



**NC Department of Transportation
Preliminary Site Assessment
State Project: U-0209B
WBS Element: 34749.1.1**

**City of Charlotte Property (Former Phillips #66)
Parcel #8
August 20, 2010**

**AMEC Earth and Environmental, Inc. of North Carolina
AMEC Project: 562110209**



Troy L. Holzschuh
Engineering Technician



Helen P. Corley, L.G.
Senior Project Manager





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1.0 INTRODUCTION

In accordance with the North Carolina Department of Transportation (NCDOT) Request for Proposal, dated May 26, 2010, AMEC Earth and Environmental, Inc. of North Carolina (AMEC) has performed a Preliminary Site Assessment (PSA) for the City of Charlotte Property (Former Phillips #66) (the Site) to be effected by a road improvement project along US Highway (Hwy) 74, Independence Blvd. The Site is abandoned and is identified as Parcel #8 within the NCDOT U-0209B design project. The property, located on the west side of US Hwy 74 near the intersection with Lanier Avenue, is in Charlotte of Mecklenburg County, North Carolina. The investigation was conducted in accordance with AMEC's Technical and Cost proposal dated June 16, 2010.

NCDOT contracted AMEC to perform a PSA on the City of Charlotte Property (former Phillips #66) due to the presence of two former pump islands and one former underground storage tank (UST) bed on the property. The property is currently vacant. The PSA was performed to determine if soils have been impacted by petroleum compounds as a result of past or present uses of the property within the proposed expanded right-of-way (ROW). The investigation was specifically completed to determine the presence or absence of petroleum hydrocarbons along the proposed ROW.

The following report describes our field investigations and results of chemical analyses. It includes the evaluation of the analytical data with regards to the presence or absence of soil contamination within the proposed ROW and estimates the extent of soil contamination.

1.1 Site Location and History

The City of Charlotte Property (Former Phillips #66) is located on the western side of US Hwy 74, at the intersection of Lanier Avenue in Charlotte, Mecklenburg County, North Carolina. It is located within the Metamorphic sediments of the Charlotte and Milton Belt Physiographic Province of western North Carolina. Figure 1 shows the site location and vicinity.

AMEC studied the NCDENR UST Registered Tanks Database and identified that five tanks, ranging from 560 gallons to 4,000 gallons, were installed at Phillips 66 Company at 4430 North Independence Blvd. in 1964 and later closed in 1989. AMEC also reviewed the NCDENR Incident Management Database and identified Incident #27107 for Lincoln

Savings/Former Phillips 66 at 4430 East Independence Blvd in Charlotte, NC. The incident was reported June 14, 1990 and subsequently closed out in July 16, 1990. The contamination type was soil.

A file review at the NCDENR UST Section identified a Preliminary Site Assessment prepared for NCDOT in December 2000. All ten (10) soil boring results were reported as Not Detected.

1.2 Site Description

The Site is currently a vacant lot. The proposed road widening will traverse the entire northern property edge of Parcel #8 along US Hwy 74. No UST or monitoring wells are located at this facility. Appendix A includes a photo log for Parcel #8.

The properties South and West of the Site are residential homes. Properties North and East of the Site are commercial businesses.

2.0 GEOLOGY

2.1 Regional Geology

The City of Charlotte Property (Former Phillips #66) is located within the Metamorphic type rocks of the Charlotte and Milton Belt Physiographic Province of western North Carolina. The Metavolcanic rock is interbedded felsic to mafic tuffs and flowrock.

2.2 Site Geology

Site geology was observed through the sampling of 7 shallow direct push probe soil borings (SB) onsite. Borings generally extended to a total depth of 10 feet below ground surface (bgs). Soils generally consisted of red well sorted clayey silt. Boring logs are presented in Appendix B.

Damp soil conditions were typically first encountered at a depth range from 0.5 feet (ft) below ground surface (bgs) near the southern parcel border in P8-SB6 to 2.5 ft bgs at the northern parcel edge in P8-SB2. No moisture was encountered at PB8-SB1.

3.0 FIELD ACTIVITIES

3.1 Preliminary Activities

Prior to commencing field sampling activities at the site, several tasks were accomplished in preparation for the subsurface investigation. The Health and Safety Plan (HSP) was modified to include the site-specific health and safety information necessary for the field activities. North Carolina-1-Call was contacted on June 29 to report the proposed drilling activities and subsequently notify all affected utilities for the parcel. A.E. Drilling Services, LLC (AE Drilling) of Greenville, South Carolina was retained by AMEC to perform the direct push sampling for soil borings. AMEC coordinated with Schnabel Engineering South (Schnabel) who performed two geophysical surveys (electromagnetic and ground penetrating radar) onsite during June. The geophysical results were reviewed and discussed at the completion of each survey. A private utility locating company, Priority Underground Locating of Huntersville, North Carolina was subcontracted on July 2, 2010 to clear the proposed drill locations that were marked in the field by AMEC personnel. Prism Laboratories, Inc. was contacted for acquisition of sample bottles. Soil boring locations were focused within the proposed expanded ROW, using a staggered soil boring placement pattern to optimize the likelihood of intercepting any potential soil contamination. Two borings targeted the proposed catch basin and drop inlet.

3.2 Site Reconnaissance

AMEC and NCDOT Geotechnical Unit personnel completed site reconnaissance on June 29, 2010. During reconnaissance, the area was visually examined for the presence of any UST or areas/obstructions that could potentially affect the subsurface investigation and the number of boring locations was discussed. Boring locations were marked on July 2, 2010.

3.3 Geophysical Survey

Schnabel performed the geophysical surveys (for all DOT parcels) from June 14 through June 24. Schnabel utilized a Geonics EM61-MK2 to perform the electromagnetic induction surveys and a Geophysical Survey Systems SIR-3000 to conduct the ground-penetrating radar (GPR) investigations. These instruments are specifically calibrated to detect metal anomalies that are buried deeply and are characteristically large. The data collected by Schnabel does not indicate the presence of underground storage tanks (USTs) within the

proposed expanded ROW. A large anomaly was detected but it is believed to be the result of reinforced concrete. The complete report can be found in Appendix C.

3.4 Well Survey

No well survey was performed as part of this PSA and no water supply or monitoring wells were observed by AMEC on the site.

3.5 Soil Sampling

Soil boring occurred on July 6, 2010 at Parcel 8. Seven direct push soil borings were conducted within the proposed expanded ROW on Parcel 8. Figure 2 presents the Site Map with sample locations and identifications. These samples were located to optimize the likelihood of intercepting any potential soil contamination. The first boring (SB-1) was placed at the proposed catch basin location and soil boring SB-2 targeted the nearby proposed drop-inlet. Soil borings SB-3 through SB-6 were aligned along the ROW, progressing toward the south. Subsequent boring SB-7 was placed between SB-1 and SB-3, since both borings exhibited elevated Photo Ionization Detector (PID) readings.

Significant PID readings were detected in soil borings SB-1, SB-2, and SB-3. An additional sample, SB-7, was collected at the geographic center of these soil borings, but did not exhibit elevated PID readings. Soil samples were collected in accordance with EPA protocols in laboratory-supplied containers. The soil samples for Total Petroleum Hydrocarbons (TPH) –Gasoline Range Organics (GRO) analysis were collected using the 5030 prep method with methanol preservation. Samples for TPH-Diesel Range Organics (DRO) analysis were collected in 4oz. glass containers. Once placed in the containers, the samples were labeled with the sample number, time of collection, date of collection, name of the collector, and the requested analysis. The samples were packed on ice, and then hand delivered to Prism Laboratories in Charlotte, a North Carolina Certified Laboratory following proper chain-of-custody procedures.

4.0 SOIL SAMPLING RESULTS

AMEC conducted soil sampling at the Site on July 6, 2010. The purpose of the sampling was to determine if releases of petroleum hydrocarbons had occurred, and if so, to estimate the volume of soil that might require special handling during construction activities. The sampling was accomplished using direct push methods accompanied by field screening for organic vapors with a PID. The laboratory results with PID readings are tabulated in Table 1 and shown on Figure 3.

A minimum of one soil sample was collected from each of the 7 completed soil borings from Parcel 8. Typically, when impacted soil is identified, additional soil samples are obtained. PID readings warranted the addition of soil sample SP8-SB-7. Analyses of soil samples for DRO indicated one boring location with a concentration above the 10 mg/kg NCDENR Initial Action Level for TPH in soil. Sample P8-SB-6 from boring SB-6 at the 3-4 ft bgs interval was reported with 12 mg/kg. This boring location was near the southern end of the proposed expanded ROW. SB-6 was sampled in an area that was suspected to be near to the former underground tank bed. The soil samples that exhibited elevated PID readings did not contain concentrations above 10 mg/kg. GRO concentrations did not exceed the NCDENR Initial Action Level for TPH.

Copies of the original laboratory report and chain-of-custody documentation are included as Appendix D.

5.0 CONCLUSIONS

The following conclusions are based upon AMEC's evaluation of field observations and laboratory analyses of samples collected from the Site on July 6, 2010.

- The property formerly operated as a Phillips 66 gas station but is now vacant.
- UST Database for Incident Management and Registered Facilities identifies the parcel as Incident #27107, which was closed out in July 1990.
- Eight soil samples were collected and analyzed for TPH GRO and DRO.

- Laboratory analyses of soil samples reported only one TPH detection; a DRO concentration in soil boring SB-6 at 12 mg/kg, which indicates minor localized contamination.

6.0 RECOMMENDATIONS

If NCDOT intercepts soil contamination in the area, AMEC recommends the following action:

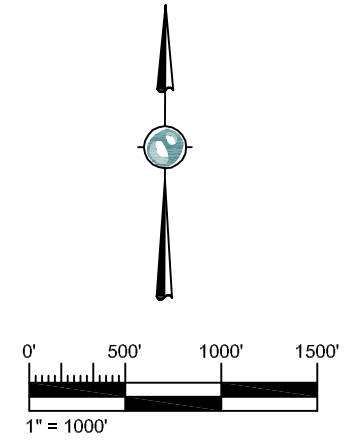
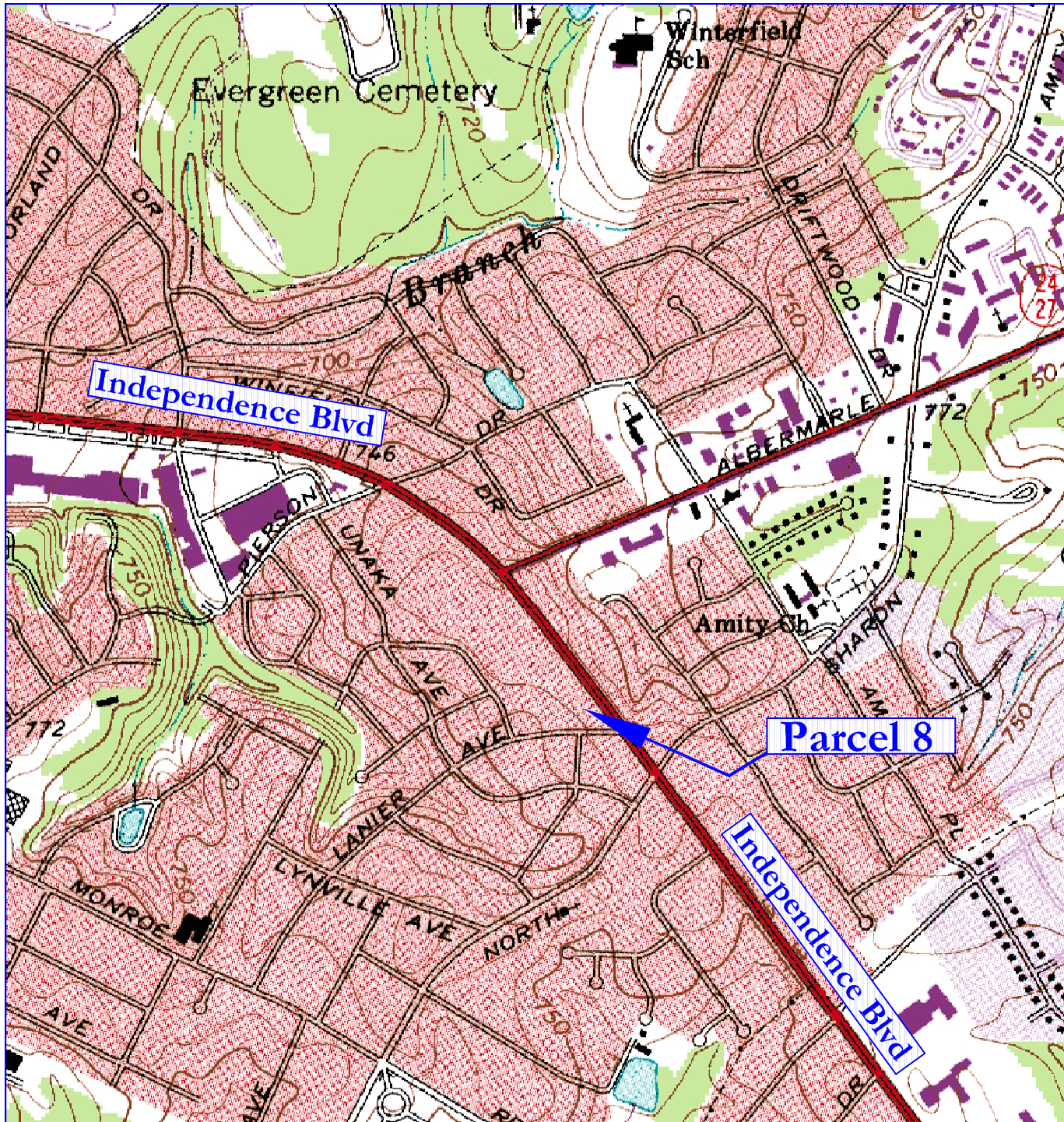
- Segregation during soil excavation with proper disposal of potentially petroleum-impacted soil during roadway improvement construction operations.

TABLES

Table 1
Soil Sampling Analytical Results, DRO-GRO
Parcel 8, City of Charlotte Property (Former Phillips #66)
NC DOT
Charlotte, North Carolina

SAMPLE ID	SAMPLE DATE	SAMPLE DEPTH (ft bgs)	PID READINGS (ppm)	EPA Method 8015B	
				DRO (mg/kg)	GRO (mg/kg)
NC Action Levels				10	10
P8-SB-1	7/6/2010	1 - 2	1040	<9.2	<4.7
P8-SB-2	7/6/2010	1 - 2	915	<9.1	<4.9
P8-SB-3	7/6/2010	3 - 4	299	<9.6	<5.0
P8-SB-4	7/6/2010	3 - 4	0	<10	<5.9
P8-SB-5	7/6/2010	3 - 4	0	<9.9	<6.3
P8-SB-6	7/6/2010	3 - 4	0	12	<5.4
P8-SB-7	7/6/2010	3 - 4	4	<10	<5.3
NOTES: bgs = below ground surface; ppm = parts per million Bold Concentrations Exceed Action Levels DRO = Diesel Range Organics GRO = Gasoline Range Organics Standards derived from the North Carolina UST Section Guidelines for Assessment and Corrective Action					

FIGURES




7.5 Minute Quadrangle
 North Carolina, 1983
 Photorevised 1993

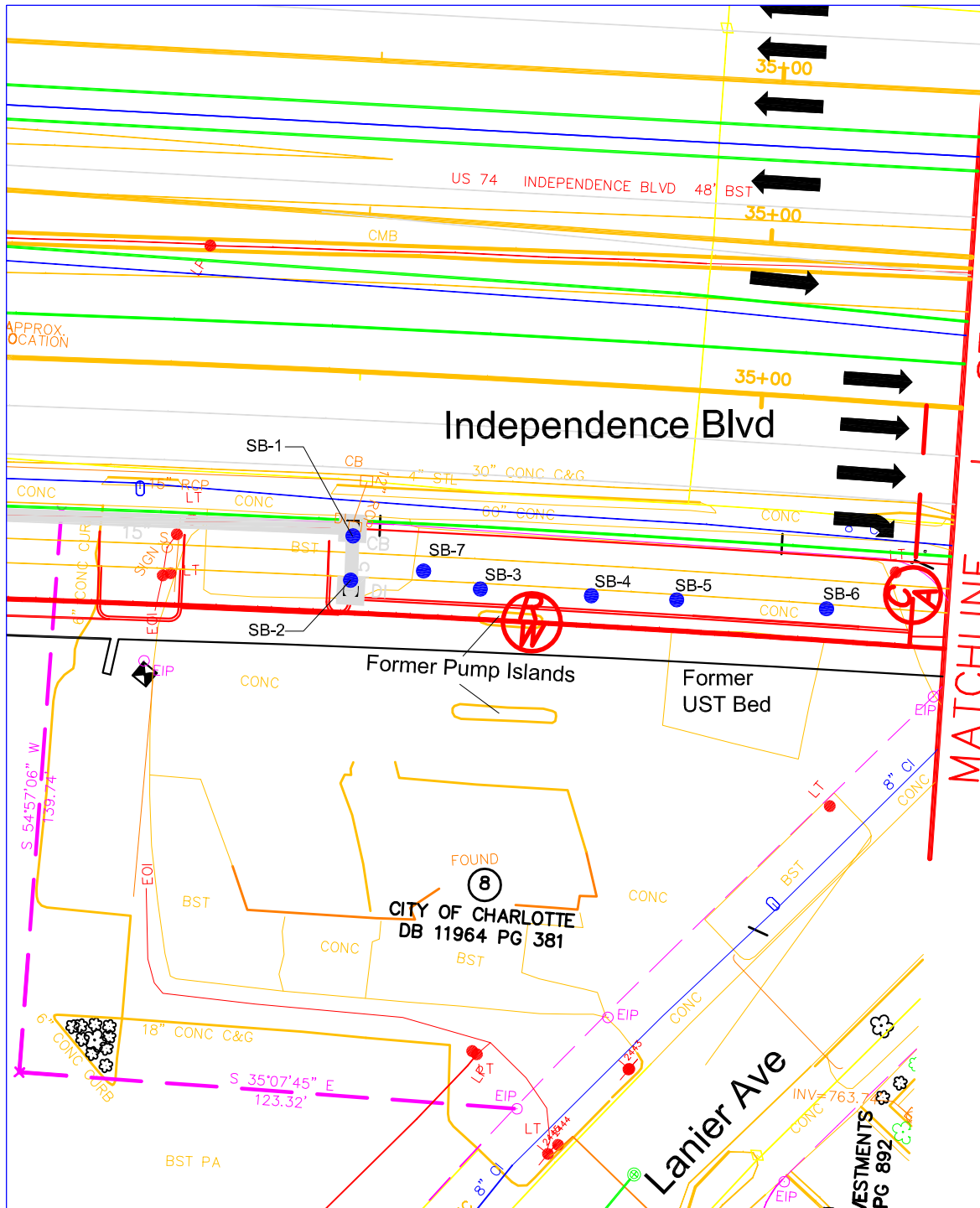
VICINITY MAP

Parcel #8, City of Charlotte Property
 Former Phillips #66
 Mecklenburg County, NC







DRAWING NAME: J:\NCDOT\Independence\FIC1	DATE: 9/29/09
SCALE: 1 INCH = 1,000 FEET	DR TLH CHK HPC REV

PREPARED FOR:
 NC Department Of Transportation
 Geotechnical Unit
 WBS Element: 34749.1.1
 TIP# U-0209B

Prepared By:	Figure:
 338 N Elm Ave Suite 112 Greensboro, NC 27401 (336) 691-5398	Figure 1



LEGEND

-  Proposed Right of Way
-  Existing Right of Way
-  Property Boundaries
-  Cut/Fill Line
-  Cut/Fill Line
-  Boring Locations

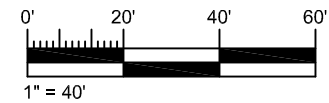
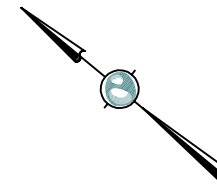


Figure 2
Site Map With Sample Locations
Parcel 8 City Of Charlotte Property
(Former Phillips #66)

NC Department of Transportation
Geotechnical Unit
WBS Element: 34749.1.1
TIP# U-0209B

Independence Blvd

Sample Identification	P8-SB-1
Date	7-6-10
Sample Depth (Feet bgs)	1-2
TPH DRO (mg/kg)	BQL (9.2)
TPH GRO (mg/kg)	BQL (4.7)

Sample Identification	P8-SB-7
Date	7-6-10
Sample Depth (Feet bgs)	3-4
TPH DRO (mg/kg)	BQL (10)
TPH GRO (mg/kg)	BQL (5.3)

Sample Identification	P8-SB-2
Date	7-6-10
Sample Depth (Feet bgs)	1-2
TPH DRO (mg/kg)	BQL (9.1)
TPH GRO (mg/kg)	BQL (4.9)

Sample Identification	P8-SB-3
Date	7-6-10
Sample Depth (Feet bgs)	3-4
TPH DRO (mg/kg)	BQL (9.6)
TPH GRO (mg/kg)	BQL (5.0)

Sample Identification	P8-SB-4
Date	7-6-10
Sample Depth (Feet bgs)	3-4
TPH DRO (mg/kg)	BQL (10)
TPH GRO (mg/kg)	BQL (5.9)

Sample Identification	P8-SB-5
Date	7-6-10
Sample Depth (Feet bgs)	3-4
TPH DRO (mg/kg)	BQL (9.9)
TPH GRO (mg/kg)	BQL (6.3)

Sample Identification	P8-SB-6
Date	7-6-10
Sample Depth (Feet bgs)	3-4
TPH DRO (mg/kg)	12
TPH GRO (mg/kg)	BQL (5.4)







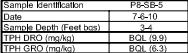

Former Pump Islands

Former UST Bed

CITY OF CHARLOTTE
DB 11964 PG 381

Lanier Ave

LEGEND

-  Proposed Right of Way
-  Existing Right of Way
-  Property Boundaries
-  Cut/Fill Line
-  Cut/Fill Line
-  Boring Locations
-  Analytical Data Box
-  (BQL) Below Quantitative Limits

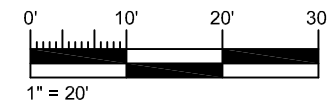
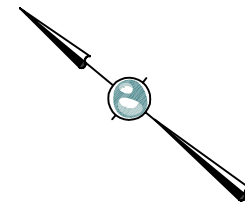


Figure 3
Site Map With Analytical Data
Parcel 8 City Of Charlotte Property
(Former Phillips #66)

NC Department of Transportation
Geotechnical Unit
WBS Element: 34749.1.1
TIP# U-0209B

APPENDIX A

PHOTO LOG



Photo 1

Viewing east from the north-western portion of the site. The boring locations were placed along the proposed right of way line aside the pump island and probable former UST bed.



Photo 2

Viewing east from the north central portion of the site. The former UST bed has been recovered with asphalt.



338 North Elm Street, Suite 112
Greensboro, North Carolina 27401

W.O. 562110209
PROCESSED TLH
DATE July 2010
PAGE 1

PHOTOGRAPHIC LOG

Preliminary Site Assessment
Parcel 8 City of Charlotte Property (Former
Phillips #66) Independence Blvd., Charlotte, NC

APPENDIX B
BORING LOGS

APPENDIX C
GEOPHYSICAL SURVEY REPORT



July 12, 2010

Ms. Helen Corley, LG
AMEC Earth & Environmental of North Carolina, Inc.
338 North Elm Street, Suite 112
Greensboro, North Carolina 27401

RE: State Project: U-0209B
 WBS Element: 34749.1.1
 County: Mecklenburg
 Description: Charlotte – US 74 (Independence Boulevard) from NC 24-27 (Albemarle Road) to Idlewild Road

**Subject: Project 09210013.25, Report on Geophysical Surveys
 Parcel 8, Mecklenburg County, North Carolina**

Dear Ms. Corley:

SCHNABEL ENGINEERING SOUTH, PC (Schnabel) is pleased to present this report on the geophysical surveys we conducted on the subject site. The report includes one 11x17 color figure.

INTRODUCTION

The work described in this report was conducted on June 14, 15, 16, 22, 23, 24, and 29, 2010, by Schnabel under our 2009 contract with the NCDOT. The work was conducted within the accessible areas of the proposed right-of-way and/or easement as indicated on the NCDOT's preliminary plan sheets to support their environmental assessment of Parcel 8 (City of Charlotte Property). The purpose of the geophysical surveys was to locate possible metal underground storage tanks (UST's) and associated metal product lines in the accessible areas of the right-of-way and/or easement.

The geophysical investigation consisted of electromagnetic (EM) induction surveys using a Geonics EM61-MK2 instrument. The EM61 metal detector is used to locate metal objects buried up to about eight feet below ground surface. Ground-penetrating radar (GPR) investigations of selected EM61 anomalies, including areas of reinforced concrete, were conducted using a Geophysical Survey Systems SIR-3000 system equipped with a 400 MHz antenna.

FIELD METHODOLOGY

Locations of geophysical data points were obtained using a sub-meter Trimble Pro-XRS DGPS system. References to direction and location in this report are based on the US State Plane 1983 System, North Carolina 3200 Zone, using the NAD 83 datum, with units in US survey feet. The locations of existing site features (manholes, signs, etc.) were recorded for later correlation with the geophysical data and for location references to the NCDOT drawings.

The EM61 data were collected along parallel survey lines spaced approximately 2.5 feet apart. The EM61 and DGPS data were recorded digitally using a field computer and later transferred to a desktop computer for data processing. The GPR data were collected along survey lines spaced one to two feet apart in orthogonal directions over anomalous EM readings not attributed to cultural features. The GPR data were reviewed in the field to evaluate the possible presence of UST's. The GPR data also were recorded digitally and later transferred to a desktop computer for further review.

Preliminary results for Parcel 8 were sent to Helen Corley and Troy Holzschuh of AMEC and Ethan Caldwell of the NCDOT on July 2, 2010.

DISCUSSION OF RESULTS

We used a rental EM61 for the data collection on this project. We discovered that this rental unit had an intermittent short in the top coil, which made the differential data unreliable. The data collected from just the bottom coil was not affected by this problem. Only the early time gate data collected from the bottom coil were used to determine anomalous locations to survey with GPR.

The contoured early time gate EM61 data for Parcel 8 are shown on Figure 1. The early time gate data provide the more sensitive detection of metal objects. The early time gate results show anomalies apparently caused by reinforced concrete, buried utilities, or known site features (Figure 1). The GPR data collected at the site do not indicate the presence of metallic UST's within the right-of-way and/or easement.

CONCLUSIONS

Our evaluation of the geophysical data collected on Parcel 8 on Project U-0209B in Charlotte, NC indicates the following:

The geophysical data do not indicate the presence of metallic UST's in the areas surveyed on Parcel 8.

LIMITATIONS

These services have been performed and this report prepared for AMEC Earth & Environmental of North Carolina, Inc. and the North Carolina Department of Transportation in accordance with generally accepted guidelines for conducting geophysical surveys. It is generally recognized that the results of geophysical surveys are non-unique and may not represent actual subsurface conditions.

We appreciate the opportunity to have provided these services. Please call if you need additional information or have any questions.

Sincerely,

SCHNABEL ENGINEERING SOUTH, PC



Jeremy S Strohmeyer, LG
Project Manager

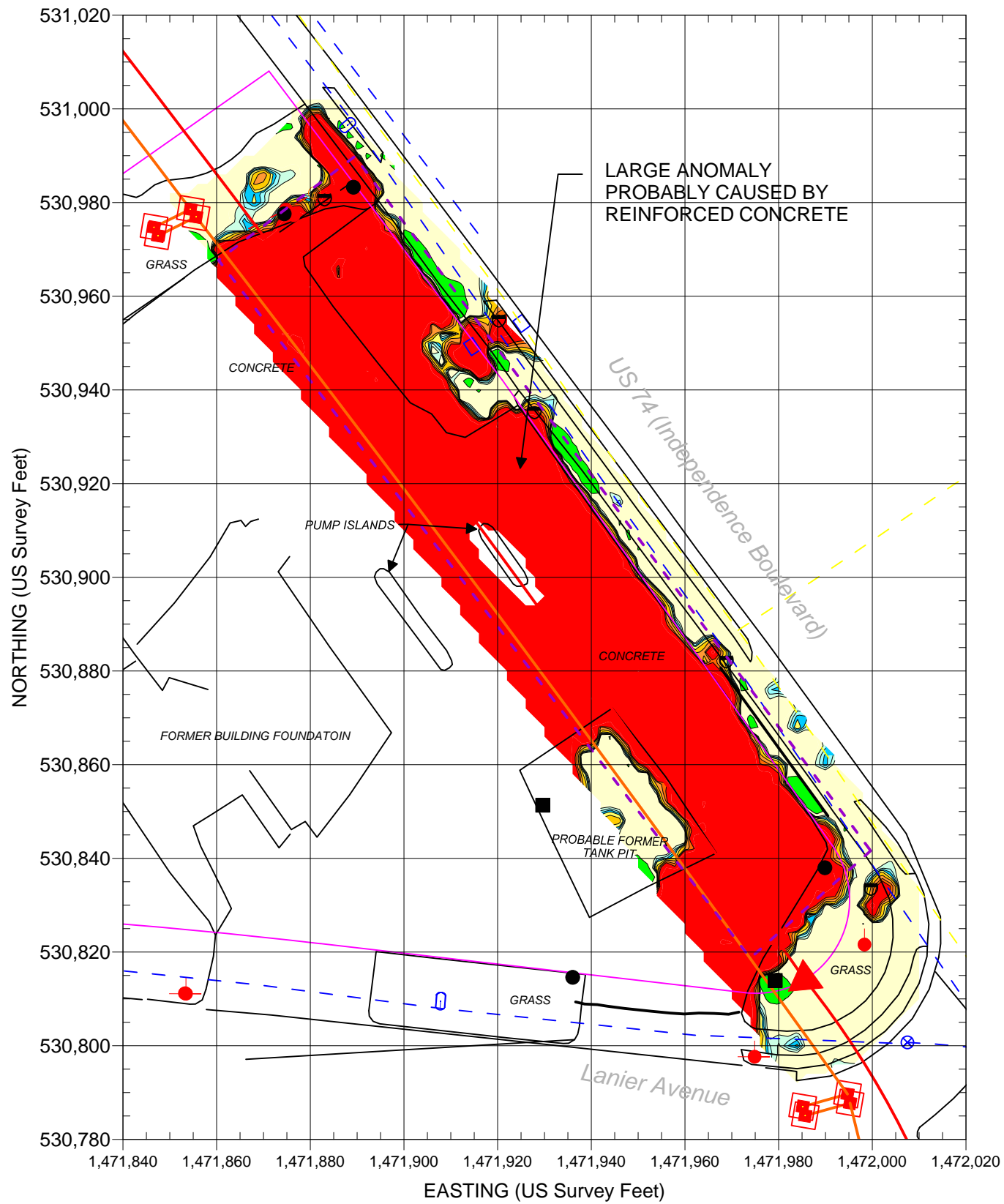


Edward D Billington, LG
Senior Vice President

JS:JW:NB

Attachments: Figure 1

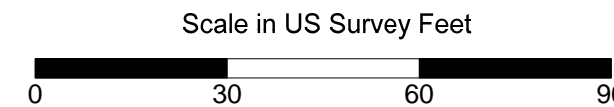
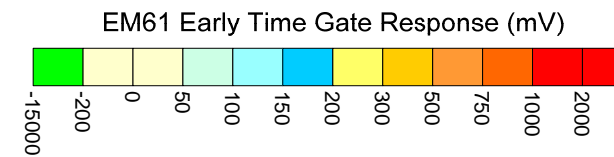
FILE: G:\2009 PROJECTS\09210013 (NCDOT 2009 GEOTECH UNIT SERVICES)\09210013.25 (U-0209B, MECKLENBURG CO.)\REPORT\PARCEL 8\SCHNABEL GEOPHYSICAL REPORT ON PARCEL 8.DOCX



EXPLANATION

- SIGN
- UTILITY POLE
- GUY WIRE
- MISCELLANEOUS METALLIC OBJECT
- UTILITY MANHOLE, METER, BOX, ETC.
- LIGHT POLE
- STORM SEWER INLET
- UST LID
- MONITORING WELL
- DOT PROPOSED RW
- DOT PROPOSED UTILITY EASEMENT
- PROPERTY LINE
- UTILITY (AS MARKED BY OTHERS OR AS PROVIDED BY NCDOT (VARIOUS COLORS))
- EXAMPLE GPR LINE LOCATION
- GPR SURVEY AREA
- LOCATION OF KNOWN UST MARKED ON SITE

REF.: NCDOT FILE: u-0209b_rdy_psh_05_rwa.dgn
(FOR SOME SITE FEATURES)



Note: The contour plot shows the earliest and most sensitive time gate of the EM61 bottom coil/channel in millivolts (mV). The EM data were collected on June 14 through June 16, 2010, using a Geonics EM61-MK2 instrument. Positioning for the EM61 survey was provided using a submeter Trimble ProXRS DGPS system. Coordinates are in the US State Plane 1983 System, North Carolina Zone 3200, using the NAD 1983 datum. GPR data were acquired on June 22 through June 24, 2010, using a Geophysical Survey Systems SIR 3000 equipped with a 400 MHz antenna.



STATE PROJECT U-0209B
NC DEPARTMENT OF TRANSPORTATION
MECKLENBURG COUNTY, NC
PROJECT NO. 09210013.25

PARCEL 8
EM61 EARLY TIME GATE
RESPONSE

FIGURE 1

APPENDIX D

LABORATORY ANALYTICAL RESULTS

AMEC Earth & Env. Inc.(DOT Gree)
Helen Corley
338 North Elm St. Suite 112
Greensboro, NC 27401

Project: NCDOT: Independence Blvd. Parcel 8
Project No.: WBS #34749.1.1
Lab Submittal Date: 07/07/2010
Prism Work Order: 0070207

This data package contains the analytical results for the project identified above and includes a Case Narrative, Sample Results and Chain of Custody. Unless otherwise noted, all samples were received in acceptable condition and processed according to the referenced methods.

Data qualifiers are flagged individually on each sample. A key reference for the data qualifiers appears at the end of this case narrative.

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

Respectfully,

PRISM LABORATORIES, INC.



President/Project Manager



Reviewed By

Data Qualifiers Key Reference:

- A Surrogate recovered above established QC limits.
- BRL Below Reporting Limit
- MDL Method Detection Limit
- RPD Relative Percent Difference
- * Results reported to the reporting limit. All other results are reported to the MDL with values between MDL and reporting limit indicated with a J.



Client Sample ID	Lab Sample ID	Matrix	Date Sampled	Date Received
P8-SB-1 (1-2)	0070207-01	Solid	07/06/10	07/07/10
P8-SB-2 (1-2)	0070207-02	Solid	07/06/10	07/07/10
P8-SB-3 (3-4)	0070207-03	Solid	07/06/10	07/07/10
P8-SB-4 (3-4)	0070207-04	Solid	07/06/10	07/07/10
P8-SB-5 (3-4)	0070207-05	Solid	07/06/10	07/07/10
P8-SB-6 (3-4)	0070207-06	Solid	07/06/10	07/07/10
P8-SB-7 (3-4)	0070207-07	Solid	07/06/10	07/07/10

Samples received in good condition at 5.4 degrees C unless otherwise noted.

AMEC Earth & Env. Inc.(DOT Gree)
Attn: Helen Corley
338 North Elm St. Suite 112
Greensboro, NC 27401

Project: NCDOT: Independence Blvd.
Parcel 8
Project No.: WBS #34749.1.1
Sample Matrix: Solid

Client Sample ID: P8-SB-1 (1-2)
Prism Sample ID: 0070207-01
Prism Work Order: 0070207
Time Collected: 07/06/10 11:40
Time Submitted: 07/07/10 12:55

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
Diesel Range Organics by GC/FID									
Diesel Range Organics	BRL	mg/kg dry	9.2	1.5	1	*8015C	7/14/10 15:35	JMV	P0G0202
			Surrogate			Recovery		Control Limits	
			o-Terphenyl			94 %		49-124	
Gasoline Range Organics by GC/FID									
Gasoline Range Organics	BRL	mg/kg dry	4.7	0.61	50	*8015C	7/15/10 21:16	HPE	P0G0285
			Surrogate			Recovery		Control Limits	
			a,a,a-Trifluorotoluene			112 %		55-129	
General Chemistry Parameters									
% Solids	76.3	% by Weight	0.100	0.100	1	*SM2540 G	7/12/10 14:30	JAB	P0G0203

AMEC Earth & Env. Inc.(DOT Gree)
Attn: Helen Corley
338 North Elm St. Suite 112
Greensboro, NC 27401

Project: NCDOT: Independence Blvd.
Parcel 8
Project No.: WBS #34749.1.1
Sample Matrix: Solid

Client Sample ID: P8-SB-2 (1-2)
Prism Sample ID: 0070207-02
Prism Work Order: 0070207
Time Collected: 07/06/10 12:00
Time Submitted: 07/07/10 12:55

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

Diesel Range Organics by GC/FID

Diesel Range Organics	BRL	mg/kg dry	9.1	1.5	1	*8015C	7/14/10 10:51	JMV	P0G0202
			Surrogate			Recovery		Control Limits	
			o-Terphenyl			66 %		49-124	

Gasoline Range Organics by GC/FID

Gasoline Range Organics	BRL	mg/kg dry	4.9	0.64	50	*8015C	7/15/10 21:47	HPE	P0G0285
			Surrogate			Recovery		Control Limits	
			a,a,a-Trifluorotoluene			129 %		55-129	

General Chemistry Parameters

% Solids	77.1	% by Weight	0.100	0.100	1	*SM2540 G	7/12/10 14:30	JAB	P0G0203
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AMEC Earth & Env. Inc.(DOT Gree)
Attn: Helen Corley
338 North Elm St. Suite 112
Greensboro, NC 27401

Project: NCDOT: Independence Blvd.
Parcel 8
Project No.: WBS #34749.1.1
Sample Matrix: Solid

Client Sample ID: P8-SB-3 (3-4)
Prism Sample ID: 0070207-03
Prism Work Order: 0070207
Time Collected: 07/06/10 12:20
Time Submitted: 07/07/10 12:55

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
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Diesel Range Organics by GC/FID

Diesel Range Organics	BRL	mg/kg dry	9.6	1.5	1	*8015C	7/14/10 11:27	JMV	P0G0202
			Surrogate			Recovery		Control Limits	
			o-Terphenyl			94 %		49-124	

Gasoline Range Organics by GC/FID

Gasoline Range Organics	BRL	mg/kg dry	5.0	0.65	50	*8015C	7/15/10 22:18	HPE	P0G0285
			Surrogate			Recovery		Control Limits	
			a,a,a-Trifluorotoluene			111 %		55-129	

General Chemistry Parameters

% Solids	72.8	% by Weight	0.100	0.100	1	*SM2540 G	7/12/10 14:30	JAB	P0G0203
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AMEC Earth & Env. Inc.(DOT Gree)
Attn: Helen Corley
338 North Elm St. Suite 112
Greensboro, NC 27401

Project: NCDOT: Independence Blvd.
Parcel 8
Project No.: WBS #34749.1.1
Sample Matrix: Solid

Client Sample ID: P8-SB-4 (3-4)
Prism Sample ID: 0070207-04
Prism Work Order: 0070207
Time Collected: 07/06/10 12:40
Time Submitted: 07/07/10 12:55

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
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Diesel Range Organics by GC/FID

Diesel Range Organics	BRL	mg/kg dry	10	1.7	1	*8015C	7/14/10 12:02	JMV	P0G0202
			Surrogate			Recovery		Control Limits	
			o-Terphenyl			85 %		49-124	

Gasoline Range Organics by GC/FID

Gasoline Range Organics	BRL	mg/kg dry	5.9	0.76	50	*8015C	7/15/10 22:49	HPE	P0G0285
			Surrogate			Recovery		Control Limits	
			a,a,a-Trifluorotoluene			120 %		55-129	

General Chemistry Parameters

% Solids	67.4	% by Weight	0.100	0.100	1	*SM2540 G	7/12/10 14:30	JAB	P0G0203
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AMEC Earth & Env. Inc.(DOT Gree)
Attn: Helen Corley
338 North Elm St. Suite 112
Greensboro, NC 27401

Project: NCDOT: Independence Blvd.
Parcel 8
Project No.: WBS #34749.1.1
Sample Matrix: Solid

Client Sample ID: P8-SB-5 (3-4)
Prism Sample ID: 0070207-05
Prism Work Order: 0070207
Time Collected: 07/06/10 13:10
Time Submitted: 07/07/10 12:55

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
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Diesel Range Organics by GC/FID

Diesel Range Organics	BRL	mg/kg dry	9.9	1.9	1	*8015C	7/14/10 12:38	JMV	P0G0202
			Surrogate			Recovery		Control Limits	
			o-Terphenyl			82 %		49-124	

Gasoline Range Organics by GC/FID

Gasoline Range Organics	BRL	mg/kg dry	6.3	0.83	50	*8015C	7/15/10 23:20	HPE	P0G0285
			Surrogate			Recovery		Control Limits	
			a,a,a-Trifluorotoluene			106 %		55-129	

General Chemistry Parameters

% Solids	60.2	% by Weight	0.100	0.100	1	*SM2540 G	7/12/10 14:30	JAB	P0G0203
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AMEC Earth & Env. Inc.(DOT Gree)
Attn: Helen Corley
338 North Elm St. Suite 112
Greensboro, NC 27401

Project: NCDOT: Independence Blvd.
Parcel 8
Project No.: WBS #34749.1.1
Sample Matrix: Solid

Client Sample ID: P8-SB-6 (3-4)
Prism Sample ID: 0070207-06
Prism Work Order: 0070207
Time Collected: 07/06/10 13:30
Time Submitted: 07/07/10 12:55

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
Diesel Range Organics by GC/FID									
Diesel Range Organics	12	mg/kg dry	10	1.7	1	*8015C	7/14/10 13:13	JMV	P0G0202
			Surrogate			Recovery		Control Limits	
			o-Terphenyl			76 %		49-124	
Gasoline Range Organics by GC/FID									
Gasoline Range Organics	BRL	mg/kg dry	5.4	0.70	50	*8015C	7/15/10 23:51	HPE	P0G0285
			Surrogate			Recovery		Control Limits	
			a,a,a-Trifluorotoluene			96 %		55-129	
General Chemistry Parameters									
% Solids	67.1	% by Weight	0.100	0.100	1	*SM2540 G	7/12/10 14:30	JAB	P0G0203

AMEC Earth & Env. Inc.(DOT Gree)
Attn: Helen Corley
338 North Elm St. Suite 112
Greensboro, NC 27401

Project: NCDOT: Independence Blvd.
Parcel 8
Project No.: WBS #34749.1.1
Sample Matrix: Solid

Client Sample ID: P8-SB-7 (3-4)
Prism Sample ID: 0070207-07
Prism Work Order: 0070207
Time Collected: 07/06/10 14:00
Time Submitted: 07/07/10 12:55

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
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Diesel Range Organics by GC/FID

Diesel Range Organics	BRL	mg/kg dry	10	1.6	1	*8015C	7/14/10 13:49	JMV	P0G0202
			Surrogate			Recovery		Control Limits	
			o-Terphenyl			83 %		49-124	

Gasoline Range Organics by GC/FID

Gasoline Range Organics	BRL	mg/kg dry	5.3	0.69	50	*8015C	7/16/10 0:22	HPE	P0G0285
			Surrogate			Recovery		Control Limits	
			a,a,a-Trifluorotoluene			105 %		55-129	

General Chemistry Parameters

% Solids	69.5	% by Weight	0.100	0.100	1	*SM2540 G	7/12/10 14:30	JAB	P0G0203
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AMEC Earth & Env. Inc.(DOT Gree)
Attn: Helen Corley
338 North Elm St. Suite 112
Greensboro, NC 27401

Project: NCDOT: Independence Blvd.
Parcel 8
Project No: WBS #34749.1.1

Prism Work Order: 0070207
Time Submitted: 7/7/10 12:55:00PM

Gasoline Range Organics by GC/FID - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch P0G0285 - 5035										
Blank (P0G0285-BLK1)										
Prepared & Analyzed: 07/15/10										
Gasoline Range Organics	BRL	5.0	mg/kg wet							
Surrogate: a,a,a-Trifluorotoluene	4.65		mg/kg wet	5.00		93	55-129			
LCS (P0G0285-BS1)										
Prepared & Analyzed: 07/15/10										
Gasoline Range Organics	41.4	5.0	mg/kg wet	50.0		83	67-116			
Surrogate: a,a,a-Trifluorotoluene	5.30		mg/kg wet	5.00		106	55-129			
LCS Dup (P0G0285-BSD1)										
Prepared & Analyzed: 07/15/10										
Gasoline Range Organics	43.2	5.0	mg/kg wet	50.0		86	67-116	4	200	
Surrogate: a,a,a-Trifluorotoluene	5.45		mg/kg wet	5.00		109	55-129			

AMEC Earth & Env. Inc.(DOT Gree)
Attn: Helen Corley
338 North Elm St. Suite 112
Greensboro, NC 27401

Project: NCDOT: Independence Blvd.
Parcel 8
Project No: WBS #34749.1.1

Prism Work Order: 0070207
Time Submitted: 7/7/10 12:55:00PM

Diesel Range Organics by GC/FID - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch P0G0202 - 3545A										
Blank (P0G0202-BLK1)										
					Prepared: 07/12/10 Analyzed: 07/14/10					
Diesel Range Organics	BRL	7.0	mg/kg wet							
Surrogate: <i>o</i> -Terphenyl	1.53		mg/kg wet	1.60		96	49-124			
LCS (P0G0202-BS1)										
					Prepared: 07/12/10 Analyzed: 07/14/10					
Diesel Range Organics	63.0	7.0	mg/kg wet	79.9		79	55-109			
Surrogate: <i>o</i> -Terphenyl	1.87		mg/kg wet	1.60		117	49-124			
LCS Dup (P0G0202-BSD1)										
					Prepared: 07/12/10 Analyzed: 07/14/10					
Diesel Range Organics	64.9	7.0	mg/kg wet	80.0		81	55-109	3	200	
Surrogate: <i>o</i> -Terphenyl	1.99		mg/kg wet	1.60		124	49-124			
Matrix Spike (P0G0202-MS1)										
		Source: 0070207-01			Prepared: 07/12/10 Analyzed: 07/14/10					
Diesel Range Organics	75.2	9.1	mg/kg dry	105	4.36	68	50-117			
Surrogate: <i>o</i> -Terphenyl	2.46		mg/kg dry	2.09		117	49-124			
Matrix Spike Dup (P0G0202-MSD1)										
		Source: 0070207-01			Prepared: 07/12/10 Analyzed: 07/14/10					
Diesel Range Organics	85.4	9.1	mg/kg dry	105	4.36	78	50-117	13	24	
Surrogate: <i>o</i> -Terphenyl	2.72		mg/kg dry	2.09		130	49-124			A

Sample Extraction Data

Prep Method: 3545A

Lab Number	Batch	Initial	Final	Date
0070207-01	P0G0202	25 g	1 mL	07/12/10
0070207-02	P0G0202	25 g	1 mL	07/12/10
0070207-03	P0G0202	25.1 g	1 mL	07/12/10
0070207-04	P0G0202	25.08 g	1 mL	07/12/10
0070207-05	P0G0202	25.05 g	1 mL	07/12/10
0070207-06	P0G0202	25.06 g	1 mL	07/12/10
0070207-07	P0G0202	25 g	1 mL	07/12/10

Prep Method: 5035

Lab Number	Batch	Initial	Final	Date
0070207-01	P0G0285	6.93 g	5 mL	07/15/10
0070207-02	P0G0285	6.62 g	5 mL	07/15/10
0070207-03	P0G0285	6.86 g	5 mL	07/15/10
0070207-04	P0G0285	6.34 g	5 mL	07/15/10
0070207-05	P0G0285	6.54 g	5 mL	07/15/10
0070207-06	P0G0285	6.96 g	5 mL	07/15/10
0070207-07	P0G0285	6.75 g	5 mL	07/15/10

NO PREP

Lab Number	Batch	Initial	Final	Date
0070207-01	P0G0203	30 g	30 mL	07/12/10
0070207-02	P0G0203	30 g	30 mL	07/12/10
0070207-03	P0G0203	30 g	30 mL	07/12/10
0070207-04	P0G0203	30 g	30 mL	07/12/10
0070207-05	P0G0203	30 g	30 mL	07/12/10
0070207-06	P0G0203	30 g	30 mL	07/12/10
0070207-07	P0G0203	30 g	30 mL	07/12/10

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Full-Service Analytical & Environmental Solutions

440 Springbrook Road • P.O. Box 240543 • Charlotte, NC 28224-0543
Phone: 704/529-6364 • Fax: 704/525-0409

Client Company Name: AMEC E+E

Report To/Contact Name: Heleen Carley

Reporting Address: 338 N Elm St.
Greensboro, NC 27401

Phone: 336-691-5348 Fax (Yes) (No):

Email (Yes)(No) Email Address: heleen.carley@amec.com

EDD Type: PDF Excel Other

Site Location Name: Page 1 & 8

Site Location Physical Address:

CHAIN OF CUSTODY RECORD

PAGE 1 OF 1 QUOTE # TO ENSURE PROPER BILLING: W85 34791.1

Project Name: Independence

Short Hold Analysis: (Yes) (No) UST Project: (Yes) (No)

*Provisions and/or QC Requirements

Invoice To: Heleen Carley

Address: Same

Purchase Order No./Billing Reference: W85.34791.1

Requested Due Date: 1 Day 2 Days 3 Days 4 Days 5 Days

"Working Days" 6-9 Days Standard 10 days Rush Work Must Be Pre-Approved

Samples received after 15:00 will be processed next business day.

Turnaround time is based on business days, excluding weekends and holidays.

(SEE REVERSE FOR TERMS & CONDITIONS REGARDING SERVICES RENDERED BY PRISM LABORATORIES, INC. TO CLIENT)

LAB USE ONLY

Samples: INTACT upon arrival?	YES	NO	N/A
Received ON WET ICE? Temp: <u>5°C</u>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
PROPER PRESERVATIVES indicated?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Received WITHIN HOLDING TIMES?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
CUSTODY SEALS INTACT?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
VOLATILES rec'd W/OUT HEADSPACE?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
PROPER CONTAINERS used?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

TO BE FILLED IN BY CLIENT/SAMPLING PERSONNEL

Certification: NELAC USACE FL NC

Water Chlorinated: YES NO

Sample Iced Upon Collection: YES NO

CLIENT SAMPLE DESCRIPTION	DATE COLLECTED	TIME COLLECTED MILITARY HOURS	MATRIX (SOIL, WATER OR SLUDGE)	SAMPLE CONTAINER			PRESERVATIVES	ANALYSES REQUESTED		REMARKS	PRISM LAB ID NO.
				*TYPE SEE BELOW	NO.	SIZE		DRO	GRO		
PR-58-1(1-2)											
PR-58-2(1-2)	7-6-10	1140	Soil	VOL/gal	4	2 ver 29l		X	X		01
PR-58-3(3-4)		1220						X	X		02
PR-58-4(3-4)		1240						X	X		03
PR-58-5(3-4)		1310						X	X		04
PR-58-6(3-4)		1330						X	X		05
PR-58-7(3-4)		1400						X	X		06

PRESS DOWN FIRMLY - 3 COPIES

Sampler's Signature: Troy L Holschuh

Sampled By (Print Name): Troy L Holschuh

Affiliation: AMEC

Upon relinquishing, this Chain of Custody is your authorization for Prism to proceed with the analyses as requested above. Any changes must be submitted in writing to the Prism Project Manager. There will be charges for any changes after analyses have been initialized.

Relinquished By: (Signature) Troy L Holschuh

Received By: (Signature)

Received By: (Signature)

Date: 7/7/10 Military/Hours: 1235

Additional Comments:

Relinquished By: (Signature) [Signature]

Received By: (Signature)

Received By: (Signature)

Date: 7/7/10 Military/Hours: 1255

Relinquished By: (Signature)

Received By: (Signature)

Received By: (Signature)

Date: 7/7/10 Military/Hours: 1255

Method of Shipment: NOTE: ALL SAMPLE COOLERS SHOULD BE TAPED SHUT WITH CUSTODY SEALS FOR TRANSPORTATION TO THE LABORATORY. SAMPLES ARE NOT ACCEPTED AND VERIFIED AGAINST COC UNTIL RECEIVED AT THE LABORATORY.

Fed Ex UPS Hand-delivered Prism Field Service Other

NPDES: NC SC NC SC NC SC

UST: NC SC NC SC NC SC

GROUNDWATER: NC SC

DRINKING WATER: NC SC

SOLID WASTE: NC SC

RCRA: NC SC

CERCLA NC SC

LANDFILL NC SC

OTHER: NC SC

*CONTAINER TYPE CODES: A = Amber C = Clear G = Glass P = Plastic; TL = Teflon-Lined Cap VOA = Volatile Organics Analysis (Zero Head Space)

PRISM USE ONLY

Site Arrival Time: _____

Site Departure Time: _____

Field Tech Fee: _____

Mileage: _____

SEE REVERSE FOR TERMS & CONDITIONS

ORIGINAL