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June 23, 2005

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

Reference:

Preliminary Site Assessment

York & Fehring Property (Parcel #33)

622 and 626 South Main Street

King, Stokes County, North Carolina

NCDOT Project R-2201 WBS Element 34380.1.1 Earth Tech Project No. 85238

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 April 7, 2005, and the North Carolina Department of Transportation's (NCDOT's) Notice to Proceed dated April 12, 2005. Activities associated with the assessment consisted of conducting a geophysical investigation, 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 York & Fehring Property (Parcel #33) encompasses two businesses. The Nationwide Insurance Company is located at 622 South Main Street and the Main Street Tire and Auto is located at 626 South Main Street in King, North Carolina. The property is situated on the southwest side of South Main Street approximately 175 meters (575 feet) north of the intersection of South Main Street and Ingram Drive (Figure 1). Based on information supplied by the NCDOT and the site visit, Earth Tech understands that the site is a former gas station with two former pump islands in front of the insurance office and an unknown number of underground storage tanks (USTs) that were removed from the northwest corner of the insurance office. A conversation with the manager of the automotive garage revealed that two heating oil USTs are present at that site, but neither of the tanks are within the proposed right-of-way. One tank is located on the south side of the building within approximately 20 feet of the proposed right-of-



Mr. Greg Smith June 23, 2005 Page 2

way (Figure 2). An aerial photograph from 1985 (Figure 3) shows the former gas station and associated USTs and pump islands. Superimposed on the aerial photograph is the footprint of the existing buildings. The proposed right-of-way appears to affect the area of the former pump islands.

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 obtain UST ownership information. According to the database, no USTs have been registered for the property.

Geophysical Survey

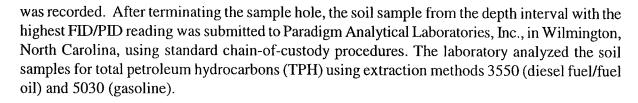
Prior to Earth Tech's mobilization to the site, Pyramid Environmental conducted a geophysical survey to evaluate if additional USTs were present on the proposed right-of-way. The geophysical survey consisted of an electromagnetic survey using a Geonics EM61 time-domain electromagnetic induction meter to locate buried metallic objects, specifically USTs. A survey grid was laid out at the property with the X-axis oriented approximately parallel to South Main Street and the Y-axis oriented approximately perpendicular to South Main Street. The grid was located to cover all accessible portions of the proposed right-of-way. The survey lines were spaced 3 meters (10 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 anomalies.

Several anomalies were detected in the geophysical survey. With the exception of one anomaly, these anomalies were generally attributed to buildings, steel-reinforced concrete, vehicles, and buried utility lines or conduits. The anomaly on the south side of Main Street Tire and Auto coincided with the heating oil UST identified by that business's manager. However, the UST was outside the proposed right-of-way and the survey concluded that no metallic USTs were present on the proposed right-of-way. A detailed report of findings and interpretations is presented in Attachment A.

Site Assessment Activities

On May 11, 2005, Earth Tech mobilized to the site to conduct a Geoprobe® direct push investigation to evaluate soil conditions within the proposed right-of-way. Continuous sampling using direct push technology (Probe Technology of Concord, 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

Mr. Greg Smith June 23, 2005 Page 3



Eight direct-push holes (YF-1 through YF-8) were advanced within the proposed right-of-way at the site to a depth of 4.8 meters (16 feet) as shown in Figure 2 and Attachment B. The borings were located within the proposed right-of-way to evaluate the entire right-of-way and in particular the former dispenser island and nearby UST areas (Attachment C, Figure 3). Borings YF-1 through YF-3 were located to evaluate the former pump island area on the east side of the insurance office. Borings YF-4 through YF-7 were located to assess the lateral extent of potential contamination observed in the first three borings. Boring YF-8 was located to evaluate soil conditions in the proposed right-of-way at its closest point to the UST on the south side of the Main Street Tire and Auto. 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 0.15 meters (6 inches) of asphalt and gravel. In the immediate area of the former pump islands, the soil was a medium to dark gray silty clay somewhat indicative of potential soil contamination. This material was present to a depth of about 1.2 meters (4 feet). Throughout the rest of the site, the soil consisted of medium to reddish brown silty clay to a depth of about 1.8 to 2.4 meters (6 to 8 feet). Below this soil to a depth of 4.8 meters (16 feet) was a mottled medium brown, reddish brown, and tan silt/clay saprolite. No groundwater was encountered in any of the borings. 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 were detected in two of the eight soil samples collected from the site (Figure 4). The soil sample from boring YF-2 contained a diesel range organic (DRO) concentration of 13.1 mg/kg and the soil sample from boring YF-6 contained a DRO concentration of 18.9 mg/kg. 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. Two of the soil samples collected from the site contained a TPH diesel fuel concentration above the 10 mg/kg assumed action level.

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Conclusions and Recommendations

A Preliminary Site Assessment was conducted to evaluate the York & Fehring Property (Parcel #33) located at 622 and 626 South Main Street in King, Stokes County, North Carolina. Eight soil borings were advanced to evaluate the soil conditions on the property. The laboratory reports of the soil samples from these borings suggest that two of the samples contained TPH concentrations above the assumed action levels. Based on the location of the soil borings from which soil samples were collected, the source of the contamination appears to be the result of a product line or dispenser leak.

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 YF-2 and YF-6 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 1.2 meters (4 feet), from ground surface to 1.2 meters (4 feet) is likely. The volume of potentially affected soil was estimated based on a thickness of 1.2 meters (4 feet), a width of 12.5 meters (41 feet), and a length of 13 meters (43 feet). These dimensions result in a volume of about 195 cubic meters (255 cubic yards) of contaminated soil. 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. Earth Tech recommends that a copy of this report be submitted to the Division of Waste Management, UST Section, in the Winston-Salem 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 I

FIELD SCREENING AND ANALYTICAL RESULTS YORK & FEHRING PROPERTY (PARCEL #33) KING, NORTH CAROLINA NCDOT PROJECT NO. R-2201 WBS ELEMENT 34380.1.1 EARTH TECH PROJECT NO. 85328

OCATION	DEPTH (m)	FID READING (ppm)	SAMPLE ID	ANALYTICAL RESULTS (mg/kg)	ASSUMED ACTION LEVEL (mg/kg)
/F-1	0 - 0.6	152	YF-1	DRO (BQL) GRO (BQL)	10
	0.6 - 1.2	97			
	1.2 - 1.8	13.12			
	1.8 - 2.4	13.61			
	2.4 - 3.0	6.73			
	3.0 - 3.6	9.39			
	3.6 - 4.2	11.51			
	4.2 - 4.8	16.95			
/F-2	0 - 0.6	. 26	YF-2	DRO (13.1) GRO (BQL)	10 10
	0.6 - 1.2	8.66			
	1.2 - 1.8	6.16			
	1.8 - 2.4	5.18			
	2.4 - 3.0	3.52			
	3.0 - 3.6	3.36			
	3.6 - 4.2	2.48			
	4.2 - 4.8	3.11			<u> </u>
YF-3	0 - 0.6 0.6 - 1.2	9.02	YF-3	DRO (BQL) GRO (BQL)	10
	1.2 - 1.8	2.44		GRO (BQL)	10
	1.8 - 2.4	2.63			
	2.4 - 3.0	3.21			
	3.0 - 3.6	3.09			
	3.6 - 4.2	2.75			
	4.2 - 4.8	2.5			
YF-4	0 - 0.6	10.44	YF-4	DRO (BQL) GRO (BQL)	10 10
	0.6 - 1.2	7.03	1		•
	1.2 - 1.8	4.43			
	1.8 - 2.4	8.02			
	2.4 - 3.0	3.66			
3	3.0 - 3.6	4.9			
	3.6 - 4.2	3.49			_
	4.2 - 4.8	6.49			
YF-5	0 - 0.6	2.95			
	0.6 - 1.2 1.2 - 1.8	2.75			
	1.2 - 1.8	2.93 3.55			-
	2.4 - 3.0	3.33	- · ·		
	3.0 - 3.6	3.35			
	3.6 - 4.2	3.73			
	4.2 - 4.8	3.79	YF-5	DRO (BQL) GRO (BQL)	10
YF-6	0 - 0.6	4.74	YF-6	DRO (18.9) GRO (BQL)	10
	0.6 - 1.2	4.26		OKO (DQD)	
•	1.2 - 1.8	4.71			
	1.8 - 2.4	4.58			
	2.4 - 3.0	4.31			
	3.0 - 3.6	4.49			
	3.6 - 4.2	3.47			
	4.2 - 4.8	3.95			

TABLE 1 (continued)

FIELD SCREENING AND ANALYTICAL RESULTS YORK & FEHRING PROPERTY (PARCEL #33) KING, NORTH CAROLINA NCDOT PROJECT NO. R-2201 WBS ELEMENT 34380.1.1 EARTH TECH PROJECT NO. 85328

LOCATION	DEPTH (m)	FID READING	SAMPLE ID	ANALYTICAL	ASSUMED
		(ppm)		RESULTS	ACTION LEVEL
				(mg/kg)	(mg/kg)
YF-7	0 - 0.6	3.87			
	0.6 - 1.2	3.98	YF-7	DRO (8.7)	10
				GRO (BQL)	10
	1.2 - 1.8	3.63			
	1.8 - 2.4	2.21		 	
	2.4 - 3.0	1.73			
	3.0 - 3.6	2.3			
	3.6 - 4.2	1.76			
	4.2 - 4.8	1.14			
YF-8	0 - 0.6	4.48			
t	0.6 - 1.2	4.11			
	1.2 - 1.8	4.8			
	1.8 - 2.4	16.24		DRO (BQL)	10
				GRO (BQL)	, 10
·	2.4 - 3.0	6.83			
k	3.0 - 3.6	4.95			
	3.6 - 4.2	4.58			
	4.2 - 4.8	3.46			

DRO - Diesel range organics.

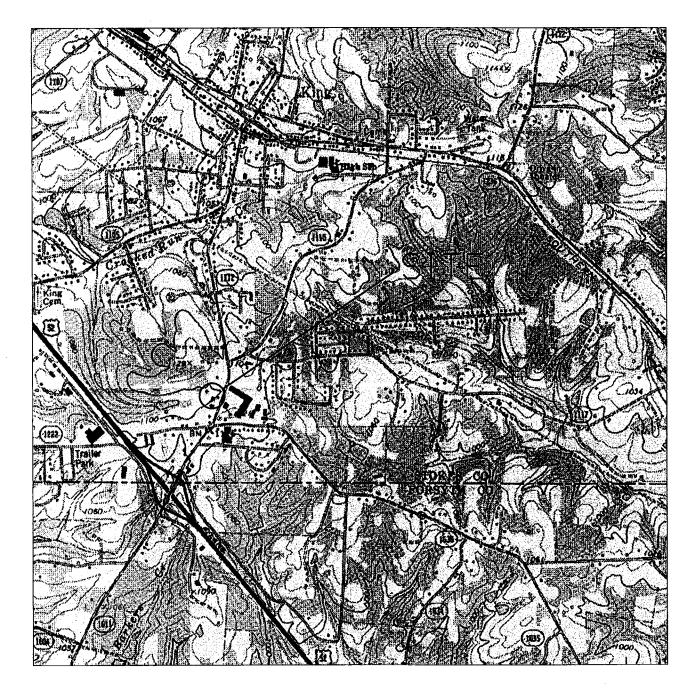
GRO - Gasoline range organics.

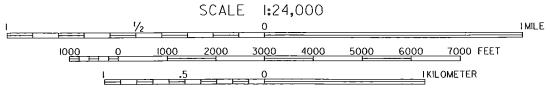
BOLD values are present above the assumed action level.

ppm - parts per million.

mg/kg - milligrams per kilogram.



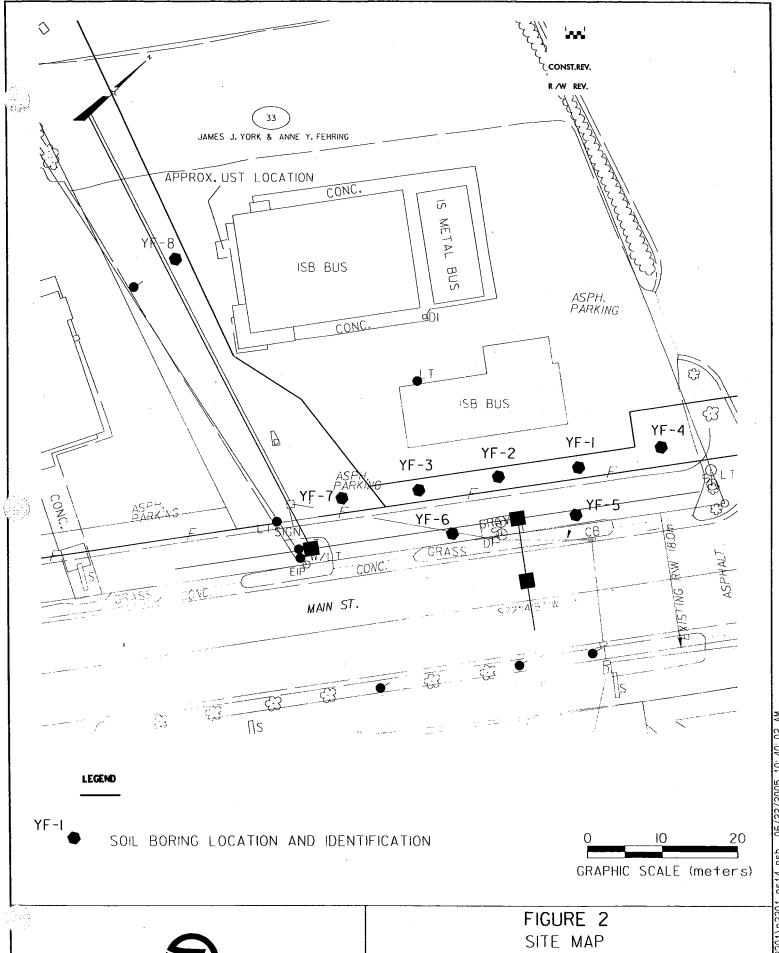




SOURCE: U.S. GEOLOGICAL SURVEY 7.5 MIN QUADRANGLE: KING, NC (REV 1983)



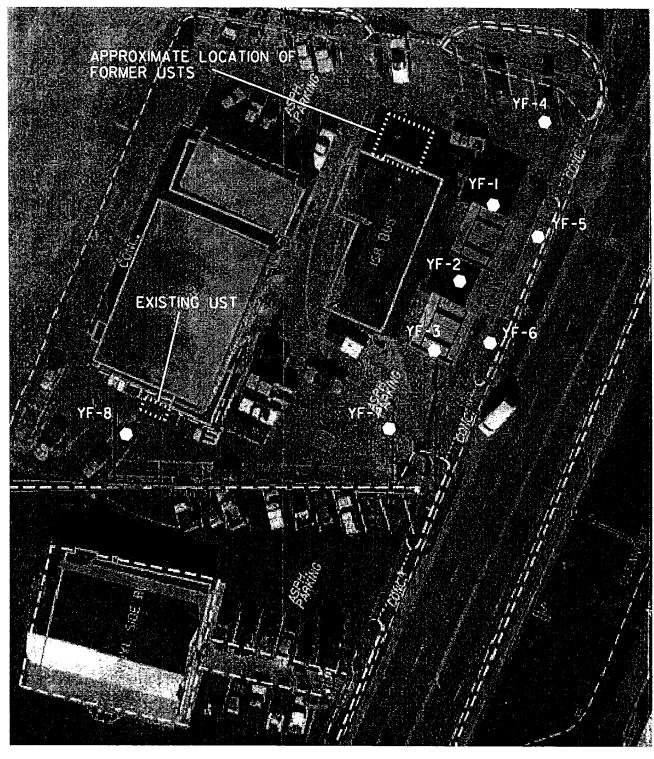
FIGURE I
VICINITY MAP
YORK & FEHRING PROPERTY (PARCEL #33)
KING, NORTH CAROLINA



YORK & FEHRING PROPERTY (PARCEL #33) KING, NORTH CAROLINA

MAY 2005

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LECEND

NOT TO SCALE

YF-I

SOIL BORING LOCATION AND IDENTIFICATION



FIGURE 3

SITE MAP

YORK & FEHRING PROPERTY (PARCEL #33)

KING, NORTH CAROLINA

MAY 2005

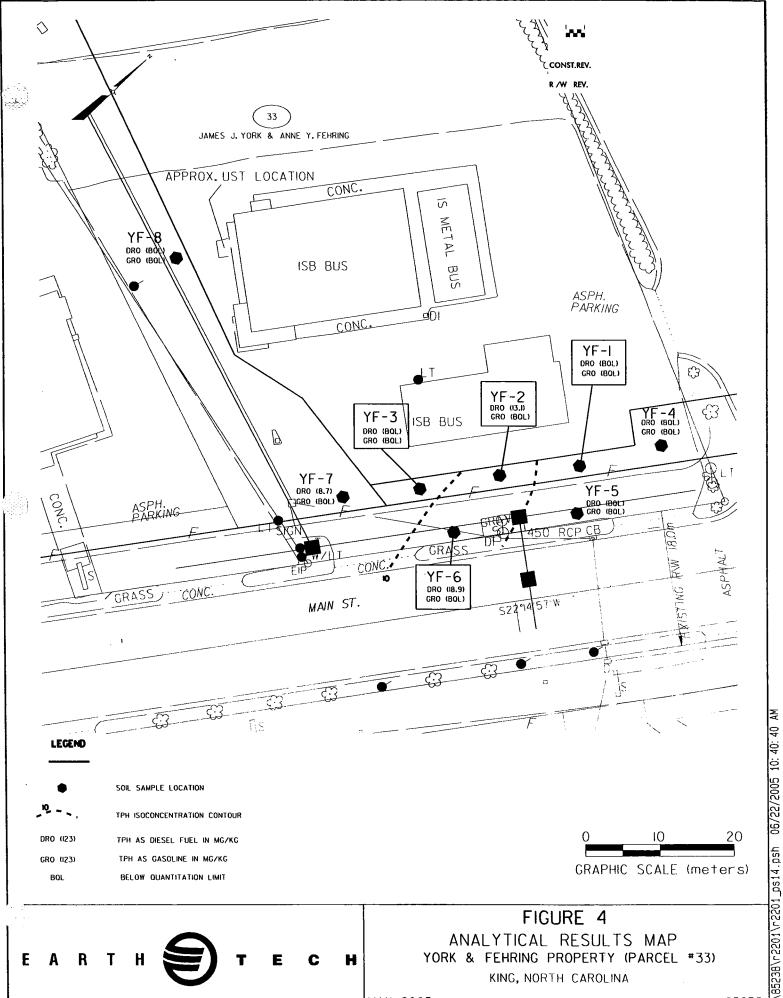




FIGURE 4

ANALYTICAL RESULTS MAP YORK & FEHRING PROPERTY (PARCEL #33)

KING, NORTH CAROLINA

MAY 2005

85238



ATTACHMENT A

GEOPHYSICAL INVESTIGATION REPORT

EM-61 & GPR SURVEYS

King-Tobaccoville Road (Main Street) Sites King, North Carolina

May 13, 2005

Report prepared for:

Mike Branson

EarthTech, Inc.

701 Corporate Center Drive, Suite 475

Raleigh, North Carolina 27607

Prepared by:

Douglas Canavello, PG

Reviewed by:

Jeremy DeVore

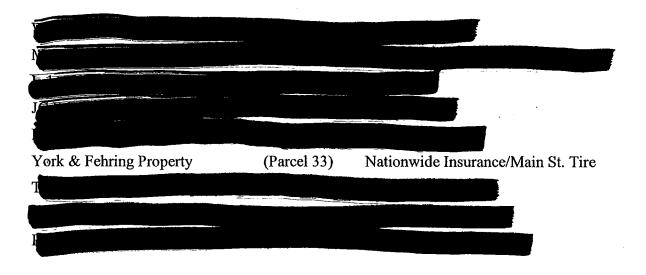
PYRAMID ENVIRONMENTAL & ENGINEERING, P.C. 700 NORTH EUGENE ST. GREENSBORO, NC 27401

(336) 335-3489

1.0 INTRODUCTION

Pyramid Environmental conducted geophysical investigations for Earth Tech of North Carolina, Inc. during the period of April 13 to May 2, 2005, within the proposed Right-of-Way (ROW) and easement areas at nine sites in King, North Carolina. The work was done as part of the North Carolina Department of Transportation (NCDOT) road widening project. The sites are located along the both sides of King-Tobaccoville Road (Main Street) from 0.25 miles west of US 52 to Meadowbrook Road. The geophysical surveys were conducted to determine if unknown metallic underground storage tanks (UST's) were present beneath the proposed ROW and easement areas of each site.

Earth Tech's representative Mr. Michael Branson, PG, provided maps that outlined the geophysical survey areas of each site and visited the sites with Pyramid Environmental's representative Mr. Douglas Canavello, PG during the week of March 28, 2005. Geophysical surveys were conducted at the following nine sites:



2.0 FIELD METHODOLOGY

Prior to conducting the geophysical investigations, a 10-foot by 10-foot survey grid was established across the proposed ROW and easement areas of eight of the nine sites using water-based marking paint. The exception was the William Oil Property (Parcel 6) where the entire site was gridded and surveyed. 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 using a Geonics EM61-MK1 metal detection instrument. According to the manufacture's specifications, the EM61 can detect a metal drum down to a maximum depth of approximately 8 feet. The EM61 data were digitally collected at each site along parallel northerly-southerly or easterly-westerly trending 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 each site are included in this report. 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.

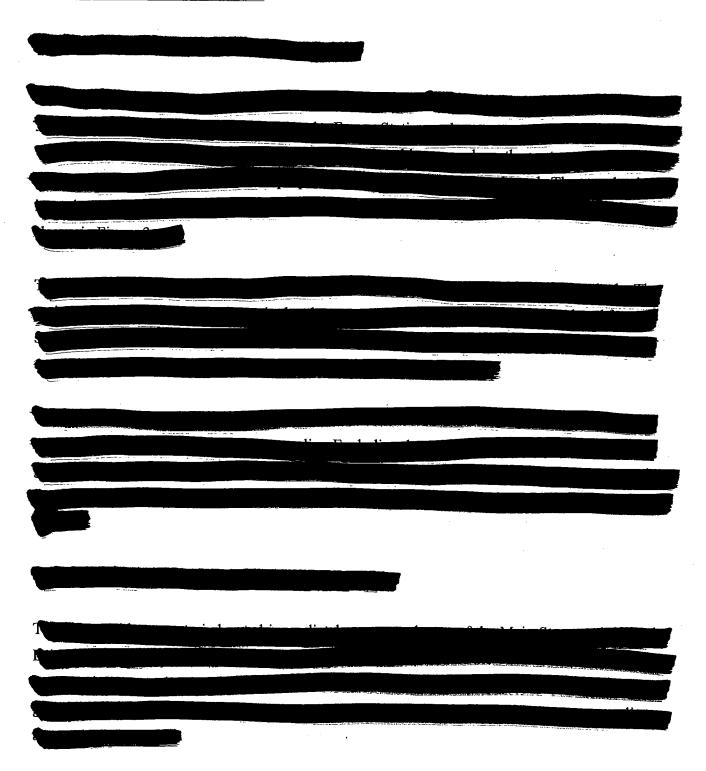
The differential results are obtained from the difference between the top and bottom coils of the EM61 instrument. The differential results focus on the larger metal objects such as drums and UST's and ignore the smaller insignificant metal objects.

GPR surveys were conducted across selected EM61 differential anomalies, and steel-reinforced concrete using a GSSI SIR-2000 unit equipped with a 400 MHz antenna. Surveys were also performed across several areas where parked vehicles that obstructed the EM61 survey had since been removed. 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 24 scans per second. A 110 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 eight feet, based on an estimated two-way travel time of 6 nanoseconds per foot.

The GPR data were downloaded to a field computer and later reviewed in the office using Radprint software. Photos of the EM61 and GPR instruments are shown in Figure 1. The perimeters of possible UST's, based on the geophysical results, were marked and labeled in the field using orange, water-based marking paint.

During the weeks of April 25 and May 2 2005, preliminary contour plots of the EM61 bottom coil and the differential results were emailed to Mr. Branson.

3.0 <u>DISCUSSION OF RESULTS</u>



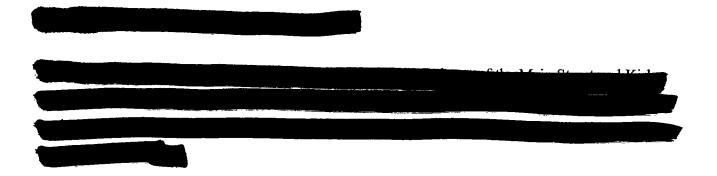
3.6 York & Fehring Property (Parcel 33)

The York & Fehring property contains two business-related buildings housing the Main Street Tire & Auto facility and Nationwide Insurance Agency. The property is located along the western side of Main Street and the proposed ROW and easement areas consist primary of an asphalt-covered surface. The location of the EM61 and GPR survey lines are shown in Figure 16. A number of immobile vehicles and equipment were located along the wooden fence line in the western edge of the survey area (area shaded in green) preventing geophysical surveys to be conducted across that portion of the site.

The EM61 bottom coil results and the differential results are presented in Figures 17 and 18, respectively. The linear EM anomalies are probably in response to utility lines or conduits. The area recording slightly elevated bottom coil values (area shaded in blue from X=15 to X=42) located between Main Street and the Main Street Tire & Auto building, is possibly in response to a combination of buried utilities and lightly reinforced concrete underlying the asphalt surface. The high amplitude linear anomaly intersecting X=54 Y=7.5, is probably in response to a buried conduit and/or steel-reinforced concrete underlying the asphalt surface.

The anomaly centered near grid coordinates X=22.5 Y=43, is probably in response to a metallic UST buried approximately 0.68 meters below surface. The tank appears to have a length and width of 3.1 meters and 1.8 meters, respectively. Two visible vent/fill pipes mark the eastern edge of the tank. GPR images of survey line X=22.5 and Y=48.9 showing the anomalies in response to the probable buried tank are presented in Figure 19.

The geophysical results suggest that the remaining portion of the survey area does not contain metallic UST's. Refer to Figures 17 and 18 for detailed geophysical information.

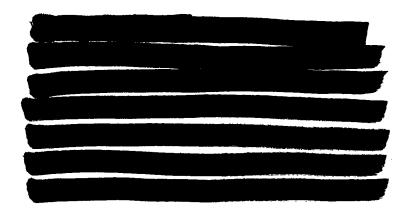




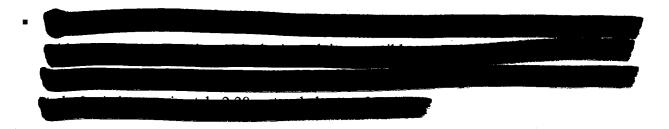
4.0 **SUMMARY & CONCLUSIONS**

Our evaluation of the EM61 and GPR data collected across the proposed ROW and easement areas at the nine sites in King, North Carolina provides the following summary and conclusions:

- The EM61 and GPR surveys provided reliable results for the detection of metallic UST's within the surveyed portions of the proposed ROW and easement areas of each site.
- GPR surveys were conducted across selected EM61 differential anomalies, areas containing steel reinforced concrete, and at several areas where parked vehicles had obstructed the EM61 surveys.
- Linear EM61 anomalies at the nine sites are probably in response to buried utility lines and/or conduits. The majority of non-linear anomalies are probably in response to known cultural features.
- Excluding the areas containing active and known UST's, the geophysical results did not detect the presence of unknown metallic UST's within the surveyed portions of the proposed ROW and easement areas at the following sites:

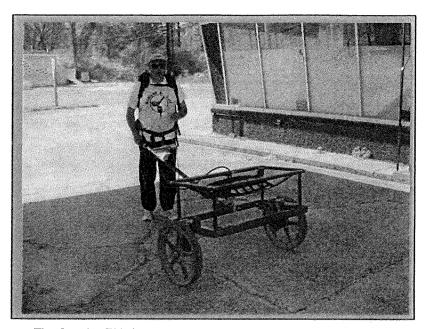


York & Fehring Property (Parcel 33): Geophysical results suggest the presence of a metallic UST centered near grid coordinates X=22.5 Y=43, and buried approximately 0.68 meters below surface. The probable tank appears to have a length and width of 3.1 meters and 1.8 meters, respectively and two vent/fill ports delineates the eastern edge of the tank.

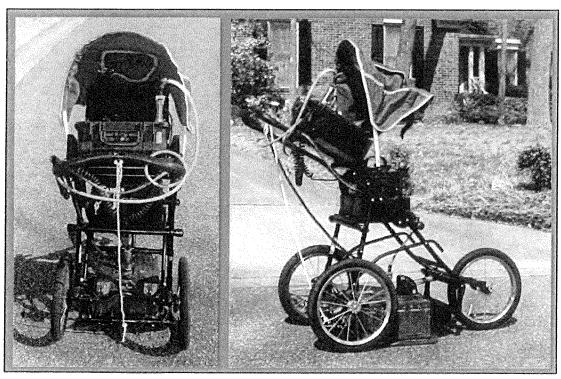


5.0 LIMITATIONS

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 define the locations of all metallic UST's but only suggest where some of the metallic UST's may be present. The EM61 and GPR anomalies, interpreted as possible UST's or tanks, may be attributed to other surface or subsurface conditions or cultural interference.



The Geonics EM61 metal detector was used to conduct the metal detection surveys at the King-Tobaccoville Road sites in April 2005.

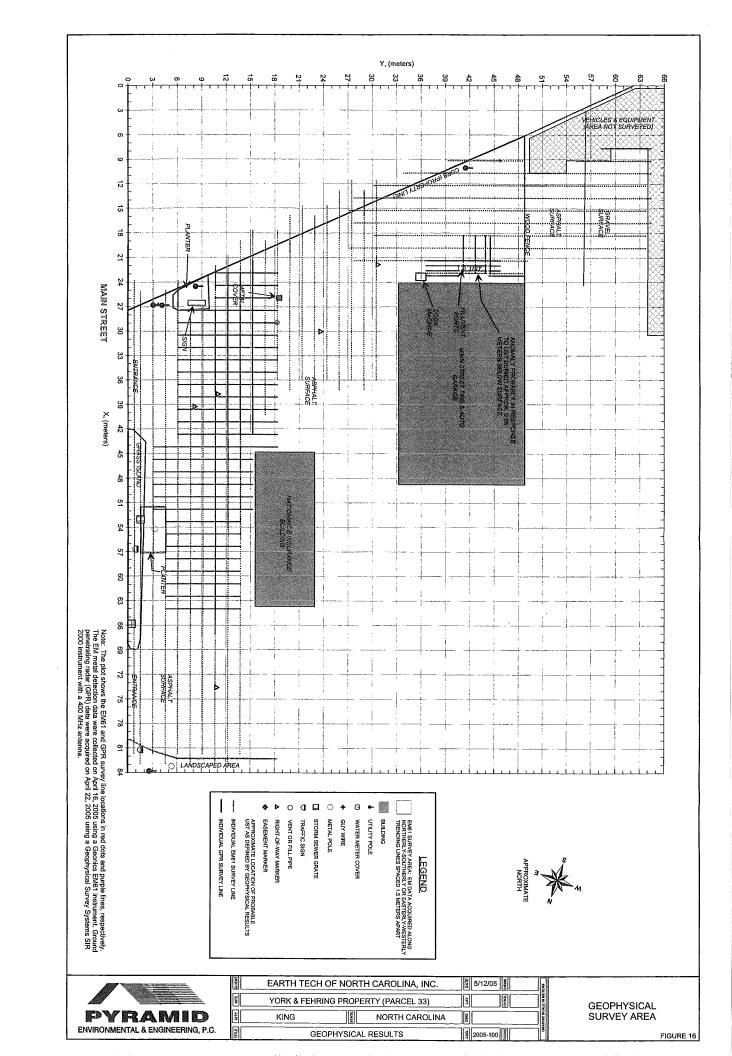


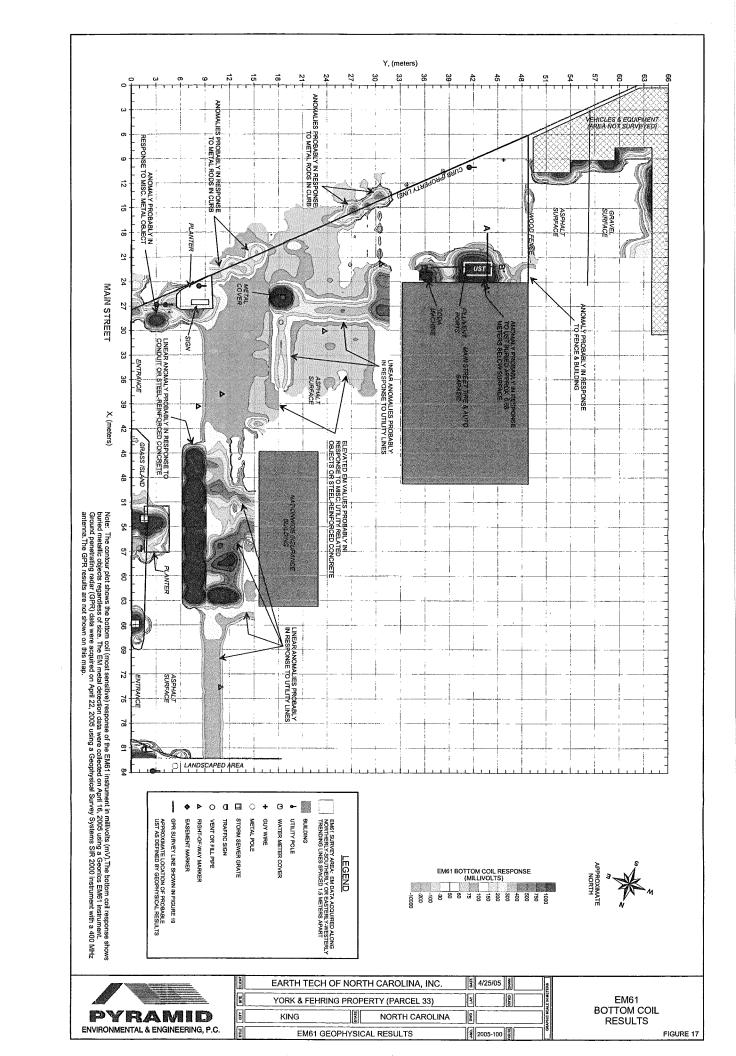
The SIR-2000 GPR system equipped with a 400 MHz antenna that was used at the King-Tobacco Road sites in April and May 2005.

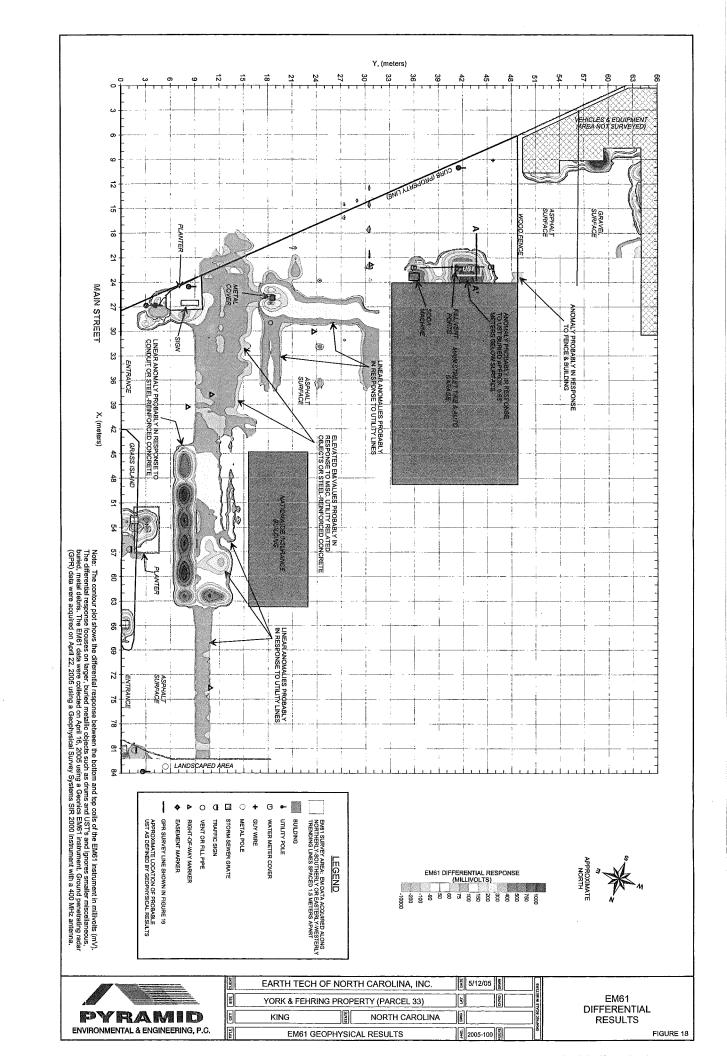


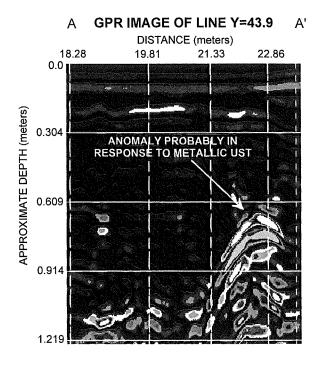
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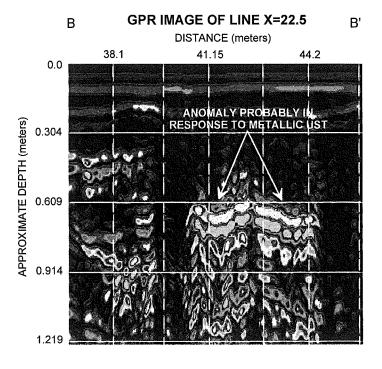
GEOPHYSICAL EQUIPMENT











GPR images of Lines Y=48.9 & X=22.5 show anomalies that are probably in response to a metallic UST buried approximately 0.68 meters below surface. GPR surveys were conducted across the survey area on April 22, 2005 using a Geophysical Survey Systems SIR 2000 instrument with a 400 MHz antenna.



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TILE	GEOPHYSICAL RESULTS	일 2005-100 명

GPR IMAGES



ATTACHMENT B

		K & FEHRI	NG PROPI	ERTY (PAI	
CLIEN	T NCDO	Γ(R-2201)			PAGE 1
İ		BER 8523			ELEVATION
		PROBET		OGY	DATE 5/11/05
EQUIP	MENT C	EOPROBE			DRILLER
					PREPARED BY BRANSON
					· · · · · · · · · · · · · · · · · · ·
DEPTH IN FEET	CASING BLOWS FOOT	BLOWS PER 6 INCHES	OVA (ppm)	SAMPLE DEPTH RANGE	FIELD CLASSIFICATION AND REMARKS
			152		6" ASPHALT/GRAVEL, MEDIUM TO DARK GRAY SILTY CLAY, DRY, SLIGHT ODOR. SUBMIT TO LABORATORY FOR ANALYSIS.
			97		AS ABOVE, DRY, MODERATE ODOR.
5.0			13.12		AS ABOVE, DRY, MODERATE ODOR.
5.0			13.61		MOTTLED MEDIUM BROWN, REDDISH BROWN, AND TAN SILT/CLAY
			4.72		SAPROLITE, DRY, SLIGHT ODOR.
10.0			6.73		AS ABOVE, DRY, SLIGHT ODOR.
10.0			9.39		AS ABOVE, DRY, SLIGHT ODOR.
			11.51		AS ABOVE, DRY, NO ODOR.
15.0			16.95		AS ABOVE, DRY, NO ODOR.
15.0			,		BORING TERMINATED AT 16 FEET. NO GROUNDWATER
					ENCOUNTERED.

PROJE	CT YORI	& FEHRI	NG PROPI	ERTY (PAF	RCEL #33) BORING NUMBER YF-2
CLIEN	T NCDOT	(R-2201)			PAGE 1
PROJE	CT NUM	BER 8523	8		ELEVATION
CONTR	RACTOR	PROBE T	ECHNOLO	OGY	DATE 5/11/05
EQUIP	MENT 9	EOPROBE			DRILLER
					PREPARED BY BRANSON
DEPTH IN FEET	CASING BLOWS FOOT	BLOWS PER 6 INCHES	OVA (ppm)	SAMPLE DEPTH RANGE	FIELD CLASSIFICATION AND REMARKS
			26	: !	1" ASPHALT OVER 3" CONCRETE, MEDIUM TO OLIVE GRAY SILTY CLAY, DRY, SLIGHT ODOR. SUBMIT TO LABORATORY FOR ANALYSIS.
			8.66		MEDIUM TO REDDISH BROWN SILT/CLAY, DRY, SLIGHT ODOR.
5.0			6.16		MEDIUM TO OLIVE GRAY SILT/CLAY, DRY, MODERATE ODOR.
			5.18		AS ABOVE, DRY, MODERATE ODOR.
i			3.52		AS ABOVE, DRY, SLIGHT ODOR.
— 10.0			3.36		MOTTLED MEDIUM BROWN, REDDISH BROWN, TAN, AND BLACK SILT/CLAY SAPROLITE, DRY, NO ODOR.
			2.48		MEDIUM TO YELLOW BROWN CLAY SAPROLITE, DRY, NO ODOR.
15.0			3.11		AS ABOVE, DRY, NO ODOR.
					BORING TERMINATED AT 16 FEET. NO GROUNDWATER ENCOUNTERED.

PROJECT YORK & FEHRING PROPERTY (PARCEL #33)	BORING NUMBER YF-3
CLIENT NCDOT (R-2201)	PAGE 1
PROJECT NUMBER 85238	ELEVATION
CONTRACTOR PROBE TECHNOLOGY	DATE 5/11/05
EOUIPMENT GEOPROBE	DRILLER

PREPARED BY BRANSON

DEPTH IN FEET	CASING BLOWS FOOT	BLOWS PER 6 INCHES	OVA (ppm)	SAMPLE DEPTH RANGE	FIELD CLASSIFICATION AND REMARKS
			9.02		4" ASPHALT/GRAVEL, MEDIUM TO OLIVE GRAY SILTY CLAY, DRY, SLIGHT ODOR.
			33		AS ABOVE, DRY, SLIGHT ODOR. SUBMIT TO LABORATORY FOR ANALYSIS.
5.0			2.44		AS ABOVE, DRY, NO ODOR.
:			2.63		MEDIUM TO REDDISH BROWN SILT/CLAY, DRY, NO ODOR.
			3.21		AS ABOVE, DRY, NO ODOR.
10.0			3.09		AS ABOVE, DRY, NO ODOR.
	ı		2.75		MEDIUM TO YELLOW BROWN CLAY SAPROLITE, DRY, NO ODOR.
15.0			2.5		AS ABOVE, DRY, NO ODOR.
					BORING TERMINATED AT 16 FEET. NO GROUNDWATER ENCOUNTERED.
	,				
20.0			i		



		& FEHRIN	NG PROPI	ERTY (PAF	
		Γ (R-2201)		_	PAGE 1
		BER 8523			ELEVATION
		PROBE T		JGY	DATE 5/11/05
EQUIP	MENT C	EOPROBE			DRILLER
					PREPARED BY BRANSON
DEPTH	CASING	BLOWS [OVA	I SAMPLE	
IN FEET	BLOWS FOOT	PER 6 INCHES	(ppm)	DEPTH RANGE	FIELD CLASSIFICATION AND REMARKS
			10.44		4" ASPHALT/GRAVEL, MEDIUM TO REDDISH BROWN SILTY CLAY,
					DRY, NO ODOR. SUBMIT TO LABORATORY FOR ANALYSIS.
			7.03		AS ABOVE, DRY, NO ODOR.
					·
			4.43		AS ABOVE, DRY, NO ODOR.
5.0					
			8.02		AS ABOVE, DRY, NO ODOR.
		<u> </u>			
			3.66		AS ABOVE, DRY, NO ODOR.
10.0					
			4.90		AS ABOVE, DRY, NO ODOR.
	,		3.49		MEDIUM TO YELLOW BROWN CLAY SAPROLITE, DRY, NO ODOR.
			649		AS ABOVE, DRY, NO ODOR.
15.0					·
					BORING TERMINATED AT 16 FEET. NO GROUNDWATER
					ENCOUNTERED.
		<u> </u>			
l		-	ł		

PROJE	CT YORK	& FEHRIN	NG PROPE	ERTY (PAF	RCEL #33) BORING NUMBER YF-5
CLIEN	r <u>NCDO1</u>	(R-2201)	_		PAGE 1
PROJE	CT NUM	BER <u>8523</u>	8		ELEVATION
		PROBE T		OGY	DATE 5/11/05
EQUIP	MENT 9	EOPROBE			DRILLER
					PREPARED BY BRANSON
	- augrija	Lavania			
DEPTH IN FEET	CASING BLOWS FOOT	BLOWS PER 6 INCHES	OVA (ppm)	SAMPLE DEPTH RANGE	FIELD CLASSIFICATION AND REMARKS
			2.95		4" ASPHALT/GRAVEL, MEDIUM BROWN SILTY CLAY, DRY, NO ODOF
			i		
			2.75		AS ABOVE, DRY, NO ODOR.
					·
	<u> </u>				
	<u> </u>	<u> </u>	2.93	ļ	AS ABOVE, DRY, NO ODOR.
_ 5.0					
			2.55		
			3.55		MEDIUM TO REDDISH BROWN SILT/CLAY, DRY, NO ODOR.
		-	3.33		AS ADONE DRY NO ODOR
			3.33		AS ABOVE, DRY, NO ODOR.
10.0		ŀ	3.35	İ	MEDIUM TO YELLOW BROWN CLAY SAPROLITE, DRY, NO ODOR.
			3.33		MEDICAL TO THE BOWN CHAIL ON ROBITE, DRI, NO OBOK.
	}				
	1		3.73		AS ABOVE, DRY, NO ODOR.
		<u> </u>			
			3.79		AS ABOVE, DRY, NO ODOR. SUBMIT TO LABORATORY FOR
_ 15.0			3,,,		ANALYSIS.
		} .	{		
			1		BORING TERMINATED AT 16 FEET. NO GROUNDWATER
			1	1	ENCOUNTEDED
		ļ	1	1	ENCOUNTERED.
					ENCOUNTERED.

_ 20.0

					
PROJE	CT YORK	& FEHRI	NG PROPE	ERTY (PAF	RCEL #33) BORING NUMBER YF-6
CLIEN'	r <u>ncdot</u>	(R-2201)		<u>.</u> .	PAGE
PROJE	CT NUM	BER 8523	8		ELEVATION
CONTR	RACTOR	PROBE T	ECHNOLO	OGY	DATE 5/11/05
EQUIP	MENT G	EOPROBE			DRILLER
					PREPARED BY BRANSON
					<u> </u>
DEPTH IN FEET	CASING BLOWS FOOT	BLOWS PER 6 INCHES	OVA (ppm)	SAMPLE DEPTH RANGE	FIELD CLASSIFICATION AND REMARKS
			4.74		4" ASPHALT/GRAVEL, MEDIUM TO REDDISH BROWN SILTY CLAY, DRY, NO ODOR. SUBMIT TO LABORATORY FOR ANALYSIS.
			4.26		AS ABOVE, DRY, NO ODOR.
5.0			4.71		MEDIUM BROWN SLIGHTLY SILTY CLAY, DRY, NO ODOR.
			4.58		MOTTLED MEDIUM BROWN, REDDISH BROWN, AND TAN SILT/CLAY SAPROLITE, DRY, NO ODOR.
			4.31		AS ABOVE, DRY, NO ODOR.
10.0			4.49		AS ABOVE, DRY, NO ODOR.
	3		3.47		MEDIUM TO YELLOW BROWN CLAY SAPROLITE, DRY, NO ODOR.
15.0			3.95		AS ABOVE, DRY, NO ODOR.
			·		BORING TERMINATED AT 16 FEET. NO GROUNDWATER ENCOUNTERED.

_ 20.0

PROJE	CT YOR	K & FEHRI	NG PROP	ERTY (PAI	RCEL #33) BORING NUMBER YF-7
CLIEN	T NCDO	Γ (R-2201)			PAGE 1
PROJE	ECT NUM	IBER <u>8523</u>	8		ELEVATION
CONT	RACTOR	PROBE T	ECHNOL	OGY	DATE 5/11/05
EQUIP	MENT 9	GEOPROBE			DRILLER
					PREPARED BY BRANSON
DEPTH IN	CASING BLOWS FOOT	BLOWS PER	OVA (ppm)	SAMPLE DEPTH	FIELD CLASSIFICATION AND REMARKS
FEET	1001	6 INCHES		RANGE	
			3.87		4" ASPHALT/GRAVEL, MEDIUM BROWN SILTY CLAY, DRY, NO ODOR.
		<u> </u>	2.00	 	
			3.98	ŀ	AS ABOVE, DRY, NO ODOR. SUBMIT TO LABORATORY FOR ANALYSIS.
					· ·
				ļ	
		<u> </u>	3.63		AS ABOVE, DRY, NO ODOR.
5.0					
				1	,
			2.21	1	AS ABOVE, DRY, NO ODOR.
	-				
			1.73		AS ABOVE, DRY, NO ODOR.
10.0				1	
			2.3	İ	AS ABOVE, DRY, NO ODOR.
	ł		1.76		MEDIUM TO YELLOW BROWN CLAY SAPROLITE, DRY, NO ODOR.
	<u> </u>				
	ļ				
			1.14		AS ABOVE, DRY, NO ODOR.
15.0		ļ			
					BORING TERMINATED AT 16 FEET. NO GROUNDWATER
	<u> </u>				ENCOUNTERED.
		<u> </u>			

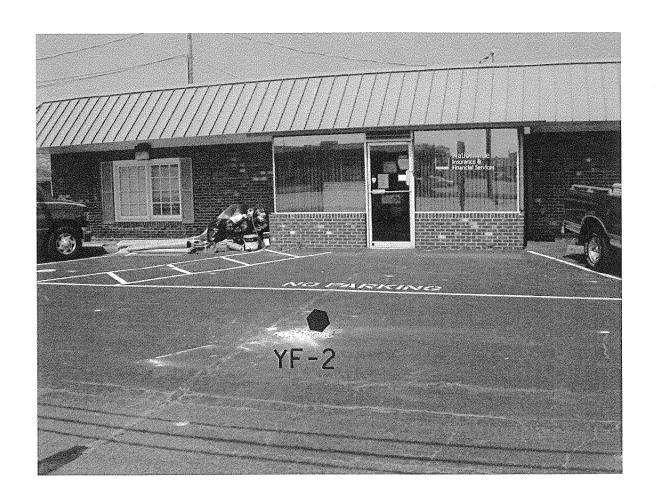
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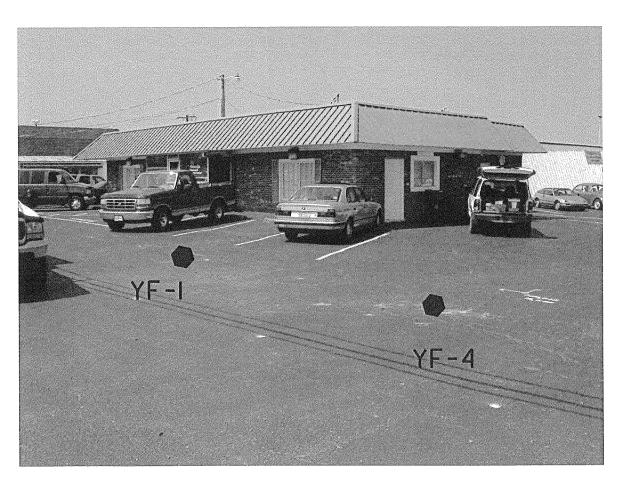
PROJE	CT YOR	K & FEHRI	NG PROPI	ERTY (PAI	RCEL #33) BORING NUMBER YF-8					
CLIEN	T NCDO	Г (R-2201)			PAGE 1					
PROJE	CT NUM	BER 8523	8		ELEVATION					
CONT	RACTOR	PROBE T	ECHNOL	OGY	DATE 5/11/05					
EQUIP	MENT C	SEOPROBE			DRILLER					
					PREPARED BY BRANSON					
										
DEPTH IN FEET	CASING BLOWS FOOT	BLOWS PER 6 INCHES	OVA (ppm)	SAMPLE DEPTH RANGE	FIELD CLASSIFICATION AND REMARKS					
			4.48		4" ASPHALT/GRAVEL, MEDIUM BROWN SILTY CLAY, DRY, NO ODOR.					
	<u> </u>									
			4.11		AS ABOVE, DRY, NO ODOR.					
5.0			4.80		AS ABOVE, DRY, NO ODOR.					
J 5.0										
	<u> </u>		16.24							
			16.24		MEDIUM TO OLIVE GRAY CLAY, WET, SEWAGE ODOR. SUBMIT TO LABORATORY FOR ANALYSIS.					
	<u> </u>	ļ <u>-</u>	6.83		MOMENT DE MEDINA (DE CARA DE					
			0.03	1	MOTTLED MEDIUM BROWN, REDDISH BROWN, AND TAN SILT/CLAY SAPROLITE, DRY, NO ODOR.					
					,,					
10.0					E ADOME DON NO ODOD					
			4.95		AS ABOVE, DRY, NO ODOR.					
	1	4.58 MF			MEDIUM TO YELLOW BROWN CLAY SAPROLITE, DRY, NO ODOR.					
					MEDION TO TELEOW BROWN CLAT SAFROLITE, DRT, NO ODOR.					
			2.46		AS ABOVE, DRY, NO ODOR.					
15.0 AS A					AS ADOVE, DRI, NO ODOR.					
				:						
	<u> </u>			BORING TERMINATED AT 16 FEET. NO GROUNDWATER						
					ENCOUNTERED.					
			1							
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	·			

ATTACHMENT C

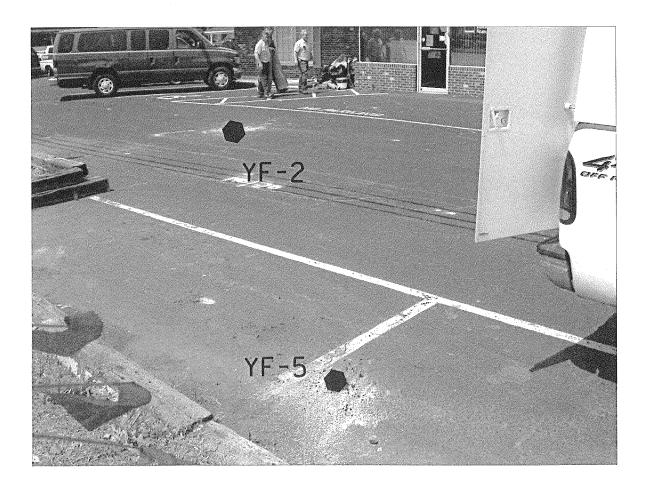


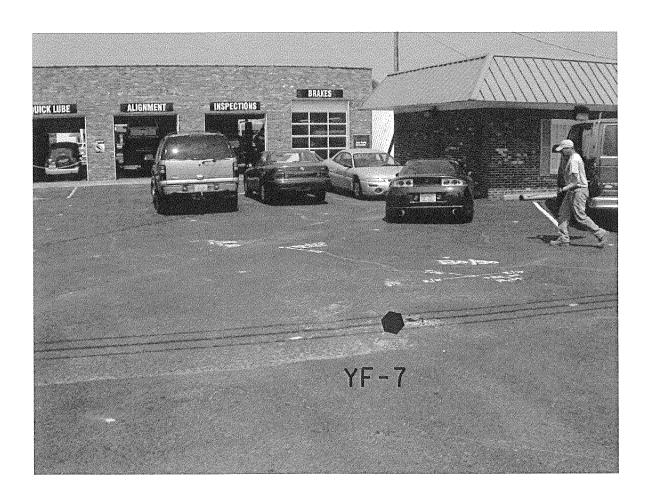






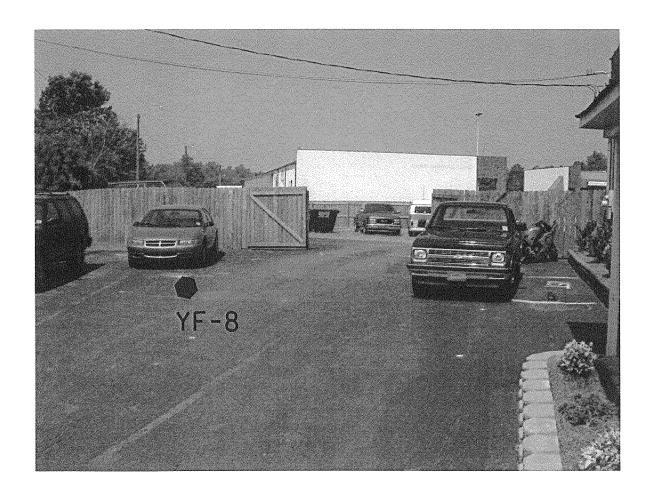














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ATTACHMENT D

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: G204-456

Client Project: NCDOT-York&Fehring #33

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 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.

5/23/05

Sincerely,

Raradigm Analytical Laboratories, Inc.

Laboratory Director

J. Patrick Weaver

Results for Total Petroleum Hydrocarbons by GC/FID 8015

Client Sample ID: YF-1

Analyzed By: DCS

Client Project ID: NCDOT-York&Fehring #33

Date Collected: 5/11/05 8:00

Lab Sample ID: G204-456-1

Date Received: 5/12/05

Lab Project ID: G204-456

Matrix: Soil

Report Basis:

Dry Weight

Solids 80.41

Analyte	Result	Report Limit	Prep	Dilution	Date
	MG/KG	мо/ко	Method	Factor	Analyzed
Gasoline Range Organics	BQL	7.46	5030	1 1	05/20/05
Diesel Range Organics	BQL	7.75	3545		05/20/05

Results for Total Petroleum Hydrocarbons by GC/FID 8015

Client Sample ID: YF-2

Analyzed By: DCS

Client Project ID: NCDOT-York&Fehring #33

Date Collected: 5/11/05 8:15

Lab Sample ID: G204-456-2

Date Received: 5/12/05

Lab Project ID: G204-456

Report Basis: Dry Weight

Matrix: Soil

Solids 79.67

Analyte	Result	Report Limit	Prep	Dilution	Date
	MG/KG	MG/KG	Method	Factor	Analyzed
Gasoline Range Organics	BQL	7.53	5030	1	05/20/05
Diesel Range Organics	13.1	7.83	3545		05/20/05

Results for Total Petroleum Hydrocarbons by GC/FID 8015

Client Sample ID: YF-3

Analyzed By: DCS

Client Project ID: NCDOT-York&Fehring #33

Date Collected: 5/11/05 8:40

Lab Sample ID: G204-456-3

Date Received: 5/12/05

Lab Project ID: G204-456

Matrix: Soil

Report Basis:

Dry Weight

Solids 84.67

Analyte	Result	Report Limit	Prep	Dilution	Date
	MG/KG	мg/кg	Method	Factor	Analyzed
Gasoline Range Organics	BQL	7.09	5030	1	05/20/05
Diesel Range Organics	BQL	7.21	3545	1	05/20/05

Results for Total Petroleum Hydrocarbons by GC/FID 8015

Client Sample ID: YF-4

Analyzed By: DCS

Client Project ID: NCDOT-York&Fehring #33

Date Collected: 5/11/05 9:00

Lab Sample ID: G204-456-4

Date Received: 5/12/05

Lab Project ID: G204-456

Matrix: Soil

Report Basis: **Dry Weight** Solids 78.91

Analyte	Result	Report Limit	Prep	Dilution	Date
	MG/KG	MG/KG	Method	Factor	Analyzed
Gasoline Range Organics	BQL	7.6	5030	1	05/20/05
Diesel Range Organics	BQL	7.74	3545	1	05/21/05

Results for Total Petroleum Hydrocarbons by GC/FID 8015

Client Sample ID: YF-5

Analyzed By: DCS

Client Project ID: NCDOT-York&Fehring #33

Date Collected: 5/11/05 9:30

Lab Sample ID: G204-456-5

Date Received: 5/12/05

Lab Project ID: G204-456

Matrix: Soil

Report Basis: Dry Weight

Solids 78.98

Analyte	Result	Report Limit	Prep	Dilution	Date
	MG/KG	MG/KG	Method	Factor	Analyzed
Gasoline Range Organics	BQL	7.6	5030	1	05/20/05
Diesel Range Organics	BQL	7.67	3545	1	05/21/05

Results for Total Petroleum Hydrocarbons by GC/FID 8015

Client Sample ID: YF-6

Analyzed By: DCS

Client Project ID: NCDOT-York&Fehring #33

Date Collected: 5/11/05 10:00

Lab Sample ID: G204-456-6

Date Received: 5/12/05

Lab Project ID: G204-456

Matrix: Soil

Report Basis: **Dry Weight** Solids 77.66

Analyte	Result	Report Limit	Prep	Dilution	Date
	MG/KG	MG/KG	Method	Factor	Analyzed
Gasoline Range Organics	BQL	7.73	5030	1 1	05/20/05
Diesel Range Organics	18.9	7.98	3545		05/21/05

Results for Total Petroleum Hydrocarbons by GC/FID 8015

Client Sample ID: YF-7

Analyzed By: DCS

Client Project ID: NCDOT-York&Fehring #33

Date Collected: 5/11/05 10:30

Lab Sample ID: G204-456-7

Date Received: 5/12/05

Lab Project ID: G204-456

Matrix: Soil

Report Basis: Dry Weight

Solids 83.85

Analyte	Result	Report Limit	Prep	Dilution	Date
	MG/KG	MG/KG	Method	Factor	Analyzed
Gasoline Range Organics	BQL	7.16	5030	1	05/20/05
Diesel Range Organics	8.7	7.43	3545	1	05/21/05

Results for Total Petroleum Hydrocarbons by GC/FID 8015

Client Sample ID: YF-8

Analyzed By: DCS

Client Project ID: NCDOT-York&Fehring #33

Date Collected: 5/11/05 10:50

Lab Sample ID: G204-456-8

Date Received: 5/12/05

Lab Project ID: G204-456

Matrix: Soil

Report Basis: Dry Weight

Solids 83.29

Analyte	Result	Report Limit	Prep	Dilution	Date
	MG/KG	MG/KG	Method	Factor	Analyzed
Gasoline Range Organics	BQL	7.2	5030	1	05/20/05
Diesel Range Organics	BQL	7.39	3545	1	05/21/05



List of Reporting Abbreviations and Data Qualifiers

B = Compound also detected in batch blank

BQL = Below Quantitation Limit

DF = Dilution Factor

Dup = Duplicate

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

% soilds = 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.

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TERMS AND CONDITIONS								
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