Preliminary Site Assessment
Anthony R. Jacobs Property
Parcel #155
Fayetteville, Cumberland County, NC

H&H Job No. ROW-203
State Project U-2810C
WBS Element # 34866.1.1
January 8, 2009

Hart & Hickman
2923 South Tryon Street
Suite 100
Charlotte, NC 28203
704-586-0007

3334 Hillsborough Street
Raleigh, NC 27607
919-847-4241

Preliminary Site Assessment Report
Anthony R. Jacobs Property Parcel #155
Fayetteville, Cumberland County, North Carolina
H&H Project ROW-203

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Anthony R. Jacobs Property Parcel #155
Fayetteville, Cumberland County, North Carolina
H&H Project ROW-203

1.0 Introduction

Hart & Hickman, PC (H&H) has prepared this Preliminary Site Assessment (PSA) report documenting assessment activities performed at the Anthony R. Jacobs Property (Parcel #155) located at 2904 Camden Rd. in Fayetteville, Cumberland County, North Carolina. This assessment was conducted on behalf of the North Carolina Department of Transportation (NC DOT) in accordance with H&H's November 17, 2008 proposal.

The purpose of this assessment was to determine the presence or absence of impacted soil at the subject property in proposed right-of-way construction areas related to the widening of Camden Road (State Project U-2810C). A site location map is included as Figure 1 and a site map is presented as Figure 2. The NC DOT preliminary plan of the Camden Road widening area near the Anthony R. Jacobs property is attached as Appendix A.

The subject site currently operates as St. Matthews Healing Church. According to the North Carolina Department of Environment and Natural Resources (DENR) Underground Storage Tank (UST) registry, two 8,000-gallon USTs were removed from the site in 1990. H&H reviewed UST incident files for the subject site at the DENR Fayetteville Regional Office to better target UST system areas and to find locations of previously reported petroleum impacts. Based on the DENR file review, the subject site operated as a U Filler Up gas station at some time in the past. Two 8,000-gallon gasoline USTs were removed from the site in December 1990. DENR's *Review of Lab Results* letter dated January 3, 1991 indicated that no additional soil excavation was required based on laboratory analytical results of soil samples colleted during UST closure activities. Information regarding the location of the former USTs and associated pump islands was not available for review. H&H's visual inspection of the property identified potential former UST(s) and pump island locations in the northeastern corner of the property.

2.0 Site Assessment

Soil Assessment Field Activities

H&H mobilized to the Anthony R. Jacobs property on December 10, 2008 to advance fifteen soil borings (155-1 through 155-15) by direct push technology (DPT). Prior to advancing the soil borings, H&H reviewed a geophysical survey performed at the subject site by Schnabel Engineering (Schnabel) on November 19 and 25, 2008. Schnabel utilized ground penetrating radar (GPR) and time domain electromagnetic (TDEM) technology to identify potential geophysical anomalies and potential USTs at the site. The survey results indicate several anomalies associated with known metallic features; however, follow up with GPR did not indicate the presence of USTs. Schnabel's report, including site maps depicting GPR and TDEM results, is provided in Appendix B.

Prior to conducting soil borings, utilities were marked by NC One Call. Borings were also cleared to a depth of five ft by hand auger. H&H utilized Subsurface Environmental Investigations, LLC of Statesville, North Carolina to advance soil borings 155-1 through 155-15 by DPT (see Figure 2). To facilitate the selection of soil samples for laboratory analysis, soil from each boring was screened continuously for the presence of volatile organic compounds (VOCs) with an organic vapor analyzer (OVA). Additionally, H&H observed the soil for visual and olfactory indications of petroleum impacts.

No significant OVA readings, petroleum odors, or staining were identified in samples collected from soil borings 155-1 through 155-6 and 155-10 through 155-15. Soil samples from these borings were collected from 2 to 4 ft. Soil samples exhibited OVA readings at various depths from borings 155-7 through 155-9. Samples from these borings that exhibited the highest reading on the OVA were selected for laboratory analysis. Based on OVA readings, two samples (2 to 4 ft and 8 to 10 ft) were collected from boring 155-7 to better define the vertical extent of potentially impacted soil. The sample for laboratory analysis was collected from a depth of 8 to 10 ft in boring 155-7 and 4 to 6 ft in boring 155-10. Soil boring logs (with OVA readings noted) are included in Appendix C.

H&H submitted sixteen soil samples from fifteen soil borings (155-1 through 155-15) for laboratory analysis. Soil samples are identified by the NC DOT Parcel number, soil boring, and the depth interval in ft. Samples were sent to SGS Environmental Services, Inc. of Wilmington, North Carolina using standard chain-of-custody protocol for analysis of total petroleum hydrocarbons (TPH) for gasoline-range organics (GRO) and diesel-range organics (DRO) by EPA Method 8015B. GRO samples were prepared using EPA Method 5035. Sample depths and analytical results are summarized in Table 1. Laboratory analytical data sheets for Parcel 155 soil samples and chain-of-custody documentation for this site are provided in Appendix D. The analytical results are discussed below.

3.0 Analytical Results

Target analytes were detected in soil samples collected from Parcel 155. Low concentrations of TPH DRO were detected in soil samples 155-3, 155-6, 155-14 and 155-15 above the DENR Action Level of 10 mg/kg, if related to UST systems. Concentrations of TPH DRO and GRO were not detected above the laboratory reporting limit in the remaining soil samples analyzed.

Although elevated OVA readings were noted in samples collected from borings 155-7 through 155-9, TPH DRO and GRO were not detected. H&H did not note the presence of petroleum odors in these soil borings.

Based on laboratory analytical results, low level TPH DRO impacts are present within the proposed right of way area on Parcel 155. H&H estimates that there are roughly 350 cubic yards (550 tons) of impacted soil between the surface and 6 ft near the proposed fill line in the southeast portion of the property. In addition, there are roughly 500 cubic yards (750 tons) of impacted soil between the surface and 6 ft south of the church in the northeast portion of the property and roughly 200 cubic yards (300 tons) of impacted soil between the surface and 6 ft in the northeast corner of the property.

4.0 Summary and Regulatory Considerations

H&H has reviewed geophysical survey results and collected soil samples at Parcel 155. No USTs were identified within the proposed construction areas. Analytical results indicate low-level concentrations of TPH DRO above DENR Action Levels. H&H estimates that there are roughly 1,050 cubic yards (1,600 tons) of impacted soil between the surface and 6 ft at Parcel 155. The impacted soil is located in the southeast and northeast portions of the property. DOT plans indicate proposed fill in these areas. Because this is a fill area, most of the impacted soil will not likely be disturbed. However, impacted soil will be generated by any soil grading work below the existing grade and during drainage or utility line installations in the aforementioned areas. Impacted soil that is removed should be properly managed and disposed at a permitted facility.

5.0 Signature Page

This report was prepared by:

Dave Graham
Project Geologist for
Hart and Hickman, PC

This report was reviewed by:

Matt Bramblett, PE
Principal and Project Manager for
Hart and Hickman, PC

Table 1 (Page 1 of 2)
Soil Analytical Results
Anthony R. Jacobs Property, Parcel #155
Fayetteville, North Carolina
H&H Job No. ROW-203

Sample ID	155-1	155-2	155-3	155-4	155-5	155-6	155-7		155-8	155-9	NCDENR
Sample Depth (ft)	2-4	2-4	2-4	2-4	2-4	2-4	2-4	8-10	2-4	2-4	Action
Sample Date	12/10/2008	12/10/2008	12/10/2008	12/10/2008	12/10/2008	12/10/2008	12/10/2008	12/10/2008	12/10/2008	12/10/2008	Level
Units	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)
TPH-DRO/GRO (8015B)											
Diesel-Range Organics (DRO)	<6.78	<6.57	**12.6**	<6.59	<6.67	**34.2**	<6.67	<6.21	<6.65	<6.50	10
Gasoline-Range Organics (GRO)	<6.27	<6.10	<5.73	<5.44	<5.97	<5.84	<5.19	<6.33	<5.21	<5.73	10

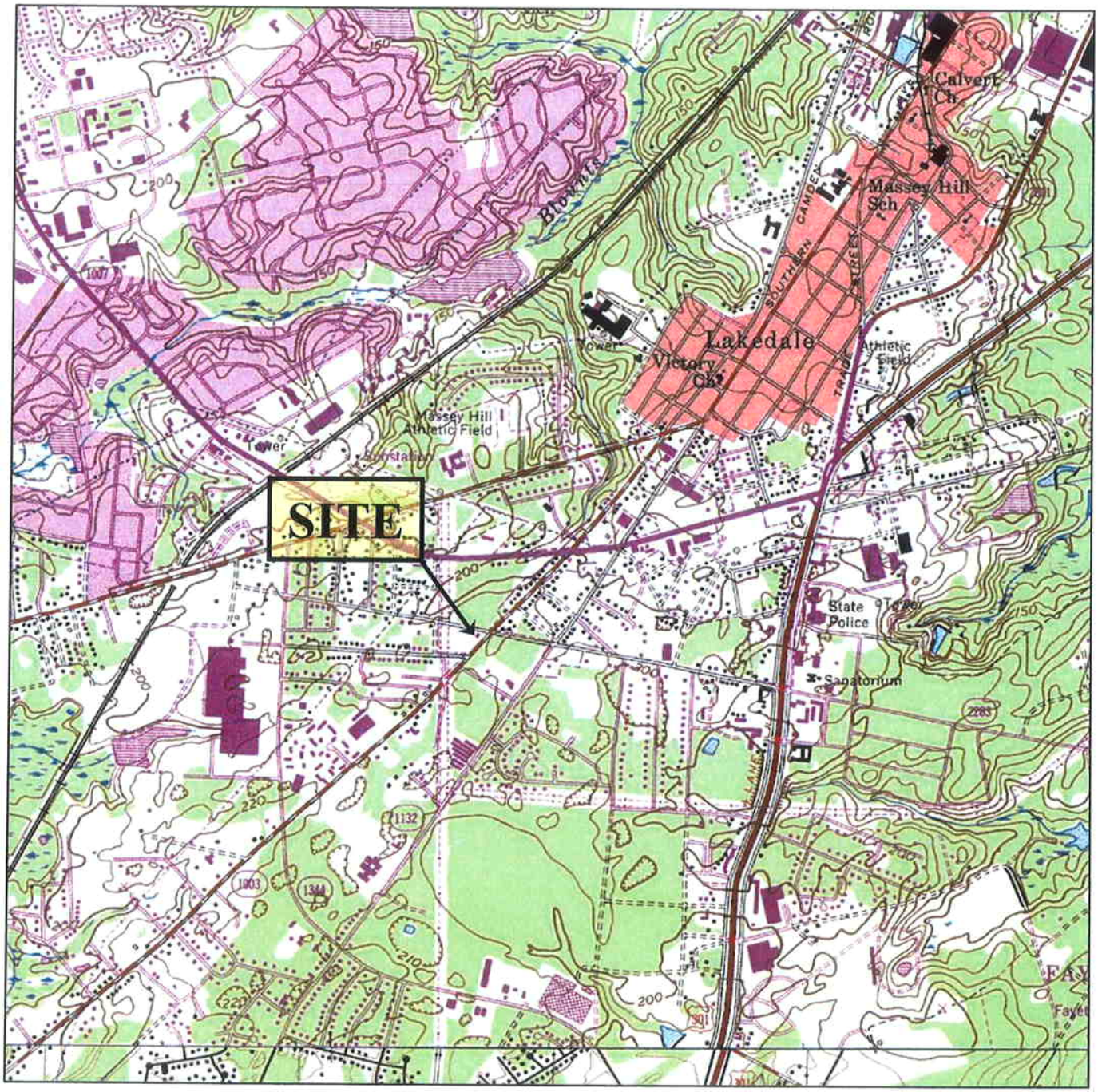
Notes:

EPA Method follows parameter in parenthesis;
Bold indicates concentration exceeds the NC DENR Action Level
TPH=total petroleum hydrocarbons
GRO was prepared using EPA Method 5035

Table 1 (Page 2 of 2)
Soil Analytical Results
Anthony R. Jacobs Property, Parcel #155
Fayetteville, North Carolina
H&H Job No. ROW-203

Sample ID	155-10	155-11	155-12	155-13	155-14	155-15	NCDENR
Sample Depth (ft)	4-6	2-4	2-4	2-4	2-4	2-4	Action
Sample Date	12/10/2008	12/10/2008	12/10/2008	12/10/2008	12/10/2008	12/10/2008	Level
Units	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)
TPH-DRO/GRO (8015B)							
Diesel-Range Organics (DRO)	<6.60	<6.60	<6.40	<6.71	**19.8**	**25.9**	10
Gasoline-Range Organics (GRO)	<4.98	<5.84	<5.92	<7.29	<6.00	<5.69	10

Notes:
EPA Method follows parameter in parenthesis;
Bold indicates concentration exceeds the NC DENR Action Level
TPH=total petroleum hydrocarbons
GRO was prepared using EPA Method 5035



N

APPROXIMATE

0 2000 4000

SCALE IN FEET

U.S.G.S. QUADRANGLE MAP

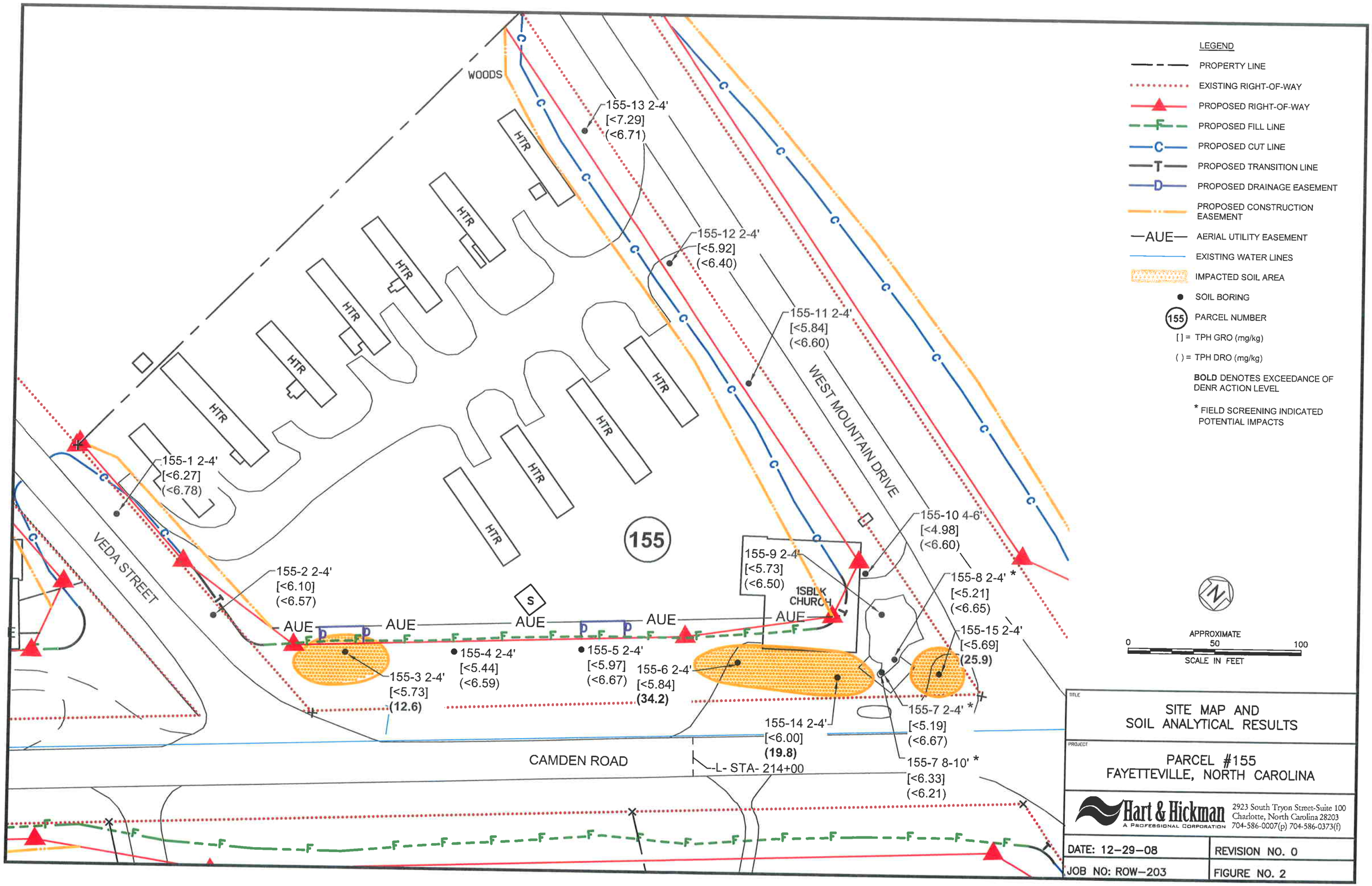
FAYETTEVILLE, NC 1957/1987

7.5 MINUTE SERIES (TOPOGRAPHIC)

TITLE	SITE LOCATION MAP
PROJECT	PARCEL #155 FAYETTEVILLE, NORTH CAROLINA

Hart & Hickman
A Professional Corporation
2923 South Tryon Street-Suite 100
Charlotte, North Carolina 28203
704-586-0007 (p) 704-586-0373 (f)

DATE:	12-16-08	REVISION NO:	0
JOB NO:	ROW-203	FIGURE:	1



TITLE

SITE MAP AND SOIL ANALYTICAL RESULTS

PROJECT

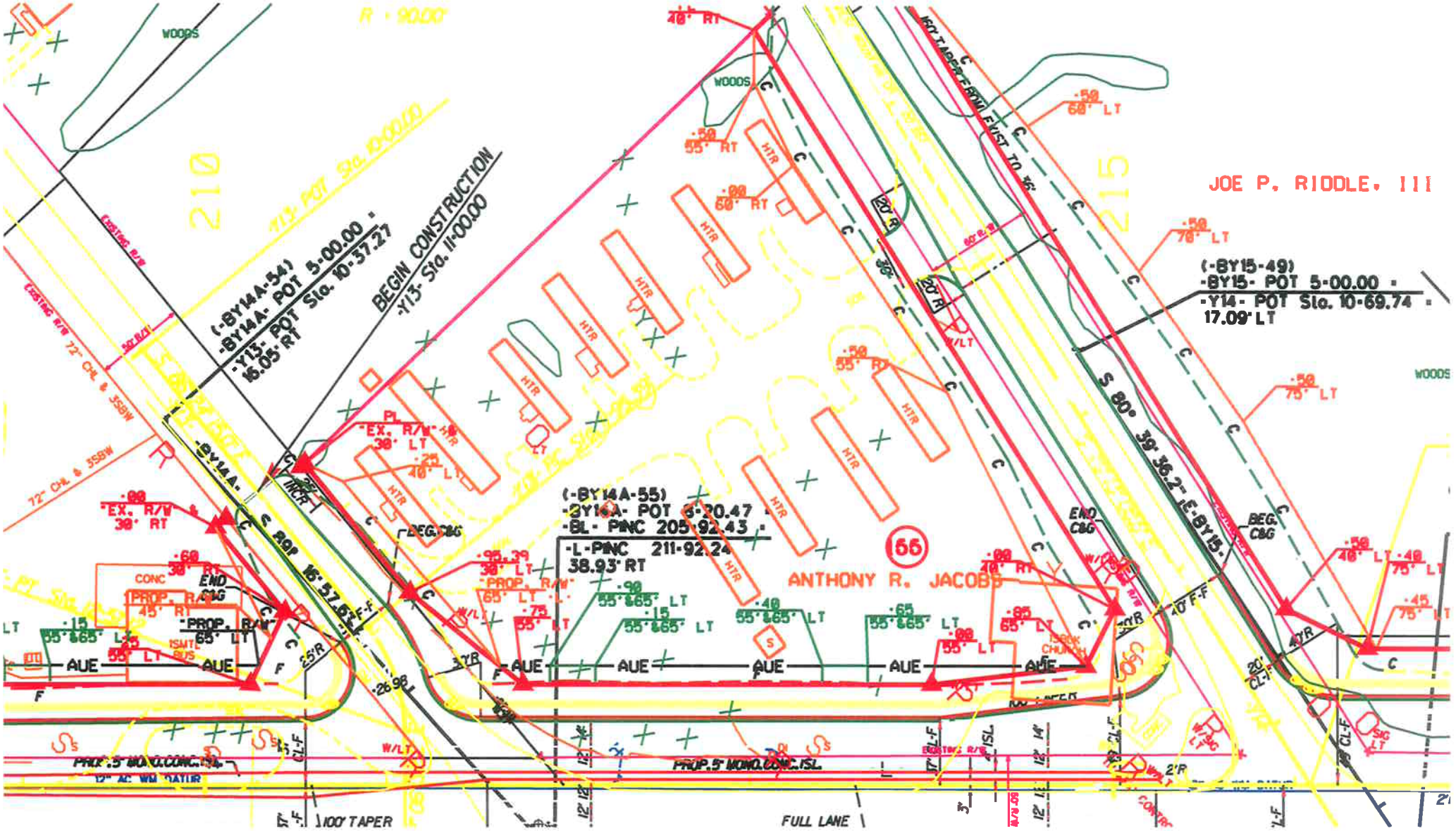
PARCEL #155
FAYETTEVILLE, NORTH CAROLINA

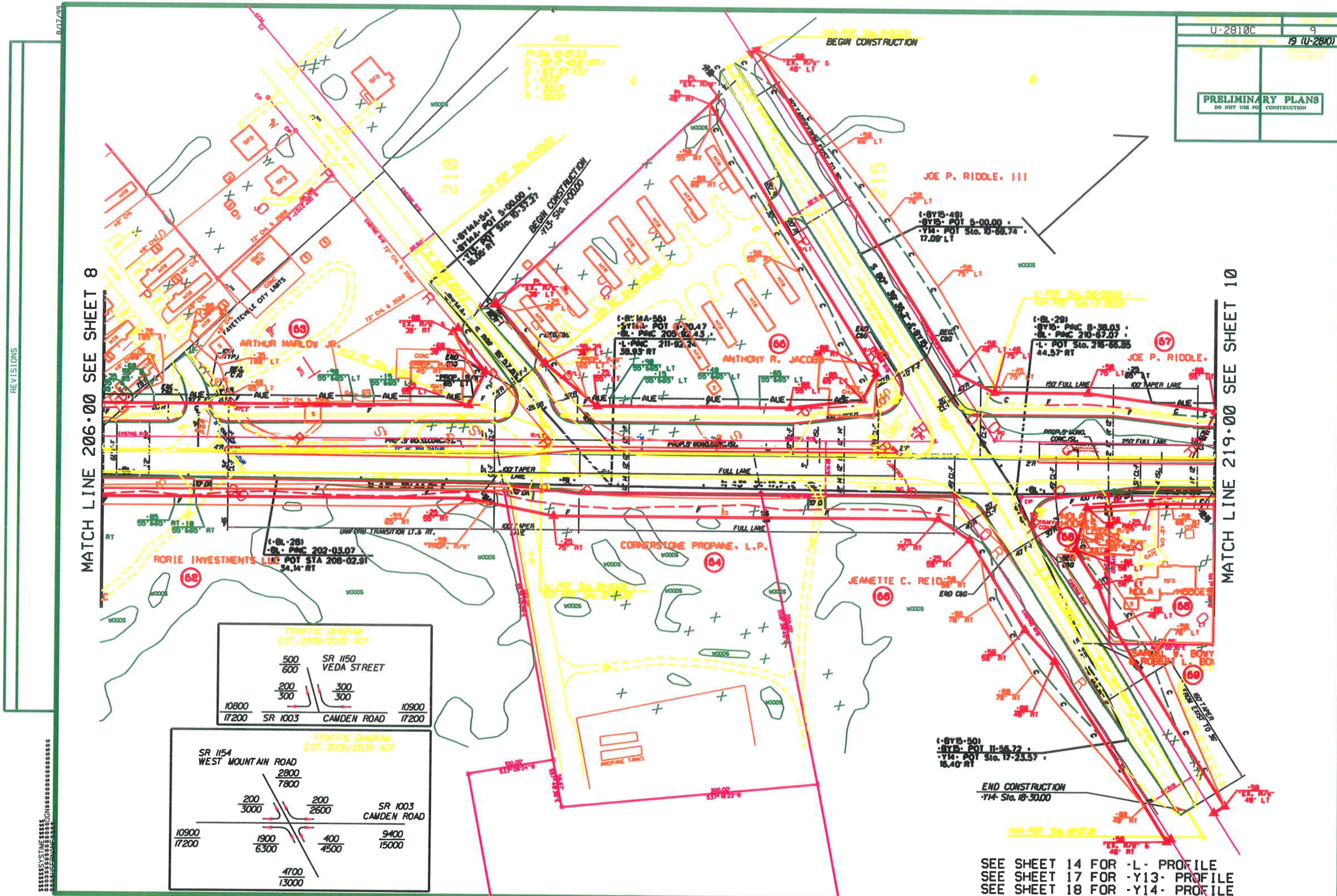
Hart & Hickman
A PROFESSIONAL CORPORATION
2923 South Tryon Street-Suite 100
Charlotte, North Carolina 28203
704-586-0007(p) 704-586-0373(f)

DATE: 12-29-08	REVISION NO. 0
JOB NO: ROW-203	FIGURE NO. 2

Appendix A

NC DOT Preliminary Plan


JOE P. RIDDLE, III
ANTHONY R. JACOBS
(-BY14A-54)
-BY14A- POT 5-00.00 =
-Y13- POT Sta. 10-37.27
16.05' RT
BEGIN CONSTRUCTION
-Y13- Sta. 11+00.00
(-BY14A-55)
-BY14A- POT 6+20.47 =
-BL- PNC 205+92.43 =
-L-PNC 211+92.24
38.93' RT
(-BY15-49)
-BY15- POT 5-00.00 =
-Y14- POT Sta. 10-69.74 =
17.09' LT
S 80° 39' 36.2" E-BY15-
S 80° 39' 36.2" E-BY14A-
PROP. 5' MONO. CONC. ISL.
FULL LANE
100' TAPER
WOODS
AUE
55
210
215


U-2810C
9
19 (U-2810)
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION
REVISIONS
8/17/99
MATCH LINE 206+00 SEE SHEET 8
MATCH LINE 219+00 SEE SHEET 10
BEGIN CONSTRUCTION
BEGIN CONSTRUCTION -Y13- Sta. 11+00.00
(-BY14A-54) -BY14A- POT 5+00.00 = -Y13- POT Sta. 10+37.27 16.06' RT
(-BY14A-55) -BY14A- POT 5+20.47 = -BL- PINC 205+92.43 = -L- PINC 211+92.24 38.93' RT
(-BY15-49) -BY15- POT 5+00.00 = -Y14- POT Sta. 10+69.74 17.09' LT
(-BL-29) -BY15- PINC 8+38.03 = -BL- PINC 210+67.07 = -L- POT Sta. 216+66.85 44.57' RT
(-BL-28) -BL- PINC 202+03.07 = POT STA 208+02.91 34.14' RT
(-BY15-50) -BY15- POT 11+56.72 = -Y14- POT Sta. 17+23.57 = 15.40' RT
END CONSTRUCTION -Y14- Sta. 18+30.00
210
215
ARTHUR MARLOW JR.
63
ANTHONY R. JACOBS
65
JOE P. RIDDLE, III
JOE P. RIDDLE,
67
RORIE INVESTMENTS LLC
62
CORNERSTONE PROPANE, L.P.
64
JEANETTE C. REID
66
NOLA HODGES
68
SAMUEL V. BOWY & ROBERT L. BO
69
FAYETTEVILLE CITY LIMITS
WOODS
PROPANE TANKS
FULL LANE
100' TAPER LANE
150' FULL LANE
100' TAPER LANE
250' FULL LANE
PROP. 5' MONO. CONC. ISL.
UNIFORM TRANSITION LT. & RT.
END C&G
BEG. C&G
80' TAPER FROM EXIST TO 36'
TRAFFIC DIAGRAM EST. 2005/2030 ADT
500 / 600
SR 1150 VEDA STREET
200 / 300
300 / 300
10800 / 17200
SR 1003
CAMDEN ROAD
10900 / 17200
TRAFFIC DIAGRAM EST. 2005/2030 ADT
SR 1154 WEST MOUNTAIN ROAD
2800 / 7800
200 / 3000
200 / 2600
SR 1003 CAMDEN ROAD
10900 / 17200
1900 / 6300
400 / 4500
9400 / 15000
4700 / 13000
SEE SHEET 14 FOR -L- PROFILE
SEE SHEET 17 FOR -Y13- PROFILE
SEE SHEET 18 FOR -Y14- PROFILE
$$$$$$SYSTIME$$$$$
$$$$$$$$$$$$$$$DGN$$$$$$$$$$$$$$$$$$$$$$
$$$$USERNAME$$$$

Appendix B

Schnabel Engineering Geophysical Survey Report

Schnabel Engineering South

11-A Oak Branch Drive
Greensboro, NC 27407
Phone (336) 274-9456
Fax (336) 274-9486
www.schnabel-eng.com

December 16, 2008

Mr. Matt Bramblett, P.E.
Hart & Hickman, PC
2923 South Tryon Street, Suite 100
Charlotte, NC 28203

Via email (pdf)

RE: State Project: U-2810C
WBS Element: 34866.1.1
County: Cumberland
Description: SR 1003 (Camden Road) from SR 1290 (King Charles Road) to north of SR 1007 (Owen Drive)

SUBJECT: Report on Geophysical Surveys of Parcel 155
Schnabel Engineering Project No. 08210020.06

Dear Mr. Bramblett:

This letter contains our 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.

1.0 INTRODUCTION

Schnabel Engineering conducted geophysical surveys on November 19 and 25, 2008, in the accessible areas of the proposed right-of-way (ROW) section of Parcel 155 (Anthony R. Jacobs Property, St. Mathews Healing) under our 2008 contract with the NCDOT. Parcel 155 is located on the southwest quadrant of the intersection of SR 1003 (Camden Road) and SR 1154 (West Mountain Drive), in Fayetteville, NC. The work was conducted at the location indicated by Hart & Hickman and the NCDOT to support their environmental assessment of the subject parcel. 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 site.

2.0 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 (building, curbs, signs, etc.) were recorded for later correlation with the geophysical data and for location references to the NCDOT drawings. The geophysical investigation consisted of an electromagnetic (EM) induction survey using a Geonics EM61-MK2 instrument, and a ground-penetrating radar (GPR) survey using a Geophysical Survey Systems SIR-3000 system equipped with a 400 MHz antenna.

The EM61 data were collected along parallel survey lines spaced about 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 in orthogonal directions over anomalous EM readings not attributed to known metallic features.

Preliminary results were sent to David Graham and Wil Pineda of Hart & Hickman on December 5, 2008.

3.0 DISCUSSION OF RESULTS

The contoured EM61 data are shown on Figures 1 and 2. The EM61 early time gate results are plotted on Figure 1. The early time gate data provide the most sensitive detection of metal object targets, regardless of size. Figure 2 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 UST's.

The early time gate and differential results indicate several anomalies probably caused by known metallic features. One area containing reinforced concrete and several areas containing anomalies not attributed to known metallic features in the EM61 data were investigated using GPR. The GPR

data indicate that the anomalies are probably caused by reinforced concrete, buried metal debris, and utilities. The GPR data did not indicate the presence of UST's in the areas surveyed on Parcel 155.

4.0 CONCLUSIONS

Our evaluation of the geophysical data collected on Parcel 155 of Project U-2810C in Fayetteville, NC indicates the following:

- The geophysical data do not indicate the presence of UST's in the areas surveyed.

5.0 LIMITATIONS

These services have been performed and this report prepared for Hart & Hickman 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.

Thank you for the opportunity to serve you on this project. Please call if you need additional information or have any questions.

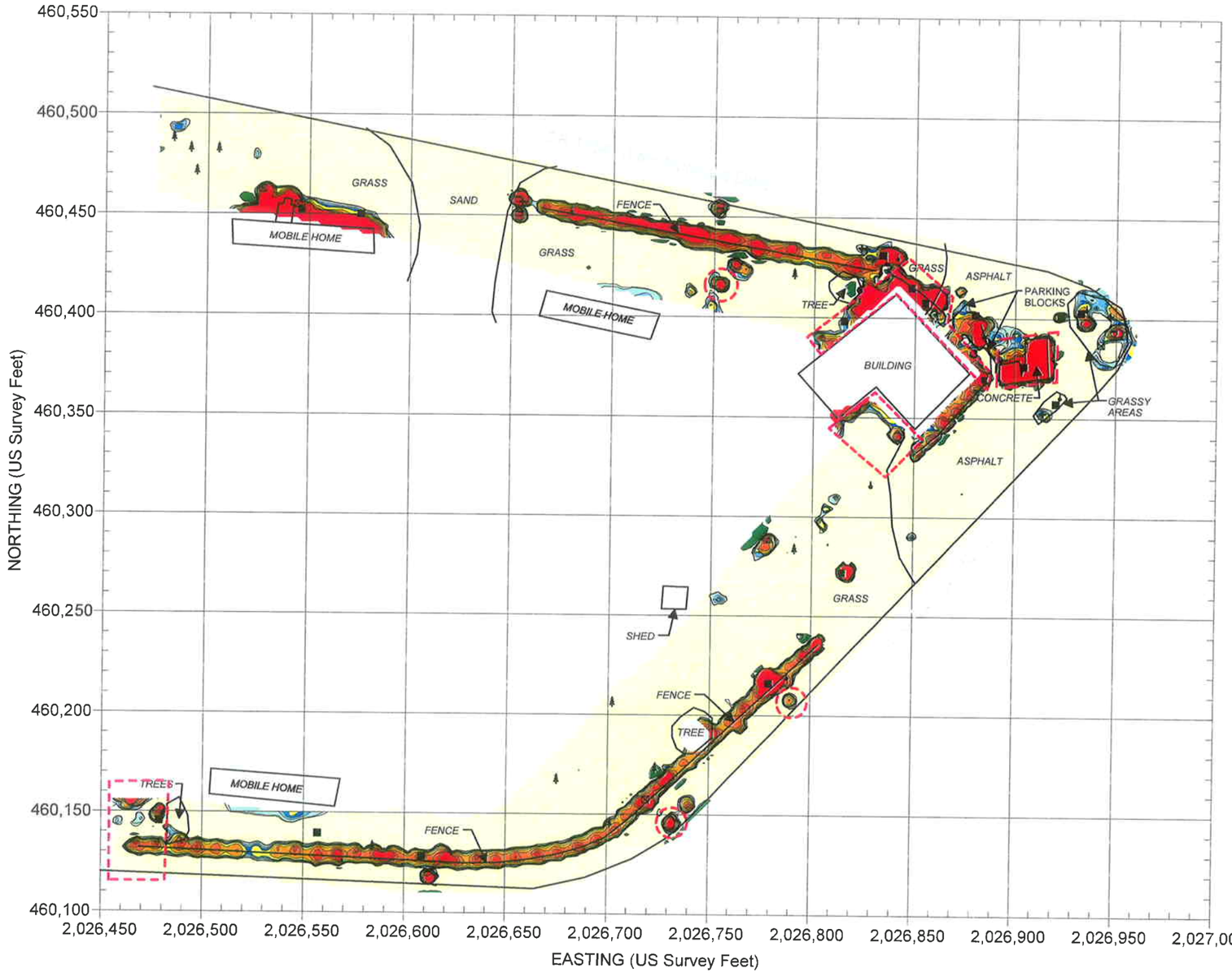
Sincerely,

SCHNABEL ENGINEERING SOUTH, P.C.

Jeremy S. Strohmeyer, P.G.
Project Manager

Edward D. Billington, P.G.
Senior Vice President

JW/JS/NB
Attachment: Figures (2)
FILE: G:\2008 PROJECTS\08210020 (NCDOT 2008 GEOTECH UNIT SERVICES)\08210020.06 (U-2810C, CUMBERLAND COUNTY)\REPORT\PARCEL 135\REPORT ON PARCEL 135.DOC



EM61 Early Time Gate Response (mV)

-15000 -100 0 37.5 50 100 150 200 300 500 750 1000 2000

Scale in US Survey Feet

0 60 120 180

EXPLANATION

- EM61 SURVEY AREA - DATA ACQUIRED ALONG PARALLEL SURVEY LINES SPACED APPROXIMATELY 2.5 FEET APART
- DOT MARKER
- TANK LID
- METALLIC OBJECT
- MONITORING WELL
- UTILITY POLE
- STORMWATER GRATE
- GPR SURVEY AREA
- GUY WIRE
- UTILITY MANHOLE OR BOX
- TREE
- SIGN

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 November 19, 2008, 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 November 25, 2008, using a Geophysical Survey Systems SIR 3000 equipped with a 400 MHz antenna.

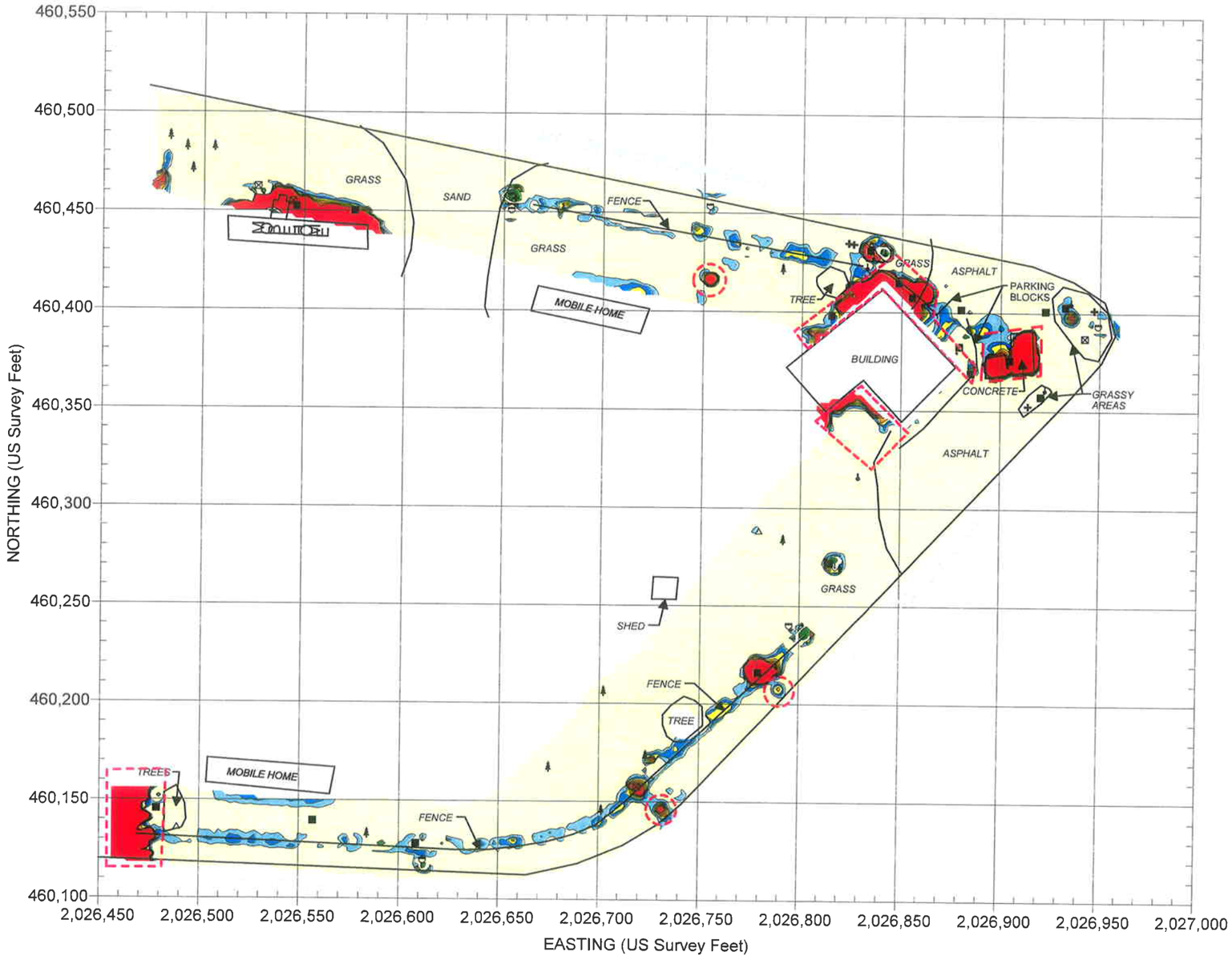
Schnabel Engineering

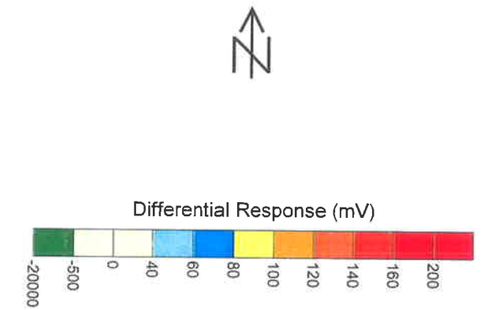
NC Department of Transportation
Geotechnical Engineering Unit

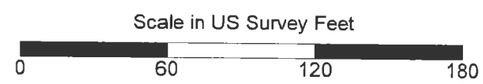
State Project No. U-2810C
Cumberland County, North Carolina

PARCEL 155
EM61 EARLY TIME GATE RESPONSE

FIGURE 1







EXPLANATION

- EM61 SURVEY AREA - DATA ACQUIRED ALONG PARALLEL SURVEY LINES SPACED APPROXIMATELY 2.5 FEET APART
- DOT MARKER
- TANK LID
- METALLIC OBJECT
- MONITORING WELL
- UTILITY POLE
- STORMWATER GRATE
- GPR SURVEY AREA
- GUY WIRE
- UTILITY MANHOLE OR BOX
- TREE
- SIGN

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 November 19, 2008, 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 November 25, 2008, using a Geophysical Survey Systems SIR 3000 equipped with a 400 MHz antenna.

Schnabel Engineering

NC Department of Transportation
Geotechnical Engineering Unit

State Project No. U-2810C
Cumberland County, North Carolina

PARCEL 155
EM61 DIFFERENTIAL RESPONSE

FIGURE 2

Appendix C

Soil Boring Logs

Hart & Hickman
ENVIRONMENTAL CONSULTANTS

2923 South Tryon Street-Suite 100
Charlotte, North Carolina 28203
704-586-0007(p) 704-586-0373(f)

3334 Hillsborough St.
Raleigh, North Carolina 27607
919-847-4241(p) 919-847-4261(f)

BORING NUMBER 155-1

PROJECT: Cumberland County PSAs
JOB NUMBER: ROW-203
LOCATION: Fayetteville, NC

DEPTH (ft)	RECOVERY (%)	BLOW COUNT	OVA (ppm) BKG.	OVA (ppm) SAMP.	LITHOLOGY	MATERIAL DESCRIPTION	WELL DIAGRAM	DEPTH (ft)
0								0
	100		0	0		(SW-SM) Tan, fine SAND, trace silt, dry		
	100		0	0				
5	100		0	0				5
	100		0	0				
	100		0	0		(SW) Tan-white, fine SAND, dry		
10	100		0	0				10
						Bottom of borehole at 12.0 feet.		
15								15
20								20

DRILLING CONTRACTOR: SEI
DRILL RIG/ METHOD: Geoprobe / Direct-Push Sleeve
SAMPLING METHOD: DPT Sleeves
LOGGED BY GAB
DRAWN BY:

BORING STARTED 12/10/08
BORING COMPLETED: 12/10/08
TOTAL DEPTH: 12
SURFACE ELEV:
DEPTH TO WATER:

Remarks:

Borehole hand-augered to 5 feet.
Sample collected from 2-4 feet.

LOG OF BORING - HART HICKMAN.GDT - 12/23/08 13:03 - S:\AAA-MASTER GINT PROJECTS\ROW-203\PARCEL 155.GPJ

BORING NUMBER 155-2

Hart & Hickman
ENVIRONMENTAL CONSULTANTS

2923 South Tryon Street-Suite 100
Charlotte, North Carolina 28203
704-586-0007(p) 704-586-0373(f)

3334 Hillsborough St.
Raleigh, North Carolina 27607
919-847-4241(p) 919-847-4261(f)

PROJECT: Cumberland County PSAs
JOB NUMBER: ROW-203
LOCATION: Fayetteville, NC

DEPTH (ft)	RECOVERY (%)	BLOW COUNT	OVA (ppm) BKG.	OVA (ppm) SAMP.	LITHOLOGY	MATERIAL DESCRIPTION	WELL DIAGRAM	DEPTH (ft)
0								0
	100		0	0		(SW-SM) Tan, fine SAND, trace silt, dry		
	100		0	0				
5	100		0	0				5
	100		0	0				
	100		0	0				
10	100		0	0				10
						Bottom of borehole at 12.0 feet.		
15								15
20								20

DRILLING CONTRACTOR: SEI
DRILL RIG/ METHOD: Geoprobe / Direct-Push Sleeve
SAMPLING METHOD: DPT Sleeves
LOGGED BY GAB
DRAWN BY:

BORING STARTED 12/10/08
BORING COMPLETED: 12/10/08
TOTAL DEPTH: 12
SURFACE ELEV:
DEPTH TO WATER:

Remarks:

Borehole hand-augered to 5 feet.
Sample collected from 2-4 feet.

LOG OF BORING - HART HICKMAN.GDT - 12/23/08 13:03 - S:\AAA-MASTER GINT PROJECTS\ROW-203\PARCEL 155.GPJ

Hart & Hickman
ENVIRONMENTAL CONSULTANTS

2923 South Tryon Street-Suite 100
Charlotte, North Carolina 28203
704-586-0007(p) 704-586-0373(f)

3334 Hillsborough St.
Raleigh, North Carolina 27607
919-847-4241(p) 919-847-4261(f)

BORING NUMBER 155-3

PROJECT: Cumberland County PSAs
JOB NUMBER: ROW-203
LOCATION: Fayetteville, NC

DEPTH (ft)	RECOVERY (%)	BLOW COUNT	OVA (ppm) BKG.	OVA (ppm) SAMP.	LITHOLOGY	MATERIAL DESCRIPTION	WELL DIAGRAM	DEPTH (ft)
0								0
	100		0	0		(SW-SM) Tan-brown, fine SAND, trace silt, dry		
	100		0	0				
5	100		0	0				5
	100		0	0				
	100		0	0		(SW) Tan-white, fine SAND, dry		
10	100		0	0				10
						Bottom of borehole at 12.0 feet.		
15								15
20								20

DRILLING CONTRACTOR: SEI
DRILL RIG/ METHOD: Geoprobe / Direct-Push Sleeve
SAMPLING METHOD: DPT Sleeves
LOGGED BY GAB
DRAWN BY:

BORING STARTED 12/10/08
BORING COMPLETED: 12/10/08
TOTAL DEPTH: 12
SURFACE ELEV:
DEPTH TO WATER:

Remarks:

Borehole hand-augered to 5 feet.
Sample collected from 2-4 feet.

LOG OF BORING - HART HICKMAN.GDT - 12/23/08 13:03 - S:\AAA-MASTER GINT PROJECTS\ROW-203\PARCEL 155.GPJ

Hart & Hickman
ENVIRONMENTAL CONSULTANTS

2923 South Tryon Street-Suite 100
Charlotte, North Carolina 28203
704-586-0007(p) 704-586-0373(f)

3334 Hillsborough St.
Raleigh, North Carolina 27607
919-847-4241(p) 919-847-4261(f)

BORING NUMBER 155-4

PROJECT: Cumberland County PSAs
JOB NUMBER: ROW-203
LOCATION: Fayetteville, NC

DEPTH (ft)	RECOVERY (%)	BLOW COUNT	OVA (ppm) BKG.	OVA (ppm) SAMP.	LITHOLOGY	MATERIAL DESCRIPTION	WELL DIAGRAM	DEPTH (ft)
0								0
	100		0	0		(SW-SM) Tan-brown, fine SAND, trace silt, dry		
	100		0	0				
5	100		0	0		(SW) Tan, fine SAND, dry		5
	100		0	0				
	100		0	0		(SW) Tan-white, fine SAND, dry		
10	100		0	0				10
						Bottom of borehole at 12.0 feet.		
15								15
20								20

DRILLING CONTRACTOR: SEI
DRILL RIG/ METHOD: Geoprobe / Direct-Push Sleeve
SAMPLING METHOD: DPT Sleeves
LOGGED BY GAB
DRAWN BY:

BORING STARTED 12/10/08
BORING COMPLETED: 12/10/08
TOTAL DEPTH: 12
SURFACE ELEV:
DEPTH TO WATER:

Remarks:

Borehole hand-augered to 5 feet.
Sample collected from 2-4 feet.

LOG OF BORING - HART HICKMAN.GDT - 12/23/08 13:03 - S:\AAA-MASTER GINT PROJECTS\ROW-203\PARCEL 155.GPJ

BORING NUMBER 155-5

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3334 Hillsborough St.
Raleigh, North Carolina 27607
919-847-4241(p) 919-847-4261(f)

PROJECT: Cumberland County PSAs
JOB NUMBER: ROW-203
LOCATION: Fayetteville, NC

DEPTH (ft)	RECOVERY (%)	BLOW COUNT	OVA (ppm) BKG.	OVA (ppm) SAMP.	LITHOLOGY	MATERIAL DESCRIPTION	WELL DIAGRAM	DEPTH (ft)
0								0
	100		0	0		(SW-SM) Tan-brown, fine SAND, trace silt, dry		
	100		0	0				
5	100		0	0				5
	100		0	0		(SW) Tan-white, fine SAND, dry		
	100		0	0				
10	100		0	0				10
						Bottom of borehole at 12.0 feet.		
15								15
20								20

DRILLING CONTRACTOR: SEI
DRILL RIG/ METHOD: Geoprobe / Direct-Push Sleeve
SAMPLING METHOD: DPT Sleeves
LOGGED BY GAB
DRAWN BY:

BORING STARTED 12/10/08
BORING COMPLETED: 12/10/08
TOTAL DEPTH: 12
SURFACE ELEV:
DEPTH TO WATER:

Remarks:

Borehole hand-augered to 5 feet.
Sample collected from 2-4 feet.

LOG OF BORING - HART HICKMAN.GDT - 12/23/08 13:03 - S:\AAA-MASTER GINT PROJECTS\ROW-203\PARCEL 155.GPJ

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Charlotte, North Carolina 28203
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3334 Hillsborough St.
Raleigh, North Carolina 27607
919-847-4241(p) 919-847-4261(f)

BORING NUMBER 155-6

PROJECT: Cumberland County PSAs
JOB NUMBER: ROW-203
LOCATION: Fayetteville, NC

DEPTH (ft)	RECOVERY (%)	BLOW COUNT	OVA (ppm) BKG.	OVA (ppm) SAMP.	LITHOLOGY	MATERIAL DESCRIPTION	WELL DIAGRAM	DEPTH (ft)
0								0
	100		0	0		(SW-SM) Tan-brown, fine SAND, trace silt, dry		
	100		0	0				
						(SW) Tan, fine SAND, dry		
5	100		0	0				5
	100		0	0				
	100		0	0				
10	100		0	0				10
						Bottom of borehole at 12.0 feet.		
15								15
20								20

DRILLING CONTRACTOR: SEI
DRILL RIG/ METHOD: Geoprobe / Direct-Push Sleeve
SAMPLING METHOD: DPT Sleeves
LOGGED BY GAB
DRAWN BY:

BORING STARTED 12/10/08
BORING COMPLETED: 12/10/08
TOTAL DEPTH: 12
SURFACE ELEV:
DEPTH TO WATER:

Remarks:

Borehole hand-augered to 5 feet.
Sample collected from 2-4 feet.

LOG OF BORING - HART HICKMAN.GDT - 12/23/08 13:03 - S:\AAA-MASTER GINT PROJECTS\ROW-203\PARCEL 155.GPJ

BORING NUMBER 155-7

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704-586-0007(p) 704-586-0373(f)

3334 Hillsborough St.
Raleigh, North Carolina 27607
919-847-4241(p) 919-847-4261(f)

PROJECT: Cumberland County PSAs
JOB NUMBER: ROW-203
LOCATION: Fayetteville, NC

DEPTH (ft)	RECOVERY (%)	BLOW COUNT	OVA (ppm) BKG.	OVA (ppm) SAMP.	LITHOLOGY	MATERIAL DESCRIPTION	WELL DIAGRAM	DEPTH (ft)
0								0
	100		0	27.4		(SW-SM) Tan-brown, fine SAND, trace silt, dry		
	100		0	32.7				
5	100		0	1.4		(SW) Tan, fine SAND, dry		5
	100		0	0				
	100		0	121				
10	100		0	0.3				10
						Bottom of borehole at 12.0 feet.		
15								15
20								20

DRILLING CONTRACTOR: SEI
DRILL RIG/ METHOD: Geoprobe / Direct-Push Sleeve
SAMPLING METHOD: DPT Sleeves
LOGGED BY GAB
DRAWN BY:

BORING STARTED 12/10/08
BORING COMPLETED: 12/10/08
TOTAL DEPTH: 12
SURFACE ELEV:
DEPTH TO WATER:

Remarks:

Borehole hand-augered to 5 feet.
Samples collected from 2-4 feet and 8-10 feet.

LOG OF BORING - HART HICKMAN.GDT - 12/23/08 13:03 - S:\AAA-MASTER GINT PROJECTS\ROW-203\PARCEL 155.GPJ

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3334 Hillsborough St.
Raleigh, North Carolina 27607
919-847-4241(p) 919-847-4261(f)

BORING NUMBER 155-8

PROJECT: Cumberland County PSAs
JOB NUMBER: ROW-203
LOCATION: Fayetteville, NC

DEPTH (ft)	RECOVERY (%)	BLOW COUNT	OVA (ppm) BKG.	OVA (ppm) SAMP.	LITHOLOGY	MATERIAL DESCRIPTION	WELL DIAGRAM	DEPTH (ft)
0								0
	100		0	77.2		(SW-SM) Tan-brown, fine SAND, trace silt, dry		
	100		0	268				
5	100		0	10.5				5
	100		0	1.3		(SW) Tan, fine SAND dry		
	100		0	4				
10	100		0	3.6				10
						Bottom of borehole at 12.0 feet.		
15								15
20								20

DRILLING CONTRACTOR: SEI
DRILL RIG/ METHOD: Geoprobe / Direct-Push Sleeve
SAMPLING METHOD: DPT Sleeves
LOGGED BY GAB
DRAWN BY:

BORING STARTED 12/10/08
BORING COMPLETED: 12/10/08
TOTAL DEPTH: 12
SURFACE ELEV:
DEPTH TO WATER:

Remarks:

Borehole hand-augered to 5 feet.
Sample taken from 2-4 feet.

LOG OF BORING - HART HICKMAN.GDT - 12/23/08 13:03 - S:\AAA-MASTER GINT PROJECTS\ROW-203\PARCEL 155.GPJ

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Raleigh, North Carolina 27607
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BORING NUMBER 155-9

PROJECT: Cumberland County PSAs
JOB NUMBER: ROW-203
LOCATION: Fayetteville, NC

DEPTH (ft)	RECOVERY (%)	BLOW COUNT	OVA (ppm) BKG.	OVA (ppm) SAMP.	LITHOLOGY	MATERIAL DESCRIPTION
0						
	100		0	2.3		(SW-SM) Tan-brown, fine SAND, trace silt, dry
	100		0	2.8		
						(SW) Tan, fine SAND, dry
5	100		0	1		
	100		0	2		
	100		0	2.1		
10	100		0	0		
						Bottom of borehole at 12.0 feet.
15						
20						

WELL DIAGRAM

DEPTH (ft): 0, 5, 10, 15, 20

DRILLING CONTRACTOR: SEI
DRILL RIG/ METHOD: Geoprobe / Direct-Push Sleeve
SAMPLING METHOD: DPT Sleeves
LOGGED BY GAB
DRAWN BY:

BORING STARTED 12/10/08
BORING COMPLETED: 12/10/08
TOTAL DEPTH: 12
SURFACE ELEV:
DEPTH TO WATER:

Remarks:

Borehole hand-augered to 5 feet.
Sample collected from 2-4 feet.

LOG OF BORING - HART HICKMAN.GDT - 12/23/08 13:03 - S:\AAA-MASTER GINT PROJECTS\ROW-203\PARCEL 155.GPJ

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3334 Hillsborough St.
Raleigh, North Carolina 27607
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BORING NUMBER 155-10

PROJECT: Cumberland County PSAs
JOB NUMBER: ROW-203
LOCATION: Fayetteville, NC

DEPTH (ft)	RECOVERY (%)	BLOW COUNT	OVA (ppm) BKG.	OVA (ppm) SAMP.	LITHOLOGY	MATERIAL DESCRIPTION	WELL DIAGRAM
0							
	100		0	0		(SW) Brown, fine SAND, some gravel, dry	
	100		0	0			
						(SW) Tan, fine SAND	
5	100		0	0			
	100		0	0			
	100		0	0			
10	100		0	0			
						Bottom of borehole at 12.0 feet.	
15							
20							

DRILLING CONTRACTOR: SEI
DRILL RIG/ METHOD: Geoprobe / Direct-Push Sleeve
SAMPLING METHOD: DPT Sleeves
LOGGED BY GAB
DRAWN BY:

BORING STARTED 12/10/08
BORING COMPLETED: 12/10/08
TOTAL DEPTH: 12
SURFACE ELEV:
DEPTH TO WATER:

Remarks:

Borehole hand-augered to 5 feet.
Sample collected from 4-6 feet.

LOG OF BORING - HART HICKMAN.GDT - 12/23/08 13:03 - S:\AAA-MASTER GINT PROJECTS\ROW-203\PARCEL 155.GPJ

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BORING NUMBER 155-11

PROJECT: Cumberland County PSAs
JOB NUMBER: ROW-203
LOCATION: Fayetteville, NC

DEPTH (ft)	RECOVERY (%)	BLOW COUNT	OVA (ppm) BKG.	OVA (ppm) SAMP.	LITHOLOGY	MATERIAL DESCRIPTION	WELL DIAGRAM	DEPTH (ft)
0								0
	100		0	0		(SW) Tan, fine SAND		
	100		0	0				
5	100		0	0				5
	100		0	0				
	100		0	0				
10	100		0	0				10
						Bottom of borehole at 12.0 feet.		
15								15
20								20

DRILLING CONTRACTOR: SEI
DRILL RIG/ METHOD: Geoprobe / Direct-Push Sleeve
SAMPLING METHOD: DPT Sleeves
LOGGED BY GAB
DRAWN BY:

BORING STARTED 12/10/08
BORING COMPLETED: 12/10/08
TOTAL DEPTH: 12
SURFACE ELEV:
DEPTH TO WATER:

Remarks:

Borehole hand-augered to 5 feet.
Sample collected from 2-4 feet.

LOG OF BORING - HART HICKMAN.GDT - 12/23/08 13:03 - S:\AAA-MASTER GINT PROJECTS\ROW-203\PARCEL 155.GPJ

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3334 Hillsborough St.
Raleigh, North Carolina 27607
919-847-4241(p) 919-847-4261(f)

BORING NUMBER 155-12

PROJECT: Cumberland County PSAs
JOB NUMBER: ROW-203
LOCATION: Fayetteville, NC

DEPTH (ft)	RECOVERY (%)	BLOW COUNT	OVA (ppm) BKG.	OVA (ppm) SAMP.	LITHOLOGY	MATERIAL DESCRIPTION	WELL DIAGRAM	DEPTH (ft)
0								0
	100		0	0		(SW) Tan, fine SAND, dry		
	100		0	0				
5	100		0	0				5
	100		0	0				
	100		0	0		(SW) Tan-white, fine SAND, dry		
10	100		0	0				10
						Bottom of borehole at 12.0 feet.		
15								15
20								20

DRILLING CONTRACTOR: SEI
DRILL RIG/ METHOD: Geoprobe / Direct-Push Sleeve
SAMPLING METHOD: DPT Sleeves
LOGGED BY GAB
DRAWN BY:

BORING STARTED 12/10/08
BORING COMPLETED: 12/10/08
TOTAL DEPTH: 12
SURFACE ELEV:
DEPTH TO WATER:

Remarks:

Borehole hand-augered to 5 feet.
Sample collected from 2-4 feet.

LOG OF BORING - HART HICKMAN.GDT - 12/23/08 13:03 - S:\AAA-MASTER GINT PROJECTS\ROW-203\PARCEL 155.GPJ

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3334 Hillsborough St.
Raleigh, North Carolina 27607
919-847-4241(p) 919-847-4261(f)

BORING NUMBER 155-13

PROJECT: Cumberland County PSAs
JOB NUMBER: ROW-203
LOCATION: Fayetteville, NC

DEPTH (ft)	RECOVERY (%)	BLOW COUNT	OVA (ppm) BKG.	OVA (ppm) SAMP.	LITHOLOGY	MATERIAL DESCRIPTION	WELL DIAGRAM
0							
	100		0	0		(SW-SM) Tan-brown, fine SAND, trace silt, dry	
	100		0	0			
5	100		0	0			
	100		0	0			
	100		0	0			
10	100		0	0		(SW) Tan-white, fine SAND, dry	
						Bottom of borehole at 12.0 feet.	
15							
20							

DRILLING CONTRACTOR: SEI
DRILL RIG/ METHOD: Geoprobe / Direct-Push Sleeve
SAMPLING METHOD: DPT Sleeves
LOGGED BY GAB
DRAWN BY:

BORING STARTED 12/10/08
BORING COMPLETED: 12/10/08
TOTAL DEPTH: 12
SURFACE ELEV:
DEPTH TO WATER:

Remarks:

Borehole hand-augered to 5 feet.
Sample collected from 2-4 feet.

LOG OF BORING - HART HICKMAN.GDT - 12/23/08 13:03 - S:\AAA-MASTER GINT PROJECTS\ROW-203\PARCEL 155.GPJ

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3334 Hillsborough St.
Raleigh, North Carolina 27607
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BORING NUMBER 155-14

PROJECT: Cumberland County PSAs
JOB NUMBER: ROW-203
LOCATION: Fayetteville, NC

DEPTH (ft)	RECOVERY (%)	BLOW COUNT	OVA (ppm) BKG.	OVA (ppm) SAMP.	LITHOLOGY	MATERIAL DESCRIPTION	WELL DIAGRAM	DEPTH (ft)
0						ASPHALT		0
	100		0	0		(SW-SM) Tan-brown, fine SAND, trace silt, dry		
	100		0	0				
5	100		0	0		(SW) Tan, fine SAND, dry		5
	100		0	0				
	100		0	0				
10	100		0	0				10
						Bottom of borehole at 12.0 feet.		
15								15
20								20

DRILLING CONTRACTOR: SEI
DRILL RIG/ METHOD: Geoprobe / Direct-Push Sleeve
SAMPLING METHOD: DPT Sleeves
LOGGED BY GAB
DRAWN BY:

BORING STARTED 12/10/08
BORING COMPLETED: 12/10/08
TOTAL DEPTH: 12
SURFACE ELEV:
DEPTH TO WATER:

Remarks:

Borehole hand-augered to 5 feet.
Sample collected from 2-4 feet.

LOG OF BORING - HART HICKMAN.GDT - 12/23/08 13:03 - S:\AAA-MASTER GINT PROJECTS\ROW-203\PARCEL 155.GPJ

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BORING NUMBER 155-15

PROJECT: Cumberland County PSAs
JOB NUMBER: ROW-203
LOCATION: Fayetteville, NC

DEPTH (ft)	RECOVERY (%)	BLOW COUNT	OVA (ppm) BKG.	OVA (ppm) SAMP.	LITHOLOGY	MATERIAL DESCRIPTION	WELL DIAGRAM
0						ASPHALT	
	100		0	0		(SW-SM) Tan-brown, fine SAND, trace silt, dry	
	100		0	0			
						(SW) Tan, fine SAND, dry	
5	100		0	0			
	100		0	0			
	100		0	0			
10						(SW) Tan-white, fine SAND, dry	
	100		0	0			
						Bottom of borehole at 12.0 feet.	
15							
20							

DRILLING CONTRACTOR: SEI
DRILL RIG/ METHOD: Geoprobe / Direct-Push Sleeve
SAMPLING METHOD: DPT Sleeves
LOGGED BY GAB
DRAWN BY:

BORING STARTED 12/10/08
BORING COMPLETED: 12/10/08
TOTAL DEPTH: 12
SURFACE ELEV:
DEPTH TO WATER:

Remarks:

Borehole hand-augered to 5 feet.
Sample collected from 2-4 feet.

LOG OF BORING - HART HICKMAN.GDT - 12/23/08 13:03 - S:\AAA-MASTER GINT PROJECTS\ROW-203\PARCEL 155.GPJ

Appendix D

Laboratory Analytical Report

SGS

Mr. David Graham
Hart & Hickman
2923 S. Tryon St.
Suite 100
Charlotte NC 28203
Report Number: G609-42

Client Project: Row-203

Dear Mr. Graham:

Enclosed are the results of the analytical services performed under the referenced project. The samples are certified to meet the requirements of the National Environmental Laboratory Accreditation Conference Standards. Copies of this report and supporting data will be retained in our files for a period of five years in the event they are required for future reference. Any samples submitted to our laboratory will will be retained for a maximum of thirty (30) days from the date of this report unless other arrangements are requested.

If there are any questions about the report or the services performed during this project, please call SGS at (910) 350-1903. We will be happy to answer any questions or concerns which you may have.

Thank you for using SGS Environmental Services for your analytical services. We look forward to working with you again on any additional analytical needs which you may have.

Sincerely,
SGS Environmental Services, Inc.

Project Manager — Date 12/22/08
Lori Lockamy

List of Reporting Abbreviations
And Data Qualifiers

B = Compound also detected in batch blank

BQL = Below Quantification Limit (RL or MDL)

DF = Dilution Factor

Dup = Duplicate

D = Detected, but RPD is > 40% between results in dual column method.

E = Estimated concentration, exceeds calibration range.

J = Estimated concentration, below calibration range and above MDL

LCS(D) = Laboratory Control Spike (Duplicate)

MDL = Method Detection Limit

MS(D) = Matrix Spike (Duplicate)

PQL = Practical Quantitation Limit

RL/CL = Reporting Limit / Control Limit

RPD = Relative Percent Difference

mg/kg = milligram per kilogram, ppm, parts per million

ug/kg = micrograms per kilogram, ppb, parts per billion

mg/L = milligram per liter, ppm, parts per million

ug/L = micrograms per liter, ppb, parts per billion

% Rec = Percent Recovery

% soilds = Percent Solids

Special Notes:
1) Metals and mercury samples are digested with a hot block, see the standard operating procedure document for details.
2) Uncertainty for all reported data is less than or equal to 30 percent.

MI34.021808.4

SGS Environmental Services, Inc.

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

Client Sample ID: 155-1 (2-4)
Client Project ID: Row-203
Lab Sample ID: G609-42-1A
Lab Project ID: G609-42
Report Basis: Dry Weight

Analyzed By: DVG
Date Collected: 12/10/2008 7:30
Date Received: 12/12/2008
Matrix: Soil
Solids 93.47

Analyte	Result	RL	Units	Dilution Factor	Date Analyzed
Gasoline Range Organics	BQL	6.27	mg/Kg	1	12/17/08 06:22

Surrogate Spike Results

	Added	Result	Recovery	Flag	Limits
BFB	100	98	98.5		70-130

Comments:

Batch Information

Analytical Batch: VP121708
Analytical Method: 8015
Instrument ID: GC4
Analyst: DVG

Prep Method: 5035
Initial Wt/Vol: 5.12 g
Final Volume: 5 mL

Analyst: DVG

SGS Environmental Services, Inc.

Results for Total Petroleum Hydrocarbons
by GC/FID 8015

Client Sample ID: 155-2 (2-4)
Client Project ID: Row-203
Lab Sample ID: G609-42-2A
Lab Project ID: G609-42
Report Basis: Dry Weight

Analyzed By: DVG
Date Collected: 12/10/2008 7:50
Date Received: 12/12/2008
Matrix: Soil
Solids 94.88

Analyte	Result	RL	Units	Dilution Factor	Date Analyzed
Gasoline Range Organics	BQL	6.10	mg/Kg	1	12/17/08 07:41

Surrogate Spike Results

	Added	Result	Recovery	Flag	Limits
BFB	100	96	95.6		70-130

Comments:

Batch Information

Analytical Batch: VP121708
Analytical Method: 8015
Instrument ID: GC4
Analyst: DVG

Prep Method: 5035
Initial Wt/Vol: 5.18 g
Final Volume: 5 mL

Analyst: DVG

NC Certification #481
N.C. Certification #481

Reviewed By:

SGS Environmental Services, Inc.

Results for Total Petroleum Hydrocarbons

by **GC/FID 8015**

Client Sample ID:	155-3 (2-4)	Analyzed By:	DVG
Client Project ID:	Row-203	Date Collected:	12/10/2008 8:10
Lab Sample ID:	G609-42-3A	Date Received:	12/12/2008
Lab Project ID:	G609-42	Matrix:	Soil
Report Basis:	Dry Weight	Solids	93.87

Analyte	Result	RL	Units	Dilution Factor	Date Analyzed
Gasoline Range Organics	BQL	5.73	mg/Kg	1	12/17/08 08:35

Surrogate Spike Results

	Added	Result	Recovery	Flag	Limits
BFB	100	96	95.9		70-130

Comments:

Batch Information

Analytical Batch:	VP121708	Prep Method:	5035
Analytical Method:	8015	Initial Wt/Vol:	5.58 g
Instrument ID:	GC4	Final Volume:	5 mL
Analyst:	DVG		

Analyst: DVG

NC Certification #481

N.C. Certification #481

Reviewed By:

SGS Environmental Services, Inc.

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

Client Sample ID: 155-4 (2-4)
Client Project ID: Row-203
Lab Sample ID: G609-42-4A
Lab Project ID: G609-42
Report Basis: Dry Weight

Analyzed By: DVG
Date Collected: 12/10/2008 8:30
Date Received: 12/12/2008
Matrix: Soil
Solids 95.11

Analyte	Result	RL	Units	Dilution Factor	Date Analyzed
Gasoline Range Organics	BQL	5.44	mg/Kg	1	12/17/08 09:01

Surrogate Spike Results

	Added	Result	Recovery	Flag	Limits
BFB	100	98	98		70-130

Comments:

Batch Information

Analytical Batch: VP121708
Analytical Method: 8015
Instrument ID: GC4
Analyst: DVG

Prep Method: 5035
Initial Wt/Vol: 5.8 g
Final Volume: 5 mL

Analyst: DVG

SGS Environmental Services, Inc.

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

Client Sample ID: 155-5 (2-4)
Client Project ID: Row-203
Lab Sample ID: G609-42-5A
Lab Project ID: G609-42
Report Basis: Dry Weight

Analyzed By: DVG
Date Collected: 12/10/2008 8:50
Date Received: 12/12/2008
Matrix: Soil
Solids 92.24

Analyte	Result	RL	Units	Dilution Factor	Date Analyzed
Gasoline Range Organics	BQL	5.97	mg/Kg	1	12/17/08 09:28

Surrogate Spike Results

	Added	Result	Recovery	Flag	Limits
BFB	100	102	102		70-130

Comments:

Batch Information

Analytical Batch: VP121708
Analytical Method: 8015
Instrument ID: GC4
Analyst: DVG

Prep Method: 5035
Initial Wt/Vol: 5.45 g
Final Volume: 5 mL

Analyst: DVG

SGS Environmental Services, Inc.

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

Client Sample ID: 155-6 (2-4)
Client Project ID: Row-203
Lab Sample ID: G609-42-6A
Lab Project ID: G609-42
Report Basis: Dry Weight

Analyzed By: DVG
Date Collected: 12/10/2008 9:10
Date Received: 12/12/2008
Matrix: Soil
Solids 94.33

Analyte	Result	RL	Units	Dilution Factor	Date Analyzed
Gasoline Range Organics	BQL	5.84	mg/Kg	1	12/17/08 09:54

Surrogate Spike Results

	Added	Result	Recovery	Flag	Limits
BFB	100	102	102		70-130

Comments:

Batch Information

Analytical Batch: VP121708
Analytical Method: 8015
Instrument ID: GC4
Analyst: DVG

Prep Method: 5035
Initial Wt/Vol: 5.45 g
Final Volume: 5 mL

Analyst: DVG

SGS Environmental Services, Inc.

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

Client Sample ID: 155-7 (2-4)
Client Project ID: Row-203
Lab Sample ID: G609-42-7A
Lab Project ID: G609-42
Report Basis: Dry Weight

Analyzed By: DVG
Date Collected: 12/10/2008 9:30
Date Received: 12/12/2008
Matrix: Soil
Solids 93.92

Analyte	Result	RL	Units	Dilution Factor	Date Analyzed
Gasoline Range Organics	BQL	5.19	mg/Kg	1	12/17/08 10:21

Surrogate Spike Results

	Added	Result	Recovery	Flag	Limits
BFB	100	96	96.3		70-130

Comments:

Batch Information

Analytical Batch: VP121708
Analytical Method: 8015
Instrument ID: GC4
Analyst: DVG

Prep Method: 5035
Initial Wt/Vol: 6.16 g
Final Volume: 5 mL

Analyst: DVG

NC Certification #481
N.C. Certification #481

Reviewed By:

SGS Environmental Services, Inc.

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

Client Sample ID: 155-7 (8-10)
Client Project ID: Row-203
Lab Sample ID: G609-42-8A
Lab Project ID: G609-42
Report Basis: Dry Weight

Analyzed By: DVG
Date Collected: 12/10/2008 9:40
Date Received: 12/12/2008
Matrix: Soil
Solids 95.49

Analyte	Result	RL	Units	Dilution Factor	Date Analyzed
Gasoline Range Organics	BQL	6.33	mg/Kg	1	12/17/08 10:47

Surrogate Spike Results

	Added	Result	Recovery	Flag	Limits
BFB	100	102	102		70-130

Comments:

Batch Information

Analytical Batch: VP121708
Analytical Method: 8015
Instrument ID: GC4
Analyst: DVG

Prep Method: 5035
Initial Wt/Vol: 4.96 g
Final Volume: 5 mL

Analyst: DVG

SGS Environmental Services, Inc.

Results for Total Petroleum Hydrocarbons
by GC/FID 8015

Client Sample ID: 155-8 (2-4)
Client Project ID: Row-203
Lab Sample ID: G609-42-9A
Lab Project ID: G609-42
Report Basis: Dry Weight

Analyzed By: DVG
Date Collected: 12/10/2008 9:50
Date Received: 12/12/2008
Matrix: Soil
Solids 94.01

Analyte	Result	RL	Units	Dilution Factor	Date Analyzed
Gasoline Range Organics	BQL	5.21	mg/Kg	1	12/17/08 11:14

Surrogate Spike Results

	Added	Result	Recovery	Flag	Limits
BFB	100	96	95.6		70-130

Comments:

Batch Information

Analytical Batch: VP121708
Analytical Method: 8015
Instrument ID: GC4
Analyst: DVG

Prep Method: 5035
Initial Wt/Vol: 6.13 g
Final Volume: 5 mL

Analyst: DVG

NC Certification #481
N.C. Certification #481

Reviewed By:

SGS Environmental Services, Inc.

Results for Total Petroleum Hydrocarbons
by GC/FID 8015

Client Sample ID: 155-9 (2-4)
Client Project ID: Row-203
Lab Sample ID: G609-42-10A
Lab Project ID: G609-42
Report Basis: Dry Weight

Analyzed By: DVG
Date Collected: 12/10/2008 10:00
Date Received: 12/12/2008
Matrix: Soil
Solids 93.29

Analyte	Result	RL	Units	Dilution Factor	Date Analyzed
Gasoline Range Organics	BQL	5.73	mg/Kg	1	12/17/08 11:41

Surrogate Spike Results

	Added	Result	Recovery	Flag	Limits
BFB	100	99	98.8		70-130

Comments:

Batch Information

Analytical Batch: VP121708
Analytical Method: 8015
Instrument ID: GC4
Analyst: DVG

Prep Method: 5035
Initial Wt/Vol: 5.61 g
Final Volume: 5 mL

Analyst: DVG

NC Certification #481
N.C. Certification #481

Reviewed By: GRO

SGS Environmental Services, Inc.

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

Client Sample ID: 155-10 (4-6)
Client Project ID: Row-203
Lab Sample ID: G609-42-11A
Lab Project ID: G609-42
Report Basis: Dry Weight

Analyzed By: DVG
Date Collected: 12/10/2008 10:15
Date Received: 12/12/2008
Matrix: Soil
Solids 94.64

Analyte	Result	RL	Units	Dilution Factor	Date Analyzed
Gasoline Range Organics	BQL	4.98	mg/Kg	1	12/17/08 12:07

Surrogate Spike Results

	Added	Result	Recovery	Flag	Limits
BFB	100	101	101		70-130

Comments:

Batch Information

Analytical Batch: VP121708
Analytical Method: 8015
Instrument ID: GC4
Analyst: DVG

Prep Method: 5035
Initial Wt/Vol: 6.37 g
Final Volume: 5 mL

Analyst: DVG

SGS Environmental Services, Inc.

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

Client Sample ID: 155-11 (2-4)
Client Project ID: Row-203
Lab Sample ID: G609-42-12A
Lab Project ID: G609-42
Report Basis: Dry Weight

Analyzed By: DVG
Date Collected: 12/10/2008 10:30
Date Received: 12/12/2008
Matrix: Soil
Solids 95.86

Analyte	Result	RL	Units	Dilution Factor	Date Analyzed
Gasoline Range Organics	BQL	5.84	mg/Kg	1	12/17/08 12:34

Surrogate Spike Results

	Added	Result	Recovery	Flag	Limits
BFB	100	101	101		70-130

Comments:

Batch Information

Analytical Batch: VP121708
Analytical Method: 8015
Instrument ID: GC4
Analyst: DVG

Prep Method: 5035
Initial Wt/Vol: 5.36 g
Final Volume: 5 mL

Analyst: DVG

NC Certification #481
N.C. Certification #481

Reviewed By:

SGS Environmental Services, Inc.

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

Client Sample ID: 155-12 (2-4)
Client Project ID: Row-203
Lab Sample ID: G609-42-13A
Lab Project ID: G609-42
Report Basis: Dry Weight

Analyzed By: DVG
Date Collected: 12/10/2008 10:45
Date Received: 12/12/2008
Matrix: Soil
Solids 96.02

Analyte	Result	RL	Units	Dilution Factor	Date Analyzed
Gasoline Range Organics	BQL	5.92	mg/Kg	1	12/17/08 13:01

Surrogate Spike Results

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

Comments:

Batch Information

Analytical Batch: VP121708
Analytical Method: 8015
Instrument ID: GC4
Analyst: DVG

Prep Method: 5035
Initial Wt/Vol: 5.28 g
Final Volume: 5 mL

Analyst: DVG

SGS Environmental Services, Inc.

Results for Total Petroleum Hydrocarbons
by GC/FID 8015

Client Sample ID: 155-13 (2-4)
Client Project ID: Row-203
Lab Sample ID: G609-42-14A
Lab Project ID: G609-42
Report Basis: Dry Weight

Analyzed By: DVG
Date Collected: 12/10/2008 11:00
Date Received: 12/12/2008
Matrix: Soil
Solids 95.10

Analyte	Result	RL	Units	Dilution Factor	Date Analyzed
Gasoline Range Organics	BQL	7.29	mg/Kg	1	12/17/08 13:27

Surrogate Spike Results

	Added	Result	Recovery	Flag	Limits
BFB	100	96	96.5		70-130

Comments:

Batch Information

Analytical Batch: VP121708
Analytical Method: 8015
Instrument ID: GC4
Analyst: DVG

Prep Method: 5035
Initial Wt/Vol: 4.33 g
Final Volume: 5 mL

Analyst: DVG

NC Certification #481
N.C. Certification #481

Reviewed By:

SGS Environmental Services, Inc.

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

Client Sample ID: 155-14 (2-4)
Client Project ID: Row-203
Lab Sample ID: G609-42-15A
Lab Project ID: G609-42
Report Basis: Dry Weight

Analyzed By: DVG
Date Collected: 12/10/2008 11:10
Date Received: 12/12/2008
Matrix: Soil
Solids 94.54

Analyte	Result	RL	Units	Dilution Factor	Date Analyzed
Gasoline Range Organics	BQL	6.00	mg/Kg	1	12/17/08 13:54

Surrogate Spike Results

	Added	Result	Recovery	Flag	Limits
BFB	100	98	98.4		70-130

Comments:

Batch Information

Analytical Batch: VP121708
Analytical Method: 8015
Instrument ID: GC4
Analyst: DVG

Prep Method: 5035
Initial Wt/Vol: 5.29 g
Final Volume: 5 mL

Analyst: DVG

SGS Environmental Services, Inc.

Results for Total Petroleum Hydrocarbons
by GC/FID 8015

Client Sample ID: 155-15 (2-4)
Client Project ID: Row-203
Lab Sample ID: G609-42-16A
Lab Project ID: G609-42
Report Basis: Dry Weight

Analyzed By: DVG
Date Collected: 12/10/2008 11:15
Date Received: 12/12/2008
Matrix: Soil
Solids 93.20

Analyte	Result	RL	Units	Dilution Factor	Date Analyzed
Gasoline Range Organics	BQL	5.69	mg/Kg	1	12/17/08 14:21

Surrogate Spike Results

	Added	Result	Recovery	Flag	Limits
BFB	100	96	96.2		70-130

Comments:

Batch Information

Analytical Batch: VP121708
Analytical Method: 8015
Instrument ID: GC4
Analyst: DVG

Prep Method: 5035
Initial Wt/Vol: 5.66 g
Final Volume: 5 mL

Analyst: DVG

SGS Environmental Services, Inc.

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

Client Sample ID: Method Blank
Client Project ID:
Lab Sample ID: VBLK4121708A
Lab Project ID:
Report Basis: Dry Weight

Analyzed By: DVG
Date Collected:
Date Received:
Matrix: Soil
Solids 100.00

Analyte	Result	RL	Units	Dilution Factor	Date Analyzed
Gasoline Range Organics	BQL	6.00	mg/kg	1	12/17/08 05:31

Surrogate Spike Results

	Added	Result	Recovery	Flag	Limits
BFB	100	98	97.6		70-130

Comments:

Batch Information

Analytical Batch: VP121708
Analytical Method: 8015
Instrument ID: GC4
Analyst: DVG

Prep Method: 5035
Initial Wt/Vol: 5 g
Final Volume: 5 mL

Analyst: DVG

SGS Environmental Services, Inc.

QC Results for Total Petroleum Hydrocarbons
by GC/FID

Client Sample ID: Batch QC
Lab Sample ID: g609-42-1a
LCS ID: LCS4121708A / VP121708

Analyzed By: DVG
Matrix: Soil
Solids 93.47

MS/MSD

Analyte	Sample MG/KG	Spiked MG/KG	MS MG/KG	REC % #	Spiked MG/KG	MSD MG/KG	REC % #	RPD % #
				(70-130%)			(70-130%)	(30%)
GRO	BQL	16.7	17.1	102	16.7	16.4	98.2	3.8

LCS

Analyte	Spiked MG/KG	Result MG/KG	REC % #	LIMITS Lower	Upper
GRO	16	15	94.4	70	130

Comments:

Reviewed By:

SGS Environmental Services, Inc.

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

Client Sample ID: 155-1 (2-4)
Client Project ID: Row-203
Lab Sample ID: G609-42-1D
Lab Project ID: G609-42

Date Collected: 12/10/2008 7:30
Date Received: 12/12/2008
Matrix: Soil
Solids 93.47
Report Basis: Dry Weight

Parameter	Result	RL	Units	Dilution Factor	Date Analyzed
Diesel Range Organics	BQL	6.78	mg/Kg	1	12/16/08 21:22

Surrogate Spike Results	Spike Added	Control Limits	Spike Result	Percent Recovery
OTP	40	40-140	36.5	91.4

Comments:

Batch Information

Analytical Batch: EP121608
Analytical Method: 8015
Instrument: GC6
Analyst: EAW

Prep batch: 13224
Prep Method: 3541
Prep Date: 12/15/08
Initial Prep Wt/Vol: 31.58 G
Prep Final Vol: 10 mL

Analyst: _____

NC Certification #481

Reviewed By: _____

SGS Environmental Services, Inc.

Results for Total Petroleum Hydrocarbons
by GC/FID 8015

Client Sample ID: 155-2 (2-4)
Client Project ID: Row-203
Lab Sample ID: G609-42-2D
Lab Project ID: G609-42

Date Collected: 12/10/2008 7:50
Date Received: 12/12/2008
Matrix: Soil
Solids 94.88
Report Basis: Dry Weight

Parameter	Result	RL	Units	Dilution Factor	Date Analyzed
Diesel Range Organics	BQL	6.57	mg/Kg	1	12/16/08 22:47

Surrogate Spike Results	Spike Added	Control Limits	Spike Result	Percent Recovery
OTP	40	40-140	36	90

Comments:

Batch Information

Analytical Batch: EP121608
Analytical Method: 8015
Instrument: GC6
Analyst: EAW

Prep batch: 13224
Prep Method: 3541
Prep Date: 12/15/08
Initial Prep Wt/Vol: 32.1 G
Prep Final Vol: 10 mL

Analyst: _____

NC Certification #481

Reviewed By: _____

SGS Environmental Services, Inc.

Results for Total Petroleum Hydrocarbons

by **GC/FID 8015**

Client Sample ID: 155-3 (2-4)
Client Project ID: Row-203
Lab Sample ID: G609-42-3D
Lab Project ID: G609-42

Date Collected: 12/10/2008 8:10
Date Received: 12/12/2008
Matrix: Soil
Solids 93.87
Report Basis: Dry Weight

Parameter	Result	RL	Units	Dilution Factor	Date Analyzed
Diesel Range Organics	**12.6**	6.58	mg/Kg	1	12/16/08 23:16

Surrogate Spike Results	Spike Added	Control Limits	Spike Result	Percent Recovery
OTP	40	40-140	34.1	85.2

Comments:

Batch Information

Analytical Batch: EP121608
Analytical Method: 8015
Instrument: GC6
Analyst: EAW

Prep batch: 13224
Prep Method: 3541
Prep Date: 12/15/08
Initial Prep Wt/Vol: 32.37 G
Prep Final Vol: 10 mL

Analyst: _____

NC Certification #481

Reviewed By: _____

SGS Environmental Services, Inc.

Results for Total Petroleum Hydrocarbons

by **GC/FID 8015**

Client Sample ID: 155-4 (2-4)
Client Project ID: Row-203
Lab Sample ID: G609-42-4D
Lab Project ID: G609-42

Date Collected: 12/10/2008 8:30
Date Received: 12/12/2008
Matrix: Soil
Solids 95.11
Report Basis: Dry Weight

Parameter	Result	RL	Units	Dilution Factor	Date Analyzed
Diesel Range Organics	BQL	6.59	mg/Kg	1	12/16/08 23:44

Surrogate Spike Results	Spike Added	Control Limits	Spike Result	Percent Recovery
OTP	40	40-140	32.4	80.9

Comments:

Batch Information

Analytical Batch: EP121608
Analytical Method: 8015
Instrument: GC6
Analyst: EAW

Prep batch: 13224
Prep Method: 3541
Prep Date: 12/15/08
Initial Prep Wt/Vol: 31.91 G
Prep Final Vol: 10 mL

Analyst: _____

NC Certification #481

Reviewed By: _____

SGS Environmental Services, Inc.

Results for Total Petroleum Hydrocarbons
by GC/FID 8015

Client Sample ID: 155-5 (2-4)
Client Project ID: Row-203
Lab Sample ID: G609-42-5D
Lab Project ID: G609-42

Date Collected: 12/10/2008 8:50
Date Received: 12/12/2008
Matrix: Soil
Solids 92.24
Report Basis: Dry Weight

Parameter	Result	RL	Units	Dilution Factor	Date Analyzed
Diesel Range Organics	BQL	6.67	mg/Kg	1	12/17/08 00:12

Surrogate Spike Results	Spike Added	Control Limits	Spike Result	Percent Recovery
OTP	40	40-140	37.3	93.2

Comments:

Batch Information

Analytical Batch: EP121608
Analytical Method: 8015
Instrument: GC6
Analyst: EAW

Prep batch: 13224
Prep Method: 3541
Prep Date: 12/15/08
Initial Prep Wt/Vol: 32.5 G
Prep Final Vol: 10 mL

Analyst: _____

NC Certification #481

Reviewed By: _____

SGS Environmental Services, Inc.

Results for Total Petroleum Hydrocarbons

by **GC/FID 8015**

Client Sample ID: 155-6 (2-4)
Client Project ID: Row-203
Lab Sample ID: G609-42-6D
Lab Project ID: G609-42

Date Collected: 12/10/2008 9:10
Date Received: 12/12/2008
Matrix: Soil
Solids 94.33
Report Basis: Dry Weight

Parameter	Result	RL	Units	Dilution Factor	Date Analyzed
Diesel Range Organics	**34.2**	6.69	mg/Kg	1	12/17/08 00:40

Surrogate Spike Results	Spike Added	Control Limits	Spike Result	Percent Recovery
OTP	40	40-140	37.1	92.7

Comments:

Batch Information

Analytical Batch: EP121608
Analytical Method: 8015
Instrument: GC6
Analyst: EAW

Prep batch: 13224
Prep Method: 3541
Prep Date: 12/15/08
Initial Prep Wt/Vol: 31.71 G
Prep Final Vol: 10 mL

Analyst: _____

NC Certification #481

Reviewed By: _____

SGS Environmental Services, Inc.

Results for Total Petroleum Hydrocarbons
by GC/FID 8015

Client Sample ID: 155-7 (2-4)
Client Project ID: Row-203
Lab Sample ID: G609-42-7D
Lab Project ID: G609-42

Date Collected: 12/10/2008 9:30
Date Received: 12/12/2008
Matrix: Soil
Solids 93.92
Report Basis: Dry Weight

Parameter	Result	RL	Units	Dilution Factor	Date Analyzed
Diesel Range Organics	BQL	6.67	mg/Kg	1	12/17/08 01:09

Surrogate Spike Results	Spike Added	Control Limits	Spike Result	Percent Recovery
OTP	40	40-140	37.1	92.8

Comments:

Batch Information

Analytical Batch: EP121608
Analytical Method: 8015
Instrument: GC6
Analyst: EAW

Prep batch: 13224
Prep Method: 3541
Prep Date: 12/15/08
Initial Prep Wt/Vol: 31.92 G
Prep Final Vol: 10 mL

Analyst: _____

NC Certification #481

Reviewed By: _____

SGS Environmental Services, Inc.

Results for Total Petroleum Hydrocarbons

by **GC/FID 8015**

Client Sample ID: 155-7 (8-10)
Client Project ID: Row-203
Lab Sample ID: G609-42-8D
Lab Project ID: G609-42

Date Collected: 12/10/2008 9:40
Date Received: 12/12/2008
Matrix: Soil
Solids 95.49
Report Basis: Dry Weight

Parameter	Result	RL	Units	Dilution Factor	Date Analyzed
Diesel Range Organics	BQL	6.21	mg/Kg	1	12/17/08 02:05

Surrogate Spike Results	Spike Added	Control Limits	Spike Result	Percent Recovery
OTP	40	40-140	36.3	90.9

Comments:

Batch Information

Analytical Batch: EP121608
Analytical Method: 8015
Instrument: GC6
Analyst: EAW

Prep batch: 13224
Prep Method: 3541
Prep Date: 12/15/08
Initial Prep Wt/Vol: 33.71 G
Prep Final Vol: 10 mL

Analyst: _____

NC Certification #481

Reviewed By: _____

SGS Environmental Services, Inc.

Results for Total Petroleum Hydrocarbons
by GC/FID 8015

Client Sample ID: 155-8 (2-4)
Client Project ID: Row-203
Lab Sample ID: G609-42-9D
Lab Project ID: G609-42

Date Collected: 12/10/2008 9:50
Date Received: 12/12/2008
Matrix: Soil
Solids 94.01
Report Basis: Dry Weight

Parameter	Result	RL	Units	Dilution Factor	Date Analyzed
Diesel Range Organics	BQL	6.65	mg/Kg	1	12/17/08 02:33

Surrogate Spike Results	Spike Added	Control Limits	Spike Result	Percent Recovery
OTP	40	40-140	32.2	80.4

Comments:

Batch Information

Analytical Batch: EP121608
Analytical Method: 8015
Instrument: GC6
Analyst: EAW

Prep batch: 13224
Prep Method: 3541
Prep Date: 12/15/08
Initial Prep Wt/Vol: 31.97 G
Prep Final Vol: 10 mL

Analyst: _____

NC Certification #481

Reviewed By: _____

SGS Environmental Services, Inc.

Results for Total Petroleum Hydrocarbons

by **GC/FID 8015**

Client Sample ID: 155-9 (2-4)
Client Project ID: Row-203
Lab Sample ID: G609-42-10D
Lab Project ID: G609-42

Date Collected: 12/10/2008 10:00
Date Received: 12/12/2008
Matrix: Soil
Solids 93.29
Report Basis: Dry Weight

Parameter	Result	RL	Units	Dilution Factor	Date Analyzed
Diesel Range Organics	BQL	6.50	mg/Kg	1	12/17/08 03:02

Surrogate Spike Results	Spike Added	Control Limits	Spike Result	Percent Recovery
OTP	40	40-140	35.3	88.1

Comments:

Batch Information

Analytical Batch: EP121608
Analytical Method: 8015
Instrument: GC6
Analyst: EAW

Prep batch: 13224
Prep Method: 3541
Prep Date: 12/15/08
Initial Prep Wt/Vol: 32.98 G
Prep Final Vol: 10 mL

Analyst: _____

NC Certification #481

Reviewed By: _____

SGS Environmental Services, Inc.

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

Client Sample ID: 155-10 (4-6)
Client Project ID: Row-203
Lab Sample ID: G609-42-11D
Lab Project ID: G609-42

Date Collected: 12/10/2008 10:15
Date Received: 12/12/2008
Matrix: Soil
Solids 94.64
Report Basis: Dry Weight

Parameter	Result	RL	Units	Dilution Factor	Date Analyzed
Diesel Range Organics	BQL	6.60	mg/Kg	1	12/17/08 03:30

Surrogate Spike Results	Spike Added	Control Limits	Spike Result	Percent Recovery
OTP	40	40-140	36.2	90.5

Comments:

Batch Information

Analytical Batch: EP121608
Analytical Method: 8015
Instrument: GC6
Analyst: EAW

Prep batch: 13224
Prep Method: 3541
Prep Date: 12/15/08
Initial Prep Wt/Vol: 32.02 G
Prep Final Vol: 10 mL

Analyst: _____

NC Certification #481

Reviewed By: _____

SGS Environmental Services, Inc.

Results for Total Petroleum Hydrocarbons
by GC/FID 8015

Client Sample ID: 155-11 (2-4)
Client Project ID: Row-203
Lab Sample ID: G609-42-12D
Lab Project ID: G609-42

Date Collected: 12/10/2008 10:30
Date Received: 12/12/2008
Matrix: Soil
Solids 95.86
Report Basis: Dry Weight

Parameter	Result	RL	Units	Dilution Factor	Date Analyzed
Diesel Range Organics	BQL	6.60	mg/Kg	1	12/17/08 03:58

Surrogate Spike Results	Spike Added	Control Limits	Spike Result	Percent Recovery
OTP	40	40-140	35.6	89

Comments:

Batch Information

Analytical Batch: EP121608
Analytical Method: 8015
Instrument: GC6
Analyst: EAW

Prep batch: 13224
Prep Method: 3541
Prep Date: 12/15/08
Initial Prep Wt/Vol: 31.62 G
Prep Final Vol: 10 mL

Analyst: _____

NC Certification #481

Reviewed By: _____

SGS Environmental Services, Inc.

Results for Total Petroleum Hydrocarbons
by GC/FID 8015

Client Sample ID: 155-12 (2-4)
Client Project ID: Row-203
Lab Sample ID: G609-42-13E
Lab Project ID: G609-42

Date Collected: 12/10/2008 10:45
Date Received: 12/12/2008
Matrix: Soil
Solids 96.02
Report Basis: Dry Weight

Parameter	Result	RL	Units	Dilution Factor	Date Analyzed
Diesel Range Organics	BQL	6.40	mg/Kg	1	12/17/08 04:26

Surrogate Spike Results	Spike Added	Control Limits	Spike Result	Percent Recovery
OTP	40	40-140	36.4	91.1

Comments:

Batch Information

Analytical Batch: EP121608
Analytical Method: 8015
Instrument: GC6
Analyst: EAW

Prep batch: 13224
Prep Method: 3541
Prep Date: 12/15/08
Initial Prep Wt/Vol: 32.56 G
Prep Final Vol: 10 mL

Analyst: _____

NC Certification #481

Reviewed By: _____

SGS Environmental Services, Inc.

Results for Total Petroleum Hydrocarbons
by GC/FID 8015

Client Sample ID: 155-13 (2-4)
Client Project ID: Row-203
Lab Sample ID: G609-42-14D
Lab Project ID: G609-42

Date Collected: 12/10/2008 11:00
Date Received: 12/12/2008
Matrix: Soil
Solids 95.10
Report Basis: Dry Weight

Parameter	Result	RL	Units	Dilution Factor	Date Analyzed
Diesel Range Organics	BQL	6.71	mg/Kg	1	12/17/08 04:54

Surrogate Spike Results	Spike Added	Control Limits	Spike Result	Percent Recovery
OTP	40	40-140	31	77.6

Comments:

Batch Information

Analytical Batch: EP121608
Analytical Method: 8015
Instrument: GC6
Analyst: EAW

Prep batch: 13224
Prep Method: 3541
Prep Date: 12/15/08
Initial Prep Wt/Vol: 31.36 G
Prep Final Vol: 10 mL

Analyst: _____

NC Certification #481

Reviewed By: _____

SGS Environmental Services, Inc.

Results for Total Petroleum Hydrocarbons

by **GC/FID 8015**

Client Sample ID: 155-14 (2-4)
Client Project ID: Row-203
Lab Sample ID: G609-42-15D
Lab Project ID: G609-42

Date Collected: 12/10/2008 11:10
Date Received: 12/12/2008
Matrix: Soil
Solids 94.54
Report Basis: Dry Weight

Parameter	Result	RL	Units	Dilution Factor	Date Analyzed
Diesel Range Organics	**19.8**	6.69	mg/Kg	1	12/17/08 05:23

Surrogate Spike Results	Spike Added	Control Limits	Spike Result	Percent Recovery
OTP	40	40-140	35.8	89.4

Comments:

Batch Information

Analytical Batch: EP121608
Analytical Method: 8015
Instrument: GC6
Analyst: EAW

Prep batch: 13224
Prep Method: 3541
Prep Date: 12/15/08
Initial Prep Wt/Vol: 31.62 G
Prep Final Vol: 10 mL

Analyst: _____

NC Certification #481

Reviewed By: _____

N.C. Certification #481

SGS Environmental Services, Inc.

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

Client Sample ID: 155-15 (2-4)
Client Project ID: Row-203
Lab Sample ID: G609-42-16D
Lab Project ID: G609-42

Date Collected: 12/10/2008 11:15
Date Received: 12/12/2008
Matrix: Soil
Solids 93.20
Report Basis: Dry Weight

Parameter	Result	RL	Units	Dilution Factor	Date Analyzed
Diesel Range Organics	**25.9**	6.83	mg/Kg	1	12/17/08 05:51

Surrogate Spike Results	Spike Added	Control Limits	Spike Result	Percent Recovery
OTP	40	40-140	36.9	92.3

Comments:

Batch Information

Analytical Batch: EP121608
Analytical Method: 8015
Instrument: GC6
Analyst: EAW

Prep batch: 13224
Prep Method: 3541
Prep Date: 12/15/08
Initial Prep Wt/Vol: 31.41 G
Prep Final Vol: 10 mL

Analyst: _____

NC Certification #481

Reviewed By: _____

SGS Environmental Services, Inc.

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

Client Sample ID: Method Blank
Client Project ID:
Lab Sample ID: PB13224
Lab Project ID:

Date Collected:
Date Received:
Matrix: SOIL
Solids 100.00
Report Basis: Dry Weight

Parameter	Result	RL	Units	Dilution Factor	Date Analyzed
Diesel Range Organics	BQL	6.25	mg/Kg	1	12/16/08 20:26

Surrogate Spike Results	Spike Added	Control Limits	Spike Result	Percent Recovery
OTP	40	40-140	35.7	89.3

Comments:

Batch Information

Analytical Batch: EP121608
Analytical Method: 8015
Instrument: GC6
Analyst: EAW

Prep batch: 13224
Prep Method: 3541
Prep Date: 12/15/08
Initial Prep Wt/Vol: 32 G
Prep Final Vol: 10 mL

Analyst: _____

NC Certification #481

Reviewed By: _____

SGS Environmental Services, Inc.

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

Client Sample ID: Batch QC
Lab Sample ID: G609-42-13E
Batch ID: 13224

Analyzed By: EAW
Matrix: Soil
Solids 96.02

MS/MSD

Analyte	Sample MG/KG	Spiked MG/KG	MS MG/KG	REC %	#	Spiked MG/KG	MSD MG/KG	REC %	#	RPD %
DRO	BQL	64.5	59	91.5		65.7	55.8	84.9		7.48

LCS

Analyte	Spiked MG/KG	Result MG/KG	REC %	#	LIMITS Lower	Upper
DRO	62.5	52	83.2		55.3	137

Reviewed By:

SGS Environmental Services Inc.
CHAIN OF CUSTODY RECORD

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

www.us.sgs.com

(1)
CLIENT: Hart & Hickman
CONTACT: David Graham PHONE NO: 704-886-0007
PROJECT: ROW-203 SITE/PWSID#:
REPORTS TO: David Graham EMAIL: dgraham@harthickman.com
INVOICE TO: Hart & Hickman QUOTE #: P.O. #:

SGS Reference #: G609-42 page 1 of 2

(2)

LAB NO.	SAMPLE IDENTIFICATION	DATE	TIME	MATRIX/ MATRIX CODE	# CONTAINERS	SAMPLE TYPE C= COMP G= GRAB MI= Multi Incremental Samples	Preservatives Used	Analysis Required (3) TPH EPA 8015B GRO DRO	REMARKS/ LOC ID
	155-1 (2-4)	12/10/08	730	SOIL	3	G		X	
	155-2 (2-4)	12/10/08	750	SOIL	3	G		X	
	155-3 (2-4)	12/10/08	810	SOIL	3	G		X	
	155-4 (2-4)	12/10/08	830	SOIL	3	G		X	
	155-5 (2-4)	12/10/08	850	SOIL	3	G		X	
	155-6 (2-4)	12/10/08	910	SOIL	3	G		X	
	155-7 (2-4)	12/10/08	930	SOIL	3	G		X	
	155-7 (8-10)	12/10/08	940	SOIL	3	G		X	
	155-8 (2-4)	12/10/08	950	SOIL	3	G		X	
	155-9 (2-4)	12/10/08	1000	SOIL	3	G		X	

(5)

Collected/Relinquished By:(1)	Date	Time	Received By:
Grant Barnes / H&H	12/11/08	1500	12/12/08 10:15
Relinquished By: (2)	Date	Time	Received By:
Relinquished By: (3)	Date	Time	Received By:
Relinquished By: (4)	Date	Time	Received For Laboratory By:

(4)
DOD Project? YES NO
Cooler ID
Special Deliverable Requirements:
Requested Turnaround Time and-or Special Instructions:
Samples Received Cold? (YES) NO
Cooler TB
Temperature °C: 5.2 .
Chain of Custody Seal: (Circle)
INTACT BROKEN (ABSENT)

N.C. Certification #481

SGS Environmental Services, Inc.

200 W. Potter Drive **Anchorage, AK 99518** Tel: (907) 562-2343 Fax: (907) 561-5301
550 Business Drive **Wilmington, NC 28405** Tel: (910) 350-1903 Fax: (910) 350-1557

White - Retained by Lab
Pink - Retained by Client

SGS Environmental Services Inc.
CHAIN OF CUSTODY RECORD

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

www.us.sgs.com

(1)

CLIENT: Hart & Hickman

CONTACT: David Graham PHONE NO: 704-586-0007

PROJECT: RDU-203 SITE/PWSID#:

REPORTS TO: David Graham EMAIL: dgraham@harthickman.com

INVOICE TO: Hart & Hickman QUOTE #:

P.O. #:

SGS Reference #: 6609-42 page 2 of 2

(2)

LAB NO.	SAMPLE IDENTIFICATION	DATE	TIME	MATRIX/ MATRIX CODE	# CONTAINERS	SAMPLE TYPE C= COMP G= GRAB MI= Multi Incremental Samples	Preservatives Used	Analysis Required (3) TPH EPA 8015B GRO, DRO	REMARKS/ LOC ID
	155-10 (4-6)	12/10/08	1015	SOIL	3	G		X	
	155-11 (2-4)	12/10/08	1030	SOIL	3	G		X	
	155-12 (2-4)	12/10/08	1045	SOIL	3	G		X	
	155-13 (2-4)	12/10/08	1100	SOIL	3	G		X	
	155-14 (2-4)	12/10/08	1110	SOIL	3	G		X	
	155-15 (2-4)	12/10/08	1115	SOIL	3	G		X	

(5)

Collected/Relinquished By:(1)	Date	Time	Received By:
Grant Barrio HH	12/11/08	1500	12/12/08 10:15
Relinquished By: (2)	Date	Time	Received By:
Relinquished By: (3)	Date	Time	Received By:
Relinquished By: (4)	Date	Time	Received For Laboratory By:

(4)

DOD Project? YES NO

Cooler ID _____

Special Deliverable Requirements:

Requested Turnaround Time and-or Special Instructions:

Samples Received Cold? (YES) NO

Cooler TB

Temperature °C: 5.2° · _____

Chain of Custody Seal: (Circle)

INTACT BROKEN (ABSENT)

N.C. Certification #481

SGS Environmental Services, Inc.

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❑ 200 W. Potter Drive **Anchorage, AK 99518** Tel: (907) 562-2343 Fax: (907) 561-5301
❑ 550 Business Drive **Wilmington, NC 28405** Tel: (910) 350-1903 Fax: (910) 350-1557

White - Retained by Lab
Pink - Retained by Client