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

Steven Joseph Whitley Property
Parcel #98
March 1, 2011

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

Troy L. Holzschuh
Engineering Technician

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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 Steven Joseph Whitley Property (the Site) to be effected by a road improvement project along NC 18, Sparta Rd. The Site which is located at 1532 Sparta Rd currently operates as a monument and sandblasting business, David's Monuments. The property is located on the northeastern corner of the intersection between Sparta Rd and Shatley Orchard St. 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 Steven Joseph Whitley Property because the architectural style of the building indicates the site may have operated as a gas station at one time. The PSA was performed to determine if soils have been impacted by petroleum compounds as a result of past and present uses of the property within the proposed design project area. The parcel will be affected by construction activities associated with road widening and new drainage features along Sparta Rd. and Shatley Orchard St.

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 #98 and estimates the extent of soil contamination.

1.1 Site Location and Vicinity

The Steven Joseph Whitley Property parcel is located on the northeastern corner of the intersection of Sparta Rd. and Shatley Orchard St. in North Wilkesboro, Wilkes County, North Carolina, as shown in Figure 1. The property to the south is a trailer home park. The property to the southwest is the Little Dipper Restaurant. The properties to the west and north are residential with single family homes. The property to the east is the Home Finder Inspection Service.

1.2 Site Description and History

The Site is currently operating as a monument and sand blasting business. The Site has one building located on the parcel, which is wood sided on the front side and cinder block on the back side. The proposed expanded Right of Way (ROW) will extend the length of this parcel along Sparta Rd. as well as through the building's corner near the intersection and along Shatley Orchard St. The entire parcel will be taken. Two USTs were observed at this site. Each UST was completely buried and paved over, and no fuel ports were visible. Appendix A includes a photo log for Parcel #98.

AMEC studied the NCDENR UST Registered Tanks Database and the NCDENR Incident Management Database. No registered tanks or incidences are listed for this site.

2.0 GEOLOGY

2.1 Regional Geology

The Steven Joseph Whitley 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 six shallow direct push probe soil borings (SB) onsite. Borings had a total depth of ten feet below ground surface (bgs). Native soils generally consisted of orange, well sorted and clayey 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 two geophysical surveys (electromagnetic and ground penetrating radar) onsite during December. The geophysical results were reviewed and discussed at the completion of each survey. Prism Laboratories, Inc. was contacted for acquisition of sample bottles. Soil boring locations were focused just beyond the existing ROW. Boring locations were strategically placed as close to or around the probable USTs and along the front of the parcel to maximize the likelihood of intercepting any potential soil contamination.

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 December 17, 2011.

3.3 Geophysical Survey

Schnabel performed the geophysical surveys between December 9 and 21, 2010 for the Sparta corridor. 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 and are characteristically large. The data collected

by Schnabel indicates the presence of two USTs within the proposed design area. The two USTs are denoted in Figure 1 and their capacities and depths buried are tabulated below. The complete geophysical survey report can be found in Appendix C.

Probable UST-1	270 gal.	1.5-2.5 ft bgs
Probable UST-2	270 gal.	3-4 ft bgs

3.4 Well Survey

No well survey was 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 #98. Six direct push soil borings were conducted within the NCDOT design project on Parcel #98, which includes the entire 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 two probable USTs and the western edge of the site which runs parallel to Sparta Rd in order to focus the areas of NCDOT proposed drainage features. Soil borings, P98-SB-1, P98-SB-2 and P98-SB-4 were placed on the accessible sides of the probable UST tank bed. Boring P98-SB-2 exhibited high Photo Ionized Detection (PID) levels at the 7-8.5 ft interval so AMEC personnel placed another soil boring (P98-SB-3) five feet east of P98-SB-2 to define the area of contamination. Boring P98-SB-3 did not exhibit elevated PID levels. Soil boring P98-SB-5 targeted a proposed drainage feature at the northwestern corner of the site and P98-SB-6 targeted a proposed drainage feature at the southwestern corner of the site. Boring location P98-SB-2 was the only boring location to exhibit an elevated PID reading. Soil boring P98-SB-3 was added to determine if the contamination had spread. Since P98-SB-3 did not exhibit high PID levels 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 six completed soil borings from Parcel #98. Typically, if impacted soil is identified, then additional soil samples are obtained. Since P98-SB-2 had an elevated PID reading of 50 ppm at the 7-8.5 foot interval an additional sample was collected and analyzed from the 2-4 foot interval. No other soil borings exhibited elevated PID readings and consequently additional soil samples were not warranted. One of the seven results for DRO analyses reported values higher than the NC Action Level of 10 mg/kg. This was sample P98-SB-2 from 7-8.5 ft bgs with 5,400 mg/kg DRO. The remaining soil boring sample results were all below detection limits. Results of soil sample analyses for GRO were measured to be below detection limits for all soil boring locations except for the same sample, P98-SB-2 at 7-8.5 ft bgs, where the GRO concentration reported was 110 mg/kg. Figure 3 shows the Site Map with Analytical Data.

Based on the field investigation and laboratory data, AMEC drew an estimated area of contamination as shown on Figure 4. This area equals 39 square ft and has a thickness from below 4 ft bgs to at least 8.5 ft bgs. Using a thickness of 4.5 ft, the resultant volume of estimated contamination would be 176 cubic feet, which is roughly 6.5 cubic yards.

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 property presently operates as a monument and sandblasting business.
- The NCDENR's UST Registered Tanks Database and NCDENR's Incident Management Database does not have any information associated with this parcel.
- Field observation and geophysical data indicate the presence of two probable USTs. The entire parcel will be taken so the two USTs will be encountered during construction activities. Their contents are unknown but their sizes are both expected to be roughly 270 gallons.
- Seven soil samples were collected and analyzed for TPH GRO and DRO.
- Laboratory analyses did indicate DRO and/or GRO detections above the analytical method detection limit and above the Action level in one soil sample.

6.0 RECOMMENDATIONS

The entire parcel will be taken so the two USTs will be encountered during construction activities. Removal of USTs by the UST owner is recommended. Soil will have to be sampled during closure activities and handled following NCDENR's Tank Closure Guidelines.

Since a party other than NCDOT may implement the UST closure, NCDOT should remain cautious of intercepting contaminated soil during road construction activities. If potentially impacted soils are intercepted, AMEC recommends the following action:

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

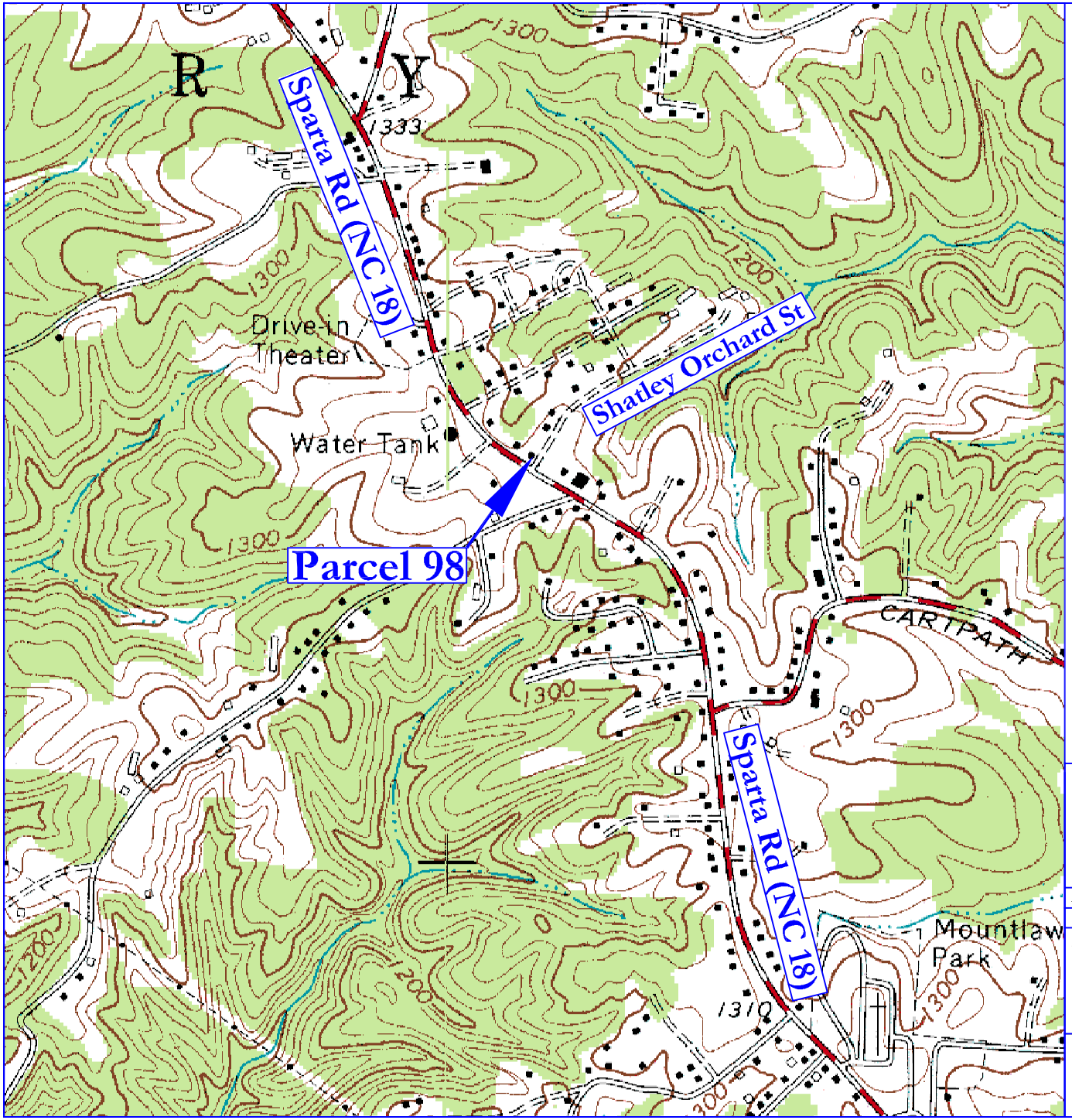
TABLES

Table 1
Soil Sampling Analytical Results, DRO-GRO
Parcel 98, Steven Joseph Whitley 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**
P98-SB-1	1/25/2011	8 - 10	6	<8.1	<4.6
P98-SB-2	1/25/2011	2 - 4	0	<9.4	<4.7
P98-SB-2	1/25/2011	7 - 8.5	51	**5400**	**110**
P98-SB-3	1/25/2011	5 - 7	0	<9.5	<4.9
P98-SB-4	1/25/2011	4 - 6	0	<9.5	<4.6
P98-SB-5	1/25/2011	4 - 6	0	<9.0	<4.5
P98-SB-6	1/25/2011	4 - 6	0	<8.5	<4.3

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



0' 500' 1000' 1500'

1" = 1000'

7.5 Minute Quadrangle
North Carolina, 1983
Photorevised 1993

VICINITY MAP

Parcel #98, Steven Joseph Whitley Property
(David's Monuments)
North Wilkesboro, Wilkes County, NC

DRAWING NAME: J:\NCDOT\Wilkes\FIG1			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:
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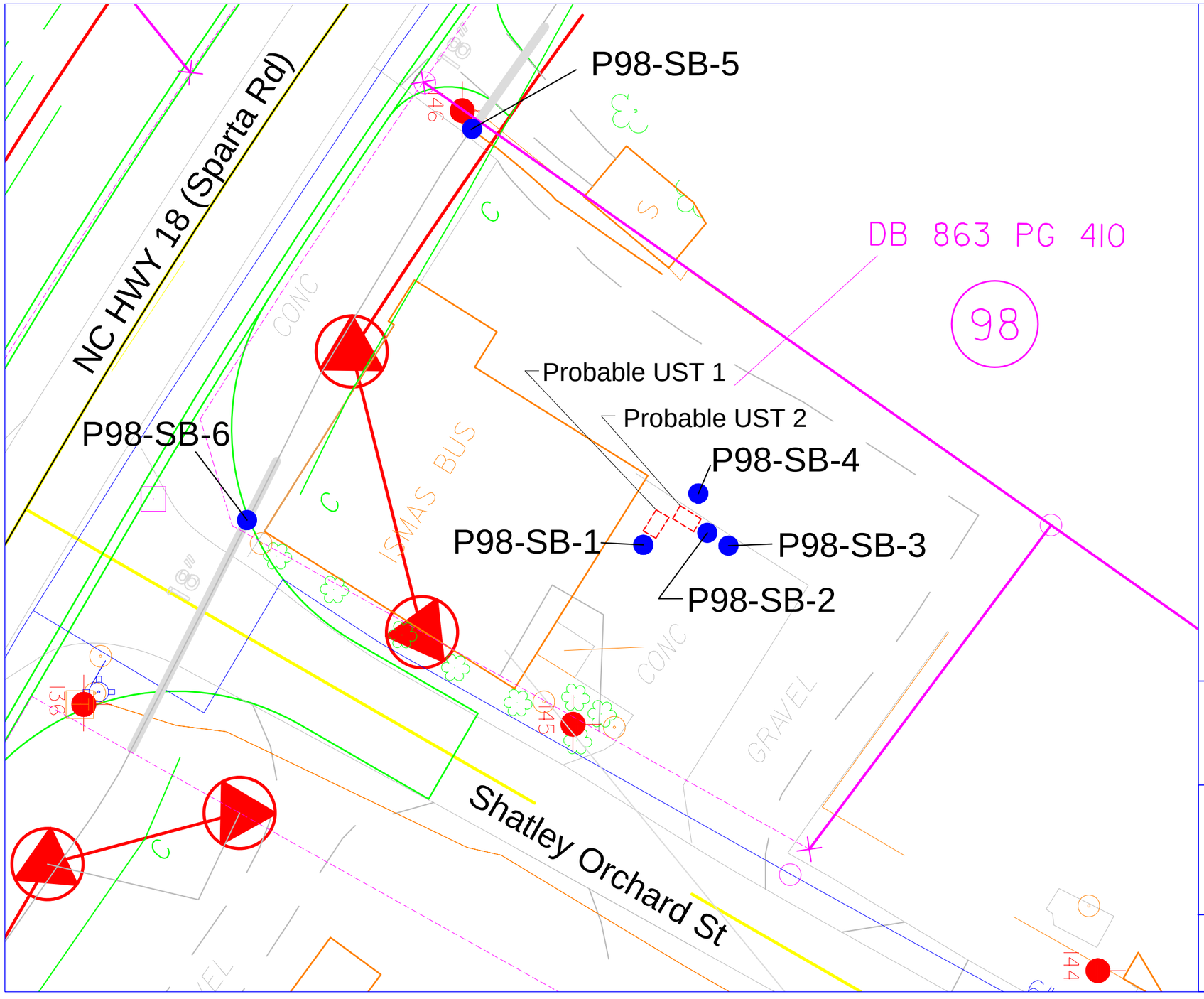
Figure:
Figure 1



LEGEND

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

0' 10' 20' 30'

1" = 20'

Figure 2
Parcel #98 Steven Joseph Whitley Property
Site Map

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

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NC HWY 18 (Sparta Rd)

DB 863 PG 410

98

Probable UST 1

Probable UST 2

Shatley Orchard St

Sample Identification	P98-SB-5
Date	1-25-11
Sample Depth (Feet bgs)	4-6
TPH DRO (mg/kg)	BRL (9.0)
TPH GRO (mg/kg)	BRL (4.5)

Sample Identification	P98-SB-4
Date	1-25-11
Sample Depth (Feet bgs)	4-6
TPH DRO (mg/kg)	BRL (9.5)
TPH GRO (mg/kg)	BRL (4.6)

Sample Identification	P98-SB-6
Date	1-25-11
Sample Depth (Feet bgs)	4-6
TPH DRO (mg/kg)	BRL (8.5)
TPH GRO (mg/kg)	BRL (4.3)

Sample Identification	P98-SB-1
Date	1-25-11
Sample Depth (Feet bgs)	8-10
TPH DRO (mg/kg)	BRL (8.1)
TPH GRO (mg/kg)	BRL (4.6)

Sample Identification	P98-SB-3
Date	1-25-11
Sample Depth (Feet bgs)	5-7
TPH DRO (mg/kg)	BRL (9.5)
TPH GRO (mg/kg)	BRL (4.9)

Sample Identification	P98-SB-2
Date	1-25-11
Sample Depth (Feet bgs)	2-4
TPH DRO (mg/kg)	BRL (9.4)
TPH GRO (mg/kg)	BRL (4.7)
Sample Depth (Feet bgs)	7-8.5
TPH DRO (mg/kg)	5,400
TPH GRO (mg/kg)	110

LEGEND

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

0' 10' 20' 30'

1" = 20'

Figure 3
Parcel #98 Steven Joseph Whitley Property
Site Map With Analytical Data

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

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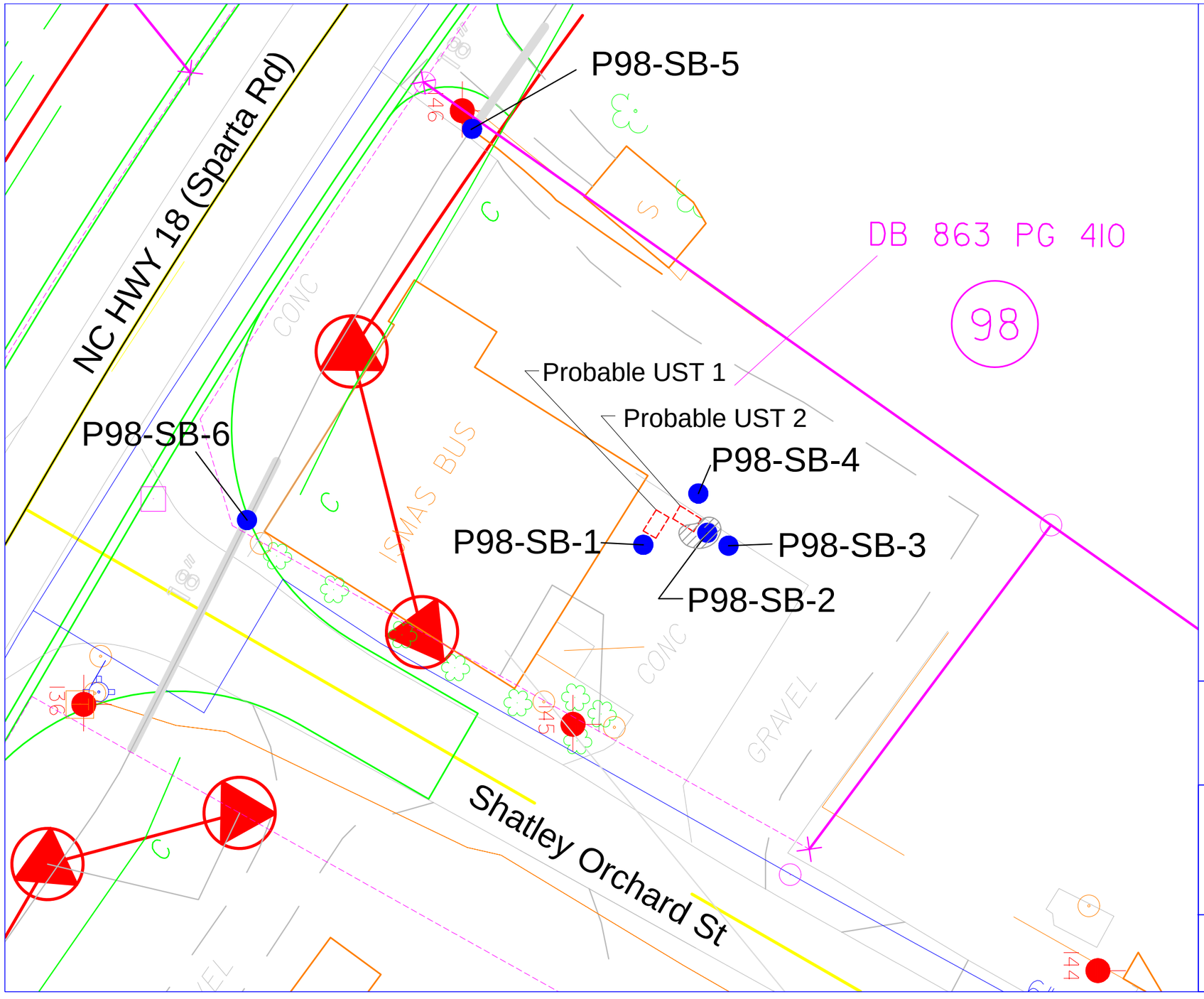


LEGEND

- Proposed Right of Way
- Existing Property Line
- Existing Right of Way
- C — Cut Line
- F — Fill Line
- T — Transition Line
- Soil Boring Location January 2011
- Probable UST
- Utility Easement
- Utility Pole
- Estimated Area of Contamination = 39 ft^2

0' 10' 20' 30'

1" = 20'

Figure 4
Parcel #98 Steven Joseph Whitley Property
Site Map With Estimated Area of Contamination

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

amec

APPENDIX A

PHOTO LOG

Photo 1

Viewing north from across Shatley Orchard Street. The photo is of the site and proposed ROW.

Photo 2

Viewing west from the eastern side of the site. The Photo shows two possible UST's which are located at the northeastern corner of the building.

Photo 3

Viewing southeast from northern corner of the building. Photo is of CSI preparing to drill first point.

Photo 4

Viewing west from northeastern portion of the site. Photo shows the boring location after the void was filled with bentonite and concrete was patched.

APPENDIX B

BORING LOGS

AMEC Earth & Environmental, Inc.

BORING LOG

Boring/Well No.: P98-SB1	**Site Name: Parcel 98**
Date: 1-25-11	**Location: North Wilkesboro, Wilkes Co., NC**
Job No.: 562113405	**Sample Method: Direct Push**
AMEC Rep: Troy Holzschuh	**Drilling Method: Direct Push**
Drilling Company: CSI	**Driller Name/Cert #: Keith Speece - 2856-A**
Remarks:	

Depth (ft BLS)	PID/OVA Reading (ppm)	Blow Counts	Soil/Lithologic Description
0-0.5			Asphalt/Aggregate
0.5-1	0		Gray, Well Sorted, Clayey Silt, Damp
1-2	0		Tan, Well Sorted, Clayey Silt, Damp
2-3	0		Yellow, Well Sorted, Clayey Silt, Damp
3-6	0		Orange, Well Sorted, Clayey Silt, Damp
6-8	0.8		Orange, Well Sorted, Silt, Damp
8-10	5.6		Orange, Well Sorted, Silt, Damp

WELL CONSTRUCTION DETAILS (If Applicable)

Well Type/Diameter:	Outer Casing Interval:
Total Depth:	Outer Casing Diameter:
Screen Interval:	Bentonite Interval:
Sand Interval:	Slot Size:
Grout Interval:	Static Water Level:

AMEC Earth & Environmental, Inc.

BORING LOG

Boring/Well No.: P98-SB2	**Site Name: Parcel 98**
Date: 1-25-11	**Location: North Wilkesboro, Wilkes Co., NC**
Job No.: 562113405	**Sample Method: Direct Push**
AMEC Rep: Troy Holzschuh	**Drilling Method: Direct Push**
Drilling Company: CSI	**Driller Name/Cert #: Keith Speece - 2856-A**
Remarks:	

Depth (ft BLS)	PID/OVA Reading (ppm)	Blow Counts	Soil/Lithologic Description
0-0.5			Asphalt/Aggregate
0.5-1.5	0		Tan, Well Sorted, Clayey Silt, Damp
1.5-3	0		Orange, Well Sorted, Clayey Silt, Damp
3-6	0		Orange, Well Sorted, Clayey Silt, Damp
6-7	50.5		Brown, Well Sorted, Clayey Silt, Damp
7-8.5	52.3		Black, Well Sorted, Clayey Silt, Damp
8.5-9.5	2.0		Green, Well Sorted, Clayey Silt, Damp
9.5-10	0		Orange, Well Sorted, Clayey Silt, Damp

WELL CONSTRUCTION DETAILS (If Applicable)

Well Type/Diameter:	Outer Casing Interval:
Total Depth:	Outer Casing Diameter:
Screen Interval:	Bentonite Interval:
Sand Interval:	Slot Size:
Grout Interval:	Static Water Level:

AMEC Earth & Environmental, Inc.

BORING LOG

Boring/Well No.: P98-SB3	**Site Name: Parcel 98**
Date: 1-25-11	**Location: North Wilkesboro, Wilkes Co., NC**
Job No.: 562113405	**Sample Method: Direct Push**
AMEC Rep: Troy Holzschuh	**Drilling Method: Direct Push**
Drilling Company: CSI	**Driller Name/Cert #: Keith Speece - 2856-A**
Remarks:	

Depth (ft BLS)	PID/OVA Reading (ppm)	Blow Counts	Soil/Lithologic Description
0-0.5			Asphalt/Aggregate
0.5-1.5	0		Tan, Well Sorted, Clayey Silt, Damp
1.5-3	0		Orange, Well Sorted, Clayey Silt, Damp
3-5	0		Orange, Well Sorted, Clayey Silt, Damp
5-7	0		Orange, Well Sorted, Clayey Silt, Damp
7-10	0		Orange, Well Sorted, Silt, Damp

WELL CONSTRUCTION DETAILS (If Applicable)

Well Type/Diameter:	Outer Casing Interval:
Total Depth:	Outer Casing Diameter:
Screen Interval:	Bentonite Interval:
Sand Interval:	Slot Size:
Grout Interval:	Static Water Level:

AMEC Earth & Environmental, Inc.

BORING LOG

Boring/Well No.: P98-SB4	**Site Name: Parcel 98**
Date: 1-25-11	**Location: North Wilkesboro, Wilkes Co., NC**
Job No.: 562113405	**Sample Method: Direct Push**
AMEC Rep: Troy Holzschuh	**Drilling Method: Direct Push**
Drilling Company: CSI	**Driller Name/Cert #: Keith Speece - 2856-A**

Remarks:

Depth (ft BLS)	PID/OVA Reading (ppm)	Blow Counts	Soil/Lithologic Description
0-0.5			Asphalt/Aggregate
0.5-1.5	0		Tan, Well Sorted, Clayey Silt, Damp
1.5-4	0		Orange, Well Sorted, Clayey Silt, Damp
4-6	0		Orange, Well Sorted, Clayey Silt, Damp
6-8	0		Orange, Well Sorted, Clayey Silt, Damp
8-10	0		Orange, Well Sorted, Silt, Damp

WELL CONSTRUCTION DETAILS (If Applicable)

Well Type/Diameter:	Outer Casing Interval:
Total Depth:	Outer Casing Diameter:
Screen Interval:	Bentonite Interval:
Sand Interval:	Slot Size:
Grout Interval:	Static Water Level:

AMEC Earth & Environmental, Inc.

BORING LOG

Boring/Well No.: P98-SB5	**Site Name: Parcel 98**
Date: 1-25-11	**Location: North Wilkesboro, Wilkes Co., NC**
Job No.: 562113405	**Sample Method: Direct Push**
AMEC Rep: Troy Holzschuh	**Drilling Method: Direct Push**
Drilling Company: CSI	**Driller Name/Cert #: Keith Speece - 2856-A**
Remarks:	

Depth (ft BLS)	PID/OVA Reading (ppm)	Blow Counts	Soil/Lithologic Description
0-0.5			Grass/Organic Soil
0.5-1.5	0		Tan, Well Sorted, Clayey Silt, Damp
1.5-3	0		Orange, Well Sorted, Clayey Silt, Damp
3-5	0		Orange, Well Sorted, Clayey Silt, Damp
5-7	0		Orange, Well Sorted, Clayey Silt, Damp
7-10	0.8		Orange/Pink, Well Sorted, Silt, Damp

WELL CONSTRUCTION DETAILS (If Applicable)

Well Type/Diameter:	Outer Casing Interval:
Total Depth:	Outer Casing Diameter:
Screen Interval:	Bentonite Interval:
Sand Interval:	Slot Size:
Grout Interval:	Static Water Level:

AMEC Earth & Environmental, Inc.

BORING LOG

Boring/Well No.: P98-SB6	**Site Name: Parcel 98**
Date: 1-25-11	**Location: North Wilkesboro, Wilkes Co., NC**
Job No.: 562113405	**Sample Method: Direct Push**
AMEC Rep: Troy Holzschuh	**Drilling Method: Direct Push**
Drilling Company: CSI	**Driller Name/Cert #: Keith Speece - 2856-A**
Remarks:	

Depth (ft BLS)	PID/OVA Reading (ppm)	Blow Counts	Soil/Lithologic Description
0-0.5			Grass/Organic Soil
0.5-1	0		Tan, Well Sorted, Clayey Silt, Damp
1-2	0		Yellow, Well Sorted, Clayey Silt, Damp
2-4	0		Yellow/Orange, Well Sorted, Clayey Silt, Damp
4-4.5	0		Quartz Vein
4.5-6	0		Orange, Well Sorted, Clayey Silt, Damp
6-10	0		Orange, Well Sorted, Silt, Damp

WELL CONSTRUCTION DETAILS (If Applicable)	
Well Type/Diameter:	Outer Casing Interval:
Total Depth:	Outer Casing Diameter:
Screen Interval:	Bentonite Interval:
Sand Interval:	Slot Size:
Grout Interval:	Static Water Level:

APPENDIX C

GEOPHYSICAL SURVEY REPORT

Schnabel ENGINEERING

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 98, 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 two 11x17 color figures and three 8.5x11 color figures.

INTRODUCTION

The work described in this report was conducted on December 9 and 21, 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 northwest quadrant of the intersection of Shatley Orchard Street and Sparta 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 entire parcel.

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.

schnabel-eng.com
T/ 336-274-9456 F/ 336-274-9486
11A Oak Branch Drive / Greensboro, NC / 27407

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. The GPR data were collected along survey lines spaced one to two feet apart in orthogonal directions over areas of reinforced concrete and anomalous EM readings not attributed to cultural features. The GPR data were reviewed in the field to evaluate the possible presence of USTs. The GPR data also were recorded digitally and later transferred to a desktop computer for further review.

DISCUSSION OF RESULTS

The contoured EM61 data collected over Parcel 98 are shown on Figures 3 and 4. The EM61 early time gate results are plotted on Figure 3. The early time gate data provide the more sensitive detection of metal objects. Figure 4 shows the difference between the response of the top and bottom coils of the EM61 instrument (differential response). The difference is taken to remove the effect of surface and very shallowly buried metallic objects. Typically, the differential response emphasizes anomalies from deeper and larger objects such as USTs.

The early time gate and differential results show anomalies of unknown cause, in addition to those apparently caused by reinforced concrete, buried utilities, or known site features (Figures 3 and 4). The GPR data collected near the northernmost building corner indicated the presence of two possible USTs located approximately 5 to 10 feet north of the northernmost building corner. Example GPR images showing the reflections from the possible USTs are shown on Figures 3 and 4. Figures 3 and 4 also include the location of the possible USTs as marked in the field.

The GPR data indicate that possible UST No.1 is buried approximately 1.5 to 2.5 feet below ground surface and is about 3 feet in diameter and about 5 feet long, equivalent to a capacity of about 270 gallons. The GPR data indicate that possible UST No. 2 is buried about 3.0 to 4.0 feet below ground surface and is about 3 feet in diameter and about 5 feet long, equivalent to a capacity of about 270 gallons. Photographs of the possible UST locations, as marked in the field, are included on Figure 5.

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 indicate the presence of two possible USTs on Parcel 98. The southern possible UST No. 1 is about 270-gallon capacity and is buried about 1.5 to 2.5 feet below ground surface. The

northern possible UST No. 2 is about 270-gallon capacity and is buried about 3.0 to 4.0 feet below ground surface.

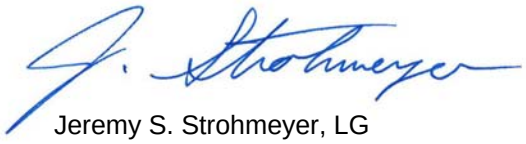
LIMITATIONS

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 (5)
FILE: G:\2009 PROJECTS\09210013 (NCDOT 2009 GEOTECH UNIT SERVICES)\09210013.34 (R-3405, WILKES COUNTY)\REPORT\PARCEL 98\SCHNABEL GEOPHYSICAL REPORT ON PARCEL 98 (R-3405).DOCX

Parcel 98 – Steven Joseph Whitley Property, looking east

Parcel 98 – Steven Joseph Whitley Property, looking west

Schnabel ENGINEERING	STATE PROJECT R-3405 NC DEPT. OF TRANSPORTATION WILKES CO., NORTH CAROLINA PROJECT NO. 09210013.34	PARCEL 98 SITE PHOTOS FIGURE 1

Geonics EM61-MK2

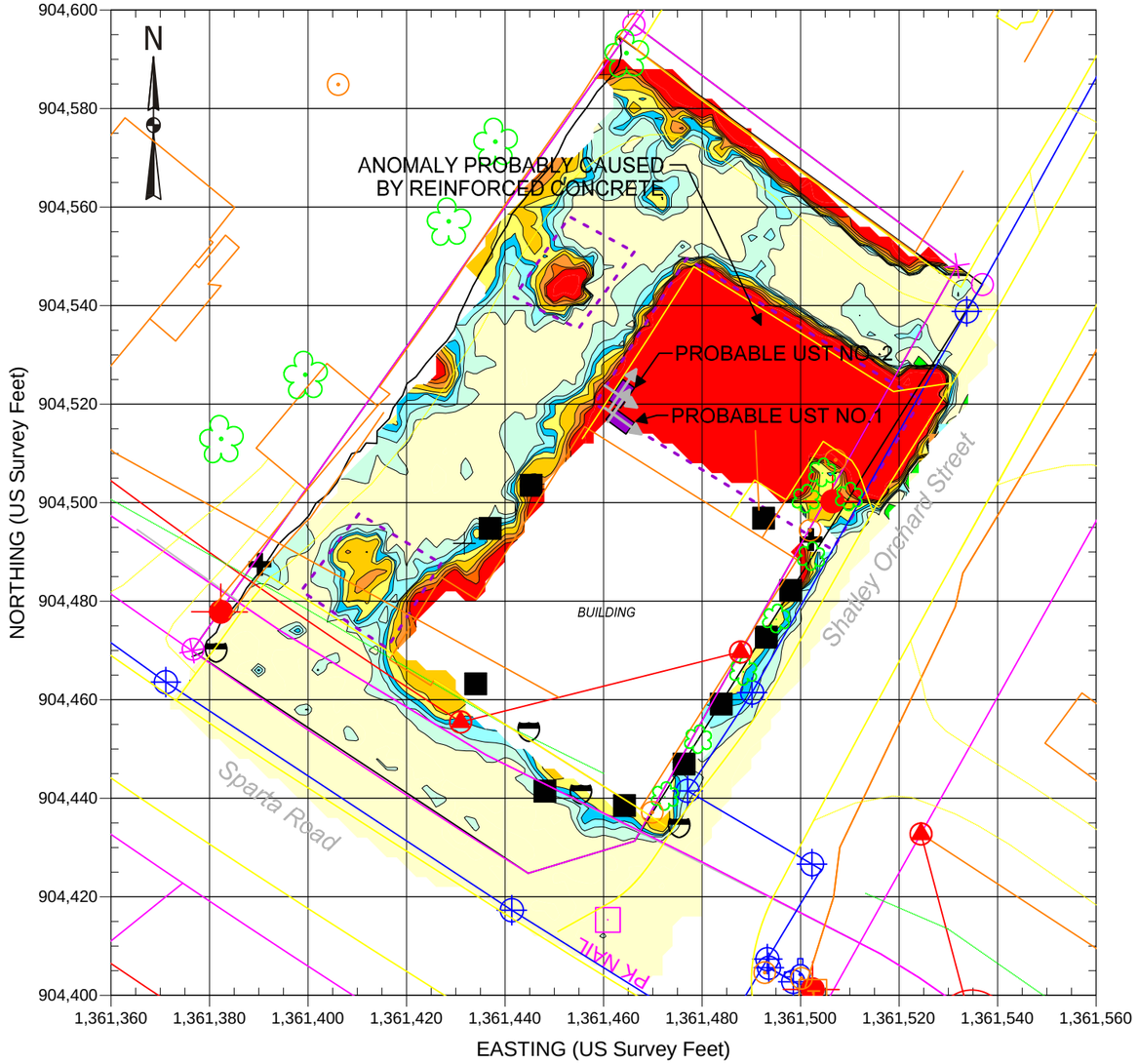
GSSI SIR-3000

Schnabel ENGINEERING

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

PHOTOS OF
GEOPHYSICAL
EQUIPMENT USED

FIGURE 2



EM61 Early Time Gate Response (mV)

-15000 -100 0 50 100 150 200 300 500 750 1000 2000

Scale in US Survey Feet

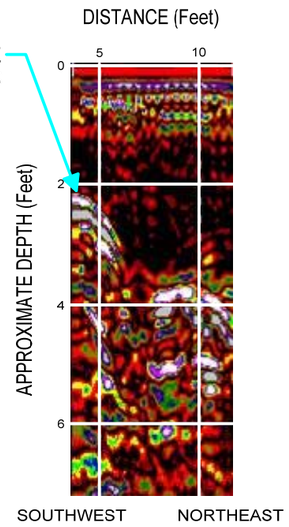
0 30 60 90

EXPLANATION

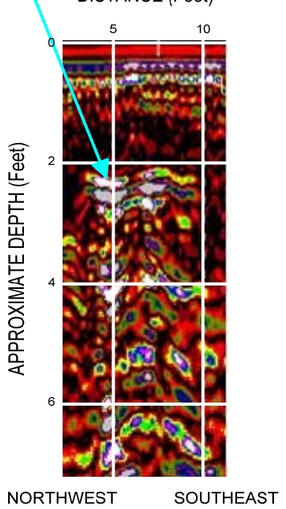
- SIGN
- UTILITY POLE
- GUY WIRE
- MISCELLANEOUS METALLIC OBJECT
- UTILITY MANHOLE, METER, BOX, ETC.
- LIGHT POLE
- STORM SEWER INLET
- UST LID
- DOT PROPOSED R/W
- DOT PROPOSED UTILITY EASEMENT
- PROPERTY LINE
- UTILITY (AS MARKED BY OTHERS OR AS PROVIDED BY NCDOT [VARIOUS COLORS])
- EXAMPLE GPR LINE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

REF.: NCDOT FILE: r3405_ddc_psh08_060530.dgn
(FOR SOME SITE FEATURES)

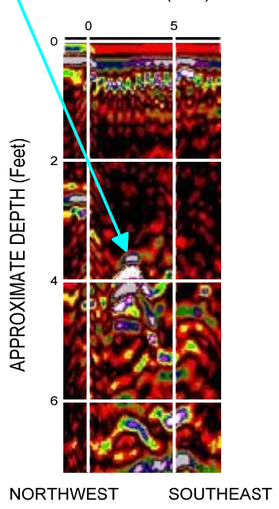
EXAMPLE GPR RESPONSE FROM THE SHORT AXIS OF POSSIBLE UST NO. 1



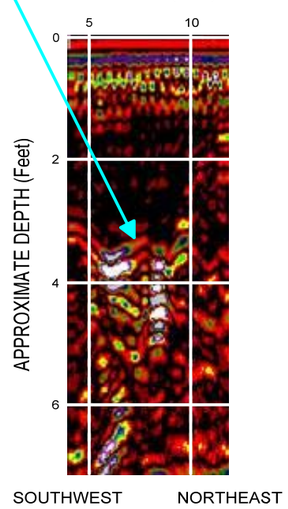
EXAMPLE GPR RESPONSE FROM THE LONG AXIS OF POSSIBLE UST NO. 1



EXAMPLE GPR RESPONSE FROM THE SHORT AXIS OF POSSIBLE UST NO. 2



EXAMPLE GPR RESPONSE FROM THE LONG AXIS OF POSSIBLE UST NO. 2



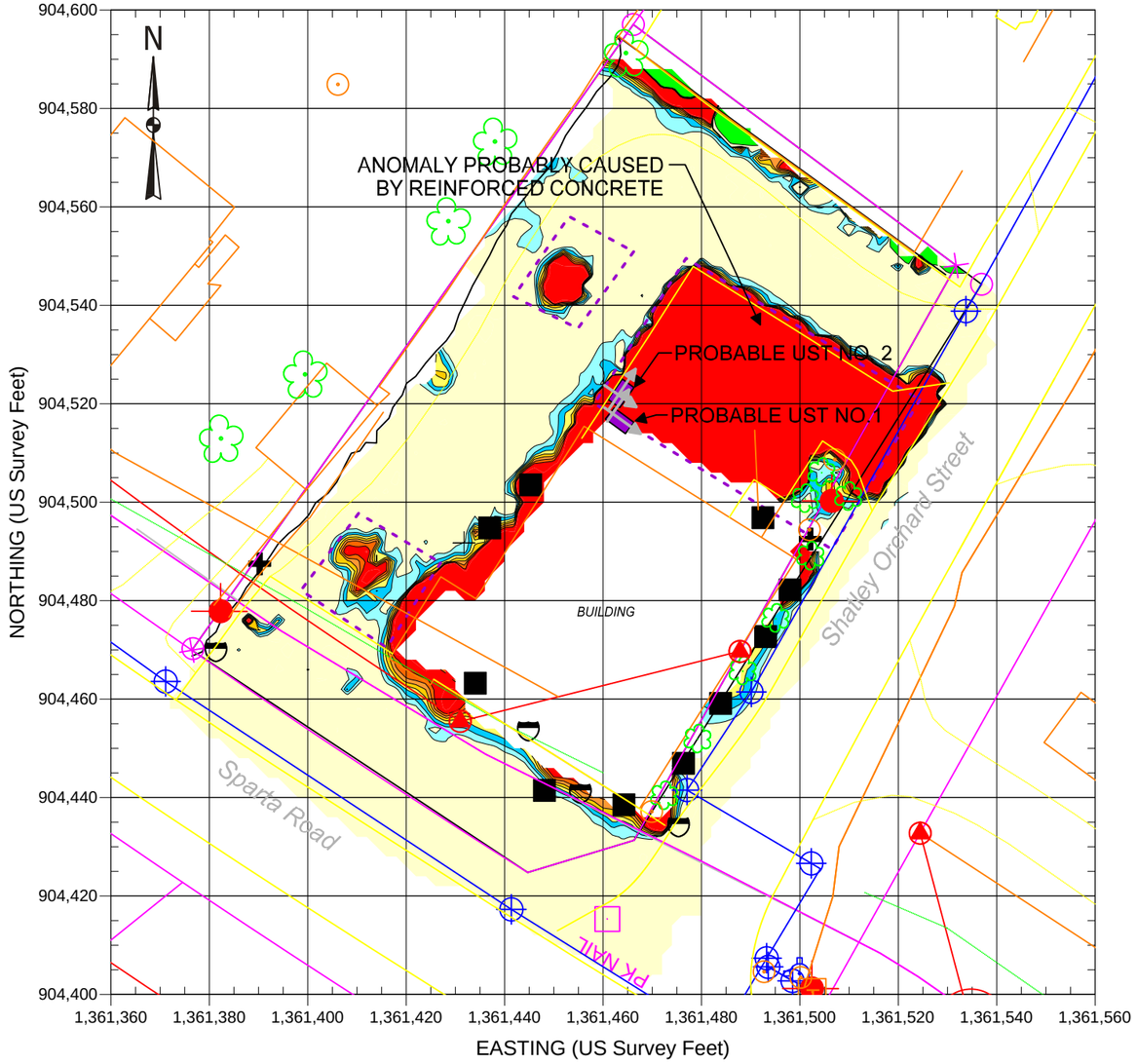
Note: The contour plot shows the earliest and most sensitive time gate of the EM61 bottom coil/channel in millivolts (mV). The EM data were collected on December 9, 2010, using a Geonics EM61-MK2 instrument. Positioning for the EM61 survey was provided using a submeter Trimble ProXRS DGPS system. Coordinates are in the US State Plane 1983 System, North Carolina Zone 3200, using the NAD 1983 datum. GPR data were acquired on December 21, 2010, using a Geophysical Survey Systems SIR 3000 equipped with a 400 MHz antenna.

Schnabel ENGINEERING

STATE PROJECT R-3405
WILKES COUNTY, NORTH CAROLINA
NC DEPARTMENT OF TRANSPORTATION
PROJECT NO. 09210013.34

PARCEL 98
EARLY TIME GATE RESPONSE

FIGURE 3



EM61 Differential Response (mV)

-20000 -100 0 40 60 80 100 120 140 160 200

Scale in US Survey Feet

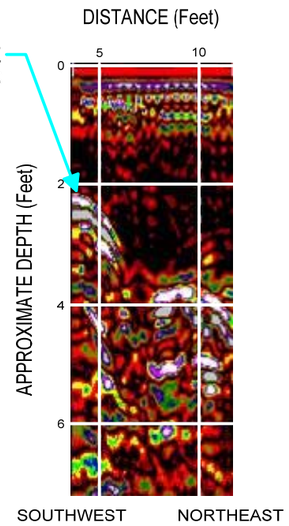
0 30 60 90

EXPLANATION

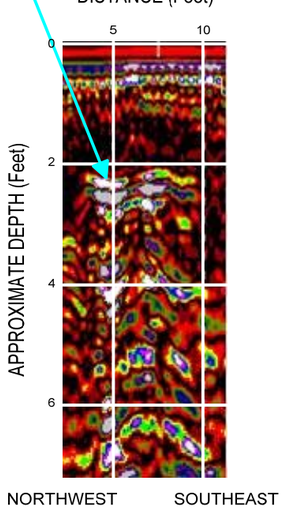
- SIGN
- UTILITY POLE
- GUY WIRE
- MISCELLANEOUS METALLIC OBJECT
- UTILITY MANHOLE, METER, BOX, ETC.
- LIGHT POLE
- STORM SEWER INLET
- UST LID
- DOT PROPOSED R/W
- DOT PROPOSED UTILITY EASEMENT
- PROPERTY LINE
- UTILITY (AS MARKED BY OTHERS OR AS PROVIDED BY NCDOT [VARIOUS COLORS])
- EXAMPLE GPR LINE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

REF.: NCDOT FILE: r3405_ddc_psh08_060530.dgn
(FOR SOME SITE FEATURES)

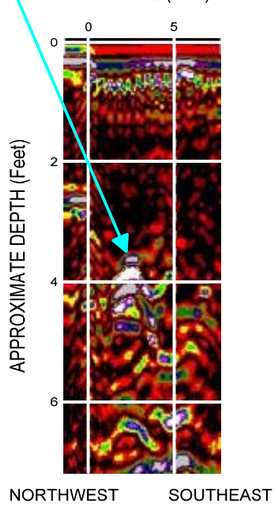
EXAMPLE GPR RESPONSE FROM THE SHORT AXIS OF POSSIBLE UST NO. 1



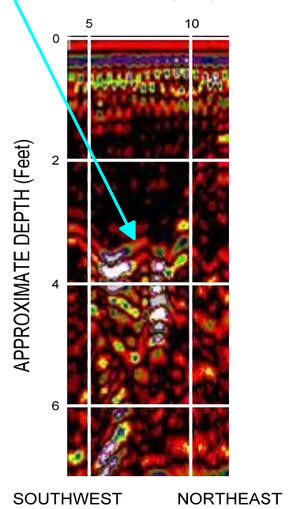
EXAMPLE GPR RESPONSE FROM THE LONG AXIS OF POSSIBLE UST NO. 1



EXAMPLE GPR RESPONSE FROM THE SHORT AXIS OF POSSIBLE UST NO. 2



EXAMPLE GPR RESPONSE FROM THE LONG AXIS OF POSSIBLE UST NO. 2



Note: The contour plot shows the difference, in millivolts (mV), between the readings from the top and bottom coils of the EM61. The difference is taken to reduce the effect of shallow metal objects and emphasize anomalies caused by deeper metallic objects, such as drums and tanks. The EM data were collected on December 9, 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 3200 Zone, using the NAD 1983 datum. GPR data were acquired on December 21, 2010, using a Geophysical Survey Systems SIR 3000 equipped with a 400 MHz antenna.

Schnabel ENGINEERING

STATE PROJECT R-3405
WILKES COUNTY, NORTH CAROLINA
NC DEPARTMENT OF TRANSPORTATION
PROJECT NO. 09210013.34

PARCEL 98
DIFFERENTIAL RESPONSE

FIGURE 4

Parcel 98 – Steven Joseph Whitley Property, looking south. Photo shows approximate marked location of the probable USTs on the east side of the property.

Parcel 98 – Steven Joseph Whitley Property, looking west. Photo shows approximate marked location of the probable USTs near the east side of the property.

Schnabel ENGINEERING	STATE PROJECT R-3405 WILKES CO., NORTH CAROLINA NC DEPT. OF TRANSPORTATION PROJECT NO. 09210013.34	PHOTOS OF POSSIBLE UST LOCATIONS FIGURE 5

APPENDIX D

LABORATORY ANALYTICAL RESULTS

PRISM LABORATORIES, INC.
Full-Service Analytical & Environmental Solutions

NC Certification No. 402
SC Certification No. 99012
NC Drinking Water Cert No. 37735

Case Narrative

02/03/2011

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

Project: NCDOT: Wilkes County Parcel 98
Project No.: WBS #35579.1.1
Lab Submittal Date: 01/26/2011
Prism Work Order: 1010535

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.
DO	Surrogates diluted out.
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

02/03/2011

Prism Work Order: 1010535

Client Sample ID	Lab Sample ID	Matrix	Date Sampled	Date Received
P98-SB-1(8-10)	1010535-01	Solid	01/25/11	01/26/11
P98-SB-2(2-4)	1010535-02	Solid	01/25/11	01/26/11
P98-SB-2(7-8.5)	1010535-03	Solid	01/25/11	01/26/11
P98-SB-3(5-7)	1010535-04	Solid	01/25/11	01/26/11
P98-SB-4(4-6)	1010535-05	Solid	01/25/11	01/26/11
P98-SB-5(4-6)	1010535-06	Solid	01/25/11	01/26/11
P98-SB-6(4-6)	1010535-07	Solid	01/25/11	01/26/11

Samples received in good condition at 2.7 degrees C unless otherwise noted.

449 Springbrook Road - P.O. Box 240543 - Charlotte, NC 28224-0543
Phone: 704/529-6364 - Toll Free Number: 1-800/529-6364 - Fax: 704/525-0409

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

Project: NCDOT: Wilkes County
Parcel 98
Project No.: WBS #35579.1.1
Sample Matrix: Solid

Client Sample ID: P98-SB-1(8-10)
Prism Sample ID: 1010535-01
Prism Work Order: 1010535
Time Collected: 01/25/11 13:00
Time Submitted: 01/26/11 13:12

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	8.1	1.3	1	*8015C	1/30/11 1:46	JMV	P1A0511
			Surrogate			Recovery		Control Limits	
			o-Terphenyl			*109 %*		*49-124*	
Gasoline Range Organics by GC/FID									
Gasoline Range Organics	BRL	mg/kg dry	4.6	0.60	50	*8015C	1/29/11 0:29	HPE	P1A0482
			Surrogate			Recovery		Control Limits	
			a,a,a-Trifluorotoluene			*134 %*		*55-129*	*A*
General Chemistry Parameters									
% Solids	**85.4**	**% 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 98
Project No.: WBS #35579.1.1
Sample Matrix: Solid

Client Sample ID: P98-SB-2(2-4)
Prism Sample ID: 1010535-02
Prism Work Order: 1010535
Time Collected: 01/25/11 13:05
Time Submitted: 01/26/11 13:12

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	9.4	1.5	1	*8015C	1/30/11 2:22	JMV	P1A0511
			Surrogate			Recovery		Control Limits	
			o-Terphenyl			*103 %*		*49-124*	
Gasoline Range Organics by GC/FID									
Gasoline Range Organics	BRL	mg/kg dry	4.7	0.61	50	*8015C	1/29/11 1:00	HPE	P1A0482
			Surrogate			Recovery		Control Limits	
			a,a,a-Trifluorotoluene			*85 %*		*55-129*	
General Chemistry Parameters									
% Solids	**74.0**	**% 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 98
Project No.: WBS #35579.1.1
Sample Matrix: Solid

Client Sample ID: P98-SB-2(7-8.5)
Prism Sample ID: 1010535-03
Prism Work Order: 1010535
Time Collected: 01/25/11 13:10
Time Submitted: 01/26/11 13:12

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
Diesel Range Organics by GC/FID									
Diesel Range Organics	**5400**	**mg/kg dry**	**870**	**140**	**100**	***8015C**	**2/2/11 7:11**	**JMV**	**P1A0520**
			Surrogate			Recovery		Control Limits	
			o-Terphenyl			*0 %*		*49-124*	*DO*
Gasoline Range Organics by GC/FID									
Gasoline Range Organics	**110**	**mg/kg dry**	**9.3**	**1.2**	**100**	***8015C**	**1/29/11 2:36**	**HPE**	**P1A0482**
			Surrogate			Recovery		Control Limits	
			a,a,a-Trifluorotoluene			*108 %*		*55-129*	
General Chemistry Parameters									
% Solids	**79.7**	**% 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 98
Project No.: WBS #35579.1.1
Sample Matrix: Solid

Client Sample ID: P98-SB-3(5-7)
Prism Sample ID: 1010535-04
Prism Work Order: 1010535
Time Collected: 01/25/11 13:45
Time Submitted: 01/26/11 13:12

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	9.5	1.5	1	*8015C	2/1/11 19:59	JMV	P1A0520
			Surrogate			Recovery		Control Limits	
			o-Terphenyl			*88 %*		*49-124*	
Gasoline Range Organics by GC/FID									
Gasoline Range Organics	BRL	mg/kg dry	4.9	0.63	50	*8015C	1/29/11 1:32	HPE	P1A0482
			Surrogate			Recovery		Control Limits	
			a,a,a-Trifluorotoluene			*99 %*		*55-129*	
General Chemistry Parameters									
% Solids	**73.1**	**% 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 98
Project No.: WBS #35579.1.1
Sample Matrix: Solid

Client Sample ID: P98-SB-4(4-6)
Prism Sample ID: 1010535-05
Prism Work Order: 1010535
Time Collected: 01/25/11 13:50
Time Submitted: 01/26/11 13:12

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	9.5	1.5	1	*8015C	2/1/11 20:34	JMV	P1A0520
			Surrogate			Recovery		Control Limits	
			o-Terphenyl			*93 %*		*49-124*	
Gasoline Range Organics by GC/FID									
Gasoline Range Organics	BRL	mg/kg dry	4.6	0.60	50	*8015C	1/29/11 2:04	HPE	P1A0482
			Surrogate			Recovery		Control Limits	
			a,a,a-Trifluorotoluene			*80 %*		*55-129*	
General Chemistry Parameters									
% Solids	**74.0**	**% 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 98
Project No.: WBS #35579.1.1
Sample Matrix: Solid

Client Sample ID: P98-SB-5(4-6)
Prism Sample ID: 1010535-06
Prism Work Order: 1010535
Time Collected: 01/25/11 14:00
Time Submitted: 01/26/11 13:12

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	2/1/11 21:09	JMV	P1A0520
			Surrogate			Recovery		Control Limits	
			o-Terphenyl			*102 %*		*49-124*	
Gasoline Range Organics by GC/FID									
Gasoline Range Organics	BRL	mg/kg dry	4.5	0.58	50	*8015C	1/31/11 17:08	HPE	P1A0526
			Surrogate			Recovery		Control Limits	
			a,a,a-Trifluorotoluene			*109 %*		*55-129*	
General Chemistry Parameters									
% Solids	**77.8**	**% 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 98
Project No.: WBS #35579.1.1
Sample Matrix: Solid

Client Sample ID: P98-SB-6(4-6)
Prism Sample ID: 1010535-07
Prism Work Order: 1010535
Time Collected: 01/25/11 14:10
Time Submitted: 01/26/11 13:12

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	8.5	1.4	1	*8015C	2/1/11 21:45	JMV	P1A0520
			Surrogate			Recovery		Control Limits	
			o-Terphenyl			*101 %*		*49-124*	
Gasoline Range Organics by GC/FID									
Gasoline Range Organics	BRL	mg/kg dry	4.3	0.57	50	*8015C	1/31/11 17:38	HPE	P1A0526
			Surrogate			Recovery		Control Limits	
			a,a,a-Trifluorotoluene			*153 %*		*55-129*	*A*
General Chemistry Parameters									
% Solids	**81.7**	**% 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 98
Project No: WBS #35579.1.1

Prism Work Order: 1010535
Time Submitted: 1/26/11 1:12:00PM

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*			
Batch P1A0526 - 5035										
Blank (P1A0526-BLK1)				Prepared & Analyzed: 01/31/11						
Gasoline Range Organics	BRL	5.0	mg/kg wet							
Surrogate: a,a,a-Trifluorotoluene	*5.05*		*mg/kg wet*	*5.00*		*101*	*55-129*			
LCS (P1A0526-BS1)				Prepared & Analyzed: 01/31/11						
Gasoline Range Organics	39.8	5.0	mg/kg wet	50.0		80	67-116			
Surrogate: a,a,a-Trifluorotoluene	*5.15*		*mg/kg wet*	*5.00*		*103*	*55-129*			
LCS Dup (P1A0526-BSD1)				Prepared & Analyzed: 01/31/11						
Gasoline Range Organics	41.2	5.0	mg/kg wet	50.0		82	67-116	3	200	
Surrogate: a,a,a-Trifluorotoluene	*5.10*		*mg/kg wet*	*5.00*		*102*	*55-129*			
Matrix Spike (P1A0526-MS1)	**Source: 1010535-06**			Prepared: 01/31/11		Analyzed: 02/01/11				
Gasoline Range Organics	55.2	6.4	mg/kg dry	64.3	BRL	86	57-113			
Surrogate: a,a,a-Trifluorotoluene	*5.27*		*mg/kg dry*	*6.43*		*82*	*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 98
Project No: WBS #35579.1.1

Prism Work Order: 1010535
Time Submitted: 1/26/11 1:12:00PM

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 P1A0526 - 5035										
Matrix Spike Dup (P1A0526-MSD1)		**Source: 1010535-06**		Prepared: 01/31/11		Analyzed: 02/01/11				
Gasoline Range Organics	54.4	6.4	mg/kg dry	64.3	BRL	85	57-113	2	23	
Surrogate: a,a,a-Trifluorotoluene	*5.27*		*mg/kg dry*	*6.43*		*82*	*55-129*			

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Prism Work Order: 1010535
Time Submitted: 1/26/11 1:12:00PM

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: o-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: o-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: o-Terphenyl	*1.54*		*mg/kg wet*	*1.60*		*96*	*49-124*			
Batch P1A0520 - 3545A										
Blank (P1A0520-BLK1)				Prepared: 01/31/11 Analyzed: 02/01/11						
Diesel Range Organics	BRL	7.0	mg/kg wet							
Surrogate: o-Terphenyl	*1.43*		*mg/kg wet*	*1.60*		*89*	*49-124*			
LCS (P1A0520-BS1)				Prepared: 01/31/11 Analyzed: 02/01/11						
Diesel Range Organics	60.6	6.9	mg/kg wet	79.4		76	55-109			
Surrogate: o-Terphenyl	*1.43*		*mg/kg wet*	*1.59*		*90*	*49-124*			
LCS Dup (P1A0520-BSD1)				Prepared: 01/31/11 Analyzed: 02/01/11						
Diesel Range Organics	56.7	6.9	mg/kg wet	79.4		71	55-109	7	200	
Surrogate: o-Terphenyl	*1.43*		*mg/kg wet*	*1.59*		*90*	*49-124*			

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

Project: NCDOT: Wilkes County Parcel 98
Project No: WBS #35579.1.1

Prism Work Order: 1010535
Time Submitted: 1/26/11 1:12:00PM

General Chemistry Parameters - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch P1B0014 - NO PREP										
Blank (P1B0014-BLK1)				Prepared & Analyzed: 02/01/11						
% Solids	100	0.100	% by Weight							
Duplicate (P1B0014-DUP2)		**Source: 1010535-02**		Prepared & Analyzed: 02/01/11						
% Solids	74.5	0.100	% by Weight		74.0			0.7	20	

Sample Extraction Data

Prep Method: 3545A

Lab Number	Batch	Initial	Final	Date
1010535-01	P1A0511	25.19 g	1 mL	01/28/11
1010535-02	P1A0511	25.22 g	1 mL	01/28/11
1010535-03	P1A0520	25.12 g	1 mL	01/31/11
1010535-04	P1A0520	25.1 g	1 mL	01/31/11
1010535-05	P1A0520	25 g	1 mL	01/31/11
1010535-06	P1A0520	25.08 g	1 mL	01/31/11
1010535-07	P1A0520	25.13 g	1 mL	01/31/11

Prep Method: 5035

Lab Number	Batch	Initial	Final	Date
1010535-01	P1A0482	6.33 g	5 mL	01/28/11
1010535-02	P1A0482	7.19 g	5 mL	01/28/11
1010535-03	P1A0482	6.76 g	5 mL	01/28/11
1010535-04	P1A0482	7.01 g	5 mL	01/28/11
1010535-05	P1A0482	7.32 g	5 mL	01/28/11
1010535-06	P1A0526	7.16 g	5 mL	01/31/11
1010535-07	P1A0526	7.04 g	5 mL	01/31/11

NO PREP

Lab Number	Batch	Initial	Final	Date
1010535-01	P1B0014	30 g	30 mL	02/01/11
1010535-02	P1B0014	30 g	30 mL	02/01/11
1010535-03	P1B0014	30 g	30 mL	02/01/11
1010535-04	P1B0014	30 g	30 mL	02/01/11
1010535-05	P1B0014	30 g	30 mL	02/01/11
1010535-06	P1B0014	30 g	30 mL	02/01/11
1010535-07	P1B0014	30 g	30 mL	02/01/11

PRISM LABORATORIES, INC.
Full-Service Analytical & Environmental Solutions
449 Springbrook Road • P.O. Box 240543 • Charlotte, NC 28224-0543
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CHAIN OF CUSTODY RECORD

PAGE 1 OF 1 QUOTE # TO ENSURE PROPER BILLING: WBS: 35574.1.1

LAB USE ONLY

	YES	NO	N/A
Samples INTACT upon arrival?	X		
Received ON WET ICE? Temp 2.7	X		
PROPER PRESERVATIVES indicated?	X		
Received WITHIN HOLDING TIMES?	X		
CUSTODY SEALS INTACT?			X
VOLATILES rec'd W/OUT HEADSPACE?			X
PROPER CONTAINERS used?	X		

Client Company Name: AMEC E+E
Report To/Contact Name: Helen Corley
Reporting Address: 338 N Elm St Greensboro NC 27401
Phone: 336-691-5349 Fax (Yes) (No):
Email (Yes) (No) Email Address helen.corley@amec.com
EDD Type: PDF ✓ Excel ✓ Other
Site Location Name: Parcel 98
Site Location Physical Address: N Wilkesboro

Project Name: Wilkes Co
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: 35574.1.1
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)

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)	*TYPE SEE BELOW	NO.	SIZE	PRESERVATIVES	DRO	GRO/5035					REMARKS	PRISM LAB ID NO.
P98-SB-1 (8-10)	1-25-11	1300	Soil	G Voa	4	2 G 2 Voa		X	X						01
P98-SB-2 (2-4)	↓	1305	↓	↓	↓	↓		X	X						02
P98-SB-2 (7-8.5)	↓	1310	↓	↓	↓	↓		X	X						03
P98-SB-3 (5-7)	↓	1345	↓	↓	↓	↓		X	X						04
P98-SB-4 (4-6)	↓	1350	↓	↓	↓	↓		X	X						05
P98-SB-5 (4-6)	↓	1400	↓	↓	↓	↓		X	X						06
P98-SB-6 (4-6)	↓	1410	↓	↓	↓	↓		X	X						07

Sampler's Signature: Troy L 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)	Received By: (Signature)	Date	Military/Hours
Troy L Holzschuh	TLH	1-26-11	1310
Relinquished By: (Signature)	Received By: (Signature)	Date	
Relinquished By: (Signature)	Received For Prism Laboratories By: J.K.B.	1/26/11	1310

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

COC Group No. 1010535

Additional Comments:

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

NPDES: ☐ NC ☐ SC ☐ | UST: ☐ 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)

SEE REVERSE FOR TERMS & CONDITIONS

ORIGINAL