

August 23, 2007

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

Reference: Preliminary Site Assessment

Clifton Wayne Henderson Property (Parcel #017)

310 Virgilina Road

Roxboro, Person County, North Carolina

NCDOT Project R-2241A WBS Element 34406.1.1

Earth Tech Project No. 100407

Dear Mr. Moore:

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 June 6, 2007, and the North Carolina Department of Transportation's (NCDOT's) Notice to Proceed dated June 6, 2007. Activities associated with the assessment consisted of conducting a geophysical investigation, collecting soil 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 Clifton Wayne Henderson Property (Parcel #017) is located at 310 Virgilina Road (NC 49) in Roxboro, North Carolina. The property is situated on the north side of Virgilina Road approximately 0.4 kilometers (¼ mile) east of the intersection of Virgilina Road and US 501 (Figure 1). Based on information supplied by the NCDOT and the site visit, Earth Tech understands that the site may have been a former gas station. Evidence suggesting this past usage included two sign poles and apparent vent pipe brackets. The site consists of a single-story building with a church (Temple of Deliverance in Jesus Christ) occupying the eastern half of the structure and storage in the western half. A gravel parking area encompasses the front of the building. Earth Tech was advised that the proposed right-of-way and easement will affect the building and parking area. As a result, the NCDOT requested a Preliminary Site Assessment.



Earth Tech reviewed the North Carolina Department of Environment and Natural Resources (NCDENR) Incident Management database and no incident number was assigned to the site. Earth Tech also reviewed the UST registration database, which revealed that no tanks have been registered for the property.

Geophysical Survey

Prior to Earth Tech's mobilization to the site, Pyramid Environmental conducted a geophysical survey as part of this project to evaluate if USTs were present on the proposed right-of-way. The geophysical survey consisted of an electromagnetic survey using a Geonics EM61 time-domain electromagnetic induction meter to locate buried metallic objects, specifically USTs. A survey grid was laid out at the property with the X-axis oriented approximately parallel to Virgilina Road and the Y-axis oriented approximately perpendicular to Virgilina Road. The grid was located to cover the accessible portions of the proposed right-of-way. The survey lines were spaced 1.5 meters (5 feet) apart. Magnetic data was collected continuously along each survey line with a data logger. After collection, the data was reviewed in the field with graphical computer software. Following the electromagnetic survey, a ground penetrating radar (GPR) survey was conducted to further evaluate any significant metallic anomalies, if necessary.

Several anomalies were detected in the geophysical survey. With the exception of two areas, these anomalies were generally attributed to buried utility lines or conduits. Significant electromagnetic anomalies were detected in front of the building under a concrete slab at the entrance to the church and on the west side of the building. Closer investigation with the GPR indicated that two USTs may be present under the concrete and one UST may be present on the west side of the building. The potential USTs below the concrete appear to be about 1.0 meter (3 feet) in diameter and 3.0 meters (10 feet) long. These dimensions suggest that the USTs are a nominal 3785 liters (1000 gallons) in size. The potential UST at the west side of the building appears to be about 1.0 meters (3 feet) in diameter and about 1.8 meters (6 feet) long. These dimensions suggest that the UST is a nominal 1135 liters (300 gallons) in size. The survey concluded that no other metallic USTs were present on the proposed right-of-way or easement. A detailed report of findings and interpretations is presented in Attachment A.

Site Assessment Activities

On July 10, 2007, Earth Tech mobilized to the site to conduct a Geoprobe[®] direct push investigation to evaluate soil conditions within the proposed right-of-way and easement. 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 1.2-meter (4-foot) long acetate sleeves inside the direct push sampler. Each of these sleeves was divided in half for soil sample screening. Each 0.6-meter (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/photo ionization detector (FID/PID) 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/PID reading was submitted to Prism Laboratories, Inc., in Charlotte, North Carolina, using standard chain-of-custody procedures. The laboratory analyzed the soil samples for total petroleum hydrocarbons (TPH) in the diesel range organics (DRO) and gasoline range organics (GRO).

Ten direct-push holes (NN-1 through NN-10) were advanced within the proposed right-of-way to a depth of 1.2 to 3.6 meters (4 to 12 feet) as shown in Figure 2 and Attachment B. The borings were located to evaluate the area adjacent to the geophysical anomalies and proposed drop inlets within the easement (Attachment C). Borings NN-1, NN-2, and NN-3 were located to evaluate the soil conditions surrounding the geophysical anomaly at the church entrance; borings NN-4 through NN-8 were placed to assess soil conditions at proposed drop inlet locations within the right-ofway/easement; and borings NN-9 and NN-10 were placed to evaluate the soil conditions near the geophysical anomaly on the west side of the building. The lithology encountered by the direct-push samples generally was consistent throughout the site. The ground surface was covered with about 20 centimeters (8 inches) of gravel or topsoil. Below the surface treatment to a depth of about 0.6 to 1.2 meters (2 to 4 feet) was a medium to dark brown silt. Below this unit was a mottled medium brown, reddish brown, and yellow silt/clay. Borings NN-9 and NN-10 encountered plastic clay at a depth of about 0.6 meters (2 feet). Borings NN-1 through NN-5 were terminated at a depth of 3.6 meters (12 feet). Boring NN-6 was terminated at equipment refusal at 2.4 meters (8 feet). Borings NN-7, NN-8, NN-9, and NN-10 were terminated at groundwater at a depth of 1.2 to 1.8 meters (4 to 6 feet). Based on field screening, soil samples were submitted for laboratory analysis, which are summarized in Table 1.

Analytical Results

Based on the laboratory reports, summarized in Table 1 and presented in Attachment D, petroleum hydrocarbon compounds identified as DRO and/or GRO were detected in four of the ten soil samples collected from the site (Figure 3). 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 milligrams per kilogram (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. Soil samples collected from borings NN-8 (640 mg/kg) and NN-9 (19 mg/kg) contained a DRO concentration above the 10 mg/kg assumed action level. The soil sample collected from boring NN-8 (47 mg/kg) contained a GRO concentration above the assumed action level.



Conclusions and Recommendations

A Preliminary Site Assessment was conducted to evaluate the Clifton Wayne Henderson Property (Parcel #017) located at 310 Virgilina Road in Roxboro, Person County, North Carolina. Ten soil borings were advanced to evaluate the soil conditions with respect to the geophysical anomalies/potential USTs and within the proposed right-of-way. The laboratory reports of the soil samples from these borings suggest that DRO and/or GRO concentrations were present above the assumed action level in two of the ten soil samples analyzed.

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 NN-8 and NN-9 contained TPH concentrations identified as DRO and/or GRO above the assumed action level. Boring NN-8 is located at a proposed drop inlet in a swampy area and boring NN-9 is located near the potential UST on the west side of the building. A review of the field screening readings (Table 1) and Figure 3 suggests that the thickness of the potentially contaminated soil is about 0.6 meters (2 feet). In order to calculate the volume of potentially contaminated soil, a planimeter was used to obtain the surface area affected as shown on Figure 3 in square meters. This measurement was then multiplied by the potential contaminant thickness for a total volumetric calculation. Based on the planimetric measurements (151 square meters for the two areas) and contaminated soil thickness, Earth Tech estimates a total contaminated soil volume for the site to be approximately 91 cubic meters (120 cubic yards). The volume of potentially affected soil was estimated based on the 10 mg/kg isoconcentration contour shown on Figure 3 and the planimetric measurements within that boundary. 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 compounds were detected above the applicable action levels in the soil samples, Earth Tech recommends that a copy of this report be submitted to the Division of Waste Management, UST Section, in the Raleigh Regional Office. If you have any questions, please contact me at (919)854-6238.

Sincerely,

Michael W. Branson, P.G.

Michael W. Brown

Project Manager

Attachments

c: Project File

TABLE 1

SOIL FIELD SCREENING AND ANALYTICAL RESULTS CLIFTON WAYNE HENDERSON PROPERTY (PARCEL #017) ROXBORO, PERSON COUNTY, NORTH CAROLINA NCDOT PROJECT NO. R-2241A WBS ELEMENT 34406.1.1 EARTH TECH PROJECT NO. 100407

LOCATION	DEPTH (m)	FID READING	SAMPLE ID	ANALYTICAL	ASSUMED
LOCATION	DEI III (III)	(ppm)	STAINT EL ID	RESULTS	ACTION LEVEL
		(ррш)		(mg/kg)	(mg/kg)
NN-1	0 - 0.6	1.63		(mg/kg)	(mg/kg)
1414-1	0.6 - 1.2	1.46	NN-1	DRO (BQL)	10
	0.0 1.2	1.10	1111 1	GRO (BQL)	10
	1.2 - 1.8	1.59			
	1.8 - 2.4	1.48			
	2.4 - 3.0	1.58			
	3.0 - 3.6	1.21			
NN-2	0 - 0.6	2.16			
	0.6 - 1.2	2.44	NN-2	DRO (BQL) GRO (BQL)	10 10
	1.2 - 1.8	2.39			
	1.8 - 2.4	2.17			
	2.4 - 3.0	1.75			
	3.0 - 3.6	1.27			
NN-3	0 - 0.6	1.29			
	0.6 - 1.2	1.55			
	1.2 - 1.8	1.9	NN-3	DRO (BQL) GRO (BQL)	10 10
	1.8 - 2.4	1.57			
	2.4 - 3.0	1.16			
	3.0 - 3.6	0.51			
NN-4	0 - 0.6	1.59			
	0.6 - 1.2	2.02	NN-4	DRO (BQL)	10
				GRO (BQL)	10
	1.2 - 1.8	1.45			
	1.8 - 2.4	1.82			
	2.4 - 3.0	1.38			
	3.0 - 3.6	1.34			
NN-5	0 - 0.6	2.07	NN-5	DRO (BQL) GRO (BQL)	10 10
	0.6 - 1.2	1.96		ene (EQE)	10
	1.2 - 1.8	1.68			
	1.8 - 2.4	1.98			
	2.4 - 3.0	1.96			
	3.0 - 3.6	1.58			
NN-6	0 - 0.6	14.71			
	0.6 - 1.2	9.48			
	1.2 - 1.8	13.77			
	1.8 - 2.4	133	NN-6	DRO (BQL) GRO (BQL)	10 10
NN-7	0 - 0.6	0.18		/	
	0.6 - 1.2	0.54	NN-7	DRO (9.5)	10
				GRO (BQL)	10
NN-8	0 - 0.6	9.28			
	0.6 - 1.2	755	NN-8	DRO (640) GRO (47)	10 10
NN-9	0 - 0.6	2.74	NN-9	DRO (19)	10
				GRO (BQL)	10

NN-10

DRO (6.9^J)

GRO (BQL)

10

10

Soil samples were collected on July 10, 2007.

0.6 - 1.2

1.2 - 1.8

0 - 0.6

0.6 - 1.2

0.25

1.97

0.82

14

DRO - Diesel range organics.

GRO - Gasoline range organics.

BQL - Below quantitation limit.

ppm - parts per million.

mg/kg - milligrams per kilogram.

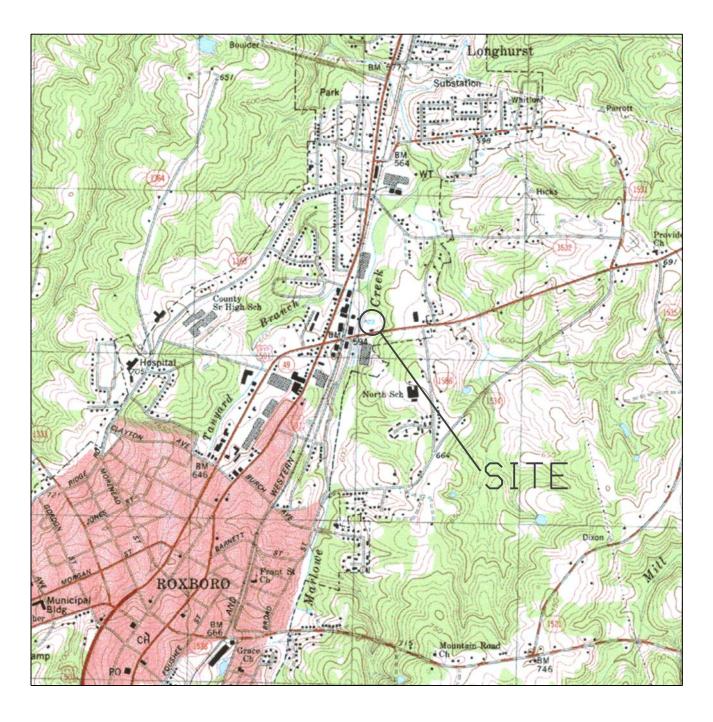
J = Estimated value.

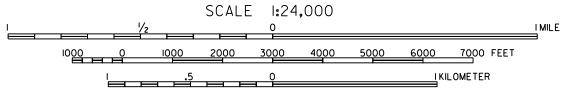
NN-10

 \boldsymbol{BOLD} values are above the assumed action level.









SOURCE: U.S. GEOLOGICAL SURVEY 7.5 MIN QUADRANGLE: ROXBORO, NC (1982)

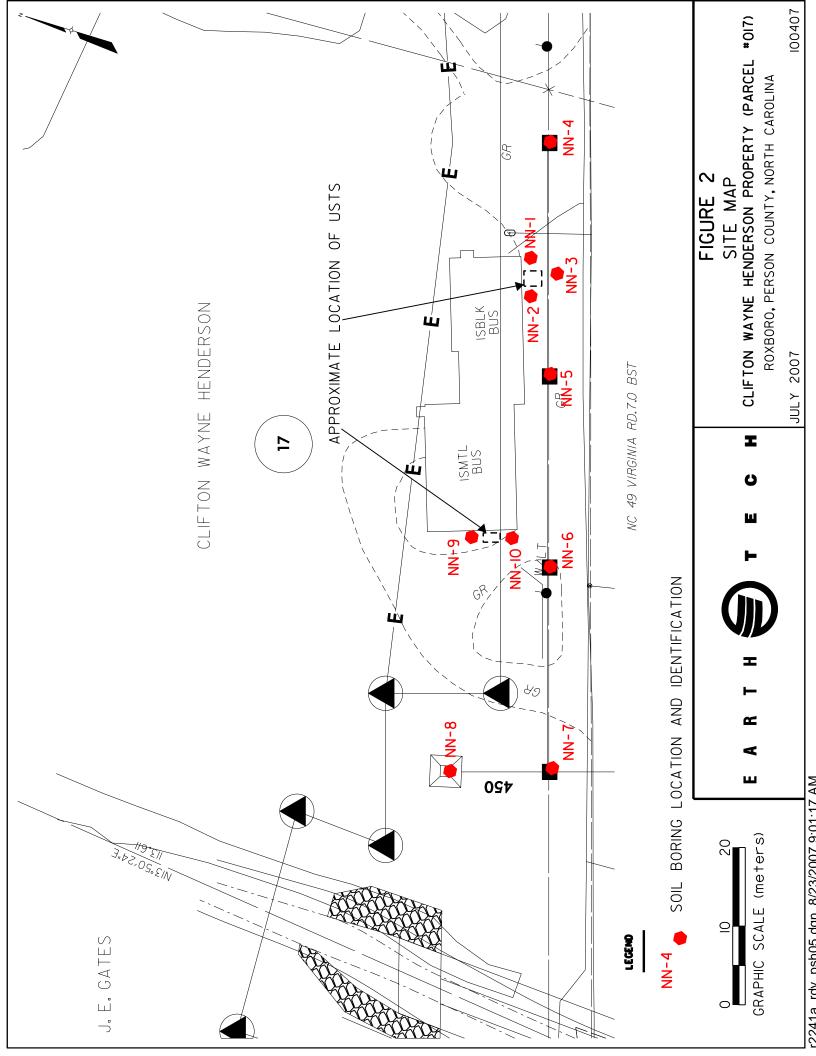


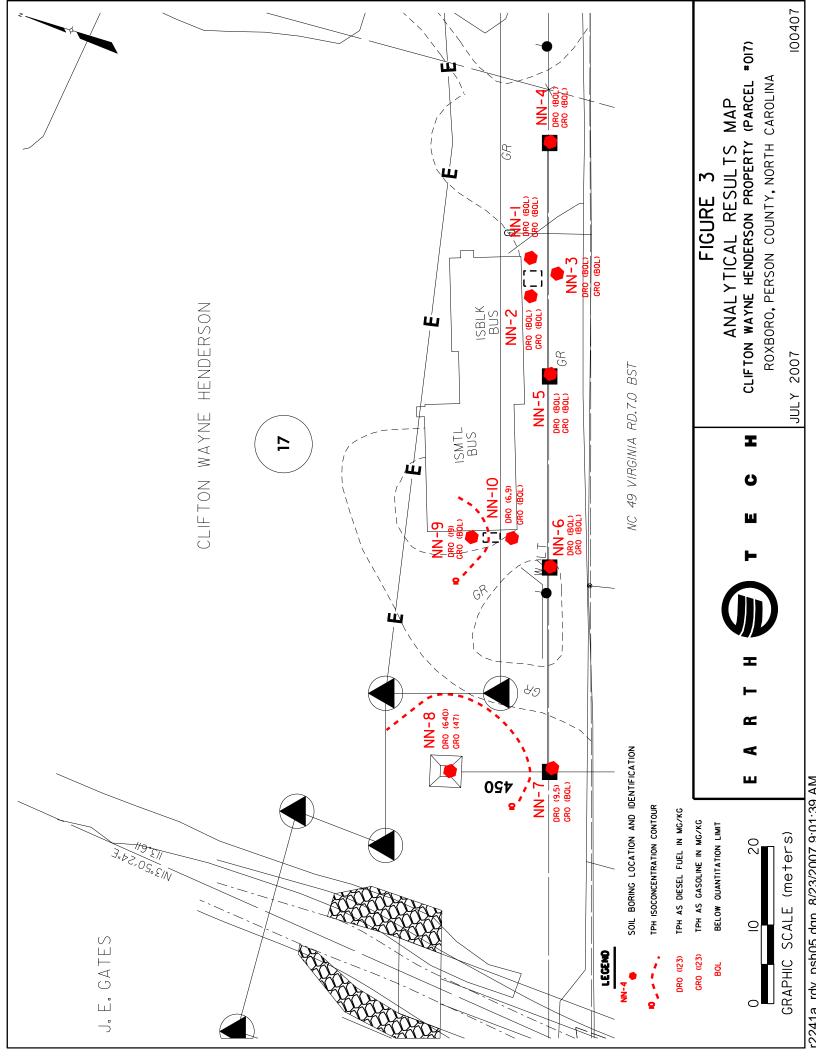
FIGURE I VICINITY MAP

CLIFTON WAYNE HENDERSON PROPERTY (PARCEL #017) ROXBORO, PERSON COUNTY, NORTH CAROLINA

JULY 2007

100407







GEOPHYSICAL INVESTIGATION REPORT

EM61 & GPR SURVEYS

CLIFTON WAYNE HENDERSON (PARCEL 17) Roxboro, North Carolina

July 16, 2007

Report prepared for: Mike Branson

Earth Tech, Inc.

701 Corporate Center Drive, Suite 475

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Reviewed by:		
•	Douglas Canavello, PG	

PYRAMID ENVIRONMENTAL & ENGINEERING, P.C. 700 NORTH EUGENE ST. GREENSBORO, NC 27401 (336) 335-3174

Earth Tech of North Carolina, Inc. GEOPHYSICAL INVESTIGATION REPORT CLIFTON WAYNE HENDERSON PROPERTY (PARCEL 17) Roxboro, North Carolina

TABLE OF CONTENTS

1.0	INTRODUCTION	
1.0	INTRODUCTION	

- 2.0 FIELD METHODOLOGY
- 3.0 DISCUSSION OF RESULTS
- 4.0 SUMMARY & CONCLUSIONS
- 5.0 LIMITATIONS

FIGURES

Figure 1	Geophysical Equipment & Site Photographs
Figure 2	EM61 Bottom Coil Results
Figure 3	EM61 Differential Results
Figure 4	Probable or Possible UST locations

1.0 INTRODUCTION

Pyramid Environmental conducted geophysical investigations for Earth Tech of North Carolina, Inc. within the proposed Right-of-Way (ROW) area at the Clifton Wayne Henderson property (Parcel 17) located along the north side of NC 49 (Virginia Road) in Roxboro, North Carolina. The site consists of an active church surrounded by a grass-covered field and a gravel/grass covered parking area. The geophysical investigation was conducted during the period of June 21-27, 2007 to determine if unknown, metallic, underground storage tanks (USTs) were present beneath the proposed ROW area of the property. The work was done as part of the North Carolina Department of Transportation (NCDOT) road-widening project.

Earth Tech's representative Mr. Michael Branson, PG, provided site maps that outlined the geophysical survey area (ROW area) of the site and visited the site with a Pyramid Environmental representative prior to conducting the investigation. Photographs of the Clifton Wayne Henderson property (Parcel 17) and the geophysical equipment used at this site are shown in **Figure 1**.

2.0 FIELD METHODOLOGY

Prior to conducting the geophysical investigation, a 10-foot by 10-foot survey grid was established across the proposed ROW area of Parcel 17 using water-based marking paint and pin flags. These marks were used as X-Y coordinates for location control when collecting the geophysical data and establishing base maps for the geophysical results.

The geophysical investigations consisted of electromagnetic (EM) induction-metal detection surveys and ground penetrating radar (GPR) surveys. The EM surveys were performed on June 21, 2007, using a Geonics EM61-MK1 metal detection instrument. According to the instrument specifications, the EM61 can detect a metal drum down to a maximum depth of approximately 8 feet. The EM61 data were digitally collected along easterly-westerly parallel survey lines spaced five feet apart. The data were downloaded to a computer and reviewed in the office using the Geonics DAT61W and Surfer for Windows Version 7.0 software programs.

Contour plots of the EM61 bottom coil results and the EM61 differential results for Parcel 17 are presented in **Figures 2 and 3**, respectively. The bottom coil results represent the most sensitive component of the EM61 instrument and detect metal objects regardless of size. The bottom coil response can be used to delineate metal conduits or utility lines, small, isolated metal objects, and areas containing insignificant metal debris.

The differential results are obtained from the difference between the top and bottom coils of the EM61 instrument. The differential results focus on the larger metal objects such as drums and USTs and ignore the smaller insignificant metal objects.

GPR surveys were conducted on June 27, 2007, across selected EM61 differential anomalies using a GSSI SIR-2000 unit equipped with a 400 MHz antenna. GPR reconnaissance was conducted in the area behind the church which contained a significant amount of surface objects and debris. GPR data were digitally collected in a continuous mode along X and/or Y survey lines, spaced two to five feet apart using a vertical scan of 512 samples, at a rate of 48 scans per second. An 80 MHz high pass filter and an 800 MHz low pass filter were used during data acquisition with the 400 MHz antenna. GPR data were collected down to a maximum depth of approximately five feet, based on an estimated two-way travel time of 9 nanoseconds per foot. The GPR data were downloaded to a field computer and later reviewed in the field and office using Radprint software. The locations of the GPR lines acquired and the GPR recon area at Parcel 17 are shown as solid purple lines and a solid purple polygon in Figure 3.

Preliminary contour plots of the EM61 bottom coil and the differential results for the site were emailed to Mr. Branson during the week of July 2, 2007.

3.0 <u>DISCUSSION OF RESULTS</u>

The linear EM61 anomaly along the edge of NC 49 is probably in response to buried utility lines. GPR data suggest the linear EM61 anomalies intersecting grid coordinates X=150 Y=55 and X=240

Y=95 are possible in response to buried conduits. GPR data suggest the EM61 anomalies located within the western portion of the site, from grid line X=10 to X=140, are probably in response to short conduits and/or buried miscellaneous debris. GPR data suggest the high amplitude anomaly centered near grid coordinates X=278 Y=32, is probably in response to two metallic USTs buried approximately 1.4 and 1.6 feet below surface. The GPR results suggest the USTs are approximately 10 feet long and 3 feet wide.

GPR surveys also suggest the presence of a probable, large diameter conduit or a possible small UST centered near grid coordinates X=168 Y=56 and buried approximately 1.0 feet below surface. The probable conduit or possible UST is approximately 6 feet long and 3 feet wide. Images of GPR survey lines across the probable and possible USTs and photographs showing the locations of the probable and possible USTs are presented in **Figure 4**.

GPR data suggest that the remaining EM61 anomalies are probably in response to known cultural features or to buried miscellaneous debris.

4.0 SUMMARY & CONCLUSIONS

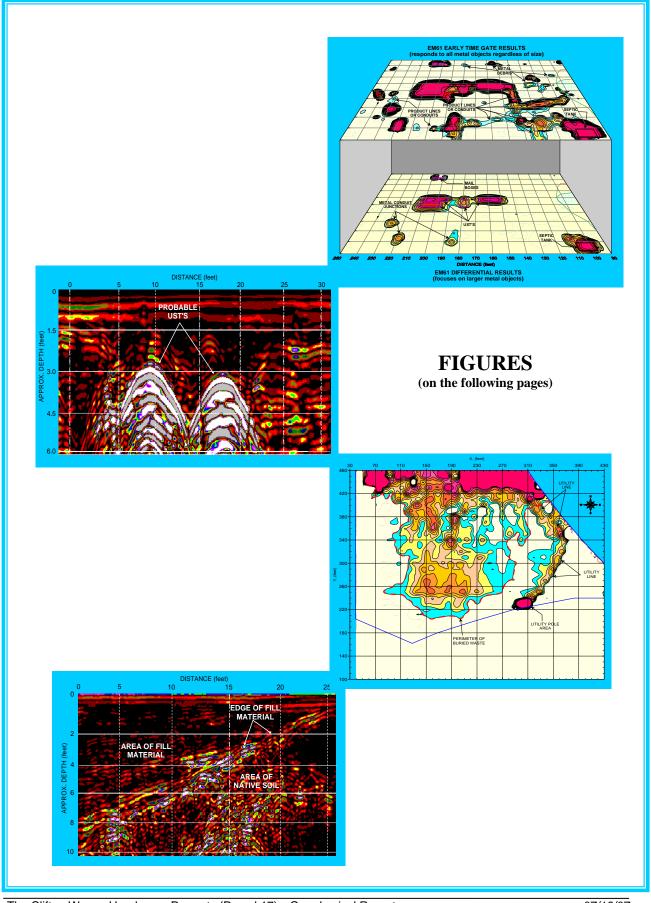
Our evaluation of the EM61 and GPR data collected across the proposed ROW area at the Clifton Wayne Henderson property (Parcel 17) located in Roxboro, North Carolina, provides the following summary and conclusions:

- The EM61 and GPR surveys provided reliable results for the detection of metallic USTs within the surveyed portions of the proposed ROW area of the site.
- GPR data suggest the EM61 anomalies located within the western portion of the site, from grid line X=10 to X=140, are probably in response to short conduits and/or buried miscellaneous debris.

- GPR data suggest the high amplitude anomaly centered near grid coordinates X=278 Y=32, is probably in response to two metallic USTs buried approximately 1.4 and 1.6 feet below surface. The GPR results suggest the USTs are approximately 10 feet long and 3 feet wide.
- GPR surveys also suggest the presence of a probable, large diameter conduit or a possible small UST centered near grid coordinates X=168 Y=56 and buried approximately 1.0 feet below surface. The probable conduit or possible UST is approximately 6 feet long and 3 feet wide.
- GPR data suggest that the remaining EM61 anomalies are probably in response to known cultural features or to buried miscellaneous debris.

5.0 LIMITATIONS

EM61 and GPR surveys have been performed and this report prepared for Earth Tech of North Carolina, Inc. in accordance with generally accepted guidelines for EM61 and GPR surveys. It is generally recognized that the results of the EM61 and GPR are non-unique and may not represent actual subsurface conditions. The EM61 and GPR results obtained for this project do not conclusively determine that all of the metallic USTs were detected but suggest the presence of two probable USTs and one possible UST were detected within the proposed ROW area of the site.



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The photo shows the Geonics EM61 metal detector that was used to conduct the metal detection survey at Parcel 17 on June 21, 2007.



The photos show the SIR-2000 GPR system equipped with a 400 MHz antenna that were used to conduct the ground penetrating radar investigation at Parcel 17 on June 27, 2007.

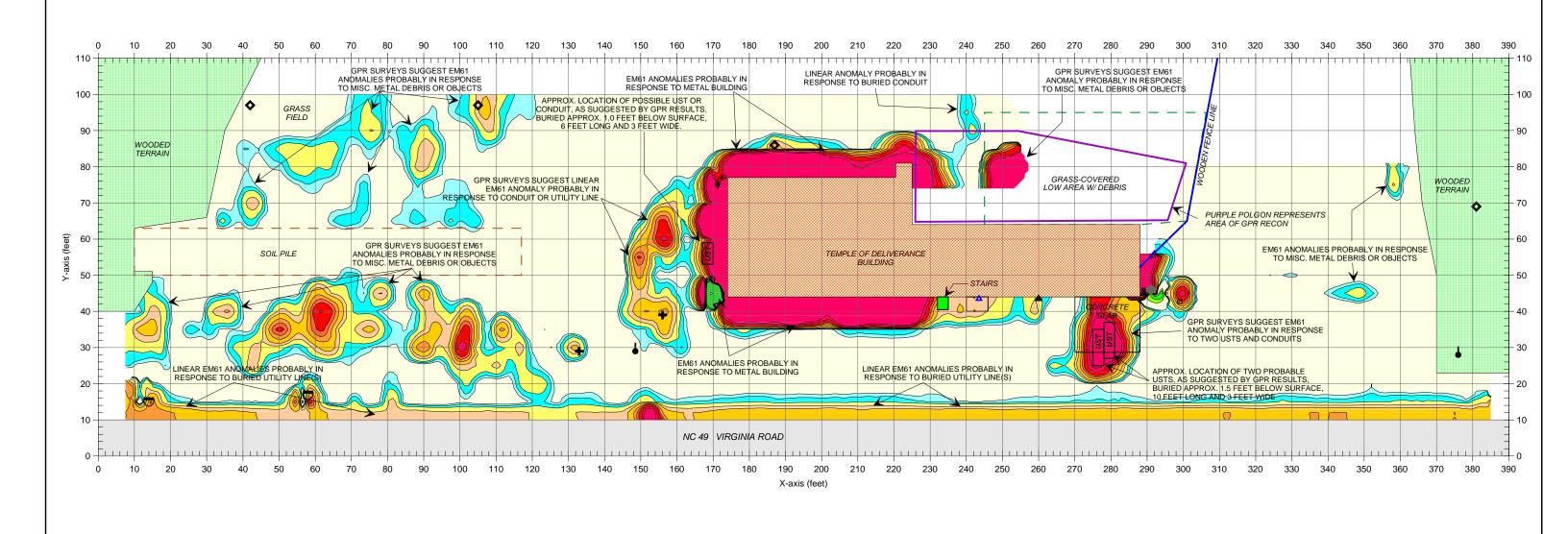


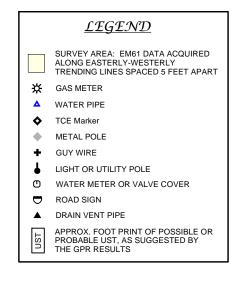
The photo shows a portion of the geophysical survey area located at Parcel 17. The photo is viewed in a northwesterly direction.

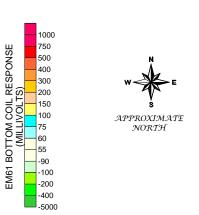


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l	SITE	CLIFTON HENDERSON PROPERTY - PARCEL 17	ž	OH:KD		ALE IN FE	
l	CII	ROXBORO	DWG			GRAPHIC SCALE IN FEET	
	TITLE	GEOPHYSICAL RESULTS	-NO	2007-163		GR	

PHOTOGRAPHS OF GEOPHYSICAL EQUIPMENT & SURVEY AREA







Note: The contour plot shows the bottom coil (most sensitive) response of the EM61 instrument in millivolts (mV). The bottom coil response shows buried metallic objects regardless of size. The EM metal detection data were collected on June 21, 2007 using a Geonics EM61 instrument. Ground penetrating radar (GPR) data were acquired on June 27, 2007 using a Geophysical Survey Systems SIR 2000 instrument with a 400 MHz antenna.

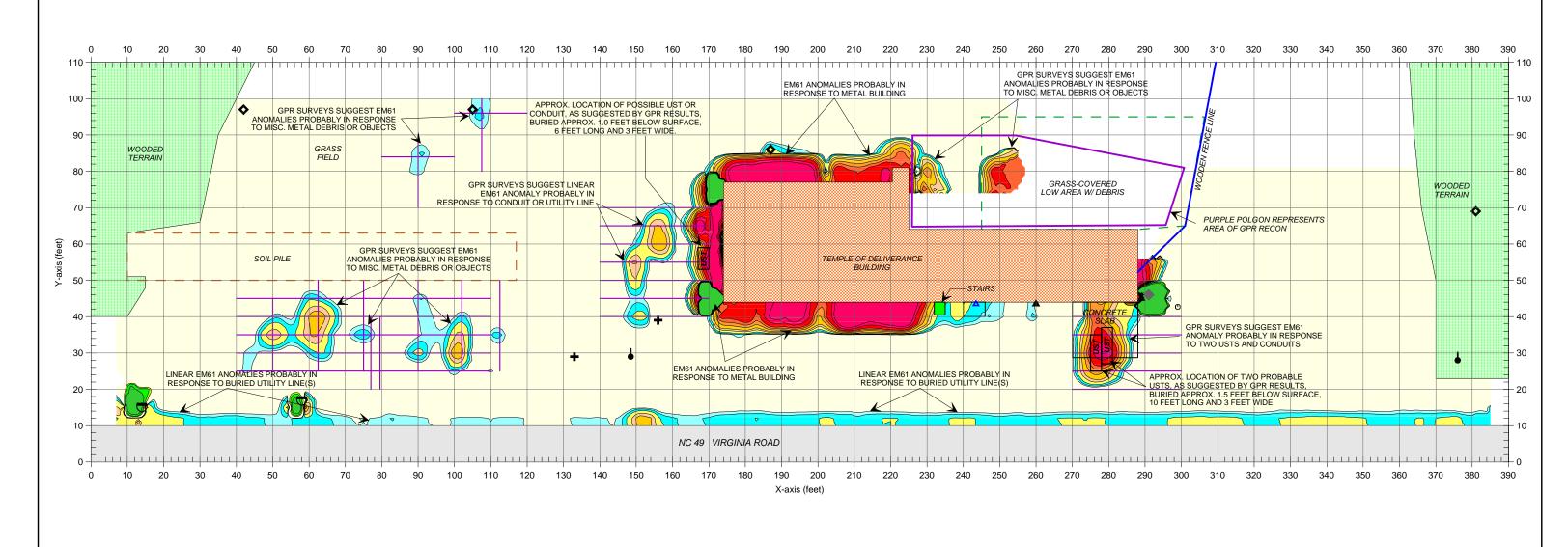
The geophysical results suggest the presence of two probable USTs and one possible UST within the proposed ROW.

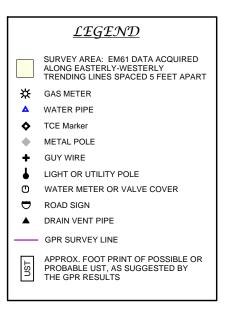


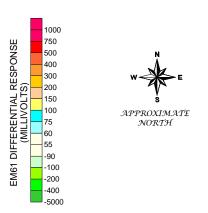
	CLIENT	EARTH TECH OF NORTH CAROLINA, INC.	07/02/07 MJD	2
	SITE	CLIFTON HENDERSON PROPERTY - PARCEL 17	CH'KD CH'KD	TE IN IN.
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P.C.	тт	GEOPHYSICAL RESULTS	2007-163 BB 2007-163	فُ
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EM61 BOTTOM COIL RESULTS

FIGURE 2







Note: The contour plot shows the differential response between the bottom and top coils of the EM61 instrument in millivolts (mV). The differential response focuses on larger, buried metallic objects such as drums and UST's and ignores smaller miscellaneous, buried, metal debris. The EM61 data were collected on June 21, 2007 using a Geonics EM61 instrument. Ground penetrating radar (GPR) data were acquired on June 27, 2007 using a Geophysical Survey Systems SIR 2000 instrument with a 400 MHz antenna.

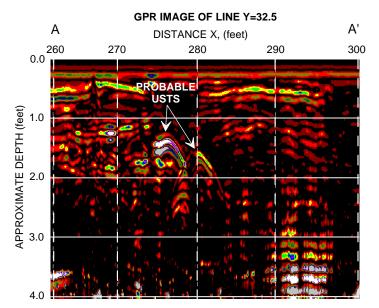
The geophysical results suggest the presence of two probable USTs and one possible UST within the proposed ROW.

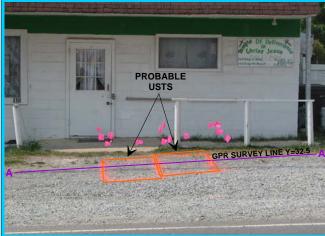


	CLIENT	EARTH TECH OF NORTH CAROLINA, INC.	07/02/07 NM MJD	METERS
	SITE	CLIFTON HENDERSON PROPERTY - PARCEL 17	GH'KD GH'KD	LE IN MET
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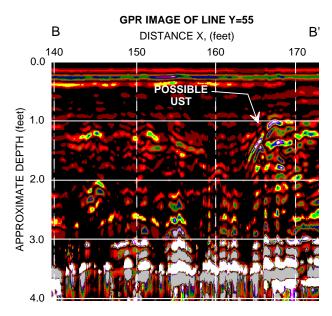
EM61 DIFFERENTIAL RESULTS

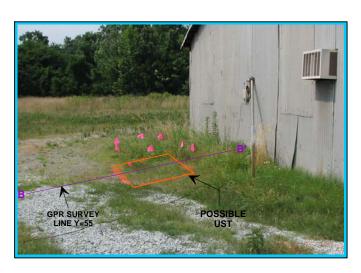
FIGURE 3





The GPR image obtained along a portion of survey line Y=32.5 shows two hyperbolic anomalies centered near coordinate X=78 that are probably in response to metallic USTs or wide diameter conduits buried approximately 1.4 and 1.6 feet below surface. Based on the GPR data, the USTs appear to be 10 feet long and 3 feet wide. The location of the probable USTs and GPR survey line Y=32.5 are shown in the above photograph. The photograph is veiwed in a northerly direction.



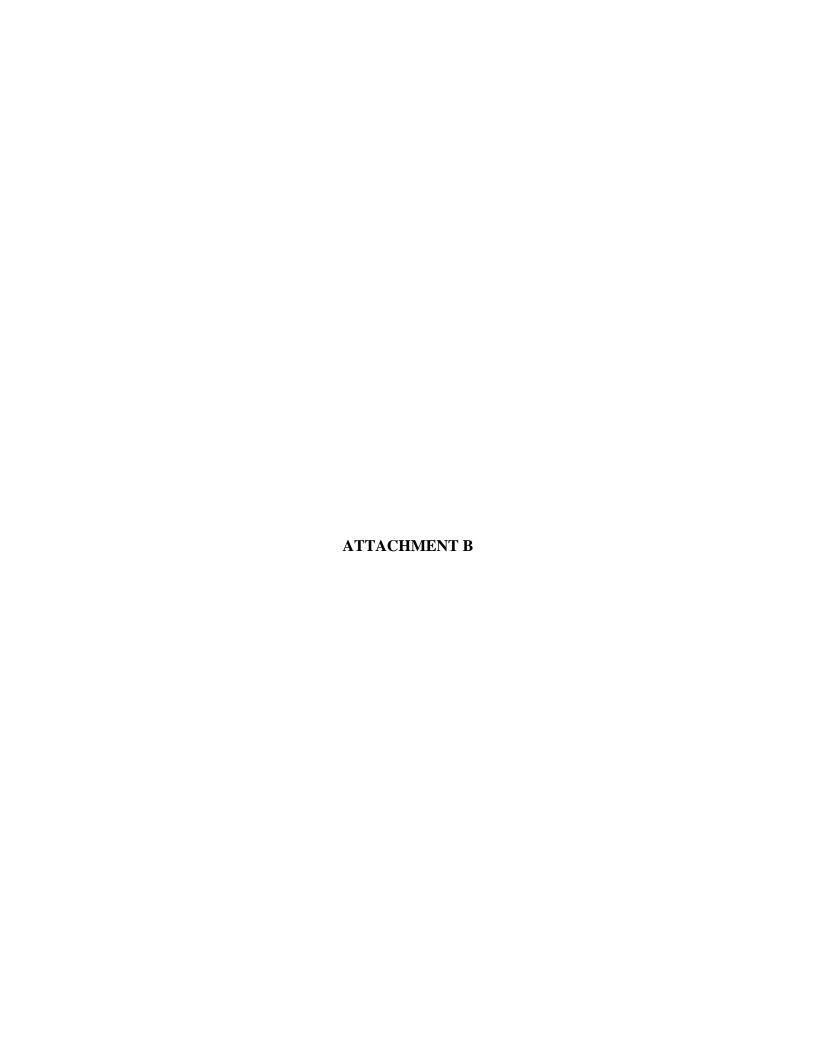


The GPR image obtained along a portion of survey line Y=55 shows a hyperbolic anomaly centered near coordinate X=166 that may possibly be in response to a metallic UST or wide diameter conduit buried approximately 1.0 feet below surface. Based on the GPR data, the possible UST or conduit appears to be 6 feet long and 3 feet wide. The location of the possible UST or conduit and GPR survey line Y=55 are shown in the above photograph. The photograph is veiwed in a northerly direction.



CLIENT	EARTH TECH OF NORTH CAROLINA, INC.	07/13/07 MJD	L.	
SITE	CLIFTON HENDERSON PROPERTY - PARCEL 17	GH'KO GH'KO	ALE IN FEE	
СПТ	ROXBORO	DWG	APHIC SC,	
ЭТШ	GEOPHYSICAL RESULTS	2007-163	GR	

PROBABLE OR POSSIBLE UST LOCATIONS



PROJE	CT HENI	DERSON PI	ROPERTY	(PARCEL	BORING NUMBER NN-1
CLIEN	T NCDO	Γ (R-2241A))		PAGE 1
PROJE	CT NUM	IBER 1004	107 (34406	.1.1)	ELEVATION
CONTI	RACTOR	REGIONA	AL PROBI	NG	DATE JULY 10, 2007
EQUIP	MENT C	EOPROBE	į.		DRILLER OPPER
					PREPARED BY BRANSON
DEPTH IN FEET	CASING BLOWS FOOT	BLOWS PER 6 INCHES	OVA (ppm)	SAMPLE DEPTH RANGE	FIELD CLASSIFICATION AND REMARKS
			1.63		4" GRAVEL, MEDIUM TO DARK BROWN SILT, DRY, NO ODOR.
			1.46		AS ABOVE, DRY, NO ODOR.
			1.59		AS ABOVE, DRY, NO ODOR. SUBMIT TO LABORATORY FOR
5.0					ANALYSIS.
			1.48		MOTTLED MEDIUM BROWN, RED BROWN, AND YELLOW SILT/CLAY,
					DRY, NO ODOR.
			1.58		AS ABOVE WITH INCREASIING CLAY, DRY, NO ODOR.
10.0			1.21		AS ABOVE, BECOMONG MOSTLY CLAY, DRY, NO ODOR.
			1.21		
					BORING TERMINATED AT 12 FEET. NO GROUNDWATER
					ENCOUNTERED.
15.0					

20.0

PROJE	ECT HENI	DERSON P	ROPERTY	(PARCEL	BORING NUMBER NN-2
CLIEN	T NCDO	Γ (R-2241A)		PAGE 1
PROJE	ECT NUM	IBER 1004	407 (34406	5.1.1)	ELEVATION
CONT	RACTOR	REGIONA	AL PROBI	NG	DATE JULY 10, 2007
EQUIP	MENT C	GEOPROBE	3		DRILLER OPPER
					PREPARED BY BRANSON
DEPTH IN FEET	CASING BLOWS FOOT	BLOWS PER 6 INCHES	OVA (ppm)	SAMPLE DEPTH RANGE	FIELD CLASSIFICATION AND REMARKS
			2.16		4" GRAVEL, MEDIUM TO DARK BROWN SILT, DRY, NO ODOR.
			2.44		MOTTLED MEDIUM BROWN, RED BROWN, AND YELLOW SILT, DRY, NO ODOR. SUBMIT TO LABORATORY FOR ANALYSIS.
5.0			2.39		AS ABOVE, DRY, NO ODOR.
			2.17		AS ABOVE, DRY, NO ODOR.
			1.75		AS ABOVE WITH INCREASIING CLAY, DRY, NO ODOR.
10.0			1.27		AS ABOVE, DRY, NO ODOR.
					BORING TERMINATED AT 12 FEET. NO GROUNDWATER ENCOUNTERED.
15.0					
I					

20.0

PROJECT HENDERSON PROPERTY (PARCEL 17)	BORING NUMBER NN-3
CLIENT NCDOT (R-2241A)	PAGE 1
PROJECT NUMBER 100407 (34406.1.1)	ELEVATION
CONTRACTOR REGIONAL PROBING	DATE JULY 10, 2007
EQUIPMENT GEOPROBE	DRILLER OPPER
	PREPARED BY BRANSON

DEPTH IN FEET	CASING BLOWS FOOT	BLOWS PER 6 INCHES	OVA (ppm)	SAMPLE DEPTH RANGE	FIELD CLASSIFICATION AND REMARKS
			1.29		MOTTLED MEDIUM BROWN, RED BROWN, AND YELLOW SILT, DRY, NO ODOR.
			1.55		AS ABOVE, DRY, NO ODOR.
5.0			1.90		AS ABOVE, DRY, NO ODOR. SUBMIT TO LABORATORY FOR ANALYSIS.
			1.57		AS ABOVE, DRY, NO ODOR.
			1.16		AS ABOVE, DRY, NO ODOR.
10.0			0.51		AS ABOVE, DRY, NO ODOR.
					BORING TERMINATED AT 12 FEET. NO GROUNDWATER ENCOUNTERED.
15.0					
20.0					

PROJECT HENDERSON PROPERTY (PARCEL 17) BORING NUMBER NN-4									
CLIEN	T NCDOT	Γ (R-2241A)		PAGE 1				
PROJE	CT NUM	IBER 1004	107 (34406	.1.1)	ELEVATION				
CONTI	RACTOR	REGIONA	AL PROBI	NG	DATE JULY 10, 2007				
EQUIP	MENT G	EOPROBE	E		DRILLER OPPER				
					PREPARED BY BRANSON				
DEPTH IN FEET	CASING BLOWS FOOT	BLOWS PER 6 INCHES	OVA (ppm)	SAMPLE DEPTH RANGE	FIELD CLASSIFICATION AND REMARKS				
			1.59		4" GRAVEL, MOTTLED MEDIUM BROWN, RED BROWN, AND YELLOW SILT, DRY, NO ODOR.				
					SILI, DKI, NO ODOK.				
			2.02						
			2.02		AS ABOVE, DRY, NO ODOR. SUBMIT TO LABORATORY FOR ANALYSIS.				
					ANALIOIS.				
			1.45		AS ABOVE, DRY, NO ODOR.				
5.0									

AS ABOVE, DRY, NO ODOR.

1.82

1.38

1.34

_ 10.0

_ 15.0

20.0



PROJECT HENDERSON PROPERTY (PARCEL 17)	BORING NUMBER NN-5		
CLIENT NCDOT (R-2241A)	PAGE 1		
PROJECT NUMBER 100407 (34406.1.1)	ELEVATION		
CONTRACTOR REGIONAL PROBING	DATE JULY 10, 2007		
EQUIPMENT GEOPROBE	DRILLER OPPER		
	PREPARED BY BRANSON		
DEPTH CASING BLOWS OVA SAMPLE IN BLOWS PER (ppm) DEPTH RANGE	FIELD CLASSIFICATION AND REMARKS		

DEPTH IN FEET	CASING BLOWS FOOT	BLOWS PER 6 INCHES	OVA (ppm)	SAMPLE DEPTH RANGE	FIELD CLASSIFICATION AND REMARKS
			2.07		4" GRAVEL, MEDIUM BROWN MEDIUM- TO COARSE-GRAINED SAND, DRY, NO ODOR. SUBMIT TO LABORATORY FOR ANALYSIS.
			1.96		AS ABOVE, DRY, NO ODOR.
5.0			1.68		MOTTLED MEDIUM BROWN, RED BROWN, AND YELLOW SILT/SAND, DRY, NO ODOR.
			1.98		AS ABOVE, DRY, NO ODOR.
			1.96		AS ABOVE, DRY, NO ODOR.
10.0			1.58		AS ABOVE, DRY, NO ODOR.
					BORING TERMINATED AT 12 FEET. NO GROUNDWATER ENCOUNTERED.
15.0					
20.0					

PROJE	CT HENI	DERSON PI	ROPERTY	(PARCEL	BORING NUMBER NN-6
CLIEN	T NCDO	Γ (R-2241A))		PAGE 1
PROJE	CT NUM	BER 1004	107 (34406	.1.1)	ELEVATION
CONTI	RACTOR	REGIONA	AL PROBI	NG	DATE JULY 10, 2007
EQUIP	MENT C	EOPROBE	:		DRILLER OPPER
					PREPARED BY BRANSON
DEPTH IN FEET	CASING BLOWS FOOT	BLOWS PER 6 INCHES	OVA (ppm)	SAMPLE DEPTH RANGE	FIELD CLASSIFICATION AND REMARKS
			14.71		MULTICOLORED, MULTILAYERED FILL MATERIAL, DRY, NO ODOR.
			9.48		MOTTLED MEDIUM BROWN, RED BROWN, AND YELLOW SILT, DRY,
					NO ODOR.
			13.77		MEDIUM BROWN TO TAN CLAY, MOIST, NO ODOR.
5.0					
			133		MOTTLED MEDIUM BROWN, RED BROWN, AND YELLOW SILT, DRY,
					NO ODOR. SUBMIT TO LABORATORY FOR ANALYSIS.
					REFUSAL AT 8 FEET. NO GROUNDWATER ENCOUNTERED.
10.0					
15.0					
15.0					

20.0

PROJECT HENDERSON PROPERTY (PARCEL 17)					BORING NUMBER NN-7
CLIEN	T NCDO	Γ (R-2241A)		PAGE 1
PROJECT NUMBER 100407 (34406.1.1)					ELEVATION
CONTRACTOR REGIONAL PROBING					DATE JULY 10, 2007
EQUIP	MENT C	EOPROBE	E		DRILLER OPPER
					PREPARED BY BRANSON
DEPTH IN	CASING BLOWS	BLOWS PER	OVA (ppm)	SAMPLE DEPTH	
FEET	FOOT	6 INCHES	(44)	RANGE	FIELD CLASSIFICATION AND REMARKS
			0.18		4" TOPSOIL, MEDIUM TO REDDISH BROWN SILT/SAND FILL MATERIAL, DRY, NO ODOR.
			0.54		AS ABOVE, WET AT 4 FEET, NO ODOR. SUBMIT TO LABORATORY FOR ANALYSIS.
					BORING TERMINATED AT 4 FEET. GROUNDWATER ENCOUNTERED
5.0					AT 4 FEET.
10.0					
10.0					
15.0					
l					

PROJE	CT HENI	DERSON PI	ROPERTY	(PARCEL	BORING NUMBER NN-8
CLIEN	T NCDO	Γ (R-2241A))		PAGE 1
PROJE	CT NUM	BER 1004	107 (34406	.1.1)	ELEVATION
CONTI	RACTOR	REGIONA	AL PROBI	NG	DATE JULY 10, 2007
EQUIP	MENT G	EOPROBE	E		DRILLER OPPER
	<u>-</u>				PREPARED BY BRANSON
DEPTH IN	CASING BLOWS	BLOWS PER	OVA (ppm)	SAMPLE DEPTH	
FEET	FOOT	6 INCHES	(FF/	RANGE	FIELD CLASSIFICATION AND REMARKS
			9.28		MEDIUM BROWN SILT FILL MATERIAL, DRY, NO ODOR.
			755		MISCELLANEOUS DEBRIS AND SILT, WET AT 4 FEET, NO ODOR.
					SUBMIT TO LABORATORY FOR ANALYSIS.
					BORING TERMINATED AT 4 FEET. GROUNDWATER ENCOUNTERED
5.0					AT 4 FEET.
10.0					
15.0					

PROJE	CT HENI	DERSON P	ROPERTY	(PARCEL	BORING NUMBER NN-9
CLIEN	T NCDO	Γ (R-2241A)		PAGE 1
PROJE	CT NUM	BER 1004	407 (34406	.1.1)	ELEVATION
CONTI	RACTOR	REGIONA	AL PROBI	NG	DATE JULY 10, 2007
EQUIP	MENT C	SEOPROBE	E		DRILLER OPPER
					PREPARED BY BRANSON
DEPTH IN FEET	CASING BLOWS FOOT	BLOWS PER 6 INCHES	OVA (ppm)	SAMPLE DEPTH RANGE	FIELD CLASSIFICATION AND REMARKS
			2.74		MOTTLED MEDIUM BROWN, RED BROWN, AND YELLOW SILT/CLAY, DRY, NO ODOR. SUBMIT TO LABORATORY FOR ANALYSIS.
			0.25		AS ABOVE, DRY, NO ODOR.
			1.97		MEDIUM TO OLIVE GREEN PLASTIC CLAY, WET AT 6 FEET, NO ODOR.
5.0					
					BORING TERMINATED AT 6 FEET. GROUNDWATER ENCOUNTERED AT 6 FEET.
10.0					
15.0					

20.0

PROJE	CT HENI	DERSON PI	ROPERTY	(PARCEL	BORING NUMBER NN-10
CLIEN	T NCDO	Γ (R-2241A))		PAGE 1
PROJE	CT NUM	BER 1004	107 (34406	.1.1)	ELEVATION
CONTI	RACTOR	REGIONA	AL PROBI	NG	DATE JULY 10, 2007
EQUIP	MENT C	EOPROBE	E		DRILLER OPPER
					PREPARED BY BRANSON
DEPTH IN FEET	CASING BLOWS FOOT	BLOWS PER 6 INCHES	OVA (ppm)	SAMPLE DEPTH RANGE	FIELD CLASSIFICATION AND REMARKS
			0.82		MOTTLED MEDIUM BROWN, RED BROWN, AND YELLOW SILT/CLAY, DRY, NO ODOR.
			14		MEDIUM TO OLIVE GREEN PLASTIC CLAY, WET AT 4 FEET, NO ODOR. SUBMIT TO LABORATORY FOR ANALYSIS.
5.0					BORING TERMINATED AT 4 FEET. GROUNDWATER ENCOUNTERED AT 4 FEET.
3.0					
10.0					
4 7 0					
15.0					

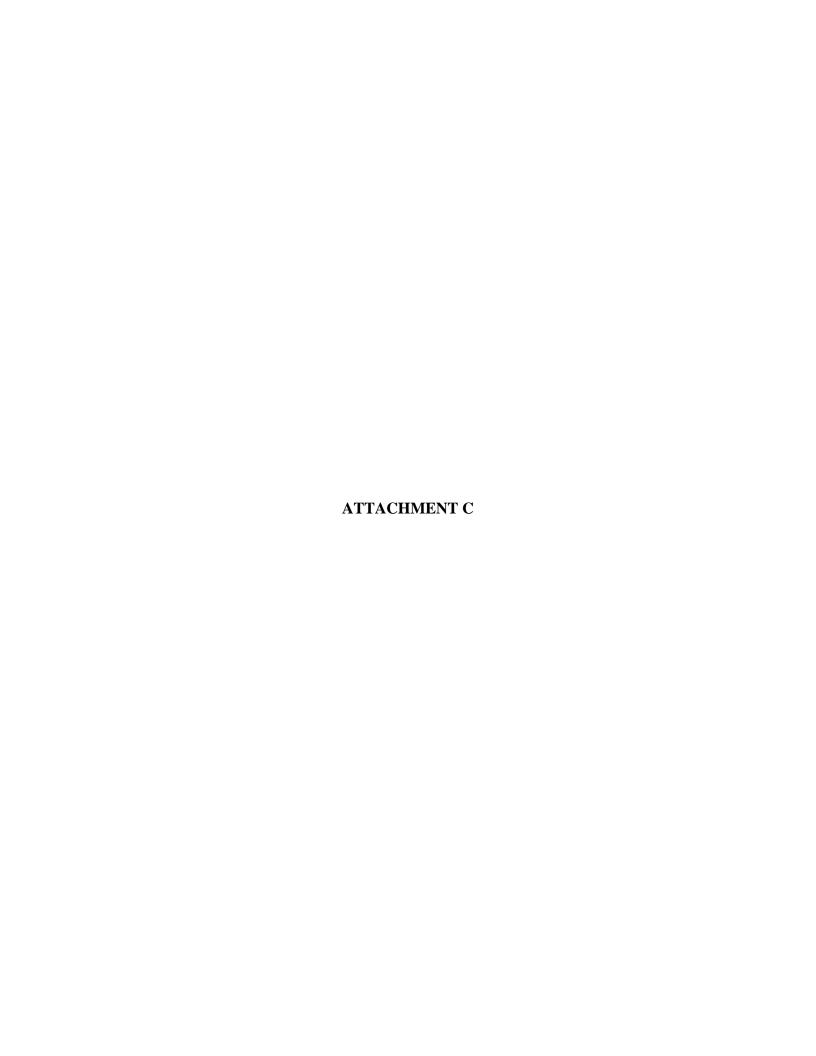




PHOTO I - BORINGS AT HENDERSON PROPERTY LOOKING NORTH FROM STREET



PHOTO 2 - BORING AT HENDERSON PROPERTY LOOKING WEST FROM DRIVEWAY



PHOTO 3 - BORING AT HENDERSON PROPERTY LOOKING WEST FROM DRIVEWAY

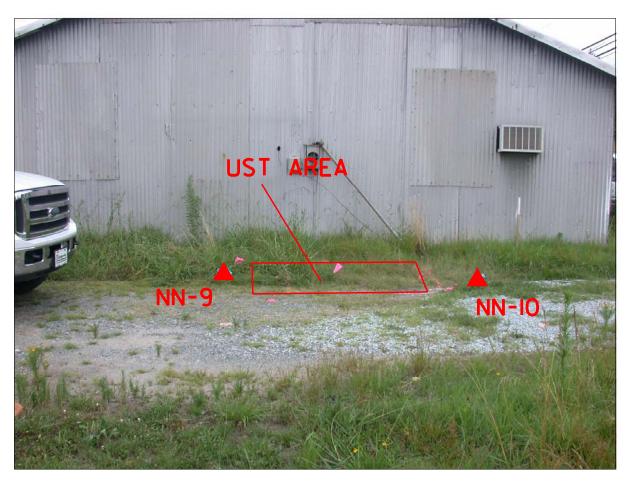


PHOTO 4 - BORINGS AT HENDERSON PROPERTY LOOKING EAST FROM DRIVEWAY

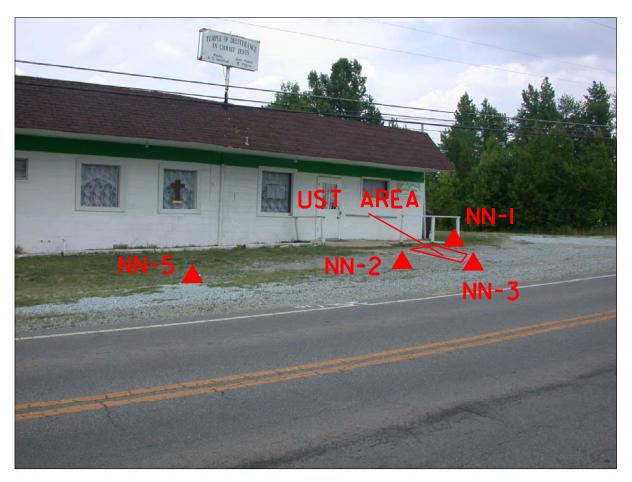


PHOTO 5 - BORINGS AT HENDERSON PROPERTY LOOKING NORTH FROM STREET

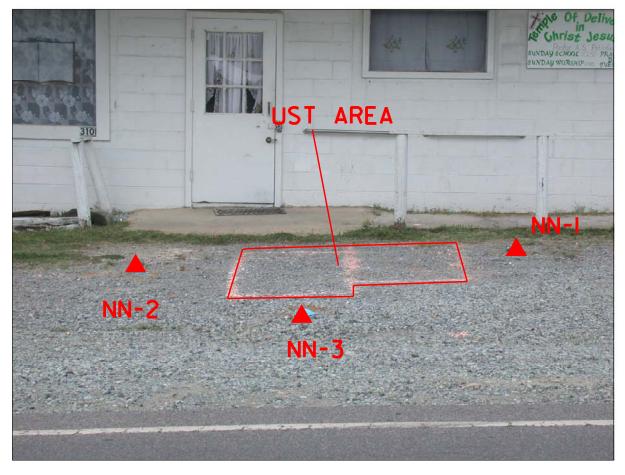


PHOTO 6 - BORINGS ON HENDERSON PROPERTY LOOKING NORTH FROM STREET



PHOTO 7 - BORING ON HENDERSON PROPERTY LOOKING NORTH FROM STREET



Case Narrative



Date:

07/26/07

Company: N. C. Department of Transportation

Contact: Mike Branson

Address: c/o Earth Tech Remediation

701 Corporate Center Dr. Ste 475

Raleigh, NC 27607

Client Project ID:

NCDOT - WBS# 34406.1.1

Prism COC Group No:

G0707276

Collection Date(s):

07/10/07

Lab Submittal Date(s):

07/11/07

Client Project Name Or No:

WBS# 34406.1.1

This data package contains the analytical results for the project identified above and includes a Case Narrative, Laboratory Report and Quality Control Data totaling 12 pages. A chain-of-custody is also attached for the samples submitted to Prism for this project.

Data qualifiers are flagged individually on each sample. A key reference for the data qualifiers appears at the end of this case narrative. Quality control statements and/or sample specific remarks are included in the sample comments section of the laboratory report for each sample affected.

Semi Volatile Analysis

No Anomalies Reported

Volatile Analysis

No Anomalies Reported

Metals Analysis

N/A

Wet Lab and Micro Analysis

N/A

riease call II you hav	re any questions relating to this analytical re	port.	\sim	1
Date Reviewed by:	Paula A. Gilleland	Project Manager:	Angela D. Overcash	
Signature:	Jaula S. Dilleland	Signature:		
Review Date:	07/26/07	Approval Date:	07/26/07	7

Data Qualifiers Key Reference:

- B: Compound also detected in the method blank.
- #: Result outside of the QC limits.
- DO: Compound diluted out.
- E: Estimated concentration, calibration range exceeded.

Places call if you have any avestions relating to this applytical report

- J: The analyte was positively identified but the value is estimated below the reporting limit,
- H: Estimated concentration with a high bias.
- L: Estimated concentration with a low bias.
- M: A matrix effect is present.

Notes: This report should not be reproduced, except in its entirety, without the written consent of Prism Laboratories, Inc. The results in this report relate only to the samples submitted for analysis.



Laboratory Report

07/26/07

N. C. Department of Transportation

Attn: Mike Branson

c/o Earth Tech Remediation

701 Corporate Center Dr. Ste 475

Raleigh, NC 27607

Project ID:

NCDOT - WBS#

34406.1.1

Project No.:

WBS# 34406.1.1

Sample Matrix: Soil

Client Sample ID: NN-1

Prism Sample ID: 186803

COC Group:

G0707276

Time Collected:

07/10/07 10:15

Time Submitted: 07/11/07 16:10

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analys Date/Ti		Analys	st Batch ID
Percent Solids Determination Percent Solids	85.2	%			1	SM2540 G	07/19/07	15:02	ddixon	
Diesel Range Organics (DRO) by G	C-FID									
Diesel Range Organics (DRO)	BRL	mg/kg	8.2	2.0	1	8015B	07/21/07	21:12	jvogel	Q25224
Sample Preparation:			49.	81 g	2 mL	3550B	07/20/07	17:00) wconde	г P18962
					Surrogate		% Re	covery	, Co	ontrol Limits
					o-Terphen	yl		99		48 - 130
Sample Weight Determination										
Weight 1	6.12	g			1	GRO	07/17/07	0:00	lbrown	
Weight 2	5.11	g			1	GRO	07/17/07	0:00	lbrown	
Gasoline Range Organics (GRO) b	v GC-FID									
Gasoline Range Organics (GRO)	BRL	mg/kg	5.9	0.61	50	8015B	07/19/07	17:03	hwagner	Q25151
					Surrogate		% Re	covery	, Co	ontrol Limits
					aaa-TFT			93		55 - 129

Sample Comment(s):

BRL = Below Reporting Limit

J- Estimated value between the Reporting Limit and the MDL

The results in this report relate only to the samples submitted for analysis and meet state certification requirements other than NELAC certification except for those instances indicated in the case narrative and/or test comments.

All results are reported on a dry-weight basis

Angela D. Overcash, V.P. Laboratory Services



Laboratory Report

07/26/07

N. C. Department of Transportation

Attn: Mike Branson

c/o Earth Tech Remediation

701 Corporate Center Dr. Ste 475

Raleigh, NC 27607

Project ID:

NCDOT - WBS#

34406.1.1

Project No.:

WBS# 34406.1.1

Sample Matrix: Soil

Client Sample ID: NN-2

Prism Sample ID: 186804

COC Group:

G0707276

Time Collected: Time Submitted: 07/11/07

07/10/07 10:30

16:10

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analys Date/Ti		Analyst	Batch ID
Percent Solids Determination Percent Solids	80.2	%			1	SM2540 G	07/19/07	15:02	ddixon	
Diesel Range Organics (DRO) by GC			8.8	2.1	4	8015B	07/04/07	04.40	ivagal	Q25224
Diesel Range Organics (DRO)	BRL	mg/kg	8.6	۷.۱	1	80138	07/21/07	21:49	jvogei	Q25224
Sample Preparation:			49.	.85 g	2 mL	3550B	07/20/07	17:00	wconder	P18962
					Surrogate	.	% Re	covery	, Con	trol Limits
					o-Terphen	yl		95		48 - 130
Sample Weight Determination										,, , ,
Weight 1	7.18	g			1	GRO	07/17/07	0:00	lbrown	
Weight 2	6.54	g			1	GRO	07/17/07	0:00	lbrown	
Gasoline Range Organics (GRO) by	GC-FID									
Gasoline Range Organics (GRO)	BRL	mg/kg	6.2	0.65	50	8015B	07/19/07	17:34	hwagner	Q25151
					Surrogate	1	% Re	covery	, Con	trol Limits
	•				aaa-TFT			104		55 - 129

Sample Comment(s):

BRL = Below Reporting Limit

J- Estimated value between the Reporting Limit and the MDL

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All results are reported on a dry-weight basis

Angela D. Overcash, V.P. Laboratory Services



Laboratory Report

07/26/07

N. C. Department of Transportation

Attn: Mike Branson

c/o Earth Tech Remediation

701 Corporate Center Dr. Ste 475

Raleigh, NC 27607

Project ID:

NCDOT - WBS#

34406.1.1

Project No.:

WBS# 34406.1.1

Sample Matrix: Soil

Client Sample ID: NN-3

Prism Sample ID: 186805

COC Group:

G0707276

Time Collected: 07/10/07

Time Submitted: 07/11/07 16:10

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysi Date/Tin		Analys	st Batch ID
Percent Solids Determination Percent Solids	80.8	%			1	SM2540 G	07/20/07	12:00	ddixon	.,
Diesel Range Organics (DRO) by G	C-FID									
Diesel Range Organics (DRO)	BRL	mg/kg	8.7	2.1	1	8015B	07/23/07	15:25	jvogel	Q25224
Sample Preparation:	:		49.	97 g /	2 mL	3550B	07/20/07	17:00	wconde	г Р18962
					Surrogate)	% Rec	overy	Co	ontrol Limits
					o-Terphen	yl		89		48 - 130
Sample Weight Determination										
Weight 1	6.48	g			1	GRO	07/17/07	0:00	ibrown	
Weight 2	6.46	g			1	GRO	07/17/07	0:00	lbrown	
Gasoline Range Organics (GRO) by	y GC-FID									
Gasoline Range Organics (GRO)	BRL	mg/kg	6.2	0.64	50	8015B	07/19/07	18:06	hwagner	Q25151
					Surrogate	ı	% Rec	overv	Co	ontroi Limits
					aaa-TFT			97		55 - 129

Sample Comment(s):

BRL = Below Reporting Limit

J- Estimated value between the Reporting Limit and the MDL

The results in this report relate only to the samples submitted for analysis and meet state certification requirements other than NELAC certification except for those instances indicated in the case narrative and/or test comments.

All results are reported on a dry-weight basis

Angela D. Overcash, V.P. Laboratory Services



Laboratory Report

07/26/07

N. C. Department of Transportation

Attn: Mike Branson

c/o Earth Tech Remediation

701 Corporate Center Dr. Ste 475

Raleigh, NC 27607

Project ID:

NCDOT - WBS#

34406.1.1

Project No.:

WBS# 34406.1.1

Sample Matrix: Soil

Client Sample ID: NN-4 Prism Sample ID: 186806

COC Group:

G0707276

Time Collected:

07/10/07 11:15

Time Submitted: 07/11/07

16:10

Result	Units	Report Limit	MDL	Dilution Factor	Method			Analyst	Batch ID
04.0	0/			4	0340540.0	07/00/07	40-00	445	, man
81.6	%			1	SIVI2540 G	07/20/07	12:00	ddixon	
:-FID									
BRL	mg/kg	8.6	2.1	1.	8015B	07/23/07	15:59	jvogel	Q25224
		49.	89 g /	2 mL	3550B	07/20/07	17:00	wconder	P18962
				Surrogate)	% Re	covery	r Cor	ntrol Limits
				o-Terphen	yl		92		48 - 130
5.70	g			1	GRO	07/17/07	0:00	Ibrown	
6.39	g			1	GRO	07/17/07	0:00	Ibrown	
GC-FID									
BRL	mg/kg	6.1	0.64	50	8015B	07/19/07	18:37	hwagner	Q25151
				Surrogato		º/ Bo		· Cor	ntrol Limits
				aaa-TFT	-	/0 IXG	COVERY		In or Figure
	81.6 E-FID BRL 5.70 6.39 GC-FID	81.6 % 2-FID BRL mg/kg 5.70 g 6.39 g GC-FID	Limit 81.6 % E-FID BRL mg/kg 8.6 49. 5.70 g 6.39 g GC-FID	Limit 81.6 % E-FID BRL mg/kg 8.6 2.1 49.89 g / 5.70 g 6.39 g GC-FID	Limit Factor 81.6 % 1 C-FID BRL mg/kg 8.6 2.1 1 49.89 g / 2 mL Surrogate o-Terphen 5.70 g 1 6.39 g 1 GC-FID BRL mg/kg 6.1 0.64 50 Surrogate	Limit Factor 81.6 % 1 SM2540 G E-FID BRL mg/kg 8.6 2.1 1 8015B 49.89 g / 2 mL 3550B Surrogate o-Terphenyl 5.70 g 1 GRO 6.39 g 1 GRO GC-FID	Limit Factor Date/Ti 81.6 % 1 SM2540 G 07/20/07 S-FID BRL mg/kg 8.6 2.1 1 8015B 07/23/07 49.89 g / 2 mL 3550B 07/20/07 Surrogate % Reco-Terphenyl 5.70 g 1 GRO 07/17/07 6.39 g 1 GRO 07/17/07 6.39 mg/kg 6.1 0.64 50 8015B 07/19/07	Limit Factor Date/Time 81.6 % 1 SM2540 G 07/20/07 12:00 E-FID BRL mg/kg 8.6 2.1 1 8015B 07/23/07 15:59 49.89 g / 2 mL 3550B 07/20/07 17:00 Surrogate % Recovery o-Terphenyl 92 5.70 g 1 GRO 07/17/07 0:00 6.39 g 1 GRO 07/17/07 0:00 GC-FID BRL mg/kg 6.1 0.64 50 8015B 07/19/07 18:37	Limit Factor Date/Time

Sample Comment(s):

BRL = Below Reporting Limit

J- Estimated value between the Reporting Limit and the MDL

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All results are reported on a dry-weight basis

Angela D. Overcash, V.P. Laboratory Services



Laboratory Report

07/26/07

N. C. Department of Transportation

Attn: Mike Branson

c/o Earth Tech Remediation

701 Corporate Center Dr. Ste 475

Raleigh, NC 27607

Project ID:

NCDOT - WBS#

34406.1.1

Project No.:

WBS# 34406.1.1

Sample Matrix: Soil

Client Sample ID: NN-5

Prism Sample ID: 186807

COC Group:

G0707276

Time Collected: 07/10/07 11:30

Page 5 of 10

Time Submitted:	07/11/07	16:10

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analys Date/Ti		Analy	st Batch ID
Percent Solids Determination Percent Solids	75.3	%			1	SM2540 G	07/20/07	12:00	ddixon	THE PROPERTY OF THE PROPERTY O
Diesel Range Organics (DRO) by G	C-FID									
Diesel Range Organics (DRO)	BRL	mg/kg	9.3	2.3	1	8015B	07/23/07	17:12	jvogel	Q25224
Sample Preparation:	:		50.	.06 g /	2 mL	3550B	07/20/07	17:00	wconde	P18962
					Surrogate)	% Re	covery	, Co	ontrol Limits
					o-Terphen	yl		122		48 - 130
Sample Weight Determination										
Weight 1	6.54	g			1	GRO	07/17/07	0:00	lbrown	
Weight 2	5.82	g			1	GRO	07/17/07	0:00	lbrown	
Gasoline Range Organics (GRO) b	y GC-FID									
Gasoline Range Organics (GRO)	BRL	mg/kg	6.6	0.69	50	8015B	07/19/07	19:09	hwagner	Q25151
					Surrogate		% Re	covery	, Co	ontrol Limits
					aaa-TFT	•.		94		55 - 129

Sample Comment(s):

BRL = Below Reporting Limit

J- Estimated value between the Reporting Limit and the MDL

The results in this report relate only to the samples submitted for analysis and meet state certification requirements other than NELAC certification except for those instances indicated in the case narrative and/or test comments.

All results are reported on a dry-weight basis

Angela D. Overcash, V.P. Laboratory Services



Laboratory Report

07/26/07

N. C. Department of Transportation

Attn: Mike Branson

c/o Earth Tech Remediation

701 Corporate Center Dr. Ste 475

Raleigh, NC 27607

Project ID:

NCDOT - WBS#

34406.1.1

Project No.:

WBS# 34406.1.1

Sample Matrix: Soil

Client Sample ID: NN-6

Prism Sample ID: 186808

Time Submitted: 07/11/07

COC Group:

G0707276

Time Collected:

07/10/07

12:00 16:10

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
Percent Solids Determination									
Percent Solids	78.2	%			1	SM2540 G	07/20/07 12:0	0 ddixon	
Diesel Range Organics (DRO) by GC	-FID								
Diesel Range Organics (DRO)	BRL	mg/kg	8.9	2.2	1	8015B	07/23/07 16:3	5 jvogel	Q25224
Sample Preparation:			50.	.01 g	2 mL	3550B	07/20/07 17:0	0 wconder	P18962
					Surrogate		% Recove	ry Cor	ntrol Limits
	·				o-Terphen	yt	91		48 - 130
Sample Weight Determination									
Weight 1	4.05	g			1	GRO	07/17/07 0:00	ibrown	
Weight 2	6.84	g			1	GRO	07/17/07 0:00	lbrown	
Gasoline Range Organics (GRO) by	GC-FID								
Gasoline Range Organics (GRO)	BRL	mg/kg	6.4	0.66	50	8015B	07/19/07 19:4	0 hwagner	Q25151
					Surrogate		% Recove	ny Cor	ntrol Limits

aaa-TFT

Sample Comment(s):

BRL = Below Reporting Limit

J- Estimated value between the Reporting Limit and the MDL

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All results are reported on a dry-weight basis

Angela D. Overcash, V.P. Laboratory Services

55 - 129



Laboratory Report

N. C. Department of Transportation

Attn: Mike Branson

c/o Earth Tech Remediation

701 Corporate Center Dr. Ste 475

Raleigh, NC 27607

Project ID:

NCDOT - WBS#

34406.1.1

Project No.:

WBS# 34406.1.1

Sample Matrix: Soil

Prism Sample ID: 186809

COC Group:

G0707276

Time Collected:

Client Sample ID: NN-7

07/10/07

12:15

Time Submitted: 07/11/07 16:10

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analy	st Batch ID
Percent Solids Determination Percent Solids	78.8	%			1	SM2540 G	07/20/07 12:00	ddixon	
Diesel Range Organics (DRO) by G	C-FID								
Diesel Range Organics (DRO)	9.5	mg/kg	8.9	2.2	1	8015B	07/24/07 7:48	jvogel	Q25224
Sample Preparation:			49.	69 g	2 mL	3550B	07/20/07 17:00) woond	er P18962
					Surrogate	ŀ	% Recover	y C	ontrol Limits
				•	o-Terphen	yl	129	,	48 - 130
Sample Weight Determination					-				
Weight 1	6.00	g			1	GRO	07/17/07 0:00	lbrown	
Weight 2	5.61	g			. 1	GRO	07/17/07 0:00	lbrown	
Gasoline Range Organics (GRO) by	/ GC-FID								
Gasoline Range Organics (GRO)	BRL	mg/kg	6.3	0.66	50	8015B	07/19/07 20:11	hwagner	Q25151
					Surrogate	1	% Recover	v C	ontrol Limits
								, –	

Sample Comment(s):

BRL = Below Reporting Limit

J- Estimated value between the Reporting Limit and the MDL

The results in this report relate only to the samples submitted for analysis and meet state certification requirements other than NELAC certification except for those instances indicated in the case narrative and/or test comments.

All results are reported on a dry-weight basis

Angela D. Overcash, V.P. Laboratory Services



Laboratory Report

07/26/07

N. C. Department of Transportation

Attn: Mike Branson

c/o Earth Tech Remediation

701 Corporate Center Dr. Ste 475

Raleigh, NC 27607

Project ID:

NCDOT - WBS#

34406.1.1

Project No .:

WBS# 34406.1.1

Sample Matrix: Soil

Client Sample ID: NN-8

Prism Sample ID: 186810

COC Group:

G0707276

12:30

Time Collected:

07/10/07

Time Submitted: 07/11/07 16:10

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysi Date/Tin		Analy	st Batch ID
Percent Solids Determination Percent Solids	86.2	%		- CONTRACTOR	1	SM2540 G	07/20/07	12:00	ddixon	
Diesel Range Organics (DRO) by GO	C-FID									
Diesel Range Organics (DRO)	640	mg/kg	200	9.8	5	8015B	07/24/07	8:58	jvogel	Q25224
Sample Preparation	:		50	0.3 g /	2 mL	3550B	07/20/07	17:00	wconde	P18962
					Surrogate)	% Rec	overy	C	ontrol Limits
					o-Terphen	ył	1	123		48 - 130
Sample Weight Determination										
Weight 1	5.29	g			1	GRO	07/17/07	0:00	lbrown	
Weight 2	4.74	g			1	GRO	07/17/07	0:00	lbrown	
Gasoline Range Organics (GRO) by	GC-FID									
Gasoline Range Organics (GRO)	47	mg/kg	5.8	0.60	50	8015B	07/19/07	20:43	hwagner	Q25151
					Surrogate	.	% Rec	overv	Co	ontrol Limits
					aaa-TFT			101		55 - 129

Sample Comment(s):

BRL = Below Reporting Limit

J- Estimated value between the Reporting Limit and the MDL

The results in this report relate only to the samples submitted for analysis and meet state certification requirements other than NELAC certification except for those instances indicated in the case narrative and/or test comments.

All results are reported on a dry-weight basis

Angela D. Overcash, V.P. Laboratory Services



Laboratory Report

07/26/07

N. C. Department of Transportation

Attn: Mike Branson

c/o Earth Tech Remediation

701 Corporate Center Dr. Ste 475

Raleigh, NC 27607

Project ID:

NCDOT - WBS#

34406.1.1

Project No.:

WBS# 34406.1.1

Sample Matrix: Soil

Client Sample ID: NN-9

Prism Sample ID: 186811

COC Group:

G0707276

Time Collected:

07/10/07

12:45 Time Submitted: 07/11/07 16:10

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
Percent Solids Determination Percent Solids	78.3	%			1	SM2540 G	07/20/07 12:00	ddixon	
Diesel Range Organics (DRO) by G			0.0	0.0	_	00450	07/04/07 0 04		00500
Diesel Range Organics (DRO)	19	mg/kg	8.9	2.2	1	8015B	07/24/07 8:21	jvogel	Q25224
Sample Preparation	:		5	0.1 g	2 mL	3550B	07/20/07 17:00	wconder	P18962
					Surrogate	•	% Recovery	, Con	trol Limits
					o-Terphen	yl	124		48 - 130
Sample Weight Determination									
Weight 1	6.01	g			1	GRO	07/17/07 0:00	Ibrown	
Weight 2	6.01	g			1	GRO	07/17/07 0:00	lbrown	
Gasoline Range Organics (GRO) by	GC-FID								
Gasoline Range Organics (GRO)	BRL	mg/kg	6.4	0.66	50	8015B	07/19/07 21:15	hwagner	Q25151
					Surrogate	1	% Recovery	, Con	trol Limits
					aaa-TFT		71		55 - 129

Sample Comment(s):

BRL = Below Reporting Limit

J- Estimated value between the Reporting Limit and the MDL

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All results are reported on a dry-weight basis

Angela D. Overcash, V.P. Laboratory Services



Laboratory Report

07/26/07

N. C. Department of Transportation

Attn: Mike Branson

c/o Earth Tech Remediation

701 Corporate Center Dr. Ste 475

Raleigh, NC 27607

Project ID:

NCDOT - WBS#

34406.1.1

Project No.:

WBS# 34406.1.1

Sample Matrix: Soil

Client Sample ID: NN-10

Prism Sample ID: 186812

COC Group:

G0707276

13:00

Time Collected: 07/10/07

Time Submitted: 07/11/07 16:10

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analys Date/Ti		Analy	st Batch ID
Percent Solids Determination					THIS WILL					,
Percent Solids	83.8	%			1	SM2540 G	07/20/07	12:00	ddixon	
Diesel Range Organics (DRO) by G	C-FID									
Diesel Range Organics (DRO)	6.9 J	mg/kg	9.2	2.2	1	8015B	07/23/07	17:50	jvogel	Q25224
Sample Preparation:			45.	18 g	/ 2 mL	3550B	07/20/07	17:00	wcond	er P18962
					Surrogate	•	% Re	covery	, c	ontrol Limits
					o-Terphen	yl		122		48 - 130
Sample Weight Determination										
Weight 1	5.13	g			1	GRO	07/17/07	0:00	lbrown	
Weight 2	6.11	g			1	GRO	07/17/07	0:00	lbrown	·
Gasoline Range Organics (GRO) by	/ GC-FID									
Gasoline Range Organics (GRO)	BRL	mg/kg	6.0	0.62	50	8015B	07/19/07	21:46	hwagner	Q25151
				,						
					Surrogate	•	% Re	covery	C	ontrol Limits
					aaa-TFT			80		55 - 129

Sample Comment(s):

BRL = Below Reporting Limit

J- Estimated value between the Reporting Limit and the MDL

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All results are reported on a dry-weight basis

Angela D. Overcash, V.P. Laboratory Services



Level II QC Report

N. C. Department of Transportation

Attn: Mike Branson

c/o Earth Tech Remediation

701 Corporate Center Dr. Ste 475

Raleigh, NC 27607

Project ID: NCDOT - WBS#

34406.1.1 Project No.:

WBS# 34406.1.1

COC Group Number: G0707276

Date/Time Submitted: 7/11/07 16:10

Gasoline Range Organics (GRO) by GC-FID, method 8015B

Method Blank									QC Batch
· · · · · · · · · · · · · · · · · · ·	Result	RL.	Control Limit	Units					ID
Gasoline Range Organics (GRO)	ND	5	<2.5	mg/kg					Q25151
Laboratory Control Sample	Result	Spike Amour	nt	Units	Recovery %	Recovery Ranges %			QC Batch ID
Gasoline Range Organics (GRO)	50	50		mg/kg	100	67-116			Q25151
Matrix Spike					Recovery	Recovery			QC Batch
Sample ID:	Result	Spike Amour	nt	Units	%	Ranges %			iD
186801 Gasoline Range Organics (GRO)	43.4	50		mg/kg	87	57-113			Q25151
Matrix Spike Duplicate					Recovery	Recovery	RPD	RPD	QC Batch
Sample ID:	Result	Spike Amour	nt	Units	%	Ranges %	% ————————————————————————————————————	Range %	ID ID
186801 Gasoline Range Organics (GRO)	44.05	50		mg/kg	88	57-113	1	0 - 23	Q25151

Diesel Range Organics (DRO) by GC-FID, method 8015B

Method Blank	Result	RL	Control Limit	Units					QC Batch ID
Diesel Range Organics (DRO)	ND	7	<3.5	mg/kg					Q25224
Laboratory Control Sample	Result	Spike Amour	nt	Units	Recovery %	Recovery Ranges %			QC Batch ID
Diesel Range Organics (DRO)	46.9	40		mg/kg	117	53-118			Q25224
Matrix Spike Sample ID:	Result	Spike Amoun	nt	Units	Recovery %	Recovery Ranges %			QC Batch ID
186801 Diesel Range Organics (DRO)	42.2	40		mg/kg	106	52-119			Q25224
Matrix Spike Duplicate Sample ID:	Result	Spike Amoun	nt	Units	Recovery %	Recovery Ranges %	RPD %	RPD Range %	QC Batch ID
186801 Diesel Range Organics (DRO)	41.6	40		mg/kg	104	52-119	1	0 - 25	Q25224



CHAIN OF CUSTODY RECORD L quote # to ensure proper billing:

Samples INTACT upon arrival?

LAB USE ONLY

Project Name: _ PAGE ___ OF__

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CONTAINER TYPE CODES:	NPDES: UST:	□UPS	Method of Shipment: NOT	Relinquished By (Signature	THE SERVICE	Helinquismensial Signatur	Upon relinquishing, this Chain of Custody is your authorization for Prism to proceed with the analyses as requested above submitted in writing to the Prism Project Manager. There will be charges for any changes after analyses have been initial	Sampler's Signature	DN-10	12 M	B-NN	NN-7	NN - 6	NN-S	NN-X	NN-3	ND-2	NW-/	SAMPLE DESCRIPTION	CLIENT		Site Location Physical Address:	Site Location Name:	Email (66) (No) Er	Phone: 919 854 6238 Fax (663) (No):	Reporting Address:	Report To/Contact Name:	Phone: 704/529-6364 • Fa	Full St 449 Springbrook Ro
CODES: A = Amber C	GRØUNDWATER:	C Hand-delivered Prism	NOTE: ALL SAMPLE COOLERS SHOULD BE TAK SAMPLES ARE NOT ACCEPTED AND VERIFIED	* Laps	M	mr)	this Chain of Custo to the Prism Projec	Morans	7/10/07	7/10/07	7/10/07	7/10/07	7/10/07	7/10/07	7/10/07	7/10/07	7/10/07	7/10/07	ON COLLECTED	DATE		ical Address:	e:Ouler	(No) Email Address ML	6230 Fax (868)	Palorett No	4	4 • Fax: 704/525-0409 ame: ピルルブル	Full Service Analytical & Environmental Solutions 449 Springbrook Road • P.O. Box 240543 • Charlotte, NC 28224-0543
per C = Clear G	<u> </u>	Orism Field Service CJ C	S SHOULD BE TAPE	K			dy is your autho t Manager. The		1300	1245	1230	1215	1200	1130	1115	1100	1030	1015	MILITARY	TIME				L .	الما	1)0 27000	BRANSON	Theat	nmental Solutions Charlotte, NC 28
= Glass P=	DRINKING WATER: Q.NC. D.SC D		TAPED SHUT WITH CUS	Received to	Heceiyed	Heceived	rization for Pri	Sampled By (Print Name)	5010	Sac (Soll	5010	2016	Sorc	301C	Soil	501C	5010	WATER OR SLUDGE) S	MATRIX		Tur		χ.	6259	1/0/6	3		
I	O NO DINC		TODY SEALS FOR 1	d For Prism Laborator	y: Signature)		sm to proceed a	rint Name) M	C6 3	3		2	CG 3	6 3	C6 3	C6 3	<i>C</i> 69	CG 3	*TYPE N	SAMPLE CONTAINER	RENDERED BY	naround time is b	"Working Days" Samples received aft	Requested Due Date 1 Day 2 Days 1		Address:	provisions and/or hydice To:	Short Hold Analysis: *Please ATTACH an	Project Name:
TL = Teflon-Lined Cap	WASTE: RCRA:		RANSPORTATION 1	tories By:	1.350		with the analyse	1 BRANSON	Hor/box	Gor/vox	yor/vox	Gorha	407/004	S yor/vot	3 4cz/vox	3 Hortvox	3 402/40A	40x/vox	NO. SIZE	ONTAINER	PRISM LABORATO	sed on business	G 6-9 Days As	lo./Billing Refe			COOT	any project sp	
VOA =	CERCLA DSC DNC D		H CUSTODY SEALS FOR TRANSPORTATION TO THE LABORATORY.		7		es as requested at sees have been init	hon	A Ne OH	# Ma OH	4 Noolt	of Me OH	A MOOH	+ MeOH	MeOH	Moch	Moont	Mo OH	TIVES		(SEE REVERSE FOR TERMS & CONDITIONS REGARDING SE	Turnaround time is based on business days, excluding weeke	"Working Days" □ 6-9 Days W Standard 10 days □ Plush Work Must Be Samples received after 15:00 will be processed next his iness day.	ays 🗆 3 Days 🗆 4			ents	c repo	
Volatile Organics Analysis (Zero Head Space)	SC DNC DSC		COC Group No.	Date	7.11.07	7/1/07	/e. Any ch lized.	Affiliation 6	2	2	/	1	77	7	5	1	5	6	DR.)	SERVICES	kends and holidays.	Rush Work Must Be Pre-Approved ss day	Days 05 Days				UST Project: (YES) (No)	
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ice) Trow YMMKU		Religion)	لک	Charle			i Ecot												ESTED	Sample Iced Upon Collection: YES	Water Chlorinated: YES	နှင	ion: NELAC		PROPER CONTAINERS used?	VOLATILES recd W/OUT HEADSPACE	HOLDING TIMES?	Received ON WET ICE? Temp 1
アスシー	Morn	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		U	BLANKST	unments:		PRESS DOWN FIRMLY - 3 COPIES					-	-					REMARKS		ection: YES	NO NO	OTHER	O BE FILLED IN BY CLIENT/SAMPLING PERSONNEL Certification: NELAC USACE FL NC		S used?	IT HEADSPACE?	DING TIMES7	Temp <u>C///</u> C
ORIGINAL	TERMS & CONDITIONS	2) 6-1610	7	Mileage	Site Departure Time	Site Arrival Time:	PRISM USE ONLY	FIRMLY - 3	-	-							-		Š		NO _		N/A	FL FL		1		<u> </u>	7 / 7
GINAL	RSE FOR NOITIONS		が開発を		ime.		E ONLY	3 COPIES	F18981	118,981	ાદમશ	196309	136303	186357	136306	136305	136304	184803	LAB ID NO.	PRISM				NC PL					