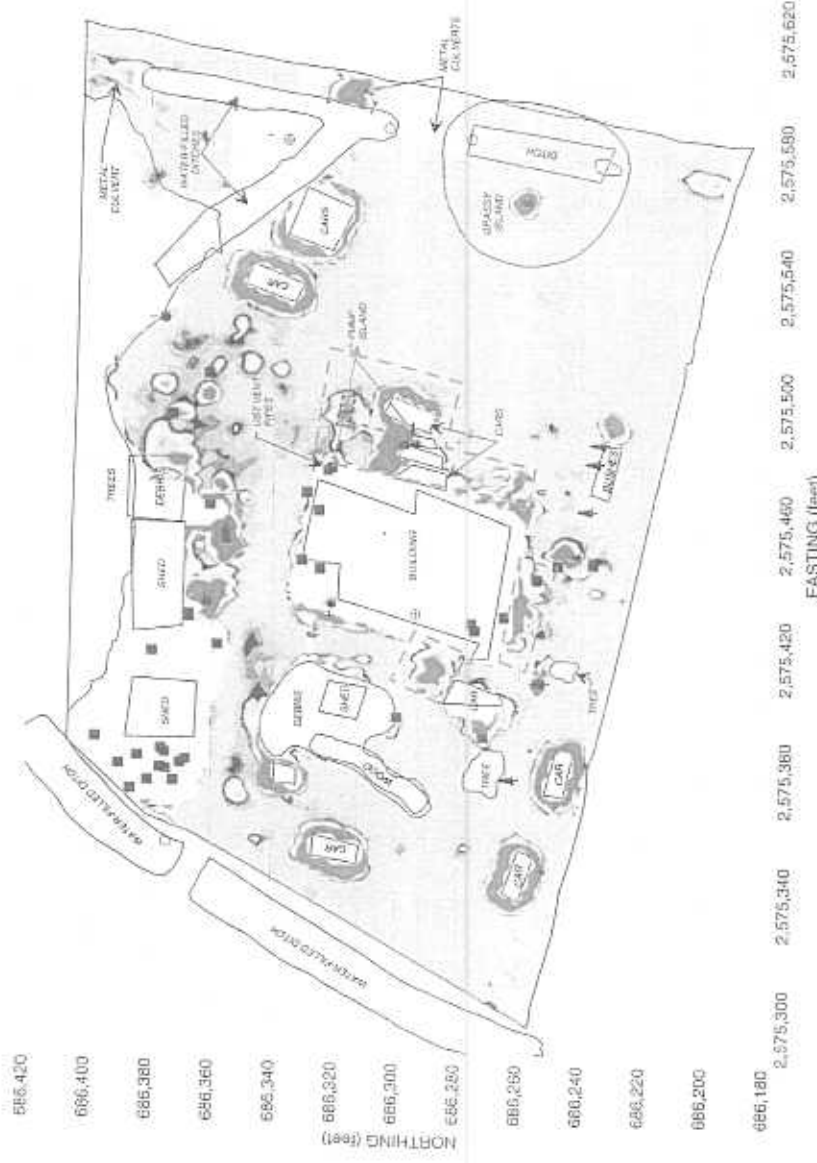
- The geophysical data indicate the presence of two possible UST's on the Lee property. Each possible UST is about three feet in diameter and about five feet in length, with approximate capacities of 250 gallons.

- [REDACTED] property. Each  
[REDACTED]  
c [REDACTED]

- T [REDACTED]  
C [REDACTED]

## 5.0 LIMITATIONS

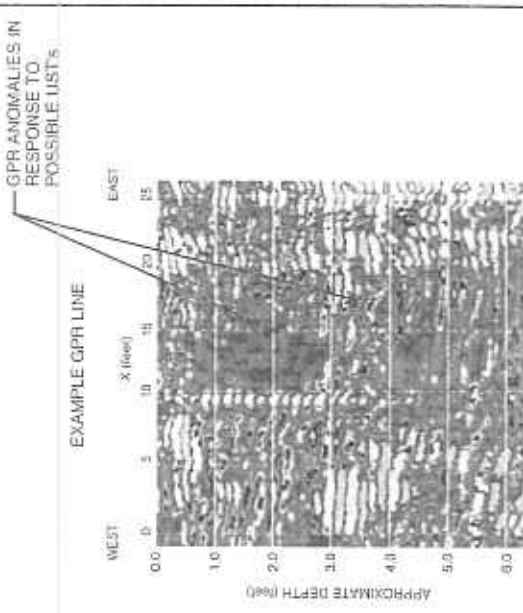
These services have been performed and this report prepared for the North Carolina Department of Transportation in accordance with generally accepted guidelines for conducting geophysical surveys. It is generally recognized that the results of geophysical surveys are non-unique and may not represent actual subsurface conditions.



**EM61 Early Time Gate Response (mV)**

**EXPLANATION**

- EM61 SURVEY AREA - DATA ACQUISITION
- ALONG-PARALLEL SURVEY LINES SPACED APPROXIMATELY 2.5 FEET APART
- 3/4" WALL
- 6" WALL
- UTILITY
- WATER-COLORED
- TREE
- UTILITY POLE
- PIPE
- GPR SURVEY AREA
- APPROXIMATE LOCATION OF LOT AS MARKED ON SURFACE
- EXAMPLE 3/4" WALL

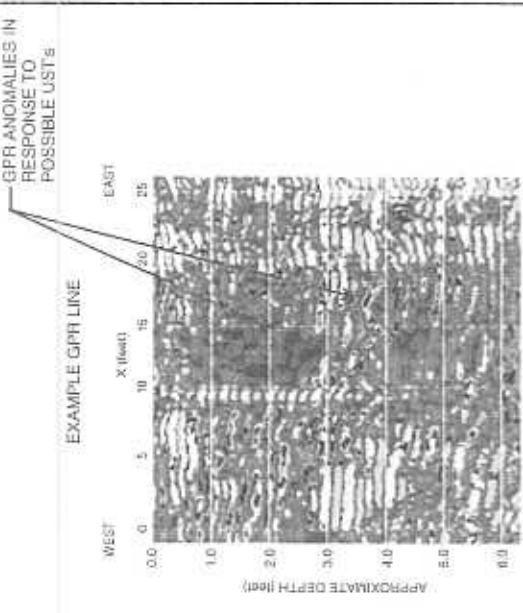
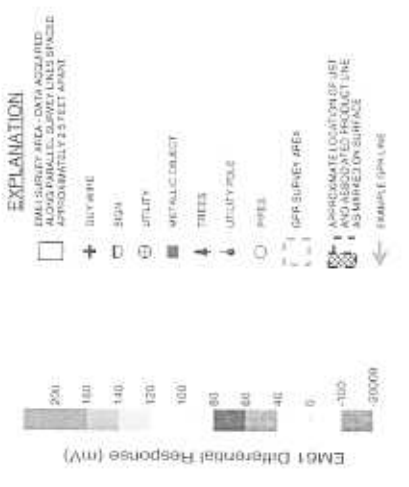
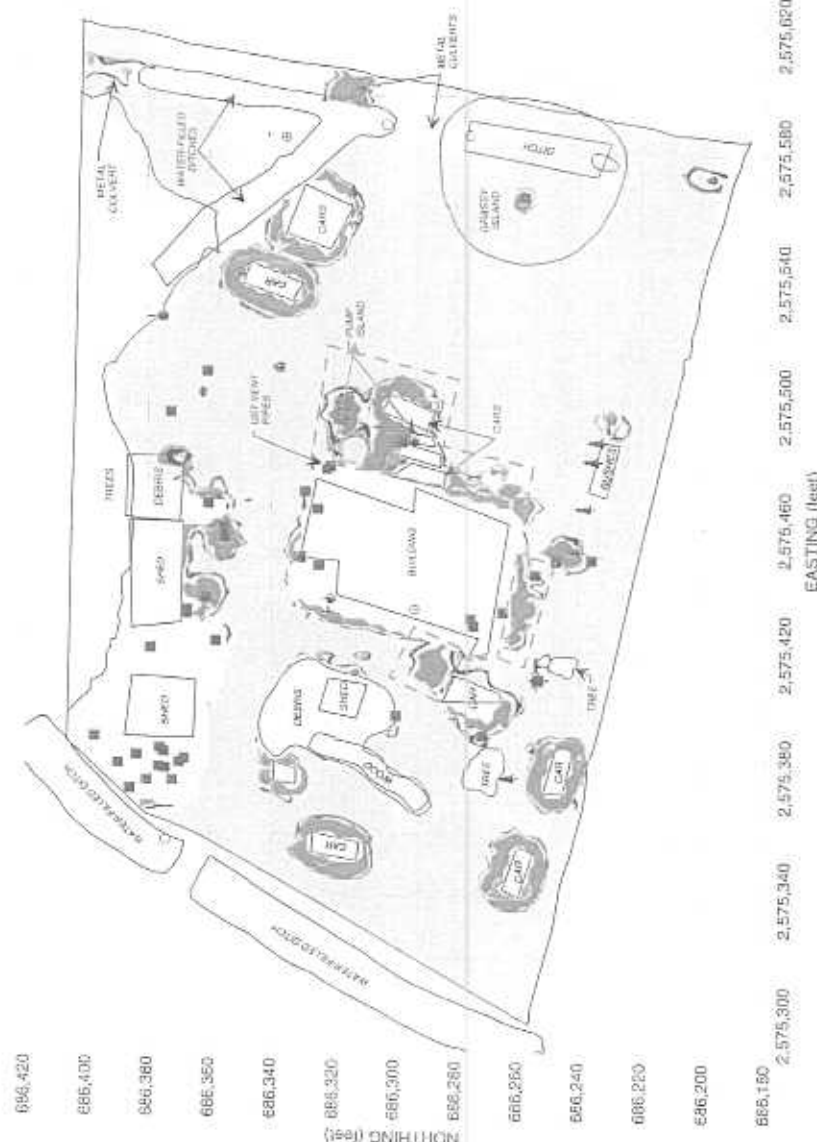


Note: The contour plot shows the earliest and most sensitive time gate of the EM61 bottom colichannel in millivolts (mV). The EM data were collected on November 30 through December 2, 2005, using a Geomatics EM61-MK2 instrument. Positioning for EM61 survey provided using a submeter Trimble PricXRS DGPS system. Coordinates are in the US State Plane 1983 System, North Carolina 3200 Zone, using the NAD 1983 datum. GPR data were acquired on December 13 & 14, 2005, using a Geophysical Survey Systems, Inc. SIR-2000 equipped with a 400 MHz antenna.



NC Department of Transportation  
 Geotechnical Engineering Unit  
 State Project No. R-2510C  
 Washington, North Carolina

LEE PROPERTY  
 EM61 EARLY  
 TIME GATE RESPONSE  
 WITH GPR IMAGE  
 FIGURE 6



Note: The centour plot shows the difference, in millivolts (mV), between the readings from the top and bottom coils of the EM61. The difference is taken to reduce the effect of shallow metal objects and emphasize anomalies caused by deeper metallic objects, such as pipes and tanks. The EM data were collected on November 30 through December 2, 2005, using a Geonics EM61-MK2 instrument. Positioning for the EM61 survey provided using a submeter Trimble ProXR5 DGPS system. Coordinates are in the US State Plane System, North Carolina 3200 Zone, using the NAD 1983 datum. GPR data were acquired on December 13 and 14, 2005, using a Geophysical Survey Systems, Inc. SIR-2000 equipped with a 400 MHz antenna.



NC Department of Transportation  
Geotechnical Engineering Unit  
State Project No. R-2510C  
Washington, North Carolina

LEE PROPERTY  
EM61 DIFFERENTIAL  
RESPONSE  
WITH GPR IMAGE  
FIGURE 7

**ATTACHMENT B**

# TEST BORING REPORT

PROJECT WASHINGTON PSAs - LEE PROPERTY

BORING NUMBER LE-1

CLIENT NCDOT

PAGE 1

PROJECT NUMBER 90389

ELEVATION \_\_\_\_\_

CONTRACTOR REGIONAL PROBING

DATE 12/21/05

EQUIPMENT GEOPROBE

DRILLER OPPER

PREPARED BY BRANSON

DEPTH IN FEET	OVA (ppm)	BLOWS PER 6 INCHES	SAMPLE NUMBER	SAMPLE DEPTH RANGE	FIELD CLASSIFICATION AND REMARKS
	918				MEDIUM TO DARK GRAY SILT/CLAY, DRY, SLIGHT ODOR.
	2,813				DARK GRAY TO BLACK SLIGHTLY SILTY CLAY, MOIST TO WET, STRONG ODOR. SUBMIT TO LABORATORY FOR ANALYSIS.
5.0					GROUNDWATER AT 3 FEET. BORING TERMINATED AT 4 FEET.
10.0					
15.0					
20.0					



# TEST BORING REPORT

**PROJECT** WASHINGTON PSAs - LEE PROPERTY  
**CLIENT** NCDOT  
**PROJECT NUMBER** 90389  
**CONTRACTOR** REGIONAL PROBING  
**EQUIPMENT** GEOPROBE

**BORING NUMBER** LE-2  
**PAGE** 1  
**ELEVATION** \_\_\_\_\_  
**DATE** 12/21/05  
**DRILLER** OPPER  
**PREPARED BY** BRANSON

DEPTH IN FEET	OVA (ppm)	BLOWS PER 6 INCHES	SAMPLE NUMBER	SAMPLE DEPTH RANGE	FIELD CLASSIFICATION AND REMARKS
	12.8				MEDIUM TO DARK GRAY SILT/CLAY, DRY, NO ODOR.
	43				MEDIUM GRAY PLASTIC CLAY, MOIST, NO ODOR. SUBMIT TO LABORATORY FOR ANALYSIS.
5.0					BORING TERMINATED AT 4 FEET.
10.0					
15.0					
20.0					



# TEST BORING REPORT

**PROJECT** WASHINGTON PSAs - LEE PROPERTY  
**CLIENT** NCDOT  
**PROJECT NUMBER** 90389  
**CONTRACTOR** REGIONAL PROBING  
**EQUIPMENT** GEOPROBE

**BORING NUMBER** LE-4  
**PAGE** 1  
**ELEVATION** \_\_\_\_\_  
**DATE** 12/21/05  
**DRILLER** OPPER  
**PREPARED BY** BRANSON

DEPTH IN FEET	OVA (ppm)	BLOWS PER 6 INCHES	SAMPLE NUMBER	SAMPLE DEPTH RANGE	FIELD CLASSIFICATION AND REMARKS
	102				MEDIUM GRAY TO BLACK SILT/CLAY, DRY, SLIGHT ODOR.
	268				MEDIUM GRAY PLASTIC CLAY, MOIST, MODERATE ODOR. SUBMIT TO LABORATORY FOR ANALYSIS.
5.0					BORING TERMINATED AT 4 FEET.
10.0					
15.0					
20.0					

# TEST BORING REPORT

PROJECT WASHINGTON PSAs - LEE PROPERTY

CLIENT NCDOT

PROJECT NUMBER 90389

CONTRACTOR REGIONAL PROBING

EQUIPMENT GEOPROBE

BORING NUMBER LE-5

PAGE 1

ELEVATION \_\_\_\_\_

DATE 12/21/05

DRILLER OPPER

PREPARED BY BRANSON

DEPTH IN FEET	OVA (ppm)	BLOWS PER 6 INCHES	SAMPLE NUMBER	SAMPLE DEPTH RANGE	FIELD CLASSIFICATION AND REMARKS
	496				<p>DARK GRAY TO BLACK SILT/CLAY, DRY, MODERATE ODOR.</p> <p>MEDIUM GRAY PLASTIC CLAY, MOIST, MODERATE ODOR. SUBMIT TO LABORATORY FOR ANALYSIS.</p> <p>BORING TERMINATED AT 4 FEET.</p>
	496				
5.0					
10.0					
15.0					
20.0					

# TEST BORING REPORT

**PROJECT** WASHINGTON PSAs - LEE PROPERTY  
**CLIENT** NCDOT  
**PROJECT NUMBER** 90389  
**CONTRACTOR** REGIONAL PROBING  
**EQUIPMENT** GEOPROBE

**BORING NUMBER** LE-6  
**PAGE** 1  
**ELEVATION** \_\_\_\_\_  
**DATE** 12/21/05  
**DRILLER** OPPER  
**PREPARED BY** BRANSON

DEPTH IN FEET	OVA (ppm)	BLOWS PER 6 INCHES	SAMPLE NUMBER	SAMPLE DEPTH RANGE	FIELD CLASSIFICATION AND REMARKS
	3.71				DARK GRAY TO BLACK SILT/CLAY, DRY, NO ODOR.
	17.13				MEDIUM GRAY PLASTIC CLAY, MOIST, NO ODOR. SUBMIT TO LABORATORY FOR ANALYSIS.
5.0					BORING TERMINATED AT 4 FEET.
10.0					
15.0					
20.0					

# TEST BORING REPORT

PROJECT WASHINGTON PSAs - LEE PROPERTY

BORING NUMBER LE-7

CLIENT NCDOT

PAGE 1

PROJECT NUMBER 90389

ELEVATION \_\_\_\_\_

CONTRACTOR REGIONAL PROBING

DATE 12/21/05

EQUIPMENT GEOPROBE

DRILLER OPPER

PREPARED BY BRANSON

DEPTH IN FEET	OVA (ppm)	BLOWS PER 6 INCHES	SAMPLE NUMBER	SAMPLE DEPTH RANGE	FIELD CLASSIFICATION AND REMARKS
	2.32				DARK GRAY TO BLACK SILT/CLAY, DRY, NO ODOR.
					MEDIUM GRAY PLASTIC CLAY, MOIST, NO ODOR. SUBMIT TO LABORATORY FOR ANALYSIS.
	.32				
					BORING TERMINATED AT 4 FEET.
5.0					
10.0					
15.0					
20.0					

# TEST BORING REPORT

**PROJECT** WASHINGTON PSAs - LEE PROPERTY  
**CLIENT** NCDOT  
**PROJECT NUMBER** 90389  
**CONTRACTOR** REGIONAL PROBING  
**EQUIPMENT** GEOPROBE

**BORING NUMBER** LE-8  
**PAGE** 1  
**ELEVATION** \_\_\_\_\_  
**DATE** 12/21/05  
**DRILLER** OPPER  
**PREPARED BY** BRANSON

DEPTH IN FEET	OVA (ppm)	BLOWS PER 6 INCHES	SAMPLE NUMBER	SAMPLE DEPTH RANGE	FIELD CLASSIFICATION AND REMARKS
	5,921				MEDIUM TO DARK GRAY SILT/CLAY, DRY, SLIGHT ODOR. SUBMIT TO LABORATORY FOR ANALYSIS.
	2,308				AS ABOVE, MOIST, SLIGHT ODOR.
5.0					
10.0					
15.0					
20.0					

BORING TERMINATED AT 4 FEET.



# TEST BORING REPORT

PROJECT WASHINGTON PSAs - LEE PROPERTY

BORING NUMBER LE-9

CLIENT NCDOT

PAGE 1

PROJECT NUMBER 90389

ELEVATION \_\_\_\_\_

CONTRACTOR REGIONAL PROBING

DATE 12/21/03

EQUIPMENT GEOPROBE

DRILLER OPPER

PREPARED BY BRANSON

DEPTH IN FEET	OVA (ppm)	BLOWS PER 6 INCHES	SAMPLE NUMBER	SAMPLE DEPTH RANGE	FIELD CLASSIFICATION AND REMARKS
	2.70				MEDIUM BROWN SILT/SAND, DRY, NO ODOR.
	19.63				AS ABOVE, MOIST, NO ODOR. SUBMIT FOR LABORATORY ANALYSIS.
5.0					
10.0					
15.0					
20.0					

# TEST BORING REPORT

PROJECT WASHINGTON PSAs - LEE PROPERTY

BORING NUMBER LE-10

CLIENT NCDOT

PAGE 1

PROJECT NUMBER 90389

ELEVATION \_\_\_\_\_

CONTRACTOR REGIONAL PROBING

DATE 12/21/05

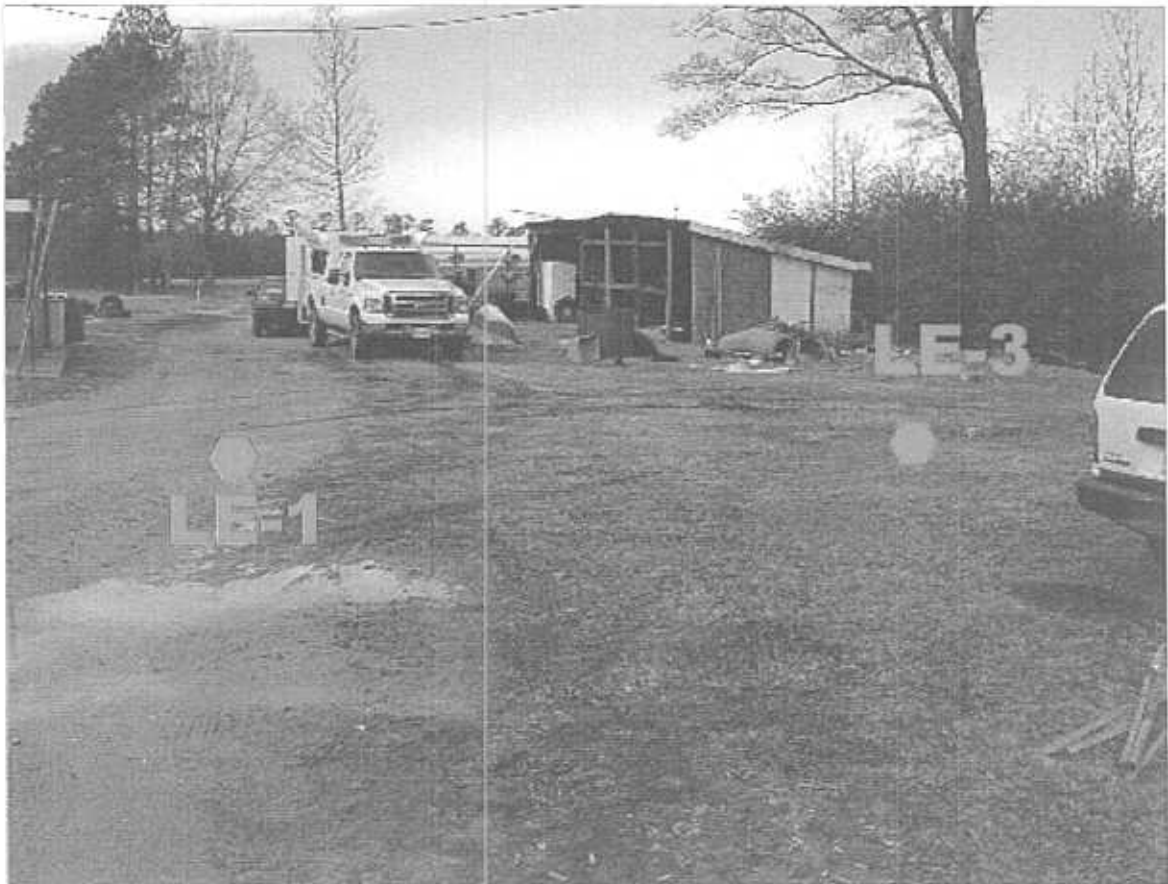
EQUIPMENT GEOPROBE

DRILLER OPPER

PREPARED BY BRANSON

DEPTH IN FEET	OVA (ppm)	BLOWS PER 6 INCHES	SAMPLE NUMBER	SAMPLE DEPTH RANGE	FIELD CLASSIFICATION AND REMARKS
	1.70				4" TOPSOIL, MEDIUM TO DARK GRAY SILT/CLAY, DRY, NO ODOR. SUBMIT TO LABORATORY FOR ANALYSIS.
	1.68				MEDIUM GRAY PLASTIC CLAY, MOIST, NO ODOR.
5.0					BORING TERMINATED AT 4 FEET.
10.0					
15.0					
20.0					

ATTACHMENT C







**ATTACHMENT D**



PARADIGM ANALYTICAL LABORATORIES, INC.

5500 Business Drive  
Wilmington, North Carolina 28405  
(910) 350-1903  
Fax (910) 350-1557

Mr. Mike Branson  
Earth Tech  
701 Corporate Dr. Suite 475  
Raleigh NC 27607

Report Number: G204-505

Client Project: NCDOT-Lee

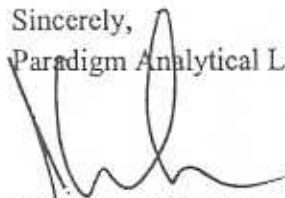
Dear Mr. Branson:

Enclosed are the results of the analytical services performed under the referenced project. The samples are certified to meet the requirements of the National Environmental Laboratory Accreditation Conference Standards. Copies of this report and supporting data will be retained in our files for a period of five years in the event they are required for future reference. Any samples submitted to our laboratory will be retained for a maximum of thirty (30) days from the date of this report unless other arrangements are requested.

If there are any questions about the report or the services performed during this project, please call Paradigm at (910) 350-1903. We will be happy to answer any questions or concerns which you may have.

Thank you for using Paradigm Analytical Labs for your analytical services. We look forward to working with you again on any additional analytical needs which you may have.

Sincerely,  
Paradigm Analytical Laboratories, Inc.



Laboratory Director  
J. Patrick Weaver

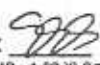
1/6/06  
Date

**Results for Total Petroleum Hydrocarbons**  
by GC/FID 8015

Client Sample ID: LE-1  
Client Project ID: NCDOT-Lee  
Lab Sample ID: G204-505-1  
Lab Project ID: G204-505  
Report Basis: Dry Weight

Analyzed By: MJC  
Date Collected: 12/21/05 9:00  
Date Received: 12/22/05  
Matrix: Soil  
Solids 81.67

Analyte	Result MG/KG	Report Limit MG/KG	Prep Method	Dilution Factor	Date Analyzed
Gasoline Range Organics	22.3	7.35	5030	1	12/30/05
Diesel Range Organics	20.4	7.47	3545	1	01/03/06


Reviewed By:   
TPH\_LIMS\_v1.62.XLS2 of 17

**Results for Total Petroleum Hydrocarbons**  
by GC/FID 8015

Client Sample ID: LE-2  
 Client Project ID: NCDOT-Lee  
 Lab Sample ID: G204-505-2  
 Lab Project ID: G204-505  
 Report Basis: Dry Weight

Analyzed By: MJC  
 Date Collected: 12/21/05 9:20  
 Date Received: 12/22/05  
 Matrix: Soil  
 Solids 79.42

Analyte	Result MG/KG	Report Limit MG/KG	Prep Method	Dilution Factor	Date Analyzed
Gasoline Range Organics	BQL	7.55	5030	1	12/31/05
Diesel Range Organics	BQL	7.63	3545	1	01/03/06

Reviewed By:   
 TPH\_LIMS\_v1.02.XLS 3 of 17

**Results for Total Petroleum Hydrocarbons**  
by GC/FID 8015

Client Sample ID: LE-3  
Client Project ID: NCDOT-Lee  
Lab Sample ID: G204-505-3  
Lab Project ID: G204-505  
Report Basis: Dry Weight

Analyzed By: MJC  
Date Collected: 12/21/05 9:30  
Date Received: 12/22/05  
Matrix: Soil  
Solids 77.16

Analyte	Result MG/KG	Report Limit MG/KG	Prep Method	Dilution Factor	Date Analyzed
Gasoline Range Organics	BQL	7.78	5030	1	12/31/05
Diesel Range Organics	BQL	8.1	3545	1	01/03/06


Reviewed By:   
TPH\_LIMS\_v1 62.XLS4 of 17

**Results for Total Petroleum Hydrocarbons**  
by GC/FID 8015

Client Sample ID: LE-4  
Client Project ID: NCDOT-Lee  
Lab Sample ID: G204-505-4  
Lab Project ID: G204-505  
Report Basis: Dry Weight

Analyzed By: MJC  
Date Collected: 12/21/05 9:40  
Date Received: 12/22/05  
Matrix: Soil  
Solids 74.14

Analyte	Result MG/KG	Report Limit MG/KG	Prep Method	Dilution Factor	Date Analyzed
Gasoline Range Organics	54.9	8.09	5030	1	12/31/05
Diesel Range Organics	27.7	8.21	3545	1	01/03/06


Reviewed By:   
TPH\_LIMS\_v1 R2 XL 5 of 17

**Results for Total Petroleum Hydrocarbons**  
by GC/FID 8015

Client Sample ID: LE-5  
Client Project ID: NCDOT-Lee  
Lab Sample ID: G204-505-5  
Lab Project ID: G204-505  
Report Basis: Dry Weight

Analyzed By: MJC  
Date Collected: 12/21/05 9:50  
Date Received: 12/22/05  
Matrix: Soil  
Solids 77.65

Analyte	Result MG/KG	Report Limit MG/KG	Prep Method	Dilution Factor	Date Analyzed
Gasoline Range Organics	72.6	7.73	5030	1	12/31/05
Diesel Range Organics	27.4	7.96	3545	1	01/03/06


Reviewed By:   
TPH\_LIMS\_v1.02.XLS6 of 17

**Results for Total Petroleum Hydrocarbons**  
by GC/FID 8015

Client Sample ID: LE-6  
 Client Project ID: NCDOT-Lee  
 Lab Sample ID: G204-505-6  
 Lab Project ID: G204-505  
 Report Basis: Dry Weight

Analyzed By: MJC  
 Date Collected: 12/21/05 10:00  
 Date Received: 12/22/05  
 Matrix: Soil  
 Solids 79.61

Analyte	Result MG/KG	Report Limit MG/KG	Prep Method	Dilution Factor	Date Analyzed
Gasoline Range Organics	BQL	7.54	5030	1	12/31/05
Diesel Range Organics	BQL	7.65	3545	1	01/03/06

Reviewed By:   
 TPH\_LIMS\_v1.82.XLS 7 of 17

**Results for Total Petroleum Hydrocarbons**  
by GC/FID 8015

Client Sample ID: LE-7  
Client Project ID: NCDOT-Lee  
Lab Sample ID: G204-505-7  
Lab Project ID: G204-505  
Report Basis: Dry Weight

Analyzed By: MJC  
Date Collected: 12/21/05 10:10  
Date Received: 12/22/05  
Matrix: Soil  
Solids 76.94

Analyte	Result MG/KG	Report Limit MG/KG	Prep Method	Dilution Factor	Date Analyzed
Gasoline Range Organics	BQL	7.8	5030	1	12/31/05
Diesel Range Organics	BQL	7.97	3545	1	01/03/06

Reviewed By:   
TPH\_LIMS\_v1.02.XLS8 of 17



**Results for Total Petroleum Hydrocarbons**  
by GC/FID 8015

Client Sample ID: LE-8  
 Client Project ID: NCDOT-Lee  
 Lab Sample ID: G204-505-8  
 Lab Project ID: G204-505  
 Report Basis: Dry Weight

Analyzed By: MJC  
 Date Collected: 12/21/05 10:20  
 Date Received: 12/22/05  
 Matrix: Soil  
 Solids 83.79

Analyte	Result MG/KG	Report Limit MG/KG	Prep Method	Dilution Factor	Date Analyzed
Gasoline Range Organics	966	143	5030	20	01/03/06
Diesel Range Organics	344	7.27	3545	1	01/03/06

Reviewed By:   
 TPH\_LIMS\_v1.82.XLS 9 of 17

**Results for Total Petroleum Hydrocarbons**  
by GC/FID 8015

Client Sample ID: LE-9  
Client Project ID: NCDOT-Lee  
Lab Sample ID: G204-505-9  
Lab Project ID: G204-505  
Report Basis: Dry Weight

Analyzed By: MJC  
Date Collected: 12/21/05 10:30  
Date Received: 12/22/05  
Matrix: Soil  
Solids 80.31

Analyte	Result MG/KG	Report Limit MG/KG	Prep Method	Dilution Factor	Date Analyzed
Gasoline Range Organics	BQL	7.47	5030	1	01/03/06
Diesel Range Organics	BQL	7.67	3545	1	01/04/06

**Results for Total Petroleum Hydrocarbons**  
by GC/FID 8015

Client Sample ID: LE-10  
Client Project ID: NCDOT-Lee  
Lab Sample ID: G204-505-10  
Lab Project ID: G204-505  
Report Basis: Dry Weight

Analyzed By: MJC  
Date Collected: 12/21/05 10:40  
Date Received: 12/22/05  
Matrix: Soil  
Solids 82.46

Analyte	Result MG/KG	Report Limit MG/KG	Prep Method	Dilution Factor	Date Analyzed
Gasoline Range Organics	BQL	7.28	5030	1	12/31/05
Diesel Range Organics	BQL	7.41	3545	1	01/04/06

Reviewed By:   
TPH\_LIMS\_v1 82 XLS 11 of 17

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Volatiles  
by GC 6230D

Client Sample ID: LE-1-GW  
Client Project ID: NCDOT-Lee  
Lab Sample ID: G204-505-11A  
Lab Project ID: G204-505

Analyzed By: MJC  
Date Collected: 12/21/05 10:50  
Date Received: 12/22/05  
Matrix: Water

Analyte	Result ug/L	RL ug/L	Dilution Factor	Date Analyzed
Benzene	6140	2000	4000	12/27/05
Bromobenzene	BQL	40.0	80	12/28/05
Bromochloromethane	BQL	40.0	80	12/28/05
Bromodichloromethane	BQL	40.0	80	12/28/05
Bromoform	BQL	40.0	80	12/28/05
Bromomethane	BQL	40.0	80	12/28/05
n-Butylbenzene	BQL	2000	4000	12/27/05
sec-Butylbenzene	BQL	2000	4000	12/27/05
tert-Butylbenzene	BQL	2000	4000	12/27/05
Carbon tetrachloride	BQL	40.0	80	12/28/05
Chlorobenzene	BQL	40.0	80	12/28/05
Chloroethane	BQL	40.0	80	12/28/05
Chloroform	BQL	40.0	80	12/28/05
Chloromethane	BQL	40.0	80	12/28/05
2-Chlorotoluene	BQL	40.0	80	12/28/05
4-Chlorotoluene	BQL	40.0	80	12/28/05
Dibromochloromethane	BQL	40.0	80	12/28/05
1,2-Dibromo-3-chloropropane	BQL	40.0	80	12/28/05
1,2-Dibromoethane (EDB)	BQL	40.0	80	12/28/05
Dibromomethane	BQL	40.0	80	12/28/05
1,2-Dichlorobenzene	BQL	40.0	80	12/28/05
1,3-Dichlorobenzene	BQL	40.0	80	12/28/05
1,4-Dichlorobenzene	BQL	40.0	80	12/28/05
Dichlorodifluoromethane	BQL	40.0	80	12/28/05
1,1-Dichloroethane	BQL	40.0	80	12/28/05
1,2-Dichloroethane	BQL	40.0	80	12/28/05
1,1-Dichloroethene	BQL	40.0	80	12/28/05
cis-1,2-Dichloroethene	BQL	40.0	80	12/28/05
trans-1,2-Dichloroethene	BQL	40.0	80	12/28/05
1,2-Dichloropropane	BQL	40.0	80	12/28/05
2,2-Dichloropropane	BQL	40.0	80	12/28/05
cis-1,3-Dichloropropene	BQL	40.0	80	12/28/05
trans-1,3-Dichloropropene	BQL	40.0	80	12/28/05
Diisopropyl ether (DIPE)	BQL	2000	4000	12/27/05
Ethylbenzene	BQL	2000	4000	12/27/05
Hexachlorobutadiene	BQL	40.0	80	12/28/05
Isopropylbenzene	BQL	2000	4000	12/27/05
p-Isopropyltoluene	BQL	2000	4000	12/27/05
Methyl-tert butyl ether (MTBE)	BQL	2000	4000	12/27/05

Reviewed By:   
GC\_LIMS\_v2.0.XLS

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Volatiles

by GC 6230D

Client Sample ID: LE-1-GW

Client Project ID: NCDOT-Lee

Lab Sample ID: G204-505-11A

Lab Project ID: G204-505

Analyzed By: MJC

Date Collected: 12/21/05 10:50

Date Received: 12/22/05

Matrix: Water

Analyte	Result ug/L	RL ug/L	Dilution Factor	Date Analyzed
Methylene Chloride	BQL	400	80	12/28/05
Naphthalene	BQL	2000	4000	12/27/05
n-Propylbenzene	BQL	2000	4000	12/27/05
Styrene	BQL	4000	4000	12/27/05
1,1,1,2-Tetrachloroethane	BQL	40.0	80	12/28/05
1,1,2,2-Tetrachloroethane	BQL	40.0	80	12/28/05
Tetrachloroethene	BQL	40.0	80	12/28/05
Toluene	27400	2000	4000	12/27/05
1,2,3-Trichlorobenzene	BQL	40.0	80	12/28/05
1,2,4-Trichlorobenzene	BQL	40.0	80	12/28/05
1,1,1-Trichloroethane	BQL	40.0	80	12/28/05
1,1,2-Trichloroethane	BQL	40.0	80	12/28/05
Trichloroethene	BQL	40.0	80	12/28/05
Trichlorofluoromethane	BQL	40.0	80	12/28/05
1,2,3-Trichloropropane	BQL	40.0	80	12/28/05
1,2,4-Trimethylbenzene	BQL	2000	4000	12/27/05
1,3,5-Trimethylbenzene	BQL	2000	4000	12/27/05
Vinyl Chloride	BQL	40.0	80	12/28/05
m/p-Xylene	4990	4000	4000	12/27/05
o-Xylene	BQL	4000	4000	12/27/05

Surrogate Spike Recoveries

	Spike Added	Spike Result	Percent Recovery
Trifluorotoluene	40	39.9	99.6
1,4-Dichlorobutane	40	43.2	108

Comments:

All values corrected for dilution.  
BQL = Below quantitation limit.

Reviewed By:   
GC\_LIMS\_v2.0.XLS

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Semivolatiles  
by GCMS 625

Client Sample ID: LE-1-GW  
Client Project ID: NCDOT-Lee  
Lab Sample ID: G204-505-11E  
Lab Project ID: G204-505

Analyzed By: MRC  
Date Collected: 12/21/2005 10:50  
Date Received: 12/22/2005  
Date Extracted: 12/27/2005  
Matrix: Water

Compound	Result ug/L	Quantitation Limit ug/L	Dilution Factor	Date Analyzed
Acenaphthene	BQL	10.0	1	12/30/2005
Acenaphthylene	BQL	10.0	1	12/30/2005
Anthracene	BQL	10.0	1	12/30/2005
Benzo[a]anthracene	BQL	10.0	1	12/30/2005
Benzo[a]pyrene	BQL	10.0	1	12/30/2005
Benzo[b]fluoranthene	BQL	10.0	1	12/30/2005
Benzo[g,h,i]perylene	BQL	10.0	1	12/30/2005
Benzo[k]fluoranthene	BQL	10.0	1	12/30/2005
Bis(2-chloroethoxy)methane	BQL	10.0	1	12/30/2005
Bis(2-chloroethyl)ether	BQL	10.0	1	12/30/2005
Bis(2-chloroisopropyl)ether	BQL	10.0	1	12/30/2005
Bis(2-ethylhexyl)phthalate	BQL	10.0	1	12/30/2005
4-bromophenyl phenyl ether	BQL	10.0	1	12/30/2005
Butylbenzylphthalate	BQL	10.0	1	12/30/2005
2-Chloronaphthalene	BQL	10.0	1	12/30/2005
2-Chlorophenol	BQL	10.0	1	12/30/2005
4-Chloro-3-methylphenol	BQL	10.0	1	12/30/2005
4-Chlorophenyl phenyl ether	BQL	10.0	1	12/30/2005
Chrysene	BQL	10.0	1	12/30/2005
Dibenzo[a,h]anthracene	BQL	10.0	1	12/30/2005
Di-n-Butylphthalate	BQL	10.0	1	12/30/2005
1,2-Dichlorobenzene	BQL	10.0	1	12/30/2005
1,3-Dichlorobenzene	BQL	10.0	1	12/30/2005
1,4-Dichlorobenzene	BQL	10.0	1	12/30/2005
3,3'-Dichlorobenzidine	BQL	20.0	1	12/30/2005
2,4-Dichlorophenol	BQL	10.0	1	12/30/2005
Diethylphthalate	BQL	10.0	1	12/30/2005
Dimethylphthalate	BQL	10.0	1	12/30/2005
2,4-Dimethylphenol	11.3	10.0	1	12/30/2005
Di-n-octylphthalate	BQL	10.0	1	12/30/2005
4,6-Dinitro-2-methylphenol	BQL	50.0	1	12/30/2005
2,4-Dinitrophenol	BQL	50.0	1	12/30/2005
2,4-Dinitrotoluene	BQL	10.0	1	12/30/2005
2,6-Dinitrotoluene	BQL	10.0	1	12/30/2005
Diphenylamine *	BQL	10.0	1	12/30/2005
Fluoranthene	BQL	10.0	1	12/30/2005
Fluorene	BQL	10.0	1	12/30/2005
Hexachlorobenzene	BQL	10.0	1	12/30/2005
Hexachlorobutadiene	BQL	10.0	1	12/30/2005
Hexachlorocyclopentadiene	BQL	20.0	1	12/30/2005
Hexachloroethane	BQL	10.0	1	12/30/2005
Indeno(1,2,3-c,d)pyrene	BQL	10.0	1	12/30/2005

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Semivolatiles  
by GCMS 625

Client Sample ID: LE-1-GW  
Client Project ID: NCDOT-Lee  
Lab Sample ID: G204-505-11E  
Lab Project ID: G204-505

Analyzed By: MRC  
Date Collected: 12/21/2005 10:50  
Date Received: 12/22/2005  
Date Extracted: 12/27/2005  
Matrix: Water

Compound	Result ug/L	Quantitation Limit ug/L	Dilution Factor	Date Analyzed
Isophorone	BQL	10.0	1	12/30/2005
Naphthalene	454	10.0	1	12/30/2005
Nitrobenzene	BQL	10.0	1	12/30/2005
2-Nitrophenol	BQL	10.0	1	12/30/2005
4-Nitrophenol	BQL	50.0	1	12/30/2005
N-Nitrosodi-n-propylamine	BQL	10.0	1	12/30/2005
Pentachlorophenol	BQL	50.0	1	12/30/2005
Phenanthrene	BQL	10.0	1	12/30/2005
Phenol	15.8	10.0	1	12/30/2005
Pyrene	BQL	10.0	1	12/30/2005
1,2,4-Trichlorobenzene	BQL	10.0	1	12/30/2005
2,4,6-Trichlorophenol	BQL	10.0	1	12/30/2005

	Spike Added	Spike Result	Percent Recovered
2-Fluorobiphenyl	10	6.7	67
2-Fluorophenol	10	7.6	76
Nitrobenzene-d5	10	9.7	97
Phenol-d5	10	7.5	75
2,4,6-Tribromophenol	10	8.8	88
4-Terphenyl-d14	10	8.7	87

Comments:

\* N-Nitrosodiphenylamine is reported as the breakdown product Diphenylamine.

Flags:

BQL = Below Quantitation Limits.

Reviewed By: 

List of Reporting Abbreviations  
and Data Qualifiers

B = Compound also detected in batch blank

BQL = Below Quantitation Limit

DF = Dilution Factor

Dup = Duplicate

D = Detected, but RPD is > 40% between results in dual column method.

E = Estimated concentration, exceeds calibration range.

J = Estimated concentration, below calibration range and above MDL

LCS(D) = Laboratory Control Spike (Duplicate)

MDL = Method Detection Limit

MS(D) = Matrix Spike (Duplicate)

PQL = Practical Quantitation Limit

RL = Reporting Limit

RPD = Relative Percent Difference

mg/kg = milligram per kilogram, ppm, parts per million

ug/kg = micrograms per kilogram, ppb, parts per billion

mg/L = milligram per liter, ppm, parts per million

ug/L = micrograms per liter, ppb, parts per billion

% Rec = Percent Recovery

% solids = Percent Solids

Special Notes:

- 1) Metals and mercury samples are digested with a hot block, see the standard operating procedure document for details.
- 2) Uncertainty for all reported data is less than or equal to 30 percent.



Client: EMERY TECH Project ID: NC01T-LEE Date: 12/21/05 Report To: Mike Bannon  
 Address: 701 Carpenter's Circle DeConto Contact: Mike Bannon Turnaround: 5 HOURS  
 Address: Suite 475 Phone: 919 654 6238 Job Number: 90389 Invoice To: EMERY TECH  
 Quote #: Raleigh, NC 27607 Fax: 919 654 6259 P.O. Number: WMS # 34440.1.1

PARADIGM ANALYTICAL LABORATORIES, INC.

Sample ID	Date	Time	Matrix	Preservatives		Analyses			Comments: Please specify any special reporting requirements													
LE-1	12/21/05	0921	Soil	HCL		DRO	GRO	6290	625													
LE-2		0920	Soil																			
LE-3		0930	Soil																			
LE-4		0940	Soil																			
LE-5		0950	Soil																			
LE-6		1000	Soil																			
LE-7		1010	Soil																			
LE-8		1020	Soil																			
LE-9		1030	Soil																			
LE-10		1040	Soil																			
LE-16a		1050	Soil																			
Refringished By	Date	Time	Time	Received By	Date	Time	Temperature	State Certification Requested			Comments: Please specify any special reporting requirements											
<u>MMBannon</u>	12/21/05	700		<u>John Bannon</u>	12/21/05	1330	28.8°C	NC	X	SC		Other		ADVANCE WITH URGE Blanket PD								

ORIGINAL

SEE REVERSE FOR TERMS AND CONDITIONS