





**NC Department of Transportation
Preliminary Site Assessment
State Project: R-3405
WBS Element: 35579.1.1**

**Grace Shumate Property
Parcel #93
February 28, 2011**

**AMEC Earth and Environmental, Inc. of North Carolina
AMEC Project: 562113405**



**Troy L. Holzschuh
Engineering Technician**

**Helen P. Corley, L.G.
Associate Hydrogeologist**



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1.0 INTRODUCTION

In accordance with the North Carolina Department of Transportation (NCDOT) Request for Proposal, dated November 19, 2010, AMEC Earth and Environmental, Inc. of North Carolina (AMEC) has performed a Preliminary Site Assessment (PSA) for the Grace Shumate Property (the Site) to be effected by a road improvement project along NC 18, Sparta Rd. The Site which is located between 1460 and 1486 Sparta Rd is currently a residential property. The property is located on the northeast side of Sparta Road, near its intersection with Ruritan Park Road in North Wilkesboro of Wilkes County, North Carolina. The investigation was conducted in accordance with AMEC's Technical and Cost proposal dated December 3, 2010.

NCDOT contracted AMEC to perform a PSA on the Grace Shumate Property due to the resemblance of the building's architectural style to that of a gas station. The PSA was performed to determine if underground storage tanks are present and if soils have been impacted by petroleum compounds as a result of past uses of the property within the proposed design project area. This parcel will be affected by construction activities associated with road widening along Sparta Rd.

The following report summarizes the site history, geophysical survey, location and capacities of any USTs, and describes our field investigation with results of chemical analyses. The report includes the evaluation of the analytical data with regards to the presence or absence of soil contamination within the NCDOT design area of parcel #93 and estimates the extent of soil contamination.

1.1 Site Location and Vicinity

The Grace Shumate Property parcel is located on the northeast side of Sparta Road, near the intersection of Ruritan Park Road in North Wilkesboro, Wilkes County, North Carolina, as shown in Figure 1. The properties to the north, southeast, south and northwest are residential with single family homes. The property to the southwest and across Sparta Rd is The Little Dipper restaurant.

1.2 Site Description and History

The Site is currently a residential property used as storage. The Site has a two story barn with four garage doors and a detached garage north of the barn. One above ground storage tank (AST) was observed adjacent to the southern wall of the barn – most likely containing propane. The proposed DOT project will parallel the southern property edge of Parcel #93 along Sparta Rd. No USTs were observed at this facility. Appendix A includes a photo log for Parcel #93.

AMEC studied the NCDENR UST Registered Tanks Database and no tanks are registered in association with this property. AMEC also reviewed the NCDENR Incident Management Database and did not find any incident numbers associated with this property.

2.0 GEOLOGY

2.1 Regional Geology

The Grace Shumate Property is located within the Alligator Back Formation of the Ocoee Supergroup located in the Blue Ridge Physiographic Province of western North Carolina. The Alligator Back Formation comprises metamorphic sedimentary rocks that are 750 million years in age. The rocks include mica schist and phyllite that are interlayered with minor biotite. The Alligator Back rocks were named for the large sections of gneiss that descend from the peak of Bluff Mountain that resemble an alligator.

2.2 Site Geology

Site geology was observed through the sampling of 4 shallow direct push probe soil borings (SB) onsite. Borings extended to a total depth of 10 feet below ground surface (bgs). Native soils generally consisted of orange, well sorted silt. Boring logs are presented in Appendix B.

Damp soil conditions were typically first encountered at a depth of 0.5 feet (ft) bgs.

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. On January 17, 2011 a private utility locating company, Priority Underground Locating of Huntersville, North Carolina cleared the proposed drilling locations that were marked in the field by AMEC personnel. North Carolina-1-Call was contacted on January 19, 2011 to report the proposed drilling activities and subsequently notify all affected utilities for the parcel. Carolina Soil Investigations, LLC (CSI Drilling) of Olin, North Carolina was retained by AMEC to perform the direct push drilling and sampling. AMEC coordinated with Schnabel Engineering South (Schnabel) who performed one geophysical survey (electromagnetic) onsite during December. The geophysical results were reviewed and discussed at the completion of the survey. Prism Laboratories, Inc. was contacted for acquisition of sample bottles. Soil boring locations were focused just beyond the existing ROW. Boring locations were located to optimize the likelihood of intercepting any potential soil contamination by staggering sample locations along the front of the parcel.

3.2 Site Reconnaissance

AMEC personnel completed site reconnaissance on November 22, 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 January 17, 2011.

3.3 Geophysical Survey

Schnabel performed the geophysical surveys from December 10 to 21, 2010 for the NC 18 corridor project. Schnabel utilized a Geonics EM61-MK2 to perform the electromagnetic induction surveys. GPR data was not collected at the site due to a lack of differential EM61 evidence to suggest that unknown USTs were present. The EM61 was specifically calibrated to detect metal anomalies that are buried deeply and are characteristically large. The data collected by Schnabel indicates that no USTs are present within the proposed design area. The complete geophysical survey report can be found in Appendix C.

3.4 Well Survey

A well survey was not performed as part of this PSA and no monitoring wells were observed on the parcel.

3.5 Soil Sampling

Soil boring occurred on January 25, 2011 at Parcel #93. Four direct push soil borings were conducted within the NCDOT design project on Parcel #93, which focused on the southern side of the site. Figure 2 presents the Site Map with boring locations and identifications. These samples were located to optimize the likelihood of intercepting any potential soil contamination by targeting the southern edge of the site which runs parallel to Sparta Rd. The first boring, P93-SB-1, was placed at the southeastern end of the site just inside the proposed ROW. Soil borings P93-SB-2 through P93-SB-4 were located within the proposed ROW, moving in a westerly direction. None of the soil borings at Parcel 93 exhibited elevated Photo Ionized Detector (PID) readings; therefore AMEC personnel concluded that adequate coverage of the site had been attained.

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 January 25, 2011. 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.

A minimum of one soil sample was collected from each of the 4 completed soil borings from Parcel #93. Typically, if impacted soil is identified, then additional soil samples are obtained. Soil borings did not produce elevated PID readings, therefore additional soil samples were not warranted. Analyses of soil samples for DRO and GRO were below detection limits or reporting limits for all soil boring locations.

Since the field investigation and the Laboratory analytical report did not indicate significant contamination, an estimation of contamination was not warranted.

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 January 25, 2011.

- The Site is presently a residential parcel that has a two story barn and detached garage.
- The architectural design of the building suggests that it once possibly operated as a gas station.
- Four soil samples were collected and analyzed for TPH GRO and DRO.
- There was no field or laboratory indication of impacted soil.

6.0 RECOMMENDATIONS

The proposed NCDOT design at this time has minimal impact intended for Parcel 93 and the PSA soil data did not indicate any contamination. NCDOT should nevertheless remain cautious of intercepting contaminated soil during road construction activities, thus AMEC recommends the following potential action:

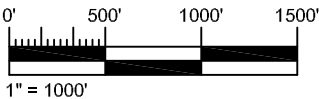
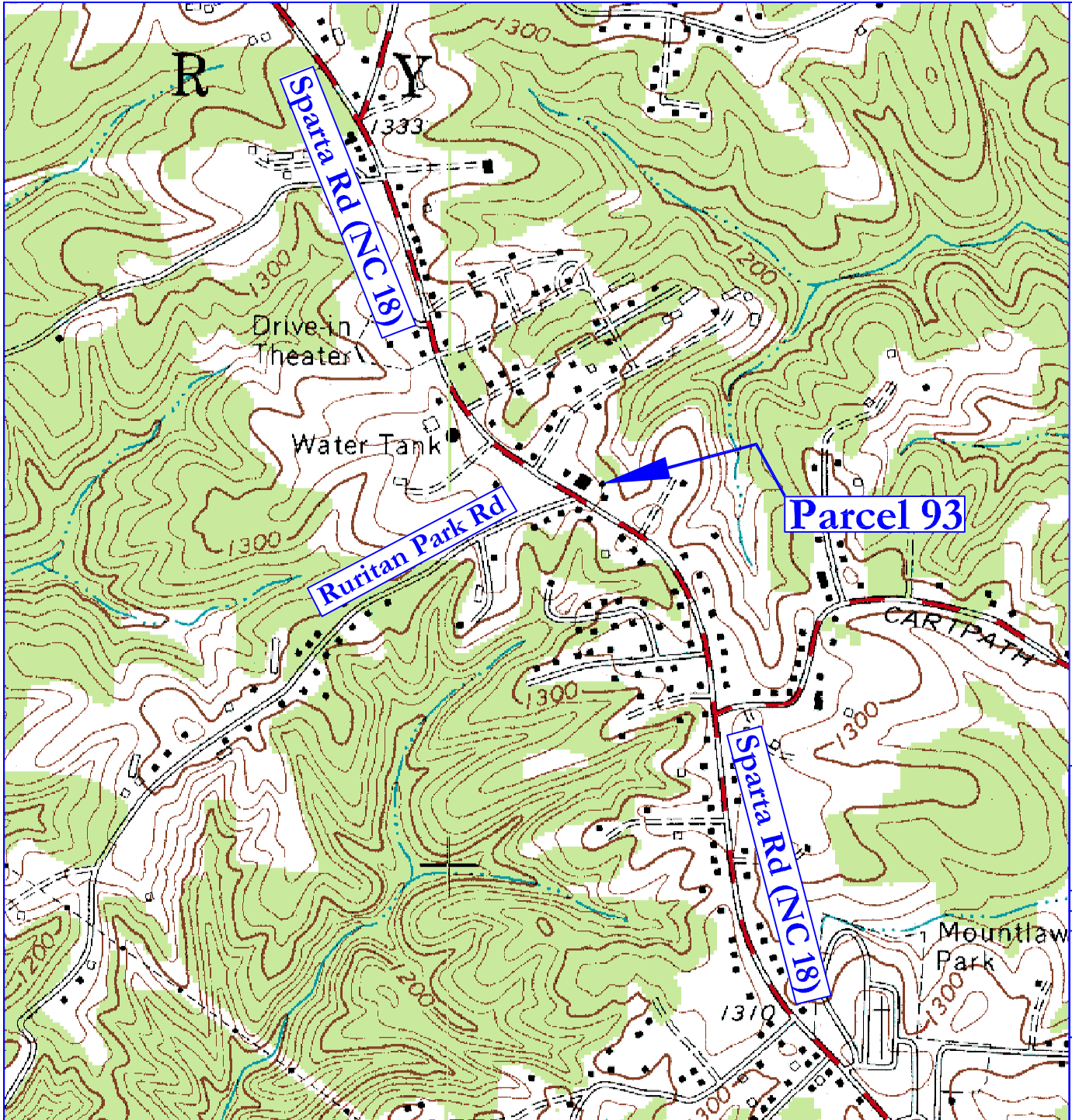
- Segregation with proper assessment and handling of potentially petroleum-impacted soil during roadway improvement construction operations.

TABLES

Table 1
Soil Sampling Analytical Results, DRO-GRO
Parcel 93, Grace Shumate Property
NC DOT
North Wilkesboro, Wilkes County, 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
P93-SB-1	1/25/2011	3 - 5	0	<9.0	<5.0
P93-SB-2	1/25/2011	3 - 5	0	<8.3	<5.3
P93-SB-3	1/25/2011	3 - 5	0	<7.4	<4.4
P93-SB-4	1/25/2011	4 - 6	0	<9.1	<4.7
NOTES: ft bgs = feet below ground surface; ppm = parts per million mg/kg = milligrams per kilogram 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 #93, Grace Shumate Property
 North Wilkesboro, Wilkes County, NC

DRAWING NAME: J:\NCDOT\Wilkes\FIC1	DATE: 2 24 11
SCALE: 1 INCH = 1,000 FEET	DR TLH
	CHK HPC
	REV

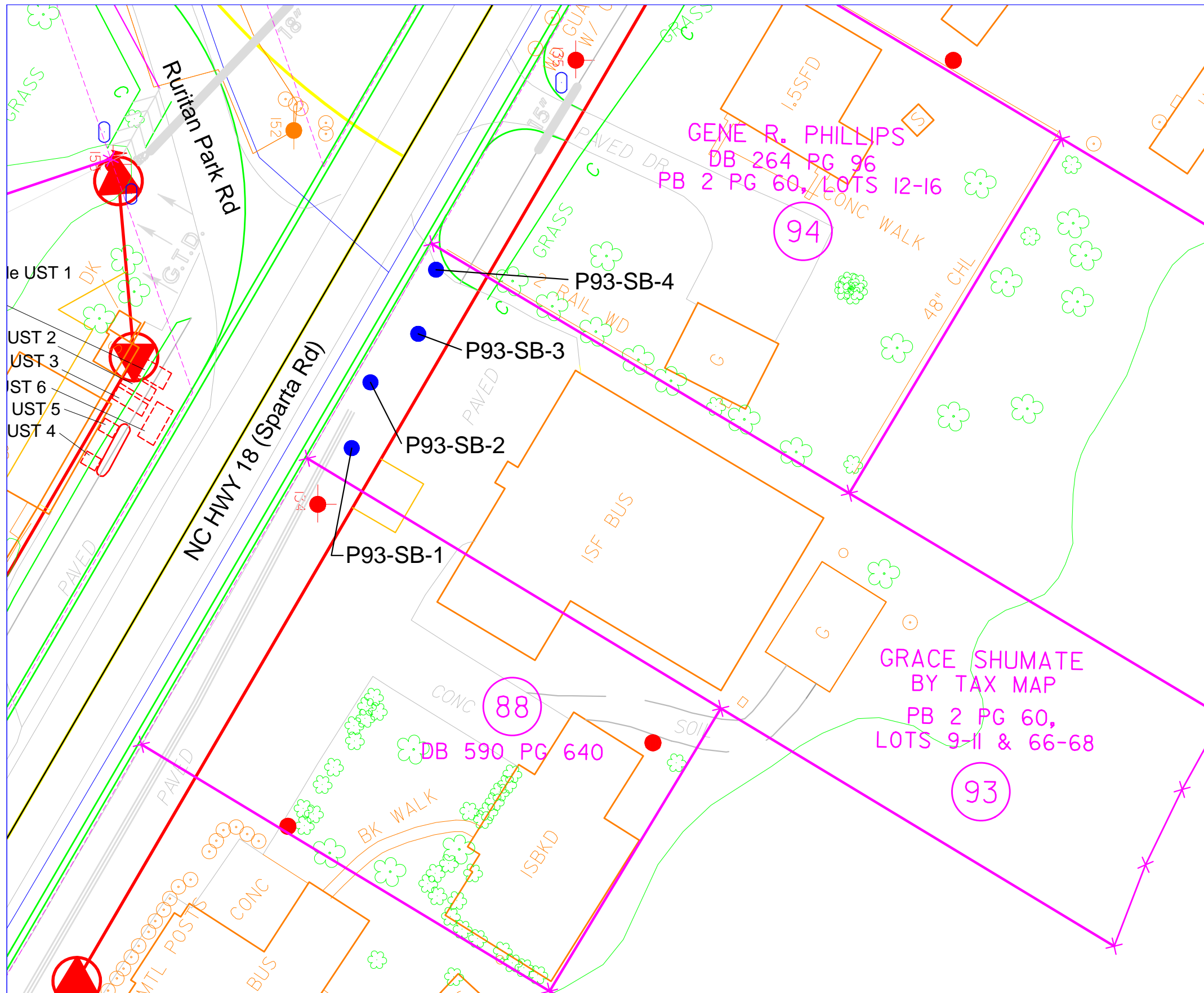
PREPARED FOR:
 NC Department Of Transportation
 Geotechnical Unit
 WBS Element: 35579.1.1
 TIP# R-3405

Prepared By:











338 N Elm Ave
 Suite 112
 Greensboro, NC 27401
 (336) 691-5398

Figure:
 Figure 1



LEGEND

-  Proposed Right of Way
-  Existing Property Line
-  Existing Right of Way
-  Cut Line
-  Fill Line
-  Soil Boring Location
January 2011
-  Utility Easement
-  Utility Pole

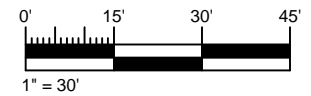
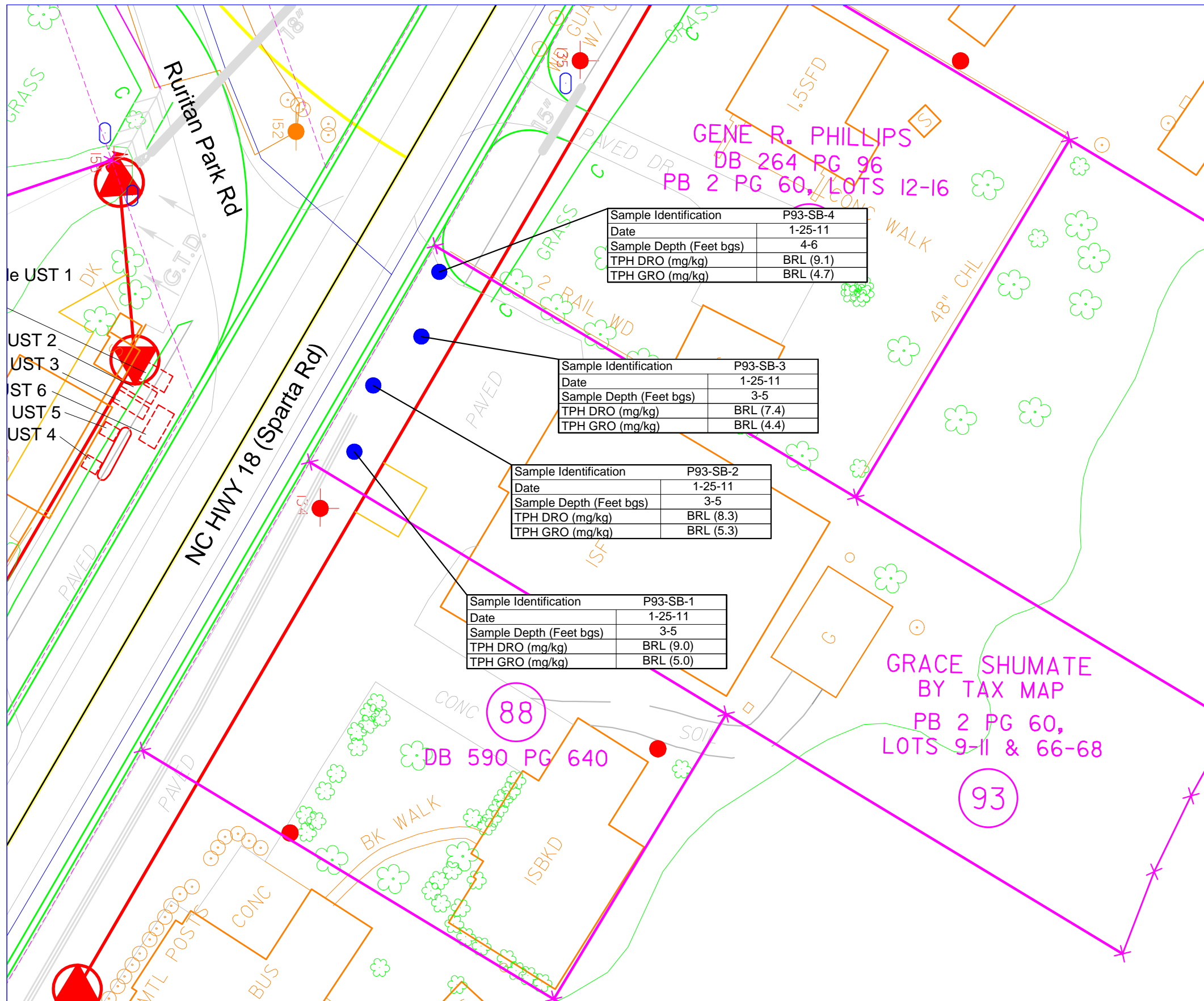


Figure 2
Parcel #93 Grace Shumate Property
Site Map

NC Department of Transportation
Geotechnical Unit
WBS Element: 35579.1.1
TIP# R-3405





Sample Identification	P93-SB-4
Date	1-25-11
Sample Depth (Feet bgs)	4-6
TPH DRO (mg/kg)	BRL (9.1)
TPH GRO (mg/kg)	BRL (4.7)

Sample Identification	P93-SB-3
Date	1-25-11
Sample Depth (Feet bgs)	3-5
TPH DRO (mg/kg)	BRL (7.4)
TPH GRO (mg/kg)	BRL (4.4)

Sample Identification	P93-SB-2
Date	1-25-11
Sample Depth (Feet bgs)	3-5
TPH DRO (mg/kg)	BRL (8.3)
TPH GRO (mg/kg)	BRL (5.3)

Sample Identification	P93-SB-1
Date	1-25-11
Sample Depth (Feet bgs)	3-5
TPH DRO (mg/kg)	BRL (9.0)
TPH GRO (mg/kg)	BRL (5.0)

LEGEND

- Proposed Right of Way
- Existing Property Line
- Existing Right of Way
- Cut Line
- Fill Line
- Soil Boring Location January 2011
- Probable UST
- Utility Easement

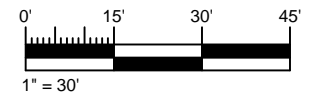


Figure 3
Parcel #93 Grace Shumate Property
Site Map With Analytical Data

NC Department of Transportation
Geotechnical Unit
WBS Element: 35579.1.1
TIP# R-3405



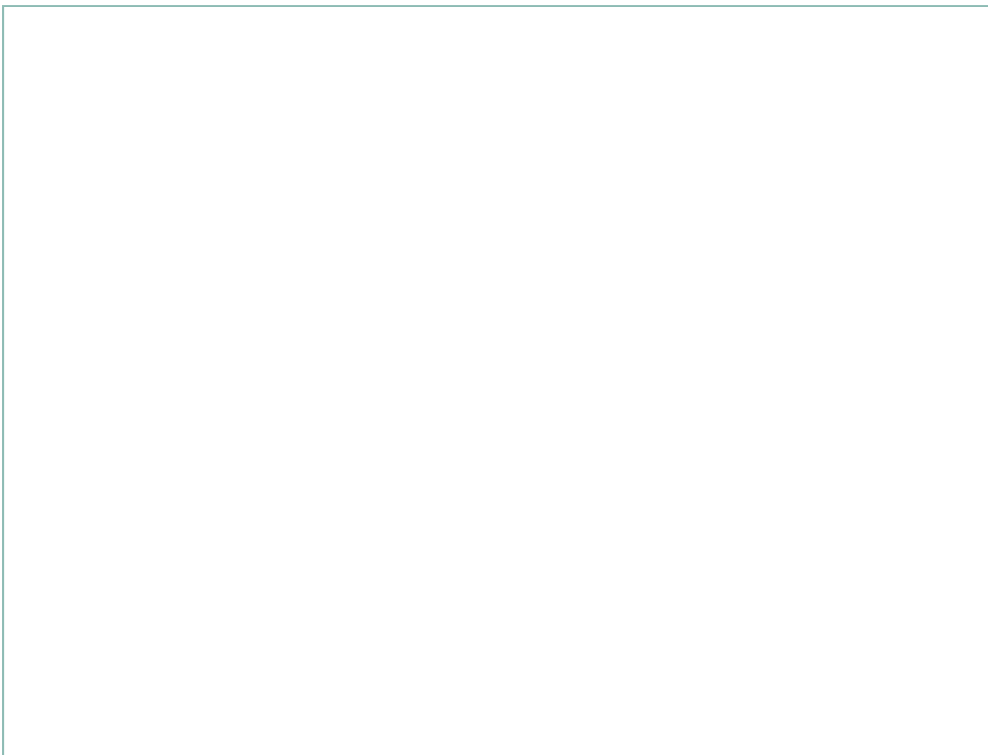
APPENDIX A

PHOTO LOG



Photo 1

Viewing northeast from across Sparta Road. The photo includes the proposed ROW in foreground of property.



338 North Elm Street, Suite 112
Greensboro, NC 27401

W.O. 562113405
PROCESSED TLH
DATE January 2011
PAGE 1

PHOTOGRAPHIC LOG

Preliminary Site Assessment
Parcel 93, Grace Shumate Property
North Wilkesboro, NC

APPENDIX B
BORING LOGS

APPENDIX C
GEOPHYSICAL SURVEY REPORT



January 28, 2011

Ms. Helen Corley, LG
AMEC Earth and Environmental of North Carolina, Inc.
101 W. Friendly Avenue, Suite 603
Greensboro, NC 27401

RE: State Project: R-3405
 WBS Element: 35579.1.1
 County: Wilkes
 Description: NC 18 from SR 1002 (Mountain View Road) to SR 1717 (Yellow Banks Road)

**Subject: Project 09210013.34 Report on Geophysical Surveys
 Parcel 93, Wilkes 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 property. We understand this letter report will be included as an appendix in your report to the NCDOT. The report includes one 11x17 color figures and two 8.5x11 color figures.

INTRODUCTION

The work described in this report was conducted on December 8, 2010, by Schnabel under our 2009 contract with the NCDOT. The work was conducted over the accessible areas of the parcel as indicated by the NCDOT to support their environmental assessment of the subject property. Photographs of the parcel are included on Figure 1. The property is located on the north side of Sparta Road at the intersection with Ruritan Park Road in North Wilkesboro, NC. The purpose of the geophysical surveys was to locate suspect metal underground storage tanks (USTs) 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. Photographs of the equipment used are shown on Figure 2.

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 (monitoring wells, 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.

DISCUSSION OF RESULTS

The EM61 unit used for data collection on this parcel had an intermittent short in the top coil, which made the differential data unreliable. The data collected from just the bottom coil were 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 93 are shown on Figure 3. 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 3). GPR data were not collected at the site due to a lack of differential EM61 anomalies that suggested the presence of unknown USTs. The geophysical data do not indicate the presence of metallic USTs within the areas surveyed.

CONCLUSIONS

Our evaluation of the geophysical data collected on the subject property on Project R-3405 in North Wilkesboro, NC indicates the following:

The geophysical data do not indicate the presence of metallic USTs in the areas surveyed on the subject property.

LIMITATIONS

These services have been performed and this report prepared for AMEC Earth and 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

JW:JS:NB

Attachments: Figures (3)

FILE: G:\2009 PROJECTS\09210013 (NCDOT 2009 GEOTECH UNIT SERVICES)\09210013.34 (R-3405, WILKES COUNTY)\REPORT\PARCEL 93\SCHNABEL GEOPHYSICAL REPORT ON PARCEL 93 (R-3405).DOCX



Parcel 93 – Grace Shumate Property, looking north



Parcel 93 – Grace Shumate Property, looking northeast



STATE PROJECT R-3405
NC DEPT. OF TRANSPORTATION
WILKES CO., NORTH CAROLINA
PROJECT NO. 09210013.34

PARCEL 93
SITE PHOTOS

FIGURE 1



Geonics EM61-MK2



GSSI SIR-3000

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

Project: NCDOT: Wilkes County Parcel 93
Project No.: WBS #35579.1.1
Lab Submittal Date: 01/26/2011
Prism Work Order: 1010534

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 recovery above the control limits. GRO was not detected in the sample. No further action was taken.
- 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.



Sample Receipt Summary

02/02/2011

Prism Work Order: 1010534

Client Sample ID	Lab Sample ID	Matrix	Date Sampled	Date Received
P93-SB-1(3-5)	1010534-01	Solid	01/25/11	01/26/11
P93-SB-2(3-5)	1010534-02	Solid	01/25/11	01/26/11
P93-SB-3(3-5)	1010534-03	Solid	01/25/11	01/26/11
P93-SB-4(4-6)	1010534-04	Solid	01/25/11	01/26/11

Samples received in good condition at 2.7 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: Wilkes County
 Parcel 93
 Project No.: WBS #35579.1.1
 Sample Matrix: Solid

Client Sample ID: P93-SB-1(3-5)
 Prism Sample ID: 1010534-01
 Prism Work Order: 1010534
 Time Collected: 01/25/11 15:40
 Time Submitted: 01/26/11 13:10

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	9.0	1.4	1	*8015C	1/29/11 17:30	JMV	P1A0511
			Surrogate			Recovery		Control Limits	
			o-Terphenyl			99 %		49-124	
Gasoline Range Organics by GC/FID									
Gasoline Range Organics	BRL	mg/kg dry	5.0	0.65	50	*8015C	1/28/11 16:33	HPE	P1A0482
			Surrogate			Recovery		Control Limits	
			a,a,a-Trifluorotoluene			146 %		55-129	A
General Chemistry Parameters									
% Solids	77.6	% by Weight	0.100	0.100	1	*SM2540 G	2/1/11 15:30	JAB	P1B0014

AMEC Earth & Env. Inc.(DOT Gree)
Attn: Helen Corley
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Greensboro, NC 27401

Project: NCDOT: Wilkes County
Parcel 93
Project No.: WBS #35579.1.1
Sample Matrix: Solid

Client Sample ID: P93-SB-2(3-5)
Prism Sample ID: 1010534-02
Prism Work Order: 1010534
Time Collected: 01/25/11 15:50
Time Submitted: 01/26/11 13:10

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	8.3	1.3	1	*8015C	1/29/11 18:05	JMV	P1A0511
			Surrogate			Recovery		Control Limits	
			o-Terphenyl			117 %		49-124	

Gasoline Range Organics by GC/FID

Gasoline Range Organics	BRL	mg/kg dry	5.3	0.69	50	*8015C	1/28/11 17:05	HPE	P1A0482
			Surrogate			Recovery		Control Limits	
			a,a,a-Trifluorotoluene			150 %		55-129	A

General Chemistry Parameters

% Solids	84.7	% by Weight	0.100	0.100	1	*SM2540 G	2/1/11 15:30	JAB	P1B0014
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AMEC Earth & Env. Inc.(DOT Gree)
Attn: Helen Corley
338 North Elm St. Suite 112
Greensboro, NC 27401

Project: NCDOT: Wilkes County
Parcel 93
Project No.: WBS #35579.1.1
Sample Matrix: Solid

Client Sample ID: P93-SB-3(3-5)
Prism Sample ID: 1010534-03
Prism Work Order: 1010534
Time Collected: 01/25/11 16:00
Time Submitted: 01/26/11 13:10

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	7.4	1.2	1	*8015C	1/29/11 18:41	JMV	P1A0511
			Surrogate			Recovery		Control Limits	
			o-Terphenyl			96 %		49-124	

Gasoline Range Organics by GC/FID

Gasoline Range Organics	BRL	mg/kg dry	4.4	0.57	50	*8015C	1/28/11 17:36	HPE	P1A0482
			Surrogate			Recovery		Control Limits	
			a,a,a-Trifluorotoluene			143 %		55-129	A

General Chemistry Parameters

% Solids	93.6	% by Weight	0.100	0.100	1	*SM2540 G	2/1/11 15:30	JAB	P1B0014
----------	------	-------------	-------	-------	---	-----------	--------------	-----	---------

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

Project: NCDOT: Wilkes County
Parcel 93
Project No.: WBS #35579.1.1
Sample Matrix: Solid

Client Sample ID: P93-SB-4(4-6)
Prism Sample ID: 1010534-04
Prism Work Order: 1010534
Time Collected: 01/25/11 16:10
Time Submitted: 01/26/11 13:10

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	1/29/11 19:51	JMV	P1A0511
			Surrogate			Recovery		Control Limits	
			o-Terphenyl			105 %		49-124	

Gasoline Range Organics by GC/FID

Gasoline Range Organics	BRL	mg/kg dry	4.7	0.61	50	*8015C	1/28/11 18:08	HPE	P1A0482
			Surrogate			Recovery		Control Limits	
			a,a,a-Trifluorotoluene			150 %		55-129	A

General Chemistry Parameters

% Solids	76.7	% by Weight	0.100	0.100	1	*SM2540 G	2/1/11 15:30	JAB	P1B0014
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AMEC Earth & Env. Inc.(DOT Gree)
 Attn: Helen Corley
 338 North Elm St. Suite 112
 Greensboro, NC 27401

Project: NCDOT: Wilkes County Parcel
 93
 Project No: WBS #35579.1.1

Prism Work Order: 1010534
 Time Submitted: 1/26/11 1:10:00PM

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 P1A0482 - 5035										
Blank (P1A0482-BLK1)										
Prepared & Analyzed: 01/28/11										
Gasoline Range Organics	BRL	5.0	mg/kg wet							
Surrogate: a,a,a-Trifluorotoluene	5.25		mg/kg wet	5.00		105	55-129			
LCS (P1A0482-BS1)										
Prepared & Analyzed: 01/28/11										
Gasoline Range Organics	41.6	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 (P1A0482-BSD1)										
Prepared & Analyzed: 01/28/11										
Gasoline Range Organics	41.2	5.0	mg/kg wet	50.0		82	67-116	1	200	
Surrogate: a,a,a-Trifluorotoluene	5.10		mg/kg wet	5.00		102	55-129			

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

Project: NCDOT: Wilkes County Parcel
93
Project No: WBS #35579.1.1

Prism Work Order: 1010534
Time Submitted: 1/26/11 1:10:00PM

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 P1A0511 - 3545A										
Blank (P1A0511-BLK1)										
					Prepared: 01/28/11 Analyzed: 01/29/11					
Diesel Range Organics	BRL	7.0	mg/kg wet							
Surrogate: <i>o</i> -Terphenyl	1.51		mg/kg wet	1.60		95	49-124			
LCS (P1A0511-BS1)										
					Prepared: 01/28/11 Analyzed: 01/29/11					
Diesel Range Organics	61.9	7.0	mg/kg wet	79.9		78	55-109			
Surrogate: <i>o</i> -Terphenyl	1.67		mg/kg wet	1.60		104	49-124			
LCS Dup (P1A0511-BSD1)										
					Prepared: 01/28/11 Analyzed: 01/29/11					
Diesel Range Organics	61.7	7.0	mg/kg wet	80.0		77	55-109	0.5	200	
Surrogate: <i>o</i> -Terphenyl	1.54		mg/kg wet	1.60		96	49-124			

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93
Project No: WBS #35579.1.1

Prism Work Order: 1010534
Time Submitted: 1/26/11 1:10:00PM

General Chemistry Parameters - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch P1B0014 - NO PREP

Blank (P1B0014-BLK1)

Prepared & Analyzed: 02/01/11

% Solids	100	0.100	% by Weight							
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Sample Extraction Data

Prep Method: 3545A

Lab Number	Batch	Initial	Final	Date
1010534-01	P1A0511	25.11 g	1 mL	01/28/11
1010534-02	P1A0511	25.03 g	1 mL	01/28/11
1010534-03	P1A0511	25.13 g	1 mL	01/28/11
1010534-04	P1A0511	25.08 g	1 mL	01/28/11

Prep Method: 5035

Lab Number	Batch	Initial	Final	Date
1010534-01	P1A0482	6.4 g	5 mL	01/28/11
1010534-02	P1A0482	5.58 g	5 mL	01/28/11
1010534-03	P1A0482	6.06 g	5 mL	01/28/11
1010534-04	P1A0482	6.92 g	5 mL	01/28/11

NO PREP

Lab Number	Batch	Initial	Final	Date
1010534-01	P1B0014	30 g	30 mL	02/01/11
1010534-02	P1B0014	30 g	30 mL	02/01/11
1010534-03	P1B0014	30 g	30 mL	02/01/11
1010534-04	P1B0014	30 g	30 mL	02/01/11



Full-Service Analytical & Environmental Solutions

449 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: Helen Corley

Reporting Address: 338 N Elm St
Greensboro, NC 27401

Phone: 336-691-5398 Fax (Yes) (No):

Email (Yes) (No) Email Address: helen.corley@amec.com

EDD Type: PDF Excel Other

Site Location Name: Parcel 93

Site Location Physical Address: N Wilkesboro

CHAIN OF CUSTODY RECORD

PAGE 1 OF 1 QUOTE # TO ENSURE PROPER BILLING: WBS: 35579.1.1

Project Name: Wilkes County

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

*Please ATTACH any project specific reporting (QC LEVEL I II III IV) provisions and/or QC Requirements

Invoice To: Helen Corley

Address: Same

Purchase Order No./Billing Reference WBS: 35579.1.1

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			
	YES	NO	N/A
Samples INTACT upon arrival?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Received ON WET ICE? Temp <u>2.7</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 type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
VOLATILES rec'd W/OUT HEADSPACE?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" 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

SC OTHER N/A

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								
P43-SB-1(3-5)	1-25-11	1540	Soil	G voa	4	2 G 2 voa		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>					01
P43-SB-2(3-5)	↓	1550	↓	↓	↓	↓		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>					02
P43-SB-3(3-5)	↓	1600	↓	↓	↓	↓		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>					03
P43-SB-4(4-6)	↓	1610	↓	↓	↓	↓		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>					04

Sampler's Signature: Troy Holzschuh Sampled By (Print Name): Troy L Holzschuh Affiliation: AMEC

PRESS DOWN FIRMLY - 3 COPIES

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) <u>Troy Holzschuh</u>	Received By: (Signature) <u>[Signature]</u>	Date: <u>1-26-11</u>	Military/Hours: <u>1310</u>
Relinquished By: (Signature)	Received By: (Signature)	Date:	
Relinquished By: (Signature)	Received For Prism Laboratories By: <u>[Signature]</u>	Date: <u>1/26/11</u>	Military/Hours: <u>1310</u>
Method of Shipment: <input checked="" type="checkbox"/> Fed Ex <input type="checkbox"/> UPS <input type="checkbox"/> Hand-delivered <input type="checkbox"/> Prism Field Service <input type="checkbox"/> Other	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.		COC Group No.: <u>1010534</u>

PRISM USE ONLY	
Site Arrival Time:	
Site Departure Time:	
Field Tech Fee:	
Mileage:	

NPDES: <input type="checkbox"/> NC <input type="checkbox"/> SC	UST: <input type="checkbox"/> NC <input type="checkbox"/> SC	GROUNDWATER: <input type="checkbox"/> NC <input type="checkbox"/> SC	DRINKING WATER: <input type="checkbox"/> NC <input type="checkbox"/> SC	SOLID WASTE: <input type="checkbox"/> NC <input type="checkbox"/> SC	RCRA: <input type="checkbox"/> NC <input type="checkbox"/> SC	CERCLA: <input type="checkbox"/> NC <input type="checkbox"/> SC	LANDFILL: <input type="checkbox"/> NC <input type="checkbox"/> SC	OTHER: <input type="checkbox"/> NC <input type="checkbox"/> SC
--	--	--	---	--	---	---	---	--

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

SEE REVERSE FOR TERMS & CONDITIONS

APPENDIX D

LABORATORY ANALYTICAL RESULTS