

December 9, 2009

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

Reference: Preliminary Site Assessment
Sandra Glover Property (Parcel #123)
8487 Valley Boulevard (US 321)
Blowing Rock, Watauga County, North Carolina
NCDOT Tip No. R-2237C
WBS Element 34402.1.1
AECOM Project No. 60143190

Dear Mr. Caldwell:

AECOM Technical Services of North Carolina, Inc., (AECOM) has completed the Preliminary Site Assessment conducted at the above-referenced property. The work was performed in accordance with the Technical and Cost proposal dated November 2, 2009, and the North Carolina Department of Transportation's (NCDOT's) Notice to Proceed dated November 2, 2009. 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 Sandra Glover Property (Parcel #123) is located at 8487 Valley Boulevard (US 321) in Blowing Rock, Watauga County, North Carolina. The property is situated at the intersection of Valley Boulevard and Skyland Drive (Figure 1). Based on information supplied by the NCDOT and the site visit, AECOM understands that the site is a former gas station that has been converted to a commercial business (Park Place Realtors). According to the NCDOT and the tenant, several underground storage tanks (USTs) are present on the property. However, no information regarding the actual location of the tanks is available for review and the locations of the USTS are unknown. The structures on the property consist of one block building with an asphalt parking lot in front. The southern portion of the property is undeveloped (Figure 2). The NCDOT has advised that the right-of-way/easement will affect the entire southern portion of the property and the area about half-way between the building and US 321. Because of the unknown location of the USTs, the NCDOT requested a Preliminary Site Assessment. The scope of work as defined in the Request for Technical and Cost Proposal was to evaluate the site with respect to

the presence of USTs and assess where contamination exists on the property. An estimate of the quantity of impacted soil was to be provided.

AECOM reviewed the North Carolina Department of Environment and Natural Resources (NCDENR) Incident Management database and Incident Number WS-1525 has been assigned to the property. However, no additional information was available in the on-line database. AECOM also reviewed the UST registration database to obtain UST ownership information. No USTs have been registered for the address.

Geophysical Survey

Prior to AECOM'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/easement. 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 Valley Boulevard and the Y-axis oriented approximately perpendicular to Valley Boulevard. The grid was located to cover the accessible portions of the proposed right-of-way. The survey lines were spaced 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 such a survey was considered necessary.

Access was available to all areas of the proposed right-of-way/easement on the property and several anomalies were detected with the geophysical survey. Some of these anomalies were attributed to buried utility lines or conduits, or vehicles. However, four of the anomalies were consistent with USTs. Based on the geophysical signatures and site observations, one anomaly at the north end of the property has been classified as a probable UST because of the presence of a fill port, and three of the anomalies were classified as possible USTs because of insufficient supporting data outside the geophysical survey. A detailed report of findings and interpretations is presented in Attachment A.

Site Assessment Activities

On November 17, 2009, AECOM mobilized to the site to conduct a Geoprobe[®] direct push investigation to evaluate soil conditions within the proposed right-of-way/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 4-foot long acetate sleeves inside the direct push sampler. Each of these sleeves was divided into 2-foot long sections for soil sample screening. Each 2-foot interval was placed in a resealable plastic bag and the bag was set aside for a sufficient amount of time to allow volatilization of organic compounds from the soil to the bag headspace. The probe

of a flame ionization detector/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 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).

Nine direct-push holes (GL-1 through GL-9) were advanced within the proposed right-of-way/easement to depths ranging from 2 to 8 feet as shown in Figure 2 and Attachment B. The borings were located to evaluate the entire right-of-way/easement (Attachment C). Borings GL-1 through GL-7 were located to evaluate the soil conditions along the right-of-way/easement line and adjacent to the geophysical anomalies/USTs. Borings GL-8 and GL-9 were placed to assess the horizontal extent of potential contamination. The lithology encountered by the direct-push samples generally was consistent throughout the site. The ground surface was covered with about 3 inches of asphalt/gravel or topsoil. Below the surface to a depth of 6 to 8 feet was a medium to chocolate brown silt/clay/gravel. Below this lithology was coarse-grained sand where groundwater was encountered. With the exception of borings GL-8 and GL-9, all the borings were terminated at a depth of 8 feet where groundwater was encountered. Borings GL-8 and GL-9 were terminated at 2 and 8 feet, respectively, as the result of equipment refusal on bedrock. Based on field screening, soil samples were submitted for laboratory analysis, which are summarized in Table 1. Following the completion of each boring, it was backfilled in accordance with 15A NCAC 2C.

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 two of the nine soil samples collected from the site (Figure 3). Soil samples from borings GL-3 and GL-8 contained DRO or GRO concentrations above the method quantitation limit. 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. The DRO concentration (110 mg/kg) and GRO concentration (1,800 mg/kg) in the soil sample from boring GL-3, and the DRO concentration (14 mg/kg) in the soil sample from boring GL-8 were present at concentrations above the 10 mg/kg assumed action level.

Conclusions and Recommendations

A Preliminary Site Assessment was conducted to evaluate the Sandra Glover Property (Parcel #123) located at 8487 Valley Boulevard in Blowing Rock, Watauga County, North Carolina. Nine soil borings were advanced to evaluate the soil conditions throughout the right-of-way/easement. 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 nine 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 GL-3 and GL-8 contained TPH concentrations identified as DRO and GRO above the assumed action level. A review of the field screening readings (Table 1) and Figure 3 suggests that the thickness of the potentially contaminated soil is at about 2 feet. However, the contamination depth in boring GL-3 was encountered at a depth of about 6 to 8 feet and in boring GL-8 the contamination was encountered at ground surface to 2 feet. Based on Figure 3, the contamination appears to be confined to small areas around these borings. Using CADD software, AECOM measured the affected area, which resulted in 550 ft². A total volume of contaminated soil of 41 cubic yards was calculated from the area of contamination and a contamination thickness of 2 feet. 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.

The attached Figure 3 shows that a fill section is proposed for the areas where the contaminated soil is located. The majority of the estimated 41 cubic yards of affected soil is associated with a possible UST and the soil will likely be addressed at the same time as the USTs. The contaminated soil at boring GL-8 is at or near the ground surface, but because the area is in a fill section, the contaminated soil will likely not affect the project.

Mr. Ethan Caldwell
December 9, 2009
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AECOM appreciates the opportunity to work with the NCDOT on this project. Because compounds were detected above the applicable action levels in the soil samples, AECOM 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 1
SOIL FIELD SCREENING AND ANALYTICAL RESULTS
GLOVER PROPERTY (PARCEL #123)
BLOWING ROCK, WATAUGA COUNTY, NORTH CAROLINA
NCDOT PROJECT NO. R-2237C
WBS ELEMENT 34402.1.1
AECOM PROJECT NO. 60143190

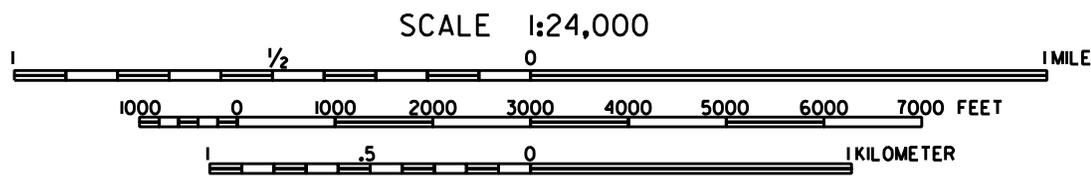
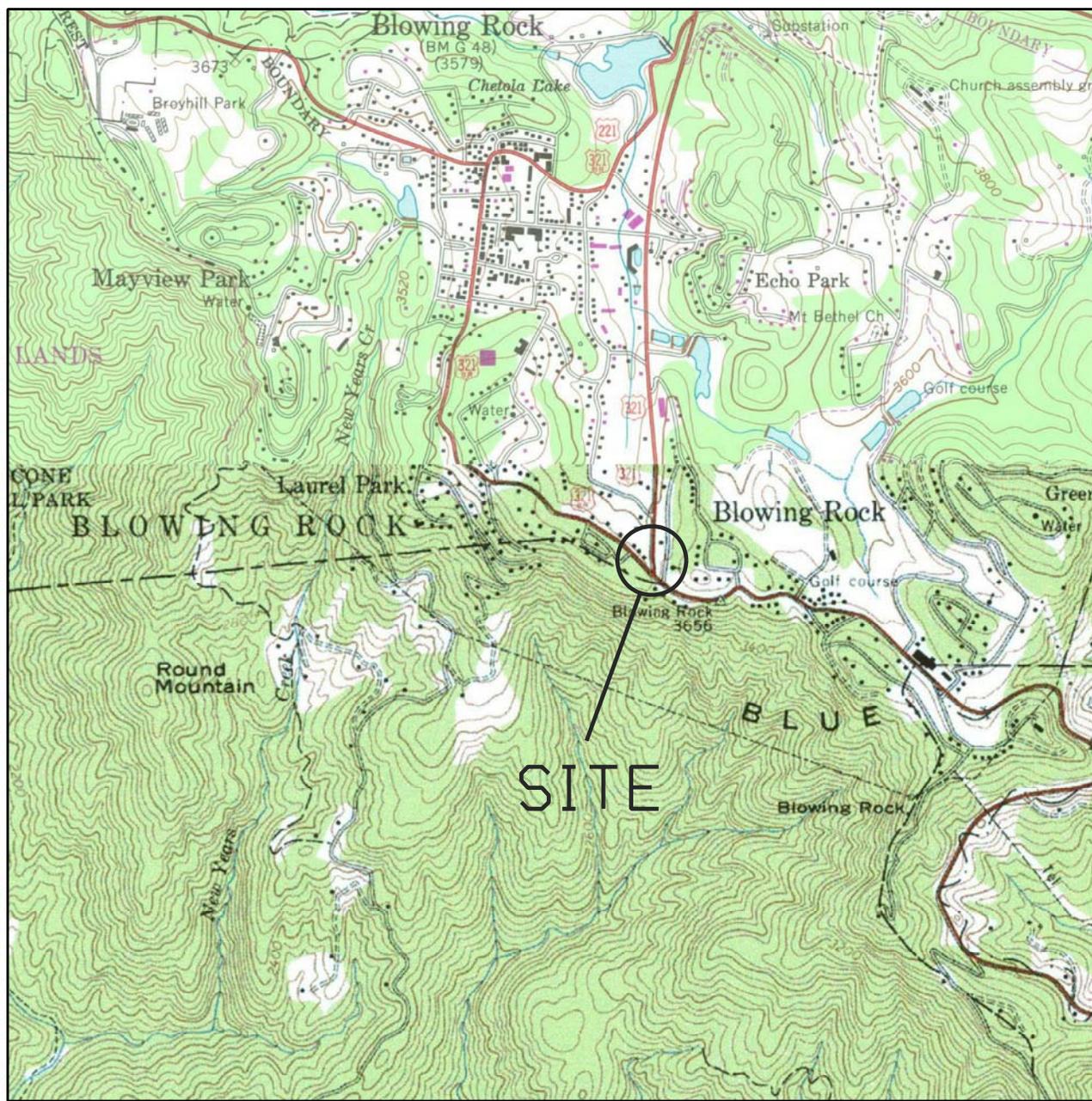
LOCATION	DEPTH (ft)	FID READING (ppm)	SAMPLE ID	ANALYTICAL RESULTS (mg/kg)	ASSUMED ACTION LEVEL (mg/kg)
GL-1	0 - 2	0.02			
	2 - 4	0.04			
	4 - 6	0.01			
	6 - 8	0.05	GL-1	DRO (BQL) GRO (BQL)	10 10
GL-2	0 - 2	0.94	GL-2	DRO (BQL) GRO (BQL)	10 10
	2 - 4	0.02			
	4 - 6	0.01			
	6 - 8	0.07			
GL-3	0 - 2	9.83			
	2 - 4	3.25			
	4 - 6	8.86			
	6 - 8	481	GL-3	DRO (110) GRO (1,800)	10 10
GL-4	0 - 2	0.01			
	2 - 4	0.01			
	4 - 6	0.21	GL-4	DRO (BQL) GRO (BQL)	10 10
	6 - 8	0.05			
GL-5	0 - 2	0.05			
	2 - 4	0.3			
	4 - 6	0.17			
	6 - 8	0.53	GL-5	DRO (BQL) GRO (BQL)	10 10
GL-6	0 - 2	0.11			
	2 - 4	0.12			
	4 - 6	0.32	GL-6	DRO (BQL) GRO (BQL)	10 10
	6 - 8	0.25			
GL-7	0 - 2	0.14	GL-7	DRO (BQL) GRO (BQL)	10 10
	2 - 4	0.04			
	4 - 6	0.09			
GL-8	0 - 2	0.01	GL-8	DRO (14) GRO (BQL)	10 10
GL-9	0 - 2	13.58	GL-9	DRO (BQL) GRO (BQL)	10 10
	2 - 4	5.13			
	4 - 6	8.25			

Soil samples were collected on November 17, 2009.

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



FIGURES

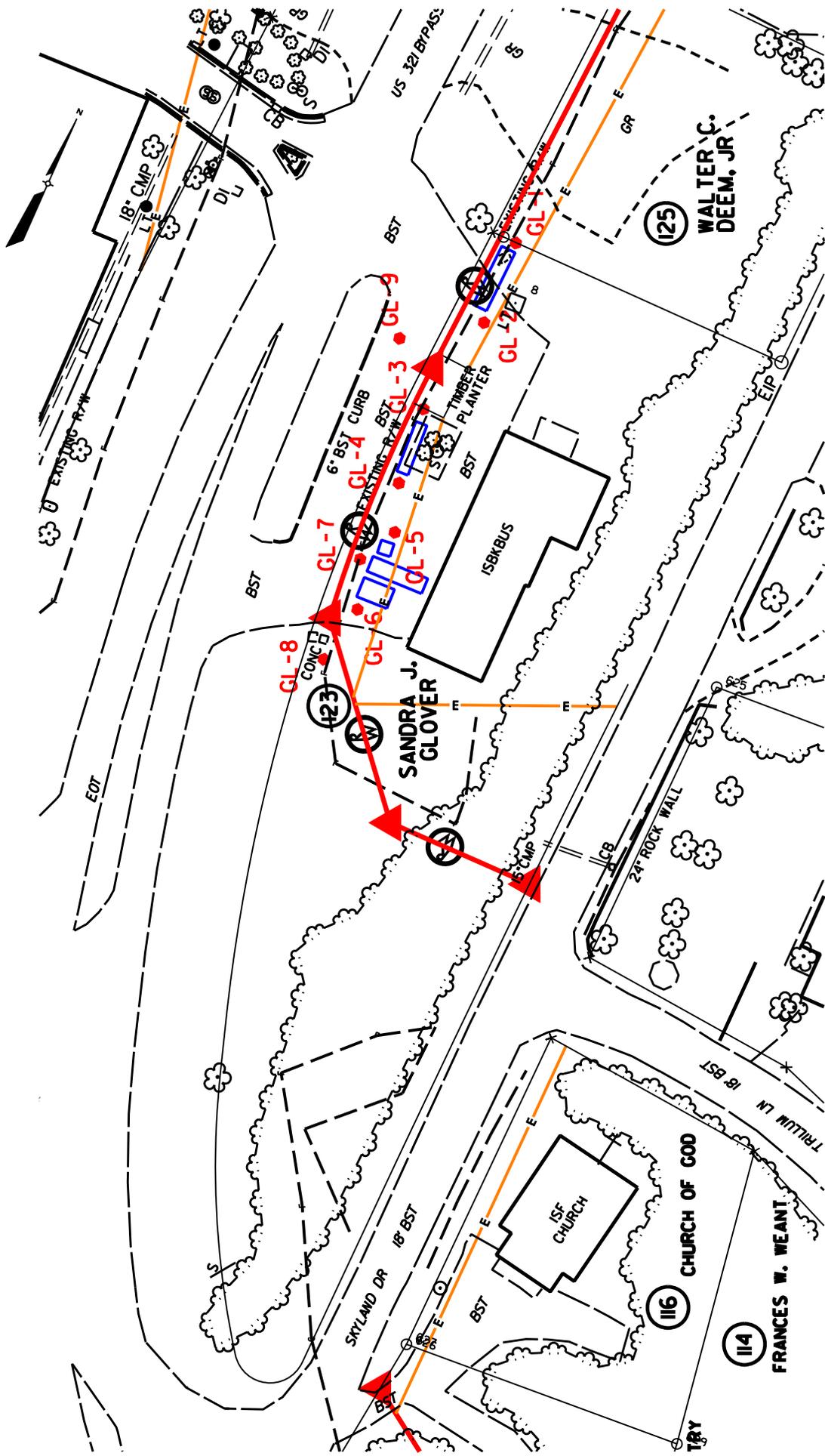


SOURCE: U.S. GEOLOGICAL SURVEY 7.5 MIN QUADRANGLE: GLOBE, NC (1959) AND BOONE, NC (REV 1978)



FIGURE I
VICINITY MAP
SANDRA GLOVER PROPERTY (PARCEL #123)
BLOWING ROCK, WATAUGA COUNTY NORTH CAROLINA
NOVEMBER 2009

60143190



LEGEND

- GL-1 (Red diamond symbol)
- GL-1 to GL-8 (Blue rectangle symbol)

SOIL SAMPLE LOCATION AND IDENTIFICATION
 GEOPHYSICAL ANOMALY INDICATING POSSIBLE USTS

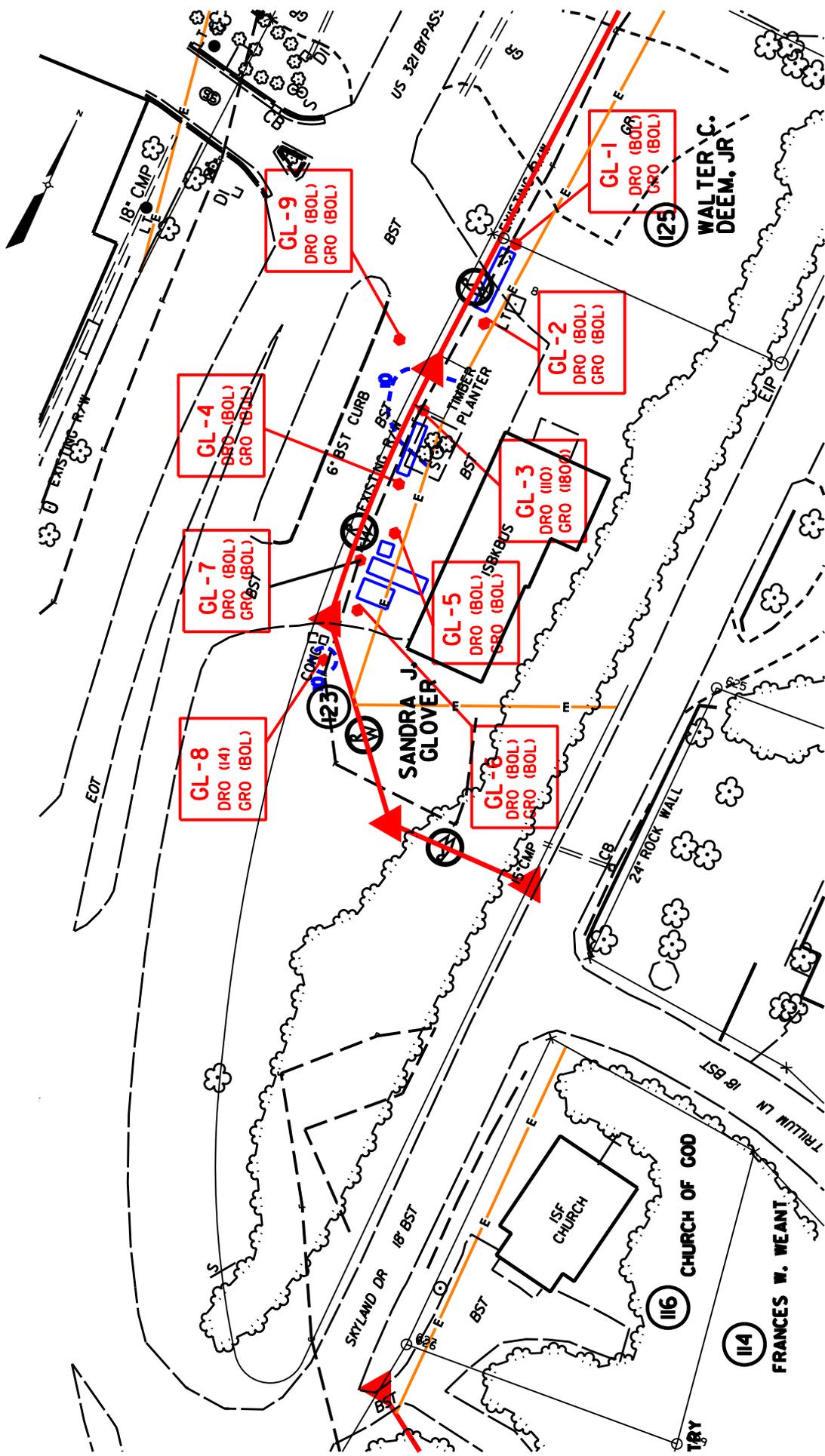


FIGURE 2
SITE MAP

SANDRA GLOVER PROPERTY (PARCEL #123)
 BLOWING ROCK, WATAUGA COUNTY, NORTH CAROLINA

NOVEMBER 2009

60143190



LEGEND

- GL-1 ◆ SOIL SAMPLE LOCATION AND IDENTIFICATION
- DRO (123) TPH AS DIESEL FUEL IN MG/KG
- GRO (123) TPH AS GASOLINE IN MG/KG
- BELOW QUANTITATION LIMIT
- GEOPHYSICAL ANOMALY INDICATING POSSIBLE USTS
- TPH ISOCONCENTRATION CONTOUR IN MG/KG

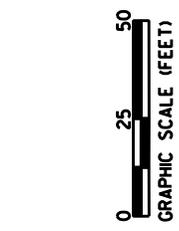


FIGURE 3
SOIL ANALYTICAL RESULTS MAP
SANDRA GLOVER PROPERTY (PARCEL #123)
 BLOWING ROCK, WATAUGA COUNTY, NORTH CAROLINA



ATTACHMENT A

GEOPHYSICAL INVESTIGATION REPORT

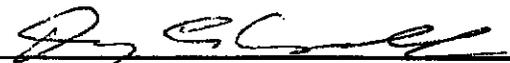
EM61 & GPR SURVEYS

**SANDRA GLOVER PROPERTY – PARCEL 123
Blowing Rock, North Carolina**

December 7, 2009

**Report prepared for: Michael W. Branson, PG
AECOM Environment
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AECOM Environment
GEOPHYSICAL INVESTIGATION REPORT
SANDRA GLOVER PROPERTY – PARCEL 123
Blowing Rock, North Carolina

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| Figure 2 | EM61 Metal Detection Results |
| Figure 3 | Enlarged Map of EM61 Metal Detection |
| Figure 4 | GPR Images Across Possible & Probable USTs |

1.0 INTRODUCTION

Pyramid Environmental conducted geophysical investigations for AECOM Environment across the proposed Right-of-Way (ROW) portion of the Sandra Glover property (Parcel 123) located along the east side of Valley Boulevard (NC-321) in Blowing Rock, North Carolina. The property contains an active real estate office building in the northern portion of the property and grass or wooded terrain in the southern portion of the property.

The geophysical investigation was conducted on November 9 and 13, 2009 to determine if unknown, metallic underground storage tanks (USTs) were present beneath the proposed ROW area. On the morning of November 9, 2009, AECOM Environment representative Mr. Michael Branson, PG identified the geophysical survey area to Pyramid Environmental personnel. The geophysical survey area had a maximum length and width of 400 feet and 75 feet respectively and included the property lying immediately adjacent to Valley Boulevard. Photographs of the geophysical equipment used in this investigation and the geophysical survey area at the Sandra Glover property are shown in **Figure 1**.

2.0 FIELD METHODOLOGY

Prior to conducting the geophysical investigation, a 10-foot by 20-foot survey grid was established across the geophysical survey area using measuring tapes, pin flags and water-based marking paint. These grid 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 investigation consisted of electromagnetic (EM) induction-metal detection surveys and ground penetrating radar (GPR) surveys. The EM survey was performed on November 9, 2009 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. Smaller objects (1-foot or less in size) can be detected to a maximum depth of 4 to 5 feet. All of the EM61 data were digitally collected at approximately 0.8 foot intervals along northerly-southerly, parallel

survey lines spaced five feet apart. All of the data were downloaded to a computer and reviewed in the field and office using the Geonics DAT61W and Surfer for Windows Version 7.0 software programs.

GPR surveys were also conducted on November 13, 2009 across selected EM61 differential anomalies using a GSSI SIR-2000 unit equipped with a 400 MHz antenna. Data were digitally collected in a continuous mode along X-axis and/or Y-axis survey lines, spaced 2.5 to 5.0 feet apart using a vertical scan of 512 samples, at a rate of 48 scans per second. A 70 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 6 feet, based on an estimated two-way travel time of 8 nanoseconds per foot. All of the GPR data were downloaded to a field computer and reviewed in the field and office using Radprint software.

Contour plots of the EM61 bottom coil and differential results are presented in **Figure 2**. 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 drum and UST-size objects and ignore the smaller insignificant metal objects.

Preliminary geophysical results obtained from Parcel 123 were emailed to Mr. Branson during the week of November 16, 2009.

3.0 DISCUSSION OF RESULTS

In this discussion the term “small-diameter” refers to conduits or lines having an estimated diameter of 2 inches or less. The term “wider-diameter” refers to conduits or lines having an estimated diameter greater than 2 inches.

The linear, EM61 bottom coil anomalies intersecting grid coordinates X=60 Y=370 and X=84 Y=324 are probably in response to buried, small-diameter metallic conduits or utility lines. GPR data suggests the high amplitude bottom coil anomaly intersecting grid coordinates X=70 Y=360 is probably in response to the parked vehicle that was present during the metal detection survey. The EM61 anomalies centered near grid coordinates X=65 Y=115, X=65 Y=260 and X=95 Y=47 are probably in response to metallic signs and other known surface objects. GPR data suggest the high amplitude EM61 anomaly centered near grid coordinates X=110 Y=13 is probably in response to buried utility-related objects.

The enlarged EM61 differential map presented in **Figure 3** shows three high amplitude anomalies centered near grid coordinates X=70 Y=292, X=70 Y=332 and X=65 Y=394. GPR data acquired across the anomaly centered near X=70 Y=292 detected three possible metallic USTs of varying sizes. The southern most possible UST (centered near grid coordinates X=71 Y=286) has an approximate length and width of 9.5 feet and 7.0 feet, respectively and is buried approximately 4.0 feet below grade. The middle possible UST (centered near grid coordinates X=76 Y=294.5) has an approximate length and width of 19 feet and 5 feet, respectively and is buried approximately 4.25 feet below grade. The northern most possible UST (centered near grid coordinates X=69.5 Y=301.5) has an approximate length and width of 5.0 feet and 4.0 feet, respectively and is buried approximately 3.0 feet below grade.

GPR data acquired across the EM61 differential anomaly centered near X=70 Y=332 detected a possible metallic UST orientated in a northerly-southerly direction and centered near grid coordinates X=68 Y=327.5. The possible UST has an approximate length and width of 18 feet and 4 feet, respectively and is buried approximately 2.25 feet below grade.

GPR data acquired across the EM61 differential anomaly centered near X=65 Y=394 detected a probable metallic UST orientated in a northerly-southerly direction and centered near grid coordinates X=64.2 Y=393. The probable UST has an approximate length and width of 21 feet and 4 feet, respectively and is buried approximately 2.9 feet below grade. A metallic UST vent cover is visible at the northern end of the probable UST. The purple-colored polygons in Figures 2 and 3

represent the approximate foot prints of the four possible metallic USTs and the one probable metallic UST. Images of GPR data obtained across the possible and probable USTs are presented in Figure 4 along with photographs showing the locations of the probable USTs. As the photographs shows, the locations of the possible and probable USTs detected by the geophysical investigation were marked in the field using orange spray paint.

The geophysical investigation suggests that the remaining portion of the survey area at Parcel 123 does not contain buried metallic USTs.

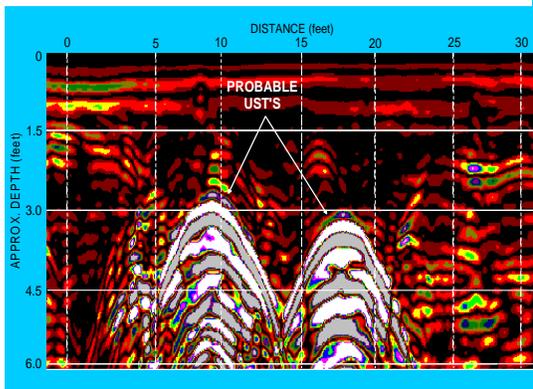
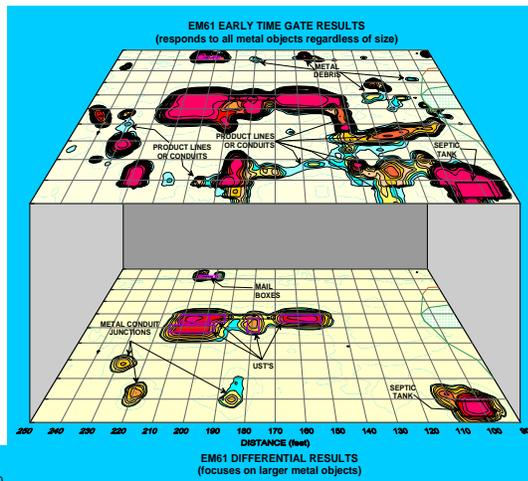
4.0 SUMMARY & CONCLUSIONS

Our evaluation of the EM61 and GPR data collected across the proposed ROW and at the Sandra Glover property (Parcel 123) located in Blowing Rock, 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 portion of the site.
- The linear, EM61 bottom coil anomalies intersecting grid coordinates X=60 Y=370 and X=84 Y=324 are probably in response to buried, small-diameter metallic conduits or utility lines.
- GPR data acquired across the EM61 differential anomalies centered near grid coordinates X=70 Y=292, X=70 Y=332 and X=65 Y=394 detected a total of four possible metallic USTs and one probable metallic UST buried 2.25 feet to 4.25 feet below grade. The possible and probable USTs range in size from 5 to 21 feet in length.
- The geophysical investigation suggests that the remaining portion of the survey area at Parcel 123 does not contain buried metallic USTs.

5.0 LIMITATIONS

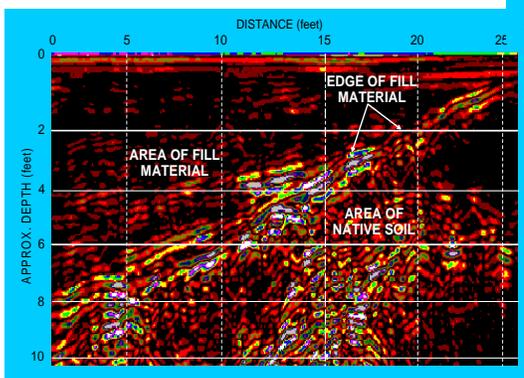
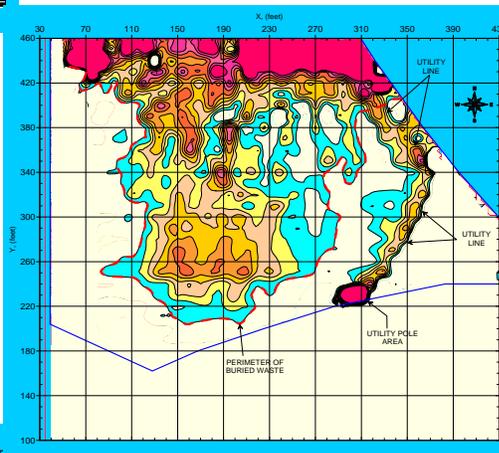
EM61 and GPR surveys have been performed and this report prepared for AECOM Environment in accordance with generally accepted guidelines for EM61 and GPR surveys. It is generally recognized that the results of the EM61 and GPR are non-unique and may not represent actual subsurface conditions. The EM61 and GPR results obtained for this project may not have detected all of the probable or possible USTs within the survey area but that the investigation did detect four possible metallic USTs and one probable metallic UST.



FIGURES

(on the following pages)

Figures shown on this page are for esthetic purposes only and are not related to the geophysical results discussed in this report.



The photograph shows the Geonics EM61 metal detector that was used to conduct the metal detection survey across the proposed Right-of-Way portion of Parcel 123 on November 9, 2009.



The photographs show the SIR-2000 GPR system equipped with a 400 MHz antenna that were used to conduct the ground penetrating radar investigation at Parcel 123 on November 13, 2009.

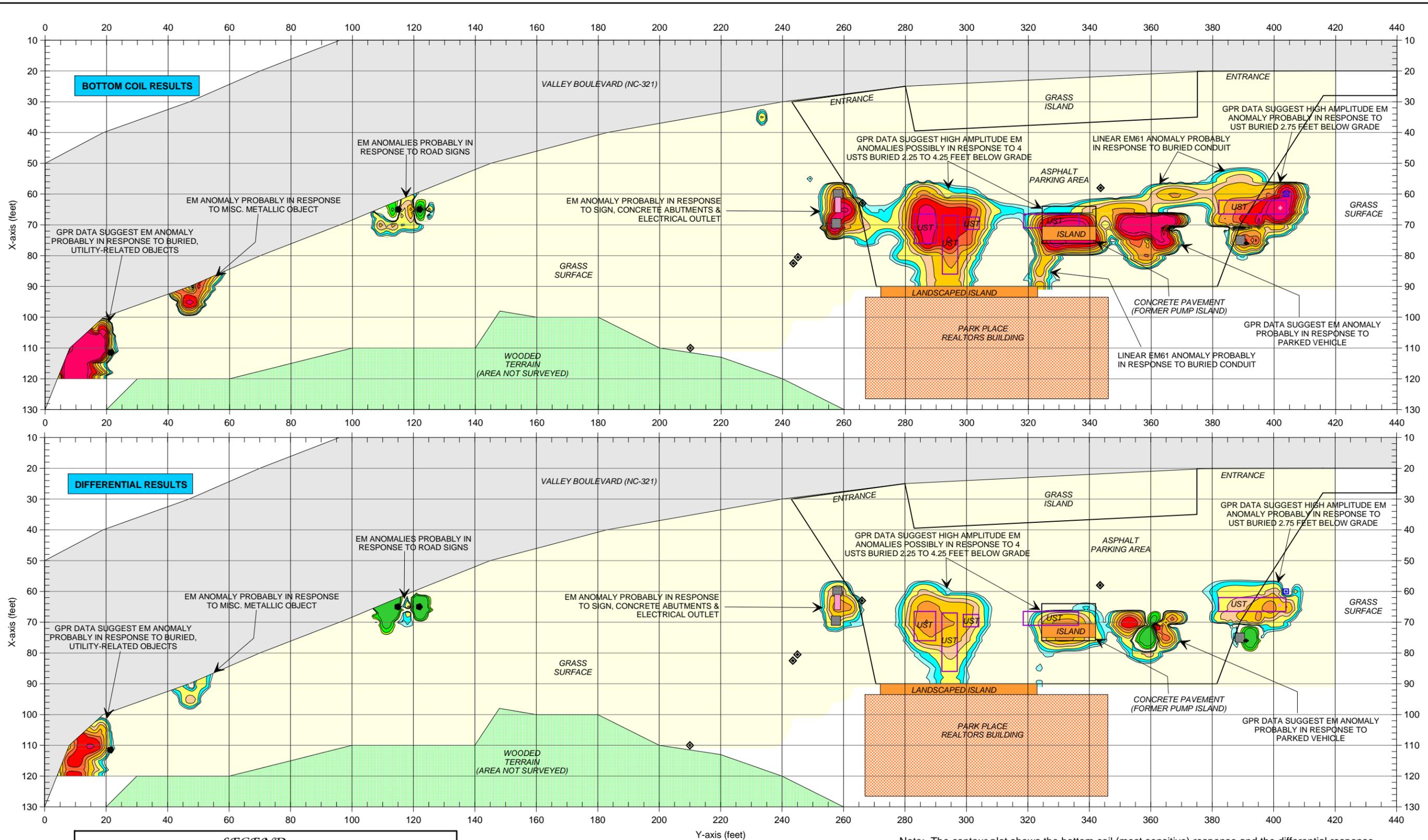


The photograph shows the Sandra Glover property (Parcel 123) located on the east side of Valley Boulevard in Blowing Rock, North Carolina. The photograph is viewed in a northerly direction.



CLIENT	AECOM ENVIRONMENT	DATE	12/07/09	BY	MJD
SITE	SANDRA GLOVER PROPERTY - PARCEL 123	LAY		OPND	
CITY	BLOWING ROCK	STATE	NORTH CAROLINA	ENG	
TITLE	GEOPHYSICAL RESULTS	NO.	2009-283	PROJ	

GEOPHYSICAL EQUIPMENT
& SITE PHOTOGRAPHS



Note: The contour plot shows the bottom coil (most sensitive) response and the differential response of the EM61 instrument in millivolts (mV). The bottom coil response shows buried metallic objects regardless of size. The differential response focuses on larger, buried metallic objects such as drums and USTs and ignores smaller miscellaneous, buried, metal debris. The EM61 survey was conducted on November 9, 2009 using a Geonics EM61 instrument. Ground penetrating radar (GPR) data were acquired across selected EM61 anomalies on November 13, 2009 using a Geophysical Survey Systems SIR 2000 instrument with a 400 MHz antenna.

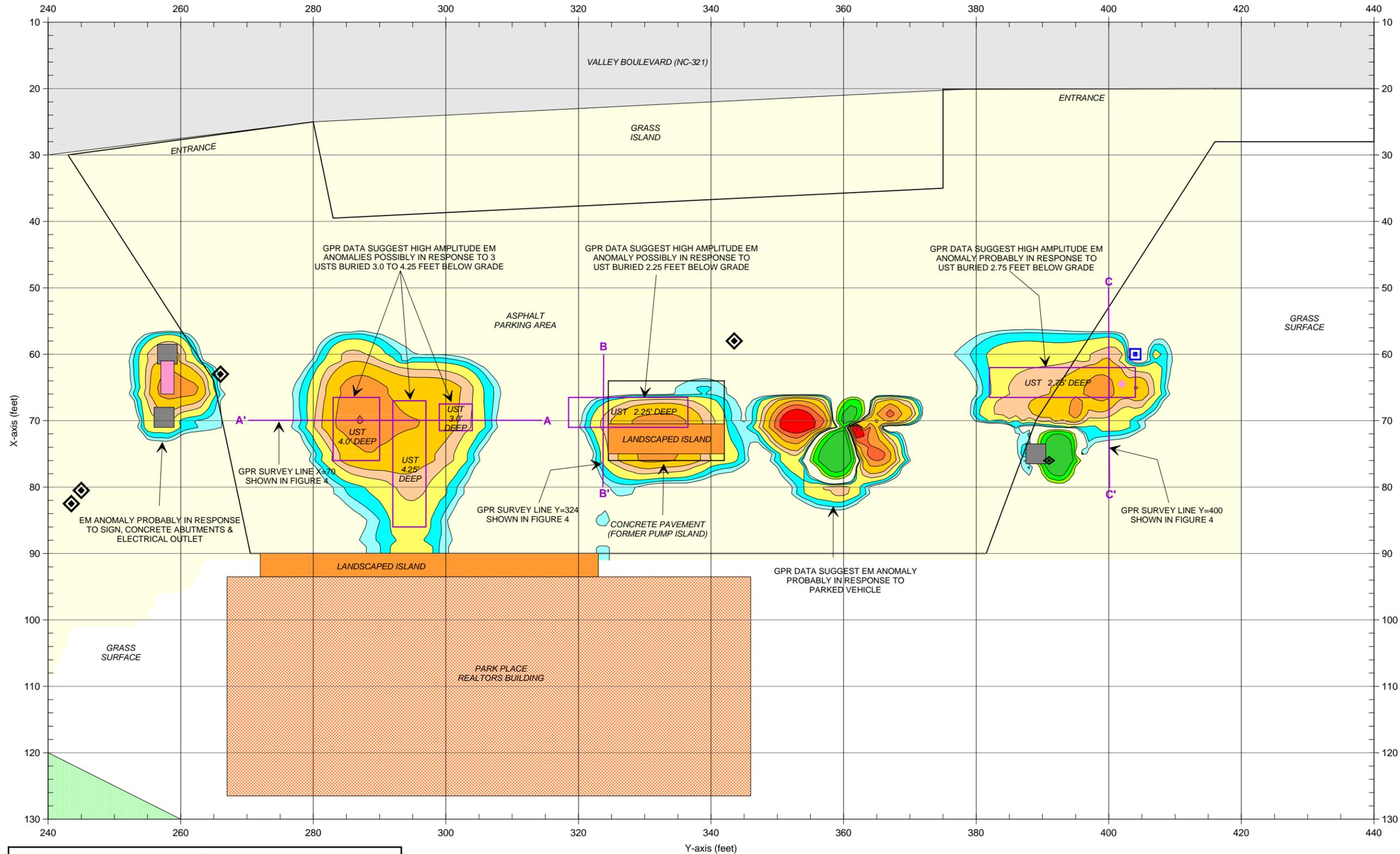
The geophysical investigation detected the probable presence of one metallic UST and the possible presence of four metallic USTs located beneath the asphalt parking area of the site.

EM61 METAL DETECTION RESULTS

FIGURE 2

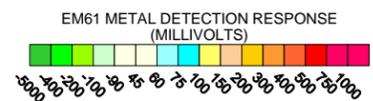
DATE	12/07/09	DRAWN	MJD	FIGURE	2009-283
CLIENT	AECOM ENVIRONMENT	SITE	SANDRA GLOVER PROPERTY - PARCEL 123	CITY	NORTH CAROLINA
TITLE	BLOWING ROCK		GEOPHYSICAL RESULTS		

PYRAMID
ENVIRONMENTAL & ENGINEERING, P.C.



LEGEND

SURVEY AREA: EM61 DATA ACQUIRED ALONG X-AXIS TRENDING LINES SPACED 5 FEET APART	UST VALVE COVER
BUILDING	UTILITY POLE
WOODED TERRAIN	WATER METER BOX
ROAD	ROAD SIGN
CONCRETE ABUTMENT/ELECTRICAL OUTLET	BUSINESS SIGN
PROPOSED RIGHT-OF-WAY MARKER	LANDSCAPED ISLAND
	POSSIBLE OR PROBABLE UST



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 USTs and ignores smaller misc., buried, metal debris. The EM61 data were collected on November 9, 2009 using a Geonics EM61 instrument. Ground penetrating radar (GPR) data were acquired on November 13, 2009 using a Geophysical Survey Systems SIR 2000 instrument with a 400 MHz antenna.

The geophysical investigation detected the probable presence of one metallic UST and the possible presence of four metallic USTs located beneath the asphalt parking area of the site.

ENLARGED MAP OF EM61 METAL DETECTION RESULTS		FIGURE 3	
CLIENT	SANDRA GLOVER PROPERTY - PARCEL 123	DATE	12/07/09
SITE	BLOWING ROCK	DRAWN	MJD
CITY	NORTH CAROLINA	CHECKED	
STATE		FIGURE NO.	2009-283
TITLE	GEOPHYSICAL RESULTS	DWG. NO.	
AECOM ENVIRONMENT		GRAPHIC SCALE IN FEET	



ATTACHMENT B

TEST BORING REPORT

PROJECT <u>GLOVER PROPERTY (PARCEL 123)</u>	BORING NUMBER <u>GL-1</u>
CLIENT <u>NCDOT</u>	PAGE <u>1</u>
PROJECT NUMBER <u>WBS 34402.1.1</u>	ELEVATION _____
CONTRACTOR <u>REGIONAL PROBING</u>	DATE <u>11/17/09</u>
EQUIPMENT <u>GEOPROBE</u>	DRILLER <u>OPPER</u>
	PREPARED BY <u>BRANSON</u>

DEPTH IN FEET	CASING BLOWS FOOT	BLOWS PER 6 INCHES	OVA (ppm)	SAMPLE DEPTH RANGE	FIELD CLASSIFICATION AND REMARKS
5.0			0.02		3" TOPSOIL, CHOCOLATE BROWN SILTY CLAY, SLIGHTLY STIFF, DRY, NO ODOR.
			0.04		AS ABOVE, DRY, NO ODOR.
			0.01		AS ABOVE, DRY, NO ODOR.
			0.05		AS ABOVE, WET AT 8 FEET, NO ODOR. SUBMIT TO LABORATORY FOR ANALYSIS.
					BORING TERMINATED AT 8 FEET. GROUNDWATER AT 8 FEET.
10.0					
15.0					
20.0					



TEST BORING REPORT

PROJECT GLOVER PROPERTY (PARCEL 123)
CLIENT NCDOT
PROJECT NUMBER WBS 34402.1.1
CONTRACTOR REGIONAL PROBING
EQUIPMENT GEOPROBE

BORING NUMBER GL-2
PAGE 1
ELEVATION _____
DATE 11/17/09
DRILLER OPPER
PREPARED BY BRANSON

DEPTH IN FEET	CASING BLOWS FOOT	BLOWS PER 6 INCHES	OVA (ppm)	SAMPLE DEPTH RANGE	FIELD CLASSIFICATION AND REMARKS
5.0			0.94		4" ASPHALT/GRAVEL, CHOCOLATE BROWN SILT/CLAY/GRAVEL, DRY, NO ODOR. SUBMIT TO LABORATORY FOR ANALYSIS.
			0.02		AS ABOVE, DRY, NO ODOR.
			0.01		AS ABOVE, DRY, NO ODOR.
			0.07		AS ABOVE, WET AT 7 FEET, NO ODOR.
10.0					
15.0					
20.0					



TEST BORING REPORT

PROJECT GLOVER PROPERTY (PARCEL 123)
CLIENT NCDOT
PROJECT NUMBER WBS 34402.1.1
CONTRACTOR REGIONAL PROBING
EQUIPMENT GEOPROBE

BORING NUMBER GL-3
PAGE 1
ELEVATION _____
DATE 11/17/09
DRILLER OPPER
PREPARED BY BRANSON

DEPTH IN FEET	CASING BLOWS FOOT	BLOWS PER 6 INCHES	OVA (ppm)	SAMPLE DEPTH RANGE	FIELD CLASSIFICATION AND REMARKS
5.0			9.83		3" CONCRETE/GRAVEL, CHOCOLATE BROWN SILT/CLAY/GRAVEL, DRY, MODERATE ODOR. AS ABOVE, DRY, MODERATE ODOR. AS ABOVE, DRY, MODERATE ODOR. AS ABOVE, WET AT 7 FEET, MODERATE ODOR. SUBMIT TO LABORATORY FOR ANALYSIS. BORING TERMINATED AT 8 FEET. GROUNDWATER AT 7 FEET.
			3.25		
10.0			481		
15.0					
20.0					



TEST BORING REPORT

PROJECT <u>GLOVER PROPERTY (PARCEL 123)</u>	BORING NUMBER <u>GL-4</u>
CLIENT <u>NCDOT</u>	PAGE <u>1</u>
PROJECT NUMBER <u>WBS 34402.1.1</u>	ELEVATION _____
CONTRACTOR <u>REGIONAL PROBING</u>	DATE <u>11/17/09</u>
EQUIPMENT <u>GEOPROBE</u>	DRILLER <u>OPPER</u>
	PREPARED BY <u>BRANSON</u>

DEPTH IN FEET	CASING BLOWS FOOT	BLOWS PER 6 INCHES	OVA (ppm)	SAMPLE DEPTH RANGE	FIELD CLASSIFICATION AND REMARKS	
5.0			0.01		4" ASPHALT/GRAVEL, MEDIUM BROWN SILT/CLAY, DRY, NO ODOR.	
			0.01		AS ABOVE, DRY, NO ODOR.	
			0.21		AS ABOVE, DRY, NO ODOR. SUBMIT TO LABORATORY FOR ANALYSIS.	
			0.05		AS ABOVE TO 7 FEET, BECOMES WHITE TO TAN COARSE-GRAINED SAND, WET AT 7 FEET, NO ODOR.	
					BORING TERMINATED AT 8 FEET. GROUNDWATER AT 7 FEET.	
	10.0					
15.0						
20.0						



TEST BORING REPORT

PROJECT GLOVER PROPERTY (PARCEL 123)
CLIENT NCDOT
PROJECT NUMBER WBS 34402.1.1
CONTRACTOR REGIONAL PROBING
EQUIPMENT GEOPROBE

BORING NUMBER GL-5
PAGE 1
ELEVATION _____
DATE 11/17/09
DRILLER OPPER
PREPARED BY BRANSON

DEPTH IN FEET	CASING BLOWS FOOT	BLOWS PER 6 INCHES	OVA (ppm)	SAMPLE DEPTH RANGE	FIELD CLASSIFICATION AND REMARKS
5.0			0.05		3" ASPHALT/GRAVEL, MEDIUM BROWN SILT/CLAY/GRAVEL, DRY, NO ODOR. AS ABOVE, DRY, NO ODOR. AS ABOVE, DRY, NO ODOR. AS ABOVE, WET AT 8 FEET, NO ODOR. SUBMIT TO LABORATORY FOR ANALYSIS. BORING TERMINATED AT 8 FEET. GROUNDWATER AT 8 FEET.
10.0					
15.0					
20.0					



TEST BORING REPORT

PROJECT <u>GLOVER PROPERTY (PARCEL 123)</u> CLIENT <u>NCDOT</u> PROJECT NUMBER <u>WBS 34402.1.1</u> CONTRACTOR <u>REGIONAL PROBING</u> EQUIPMENT <u>GEOPROBE</u>	BORING NUMBER <u>GL-6</u> PAGE <u>1</u> ELEVATION _____ DATE <u>11/17/09</u> DRILLER <u>OPPER</u> PREPARED BY <u>BRANSON</u>
---	---

DEPTH IN FEET	CASING BLOWS FOOT	BLOWS PER 6 INCHES	OVA (ppm)	SAMPLE DEPTH RANGE	FIELD CLASSIFICATION AND REMARKS
5.0			0.11		3" ASPHALT/GRAVEL, MEDIUM BROWN SILT/CLAY/GRAVEL, DRY, NO ODOR.
			0.12		AS ABOVE, DRY, NO ODOR.
			0.32		MEDIUM TO DARK BROWN SILT/CLAY, DRY, NO ODOR. SUBMIT TO LABORATORY FOR ANALYSIS.
			0.25		AS ABOVE, WET AT 8 FEET, NO ODOR.
10.0					BORING TERMINATED AT 8 FEET. GROUNDWATER AT 8 FEET.
15.0					
20.0					



TEST BORING REPORT

PROJECT GLOVER PROPERTY (PARCEL 123)
CLIENT NCDOT
PROJECT NUMBER WBS 34402.1.1
CONTRACTOR REGIONAL PROBING
EQUIPMENT GEOPROBE

BORING NUMBER GL-7
PAGE 1
ELEVATION _____
DATE 11/17/09
DRILLER OPPER
PREPARED BY BRANSON

DEPTH IN FEET	CASING BLOWS FOOT	BLOWS PER 6 INCHES	OVA (ppm)	SAMPLE DEPTH RANGE	FIELD CLASSIFICATION AND REMARKS
5.0			0.14		3" ASPHALT/GRAVEL, MEDIUM BROWN SILT/CLAY/GRAVEL, DRY, NO ODOR.
			0.04		AS ABOVE, DRY, NO ODOR.
			0.09		AS ABOVE, WET AT 6 FEET, NO ODOR. SUBMIT TO LABORATORY FOR ANALYSIS.
					WHITE TO TAN COARSE-GRAINED SAND, WET AT 6 FEET, NO ODOR. NOT SAMPLED.
					BORING TERMINATED AT 8 FEET. GROUNDWATER AT 6 FEET.
10.0					
15.0					
20.0					



TEST BORING REPORT

PROJECT GLOVER PROPERTY (PARCEL 123)
CLIENT NCDOT
PROJECT NUMBER WBS 34402.1.1
CONTRACTOR REGIONAL PROBING
EQUIPMENT GEOPROBE

BORING NUMBER GL-9
PAGE 1
ELEVATION _____
DATE 11/17/09
DRILLER OPPER
PREPARED BY BRANSON

DEPTH IN FEET	CASING BLOWS FOOT	BLOWS PER 6 INCHES	OVA (ppm)	SAMPLE DEPTH RANGE	FIELD CLASSIFICATION AND REMARKS
5.0			13.58		3" ASPHALT/GRAVEL, MEDIUM TO CHOCOLATE BROWN SILT/CLAY, DRY, SLIGHT ODOR. SUBMIT TO LABORATORY FOR ANALYSIS. AS ABOVE, DRY, SLIGHT ODOR. AS ABOVE, WET AT 6 FEET, SLIGHT ODOR. BORING TERMINATED AT 6 FEET. GROUNDWATER ENCOUNTERED AT 6 FEET.
10.0					
15.0					
20.0					



ATTACHMENT C



PHOTO 1 - BORING IN PROPOSED R/W LOOKING NORTH



PHOTO 2 - BORING IN PROPOSED R/W LOOKING EAST

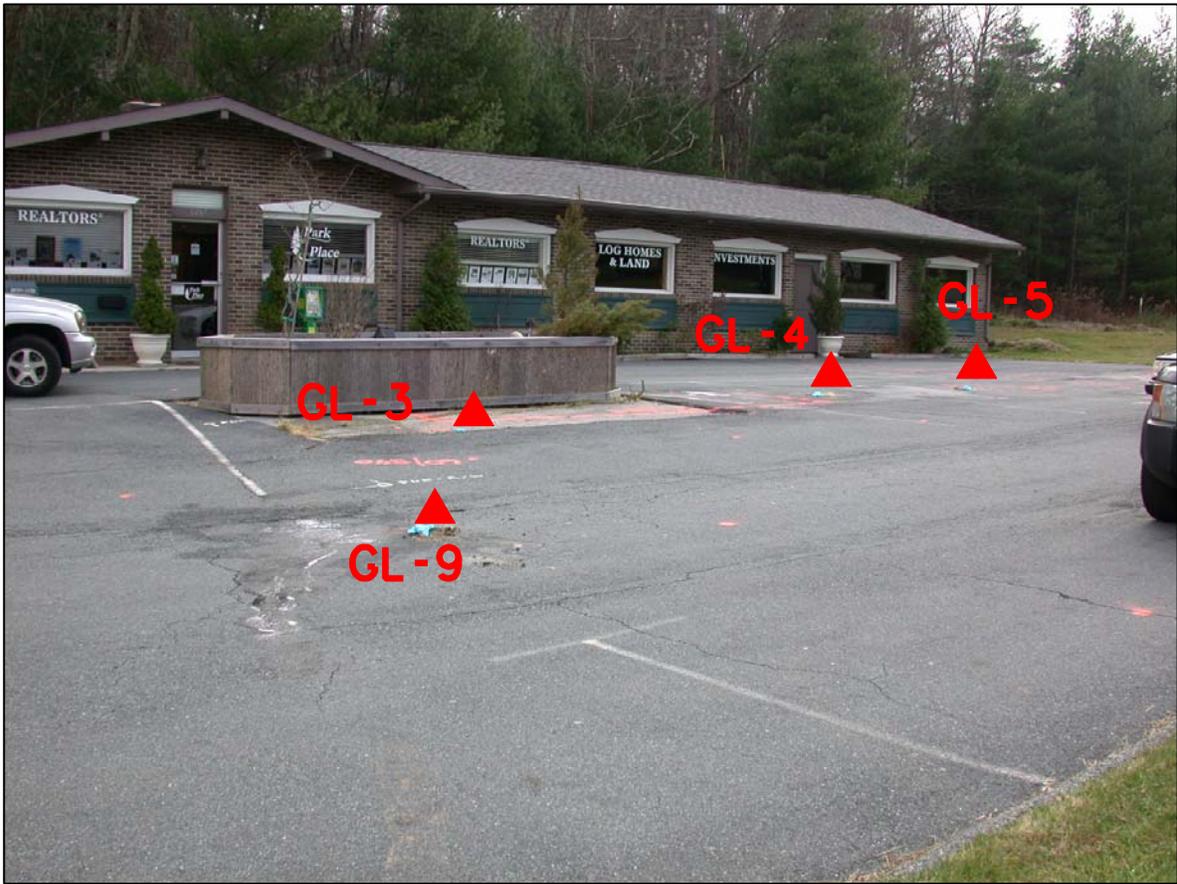


PHOTO 3 - BORINGS ALONG PROPOSED R/W LOOKING EAST



PHOTO 4 - BORING WITHIN PROPOSED R/W LOOKING NORTHEAST



PHOTO 5 - BORING ALONG PROPOSED R/W LOOKING NORTHEAST



PHOTO 6 - BORING WITHIN PROPOSED R/W LOOKING EAST

ATTACHMENT D



PRISM
LABORATORIES, INC.

Case Narrative

Date: 11/24/09
Company: N. C. Department of Transportation
Contact: Mike Branson/AECOM Earth Tech
Address: c/o AECOM Technical Services (Earth Tech)
 701 Corporate Center Dr. Ste 475
 Raleigh, NC 27607

Client Project ID: NCDOT - Glover
Prism COC Group No: G1109499
Collection Date(s): 11/17/09
Lab Submittal Date(s): 11/18/09

Client Project Name Or No: Blowing Rock, NC WBS #34402.1.1

This data package contains the analytical results for the project identified above and includes a Case Narrative, Laboratory Report and Quality Control Data totaling 11 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

Please call if you have any questions relating to this analytical report.

Data Reviewed by: Robbi A. Jones
Signature: Robbi A. Jones
Review Date: 11/24/09

Project Manager: Robbi A. Jones
Signature: Robbi A. Jones
Approval Date: 11/24/09

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.
- 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.



NC Certification No. 402
 SC Certification No. 99012
 NC Drinking Water Cert. No. 37735

Laboratory Report

11/24/09

N. C. Department of Transportation
 Attn: Mike Branson/AECOM Earth Tech
 c/o AECOM Technical Services (Earth
 Tech)
 701 Corporate Center Dr. Ste 475
 Raleigh, NC 27607

Project Name: Blowing Rock, NC
 Project ID: NCDOT - Glover
 Project No.: WBS #34402.1.1
 Sample Matrix: Soil

Client Sample ID: GL-1
 Prism Sample ID: 263807
 COC Group: G1109499
 Time Collected: 11/17/09 8:30
 Time Submitted: 11/18/09 10:30

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
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Percent Solids Determination

Percent Solids	87.6	%			1	SM2540 G	11/20/09 15:00	mbarber	
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Diesel Range Organics (DRO) by GC-FID

Diesel Range Organics (DRO)	BRL	mg/kg	8.0	1.3	1	8015B	11/20/09 18:10	ivogel	Q46117
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Sample Preparation: 24.96 g / 1 mL 3545 11/19/09 15:00 athao P26096

Surrogate	% Recovery	Control Limits
o-Terphenyl	82	49 - 124

Sample Weight Determination

Weight 1	6.81	g			1	GRO	11/19/09 0:00	lbrown	
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Weight 2	8.41	g			1	GRO	11/19/09 0:00	lbrown	
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Gasoline Range Organics (GRO) by GC-FID

Gasoline Range Organics (GRO)	BRL	mg/kg	5.7	0.70	50	8015B	11/20/09 11:07	grappaccioli	Q46092
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Surrogate	% Recovery	Control Limits
aaa-TFT	100	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

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NC Certification No. 402
 SC Certification No. 99012
 NC Drinking Water Cert. No. 37735

Laboratory Report

11/24/09

N. C. Department of Transportation
 Attn: Mike Branson/AECOM Earth Tech
 c/o AECOM Technical Services (Earth
 Tech)
 701 Corporate Center Dr. Ste 475
 Raleigh, NC 27607

Project Name: Blowing Rock, NC
 Project ID: NCDOT - Glover
 Project No.: WBS #34402.1.1
 Sample Matrix: Soil

Client Sample ID: GL-2
 Prism Sample ID: 263808
 COC Group: G1109499
 Time Collected: 11/17/09 8:50
 Time Submitted: 11/18/09 10:30

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
<u>Percent Solids Determination</u>									
Percent Solids	81.8	%			1	SM2540 G	11/20/09 15:00	mbarber	
<u>Diesel Range Organics (DRO) by GC-FID</u>									
Diesel Range Organics (DRO)	BRL	mg/kg	8.4	1.4	1	8015B	11/20/09 18:45	lvogel	Q46117
Sample Preparation:			25.33 g	/	1 mL	3545	11/19/09 15:00	athao	P26096
					Surrogate		% Recovery	Control Limits	
					o-Terphenyl		89	49 - 124	
<u>Sample Weight Determination</u>									
Weight 1	7.59	g			1	GRO	11/19/09 0:00	lbrown	
Weight 2	6.67	g			1	GRO	11/19/09 0:00	lbrown	
<u>Gasoline Range Organics (GRO) by GC-FID</u>									
Gasoline Range Organics (GRO)	BRL	mg/kg	6.1	0.75	50	8015B	11/20/09 22:40	grappaccioli	Q46092
					Surrogate		% Recovery	Control Limits	
					aaa-TFT		106	55 - 129	

Sample Comment(s):

BRL = Below Reporting Limit

J- Estimated value between the Reporting Limit and the MDL

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Laboratory Report

11/24/09

N. C. Department of Transportation
 Attn: Mike Branson/AECOM Earth Tech
 c/o AECOM Technical Services (Earth
 Tech)
 701 Corporate Center Dr. Ste 475
 Raleigh, NC 27607

Project Name: Blowing Rock, NC
 Project ID: NCDOT - Glover
 Project No.: WBS #34402.1.1
 Sample Matrix: Soil

Client Sample ID: GL-3
 Prism Sample ID: 263809
 COC Group: G1109499
 Time Collected: 11/17/09 9:10
 Time Submitted: 11/18/09 10:30

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
Percent Solids Determination									
Percent Solids	82.2	%			1	SM2540 G	11/20/09 15:00	mbarber	
Diesel Range Organics (DRO) by GC-FID									
Diesel Range Organics (DRO)	110	mg/kg	8.5	1.4	1	8015B	11/20/09 19:21	lvogel	Q46117
Sample Preparation:			24.98 g	/	1 mL	3545	11/19/09 15:00	athao	P26096
					Surrogate	% Recovery	Control Limits		
					o-Terphenyl	68	49 - 124		
Sample Weight Determination									
Weight 1	5.58	g			1	GRO	11/19/09 0:00	lbrown	
Weight 2	5.80	g			1	GRO	11/19/09 0:00	lbrown	
Gasoline Range Organics (GRO) by GC-FID									
Gasoline Range Organics (GRO)	1800	mg/kg	120	15	1000	8015B	11/21/09 11:37	grappaccioli	Q46092
					Surrogate	% Recovery	Control Limits		
					aaa-TFT	DO #	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.

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Angela D. Overcash, V.P. Laboratory Services

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 NC Drinking Water Cert. No. 37735

Laboratory Report

11/24/09

N. C. Department of Transportation
 Attn: Mike Branson/AECOM Earth Tech
 c/o AECOM Technical Services (Earth
 Tech)
 701 Corporate Center Dr. Ste 475
 Raleigh, NC 27607

Project Name: Blowing Rock, NC
 Project ID: NCDOT - Glover
 Project No.: WBS #34402.1.1
 Sample Matrix: Soil

Client Sample ID: GL-4
 Prism Sample ID: 263810
 COC Group: G1109499
 Time Collected: 11/17/09 9:20
 Time Submitted: 11/18/09 10:30

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
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Percent Solids Determination

Percent Solids	83.9	%			1	SM2540 G	11/20/09 15:00	mbarber	
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Diesel Range Organics (DRO) by GC-FID

Diesel Range Organics (DRO)	BRL	mg/kg	8.4	1.4	1	8015B	11/20/09 19:56	lvogel	Q46117
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Sample Preparation: 24.93 g / 1 mL 3545 11/19/09 15:00 athao P26096

Surrogate	% Recovery	Control Limits
o-Terphenyl	76	49 - 124

Sample Weight Determination

Weight 1	6.38	g			1	GRO	11/19/09 0:00	lbrown	
Weight 2	6.79	g			1	GRO	11/19/09 0:00	lbrown	

Gasoline Range Organics (GRO) by GC-FID

Gasoline Range Organics (GRO)	BRL	mg/kg	6.0	0.73	50	8015B	11/20/09 23:45	grappaccioli	Q46092
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Surrogate	% Recovery	Control 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

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Laboratory Report

11/24/09

N. C. Department of Transportation
 Attn: Mike Branson/AECOM Earth Tech
 c/o AECOM Technical Services (Earth
 Tech)
 701 Corporate Center Dr. Ste 475
 Raleigh, NC 27607

Project Name: Blowing Rock, NC
 Project ID: NCDOT - Glover
 Project No.: WBS #34402.1.1
 Sample Matrix: Soil

Client Sample ID: GL-5
 Prism Sample ID: 263811
 COC Group: G1109499
 Time Collected: 11/17/09 9:30
 Time Submitted: 11/18/09 10:30

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
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Percent Solids Determination

Percent Solids	83.0	%			1	SM2540 G	11/20/09 15:00	mbarber	
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Diesel Range Organics (DRO) by GC-FID

Diesel Range Organics (DRO)	BRL	mg/kg	8.4	1.4	1	8015B	11/20/09 20:31	jvogel	Q46117
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Sample Preparation: 25.11 g / 1 mL 3545 11/19/09 15:00 athao P26096

Surrogate	% Recovery	Control Limits
o-Terphenyl	71	49 - 124

Sample Weight Determination

Weight 1	6.10	g			1	GRO	11/19/09 0:00	lbrown	
Weight 2	6.45	g			1	GRO	11/19/09 0:00	lbrown	

Gasoline Range Organics (GRO) by GC-FID

Gasoline Range Organics (GRO)	BRL	mg/kg	6.0	0.73	50	8015B	11/21/09 0:18	grappaccioli	Q46092
-------------------------------	-----	-------	-----	------	----	-------	---------------	--------------	--------

Surrogate	% Recovery	Control Limits
aaa-TFT	80	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

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 NC Drinking Water Cert. No. 37735

Laboratory Report

11/24/09

N. C. Department of Transportation
 Attn: Mike Branson/AECOM Earth Tech
 c/o AECOM Technical Services (Earth
 Tech)
 701 Corporate Center Dr. Ste 475
 Raleigh, NC 27607

Project Name: Blowing Rock, NC
 Project ID: NCDOT - Glover
 Project No.: WBS #34402.1.1
 Sample Matrix: Soil

Client Sample ID: GL-6
 Prism Sample ID: 263812
 COC Group: G1109499
 Time Collected: 11/17/09 9:45
 Time Submitted: 11/18/09 10:30

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
<u>Percent Solids Determination</u>									
Percent Solids	86.5	%			1	SM2540 G	11/20/09 15:00	mbarber	
<u>Diesel Range Organics (DRO) by GC-FID</u>									
Diesel Range Organics (DRO)	BRL	mg/kg	8.1	1.3	1	8015B	11/20/09 21:07	lvogel	Q46117
Sample Preparation:			24.88 g	/	1 mL	3545	11/19/09 15:00	athao	P26096
					Surrogate		% Recovery	Control Limits	
					o-Terphenyl		62	49 - 124	
<u>Sample Weight Determination</u>									
Weight 1	6.52	g			1	GRO	11/19/09 0:00	lbrown	
Weight 2	6.87	g			1	GRO	11/19/09 0:00	lbrown	
<u>Gasoline Range Organics (GRO) by GC-FID</u>									
Gasoline Range Organics (GRO)	BRL	mg/kg	5.8	0.71	50	8015B	11/21/09 0:50	grappaccioli	Q46092
					Surrogate		% Recovery	Control 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

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 NC Drinking Water Cert. No. 37735

Laboratory Report

11/24/09

N. C. Department of Transportation
 Attn: Mike Branson/AECOM Earth Tech
 c/o AECOM Technical Services (Earth
 Tech)
 701 Corporate Center Dr. Ste 475
 Raleigh, NC 27607

Project Name: Blowing Rock, NC
 Project ID: NCDOT - Glover
 Project No.: WBS #34402.1.1
 Sample Matrix: Soil

Client Sample ID: GL-7
 Prism Sample ID: 263813
 COC Group: G1109499
 Time Collected: 11/17/09 10:10
 Time Submitted: 11/18/09 10:30

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
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Percent Solids Determination

Percent Solids	78.5	%			1	SM2540 G	11/20/09 15:00	mbarber	
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Diesel Range Organics (DRO) by GC-FID

Diesel Range Organics (DRO)	BRL	mg/kg	8.9	1.4	1	8015B	11/21/09 2:26	jbvogel	Q46117
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Sample Preparation: 25.15 g / 1 mL 3545 11/19/09 15:00 athao P26096

Surrogate	% Recovery	Control Limits
o-Terphenyl	84	49 - 124

Sample Weight Determination

Weight 1	6.36	g			1	GRO	11/19/09 0:00	lbrown	
Weight 2	6.53	g			1	GRO	11/19/09 0:00	lbrown	

Gasoline Range Organics (GRO) by GC-FID

Gasoline Range Organics (GRO)	BRL	mg/kg	6.4	0.78	50	8015B	11/21/09 1:22	grappaccioli	Q46092
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Surrogate	% Recovery	Control Limits
aaa-TFT	107	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

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NC Certification No. 402
 SC Certification No. 99012
 NC Drinking Water Cert. No. 37735

Laboratory Report

11/24/09

N. C. Department of Transportation
 Attn: Mike Branson/AECOM Earth Tech
 c/o AECOM Technical Services (Earth
 Tech)
 701 Corporate Center Dr. Ste 475
 Raleigh, NC 27607

Project Name: Blowing Rock, NC
 Project ID: NCDOT - Glover
 Project No.: WBS #34402.1.1
 Sample Matrix: Soil

Client Sample ID: GL-8
 Prism Sample ID: 263814
 COC Group: G1109499
 Time Collected: 11/17/09 10:20
 Time Submitted: 11/18/09 10:30

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
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Percent Solids Determination

Percent Solids	82.1	%			1	SM2540 G	11/20/09 15:00	mbarber	
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Diesel Range Organics (DRO) by GC-FID

Diesel Range Organics (DRO)	14	mg/kg	8.5	1.4	1	8015B	11/21/09 3:02	jvogel	Q46117
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Sample Preparation: 25.06 g / 1 mL 3545 11/19/09 15:00 athao P26096

Surrogate	% Recovery	Control Limits
o-Terphenyl	120	49 - 124

Sample Weight Determination

Weight 1	5.65	g			1	GRO	11/19/09 0:00	lbrown	
Weight 2	6.26	g			1	GRO	11/19/09 0:00	lbrown	

Gasoline Range Organics (GRO) by GC-FID

Gasoline Range Organics (GRO)	BRL	mg/kg	6.1	0.74	50	8015B	11/21/09 1:55	grappaccioli	Q46092
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Surrogate	% Recovery	Control Limits
aaa-TFT	100	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

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NC Certification No. 402
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Laboratory Report

11/24/09

N. C. Department of Transportation
 Attn: Mike Branson/AECOM Earth Tech
 c/o AECOM Technical Services (Earth
 Tech)
 701 Corporate Center Dr. Ste 475
 Raleigh, NC 27607

Project Name: Blowing Rock, NC
 Project ID: NCDOT - Glover
 Project No.: WBS #34402.1.1
 Sample Matrix: Soil

Client Sample ID: GL-9
 Prism Sample ID: 263815
 COC Group: G1109499
 Time Collected: 11/17/09 10:30
 Time Submitted: 11/18/09 10:30

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
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Percent Solids Determination

Percent Solids	84.1	%			1	SM2540 G	11/20/09 15:00	mbarber	
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Diesel Range Organics (DRO) by GC-FID

Diesel Range Organics (DRO)	BRL	mg/kg	8.2	1.3	1	8015B	11/21/09 3:37	jvogel	Q46117
Sample Preparation:			25.35 g	/	1 mL	3545	11/19/09 15:00	athao	P26096

Surrogate	% Recovery	Control Limits
o-Terphenyl	90	49 - 124

Sample Weight Determination

Weight 1	6.20	g			1	GRO	11/19/09 0:00	lbrown	
Weight 2	7.51	g			1	GRO	11/19/09 0:00	lbrown	

Gasoline Range Organics (GRO) by GC-FID

Gasoline Range Organics (GRO)	BRL	mg/kg	5.9	0.73	50	8015B	11/21/09 2:27	grappaccioli	Q46092
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Surrogate	% Recovery	Control 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.

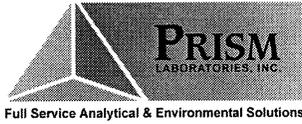
All results are reported on a dry-weight basis

Angela D. Overcash, V.P. Laboratory Services

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NC Certification No. 402
 SC Certification No. 99012
 NC Drinking Water Cert. No. 37735

Level II QC Report

11/24/09

N. C. Department of Transportation
 Attn: Mike Branson/AECOM Earth Tech
 c/o AECOM Technical Services (Earth
 Tech)
 701 Corporate Center Dr. Ste 475

Project Name: Blowing Rock, NC
 Project ID: NCDOT - Glover
 Project No.: WBS #34402.1.1

COC Group Number: G1109499
 Date/Time Submitted: 11/18/09 10:30

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

Method Blank	Result	RL	Control Limit	Units	QC Batch ID
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Gasoline Range Organics (GRO)	ND	5	<2.5	mg/kg	Q46092
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Laboratory Control Sample	Result	Spike Amount	Units	Recovery %	Recovery Ranges %	QC Batch ID
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Gasoline Range Organics (GRO)	49.5	50	mg/kg	99	67-116	Q46092
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Matrix Spike	Sample ID:	Result	Spike Amount	Units	Recovery %	Recovery Ranges %	QC Batch ID
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263807 Gasoline Range Organics (GRO)		44.8	50	mg/kg	90	57-113	Q46092
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Matrix Spike Duplicate	Sample ID:	Result	Spike Amount	Units	Recovery %	Recovery Ranges %	RPD %	RPD Range %	QC Batch ID
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263807 Gasoline Range Organics (GRO)		44	50	mg/kg	88	57-113	2	0 - 23	Q46092
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Diesel Range Organics (DRO) by GC-FID, method 8015B

Method Blank	Result	RL	Control Limit	Units	QC Batch ID
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Diesel Range Organics (DRO)	ND	7	<3.5	mg/kg	Q46117
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Laboratory Control Sample	Result	Spike Amount	Units	Recovery %	Recovery Ranges %	QC Batch ID
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Diesel Range Organics (DRO)	64.2	80	mg/kg	80	55-109	Q46117
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Matrix Spike	Sample ID:	Result	Spike Amount	Units	Recovery %	Recovery Ranges %	QC Batch ID
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263893 Diesel Range Organics (DRO)		58.8	80	mg/kg	74	50-117	Q46117
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Matrix Spike Duplicate	Sample ID:	Result	Spike Amount	Units	Recovery %	Recovery Ranges %	RPD %	RPD Range %	QC Batch ID
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263893 Diesel Range Organics (DRO)		60.0	80	mg/kg	75	50-117	2	0 - 24	Q46117
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#-See Case Narrative

