

March 21, 2012

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

Reference: Preliminary Site Assessment  
Brenda McNeil Property (Parcel #119)  
Windy Cove Lane  
Spruce Pine, Mitchell County, North Carolina  
NCDOT Tip No. R-2519B  
WBS Element 35609.1.1  
AECOM Project No. 60241470

Dear Mr. Fox:

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 January 12, 2012, and the North Carolina Department of Transportation's (NCDOT's) Notice to Proceed dated January 18, 2012. 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 Brenda McNeil Property (Parcel #119) is located on Windy Cove Lane in Spruce Pine, Mitchell County, North Carolina. The property is situated on the north side of US 19E at the intersection of US 19E and Windy Cove Lane (Figure 1). Based on information supplied by the NCDOT and the site visit, AECOM understands that the site is part of a former "dollar" gas station and car wash located on an adjoining property. Three underground storage tanks (USTs) were reportedly operated as part of the gas station and subsequently removed in 1986. These USTs included three 4,000-gallon gasoline tanks that were located in a grassy area on the McNeil property. The structures on the site consist of a single-story residential building with a detached garage and sheds. A gravel driveway is located on the east side of the property (Figure 2). The NCDOT has advised that the proposed right-of-way will not affect the residence, but will affect the driveway and former UST locations. The presence of former USTs within the right-of-way created an area of potential environmental concern and 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. As noted previously, the USTs were associated with a gas station located on an adjoining property. Although the former tanks were located on the McNeil property, the registration was based on the gas station address. Three USTs were operated and removed under Facility ID 0-020173. The database lists the operator and owner of the tanks as follows:

Owner

Barbara Huskins  
Route 1, Bow 251/US 19E  
Spruce Pine, NC 28777

Operator

Ridgeway Car Wash  
Route 1, Box 251/US 19E  
Spruce Pine, NC 28777

### **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. Pyramid laid out a survey grid at the property with the X-axis oriented approximately parallel to US 19E and the Y-axis oriented approximately perpendicular to US 19E. The grid was located to cover the accessible portions of the right-of-way. The survey lines were spaced 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 proposed right-of-way and the geophysical survey detected several anomalies. Data interpretation attributed all but one of these anomalies to buried utility lines, conduits, or miscellaneous metallic debris. One anomaly was identified within the proposed right-of-way and crossing the driveway in front of the garage (Figure 2). According to the geophysical report, the anomaly is about 2 feet wide and 20 feet long. While the anomaly appears too small for a UST, the potential presence of a UST could not be totally discounted. As a result, the anomaly has a low confidence of being a UST. Attachment A presents a detailed report of findings and interpretations.

### **Site Assessment Activities**

On February 22, 2012, AECOM mobilized to the site to conduct a Geoprobe<sup>®</sup> direct push investigation to evaluate soil conditions within the proposed right-of-way. 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 Pace Analytical in Asheville, 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).

Five direct-push holes (MC-1 through MC-5) were advanced within the proposed right-of-way to a depth of 15 feet as shown in Figure 2 and Attachment B. Borings MC-1 through MC-3 were located to evaluate the conditions at the former UST locations within the proposed right-of-way and borings MC-4 and MC-5 were placed to assess the soil conditions at the geophysical anomaly (Attachment C). The lithology encountered by the direct-push samples generally was consistent throughout the site. About 2 inches of topsoil covered the ground surface. Below the surface to a depth of at least 15 feet was a medium brown, micaceous, stiff silt/clay with occasional quartz fragments throughout. Borings MC-4 and MC-5 encountered small pieces of asphalt at a depth of about 2 feet. The landowner indicated that the old US 19 was located at the approximate location of the anomaly; therefore, the asphalt pieces may be associated with the old road. None of the borings encountered bedrock.

The “Geologic Map of North Carolina” dated 1985 indicates that the Alligator Formation underlies the site. This formation consists of amphibolites and gneiss. The amphibolite is described as equigranular, massive to well foliated, metamorphosed intrusive and extrusive mafic rock. The gneiss is a finely laminated to thinly layered and locally contains massive gneiss and micaceous granule conglomerate. In addition to these rock types, quartz diorite intrusions are common in the area. The soil observed at the site is consistent with these parent rocks. The borings were terminated at a depth of 15 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**

The soil analytical reports, summarized in Table 1 and presented in Attachment D, indicated the presence of petroleum hydrocarbon compounds identified as DRO in one of the five soil samples collected from the site on February 22, 2012. The detected DRO concentration was 12.3 milligrams per kilogram (mg/kg). No GRO concentrations were detected in any of the soil samples. According to the North Carolina Underground Storage Tank Section's "Guidelines for Site Checks, Tank Closure, and Initial Response and Abatement for UST Releases" effective December 1, 2008, 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 petroleum contamination extent or its cleanup. As a result, while TPH concentrations are no longer applicable in confirming 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 sample MC-4 was present above the 10 mg/kg assumed action level.

With a DRO concentration above the assume action level in one of the samples, AECOM reviewed the field observations and found that the soil sample containing the DRO showed no staining, odors, and only slightly elevated field screening readings. As a result, AECOM contacted the laboratory for clarification. The laboratory's response to the inquiry was to review the chromatograms associated with this sample and advised AECOM that the resulting patterns were not diesel range organics. The resulting patterns may be background interferences, naturally occurring hydrocarbons or heavier hydrocarbons. The presence of asphalt in the soil where sample MC-4 was collected may account for the DRO concentration. Based on this information, AECOM discounted the DRO detections in the sample. As a result, no DRO or GRO concentrations were present above applicable action levels.

## **Conclusions and Recommendations**

A Preliminary Site Assessment was conducted to evaluate the Brenda McNeil Property (Parcel #119) located on Windy Cove Lane in Spruce Pine, Mitchell County, North Carolina. A geophysical investigation was conducted to evaluate the site for unknown USTs. The investigation found an anomaly that is classified as a low to no confidence UST. No other evidence of metallic USTs was observed within the proposed right-of-way. Five soil borings were advanced to evaluate the soil conditions throughout the proposed right-of-way. The laboratory reports of the soil samples from these borings suggest that one DRO concentration of 12.3 mg/kg and no GRO concentrations were detected. As noted above, the DRO concentration has been discounted and, based on the analytical results, no soil concentrations are above applicable action levels.

Mr. Terry Fox  
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AECOM appreciates the opportunity to work with the NCDOT on this project. Because laboratory analysis detected no compounds above the applicable action levels in the soil samples, no NCDENR notification is required. If you have any questions, please contact me at (919) 854-6238.

Sincerely,

Michael W. Branson, P.G.  
Project Manager

Attachments

c: Project File

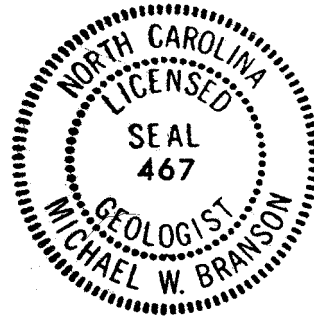


TABLE 1

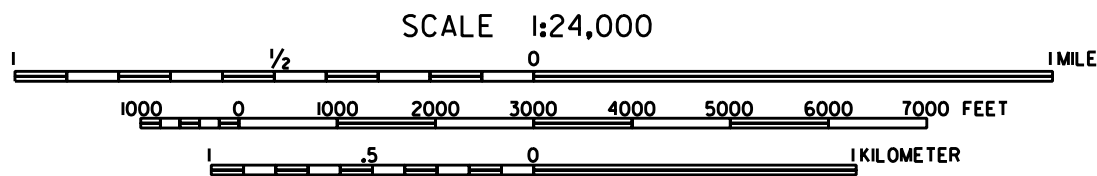
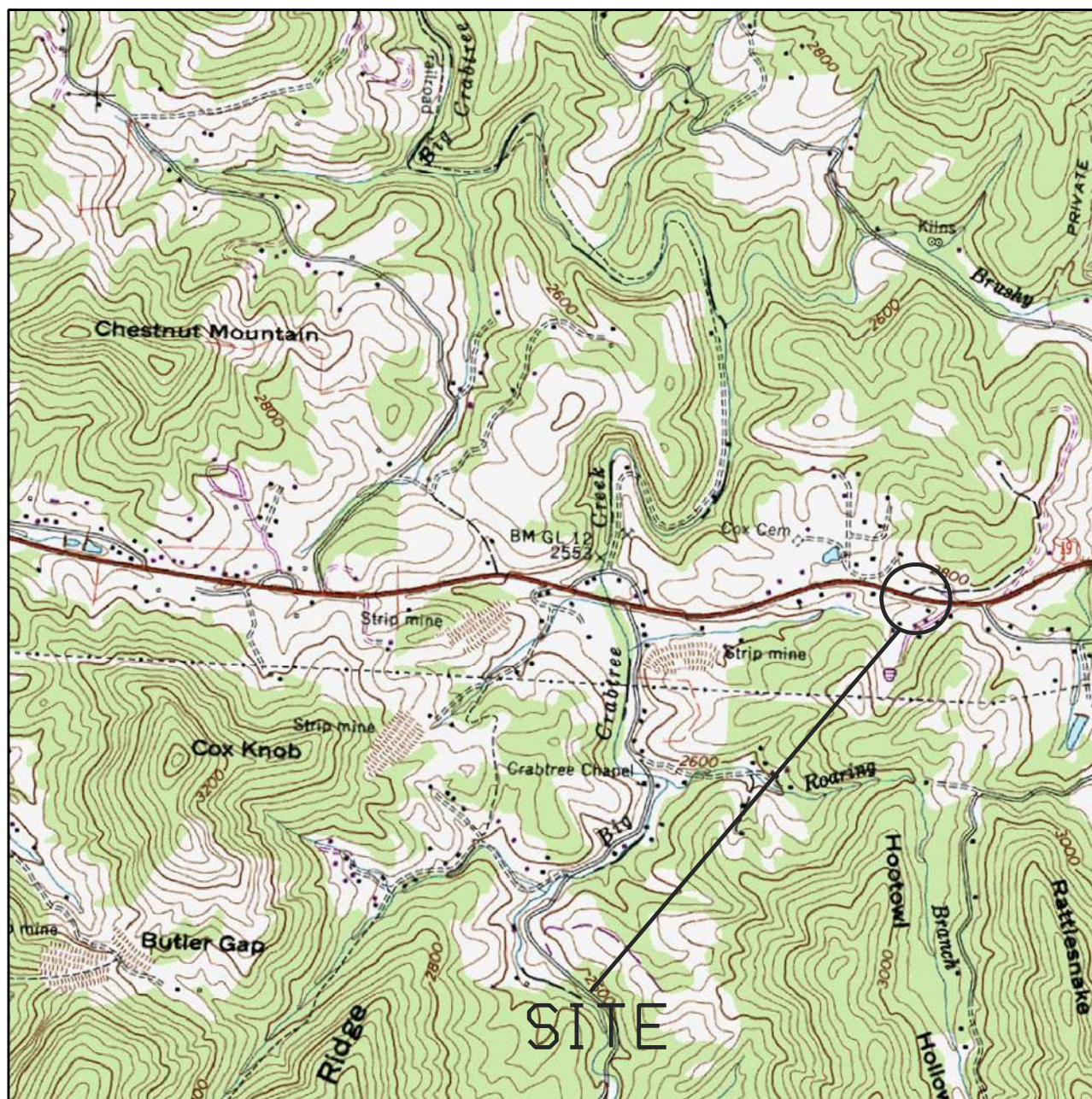
**SOIL FIELD SCREENING AND ANALYTICAL RESULTS  
 BRENDA McNEIL PROPERTY (PARCEL #119)  
 SPRUCE PINE, MITCHELL COUNTY, NORTH CAROLINA  
 NCDOT PROJECT NO. R-2519B  
 WBS ELEMENT 35609.1.1  
 AECOM PROJECT NO. 60241470**

LOCATION	DEPTH (ft)	FID READING (ppm)	SAMPLE ID	ANALYTICAL RESULTS (mg/kg)	ASSUMED ACTION LEVEL (mg/kg)
MC-1	0 - 2	0.42			
	2 - 4	0.63			
	4 - 6	0.11			
	6 - 8	0.44			
	8 - 10	0.51			
	10 - 12	0.54			
	12 - 14	0.25			
	14 - 15	0.72	MC-1	DRO (BQL) GRO (BQL)	10 10
MC-2	0 - 2	0.01			
	2 - 4	0.05			
	4 - 6	0.13			
	6 - 8	0.07			
	8 - 10	0.02			
	10 - 12	0.55			
	12 - 14	0.02			
	14 - 15	1.69	MC-2	DRO (BQL) GRO (BQL)	10 10
MC-3	0 - 2	1.62			
	2 - 4	1.55			
	4 - 6	1.86			
	6 - 8	1.93	MC-3	DRO (BQL) GRO (BQL)	10 10
	8 - 10	1.54			
	10 - 12	1.81			
	12 - 14	0.49			
	14 - 15	1.04			
MC-4	0 - 2	38	MC-4	<b>DRO (12.3)</b> GRO (BQL)	10 10
	2 - 4	25			
	4 - 6	2.17			
	6 - 8	2.45			
	8 - 10	6.05			
	10 - 12	4.92			
	12 - 14	2.99			
	14 - 15	1.85			
MC-5	0 - 2	1.59			
	2 - 4	10.69	MC-5	DRO (BQL) GRO (BQL)	10 10
	4 - 6	2.73			
	6 - 8	2.62			
	8 - 10	1.19			
	10 - 12	2.01			
	12 - 14	1.99			
	14 - 15	1.89			

Soil samples were collected on February 22, 2012.  
 DRO - Diesel range organics.  
 GRO - Gasoline range organics.  
 BQL - Below quantitation limit.  
 ppm - parts per million.  
 mg/kg - milligrams per kilogram.  
**Bold** values are above the assumed action level.



## **FIGURES**



SOURCE: U.S. GEOLOGICAL SURVEY 7.5 MIN QUADRANGLE: MICAVILLE, NC



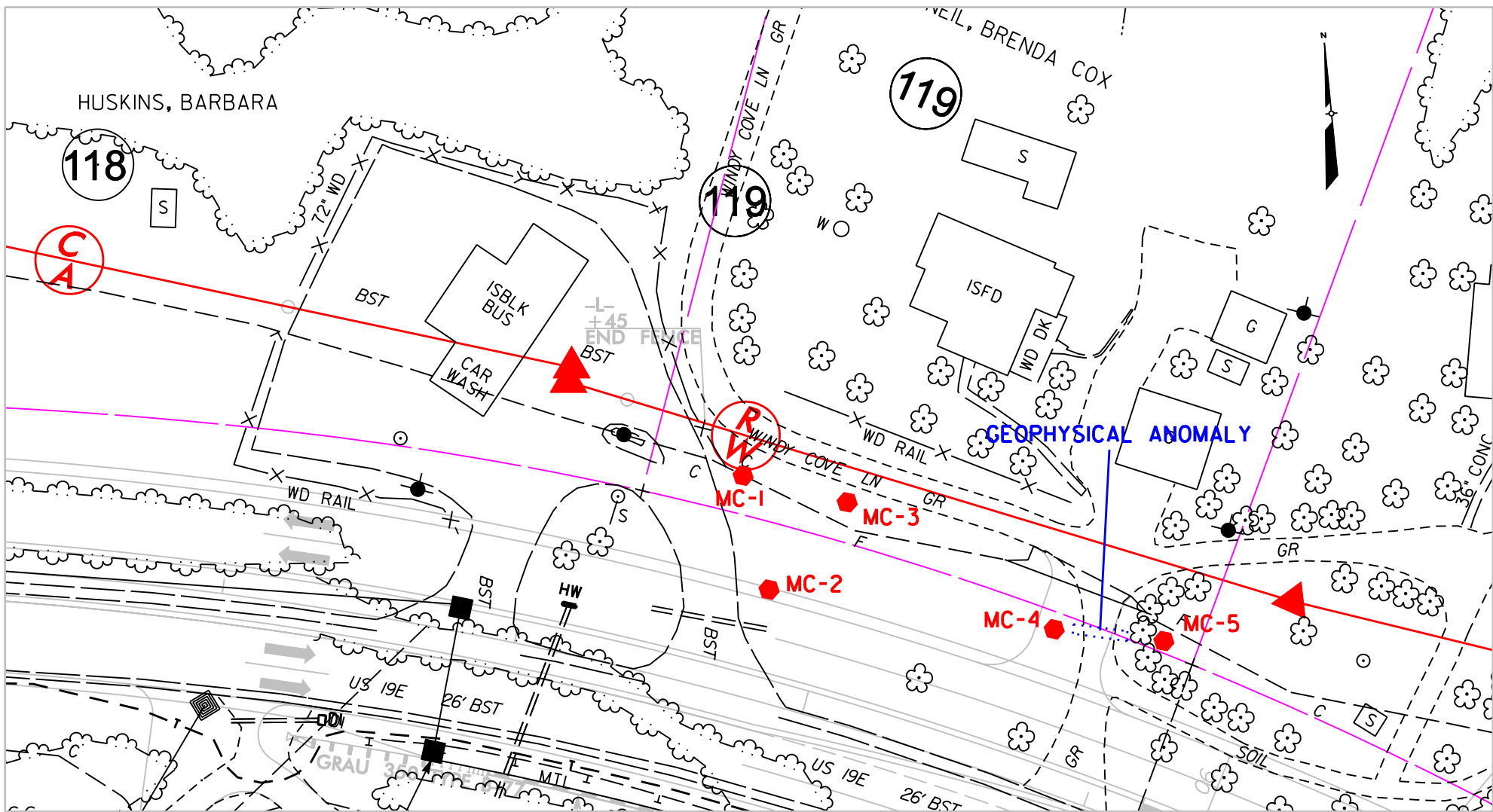
### FIGURE I VICINITY MAP

BRENDA McNEIL PROPERTY (PARCEL #119)  
SPRUCE PINE, MITCHELL COUNTY NORTH CAROLINA

FEBRUARY 2012

60241470





**LEGEND**

MC-1



SOIL SAMPLE LOCATION AND IDENTIFICATION



**FIGURE 2  
SITE MAP**

BRENDA MCNEIL PROPERTY (PARCEL #119)  
SPRUCE PINE, MITCHELL COUNTY, NORTH CAROLINA

FEBRUARY 2012

60241470

**ATTACHMENT A**

**GEOPHYSICAL INVESTIGATION REPORT**

*EM61 & GPR SURVEYS*

**BRENDA COX MCNEIL PROPERTY - PARCEL 119**

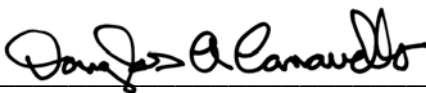
**Windy Cove Drive & US Highway 19 East**

**Mitchell County, North Carolina**

**February 29, 2012**

**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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**P.O. Box 16265**

**GREENSBORO, NC 27416-0265**

**(336) 335-3174**

**AECOM Environment**  
**GEOPHYSICAL INVESTIGATION REPORT**  
**BRENDA COX MCNEIL PROPERTY - PARCEL 119**  
**Windy Cove Drive & US Highway 19 East**  
**Mitchell County, North Carolina**

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FIGURES

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Figure 2	EM61 Metal Detection - Bottom Coil Results
Figure 3	EM61 Metal Detection - Differential Results
Figure 4	GPR Image Across Possible Buried Object

## **1.0 INTRODUCTION**

Pyramid Environmental conducted a geophysical investigation for AECOM Environmental across the proposed right-of way (ROW) area of the Brenda Cox McNeil property (Parcel 119) located near the intersection of Windy Cove Drive and US Highway 19 East in Mitchell County, North Carolina. Conducted on February 8 and 15, 2012, 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 area of the site.

The Brenda Cox McNeil property consists of an occupied house and a detached garage surrounded by grass-covered yards. An adjacent residential yard and the Barbara Huskins property (vacant car wash facility) are located along the eastern and western perimeters of the property, respectively. The proposed ROW area is located along the southern portion of the property located between US Highway 19 East and the wooden fence line that lies in front of the house. The geophysical survey area had a maximum length and width of 180 feet and 100 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 the southern portion of the 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 accessible portions of the geophysical survey area 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 February 8, 2012 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 easterly-westerly trending, 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 data were acquired on February 15, 2012 across selected EM61 differential anomalies using a GSSI SIR-2000 unit equipped with a 400 MHz antenna. GPR data were viewed in real time 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 viewed down to a maximum depth of approximately 5 feet, based on an estimated two-way travel time of 8 nanoseconds per foot.

Preliminary geophysical results obtained from the site were emailed to Mr. Branson during the week of February 20, 2012.

### **3.0 DISCUSSION OF RESULTS**

Contour plots of the EM61 bottom coil and differential results 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 bottom coil anomalies intersecting grid coordinates X=180 Y=95 and X=310 Y=60 are probably in response to buried metallic lines or conduits. The probable line or conduit at X=180 Y=95 extends westward to the former pump island on the Barbara Huskins property and continues to the car wash building. The EM61 bottom coil anomalies centered near grid coordinates X=143 Y=127, X=155 Y=115, X=186 Y=82 are probably in response to the cable fence line or metal fence posts.

GPR scans performed across the EM61 differential anomaly centered near grid coordinates X=310 Y=100 detected a possible metallic culvert, line, conduit or a “very low confidence” UST buried approximately 1.5 feet below the grass surface. Based on the GPR data, the possible buried culvert, line or object is approximately 21 feet long and 2.0 feet wide. The GPR image obtained along a portion of survey line X=310, which crosses the possible line, object or UST and a photograph showing the location of the possible buried object are presented in **Figure 4**. The foot print of the possible buried line, object or UST was marked in the field using orange spray paint and pin flags.

Excluding the possible buried object or “very low confidence” UST located at grid coordinates X=310 Y=100, the geophysical investigation suggests that the remaining portion of the proposed ROW area does not contain metallic USTs.

#### **4.0 SUMMARY & CONCLUSIONS**

Our evaluation of the EM61 and GPR data collected across the proposed ROW area at the Brenda Cox McNeil property located at the intersection of Windy Cove Drive and US Highway 19 East in Mitchell County, North Carolina, provides the following summary and conclusions:

- The EM61 and GPR surveys provided reliable results for the detection of metallic USTs within the geophysical survey area.
- The linear EM61 bottom coil anomalies intersecting grid coordinates X=180 Y=95 and X=310 Y=60 are probably in response to buried metallic lines or conduits. The probable line

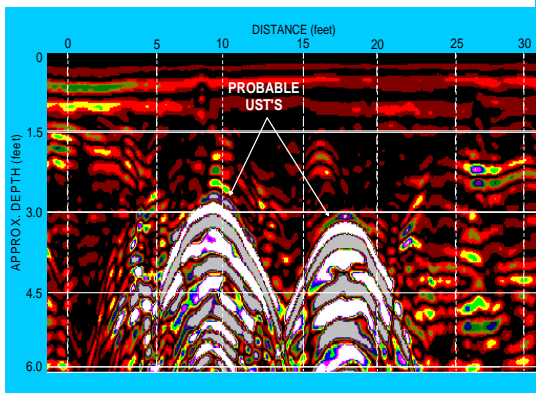
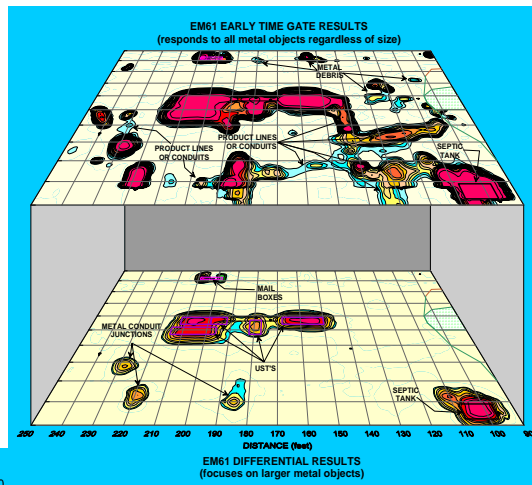
or conduit at X=180 Y=95 extends westward onto the Barbara Huskins property to the former pump island continuing to the car wash building.

- GPR scans performed across the EM61 differential anomaly centered near grid coordinates X=310 Y=100 detected a possible metallic culvert, line or conduit or a “very low confidence” UST buried approximately 1.5 feet below the grass surface. Based on the GPR data, the possible buried culvert, line or object is approximately 21 feet long and 2.0 feet wide.
- Excluding the possible buried object or “very low confidence” UST located at grid coordinates X=310 Y=100, the geophysical investigation suggests that the remaining portion of the proposed ROW area does not contain metallic USTs.

## **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. Excluding the detected object or UST, the EM61 and GPR results obtained for this project have not conclusively determined that the remaining portion of the proposed ROW area does not contain buried metallic USTs but that none were detected.

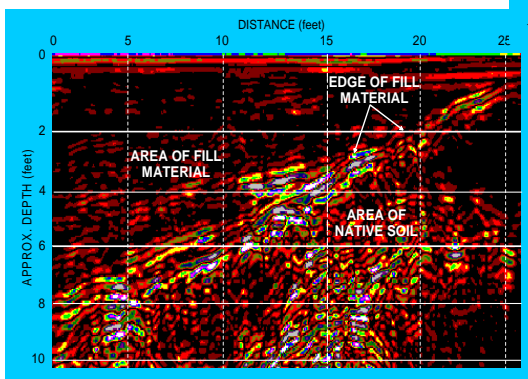
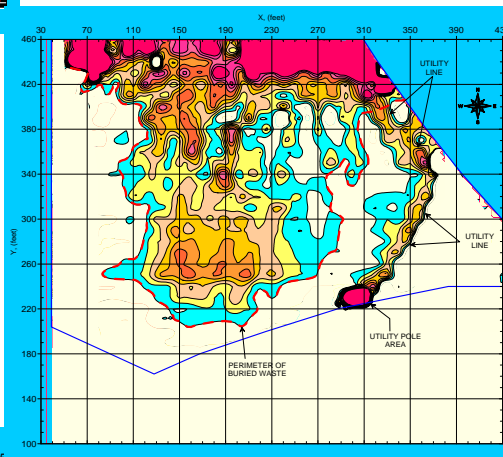




## FIGURES

(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 McNeil property on February 8, 2012.



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 McNeil property on February 15, 2012.



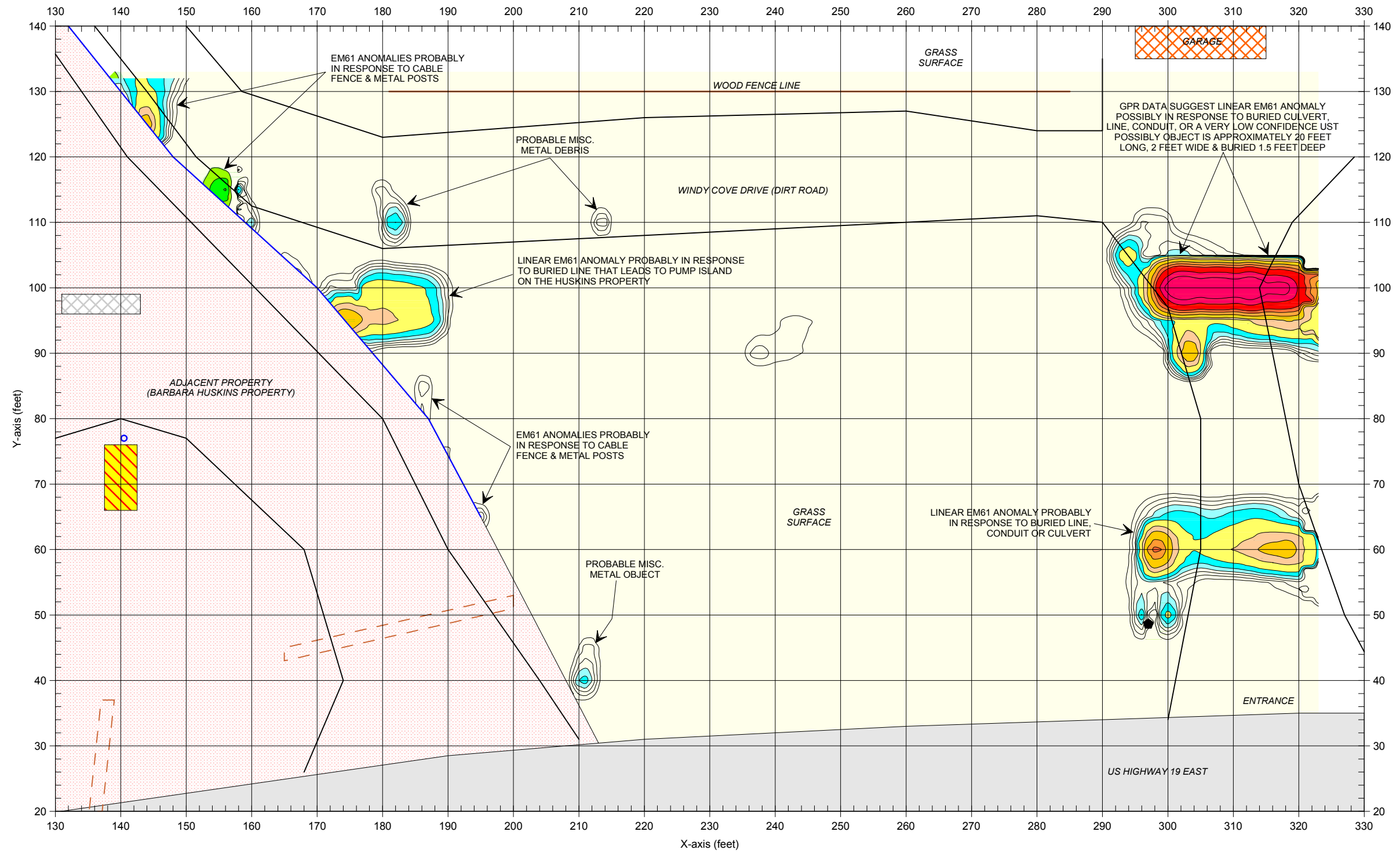
The photograph shows the Brenda Cox McNeil property (Parcel 119) located near the intersection of US Highway 19 East and Windy Cove Drive in Mitchell County, North Carolina. The photograph is viewed in a westerly direction.



CLIENT	AECOM ENVIRONMENT		DATE	02/29/12	DRAWN	MJD
SITE	BRENDA COX MCNEIL PROPERTY - PARCEL 119		LAY		CHK'D	
CITY	MITCHELL COUNTY	STATE	NORTH CAROLINA	DATE		
TITLE	GEOPHYSICAL RESULTS		NO.	2012-035	PROJECT	

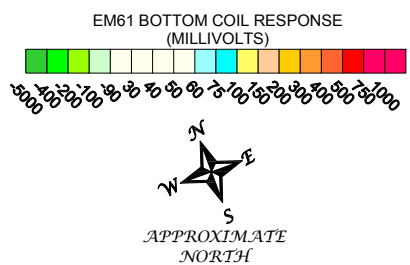
GEOPHYSICAL EQUIPMENT & SITE PHOTOGRAPHS

FIGURE 1



**LEGEND**

SURVEY AREA: EM61 DATA ACQUIRED ALONG Y-AXIS TRENDING LINES SPACED 5 FEET APART	CULVERT
CAR WASH BUILDING	WOOD FENCE
VACCUM PUMP	CABLE FENCE (PROPERTY LINE)
PUMP ISLAND	UTILITY POLE
DRAIN GRATE	METAL POLE
BUSINESS SIGN	MAIL BOXES
	ROAD SIGN

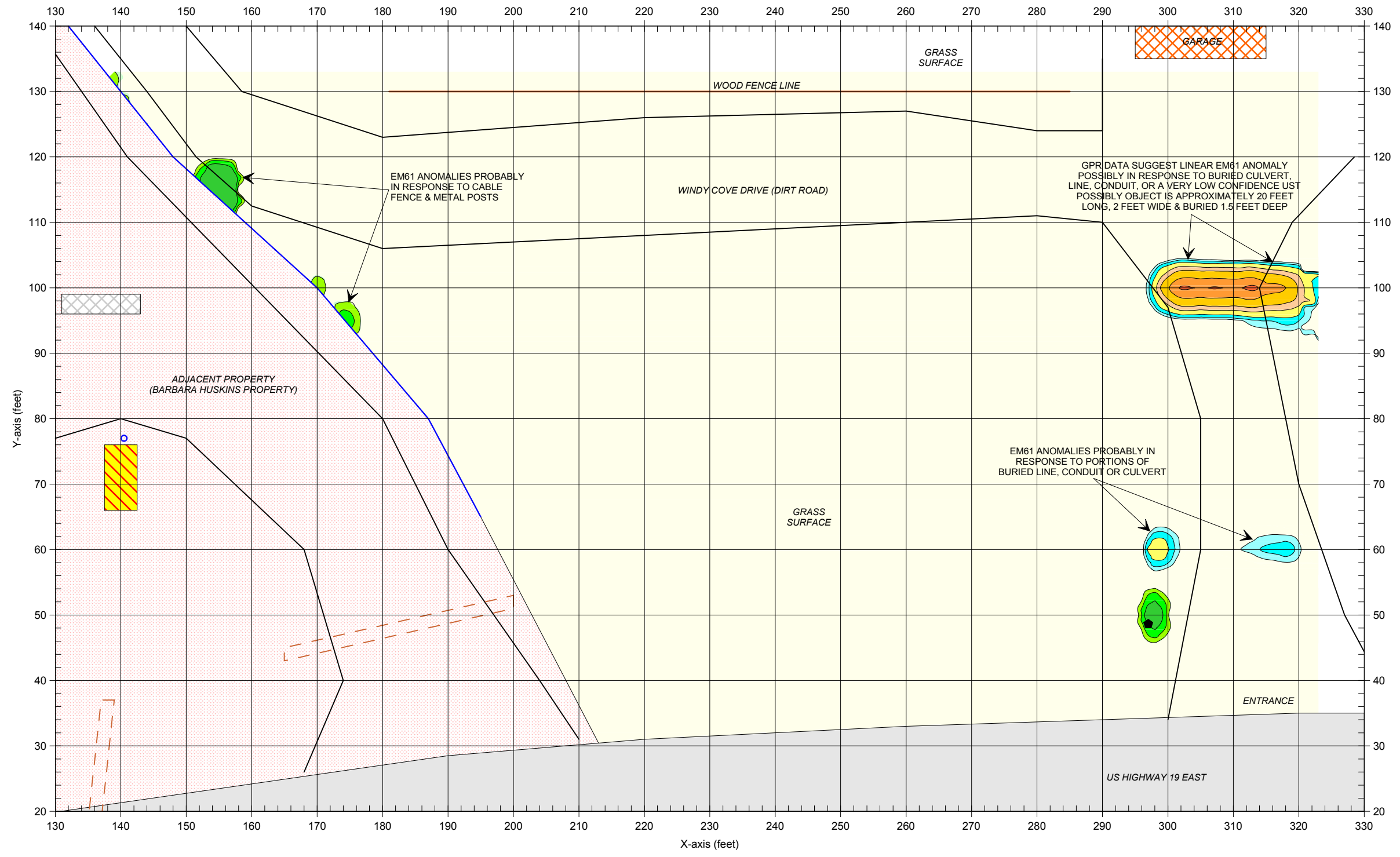


The contour plot shows the bottom coil (most sensitive) response of the EM61 instrument in millivolts (mV). The bottom coil response shows buried metallic objects regardless of size. The EM61 survey was conducted on February 8, 2012 using a Geonics EM61 instrument. Ground penetrating radar (GPR) data were acquired across selected EM61 anomalies on February 15, 2012 using a Geophysical Survey Systems SIR 2000 instrument with a 400 MHz antenna.

**EM61 METAL DETECTION (BOTTOM COIL RESULTS)**  
FIGURE 2

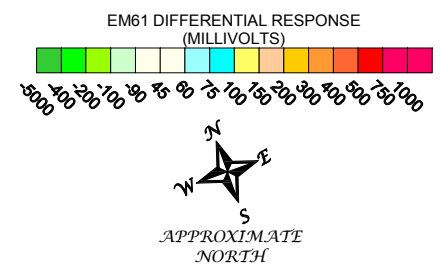
CLIENT	AECOM ENVIRONMENT	DATE	02/29/12	MJD	MJD
SITE	BRENDA COX MCNEIL PROPERTY - PARCEL 119	SY		CHKD	
CITY	MITCHELL COUNTY	DWG		FIGURE	
STATE	NORTH CAROLINA	LNO	2012-035		
TITLE	GEOPHYSICAL RESULTS				

**PYRAMID**  
ENVIRONMENTAL & ENGINEERING, P.C.



**LEGEND**

	SURVEY AREA: EM61 DATA ACQUIRED ALONG Y-AXIS TRENDING LINES SPACED 5 FEET APART		CULVERT
	CAR WASH BUILDING		WOOD FENCE
	VACUUM PUMP		CABLE FENCE (PROPERTY LINE)
	PUMP ISLAND		UTILITY POLE
	DRAIN GRATE		METAL POLE
	BUSINESS SIGN		MAIL BOXES
			ROAD SIGN



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 EM61 survey was conducted on February 8, 2012 using a Geonics EM61 instrument. Ground penetrating radar (GPR) data were acquired across selected EM61 anomalies on February 15, 2012 using a Geophysical Survey Systems SIR 2000 instrument with a 400 MHz antenna.

The geophysical investigation suggests the surveyed portion of the site does not contain metallic USTs.

**EM61 METAL DETECTION (DIFFERENTIAL RESULTS)**

FIGURE 3

GRAPHIC SCALE IN FEET		DATE		FIGURE	
MJD	02/29/12	DRWN	2012-035		
CLIENT		SITE		TITLE	
AECOM ENVIRONMENT		BRENDIA COX MCNEIL PROPERTY - PARCEL 119		NORTH CAROLINA	
		MITCHELL COUNTY		GEOPHYSICAL RESULTS	

**PYRAMID**  
ENVIRONMENTAL & ENGINEERING, P.C.



**ATTACHMENT B**

# TEST BORING REPORT

**PROJECT** BRENDA McNEIL PROPERTY (PARCEL #119)  
**CLIENT** NCDOT R-2519B  
**PROJECT NUMBER** 60241470  
**CONTRACTOR** REGIONAL PROBING  
**EQUIPMENT** GEOPROBE

**BORING NUMBER** MC-1  
**PAGE** 1  
**ELEVATION** \_\_\_\_\_  
**DATE** 2/22/12  
**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			0.42		2" TOPSOIL, MEDIUM BROWN CLAY/SILT FILL. DRY. NO ODORS.
			0.63		AS ABOVE. DRY. NO ODORS.
			0.11		AS ABOVE. DRY. NO ODORS.
10.0			0.44		MEDIUM TO YELLOW BROWN SILT/SAND. DRY. NO ODORS.
			0.51		AS ABOVE. DRY. NO ODORS.
			0.54		AS ABOVE. DRY. NO ODORS.
15.0			0.25		AS ABOVE. DRY. NO ODORS.
			0.72		AS ABOVE. DRY. NO ODORS.
20.0					

BORING TERMINATED AT 15 FEET. NO GROUNDWATER ENCOUNTERED.



# TEST BORING REPORT

**PROJECT** BRENDA McNEIL PROPERTY (PARCEL #119)

**BORING NUMBER** MC-2

**CLIENT** NCDOT R-2519B

**PAGE** 1

**PROJECT NUMBER** 60241470

**ELEVATION** \_\_\_\_\_

**CONTRACTOR** REGIONAL PROBING

**DATE** 2/22/12

**EQUIPMENT** GEOPROBE

**DRILLER** OPPER

**PREPARED BY** BRANSON

DEPTH IN FEET	CASING BLOWS FOOT	BLOWS PER 6 INCHES	OVA (ppm)	SAMPLE DEPTH RANGE	FIELD CLASSIFICATION AND REMARKS
5.0			0.01		2" TOPSOIL, MEDIUM BROWN SILT/CLAY, OCCASIONAL QUARTZ FRAGMENT. DRY. NO ODORS.
			0.05		AS ABOVE. DRY. NO ODORS.
			0.13		AS ABOVE. DRY. NO ODORS.
			0.07		AS ABOVE. DRY. NO ODORS.
10.0			0.02		AS ABOVE. DRY. NO ODORS.
			0.55		AS ABOVE. DRY. NO ODORS.
			0.02		AS ABOVE. DRY. NO ODORS.
			1.69		AS ABOVE. DRY. NO ODORS.
15.0					
20.0					

BORING TERMINATED AT 15 FEET. NO GROUNDWATER ENCOUNTERED.





# TEST BORING REPORT

**PROJECT** BRENDA McNEIL PROPERTY (PARCEL #119)

**BORING NUMBER** MC-3

**CLIENT** NCDOT R-2519B

**PAGE** 1

**PROJECT NUMBER** 60241470

**ELEVATION** \_\_\_\_\_

**CONTRACTOR** REGIONAL PROBING

**DATE** 2/22/12

**EQUIPMENT** GEOPROBE

**DRILLER** OPPER

**PREPARED BY** BRANSON

DEPTH IN FEET	CASING BLOWS FOOT	BLOWS PER 6 INCHES	OVA (ppm)	SAMPLE DEPTH RANGE	FIELD CLASSIFICATION AND REMARKS
5.0			1.62		2" TOPSOIL, MEDIUM BROWN SILT/CLAY, OCCASIONAL QUARTZ FRAGMENT. DRY. NO ODORS.
			1.55		AS ABOVE. DRY. NO ODORS.
			1.86		AS ABOVE. DRY. NO ODORS.
10.0			1.93		AS ABOVE. DRY. NO ODORS.
			1.54'		AS ABOVE. DRY. NO ODORS.
			1.81		AS ABOVE. DRY. NO ODORS.
15.0					
			0.49		AS ABOVE. DRY. NO ODORS.
			1.04		AS ABOVE. DRY. NO ODORS.
20.0					

BORING TERMINATED AT 15 FEET. NO GROUNDWATER ENCOUNTERED.



# TEST BORING REPORT

<b>PROJECT</b> <u>BRENDA McNEIL PROPERTY (PARCEL #119)</u> <b>CLIENT</b> <u>NCDOT R-2519B</u> <b>PROJECT NUMBER</b> <u>60241470</u> <b>CONTRACTOR</b> <u>REGIONAL PROBING</u> <b>EQUIPMENT</b> <u>GEOPROBE</u>	<b>BORING NUMBER</b> <u>MC-4</u> <b>PAGE</b> <u>1</u> <b>ELEVATION</b> _____ <b>DATE</b> <u>2/22/12</u> <b>DRILLER</b> <u>OPPER</u> <b>PREPARED BY</b> <u>BRANSON</u>
--	--

DEPTH IN FEET	CASING BLOWS FOOT	BLOWS PER 6 INCHES	OVA (ppm)	SAMPLE DEPTH RANGE	FIELD CLASSIFICATION AND REMARKS
5.0			38		2" TOPSOIL, MEDIUM BROWN SILT/CLAY, OCCASIONAL QUARTZ FRAGMENT. DRY. NO ODORS. SUBMIT TO LABORATORY FOR ANALYSIS.
			25		
10.0			2.17		AS ABOVE. DRY. NO ODORS.
			2.45		
15.0			6.05		AS ABOVE. DRY. NO ODORS.
			4.92		
20.0			2.99		AS ABOVE. DRY. NO ODORS.
			1.85		
					BORING TERMINATED AT 15 FEET. NO GROUNDWATER ENCOUNTERED.



# TEST BORING REPORT

**PROJECT** BRENDA McNEIL PROPERTY (PARCEL #119)

**BORING NUMBER** MC-5

**CLIENT** NCDOT R-2519B

**PAGE** 1

**PROJECT NUMBER** 60241470

**ELEVATION** \_\_\_\_\_

**CONTRACTOR** REGIONAL PROBING

**DATE** 2/22/12

**EQUIPMENT** GEOPROBE

**DRILLER** OPPER

**PREPARED BY** BRANSON

DEPTH IN FEET	CASING BLOWS FOOT	BLOWS PER 6 INCHES	OVA (ppm)	SAMPLE DEPTH RANGE	FIELD CLASSIFICATION AND REMARKS
5.0			1.59		2" TOPSOIL, MEDIUM BROWN SILT/CLAY, ASPHALT PIECES AT APPROXIMATELY 2 FEET. DRY. NO ODORS. SUBMIT TO LABORATORY FOR ANALYSIS.
			10.69		
10.0			2.73		AS ABOVE. DRY. NO ODORS.
			2.62		
15.0			1.19		AS ABOVE. DRY. NO ODORS.
			2.01		
20.0			1.99		AS ABOVE. DRY. NO ODORS.
			1.89		
					BORING TERMINATED AT 15 FEET. NO GROUNDWATER ENCOUNTERED.



**ATTACHMENT C**

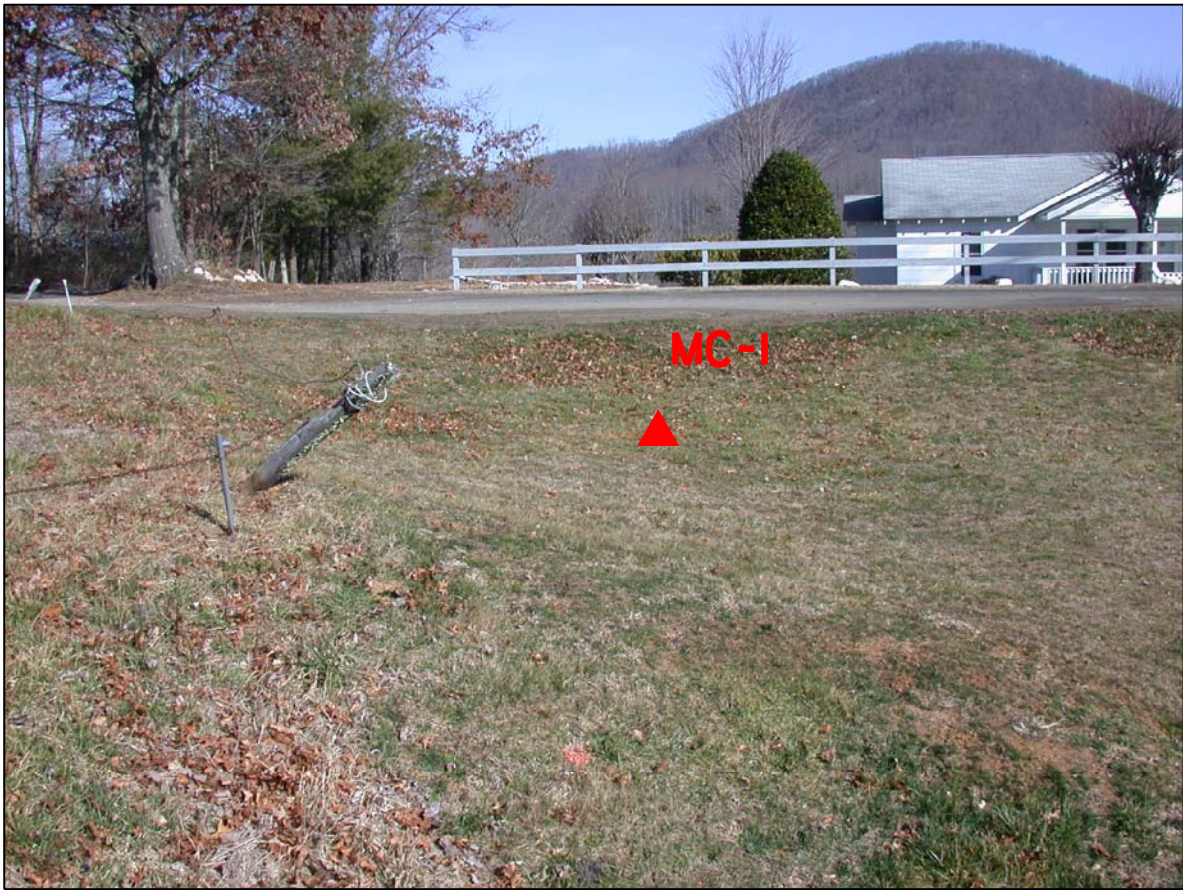


PHOTO 1 - BORING IN RIGHT-OF-WAY LOOKING NORTH



PHOTO 2 - BORINGS IN RIGHT-OF-WAY LOOKING WEST



PHOTO 3 - BORING IN RIGHT-OF-WAY AT ANOMALY LOOKING NORTH

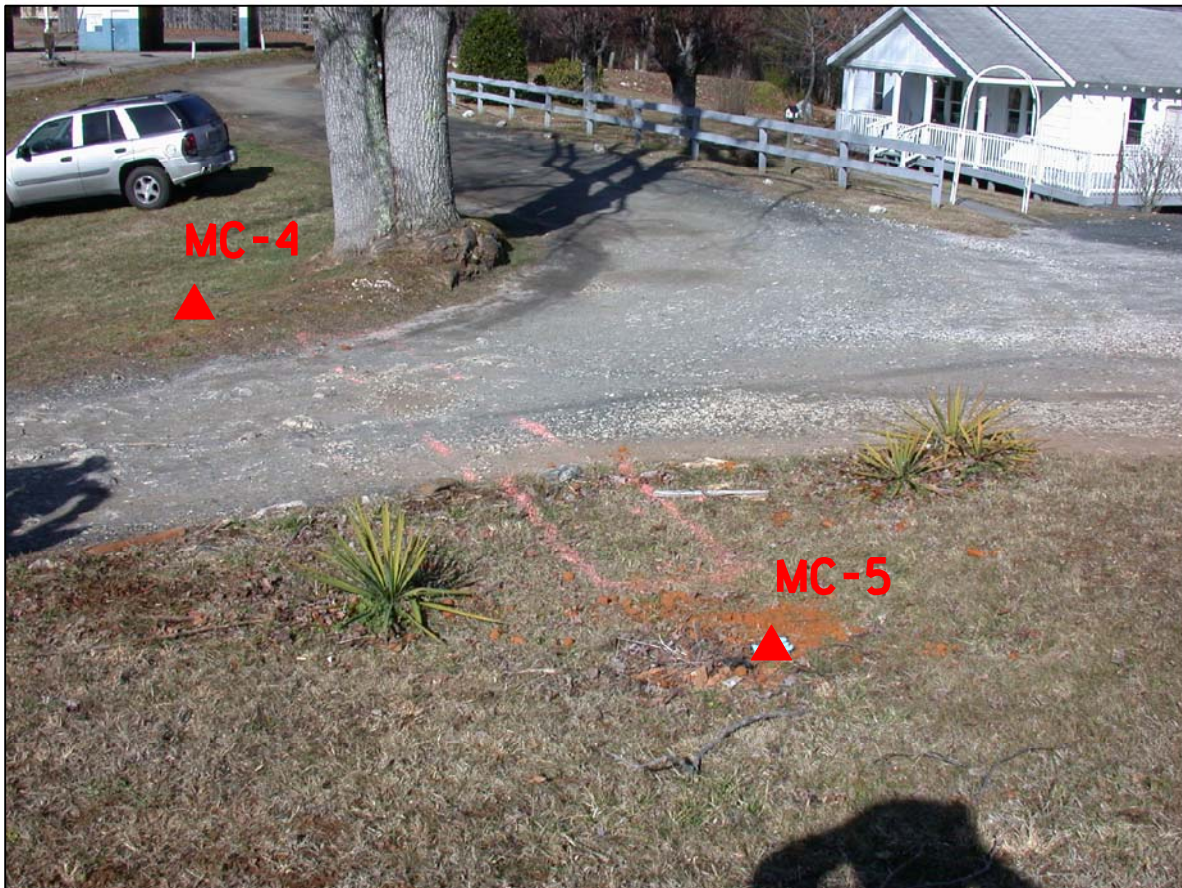


PHOTO 4 - BORINGS IN RIGHT-OF-WAY AT ANOMALY LOOKING WEST

**ATTACHMENT D**



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March 01, 2012

Chemical Testing Engineer  
NCDOT  
Materials & Tests Unit  
1801 Blue Ridge Road  
Raleigh, NC 27607

RE: Project: McNeil WBS#35609.1.1  
Pace Project No.: 92112770

Dear Chemical Engineer:

Enclosed are the analytical results for sample(s) received by the laboratory on February 23, 2012. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

Analyses were performed at the Pace Analytical Services location indicated on the sample analyte page for analysis unless otherwise footnoted.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Lorri Patton

lorri.patton@pacelabs.com  
Project Manager

Enclosures

cc: Mr. Mike Branson, AECOM



## REPORT OF LABORATORY ANALYSIS

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## CERTIFICATIONS

Project: McNeil WBS#35609.1.1  
Pace Project No.: 92112770

### Charlotte Certification IDs

9800 Kinsey Ave. Ste 100, Huntersville, NC 28078  
North Carolina Drinking Water Certification #: 37706  
North Carolina Field Services Certification #: 5342  
North Carolina Wastewater Certification #: 12  
South Carolina Certification #: 99006001  
South Carolina Drinking Water Cert. #: 99006003  
Virginia Drinking Water Certification #: 00213

Connecticut Certification #: PH-0104  
Florida/NELAP Certification #: E87627  
Kentucky UST Certification #: 84  
Louisiana DHH Drinking Water # LA 100031  
West Virginia Certification #: 357  
Virginia/VELAP Certification #: 460144

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## REPORT OF LABORATORY ANALYSIS

Page 2 of 13

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### SAMPLE ANALYTE COUNT

Project: McNeil WBS#35609.1.1  
 Pace Project No.: 92112770

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
92112770001	MC-1	EPA 8015 Modified	MEJ	2	PASI-C
		EPA 8015 Modified	AW	2	PASI-C
		ASTM D2974-87	TNM	1	PASI-C
92112770002	MC-2	EPA 8015 Modified	MEJ	2	PASI-C
		EPA 8015 Modified	AW	2	PASI-C
		ASTM D2974-87	TNM	1	PASI-C
92112770003	MC-3	EPA 8015 Modified	MEJ	2	PASI-C
		EPA 8015 Modified	AW	2	PASI-C
		ASTM D2974-87	TNM	1	PASI-C
92112770004	MC-4	EPA 8015 Modified	MEJ	2	PASI-C
		EPA 8015 Modified	AW	2	PASI-C
		ASTM D2974-87	TNM	1	PASI-C
92112770005	MC-5	EPA 8015 Modified	MEJ	2	PASI-C
		EPA 8015 Modified	AW	2	PASI-C
		ASTM D2974-87	TNM	1	PASI-C

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### ANALYTICAL RESULTS

Project: McNeil WBS#35609.1.1  
 Pace Project No.: 92112770

**Sample: MC-1**      **Lab ID: 92112770001**      Collected: 02/22/12 08:00      Received: 02/23/12 11:55      Matrix: Solid

**Results reported on a "dry-weight" basis**

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>8015 GCS THC-Diesel</b>		Analytical Method: EPA 8015 Modified    Preparation Method: EPA 3546						
Diesel Components	ND	mg/kg	7.3	1	02/24/12 11:50	02/26/12 15:25	68334-30-5	
<b>Surrogates</b>								
n-Pentacosane (S)	83 %		41-119	1	02/24/12 11:50	02/26/12 15:25	629-99-2	
<b>Gasoline Range Organics</b>		Analytical Method: EPA 8015 Modified    Preparation Method: EPA 5035A/5030B						
Gasoline Range Organics	ND	mg/kg	7.3	1	02/28/12 17:35	02/29/12 04:54	8006-61-9	
<b>Surrogates</b>								
4-Bromofluorobenzene (S)	87 %		70-167	1	02/28/12 17:35	02/29/12 04:54	460-00-4	
<b>Percent Moisture</b>		Analytical Method: ASTM D2974-87						
Percent Moisture	31.2 %		0.10	1		02/24/12 14:26		

## ANALYTICAL RESULTS

Project: McNeil WBS#35609.1.1

Pace Project No.: 92112770

**Sample: MC-2**      **Lab ID: 92112770002**      Collected: 02/22/12 08:20      Received: 02/23/12 11:55      Matrix: Solid

**Results reported on a "dry-weight" basis**

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>8015 GCS THC-Diesel</b>		Analytical Method: EPA 8015 Modified    Preparation Method: EPA 3546						
Diesel Components	ND	mg/kg	7.3	1	02/24/12 11:50	02/26/12 15:25	68334-30-5	
<b>Surrogates</b>								
n-Pentacosane (S)	75	%	41-119	1	02/24/12 11:50	02/26/12 15:25	629-99-2	
<b>Gasoline Range Organics</b>		Analytical Method: EPA 8015 Modified    Preparation Method: EPA 5035A/5030B						
Gasoline Range Organics	ND	mg/kg	7.0	1	02/28/12 17:35	02/29/12 05:18	8006-61-9	
<b>Surrogates</b>								
4-Bromofluorobenzene (S)	89	%	70-167	1	02/28/12 17:35	02/29/12 05:18	460-00-4	
<b>Percent Moisture</b>		Analytical Method: ASTM D2974-87						
Percent Moisture	<b>30.9</b>	%	0.10	1		02/24/12 14:26		



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### ANALYTICAL RESULTS

Project: McNeil WBS#35609.1.1  
 Pace Project No.: 92112770

**Sample: MC-3**      **Lab ID: 92112770003**      Collected: 02/22/12 08:45      Received: 02/23/12 11:55      Matrix: Solid

**Results reported on a "dry-weight" basis**

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>8015 GCS THC-Diesel</b>		Analytical Method: EPA 8015 Modified    Preparation Method: EPA 3546						
Diesel Components	ND	mg/kg	5.9	1	02/24/12 11:50	02/26/12 15:54	68334-30-5	
<b>Surrogates</b>								
n-Pentacosane (S)	86 %		41-119	1	02/24/12 11:50	02/26/12 15:54	629-99-2	
<b>Gasoline Range Organics</b>		Analytical Method: EPA 8015 Modified    Preparation Method: EPA 5035A/5030B						
Gasoline Range Organics	ND	mg/kg	5.6	1	02/28/12 17:35	02/29/12 05:43	8006-61-9	
<b>Surrogates</b>								
4-Bromofluorobenzene (S)	88 %		70-167	1	02/28/12 17:35	02/29/12 05:43	460-00-4	
<b>Percent Moisture</b>		Analytical Method: ASTM D2974-87						
Percent Moisture	<b>15.9 %</b>		0.10	1		02/24/12 14:26		



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### ANALYTICAL RESULTS

Project: McNeil WBS#35609.1.1  
 Pace Project No.: 92112770

**Sample: MC-4**      **Lab ID: 92112770004**      Collected: 02/22/12 09:10      Received: 02/23/12 11:55      Matrix: Solid

**Results reported on a "dry-weight" basis**

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>8015 GCS THC-Diesel</b>		Analytical Method: EPA 8015 Modified		Preparation Method: EPA 3546				
Diesel Components	<b>12.3</b>	mg/kg	6.1	1	02/24/12 11:50	02/26/12 15:54	68334-30-5	
<b>Surrogates</b>								
n-Pentacosane (S)	76	%	41-119	1	02/24/12 11:50	02/26/12 15:54	629-99-2	
<b>Gasoline Range Organics</b>		Analytical Method: EPA 8015 Modified		Preparation Method: EPA 5035A/5030B				
Gasoline Range Organics	ND	mg/kg	6.4	1	02/28/12 17:35	02/29/12 06:07	8006-61-9	
<b>Surrogates</b>								
4-Bromofluorobenzene (S)	91	%	70-167	1	02/28/12 17:35	02/29/12 06:07	460-00-4	
<b>Percent Moisture</b>		Analytical Method: ASTM D2974-87						
Percent Moisture	<b>19.1</b>	%	0.10	1		02/24/12 14:27		



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### ANALYTICAL RESULTS

Project: McNeil WBS#35609.1.1  
 Pace Project No.: 92112770

**Sample: MC-5**      **Lab ID: 92112770005**      Collected: 02/22/12 09:45      Received: 02/23/12 11:55      Matrix: Solid

*Results reported on a "dry-weight" basis*

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>8015 GCS THC-Diesel</b>								
Analytical Method: EPA 8015 Modified      Preparation Method: EPA 3546								
Diesel Components	ND	mg/kg	6.7	1	02/24/12 11:50	02/26/12 16:24	68334-30-5	
<b>Surrogates</b>								
n-Pentacosane (S)	86	%	41-119	1	02/24/12 11:50	02/26/12 16:24	629-99-2	
<b>Gasoline Range Organics</b>								
Analytical Method: EPA 8015 Modified      Preparation Method: EPA 5035A/5030B								
Gasoline Range Organics	ND	mg/kg	6.8	1	02/28/12 17:35	02/29/12 06:31	8006-61-9	
<b>Surrogates</b>								
4-Bromofluorobenzene (S)	89	%	70-167	1	02/28/12 17:35	02/29/12 06:31	460-00-4	
<b>Percent Moisture</b>								
Analytical Method: ASTM D2974-87								
Percent Moisture	26.1	%	0.10	1		02/24/12 14:27		

### QUALITY CONTROL DATA

Project: McNeil WBS#35609.1.1

Pace Project No.: 92112770

QC Batch: GCV/5777 Analysis Method: EPA 8015 Modified  
 QC Batch Method: EPA 5035A/5030B Analysis Description: Gasoline Range Organics  
 Associated Lab Samples: 92112770001, 92112770002, 92112770003, 92112770004, 92112770005

METHOD BLANK: 728539 Matrix: Solid

Associated Lab Samples: 92112770001, 92112770002, 92112770003, 92112770004, 92112770005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Gasoline Range Organics	mg/kg	ND	5.9	02/29/12 00:02	
4-Bromofluorobenzene (S)	%	88	70-167	02/29/12 00:02	

LABORATORY CONTROL SAMPLE: 728540

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Gasoline Range Organics	mg/kg	24.5	24.0	98	70-165	
4-Bromofluorobenzene (S)	%			89	70-167	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 728541 728542

Parameter	Units	92112768003		728541		728542		% Rec Limits	RPD	Qual
		MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec			
Gasoline Range Organics	mg/kg	ND	27.6	27.6	32.1	32.4	116	117	47-187	1
4-Bromofluorobenzene (S)	%						91	89	70-167	





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**QUALITY CONTROL DATA**

Project: McNeil WBS#35609.1.1  
 Pace Project No.: 92112770

QC Batch: OEXT/16542 Analysis Method: EPA 8015 Modified  
 QC Batch Method: EPA 3546 Analysis Description: 8015 Solid GCSV  
 Associated Lab Samples: 92112770001, 92112770002, 92112770003, 92112770004, 92112770005

METHOD BLANK: 727081 Matrix: Solid  
 Associated Lab Samples: 92112770001, 92112770002, 92112770003, 92112770004, 92112770005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Diesel Components	mg/kg	ND	5.0	02/26/12 14:55	
n-Pentacosane (S)	%	85	41-119	02/26/12 14:55	

LABORATORY CONTROL SAMPLE: 727082

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Diesel Components	mg/kg	66.7	47.1	71	49-113	
n-Pentacosane (S)	%			74	41-119	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 727083 727084

Parameter	Units	92112772003 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Qual
Diesel Components	mg/kg	ND	75.1	75.1	52.7	55.5	70	73	10-146	5	
n-Pentacosane (S)	%						83	80	41-119		



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**QUALITY CONTROL DATA**

Project: McNeil WBS#35609.1.1  
 Pace Project No.: 92112770

QC Batch: PMST/4518 Analysis Method: ASTM D2974-87  
 QC Batch Method: ASTM D2974-87 Analysis Description: Dry Weight/Percent Moisture  
 Associated Lab Samples: 92112770001, 92112770002, 92112770003, 92112770004, 92112770005

SAMPLE DUPLICATE: 726838

Parameter	Units	92112768006 Result	Dup Result	RPD	Qualifiers
Percent Moisture	%	24.6	25.2	3	

SAMPLE DUPLICATE: 726839

Parameter	Units	92112772009 Result	Dup Result	RPD	Qualifiers
Percent Moisture	%	16.9	16.7	1	



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## QUALIFIERS

Project: McNeil WBS#35609.1.1  
Pace Project No.: 92112770

### DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Acid preservation may not be appropriate for 2-Chloroethylvinyl ether, Styrene, and Vinyl chloride.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

### LABORATORIES

PASI-C Pace Analytical Services - Charlotte



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### QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: McNeil WBS#35609.1.1

Pace Project No.: 92112770

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92112770001	MC-1	EPA 3546	OEXT/16542	EPA 8015 Modified	GCSV/11450
92112770002	MC-2	EPA 3546	OEXT/16542	EPA 8015 Modified	GCSV/11450
92112770003	MC-3	EPA 3546	OEXT/16542	EPA 8015 Modified	GCSV/11450
92112770004	MC-4	EPA 3546	OEXT/16542	EPA 8015 Modified	GCSV/11450
92112770005	MC-5	EPA 3546	OEXT/16542	EPA 8015 Modified	GCSV/11450
92112770001	MC-1	EPA 5035A/5030B	GCV/5777	EPA 8015 Modified	GCV/5778
92112770002	MC-2	EPA 5035A/5030B	GCV/5777	EPA 8015 Modified	GCV/5778
92112770003	MC-3	EPA 5035A/5030B	GCV/5777	EPA 8015 Modified	GCV/5778
92112770004	MC-4	EPA 5035A/5030B	GCV/5777	EPA 8015 Modified	GCV/5778
92112770005	MC-5	EPA 5035A/5030B	GCV/5777	EPA 8015 Modified	GCV/5778
92112770001	MC-1	ASTM D2974-87	PMST/4518		
92112770002	MC-2	ASTM D2974-87	PMST/4518		
92112770003	MC-3	ASTM D2974-87	PMST/4518		
92112770004	MC-4	ASTM D2974-87	PMST/4518		
92112770005	MC-5	ASTM D2974-87	PMST/4518		





Document Name: **Sample Condition Upon Receipt (SCUR)**  
 Document No.: F-ASV-CS-003-rev.07

Document Revised: October 19, 2011  
 Page 1 of 2  
 Issuing Authorities:  
 Pace Asheville Quality Office

Client Name: AECOM Project # 92112770

Where Received:  Huntersville  Asheville  Eden

Courier (Circle): Fed Ex UPS USPS Client Commercial Race Other

Custody Seal on Cooler/Box Present:  yes  no Seals intact:  yes  no

Optional  
 Proj. Due Date:  
 Proj. Name:

Packing Material:  Bubble Wrap  Bubble Bags  None  Other

Circle Thermometer Used: IR Gun#2 -80344039 Type of Ice: Wet Blue None  Samples on ice, cooling process has begun  
 IR Gun Back Up- 111565135

Temp Correction Factor: Add (Subtract) 0.2 C

Corrected Cooler Temp.: 3.2 C Biological Tissue is Frozen: Yes No N/A

Date and Initials of person examining contents: 2/23/12

Temp should be above freezing to 6°C

Comments:

Chain of Custody Present:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	1.
Chain of Custody Filled Out:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	2.
Chain of Custody Relinquished:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	3.
Sampler Name & Signature on COC:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	4.
Samples Arrived within Hold Time:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	5.
Short Hold Time Analysis (<72hr):	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	6.
Rush Turn Around Time Requested:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	7. <u>2 week</u>
Sufficient Volume:	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	8.
Correct Containers Used:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	9.
-Pace Containers Used:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Containers Intact:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	10.
Filtered volume received for Dissolved tests	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	11.
Sample Labels match COC:-	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	12.
-Includes date/time/ID/Analysis Matrix:	<u>SL</u>	
All containers needing preservation have been checked.	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	13.
All containers needing preservation are found to be in compliance with EPA recommendation.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	<u>/</u>
exceptions: VOA, coliform, TOC, O&G, WI-DRO (water)	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Initial when completed
Samples checked for dechlorination:	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	14.
Headspace in VOA Vials (>6mm):	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	15.
Trip Blank Present:	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	16.
Trip Blank Custody Seals Present	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
Pace Trip Blank Lot # (if purchased):		

Client Notification/ Resolution: \_\_\_\_\_ Field Data Required? Y / N  
 Person Contacted: \_\_\_\_\_ Date/Time: \_\_\_\_\_  
 Comments/ Resolution: \_\_\_\_\_

SCURF Review: JP Date: 2/24/12 SRF Review: JP Date: 2/24/12

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hours, incorrect preservation, out of temp, incorrect containers)