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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
Mary Spires Property (Parcel #5)
405 S. Bragg Blvd.
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 Mary Spires Property (Parcel #5) is located at 405 S. Bragg Boulevard in Spring Lake, Cumberland County, North Carolina. The property is situated on the east side of Bragg Boulevard and in the southeast quadrant of the intersection of Bragg Boulevard and Wilson Avenue (Figure 1). Based on information supplied by the NCDOT and the site visit, AECOM understands that the site is an active gas station/convenience store (Pantry 3017 DBA Quick Stop 43) where four underground storage tanks (USTs) are present; one 6,000-gallon diesel fuel, one 6,000-gallon gasoline, and two 12,000-gallon gasoline USTs. The structures on the site consist of a block building with an asphalt parking lot and a pump island canopy in front and a car wash on the northeast portion of the property. The USTs are located on the north side of the pump islands (Figure 2). The NCDOT has advised that the proposed right-of-way/easement will affect the existing right-of-way along Bragg Boulevard and a new utility easement will affect the rear portion of the property (Figure 2). Because of the location of the pump islands, 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 Groundwater Incident Number 7413 has been assigned to the property. According to the database, the incident was assigned in 1992 and the available information states that the "site assessment found soil contamination." No further information was available in the database for the incident.

AECOM also examined the UST registration database to obtain UST ownership information. Three USTs are operated on the site under Facility ID 0-011307. The operator and owner of the tanks are listed as follows:

Owner
The Pantry, Inc.
PO Box 1410/1801 Douglas Drive
Sanford, NC 27330-1410
(919) 774-6700

Operator
Pantry 3017 DBA Quick Stop 43
300 Murchison Road
Spring Lake, NC 28390
(919) 774-6700

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 perpendicular to Bragg Boulevard and the Y-axis oriented approximately parallel to Bragg 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 where needed to further evaluate any significant metallic anomalies.

Two areas of the property were investigated, the existing right-of-way along Bragg Boulevard and the utility easement on the back of the property along Monroe Street. Access was available to all areas of the right-of-way and several anomalies were detected with the geophysical survey. Most of these anomalies were attributed to buried utility lines or conduits. However, a large anomaly on the south side of the right-of-way on Bragg Boulevard suggested that a 1,000 to 1,500 gallon tank may be present. No fill port or vent pipe was associated with this anomaly. A second anomaly was detected at the car wash on the northeast portion of the property. The anomaly signature was consistent with a small metallic UST or oil/water separator (300 to 500

gallons in size). A third anomaly was detected in the utility easement on the easternmost portion of the property. This anomaly suggests a either a small UST (500 to 1,000 gallons in size) or a portion of a large-diameter conduit. No fill ports or vent lines were observed for any of the anomalies and, as such, the anomalies were classified as possible USTs. A detailed report of findings and interpretations is presented in Attachment A.

Site Assessment Activities

On August 10, 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).

Six direct-push holes (SP-1 through SP-6) were advanced within the right-of-way to a depth of 10 feet as shown in Figure 2 and Attachment B. Boring SP-1 was located to evaluate the conditions at the possible UST in the front right-of-way, and borings SP-2 and SP-3 were placed to assess the soil conditions within the front right-of-way. Boring SP-4 was situated to observe conditions at the anomaly detected at the car wash, and borings SP-5 and SP-6 were located to evaluate the possible UST in the utility easement (Attachment C). The lithology encountered by the direct-push samples generally was consistent throughout the site. The ground surface was covered with about 2 to 3 inches of asphalt or topsoil. Below the surface to a depth of 6 to 8 feet was a medium brown, loose, coarse-grained sand. Underlying this material was a medium brown sand/clay. No bedrock was encountered in any of the borings. 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, no petroleum hydrocarbon compounds identified as DRO and/or GRO were detected in any of the seven soil samples collected from the site on August 11, 2010. Consequently, no concentrations are present above applicable action levels.

Conclusions and Recommendations

A Preliminary Site Assessment was conducted to evaluate the Mary Spires Property (Parcel #5) located at 405 S. Bragg Boulevard in Spring Lake, Cumberland County, North Carolina. A geophysical investigation was conducted to evaluate the site for unknown USTs. The investigation suggested that as many as three heretofore unknown possible USTs were present at the site. Six 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 no DRO and/or GRO concentrations were present above the action level in any of the six soil samples analyzed.

AECOM appreciates the opportunity to work with the NCDOT on this project. Because no compounds were detected above the method detection limits 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

Michael W. Branson, P.G.
Project Manager

Attachments

c: Project File

TABLE 1

SOIL FIELD SCREENING AND ANALYTICAL RESULTS
MARY SPIRES PROPERTY (PARCEL #5)
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)
SP-1	0 - 2	3.12			
	2 - 4	4.52	SP-1	DRO (BQL) GRO (BQL)	10 10
	4 - 6	3.53			
	6 - 8	4.18			
	8 - 10	3.49			
SP-2	0 - 2	3.03			
	2 - 4	4.35			
	4 - 6	4.05			
	6 - 8	5.34	SP-2	DRO (BQL) GRO (BQL)	10 10
	8 - 10	3.51			
SP-3	0 - 2	2.71			
	2 - 4	3.30			
	4 - 6	3.37			
	6 - 8	3.92	SP-3	DRO (BQL) GRO (BQL)	10 10
	8 - 10	2.14			
SP-4	0 - 2	3.36			
	2 - 4	4.43			
	4 - 6	3.60			
	6 - 8	5.32	SP-4	DRO (BQL) GRO (BQL)	10 10
	8 - 10	3.12			
SP-5	0 - 2	2.69			
	2 - 4	3.92			
	4 - 6	4.09	SP-5	DRO (BQL) GRO (BQL)	10 10
	6 - 8	4.03			
	8 - 10	2.23			
SP-6	0 - 2	2.41			
	2 - 4	3.38			
	4 - 6	3.03			
	6 - 8	3.69	SP-6	DRO (BQL) GRO (BQL)	10 10
	8 - 10	2.68			

Soil samples were collected on August 10, 2010.

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

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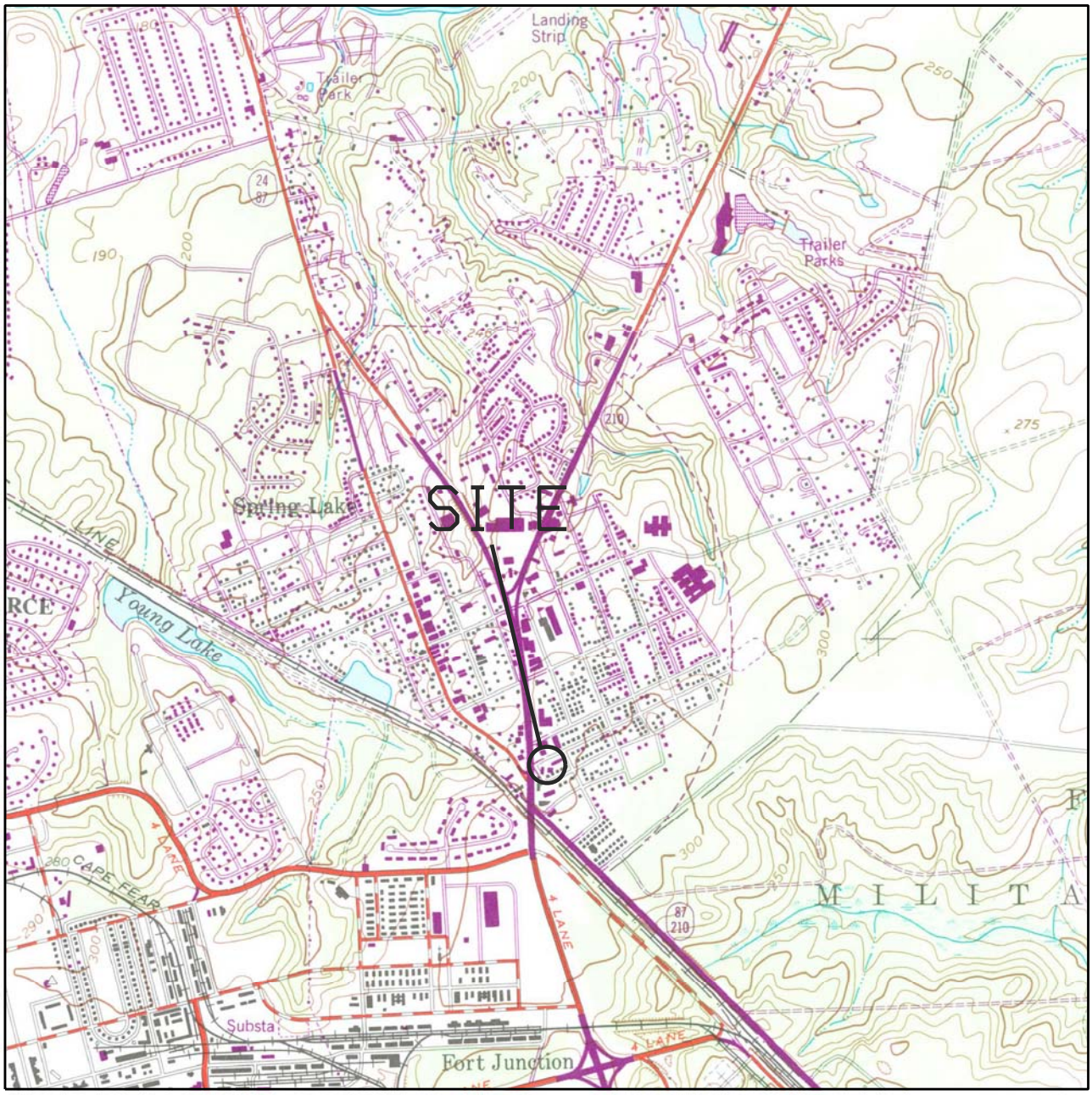
FIGURES



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

AECOM

FIGURE 1
VICINITY MAP
MARY SPIRES PROPERTY (PARCEL #5)
SPRING LAKE, CUMBERLAND COUNTY NORTH CAROLINA

AUGUST 2010

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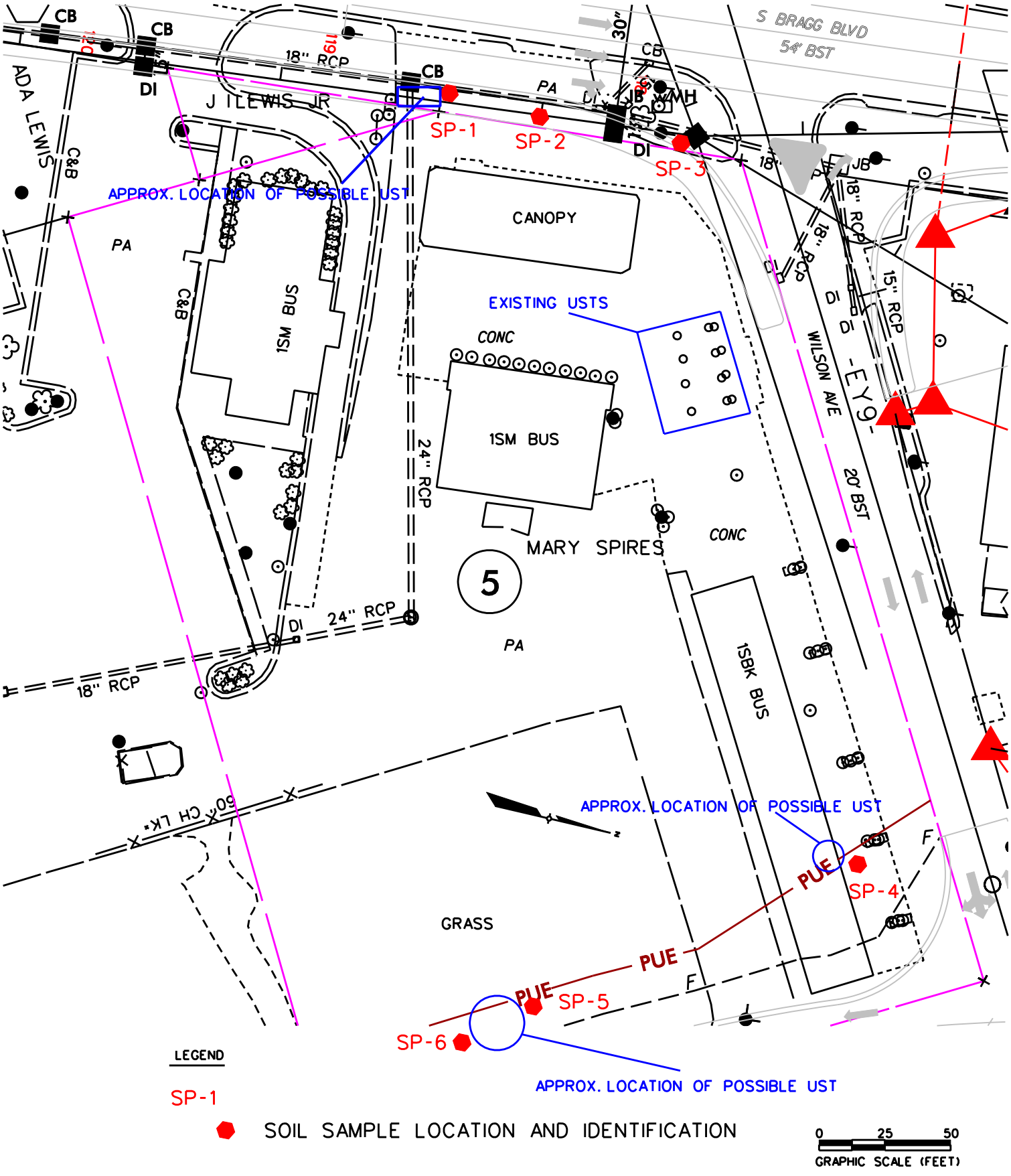

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FIGURE 2
SITE MAP
MARY SPIRES PROPERTY (PARCEL #5)
SPRING LAKE, CUMBERLAND COUNTY, NORTH CAROLINA

AUGUST 2010 60158550

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ATTACHMENT A

Pyramid Project # 2010176

GEOPHYSICAL INVESTIGATION REPORT

EM61 & GPR SURVEYS

MARY SPIRES PROPERTY (PARCEL 5)
South Bragg Boulevard
Spring Lake, North Carolina

August 28, 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.

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AECOM Environment
GEOPHYSICAL INVESTIGATION REPORT
MARY SPIRES PROPERTY (PARCEL 5)
Spring Lake, North Carolina

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FIGURES

1.0 INTRODUCTION

Pyramid Environmental conducted a geophysical investigation for AECOM Environmental across the proposed Right-of-Way (ROW) areas along the front portion and back portion of the Mary Spires property (Parcel 5) located at the intersection of South Bragg Boulevard and Wilson Avenue in Spring Lake, North Carolina. Conducted on July 21 and August 2, 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) were present beneath the proposed ROW areas of the site.

The front proposed ROW area of Parcel 5 encompasses the portion of property between South Bragg Boulevard and the active BP pump island pad. The front proposed ROW area consists primarily of grass and asphalt surfaces and the geophysical survey area has a maximum length and width of 155 feet and 55 feet, respectively. The back proposed ROW area of Parcel 5 is located along Monroe Street and consists primarily of an open grass-covered field and the eastern portion of a car wash facility. The geophysical survey area of the back proposed ROW area has a maximum length and width of 280 feet and 85 feet, respectively.

AECOM Environment representative Mr. Michael Branson, PG identified the geophysical survey areas to Pyramid Environmental personnel and provided site maps showing the boundaries of the proposed survey areas prior to conducting the investigation. Photographs of the geophysical equipment used in this investigation and the proposed ROW areas of the Mary Spires property (Parcel 5) 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 areas 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 and ground penetrating radar (GPR) surveys. The EM survey was 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, 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 conducted on August 2, 2010 across steel reinforced concrete and 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 5 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.

Preliminary contour plots of the EM61 bottom coil and EM61 differential results obtained from the two survey areas were emailed to Mr. Branson during the week of August 9, 2010.

3.0 DISCUSSION OF RESULTS

3.1 Front Proposed ROW Area

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

between the top and bottom coils of the EM61 instrument. The differential results focus on the larger metal objects such as drum and UST-size objects and ignore the smaller insignificant metal objects.

The linear, EM61 anomalies intersecting grid coordinates X=30 Y=119 and X=45 Y=146 are probably in response to buried utility lines or conduits. Similarly, the lower amplitude, linear, bottom coil anomaly intersecting grid coordinates X=72 Y=19 is possibly in response to a buried conduit. The high amplitude EM61anomalies centered near grid coordinates X=35 Y=120 and X=40 Y=95 are probably in response to metallic storm sewer grates. GPR data suggest the large EM61 anomaly centered near grid lines X=74 Y=80 is in response to steel reinforced concrete, pump islands and buried conduits.

GPR data suggest the EM61 differential anomaly centered near grid lines X=48 Y=25 is in response to a metallic UST buried approximately 1.7 feet below the asphalt pavement and oriented in an northwest-southeast direction. Based on the GPR data, the possible UST appears to be 14 feet long and 4 feet wide. The approximate footprint of the possible, metallic UST was marked in the field using orange marking paint. Two GPR images that cross the possible UST and a photograph showing the location of the possible UST are presented in **Figure 4**.

The remaining EM61 anomalies are probably in response to known surface objects or miscellaneous debris/objects and the geophysical investigation suggests that the remaining portion of the front proposed ROW area does not contain additional unknown, metallic USTs.

3.2 Back Proposed ROW Area

Contour plots of the EM61 bottom coil and differential results from the back proposed ROW area are presented in **Figures 5 and 6**, respectively**.** The linear EM61 bottom coil anomalies intersecting grid coordinates X=25 Y=260, X=50 Y=279, X=60 Y=18, X=80 Y=199, X=90 Y=177, and X=110 Y=120 are probably in response to buried utility lines or conduits. The bottom coil anomalies intersecting grid coordinates X=28 Y=96, X=30 Y=135, X=30 Y=147, and X=30 Y=162 are probably in response to buried, miscellaneous metal debris or small objects. Similarly, the small,

isolated, randomly scattered bottom coil anomalies, such as the ones centered near grid coordinates X=55 Y=143, X=60 Y=97, X=60 Y=135, and X=65 Y=129 are probably in response to buried, miscellaneous metallic debris.

GPR data suggest the EM61 differential anomaly centered near grid coordinates X=90 Y=105 is in response to a possible, small, metallic UST or a miscellaneous object buried approximately 1.6 feet below present grade. The possible UST or object appears to be approximately 4 feet long and 3 feet wide. The approximate footprint of the possible, metallic UST or object was marked in the field using orange marking paint and pin flags. An image of GPR survey line Y=105 which crosses the UST or object and a photograph showing the location of the possible UST are presented in **Figure 7**.

Based on GPR data, the large EM61 differential anomaly centered near grid coordinates X=55 Y=225 is primarily in response to steel reinforced concrete, drain grates and conduits that are located within the bays of the car wash facility. However, the GPR surveys detected a possible UST or a short segment of wider diameter (greater than 1 foot) conduit centered near grid coordinates X=53 Y=236. The possible UST or short segment of conduit appears to be approximately 7 feet long, 3 feet wide and buried 1.4 feet below the concrete pavement. The approximate footprint of the possible, metallic UST or conduit was marked in the field using orange marking paint. An image of GPR survey line X=53 which crosses the UST or conduit and a photograph showing the location of the possible UST are presented in **Figure 7**.

The remaining EM61 anomalies shown in Figures 5 and 6 are probably in response to known surface objects, structures and/or buried lines.

4.0 SUMMARY & CONCLUSIONS

Our evaluation of the EM61 and GPR data collected across the two proposed ROW areas at the Mary Spires property (Parcel 5) located along the east side of South Bragg Boulevard in Spring Lake, North Carolina, provides the following summary and conclusions:

- The EM61 and GPR surveys provided reliable results for the detection of metallic USTs within the surveyed portions of the site.

- In the front proposed ROW area, the linear EM61 anomalies intersecting grid coordinates X=30 Y=119, X=45 Y=146 and X=72 Y=19 are probably in response to buried utility lines or conduits.

- GPR data suggest the EM61 differential anomaly centered near grid lines X=48 Y=25 is in response to a possible, metallic UST buried approximately 1.7 feet below the asphalt pavement and oriented in an northwest-southeast direction. Based on the GPR data, the possible UST appears to be 14 feet long and 4 feet wide.

- In the back proposed ROW area, the linear EM61 bottom coil anomalies intersecting grid coordinates X=25 Y=260, X=50 Y=279, X=60 Y=18, X=80 Y=199, X=90 Y=177, and X=110 Y=120 are probably in response to buried utility lines or conduits.

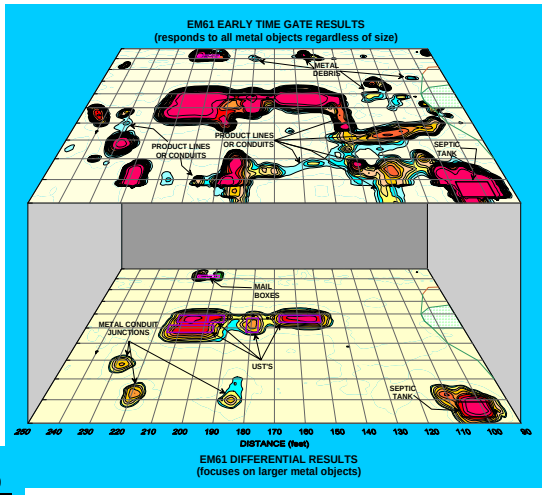
- GPR data suggest the EM61 differential anomaly centered near grid coordinates X=90 Y=105 is in response to a possible small metallic UST or a miscellaneous object buried approximately 1.6 feet below present grade. The possible UST or object appears to be approximately 4 feet long and 3 feet wide.

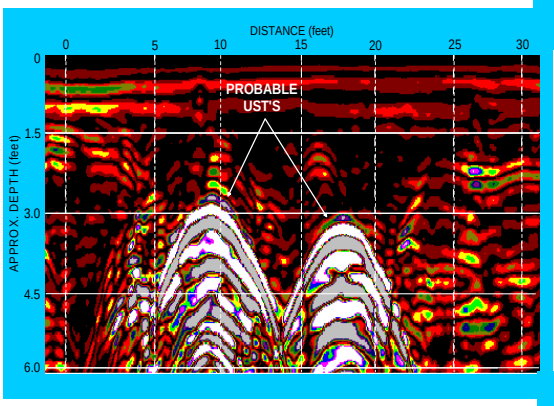
- GPR surveys detected a possible UST or a short segment of wider diameter (greater than 1 foot) conduit centered near grid coordinates X=53 Y=236. The possible UST or short segment of conduit appears to be approximately 7 feet long, 3 feet wide and buried 1.4 feet below the concrete pavement.

5.0 LIMITATIONS

EM61 and GPR surveys have been performed and this report prepared for AECOM Environmental 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 have not conclusively

determined that three possible USTs are present within the two proposed ROW areas but that only three possible USTs were detected.





FIGURES

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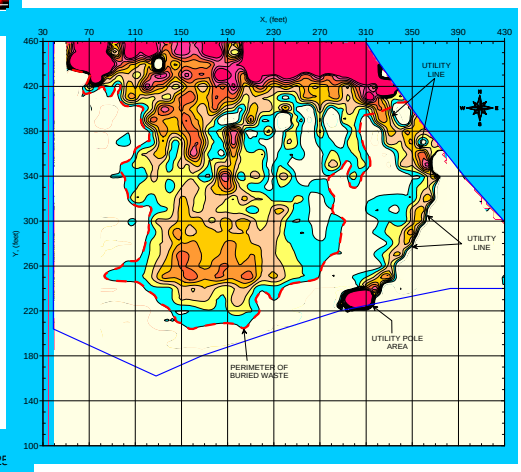
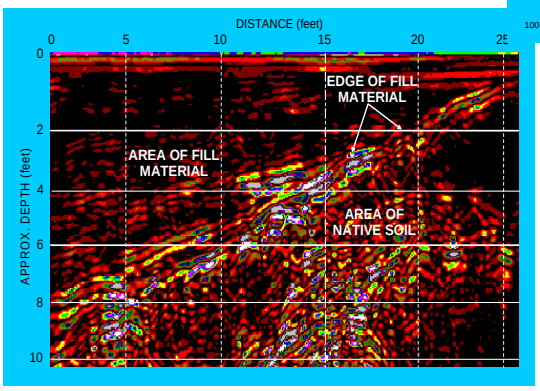
Figures shown on this page are for esthetic purposes only and are not related to the geophysical results discussed in this report.





The photograph shows the Geonics EM61 metal detector that was used to conduct the metal detection survey across the proposed ROW areas at the Mary Spires property on July 21, 2010.

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 the Mary Spires property on August 2, 2010.

The photograph shows the proposed ROW area (front portion) at the Mary Spires property located along the east side of South Bragg Boulevard in Spring Lake, North Carolina. The photograph is viewed in a northerly direction.

The photograph shows the proposed ROW area (back portion) at the Mary Spires property located along the west side of Monroe Street in Spring Lake, North Carolina. The photograph is viewed in a northerly direction.

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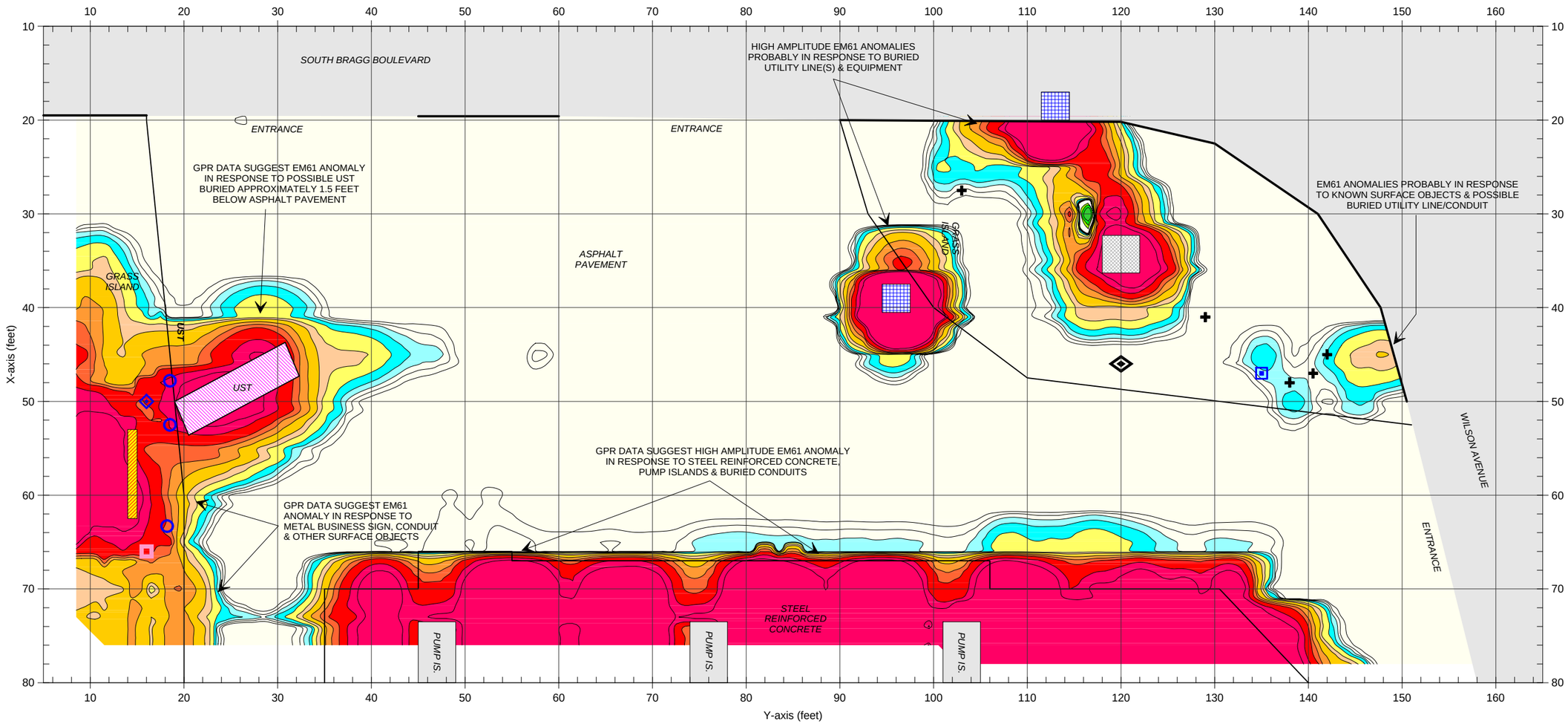
CLIENT	AECOM ENVIRONMENT	DATE	08/23/10	DRWN	MJD
SITE	MARY SPIRES PROPERTY (PARCEL 5)	LAY		CHKD	
CITY	SPRING LAKE	STATE	NORTH CAROLINA	DWG	
TITLE	GEOPHYSICAL RESULTS	JNO	2010-176	FIGURE	

GEOPHYSICAL EQUIPMENT & SITE PHOTOGRAPHS

FIGURE 1

EM61 METAL DETECTION (BOTTOM COIL RESULTS)

FIGURE 2



LEGEND

- SURVEY AREA: EM61 DATA ACQUIRED ALONG X-AXIS OR Y-AXIS TRENDING SPACED 5 FEET APART
- ELECTRICAL BOX
- BOLLARD
- TELEPHONE
- BUSINESS SIGN
- WATER LINE VALVE COVER
- STORM SEWER GRATE
- UTILITY BOX
- UTILITY POLE
- GUY WIRE
- ELECTRICAL OUTLET
- ROAD SIGN
- UST — POSSIBLE UST, AS SUGGESTED BY GPR DATA

APPROXIMATE NORTH

EM61 BOTTOM COIL RESPONSE (MILLIVOLTS)

1000
750
500
400
300
200
150
100
75
60
50
40
-90
-100
-200
-400
-5000

The contour plot shows the bottom coil (most sensitive) response of the EM61 instrument in millivolts (mV). The bottom coil response shows buried metallic objects regardless of size. The EM metal detection data were collected on July 21, 2010 using a Geonics EM61 instrument. Ground penetrating radar (GPR) data were acquired on August 2, 2010 using a Geophysical Survey Systems SIR 2000 instrument with a 400 MHz antenna.

The geophysical investigation detected one possible, metallic UST within the surveyed portion of the front proposed ROW area of the site.

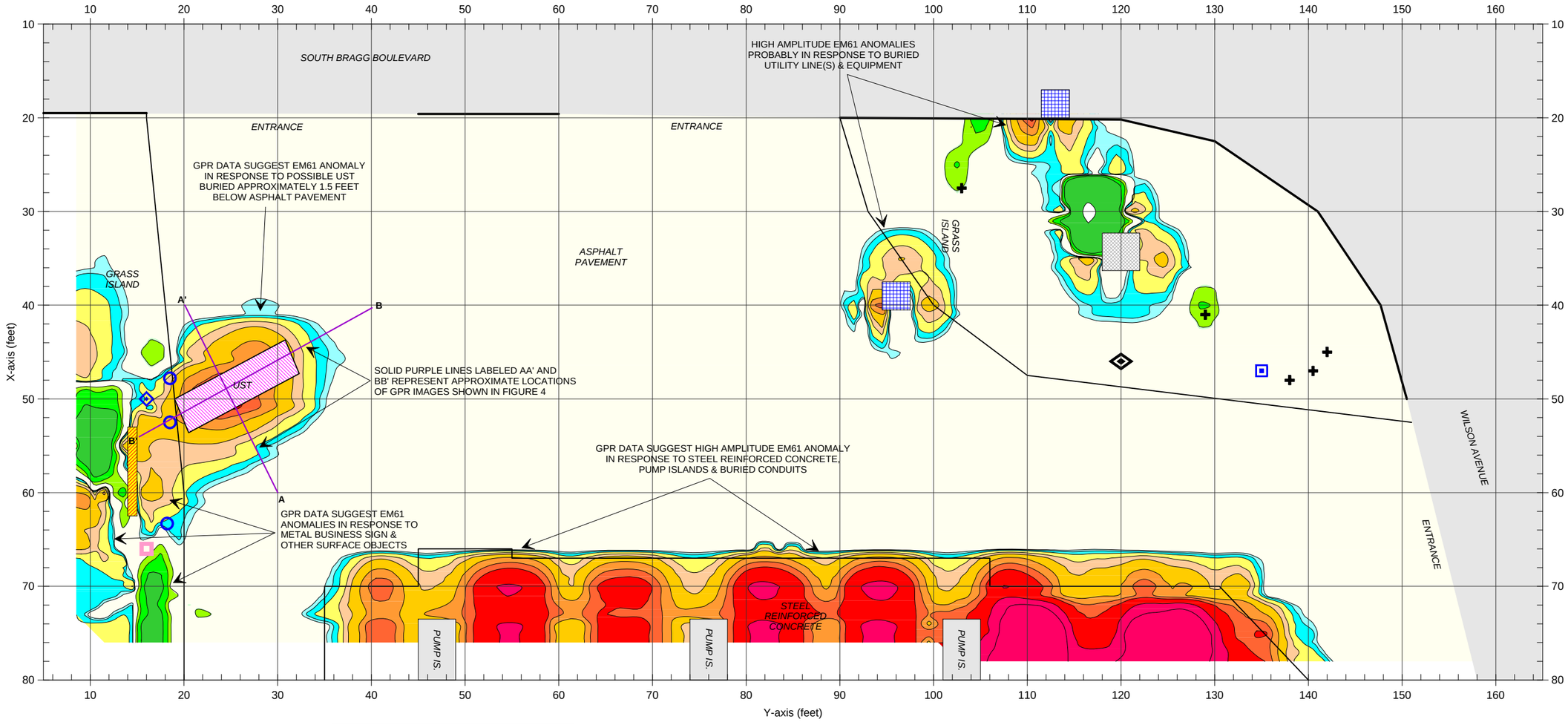
GRAPHIC SCALE IN FEET

CLIENT	SITE	CITY	TITLE
AECOM ENVIRONMENT	MARY SPIRES (PARCEL 5) - FRONT ROW AREA	SPRING LAKE	NORTH CAROLINA
DATE	**LAY**	**DWG**	**J.NO.**
08/26/10			2010-176
DRWN	**CHKD**		**FIGURE**
MJD			

PYRAMID
ENVIRONMENTAL & ENGINEERING, P.C.

EM61 METAL DETECTION (DIFFERENTIAL RESULTS)

FIGURE 3



LEGEND

- SURVEY AREA: EM61 DATA ACQUIRED ALONG X-AXIS OR Y-AXIS TRENDING SPACED 5 FEET APART
- ELECTRICAL BOX
- BOLLARD
- TELEPHONE
- BUSINESS SIGN
- WATER LINE VALVE COVER
- STORM SEWER GRATE
- UTILITY BOX
- UTILITY POLE
- GUY WIRE
- ELECTRICAL OUTLET
- ROAD SIGN
- UST — POSSIBLE UST, AS SUGGESTED BY GPR DATA

APPROXIMATE NORTH

EM61 DIFFERENTIAL RESPONSE (MILLIVOLTS)

1000
750
500
400
300
200
150
100
75
60
50
-90
-100
-200
-400
-5000

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 miscellaneous, buried, metal debris. The EM61 data were collected on July 21, 2010 using a Geonics EM61 instrument. Ground penetrating radar (GPR) data were acquired on August 2, 2010 using a Geophysical Survey Systems SIR 2000 instrument with a 400 MHz antenna.

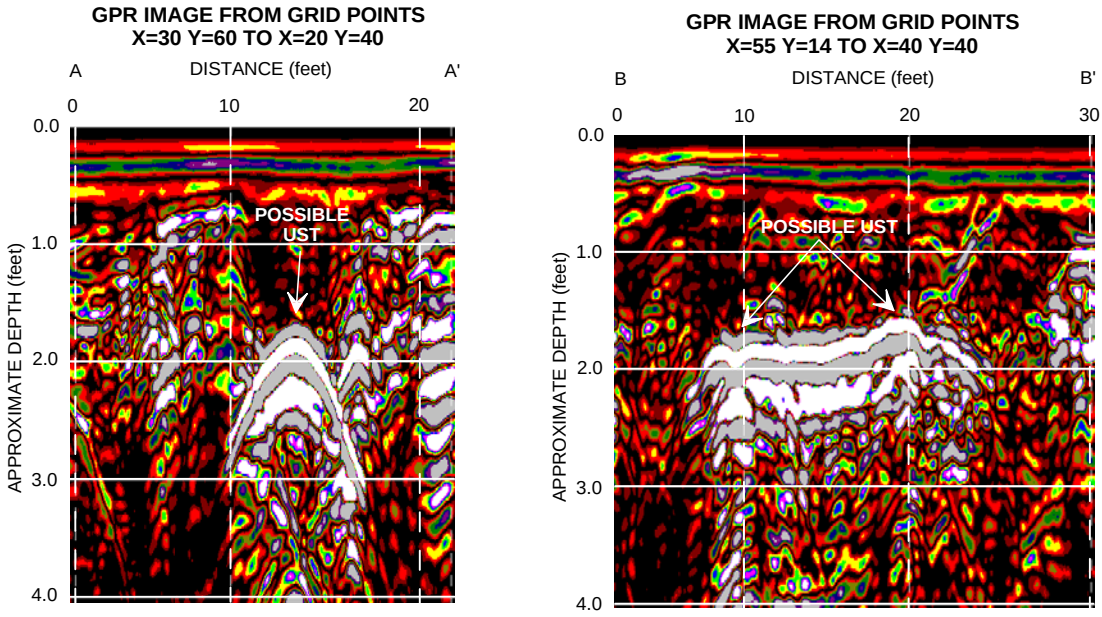
The geophysical investigation detected one possible, metallic UST within the surveyed portion of the front proposed ROW area of the site.

GRAPHIC SCALE IN FEET

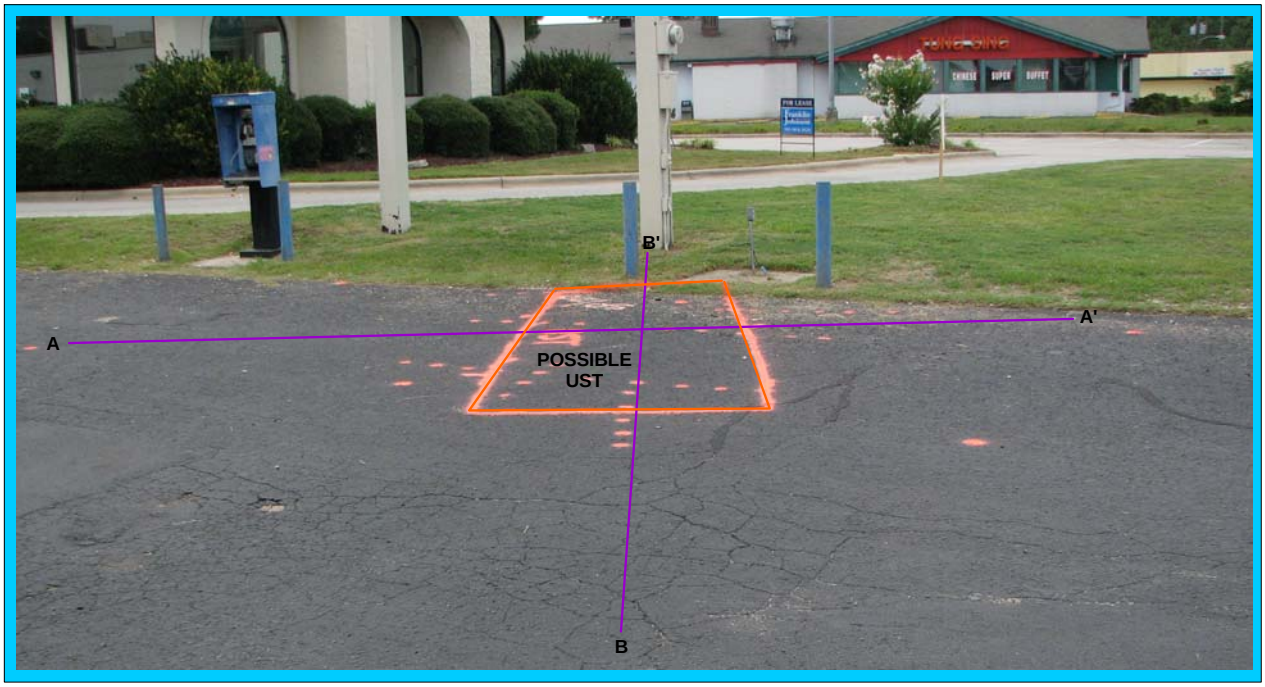
DRWN: MJD	CHKD:		FIGURE:
DATE: 08/26/10	LAY:	DWG:	J.-NO.: 2010-176

CLIENT: AECOM ENVIRONMENT
SITE: MARY SPIRES (PARCEL 5) - FRONT ROW AREA
CITY: SPRING LAKE
STATE: NORTH CAROLINA
TITLE: GEOPHYSICAL RESULTS

PYRAMID
ENVIRONMENTAL & ENGINEERING, P.C.



The high amplitude, hyperbolic anomaly in the GPR image AA' and the flat, high amplitude anomaly in GPR image BB' are in response to a possible metallic UST buried approximately 1.7 feet below surface and centered near grid coordinates X=48 Y=25. The solid purple lines labeled AA' and BB" in the photograph below and in Figure 3 show the location of the GPR images.



The orange rectangle in the photograph represents the approximate perimeter of the possible, metallic UST, as suggested by the GPR data, centered near grid coordinates X=48 Y=25. The possible UST appears to be approximately 14 feet long and 4 feet wide.The solid purple lines in the photograph labeled AA' and BB' represent the approximate locations of the GPR images shown above. The photograph is viewed in a southeasterly direction.

PYRAMID
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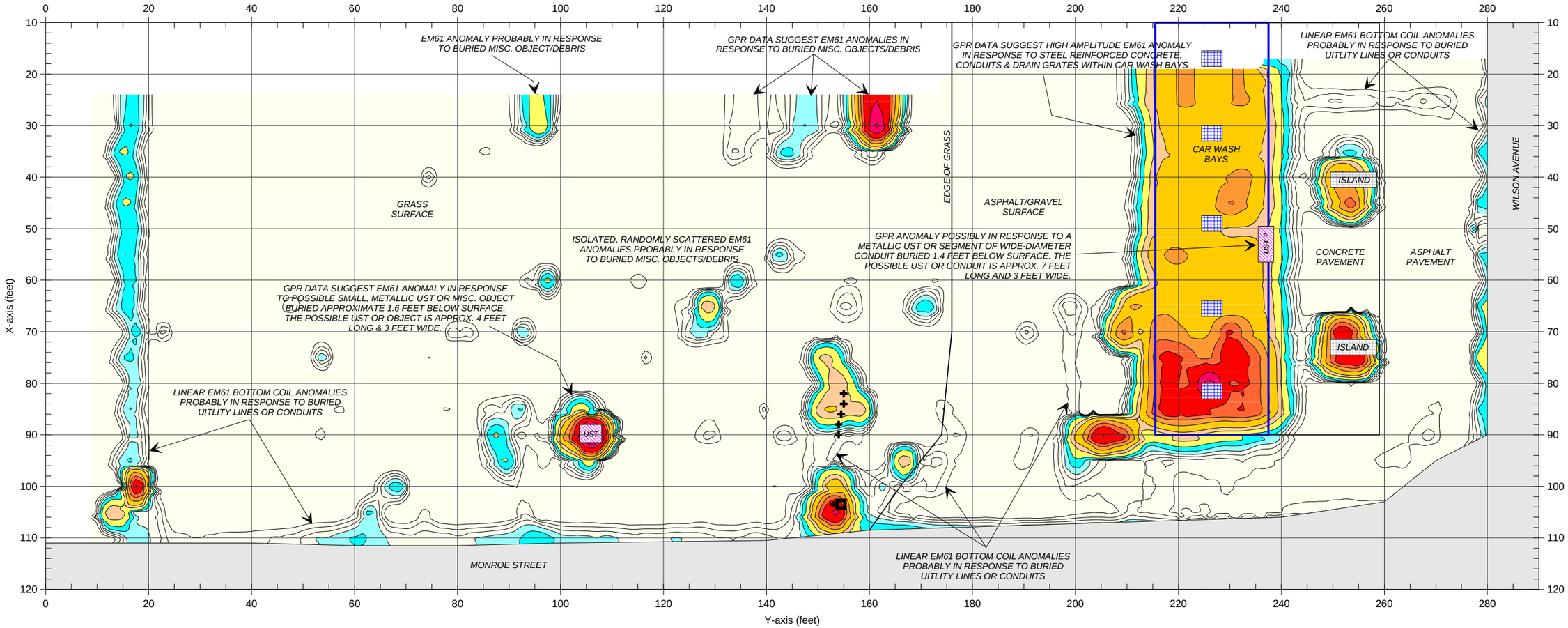
CLIENT	AECOM ENVIRONMENT		DATE	08/27/10	DRWN MJD
SITE	MARY SPIRES (PARCEL 5) - FRONT ROW AREA		LAY		CHKD
CITY	SPRING LAKE	STATE NORTH CAROLINA	DWG		
TITLE	GEOPHYSICAL RESULTS		JNO.	2010-176	FIGURE

GPR IMAGES ACROSS POSSIBLE UST

FIGURE 4

EM61 METAL DETECTION (BOTTOM COIL RESULTS)

FIGURE 5



LEGEND

- SURVEY AREA: EM61 DATA ACQUIRED ALONG X-AXIS OR Y-AXIS TRENDING SPACED 5 FEET APART
- UTILITY POLE
- WATER LINE VALVE COVER
- STORM SEWER GRATE
- MANHOLE COVER
- ROAD SIGN
- UST VALVE COVER
- UTILITY LINE BOX
- GUY WIRE
- AIR-VAC ISLAND
- UST — POSSIBLE UST OR OBJECT, AS SUGGESTED BY GPR DATA & EXPOSED VALVE COVER

APPROXIMATE NORTH

EM61 BOTTOM COIL RESPONSE (MILLIVOLTS)

1000
750
500
400
300
200
150
100
75
60
50
40
30
-90
-100
-200
-400
-5000

The contour plot shows the bottom coil (most sensitive) response of the EM61 instrument in millivolts (mV). The bottom coil response shows buried metallic objects regardless of size. The EM metal detection data were collected on July 21, 2010 using a Geonics EM61 instrument. Ground penetrating radar (GPR) data were acquired on August 2, 2010 using a Geophysical Survey Systems SIR 2000 instrument with a 400 MHz antenna.

The geophysical investigation detected two possible, metallic USTs within the back proposed ROW area.

GRAPHIC SCALE IN FEET

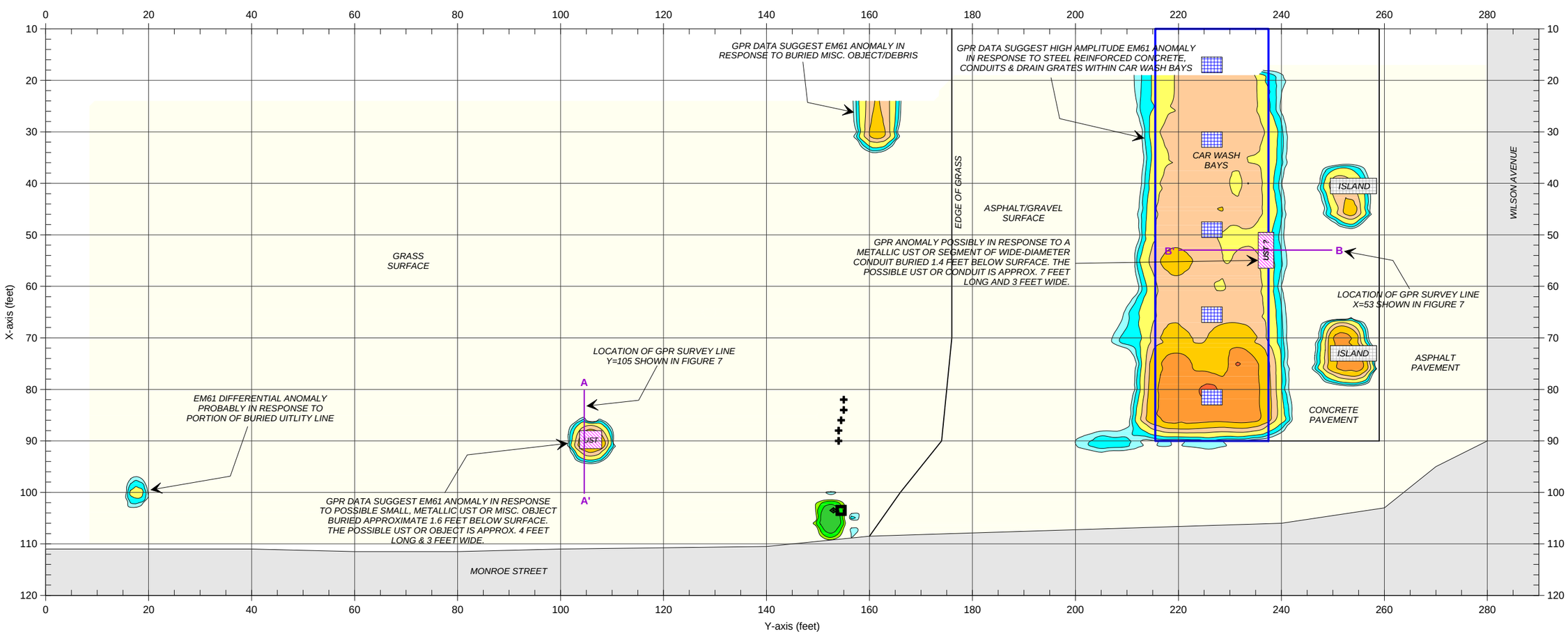
CLIENT	SITE	CITY	TITLE
AECOM ENVIRONMENT	MARY SPIRES PROPERTY - BACK ROW AREA	SPRING LAKE	GEOPHYSICAL RESULTS

STATE	J.NO.	DWG	LAY	DATE	DRWN	CHKD	FIGURE
NORTH CAROLINA	2010-176			08/23/10	MJD		

PYRAMID
ENVIRONMENTAL & ENGINEERING, P.C.

EM61 METAL DETECTION DIFFERENTIAL RESULTS)

FIGURE 6



LEGEND

- SURVEY AREA: EM61 DATA ACQUIRED ALONG X-AXIS OR Y-AXIS TRENDING SPACED 5 FEET APART
- UTILITY POLE
- WATER LINE VALVE COVER
- STORM SEWER GRATE
- MANHOLE COVER
- ROAD SIGN
- UST VALVE COVER
- UTILITY LINE BOX
- GUY WIRE
- AIR-VAC ISLAND
- UST — POSSIBLE UST OR OBJECT, AS SUGGESTED BY GPR DATA & EXPOSED VALVE COVER

APPROXIMATE NORTH

EM61 DIFFERENTIAL RESPONSE (MILLIVOLTS)

1000, 750, 500, 400, 300, 200, 150, 100, 75, 60, 50, 40, 30, -90, -100, -200, -400, -5000

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 miscellaneous, buried, metal debris. The EM61 data were collected on July 21, 2010 using a Geonics EM61 instrument. Ground penetrating radar (GPR) data were acquired on August 2, 2010 using a Geophysical Survey Systems SIR 2000 instrument with a 400 MHz antenna.

The geophysical investigation detected two possible, metallic USTs within the back proposed ROW area.

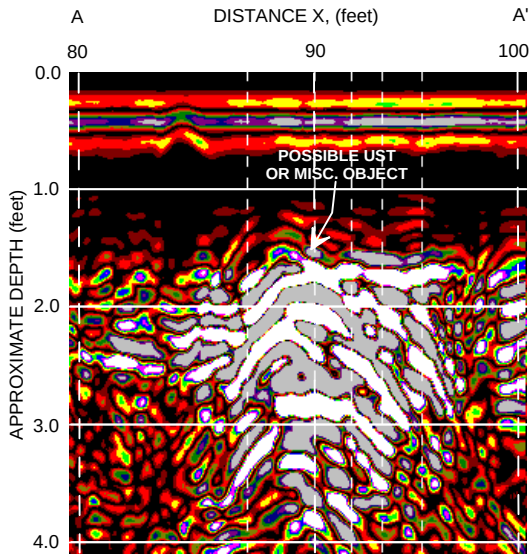
GRAPHIC SCALE IN FEET

DRWN	CHKD		FIGURE
MJD			
DATE	LAY	DWG	J.NO.
08/23/10			2010-176

CLIENT: AECOM ENVIRONMENT
SITE: MARY SPIRES PROPERTY - BACK ROW AREA
CITY: SPRING LAKE
STATE: NORTH CAROLINA
TITLE: GEOPHYSICAL RESULTS

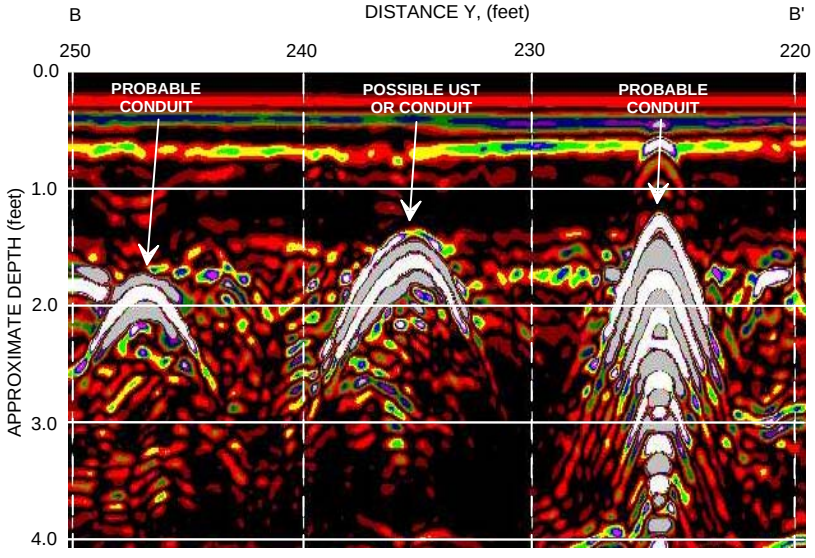
PYRAMID ENVIRONMENTAL & ENGINEERING, P.C.

GPR IMAGE OF LINE Y=105

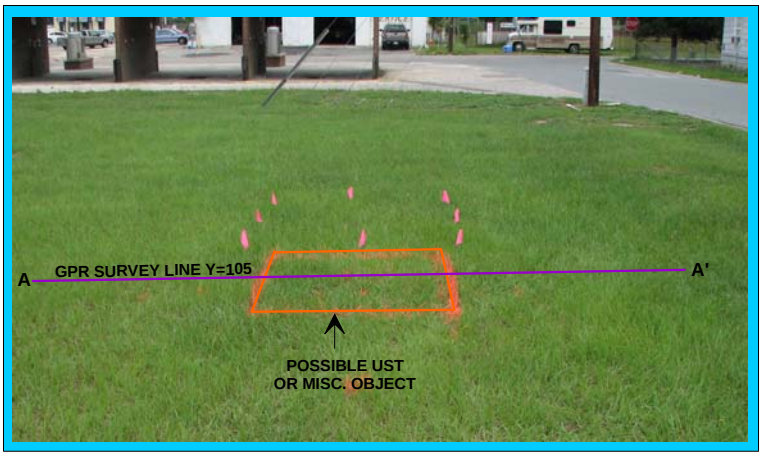


The GPR image obtained along a portion of survey line Y=105 recorded a high amplitude, hyperbolic anomaly that is possibly in response to a metallic UST or a misc. object buried approximately 1.6 feet below surface The solid purple line labeled AA' in the photograph below and in Figure 6 shows the location of the GPR image.

GPR IMAGE OF LINE X=53

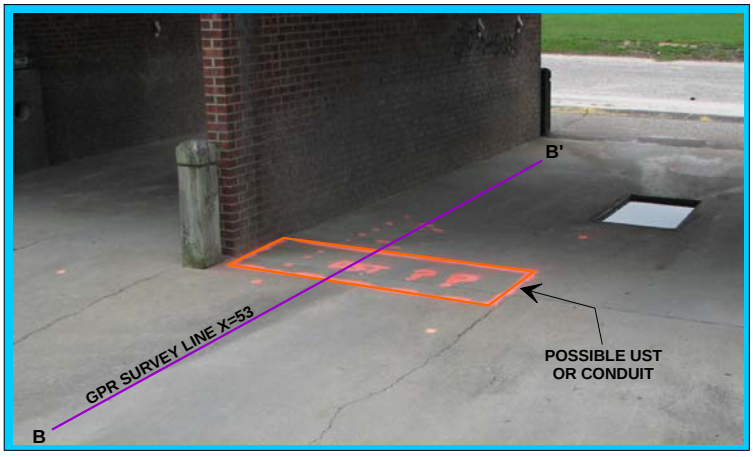


The GPR image obtained along a portion of survey line X=53 recorded a high amplitude, hyperbolic anomaly at Y=236 that is possibly in response to a metallic UST or a short segment of a wide-diameter conduit buried approximately 1.4 feet below surface The solid purple line labeled BB' in the lower-most photograph and in Figure 6 shows the location of the GPR image.



The orange rectangle in the photograph represents the approximate perimeter of a possible, metallic UST or a miscellaneous object, as suggested by the GPR data, that is centered near grid coordinates X=90 Y=105. The possible UST appears to be approximately 4 feet long and 3 feet wide.The solid purple line in the photograph labeled AA' represents the approximate location of the GPR image shown above. The photograph is viewed in a northerly direction.

The orange rectangle in the photograph represents the approximate perimeter of a possible, metallic UST or a short segment of conduit, as suggested by the GPR data, that is centered near grid coordinates X=53 Y=236. The possible UST or conduit appears to be approximately 7 feet long and 3 feet wide.The solid purple line in the photograph labeled BB" represents the approximate location of the GPR image shown above. The photograph is viewed in a southerly direction.



PYRAMID
ENVIRONMENTAL & ENGINEERING, P.C.

CLIENT	AECOM ENVIRONMENT		DATE	08/27/10	DRWN MJD
SITE	MARY SPIRES PROPERTY - BACK ROW AREA		LAY		CHKD
CITY	SPRING LAKE	STATE NORTH CAROLINA	DWG		
TITLE	GEOPHYSICAL RESULTS		J.NO.	2010-176	FIGURE

GPR IMAGES ACROSS POSSBILE USTS

FIGURE 7

ATTACHMENT B

TEST BORING REPORT

PROJECT MARY SPIRES PROPERTY (PARCEL 5)
CLIENT NCDOT
PROJECT NUMBER 60158550 (WBS 36492.1.2)
CONTRACTOR REGIONAL PROBING
EQUIPMENT GEOPROBE

BORING NUMBER SP-1
PAGE 1
ELEVATION
DATE 8/10/2010
DRILLER OPPER
PREPARED BY BRANSON

DEPTH IN FEET	CASING BLOWS FOOT	BLOWS PER 6 INCHES	OVA (ppm)	SAMPLE DEPTH RANGE	FIELD CLASSIFICATION AND REMARKS
			3.12		2" ASPHALT/GRAVEL, MEDIUM BROWN, LOOSE, COARSE-GRAINED SAND, DRY, NO ODOR.
			4.52		AS ABOVE, DRY, NO ODOR. SUBMIT TO LABORATORY FOR ANALYSIS.
			3.53		AS ABOVE, DRY, NO ODOR.
5.0					
			4.18		AS ABOVE, DRY, NO ODOR.
			3.49		MEDIUM BROWN SAND/CLAY, STIFF, DRY, NO ODOR.
10.0					BORING TERMINATED AT 10 FEET. NO GROUNDWATER ENCOUNTERED
15.0					
20.0					

AECOM

TEST BORING REPORT

PROJECT MARY SPIRES PROPERTY (PARCEL 5)
CLIENT NCDOT
PROJECT NUMBER 60158550 (WBS 36492.1.2)
CONTRACTOR REGIONAL PROBING
EQUIPMENT GEOPROBE

BORING NUMBER SP-2
PAGE 1
ELEVATION
DATE 8/10/2010
DRILLER OPPER
PREPARED BY BRANSON

DEPTH IN FEET	CASING BLOWS FOOT	BLOWS PER 6 INCHES	OVA (ppm)	SAMPLE DEPTH RANGE	FIELD CLASSIFICATION AND REMARKS
			3.03		2" ASPHALT/GRAVEL, MEDIUM BROWN, LOOSE, COARSE-GRAINED SAND, DRY, NO ODOR.
			4.35		AS ABOVE, DRY, NO ODOR.
			4.05		AS ABOVE, DRY, NO ODOR.
5.0					
			5.34		AS ABOVE, DRY, NO ODOR. SUBMIT TO LABORATORY FOR ANALYSIS.
			3.51		MEDIUM BROWN SAND/CLAY, STIFF, DRY, NO ODOR.
10.0					BORING TERMINATED AT 10 FEET. NO GROUNDWATER ENCOUNTERED
15.0					
20.0					

AECOM

TEST BORING REPORT

PROJECT MARY SPIRES PROPERTY (PARCEL 5)
CLIENT NCDOT
PROJECT NUMBER 60158550 (WBS 36492.1.2)
CONTRACTOR REGIONAL PROBING
EQUIPMENT GEOPROBE

BORING NUMBER SP-3
PAGE 1
ELEVATION
DATE 8/10/2010
DRILLER OPPER
PREPARED BY BRANSON

DEPTH IN FEET	CASING BLOWS FOOT	BLOWS PER 6 INCHES	OVA (ppm)	SAMPLE DEPTH RANGE	FIELD CLASSIFICATION AND REMARKS
			2.71		2" TOPSOIL, MEDIUM BROWN, LOOSE, COARSE-GRAINED SAND, DRY, NO ODOR.
			3.30		AS ABOVE, DRY, NO ODOR.
			3.37		AS ABOVE, DRY, NO ODOR.
5.0					
			3.92		AS ABOVE, DRY, NO ODOR. SUBMIT TO LABORATORY FOR ANALYSIS.
			2.14		MEDIUM BROWN SAND/CLAY, STIFF, DRY, NO ODOR.
10.0					BORING TERMINATED AT 10 FEET. NO GROUNDWATER ENCOUNTERED
15.0					
20.0					

AECOM

TEST BORING REPORT

PROJECT MARY SPIRES PROPERTY (PARCEL 5)
CLIENT NCDOT
PROJECT NUMBER 60158550 (WBS 36492.1.2)
CONTRACTOR REGIONAL PROBING
EQUIPMENT GEOPROBE

BORING NUMBER SP-4
PAGE 1
ELEVATION
DATE 8/10/2010
DRILLER OPPER
PREPARED BY BRANSON

DEPTH IN FEET	CASING BLOWS FOOT	BLOWS PER 6 INCHES	OVA (ppm)	SAMPLE DEPTH RANGE	FIELD CLASSIFICATION AND REMARKS
			3.36		4" CONCRETE, MEDIUM BROWN, LOOSE, COARSE-GRAINED SAND, DRY, NO ODOR.
			4.43		AS ABOVE, DRY, NO ODOR.
			3.60		AS ABOVE, DRY, NO ODOR.
5.0					
			5.32		MEDIUM BROWN SAND/CLAY, STIFF, DRY, NO ODOR. SUBMIT TO LABORATORY FOR ANALYSIS.
			3.12		MEDIUM BROWN SAND/CLAY, STIFF, DRY, NO ODOR.
10.0					BORING TERMINATED AT 10 FEET. NO GROUNDWATER ENCOUNTERED
15.0					
20.0					

AECOM

TEST BORING REPORT

PROJECT MARY SPIRES PROPERTY (PARCEL 5)
CLIENT NCDOT
PROJECT NUMBER 60158550 (WBS 36492.1.2)
CONTRACTOR REGIONAL PROBING
EQUIPMENT GEOPROBE

BORING NUMBER SP-5
PAGE 1
ELEVATION
DATE 8/10/2010
DRILLER OPPER
PREPARED BY BRANSON

DEPTH IN FEET	CASING BLOWS FOOT	BLOWS PER 6 INCHES	OVA (ppm)	SAMPLE DEPTH RANGE	FIELD CLASSIFICATION AND REMARKS
			2.69		2" TOPSOIL, MEDIUM BROWN, LOOSE, COARSE-GRAINED SAND, DRY, NO ODOR.
			3.92		AS ABOVE, DRY, NO ODOR.
			4,09		AS ABOVE, DRY, NO ODOR. SUBMIT TO LABORATORY FOR ANALYSIS.
5.0			4.03		AS ABOVE, DRY, NO ODOR.
			2.23		AS ABOVE, DRY, NO ODOR.
10.0					BORING TERMINATED AT 10 FEET. NO GROUNDWATER ENCOUNTERED
15.0					
20.0					

AECOM

TEST BORING REPORT

PROJECT MARY SPIRES PROPERTY (PARCEL 5)
CLIENT NCDOT
PROJECT NUMBER 60158550 (WBS 36492.1.2)
CONTRACTOR REGIONAL PROBING
EQUIPMENT GEOPROBE

BORING NUMBER SP-6
PAGE 1
ELEVATION
DATE 8/10/2010
DRILLER OPPER
PREPARED BY BRANSON

DEPTH IN FEET	CASING BLOWS FOOT	BLOWS PER 6 INCHES	OVA (ppm)	SAMPLE DEPTH RANGE	FIELD CLASSIFICATION AND REMARKS
			2.41		2" TOPSOIL, MEDIUM BROWN, LOOSE, COARSE-GRAINED SAND, DRY, NO ODOR.
			3.38		AS ABOVE, DRY, NO ODOR.
			3.03		AS ABOVE, DRY, NO ODOR.
5.0					
			3.69		AS ABOVE, DRY, NO ODOR. SUBMIT TO LABORATORY FOR ANALYSIS.
			2.68		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 NORTHEAST

PHOTO 2 - BORING IN PROPOSED R/W LOOKING NORTHEAST

PHOTO 3 - BORING WITHIN PROPOSED R/W LOOKING EAST

PHOTO 4 - BORING WITHIN PROPOSED R/W LOOKING SOUTHWEST

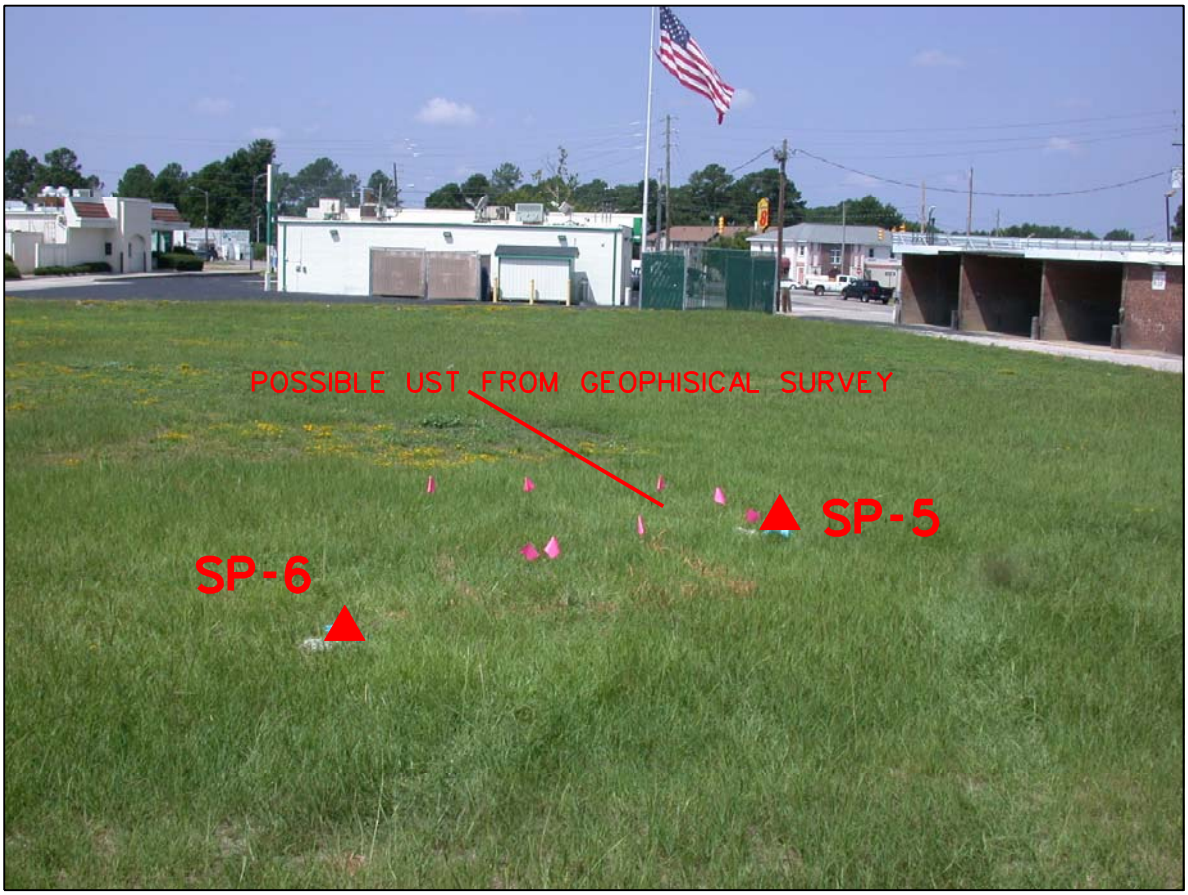


PHOTO 5 - BORINGS WITHIN PROPOSED R/W LOOKING WEST

ATTACHMENT D

SGS

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

Report Number: G1037-97

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: SP-1
Client Project ID: NCDOT
Lab Sample ID: G1037-97-1A
Lab Project ID: G1037-97
Report Basis: Dry Weight

Analyzed By: LMC
Date Collected: 8/10/2010 10:00
Date Received: 8/11/2010
Matrix: Soil
Solids 95.72

Analyte	Result	RL	Units	Dilution Factor	Date Analyzed
Gasoline Range Organics	BQL	5.78	mg/Kg	1	08/17/10 16:40

Surrogate Spike Results

	Added	Result	Recovery	Flag	Limits
BFB	100	97.3	97.3		70-130

Comments:

Batch Information

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

Prep Method: 5035
Initial Wt/Vol: 5.42 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: SP-2
Client Project ID: NCDOT
Lab Sample ID: G1037-97-2A
Lab Project ID: G1037-97
Report Basis: Dry Weight

Analyzed By: LMC
Date Collected: 8/10/2010 10:15
Date Received: 8/11/2010
Matrix: Soil
Solids 93.82

Analyte	Result	RL	Units	Dilution Factor	Date Analyzed
Gasoline Range Organics	BQL	5.81	mg/Kg	1	08/17/10 17:07

Surrogate Spike Results

	Added	Result	Recovery	Flag	Limits
BFB	100	96.8	96.8		70-130

Comments:

Batch Information

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

Prep Method: 5035
Initial Wt/Vol: 5.5 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: SP-3
Client Project ID: NCDOT
Lab Sample ID: G1037-97-3A
Lab Project ID: G1037-97
Report Basis: Dry Weight

Analyzed By: LMC
Date Collected: 8/10/2010 10:30
Date Received: 8/11/2010
Matrix: Soil
Solids 93.69

Analyte	Result	RL	Units	Dilution Factor	Date Analyzed
Gasoline Range Organics	BQL	5.52	mg/Kg	1	08/17/10 17:34

Surrogate Spike Results

	Added	Result	Recovery	Flag	Limits
BFB	100	99.3	99.3		70-130

Comments:

Batch Information

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

Prep Method: 5035
Initial Wt/Vol: 5.8 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: SP-4
Client Project ID: NCDOT
Lab Sample ID: G1037-97-4A
Lab Project ID: G1037-97
Report Basis: Dry Weight

Analyzed By: LMC
Date Collected: 8/10/2010 10:45
Date Received: 8/11/2010
Matrix: Soil
Solids 89.64

Analyte	Result	RL	Units	Dilution Factor	Date Analyzed
Gasoline Range Organics	BQL	5.49	mg/Kg	1	08/17/10 18:02

Surrogate Spike Results

	Added	Result	Recovery	Flag	Limits
BFB	100	98.7	98.7		70-130

Comments:

Batch Information

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

Prep Method: 5035
Initial Wt/Vol: 6.1 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: SP-5
Client Project ID: NCDOT
Lab Sample ID: G1037-97-5A
Lab Project ID: G1037-97
Report Basis: Dry Weight

Analyzed By: LMC
Date Collected: 8/10/2010 11:00
Date Received: 8/11/2010
Matrix: Soil
Solids 95.19

Analyte	Result	RL	Units	Dilution Factor	Date Analyzed
Gasoline Range Organics	BQL	5.75	mg/Kg	1	08/17/10 18:29

Surrogate Spike Results

	Added	Result	Recovery	Flag	Limits
BFB	100	99.1	99.1		70-130

Comments:

Batch Information

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

Prep Method: 5035
Initial Wt/Vol: 5.48 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:	SP-6	Analyzed By:	LMC
Client Project ID:	NCDOT	Date Collected:	8/10/2010 11:15
Lab Sample ID:	G1037-97-6A	Date Received:	8/11/2010
Lab Project ID:	G1037-97	Matrix:	Soil
Report Basis:	Dry Weight	Solids	94.51

Analyte	Result	RL	Units	Dilution Factor	Date Analyzed
Gasoline Range Organics	BQL	5.63	mg/Kg	1	08/17/10 18:56

Surrogate Spike Results

	Added	Result	Recovery	Flag	Limits
BFB	100	100.0	100.0		70-130

Comments:

Batch Information

Analytical Batch:	VP081710	Prep Method:	5035
Analytical Method:	8015	Initial Wt/Vol:	5.64 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: SP-1
Client Project ID: NCDOT
Lab Sample ID: G1037-97-1D
Lab Project ID: G1037-97

Date Collected: 8/10/2010 10:00
Date Received: 8/11/2010
Matrix: Soil
Solids 95.72
Report Basis: Dry Weight

Parameter	Result	RL	Units	Dilution Factor	Date Analyzed
Diesel Range Organics	BQL	6.21	mg/Kg	1	08/17/10 13:15

Surrogate Spike Results	Spike Added	Control Limits	Spike Result	Percent Recovery
OTP	40	40-140	31.4	78.5

Comments:

Batch Information

Analytical Batch: EP081710
Analytical Method: 8015
Instrument: GC6
Analyst: DTF

Prep batch: 17206
Prep Method: 3541
Prep Date: 08/13/10
Initial Prep Wt/Vol: 33.66 G
Prep Final Vol: 10 mL

Analyst: FM

NC Certification #481

Reviewed By: DRO.XLS

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

Client Sample ID: SP-2
Client Project ID: NCDOT
Lab Sample ID: G1037-97-2D
Lab Project ID: G1037-97

Date Collected: 8/10/2010 10:15
Date Received: 8/11/2010
Matrix: Soil
Solids 93.82
Report Basis: Dry Weight

Parameter	Result	RL	Units	Dilution Factor	Date Analyzed
Diesel Range Organics	BQL	6.12	mg/Kg	1	08/17/10 13:43

Surrogate Spike Results	Spike Added	Control Limits	Spike Result	Percent Recovery
OTP	40	40-140	34.3	85.7

Comments:

Batch Information

Analytical Batch: EP081710
Analytical Method: 8015
Instrument: GC6
Analyst: DTF

Prep batch: 17206
Prep Method: 3541
Prep Date: 08/13/10
Initial Prep Wt/Vol: 34.81 G
Prep Final Vol: 10 mL

Analyst: _____

NC Certification #481

Reviewed By: _____

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

Client Sample ID: SP-3
Client Project ID: NCDOT
Lab Sample ID: G1037-97-3D
Lab Project ID: G1037-97

Date Collected: 8/10/2010 10:30
Date Received: 8/11/2010
Matrix: Soil
Solids 93.69
Report Basis: Dry Weight

Parameter	Result	RL	Units	Dilution Factor	Date Analyzed
Diesel Range Organics	BQL	6.41	mg/Kg	1	08/17/10 14:12

Surrogate Spike Results	Spike Added	Control Limits	Spike Result	Percent Recovery
OTP	40	40-140	32	80

Comments:

Batch Information

Analytical Batch: EP081710
Analytical Method: 8015
Instrument: GC6
Analyst: DTF

Prep batch: 17206
Prep Method: 3541
Prep Date: 08/13/10
Initial Prep Wt/Vol: 33.28 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: SP-4
Client Project ID: NCDOT
Lab Sample ID: G1037-97-4D
Lab Project ID: G1037-97

Date Collected: 8/10/2010 10:45
Date Received: 8/11/2010
Matrix: Soil
Solids 89.64
Report Basis: Dry Weight

Parameter	Result	RL	Units	Dilution Factor	Date Analyzed
Diesel Range Organics	BQL	6.66	mg/Kg	1	08/17/10 14:40

Surrogate Spike Results	Spike Added	Control Limits	Spike Result	Percent Recovery
OTP	40	40-140	31.5	78.7

Comments:

Batch Information

Analytical Batch: EP081710
Analytical Method: 8015
Instrument: GC6
Analyst: DTF

Prep batch: 17206
Prep Method: 3541
Prep Date: 08/13/10
Initial Prep Wt/Vol: 33.52 G
Prep Final Vol: 10 mL

Analyst: FM

NC Certification #481

Reviewed By: DRO.XLS

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

Client Sample ID: SP-5
Client Project ID: NCDOT
Lab Sample ID: G1037-97-5D
Lab Project ID: G1037-97

Date Collected: 8/10/2010 11:00
Date Received: 8/11/2010
Matrix: Soil
Solids 95.19
Report Basis: Dry Weight

Parameter	Result	RL	Units	Dilution Factor	Date Analyzed
Diesel Range Organics	BQL	6.10	mg/Kg	1	08/17/10 15:09

Surrogate Spike Results	Spike Added	Control Limits	Spike Result	Percent Recovery
OTP	40	40-140	28.9	72.2

Comments:

Batch Information

Analytical Batch: EP081710
Analytical Method: 8015
Instrument: GC6
Analyst: DTF

Prep batch: 17206
Prep Method: 3541
Prep Date: 08/13/10
Initial Prep Wt/Vol: 34.45 G
Prep Final Vol: 10 mL

Analyst: FM

NC Certification #481

Reviewed By: DRO.XLS

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

Client Sample ID: SP-6
Client Project ID: NCDOT
Lab Sample ID: G1037-97-6D
Lab Project ID: G1037-97

Date Collected: 8/10/2010 11:15
Date Received: 8/11/2010
Matrix: Soil
Solids 94.51
Report Basis: Dry Weight

Parameter	Result	RL	Units	Dilution Factor	Date Analyzed
Diesel Range Organics	BQL	6.32	mg/Kg	1	08/17/10 15:38

Surrogate Spike Results	Spike Added	Control Limits	Spike Result	Percent Recovery
OTP	40	40-140	32.4	81

Comments:

Batch Information

Analytical Batch: EP081710
Analytical Method: 8015
Instrument: GC6
Analyst: DTF

Prep batch: 17206
Prep Method: 3541
Prep Date: 08/13/10
Initial Prep Wt/Vol: 33.48 G
Prep Final Vol: 10 mL

Analyst: FX

NC Certification #481

Reviewed By: DRO.XLS

CHAIN OF CUSTODY RECORD
SGS North America Inc.

Locations Nationwide
- Alaska
- Maryland
- New Jersey
- New York
- North Carolina
- Ohio

www.us.sgs.com

100605

SGS Reference: G1037-97

PAGE 1 OF 1

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

(2)

LAB NO.	SAMPLE IDENTIFICATION	DATE	TIME	MATRIX	No CONTAINERS	SAMPLE TYPE C=COMP G=GRAB	Preservatives Used: Met	Analysis Required (3): GRO	DRO	REMARKS
	SP-1	8/10/10	1000	Soil	3	C	✓	✓		
	SP-2	8/10/10	1015	Soil	3	C	✓	✓		
	SP-3	8/10/10	1030	Soil	3	C	✓	✓		
	SP-4	8/10/10	1045	Soil	3	C	✓	✓		
	SP-5	8/10/10	1100	Soil	3	C	✓	✓		
	SP-6	8/10/10	1115	Soil	3	C	✓	✓		

(5)

Collected/Relinquished By:(1)	Date	Time	Received By:
[signature]	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: [signature]

(4)

Shipping Carrier: FedEx
Shipping Ticket No:
Samples Received Cold? (Circle) YES (NO)
Temperature°C: 20°C.
Special Deliverable Requirements:
Chain of Custody Seal: (Circle) INTACT BROKEN (ABSENT)
Special Instructions:
Requested Turnaround Time:
☐ RUSH _____ Date Needed ☑ STD

❑ 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

SGS North America, Inc.

N.C. Certification #481