AECOM Technical Services of North Carolina, Inc.
701 Corporate Center Drive, Suite 475, Raleigh, North Carolina 27607
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September 14, 2010

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

Reference: Preliminary Site Assessment
Willie Brantley Property (Parcel #11)
100 Wilson Avenue.
Spring Lake, Cumberland County, North Carolina
NCDOT Tip No. U-4444B
WBS Element 36492.1.2
AECOM Project No. 60158550

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 July 6, 2010, and the North Carolina Department of Transportation's (NCDOT's) Notice to Proceed dated July 7, 2010. 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 Willie Brantley Property (Parcel #11) is located at 100 Wilson Avenue in Spring Lake, Cumberland County, North Carolina. The property is situated on the north side of Wilson Avenue and across from the intersection of Wilson Avenue and Monroe Street (Figure 1). Based on information supplied by the NCDOT and the site visit, AECOM understands that the site is an active automotive repair shop that historically may have been used as a gas station. No evidence of underground storage tanks (USTs) was observed during the site visit. The structure on the site consists of a block building with an asphalt parking lot on the south and west sides of the building (Figure 2). The NCDOT has advised that the proposed right-of-way/easement will affect only the parking lot in front of the building and not the building itself (Figure 2). Because of the possible historical use of the property, 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 proposed right-of-way with respect to the presence of known and unknown USTs

and assess where contamination may exist on the right-of-way. If present, an estimate of the quantity of impacted soil was to be provided.

AECOM reviewed the on-line NCDENR Incident Management database and no Incident Number has been assigned to the property. AECOM also examined the UST registration database to obtain UST ownership information. No USTs are registered to the site 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 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 Wilson Avenue and the Y-axis oriented approximately perpendicular to Wilson Avenue. Pyramid located the grid to cover the accessible portions of the proposed right-of-way and spaced the survey lines 5 feet apart. A data logger collected magnetic data continuously along each survey line. 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 where needed to further evaluate any significant metallic anomalies.

Access was available to all areas of the right-of-way and the geophysical survey detected several anomalies. All of these anomalies were attributed to buried utility lines or surface debris. Attachment A presents a detailed report of findings and interpretations.

Site Assessment Activities

On August 9, 2010, 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 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 for analysis to SGS North America in Wilmington, 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).

AECOM advanced three direct-push holes (BR-1 through BR-3) within the right-of-way to a depth of 10 feet as shown in Figure 2 and Attachment B. The borings were located to evaluate the conditions within the proposed right-of-way/easements (Attachment C). The lithology encountered by the direct-push samples generally was consistent throughout the site. About 2 to 3 inches of asphalt covered the ground surface. Below the surface to a depth of 4 to 6 feet was a medium brown, loose, coarse-grained sand. Underlying this material was a medium brown sand/clay. None of the borings encountered bedrock. The "Geologic Map of North Carolina" dated 1985 indicates that the site is underlain by the Middendorf and Cape Fear Formations, each of which consists predominantly of sand and mudstone. The soil observed at the site is consistent with this parent rock. The borings were terminated at a depth of 10 feet. No groundwater was observed in any of the borings. Based on field screening, soil samples were submitted for laboratory analyses, which are summarized in Table 1. Following completion, each boring was backfilled in accordance with 15A NCAC 2C.

Analytical Results

Based on the laboratory reports, summarized in Table 1 and presented in Attachment D, the laboratory detected petroleum hydrocarbon compounds identified as DRO in one of the three soil samples collected from the site. The soil sample from boring BR-1 contained a DRO concentration of 8.91 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 milligrams per kilogram (mg/kg) for both gasoline and diesel fuel. However, that agency's "Guidelines for Assessment and Corrective Action," dated December 2008, 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 detected in soil sample BR-1 was present at a concentration below the 10 mg/kg assumed action level.

Conclusions and Recommendations

A Preliminary Site Assessment was conducted to evaluate the Willie Brantley Property (Parcel #11) located at 100 Wilson Avenue in Spring Lake, Cumberland County, North Carolina. A geophysical investigation was conducted to evaluate the site for unknown USTs. The investigation found no evidence of metallic USTs within the proposed right-of-way. Three soil borings were advanced to evaluate the soil conditions throughout the proposed right-of-way and easements. The laboratory reports of the soil samples from these borings suggest that a DRO concentration of 8.91 mg/kg was present in the soil sample from boring BR-1. No GRO concentrations were detected. The DRO concentration was present below the action level.

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 none of the soil samples contained detectable DRO or GRO concentrations above the 10 mg/kg action level. As a result, AECOM does not anticipate soil remediation for this site.

AECOM appreciates the opportunity to work with the NCDOT on this project. Because no compounds were detected above the action level in the soil samples, no notification is required to the NCDENR. 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
WILLIE BRANTLEY PROPERTY (PARCEL #11)
SPRING LAKE, CUMBERLAND COUNTY, NORTH CAROLINA
NCDOT PROJECT NO. U-4444B
WBS ELEMENT 36492.1.2
AECOM PROJECT NO. 60158550

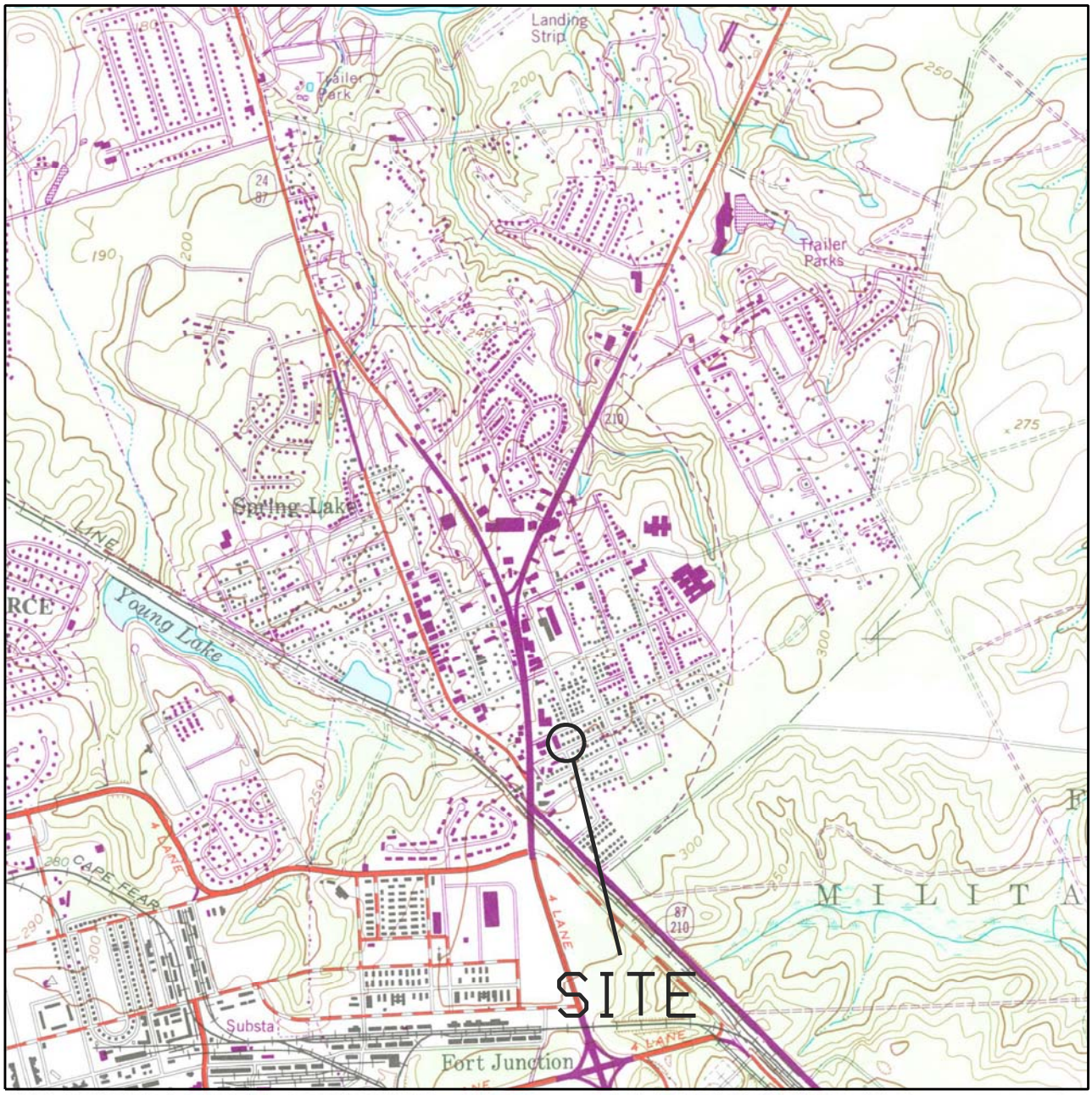
LOCATION	DEPTH (ft)	FID READING (ppm)	SAMPLE ID	ANALYTICAL RESULTS (mg/kg)	ASSUMED ACTION LEVEL (mg/kg)
BR-1	0 - 2	1.70	BR-1	DRO (8.91) GRO (BQL)	10 10
	2 - 4	0.96			
	4 - 6	0.62			
	6 - 8	0.90			
	8 - 10	1.10			
BR-2	0 - 2	1.44			
	2 - 4	2.31	BR-2	DRO (BQL) GRO (BQL)	10 10
	4 - 6	1.89			
	6 - 8	1.62			
	8 - 10	1.57			
BR-3	0 - 2	0.61			
	2 - 4	0.46			
	4 - 6	0.71			
	6 - 8	0.83	BR-3	DRO (BQL) GRO (BQL)	10 10
	8 - 10	0.40			

Soil samples were collected on August 9, 2010.

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

AECOM

FIGURES



SOURCE: U.S. GEOLOGICAL SURVEY 7.5 MIN QUADRANGLE: MANCHESTER, NC (REV 1987)

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FIGURE 1
VICINITY MAP
WILLIE BRANTLEY PROPERTY (PARCEL #11)
SPRING LAKE, CUMBERLAND COUNTY NORTH CAROLINA

AUGUST 2010

60158550

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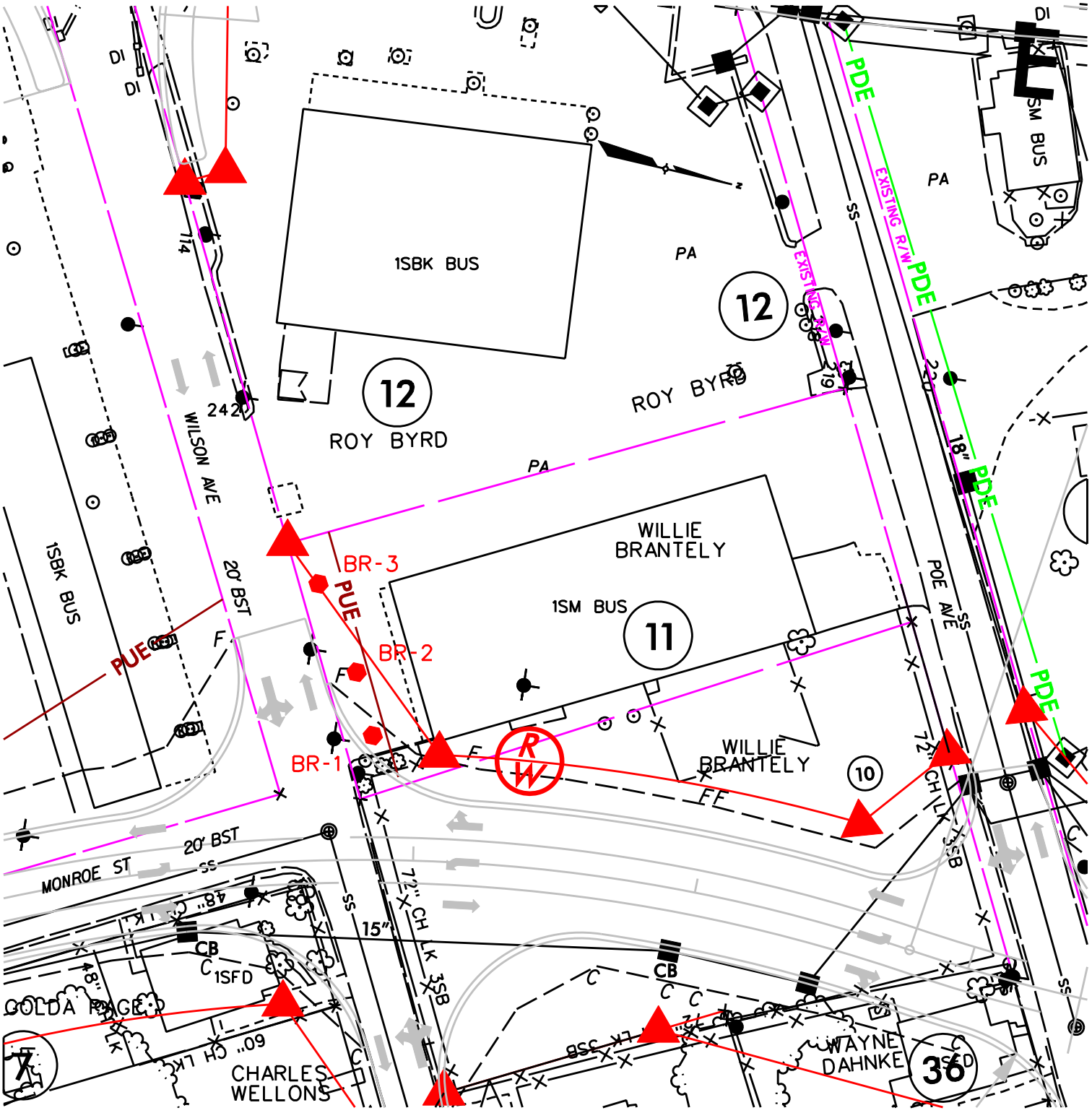

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FIGURE 2
SITE MAP
WILLIE BRANTLEY PROPERTY (PARCEL #11)
SPRING LAKE, CUMBERLAND COUNTY, NORTH CAROLINA

AUGUST 2010 60158550

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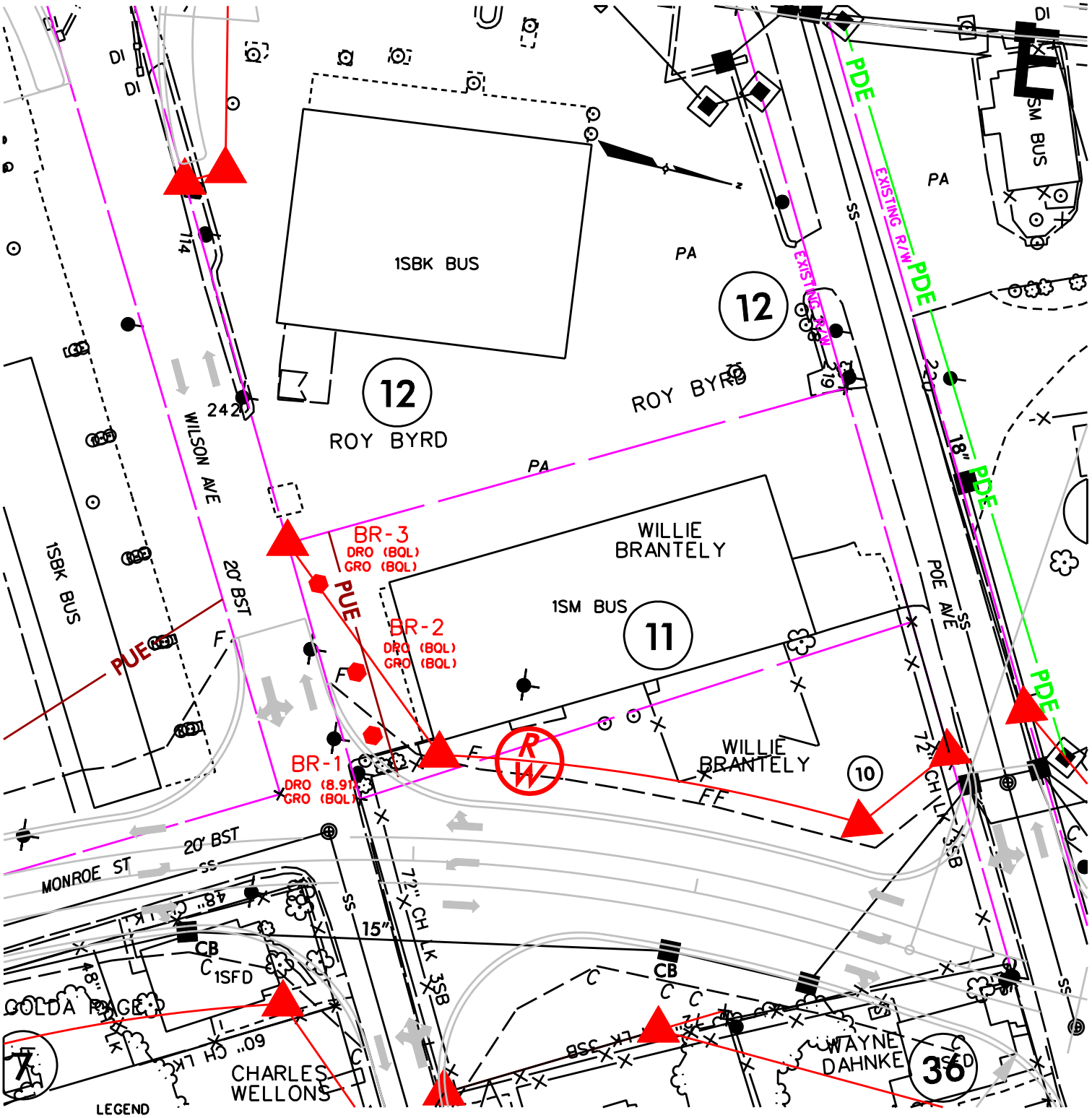

LEGEND

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

0 25 50
GRAPHIC SCALE (FEET)

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FIGURE 3
SOIL ANALYTICAL RESULTS MAP
WILLIE BRANTLEY PROPERTY (PARCEL #11)
SPRING LAKE, CUMBERLAND COUNTY, NORTH CAROLINA

AUGUST 2010 60158550

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ATTACHMENT A

Pyramid Project # 2010176

GEOPHYSICAL INVESTIGATION REPORT

EM61 SURVEYS

WILLIE BRANTELY SITE (PARCEL 11)
Lillington Highway
Spring Lake, North Carolina

September 6, 2010

Report prepared for: **Michael W. Branson, PG**
AECOM Environment
701 Corporate Center Drive, Suite 475
Raleigh, North Carolina 27607

Prepared by: _____
Mark J. Denil, P.G.

Reviewed by: _____
Douglas Canavello, P.G.

PYRAMID ENVIRONMENTAL & ENGINEERING, P.C.
P.O. Box 16265
GREENSBORO, NC 27416-0265
(336) 335-3174

AECOM Environment
GEOPHYSICAL INVESTIGATION REPORT
WILLIE BRANTELY SITE (PARCEL 11)
Spring Lake, North Carolina

TABLE OF CONTENTS PAGE

FIGURES

1.0 INTRODUCTION

Pyramid Environmental conducted a geophysical investigation for AECOM Environmental across the proposed Right-of-Way (ROW) area at the Willie Brantely site (Parcel 11) located along the northerly side of Wilson Avenue adjacent to the intersection of Wilson Avenue and Monroe Street in Spring Lake, North Carolina. Conducted on July 21, 2010, the geophysical investigation was performed as part of the North Carolina Department of Transportation (NCDOT) preliminary site assessment project to determine if unknown, metallic underground storage tanks (USTs) are present beneath the proposed ROW area of the site.

The Willie Brantely site consists of a small auto repair garage surrounded by asphalt pavement and the proposed ROW area encompasses the asphalt pavement between the building and Wilson Avenue. The proposed ROW area (geophysical survey area) has a maximum length and width of 105 feet and 30 feet, respectively.

AECOM Environment representative Mr. Michael Branson, PG identified the geophysical survey area to Pyramid Environmental personnel and provided site maps showing the boundaries of the proposed survey area prior to conducting the investigation. Photographs of the geophysical equipment used in this investigation and a portion of Parcel 11 are shown in **Figure 1**.

2.0 FIELD METHODOLOGY

Prior to conducting the geophysical investigation, a 10-foot by 10-foot survey grid was established across the geophysical survey area (property) using measuring tapes 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 performed on July 21, 2010 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, or easterly-westerly, 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.

Due to an absence of metal detection anomalies that could be in response to potential metallic USTs, ground penetrating radar (GPR) surveys were not conducted at this site. 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 contour plots of the EM61 bottom coil and EM61 differential results obtained from the survey area were emailed to Mr. Branson during the week of August 9, 2010.

3.0 DISCUSSION OF RESULTS

The linear, high amplitude EM61 anomaly intersecting grid coordinates X=90 Y=47 is probably in response to steel reinforced concrete, the garage, an air/vac pump and/or a metal bollard. The somewhat linear anomaly intersecting grid coordinates X=88 Y=37 may possibly be in response to a segment of buried conduit or linear metal object. The bottom coil anomaly centered near grid coordinates X=44 Y=30 is probably in response to a metal valve cover. The EM61 anomalies centered near grid coordinates X=120 Y=25 and X=120 Y=42 are probably in response to a fire hydrant and guy wires, respectively.

The geophysical investigation suggests the proposed ROW area at Parcel 11 does not contain unknown, metallic USTs.

4.0 SUMMARY & CONCLUSIONS

Our evaluation of the EM61data collected across the proposed ROW area at the Willie Brantely site (Parcel 11) located along the northerly side of Wilson Avenue in Spring Lake, North Carolina, provides the following summary and conclusions:

- The EM61 investigation provided reliable results for the detection of metallic USTs within the surveyed portion of the site.

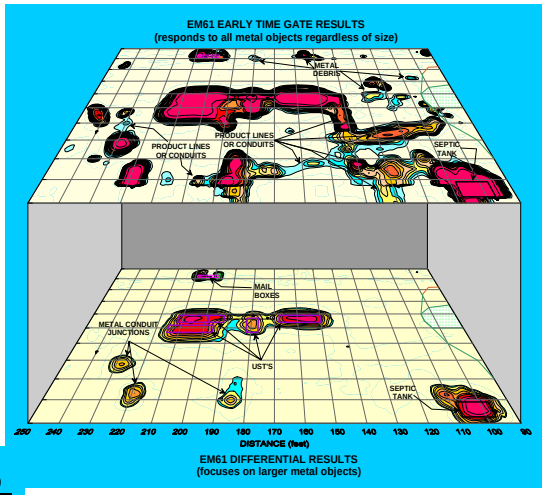
- The linear, high amplitude EM61 anomaly intersecting grid coordinates X=90 Y=47 is probably in response to steel reinforced concrete, the garage, an air/vac pump and/or a metal bollard.

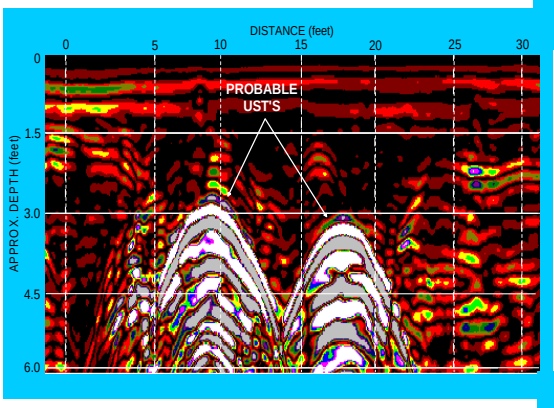
- The EM61 anomalies centered near grid coordinates X=120 Y=25 and X=120 Y=42 are probably in response to a fire hydrant and guy wires, respectively.

- The geophysical investigation suggests the proposed ROW area at Parcel 11 does not contain unknown, metallic USTs.

5.0 LIMITATIONS

An EM61 investigation has been performed and this report prepared for AECOM Environmental in accordance with generally accepted guidelines for EM61 surveys. It is generally recognized that the results of the EM61 survey are non-unique and may not represent actual subsurface conditions. The EM61 results obtained for this project have not conclusively determined that the surveyed portion of the site does not contain unknown, metallic USTs but that none were detected.

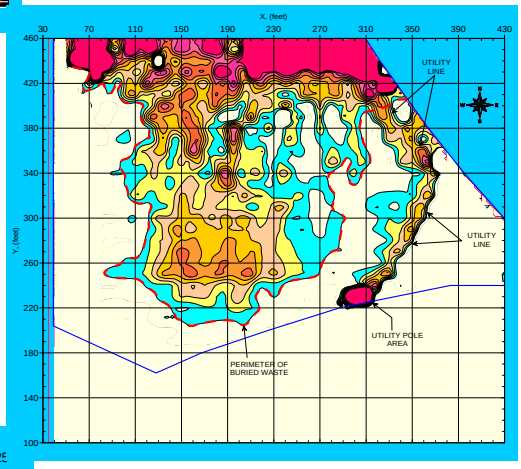


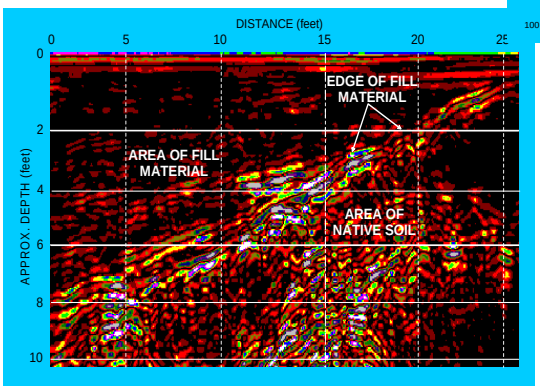


FIGURES

(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 ROW area at the Willie Brantely site on July 21, 2010.

The photograph shows the proposed ROW area at the Willie Brantely site located along the northerly side of Wilson Avenue in Spring Lake, North Carolina.The photograph is viewed in a northwesterly direction.

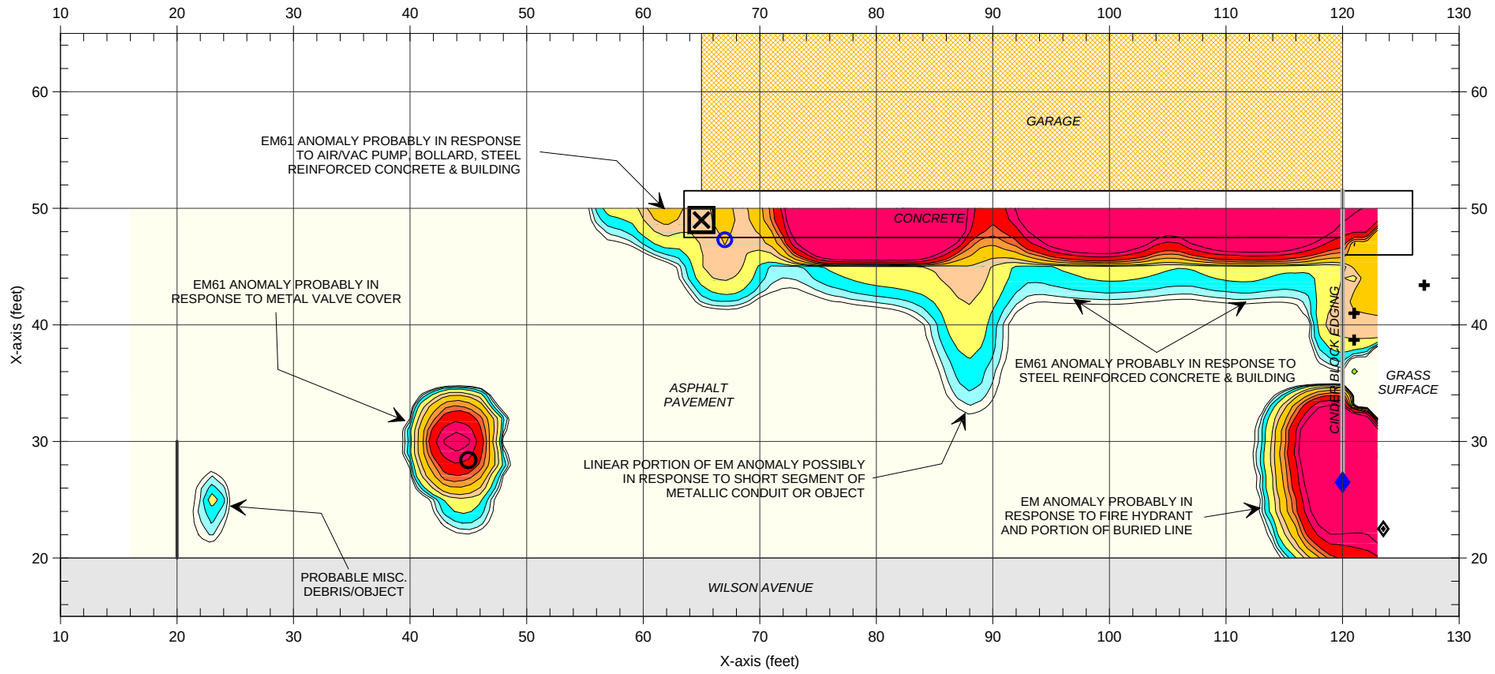
PYRAMID
ENVIRONMENTAL & ENGINEERING, P.C.

CLIENT	AECOM ENVIRONMENT		DATE 09/06/10	DRWN MJD	
SITE	WILLIE BRANTELY SITE (PARCEL 11)		LAY	CHKD	
CITY	SPRING LAKE	STATE NORTH CAROLINA	DWG		
TITLE	GEOPHYSICAL RESULTS		JNO 2010-176	FIGURE	

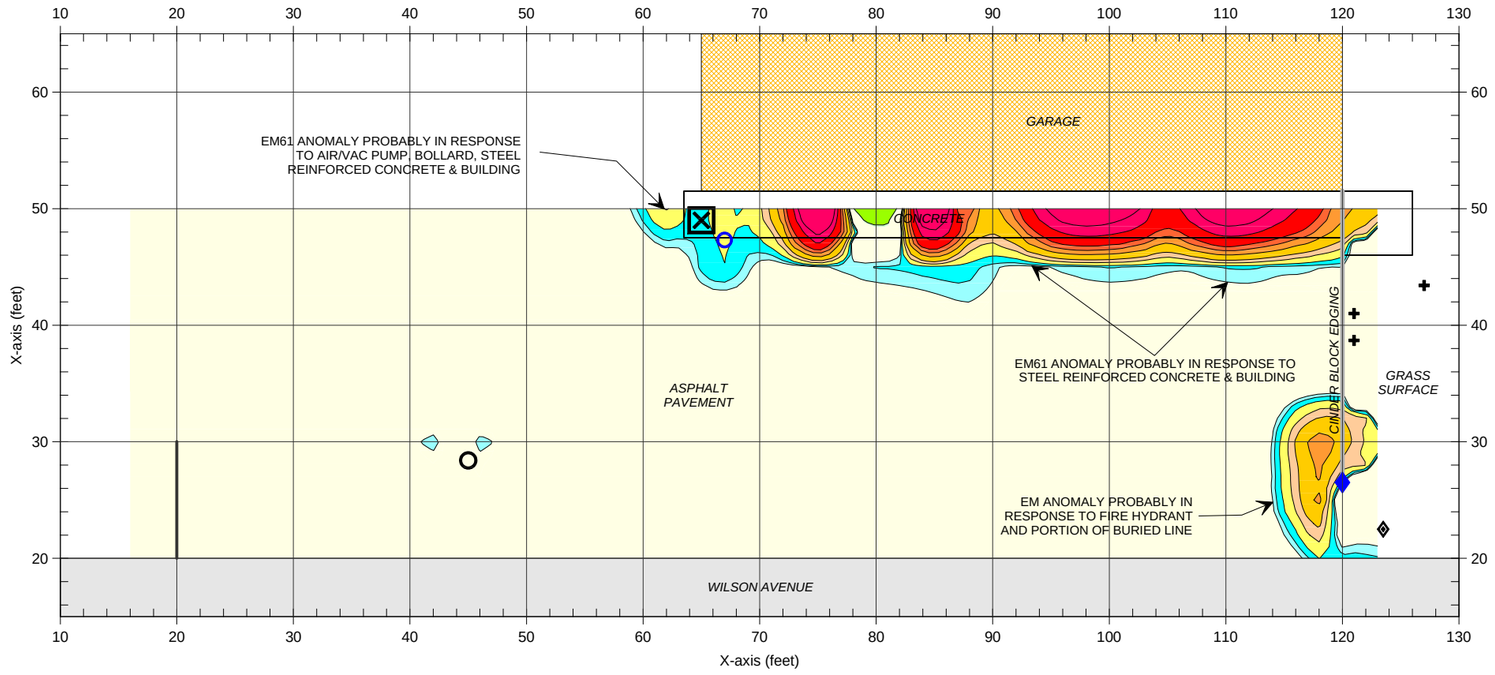
GEOPHYSICAL EQUIPMENT & SITE PHOTOGRAPHS

FIGURE 1

BOTTOM COIL RESULTS



DIFFERENTIAL RESULTS



APPROXIMATE NORTH

LEGEND

- SURVEY AREA: EM61 DATA ACQUIRED ALONG X-AXIS OR Y-AXIS TRENDING SPACED 5 FEET APART
- BUILDING
- AIR/VAC PUMP
- FIRE HYDRANT
- VALVE COVER
- GUY WIRE
- UTILITY POLE
- BOLLARD

EM61 METAL DETECTION RESPONSE (MILLIVOLTS)

-5000 -400 -200 -100 -80 -50 -60 -75 -100 -150 -200 -300 -400 -500 -750 -1000

The contour plots show 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 collected on July 21, 2010 using a Geonics EM61 instrument.

Due to an absence of EM61 differential anomalies that could represent potential metallic UST locations, ground penetrating radar (GPR) surveys were not conducted at this site. The geophysical investigation suggests the proposed ROW area of the site does not contain metallic USTs.

EM61 METAL DETECTION RESULTS

FIGURE 2

GRAPHIC SCALE IN FEET

DRWN	CHKD		FIGURE
MJD			
DATE	LAY	DWG	J-NO.
09/06/10			2010-176

CLIENT: AECOM ENVIRONMENT

SITE: WILLIE BRANTELY PROPERTY (PARCEL 11)

CITY: SPRING LAKE

STATE: NORTH CAROLINA

TITLE: GEOPHYSICAL RESULTS

PYRAMID ENVIRONMENTAL & ENGINEERING, P.C.

ATTACHMENT B

TEST BORING REPORT

PROJECT WILLIE BRANTLEY PROPERTY (PARCEL 11)
CLIENT NCDOT
PROJECT NUMBER 60158550 (WBS 36492.1.2)
CONTRACTOR REGIONAL PROBING
EQUIPMENT GEOPROBE

BORING NUMBER BR-1
PAGE 1
ELEVATION
DATE 8/9/2010
DRILLER OPPER
PREPARED BY BRANSON

DEPTH IN FEET	CASING BLOWS FOOT	BLOWS PER 6 INCHES	OVA (ppm)	SAMPLE DEPTH RANGE	FIELD CLASSIFICATION AND REMARKS
			1.70		2" ASPHALT/GRAVEL, MEDIUM BROWN, LOOSE, COARSE-GRAINED SAND, DRY, NO ODOR. SUBMIT TO LABORATORY FOR ANALYSIS.
			0.96		AS ABOVE, DRY, NO ODOR.
			0.62		MEDIUM BROWN SAND/CLAY, STIFF, DRY, NO ODOR.
5.0			0.90		AS ABOVE, DRY, NO ODOR.
			1.10		AS ABOVE, DRY, NO ODOR.
10.0					BORING TERMINATED AT 10 FEET. NO GROUNDWATER ENCOUNTERED
15.0					
20.0					

AECOM

TEST BORING REPORT

PROJECT WILLIE BRANTLEY PROPERTY (PARCEL 11)
CLIENT NCDOT
PROJECT NUMBER 60158550 (WBS 36492.1.2)
CONTRACTOR REGIONAL PROBING
EQUIPMENT GEOPROBE

BORING NUMBER BR-2
PAGE 1
ELEVATION
DATE 8/9/2010
DRILLER OPPER
PREPARED BY BRANSON

DEPTH IN FEET	CASING BLOWS FOOT	BLOWS PER 6 INCHES	OVA (ppm)	SAMPLE DEPTH RANGE	FIELD CLASSIFICATION AND REMARKS
			1.44		2" ASPHALT/GRAVEL, MEDIUM BROWN, LOOSE, COARSE-GRAINED SAND, DRY, NO ODOR.
			2.31		AS ABOVE, DRY, NO ODOR. SUBMIT TO LABORATORY FOR ANALYSIS.
			1.89		MEDIUM BROWN SAND/CLAY, STIFF, DRY, NO ODOR.
5.0					
			1.62		AS ABOVE, DRY, NO ODOR.
			1.57		AS ABOVE, DRY, NO ODOR.
10.0					BORING TERMINATED AT 10 FEET. NO GROUNDWATER ENCOUNTERED
15.0					
20.0					

AECOM

TEST BORING REPORT

PROJECT WILLIE BRANTLEY PROPERTY (PARCEL 11)
CLIENT NCDOT
PROJECT NUMBER 60158550 (WBS 36492.1.2)
CONTRACTOR REGIONAL PROBING
EQUIPMENT GEOPROBE

BORING NUMBER BR-3
PAGE 1
ELEVATION
DATE 8/9/2010
DRILLER OPPER
PREPARED BY BRANSON

DEPTH IN FEET	CASING BLOWS FOOT	BLOWS PER 6 INCHES	OVA (ppm)	SAMPLE DEPTH RANGE	FIELD CLASSIFICATION AND REMARKS
			0.61		2" ASPHALT/GRAVEL, MEDIUM BROWN, LOOSE, COARSE-GRAINED SAND, DRY, NO ODOR.
			0.46		AS ABOVE, DRY, NO ODOR.
			0.71		AS ABOVE, DRY, NO ODOR.
5.0					
			0.83		MEDIUM BROWN SAND/CLAY, STIFF, DRY, NO ODOR. SUBMIT TO LABORATORY FOR ANALYSIS.
			0.40		AS ABOVE, DRY, NO ODOR.
10.0					BORING TERMINATED AT 10 FEET. NO GROUNDWATER ENCOUNTERED
15.0					
20.0					

AECOM

ATTACHMENT C

PHOTO 1 - BORING IN PROPOSED R/W LOOKING NORTH

PHOTO 2 - BORINGS IN PROPOSED R/W LOOKING NORTH

PHOTO 3 - BORING WITHIN PROPOSED R/W LOOKING NORTH

ATTACHMENT D

Mike Branson
AECOM
701 Corporate Center Drive
Suite 475
Raleigh, NC 27607

Report Number: G1037-92

Client Project: NCDOT

Dear Mike Branson,

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

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

Thank you for using SGS North America, Inc. for your analytical services. We look forward to working with you again on any additional analytical needs.

Sincerely,
SGS North America, Inc.

Barbara Hager Aug 18. 2010

Project Manager
Barbara Hager

Date

List of Reporting Abbreviations
And Data Qualifiers

B = Compound also detected in batch blank

BQL = Below Quantification Limit (RL or MDL)

DF = Dilution Factor

Dup = Duplicate

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

E = Estimated concentration, exceeds calibration range.

J = Estimated concentration, below calibration range and above MDL

LCS(D) = Laboratory Control Spike (Duplicate)

MDL = Method Detection Limit

MS(D) = Matrix Spike (Duplicate)

PQL = Practical Quantitation Limit

RL/CL = Reporting Limit / Control Limit

RPD = Relative Percent Difference

UJ = Target analytes with recoveries that are 10% < %R < LCL; # of MEs are allowable and compounds are not detected in the sample.

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.

MI34.021808.4

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

Client Sample ID: BR-1
Client Project ID: NCDOT
Lab Sample ID: G1037-92-1A
Lab Project ID: G1037-92
Report Basis: Dry Weight

Analyzed By: LMC
Date Collected: 8/9/2010 15:15
Date Received: 8/11/2010
Matrix: Soil
Solids 95.67

Analyte	Result	RL	Units	Dilution Factor	Date Analyzed
Gasoline Range Organics	BQL	5.85	mg/Kg	1	08/17/10 12:07

Surrogate Spike Results

	Added	Result	Recovery	Flag	Limits
BFB	100	94.9	94.9		70-130

Comments:

Batch Information

Analytical Batch: VP081710
Analytical Method: 8015
Instrument ID: GC4
Analyst: LMC

Prep Method: 5035
Initial Wt/Vol: 5.36 g
Final Volume: 5 mL

Analyst: LMC

NC Certification #481

Reviewed By: GRO.XLS

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

Client Sample ID:	BR-2	Analyzed By:	LMC
Client Project ID:	NCDOT	Date Collected:	8/9/2010 15:30
Lab Sample ID:	G1037-92-2B	Date Received:	8/11/2010
Lab Project ID:	G1037-92	Matrix:	Soil
Report Basis:	Dry Weight	Solids	94.59

Analyte	Result	RL	Units	Dilution Factor	Date Analyzed
Gasoline Range Organics	BQL	6.58	mg/Kg	1	08/17/10 12:34

Surrogate Spike Results

	Added	Result	Recovery	Flag	Limits
BFB	100	97.2	97.2		70-130

Comments:

Batch Information

Analytical Batch:	VP081710	Prep Method:	5035
Analytical Method:	8015	Initial Wt/Vol:	4.82 g
Instrument ID:	GC4	Final Volume:	5 mL
Analyst:	LMC		

Analyst: LMC

NC Certification #481

Reviewed By: GRO.XLS

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

Client Sample ID: BR-3
Client Project ID: NCDOT
Lab Sample ID: G1037-92-3A
Lab Project ID: G1037-92
Report Basis: Dry Weight

Analyzed By: LMC
Date Collected: 8/9/2010 15:45
Date Received: 8/11/2010
Matrix: Soil
Solids 92.41

Analyte	Result	RL	Units	Dilution Factor	Date Analyzed
Gasoline Range Organics	BQL	5.73	mg/Kg	1	08/17/10 13:01

Surrogate Spike Results

	Added	Result	Recovery	Flag	Limits
BFB	100	95.9	95.9		70-130

Comments:

Batch Information

Analytical Batch: VP081710
Analytical Method: 8015
Instrument ID: GC4
Analyst: LMC

Prep Method: 5035
Initial Wt/Vol: 5.67 g
Final Volume: 5 mL

Analyst: _____

NC Certification #481

Reviewed By: _____
GRO.XLS

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

Client Sample ID: BR-1
Client Project ID: NCDOT
Lab Sample ID: G1037-92-1D
Lab Project ID: G1037-92

Date Collected: 8/9/2010 15:15
Date Received: 8/11/2010
Matrix: Soil
Solids 95.67
Report Basis: Dry Weight

Parameter	Result	RL	Units	Dilution Factor	Date Analyzed
Diesel Range Organics	**8.91**	6.31	mg/Kg	1	08/17/10 00:37

Surrogate Spike Results	Spike Added	Control Limits	Spike Result	Percent Recovery
OTP	40	40-140	32.6	81.5

Comments:

Batch Information

Analytical Batch: EP081610
Analytical Method: 8015
Instrument: GC6
Analyst: DTF

Prep batch: 17205
Prep Method: 3541
Prep Date: 08/13/10
Initial Prep Wt/Vol: 33.13 G
Prep Final Vol: 10 mL

Analyst: _____

NC Certification #481

Reviewed By: _____
DRO.XLS

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

Client Sample ID: BR-2
Client Project ID: NCDOT
Lab Sample ID: G1037-92-2D
Lab Project ID: G1037-92

Date Collected: 8/9/2010 15:30
Date Received: 8/11/2010
Matrix: Soil
Solids 94.59
Report Basis: Dry Weight

Parameter	Result	RL	Units	Dilution Factor	Date Analyzed
Diesel Range Organics	BQL	6.19	mg/Kg	1	08/17/10 01:06

Surrogate Spike Results	Spike Added	Control Limits	Spike Result	Percent Recovery
OTP	40	40-140	32.4	81.1

Comments:

Batch Information

Analytical Batch: EP081610
Analytical Method: 8015
Instrument: GC6
Analyst: DTF

Prep batch: 17205
Prep Method: 3541
Prep Date: 08/13/10
Initial Prep Wt/Vol: 34.16 G
Prep Final Vol: 10 mL

Analyst: _____

NC Certification #481

Reviewed By: _____
DRO.XLS

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

Client Sample ID: BR-3
Client Project ID: NCDOT
Lab Sample ID: G1037-92-3D
Lab Project ID: G1037-92

Date Collected: 8/9/2010 15:45
Date Received: 8/11/2010
Matrix: Soil
Solids 92.41
Report Basis: Dry Weight

Parameter	Result	RL	Units	Dilution Factor	Date Analyzed
Diesel Range Organics	BQL	6.58	mg/Kg	1	08/17/10 01:34

Surrogate Spike Results	Spike Added	Control Limits	Spike Result	Percent Recovery
OTP	40	40-140	32.8	82.1

Comments:

Batch Information

Analytical Batch: EP081610
Analytical Method: 8015
Instrument: GC6
Analyst: DTF

Prep batch: 17205
Prep Method: 3541
Prep Date: 08/13/10
Initial Prep Wt/Vol: 32.87 G
Prep Final Vol: 10 mL

Analyst: FM

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Reviewed By:

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SGS North America Inc.

Locations Nationwide
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(1)
CLIENT: AECom
CONTACT: Mike Branson PHONE NO:(919) 854 6238
PROJECT: NCDOT SITE/PWSID#: Willie Brantley
REPORTS TO: Above
FAX NO.:(919) 854 6259
INVOICE TO: NCDOT QUOTE #:
P.O. NUMBER: WBS # 36492.1.2

SGS Reference: G1037-92

PAGE 1 OF 1

(2)

LAB NO.	SAMPLE IDENTIFICATION	DATE	TIME	MATRIX	No CONTAINERS	SAMPLE TYPE C=COMP G=GRAB	Preservatives Used: MeOH / —	Analysis Required (3): GRO	DRO	REMARKS
	BR-1	8/9/10	1515	Soil	3	C		✓	✓	
	BR-2	8/9/10	1530	Soil	3	C		✓	✓	
	BR-3	8/9/10	1545	Soil	3	C		✓	✓	

(5)

Collected/Relinquished By:(1)	Date	Time	Received By:
MBranson	8/10/10	1730	
Relinquished By: (2)	Date	Time	Received By:
Relinquished By: (3)	Date	Time	Received By:
Relinquished By: (4)	Date 8/11/10	Time 1000	Received By:

(4)

Shipping Carrier: Fed Ex
Shipping Ticket No:
Samples Received Cold? (Circle) YES NO
Temperature°C: 5.9°C.
Special Deliverable Requirements:
Chain of Custody Seal: (Circle) INTACT BROKEN ABSENT
Special Instructions:
Requested Turnaround Time: ☐ RUSH _____ Date Needed ☒ STD

N.C. Certification #481

SGS North America, Inc.

☐ 200 W. Potter Drive **Anchorage, AK 99518** Tel: (907) 562-2343 Fax: (907) 561-5301
☐ 5500 Business Drive **Wilmington, NC 28405** Tel: (910) 350-1903 Fax: (910) 350-1557

White - Retained by Lab
Pink - Retained by Client