Preliminary Site Assessment Report
Harry D. Swanson Property Parcel 151
Cumberland County
Fayetteville, North Carolina

H&H Job No. ROW-308
State Project U-2810C
WBS Element: 34866.1.1
July 22, 2010

Hart & Hickman

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#C-245 Geology

Preliminary Site Assessment Report
Harry D. Swanson Property Parcel #151
Fayetteville, Cumberland County, North Carolina
H&H Project ROW-308

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Fayetteville, Cumberland County, North Carolina
H&H Project ROW-308

1.0 Introduction

Hart & Hickman, PC (H&H) has prepared this Preliminary Site Assessment (PSA) report documenting assessment activities performed at the Harry D. Swanson property (Parcel 151) located on Camden Road 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 May 26, 2010 proposal.

The purpose of this assessment was to collect data to evaluate the presence or absence of impacted soil at the subject property in proposed right-of-way construction areas related to the proposed widening of Camden Road (State Project U-2810C). The Parcel 151 property is currently vacant. 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 Parcel 151 property is attached as Appendix A.

Based on information provided by NC DOT, the property historically operated as a home heating oil distributer. Remnants of an above ground heating oil distribution system including an apparent cinder block containment system and piping were identified outside of the proposed construction easement boundary in the southeastern portion of the property by NC DOT. No reported ground water incidents are associated with Parcel 151. At NC DOT's direction, H&H did not review UST (underground storage tank) incident files for the subject property at the North Carolina Department of Environment and Natural Resources (DENR) office. Additionally, due to overgrown vegetation at the site, ground penetrating radar (GPR) and electromagnetic (EM) induction technology were not used to identify potential geophysical anomalies and potential USTs in proposed NC DOT work areas on Parcel 151, as directed by NC DOT.

During PSA field activities, H&H identified a potential fill port, vent pipe, and another pipe (fill port type) near the construction easement boundary near the center of Parcel 151. These pipes are

likely associated with a UST. The bottom of the potential UST was measured through the fill port piping to approximately nine feet below ground surface (bgs). No liquids were measured; however, the residual material on the bottom of the measuring tape had a petroleum odor. PSA soil sampling activities recently conducted on the Parcel 151 property are discussed below.

2.0 Site Assessment

Soil Assessment Field Activities

H&H mobilized to the Parcel 151 property on June 15, 2010 and advanced 10 soil borings (151-1 through 151-10). Prior to conducting soil borings, utilities were marked by NC One Call. H&H utilized a stainless steel hand auger to advance the soil borings (Figure 2). Soil borings were advanced to total depths of 5 ft to 6 ft bgs with the exception of boring 151-9 (2 ft bgs). Hand auger refusal was encountered in several attempted boring locations in the area near boring 151-9 at 2 ft bgs. 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. During soil screening, there were slight to moderate indications of impacts in soil borings 151-2, 151-3, and 151-5 through 151-10. There were strong field indications of impacts in soil boring 151-4. There were no field indications of impacts in soil boring 151-1.

In general, the soil sample with the highest OVA reading was selected from each boring for laboratory analysis. NC DOT plans indicate fill areas in proposed NC DOT work areas. Soil samples were collected at various depths ranging from 1 ft to 2 ft bgs to 3 ft to 4 ft bgs. Soil boring logs are included in Appendix B.

H&H submitted a total of 10 soil samples (151-1 through 151-10) for laboratory analysis. Samples were sent to SGS Environmental Services, Inc. using standard chain-of-custody protocol for analysis of total petroleum hydrocarbons (TPH) as gasoline-range organics (GRO) and diesel-range organics (DRO) by EPA Method 8015B. The GRO samples were prepared using EPA Method 5035. Sample depths and analytical results are summarized in Table 1. Laboratory analytical data

sheets for the Parcel 151 soil samples and chain-of-custody documentation for this site are provided in Appendix C. The analytical results are discussed below.

3.0 Analytical Results

Target analytes were detected in eight soil samples collected from Parcel 151. Concentrations of TPH-DRO (1,000 mg/kg and 1,310 mg/kg) were detected soil samples 151-9 and 151-4, respectively, above the DENR Action Level of 40 mg/kg (for sites with above ground storage tank releases). A low level concentration of TPH-DRO (11.9 mg/kg) was detected in soil sample 151-3 above the DENR Action Level of 10 mg/kg. Because soil sample 151-3 was collected near a potential UST, the DENR Action Level for TPH DRO is 10 mg/kg. Low level concentrations of TPH DRO (ranging from 8.9 mg/kg to 35.4 mg/kg) were detected in soil samples 151-1, 151-2, 151-5, 151-7, and 151-8 below the DENR Action Level (40 mg/kg). Soils with TPH DRO impacts above DENR Action Levels are located in the central portion of the property. TPH DRO impacted soils below DENR Action levels are located in the southern and southeastern portions of the property.

Based on laboratory analytical results and OVA readings, TPH DRO impacted soils are present on Parcel 151. H&H estimates that there are roughly 170 cubic yards (250 tons) of soil impacted above the Action Level between the surface and 6 ft within the proposed construction easement boundary in the central portion of the property. H&H estimates that there are roughly 180 cubic yards (275 tons) of soil impacted above the Action Level between the surface and 6 ft to the southeast and outside of the proposed construction easement boundary in the central portion of the property. A depth of 6 ft was the maximum depth assessed during this PSA. Impacts may be present below 6 ft based the TPH DRO detections and field screening results for borings 151-4 and 151-9. Field screening was not conducted below 6 ft at the site.

Although the TPH DRO detections in soil samples 151-1, 151-2, 151-5, 151-7, and 151-8 are below the DENR Action Level, DENR requires soil with detectable impacts be managed as impacted, if excavated. H&H estimates that there are roughly 175 cubic yards (260 tons) of impacted soil between the surface and 6 ft within the proposed construction easement boundary in the southern

portion of the property. H&H estimates that there are roughly 250 cubic yards (375 tons) of impacted soil between the surface and 6 ft to the southeast and outside of the proposed construction easement boundary in the southern and southeastern portions of the property. Impacts may be present below 6 ft based the TPH DRO detections and field screening to 6 ft. Field screening was not conducted below 6 ft at the site. The total amount of soil with detectable impacts at the site (up to 6 ft assessed depth) is 775 cubic yards.

4.0 Summary and Regulatory Considerations

H&H has completed PSA activities and collected a total of 10 soil samples at the Parcel 151 property. Remnants of an above ground heating oil distribution system including a cinder block containment system and piping were identified outside of the proposed construction easement boundary in the southeastern portion of the property. A potential UST was also identified near the construction easement boundary near the center of the property.

Analytical results of soil samples collected by H&H indicate TPH-DRO concentrations above the NC DENR Action Level in three soil samples collected on Parcel 151. H&H estimates that there are roughly 170 cubic yards (250 tons) of soil impacted above Action Levels between the surface and 6 ft within the proposed construction easement boundary in the central portion of the property. H&H estimates that there are roughly 180 cubic yards (275 tons) of soil above Action Levels between the surface and 6 ft to the southeast and outside of the proposed construction easement boundary in the central portion of the property. Additional impacts above the Action Level may be present below 6 ft.

Analytical results of five soil samples collected on Parcel 151 indicate TPH DRO detections below the DENR Action Level. H&H estimates that there are roughly 175 cubic yards (260 tons) of impacted soil between the surface and 6 ft within the proposed construction easement boundary in the southern portion of the property. H&H estimates that there are roughly 250 cubic yards (375 tons) of impacted soil between the surface and 6 ft to the southeast and outside of the proposed construction easement boundary in the southern and southeastern portions of the property. Additional low level impacts may be present below 6 ft.

NC DOT plans indicate proposed fill within the construction easement area on Parcel 151. Impacted soil that is removed during NC DOT road construction activities should be properly managed and disposed at a permitted facility. Remnants of the oil distribution system, the UST (if present), and its contents should be removed in accordance with DENR regulations.

5.0 Signature Page

This report was prepared by:

David Graham
Senior Project Geologist for
Hart and Hickman, PC

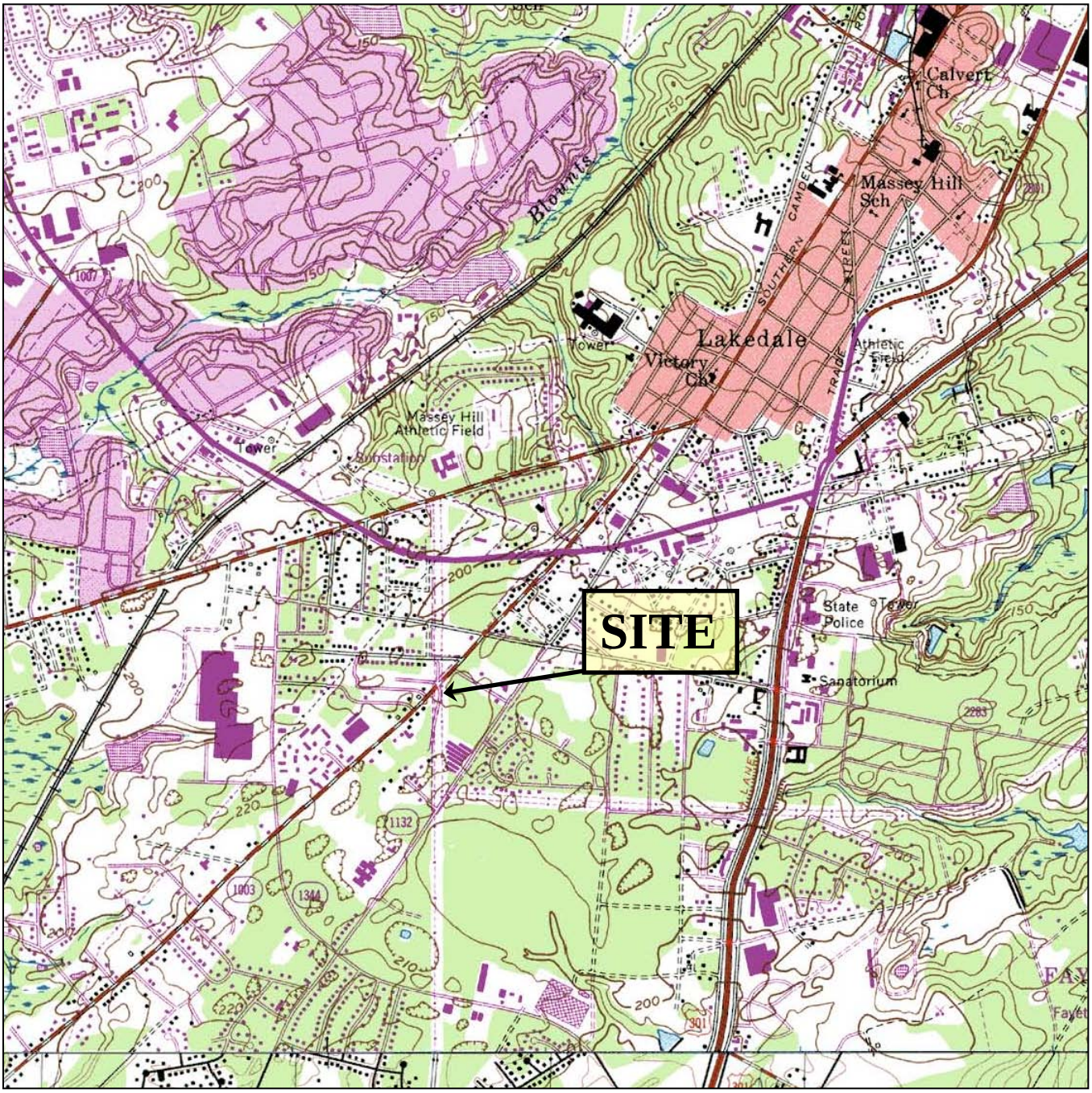
This report was reviewed by:

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

Table 1
Soil Analytical Results
Harry D. Swanson Property (Parcel 151)
Fayetteville, North Carolina
H&H Job No. ROW-308

Sample ID	151-1	151-2	151-3	151-4	151-5	151-6	151-7	151-8	151-9	151-10	NCDENR
Sample Depth (ft)	3-4	1-2	1-2	3-4	2-3	2-3	1-2	3-4	1-2	3-4	Action
Sample Date	6/15/10	6/15/10	6/15/10	6/15/10	6/15/10	6/15/10	6/15/10	6/15/10	6/15/10	6/15/10	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-GRO/DRO (8015B)											
Gasoline-Range Organics (GRO)	<5.99	<6.69	<6.71	<5.80	<6.26	<5.80	<6.64	<6.35	<6.10	<5.80	10
Diesel-Range Organics (DRO)	10.8	25	**11.9***	**1,310**	10.9	<6.58	8.9	35.4	**1,000**	<6.48	40

Notes:
EPA method follows parameter in parenthesis;
Samples analyzed by EPA Method 8015B; GRO samples were prepared using EPA Method 5035;
TPH = total petroleum hydrocarbons;
Bold indicates concentration exceeds the NC DENR Action Level
* = Sample collected near a potential UST; therefore, the DENR Action Level is 10 mg/kg.



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	HARRY D. SWANSON PROPERTY PARCEL #151 FAYETTEVILLE, NORTH CAROLINA

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A Professional Corporation
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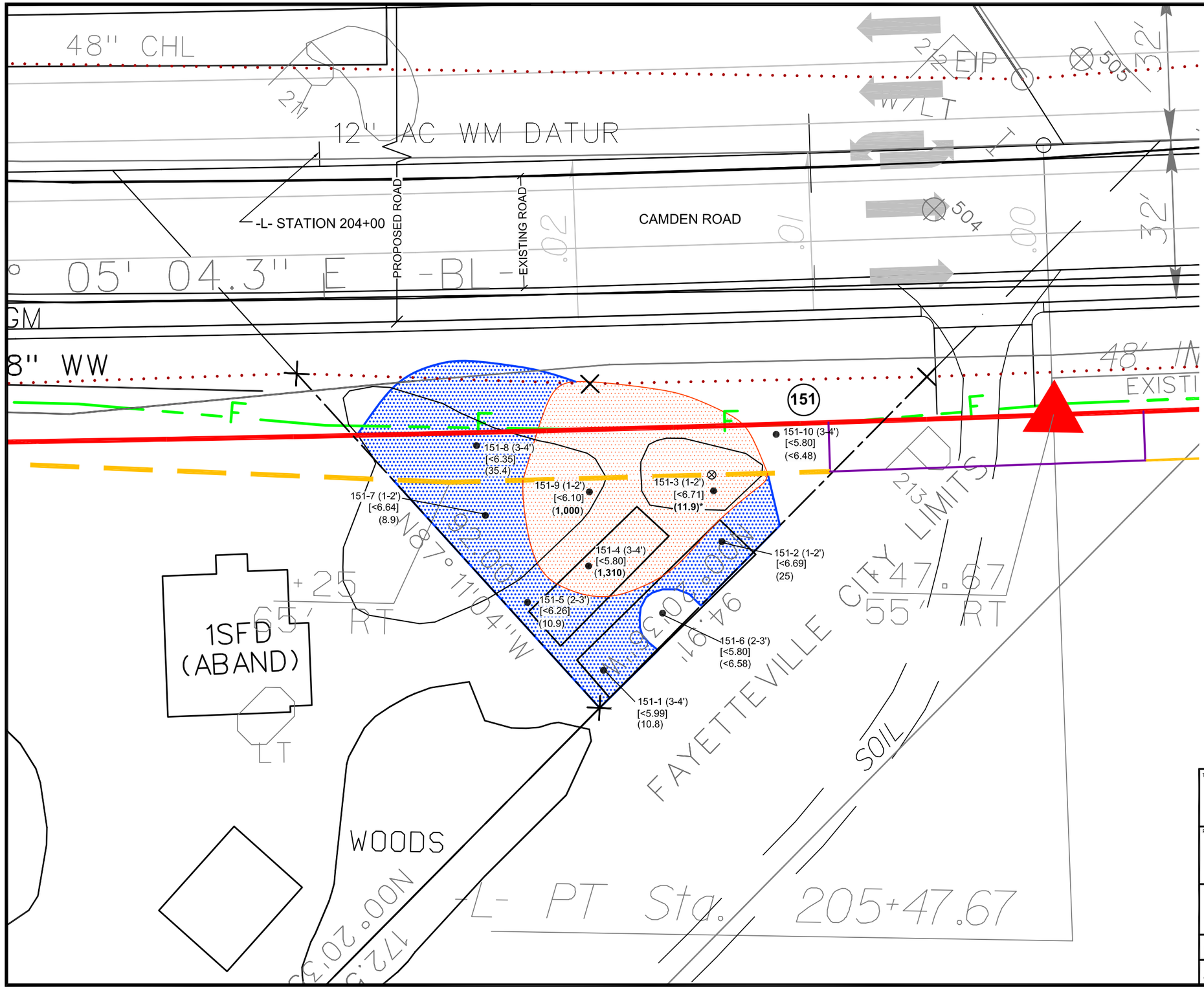
704-586-0007 (p) 704-586-0373 (f)

DATE:	7-21-10	REVISION NO:	0
JOB NO:	ROW-308	FIGURE:	1



LEGEND

- PROPERTY LINE
- EXISTING RIGHT-OF-WAY
- PROPOSED RIGHT-OF-WAY
- PROPOSED FILL LINE
- PROPOSED CONSTRUCTION EASEMENT
- PROPOSED DRAINAGE EASEMENT
- SOIL BORING
- LOCATION OF UST PIPES AND FILL PORT
- [<5.99] TPH GRO mg/kg
- (10.8) TPH DRO mg/kg
- IMPACTED SOIL AREA ABOVE DENR ACTION LEVELS
- IMPACTED SOIL AREA BELOW DENR ACTION LEVEL
- REMNANTS OF OIL DISTRIBUTION SYSTEM
- (151) PARCEL NUMBER

NOTES:

BOLD DENOTES EXCEEDANCE OF DENR ACTION LEVEL.

* DENOTES SAMPLE COLLECTED NEAR A POTENTIAL UST; THEREFORE, THE DENR ACTION LEVEL IS 10 mg/kg.

APPROXIMATE
0 20 40
SCALE IN FEET

TITLE

SITE MAP AND SOIL ANALYTICAL RESULTS

PROJECT

HARRY D. SWANSON PROPERTY
PARCEL #151
FAYETTEVILLE, NORTH CAROLINA

Hart & Hickman
A PROFESSIONAL CORPORATION
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DATE: 07-15-10	REVISION NO. 0
JOB NO: ROW-308	FIGURE NO. 2

S:\AAA-Master Projects\NC DOT Right-of-Way - ROW\ROW\ROW-308 Cumberland U-2810C\20100715_5 Parcels_ROW-203.dwg, 151(Zoom), 7/22/2010 4:23:04 PM, mfoster

Appendix A

NC DOT Preliminary Plan

48" CHL

+89.71

PROP. 2'-6" C&G

48" WW

EIP

+16.89
45.50'

KATHY JEAN JOHNSON
DB 6020 PG 571

HARRY D. SWANSON
DB 3274 PG 631
DB 3323 PG 232
HARRY D. SWANSON

+57.76
55.89'

N87°11'04"W
92.00'

+25
65' RT

1SFD
(ABAND)

150

LT

KATHY JEAN JOHNSON

S49°40'23"E
188.93'

N00°20'35"W
172.50'

212 EIP

W/LT

+51.76
15.76'

503

32'

EIP

68' F-F

504

32'

.02

.01

.00

.01

20' DR

48' INCR.
EXISTING R/W

+67.63

+71.40

213 TS

151

N87°11'04"W
94.97'

N00°20'35"W

+0
55' & 65' RT

FAYETTEVILLE CITY LIMITS

+47.67
55' RT

+66
55' & 65' RT

-L- PT Sta. 205+47.67

SOU

RORIE INVESTMENTS LLC

Appendix B

Soil Boring Logs

Hart & Hickman
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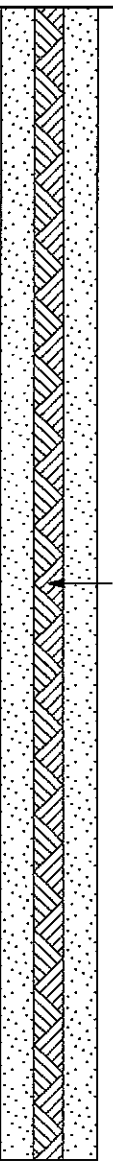
BORING NUMBER 151-01

PROJECT: NCDOT State Project U-2810C - Parcel 151
JOB NUMBER: ROW-308
LOCATION: Fayetteville, NC

DEPTH (ft)	RECOVERY (%)	SAMPLE TYPE NUMBER	OVA (ppm) BKG.	OVA (ppm) SAMP.	LITHOLOGY	MATERIAL DESCRIPTION
0.0			0	0		(SP) dry, grey, poorly-graded, fine SAND
			0	0		(SP) dry, light grey, poorly-graded, fine SAND
2.5		GB	0	0		(SP) dry, light tan, poorly-graded, fine SAND
			0	0		(SP) slightly moist, light tan, poorly-graded, fine SAND
			0	0		
5.0						(SP) moist, light tan, poorly-graded, fine SAND
						Bottom of borehole at 6.0 feet.

BORING DIAGRAM



DEPTH (ft) 0.0, 2.5, 5.0

DRILLING CONTRACTOR: Hart & Hickman
DRILL RIG/ METHOD: hand auger / hand auger
SAMPLING METHOD: hand auger
LOGGED BY: MB/SV
DRAWN BY: MB

BORING STARTED: 6/15/10
BORING COMPLETED: 6/15/10
TOTAL DEPTH: 6 ft.
TOP OF CASING ELEV:
DEPTH TO WATER:

Remarks:
Soil sample from 3-4 ft collected for laboratory analysis.

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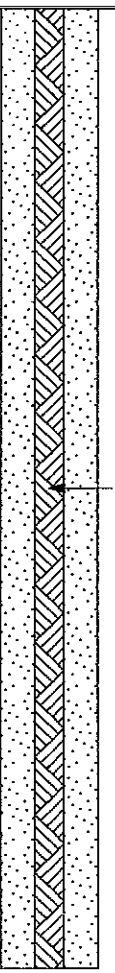
BORING NUMBER 151-02

PROJECT: NCDOT State Project U-2810C - Parcel 151
JOB NUMBER: ROW-308
LOCATION: Fayetteville, NC

DEPTH (ft)	RECOVERY (%)	SAMPLE TYPE NUMBER	OVA (ppm) BKG.	OVA (ppm) SAMP.	LITHOLOGY	MATERIAL DESCRIPTION
0.0						(SP) dry, dark grey and brown, poorly-graded, fine SAND
			0	5.5		(SP) dry, light brown, poorly-graded, fine SAND
		GB	0.1	9.3		
2.5			0.2	7		
			0.2	3.9		(SP) slightly moist, brown, poorly-graded, fine SAND
			0	4.3		
5.0						Bottom of borehole at 5.0 feet.

BORING DIAGRAM



DEPTH (ft): 0.0, 2.5, 5.0

DRILLING CONTRACTOR: Hart & Hickman
DRILL RIG/ METHOD: hand auger / hand auger
SAMPLING METHOD: hand auger
LOGGED BY: MB/SV
DRAWN BY: MB

BORING STARTED: 6/15/10
BORING COMPLETED: 6/15/10
TOTAL DEPTH: 5 ft.
TOP OF CASING ELEV:
DEPTH TO WATER:

Remarks:
Soil sample from 1-2 ft collected for laboratory analysis.

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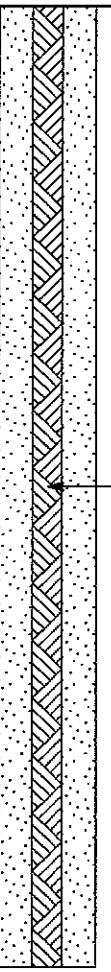
BORING NUMBER 151-03

PROJECT: NCDOT State Project U-2810C - Parcel 151
JOB NUMBER: ROW-308
LOCATION: Fayetteville, NC

DEPTH (ft)	RECOVERY (%)	SAMPLE TYPE NUMBER	OVA (ppm) BKG.	OVA (ppm) SAMP.	LITHOLOGY	MATERIAL DESCRIPTION
0.0						(SP) dry, dark grey, poorly-graded, fine SAND
			0	13.8		(SP) slightly moist, light tan, poorly-graded, fine SAND
		GB	0.5	21.3		
2.5			0.6	16.8		
			0.6	3.2		(SP) moist, brown, poorly-graded, fine SAND
			0.7	6.3		
5.0						Bottom of borehole at 5.0 feet.

BORING DIAGRAM



DEPTH (ft): 0.0, 2.5, 5.0

DRILLING CONTRACTOR: Hart & Hickman
DRILL RIG/ METHOD: hand auger / hand auger
SAMPLING METHOD: hand auger
LOGGED BY: MB/SV
DRAWN BY: MB

BORING STARTED: 6/15/10
BORING COMPLETED: 6/15/10
TOTAL DEPTH: 5 ft.
TOP OF CASING ELEV:
DEPTH TO WATER:

Remarks:
Soil sample from 1-2 ft collected for laboratory analysis.

BORING LOG - HART HICKMAN.GDT - 7/21/10 15:09 - \\HHSVR.HARTHICKMAN.LOCAL\MASTERFILES\AAA-MASTER GINT PROJECTS\ROW-308 (PARCEL 151) 07-2010.GPJ

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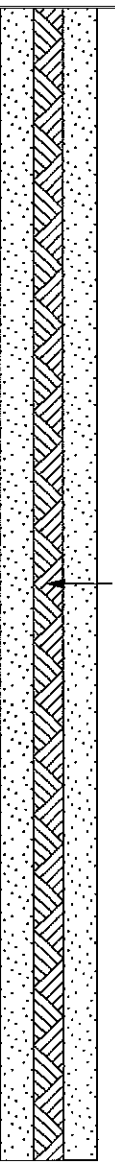
BORING NUMBER 151-04

PROJECT: NCDOT State Project U-2810C - Parcel 151
JOB NUMBER: ROW-308
LOCATION: Fayetteville, NC

DEPTH (ft)	RECOVERY (%)	SAMPLE TYPE NUMBER	OVA (ppm) BKG.	OVA (ppm) SAMP.	LITHOLOGY	MATERIAL DESCRIPTION
0.0			0	9.3		(SP) dry, grey, poorly-graded, fine SAND
			0.3	69.2		(SP) slightly moist, tan, poorly-graded, fine SAND
2.5			0.9	31.5		
		GB	3.2	93.5		(SP) slightly moist, brown, poorly-graded, fine SAND
			10.1	45.7		
5.0						(SP) moist, brown, poorly-graded, fine SAND
			12.9	41.9		
						Bottom of borehole at 6.0 feet.

BORING DIAGRAM



DEPTH (ft): 0.0, 2.5, 5.0

DRILLING CONTRACTOR: Hart & Hickman
DRILL RIG/ METHOD: hand auger / hand auger
SAMPLING METHOD: hand auger
LOGGED BY: MB/SV
DRAWN BY: MB

BORING STARTED: 6/15/10
BORING COMPLETED: 6/15/10
TOTAL DEPTH: 6 ft.
TOP OF CASING ELEV:
DEPTH TO WATER:

Remarks:
Soil sample from 3-4 ft collected for laboratory analysis.

BORING LOG - HART HICKMAN.GDT - 7/21/10 15:09 - \\HHSVR.HARTHICKMAN.LOCAL\MASTERFILES\AAA-MASTER GINT PROJECTS\ROW-308 (PARCEL 151) 07-2010.GPJ

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BORING NUMBER 151-05

PROJECT: NCDOT State Project U-2810C - Parcel 151
JOB NUMBER: ROW-308
LOCATION: Fayetteville, NC

DEPTH (ft)	RECOVERY (%)	SAMPLE TYPE NUMBER	OVA (ppm) BKG.	OVA (ppm) SAMP.	LITHOLOGY	MATERIAL DESCRIPTION	BORING DIAGRAM	DEPTH (ft)
0.0						(SP) dry, grey, poorly-graded, fine SAND		0.0
			0.6	21.6				
						(SP) slightly moist, tan, poorly-graded, fine SAND		
			0.3	30.5				
2.5		GB	4	35.6		(SP) moist, tan, poorly-graded, fine SAND	Abandoned with Bentonite chips.	2.5
			3.5	30.1				
			3.1	28.1		(SP) very moist, brown, poorly-graded, fine SAND		
5.0						Bottom of borehole at 5.0 feet.		5.0

DRILLING CONTRACTOR: Hart & Hickman
DRILL RIG/ METHOD: hand auger / hand auger
SAMPLING METHOD: hand auger
LOGGED BY: MB/SV
DRAWN BY: MB

BORING STARTED: 6/15/10
BORING COMPLETED: 6/15/10
TOTAL DEPTH: 5 ft.
TOP OF CASING ELEV:
DEPTH TO WATER:

Remarks:

Soil sample from 2-3 ft collected for laboratory analysis.

BORING LOG - HART HICKMAN.GDT - 7/21/10 15:09 - \\HHSVR.HARTHICKMAN.LOCAL\MASTERFILES\AAA-MASTER GINT PROJECTS\ROW-308 (PARCEL 151) 07-2010.GPJ

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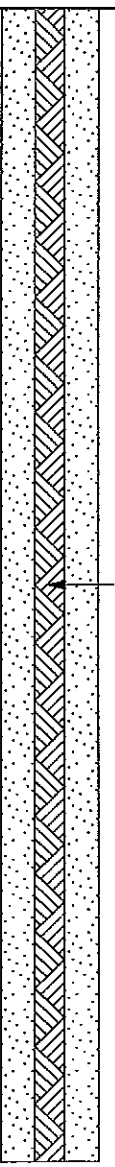
BORING NUMBER 151-06

PROJECT: NCDOT State Project U-2810C - Parcel 151
JOB NUMBER: ROW-308
LOCATION: Fayetteville, NC

DEPTH (ft)	RECOVERY (%)	SAMPLE TYPE NUMBER	OVA (ppm) BKG.	OVA (ppm) SAMP.	LITHOLOGY	MATERIAL DESCRIPTION
0.0			0	19.7		(SP) dry, grey, poorly-graded, fine SAND
			0	18.3		(SP) dry, tan, poorly-graded, fine SAND
2.5		GB	0.6	22.7		(SP) slightly moist, brown, poorly-graded, fine SAND
			0.9	9.6		
			1.3	6.7		
5.0			1	7.3		(SP) moist, brown, poorly-graded, fine SAND
						Bottom of borehole at 6.0 feet.

BORING DIAGRAM



DEPTH (ft): 0.0, 2.5, 5.0

DRILLING CONTRACTOR: Hart & Hickman
DRILL RIG/ METHOD: hand auger / hand auger
SAMPLING METHOD: hand auger
LOGGED BY: MB/SV
DRAWN BY: MB

BORING STARTED: 6/15/10
BORING COMPLETED: 6/15/10
TOTAL DEPTH: 6 ft.
TOP OF CASING ELEV:
DEPTH TO WATER:

Remarks:
Soil sample from 2-3 ft collected for laboratory analysis.

BORING LOG - HART HICKMAN.GDT - 7/21/10 15:09 - \\HHSVR.HARTHICKMAN.LOCAL\MASTERFILES\AAA-MASTER GINT PROJECTS\ROW-308 (PARCEL 151) 07-2010.GPJ

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

BORING NUMBER 151-07

PROJECT: NCDOT State Project U-2810C - Parcel 151
JOB NUMBER: ROW-308
LOCATION: Fayetteville, NC

DEPTH (ft)	RECOVERY (%)	SAMPLE TYPE NUMBER	OVA (ppm) BKG.	OVA (ppm) SAMP.	LITHOLOGY	MATERIAL DESCRIPTION	BORING DIAGRAM	DEPTH (ft)
0.0						(SP) dry, grey, poorly-graded, fine SAND		0.0
			0.1	11.8				
						(SP) slightly moist, tan, poorly-graded, fine SAND		
		GB	0.8	16.7				
2.5			3.1	15.4			Abandoned with Bentonite chips.	2.5
			3.5	15.5				
			3.7	12.8				
5.0						Bottom of borehole at 5.0 feet.		5.0

DRILLING CONTRACTOR: Hart & Hickman
DRILL RIG/ METHOD: hand auger / hand auger
SAMPLING METHOD: hand auger
LOGGED BY: MB/SV
DRAWN BY: MB

BORING STARTED: 6/15/10
BORING COMPLETED: 6/15/10
TOTAL DEPTH: 5 ft.
TOP OF CASING ELEV:
DEPTH TO WATER:

Remarks:
Soil sample from 1-2 ft collected for laboratory analysis.

BORING LOG - HART HICKMAN.GDT - 7/21/10 15:09 - \\HHSVR.HARTHICKMAN.LOCAL\MASTERFILES\AAA-MASTER GINT PROJECTS\ROW-308 (PARCEL 151) 07-2010.GPJ

Hart & Hickman
ENVIRONMENTAL CONSULTANTS

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

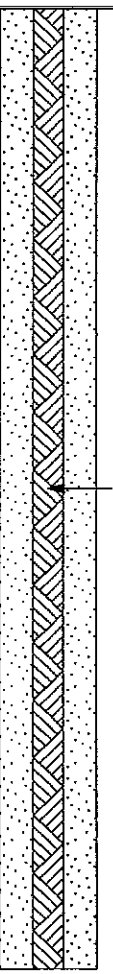
3334 Hillsborough Street
Raleigh, North Carolina 27607
919-847-4241(p) 919-847-4261(f)

BORING NUMBER 151-08

PROJECT: NCDOT State Project U-2810C - Parcel 151
JOB NUMBER: ROW-308
LOCATION: Fayetteville, NC

DEPTH (ft)	RECOVERY (%)	SAMPLE TYPE NUMBER	OVA (ppm) BKG.	OVA (ppm) SAMP.	LITHOLOGY	MATERIAL DESCRIPTION
0.0						(SP) dry, grey, poorly-graded, fine SAND
			0	3.8		(SP) slightly moist, tan, poorly-graded, fine SAND
			0.1	6.1		
2.5			0.3	7.2		
		GB	0.5	17.3		(SP) slightly moist, brown, poorly-graded, fine SAND
			0.7	9.7		
5.0						Bottom of borehole at 5.0 feet.

BORING DIAGRAM



DEPTH (ft): 0.0, 2.5, 5.0

DRILLING CONTRACTOR: Hart & Hickman
DRILL RIG/ METHOD: hand auger / hand auger
SAMPLING METHOD: hand auger
LOGGED BY: MB/SV
DRAWN BY: MB

BORING STARTED: 6/15/10
BORING COMPLETED: 6/15/10
TOTAL DEPTH: 5 ft.
TOP OF CASING ELEV:
DEPTH TO WATER:

Remarks:
Soil sample from 3-4 ft collected for laboratory analysis.

BORING LOG - HART HICKMAN.GDT - 7/21/10 15:09 - \\HHSVR.HARTHICKMAN.LOCAL\MASTERFILES\AAA-MASTER GINT PROJECTS\ROW-308 (PARCEL 151) 07-2010.GPJ

Hart & Hickman
ENVIRONMENTAL CONSULTANTS

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

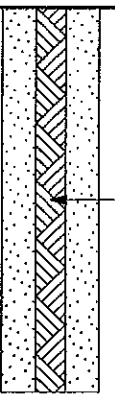
3334 Hillsborough Street
Raleigh, North Carolina 27607
919-847-4241(p) 919-847-4261(f)

BORING NUMBER 151-09

PROJECT: NCDOT State Project U-2810C - Parcel 151
JOB NUMBER: ROW-308
LOCATION: Fayetteville, NC

DEPTH (ft)	RECOVERY (%)	SAMPLE TYPE NUMBER	OVA (ppm) BKG.	OVA (ppm) SAMP.	LITHOLOGY	MATERIAL DESCRIPTION
0.0			0	1.7		(SP) dry, grey, poorly-graded, fine SAND
		GB	0	32.4		(SP) slightly moist, tan, poorly-graded, fine SAND
2.5						Refusal at 2.0 feet. Bottom of borehole at 2.0 feet.
5.0						

BORING DIAGRAM



DEPTH (ft): 0.0, 2.5, 5.0

DRILLING CONTRACTOR: Hart & Hickman
DRILL RIG/ METHOD: hand auger / hand auger
SAMPLING METHOD: hand auger
LOGGED BY: MB/SV
DRAWN BY: MB

BORING STARTED: 6/15/10
BORING COMPLETED: 6/15/10
TOTAL DEPTH: 2 ft.
TOP OF CASING ELEV:
DEPTH TO WATER:

Remarks:
Soil sample from 1-2 ft collected for laboratory analysis.

Hart & Hickman
ENVIRONMENTAL CONSULTANTS

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

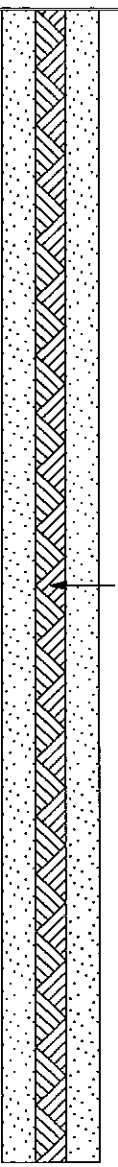
3334 Hillsborough Street
Raleigh, North Carolina 27607
919-847-4241(p) 919-847-4261(f)

BORING NUMBER 151-10

PROJECT: NCDOT State Project U-2810C - Parcel 151
JOB NUMBER: ROW-308
LOCATION: Fayetteville, NC

DEPTH (ft)	RECOVERY (%)	SAMPLE TYPE NUMBER	OVA (ppm) BKG.	OVA (ppm) SAMP.	LITHOLOGY	MATERIAL DESCRIPTION
0.0						(SP) dry, grey, poorly-graded, fine SAND
			0	3.5		(SP) slightly moist, tan, poorly-graded, fine SAND
			0.2	3.7		
2.5			3.2	5.6		
		GB	7.1	18		(SP) slightly moist, brown, poorly-graded, fine SAND
			7.2	18.6		
5.0						(SP) moist, brown, poorly-graded, fine SAND
			6.4	15.2		
						Bottom of borehole at 6.0 feet.

BORING DIAGRAM



DEPTH (ft): 0.0, 2.5, 5.0

DRILLING CONTRACTOR: Hart & Hickman
DRILL RIG/ METHOD: hand auger / hand auger
SAMPLING METHOD: hand auger
LOGGED BY: MB/SV
DRAWN BY: MB

BORING STARTED: 6/15/10
BORING COMPLETED: 6/15/10
TOTAL DEPTH: 6 ft.
TOP OF CASING ELEV:
DEPTH TO WATER:

Remarks:
Soil sample from 3-4 ft collected for laboratory analysis.

BORING LOG - HART HICKMAN.GDT - 7/21/10 15:09 - \\HHSVR.HARTHICKMAN.LOCAL\MASTERFILES\AAA-MASTER GINT PROJECTS\ROW-308 (PARCEL 151) 07-2010.GPJ

Appendix C

Laboratory Analytical Report

SGS

Mr. David Graham
Hart & Hickman
2923 S. Tryon St.
Suite 100
Charlotte NC 28203
Report Number: G609-58

Client Project: ROW-308

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.

23June2010
Project Manager Date
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.

Results for Total Petroleum Hydrocarbons
by GC/FID 8015

Client Sample ID: 151-1 3-4
Client Project ID: ROW-308
Lab Sample ID: G609-58-1B
Lab Project ID: G609-58
Report Basis: Dry Weight

Analyzed By: BAO
Date Collected: 6/15/2010 11:40
Date Received: 6/17/2010
Matrix: Soil
Solids 92.99

Analyte	Result	RL	Units	Dilution Factor	Date Analyzed
Gasoline Range Organics	BQL	5.99	mg/Kg	1	06/21/10 14:35

Surrogate Spike Results

	Added	Result	Recovery	Flag	Limits
BFB	100	104.0	104.0		70-130

Comments:

Batch Information

Analytical Batch: VP062110
Analytical Method: 8015
Instrument ID: GC4
Analyst: BAO

Prep Method: 5035
Initial Wt/Vol: 5.39 g
Final Volume: 5 mL

Analyst: BAC

NC Certification #481

Reviewed By:

Results for Total Petroleum Hydrocarbons
by GC/FID 8015

Client Sample ID: 151-2 1-2
Client Project ID: ROW-308
Lab Sample ID: G609-58-2B
Lab Project ID: G609-58
Report Basis: Dry Weight

Analyzed By: BAO
Date Collected: 6/15/2010 12:30
Date Received: 6/17/2010
Matrix: Soil
Solids 96.63

Analyte	Result	RL	Units	Dilution Factor	Date Analyzed
Gasoline Range Organics	BQL	6.69	mg/Kg	1	06/21/10 15:02

Surrogate Spike Results

	Added	Result	Recovery	Flag	Limits
BFB	100	103.0	103.0		70-130

Comments:

Batch Information

Analytical Batch: VP062110
Analytical Method: 8015
Instrument ID: GC4
Analyst: BAO

Prep Method: 5035
Initial Wt/Vol: 4.64 g
Final Volume: 5 mL

Analyst: WMC

NC Certification #481

Reviewed By:

Results for Total Petroleum Hydrocarbons

by **GC/FID 8015**

Client Sample ID:	151-3 1-2	Analyzed By:	BAO
Client Project ID:	ROW-308	Date Collected:	6/15/2010 13:20
Lab Sample ID:	G609-58-3B	Date Received:	6/17/2010
Lab Project ID:	G609-58	Matrix:	Soil
Report Basis:	Dry Weight	Solids	95.57

Analyte	Result	RL	Units	Dilution Factor	Date Analyzed
Gasoline Range Organics	BQL	6.71	mg/Kg	1	06/21/10 15:29

Surrogate Spike Results

	Added	Result	Recovery	Flag	Limits
BFB	100	102.0	102.0		70-130

Comments:

Batch Information

Analytical Batch:	VP062110	Prep Method:	5035
Analytical Method:	8015	Initial Wt/Vol:	4.68 g
Instrument ID:	GC4	Final Volume:	5 mL
Analyst:	BAO		

Analyst: _____

NC Certification #481

Reviewed By: _____

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

Client Sample ID: 151-4 3-4
Client Project ID: ROW-308
Lab Sample ID: G609-58-4B
Lab Project ID: G609-58
Report Basis: Dry Weight

Analyzed By: BAO
Date Collected: 6/15/2010 14:05
Date Received: 6/17/2010
Matrix: Soil
Solids 94.38

Analyte	Result	RL	Units	Dilution Factor	Date Analyzed
Gasoline Range Organics	BQL	5.80	mg/Kg	1	06/21/10 15:57

Surrogate Spike Results

	Added	Result	Recovery	Flag	Limits
BFB	100	102.0	102.0		70-130

Comments:

Batch Information

Analytical Batch: VP062110
Analytical Method: 8015
Instrument ID: GC4
Analyst: BAO

Prep Method: 5035
Initial Wt/Vol: 5.48 g
Final Volume: 5 mL

Analyst: _____

NC Certification #481

Reviewed By: _____

Results for Total Petroleum Hydrocarbons
by GC/FID 8015

Client Sample ID: 151-5 2-3
Client Project ID: ROW-308
Lab Sample ID: G609-58-5B
Lab Project ID: G609-58
Report Basis: Dry Weight

Analyzed By: BAO
Date Collected: 6/15/2010 15:40
Date Received: 6/17/2010
Matrix: Soil
Solids 96.50

Analyte	Result	RL	Units	Dilution Factor	Date Analyzed
Gasoline Range Organics	BQL	6.26	mg/Kg	1	06/21/10 16:23

Surrogate Spike Results

	Added	Result	Recovery	Flag	Limits
BFB	100	104.0	104.0		70-130

Comments:

Batch Information

Analytical Batch: VP062110
Analytical Method: 8015
Instrument ID: GC4
Analyst: BAO

Prep Method: 5035
Initial Wt/Vol: 4.97 g
Final Volume: 5 mL

Analyst: _____

NC Certification #481

Reviewed By: _____

Results for Total Petroleum Hydrocarbons
by GC/FID 8015

Client Sample ID: 151-6 2-3
Client Project ID: ROW-308
Lab Sample ID: G609-58-6B
Lab Project ID: G609-58
Report Basis: Dry Weight

Analyzed By: BAO
Date Collected: 6/15/2010 16:00
Date Received: 6/17/2010
Matrix: Soil
Solids 93.84

Analyte	Result	RL	Units	Dilution Factor	Date Analyzed
Gasoline Range Organics	BQL	5.80	mg/Kg	1	06/21/10 16:50

Surrogate Spike Results

	Added	Result	Recovery	Flag	Limits
BFB	100	103.0	103.0		70-130

Comments:

Batch Information

Analytical Batch: VP062110
Analytical Method: 8015
Instrument ID: GC4
Analyst: BAO

Prep Method: 5035
Initial Wt/Vol: 5.51 g
Final Volume: 5 mL

Analyst: _____

NC Certification #481

Reviewed By: _____

Results for Total Petroleum Hydrocarbons
by GC/FID 8015

Client Sample ID: 151-7 1-2
Client Project ID: ROW-308
Lab Sample ID: G609-58-7B
Lab Project ID: G609-58
Report Basis: Dry Weight

Analyzed By: BAO
Date Collected: 6/15/2010 16:30
Date Received: 6/17/2010
Matrix: Soil
Solids 97.00

Analyte	Result	RL	Units	Dilution Factor	Date Analyzed
Gasoline Range Organics	BQL	6.64	mg/Kg	1	06/21/10 17:18

Surrogate Spike Results

	Added	Result	Recovery	Flag	Limits
BFB	100	107.0	107.0		70-130

Comments:

Batch Information

Analytical Batch: VP062110
Analytical Method: 8015
Instrument ID: GC4
Analyst: BAO

Prep Method: 5035
Initial Wt/Vol: 4.66 g
Final Volume: 5 mL

Analyst: WMC

NC Certification #481

Reviewed By:

Results for Total Petroleum Hydrocarbons
by GC/FID 8015

Client Sample ID: 151-8 3-4
Client Project ID: ROW-308
Lab Sample ID: G609-58-8B
Lab Project ID: G609-58
Report Basis: Dry Weight

Analyzed By: BAO
Date Collected: 6/15/2010 17:45
Date Received: 6/17/2010
Matrix: Soil
Solids 95.12

Analyte	Result	RL	Units	Dilution Factor	Date Analyzed
Gasoline Range Organics	BQL	6.35	mg/Kg	1	06/21/10 17:45

Surrogate Spike Results

	Added	Result	Recovery	Flag	Limits
BFB	100	106.0	106.0		70-130

Comments:

Batch Information

Analytical Batch: VP062110
Analytical Method: 8015
Instrument ID: GC4
Analyst: BAO

Prep Method: 5035
Initial Wt/Vol: 4.97 g
Final Volume: 5 mL

Analyst: _____

NC Certification #481

Reviewed By: _____

Results for Total Petroleum Hydrocarbons

by **GC/FID 8015**

Client Sample ID: 151-9 1-2
Client Project ID: ROW-308
Lab Sample ID: G609-58-9B
Lab Project ID: G609-58
Report Basis: Dry Weight

Analyzed By: BAO
Date Collected: 6/15/2010 18:35
Date Received: 6/17/2010
Matrix: Soil
Solids 94.02

Analyte	Result	RL	Units	Dilution Factor	Date Analyzed
Gasoline Range Organics	BQL	6.10	mg/Kg	1	06/21/10 18:12

Surrogate Spike Results

	Added	Result	Recovery	Flag	Limits
BFB	100	104.0	104.0		70-130

Comments:

Batch Information

Analytical Batch: VP062110
Analytical Method: 8015
Instrument ID: GC4
Analyst: BAO

Prep Method: 5035
Initial Wt/Vol: 5.23 g
Final Volume: 5 mL

Analyst: _____

NC Certification #481

Reviewed By: _____

Results for Total Petroleum Hydrocarbons

by **GC/FID 8015**

Client Sample ID: 151-10 3-4
Client Project ID: ROW-308
Lab Sample ID: G609-58-10B
Lab Project ID: G609-58
Report Basis: Dry Weight

Analyzed By: BAO
Date Collected: 6/15/2010 18:45
Date Received: 6/17/2010
Matrix: Soil
Solids 94.00

Analyte	Result	RL	Units	Dilution Factor	Date Analyzed
Gasoline Range Organics	BQL	5.80	mg/Kg	1	06/21/10 18:40

Surrogate Spike Results

	Added	Result	Recovery	Flag	Limits
BFB	100	104.0	104.0		70-130

Comments:

Batch Information

Analytical Batch: VP062110
Analytical Method: 8015
Instrument ID: GC4
Analyst: BAO

Prep Method: 5035
Initial Wt/Vol: 5.5 g
Final Volume: 5 mL

Analyst: _____

NC Certification #481

Reviewed By: _____

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

Client Sample ID: 151-1 3-4
Client Project ID: ROW-308
Lab Sample ID: G609-58-1D
Lab Project ID: G609-58

Date Collected: 6/15/2010 11:40
Date Received: 6/17/2010
Matrix: Soil
Solids 92.99
Report Basis: Dry Weight

Parameter	Result	RL	Units	Dilution Factor	Date Analyzed
Diesel Range Organics	**10.8**	6.54	mg/Kg	1	06/18/10 16:34

Surrogate Spike Results	Spike Added	Control Limits	Spike Result	Percent Recovery
OTP	40	40-140	34.5	86.2

Comments:

Batch Information

Analytical Batch: EP061810
Analytical Method: 8015
Instrument: GC6
Analyst: DTF

Prep batch: 16832
Prep Method: 3541
Prep Date: 06/18/10
Initial Prep Wt/Vol: 32.87 G
Prep Final Vol: 10 mL

Analyst: FX

NC Certification #481

Reviewed By:

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

Client Sample ID: 151-2 1-2
Client Project ID: ROW-308
Lab Sample ID: G609-58-2D
Lab Project ID: G609-58

Date Collected: 6/15/2010 12:30
Date Received: 6/17/2010
Matrix: Soil
Solids 96.63
Report Basis: Dry Weight

Parameter	Result	RL	Units	Dilution Factor	Date Analyzed
Diesel Range Organics	**25.0**	6.24	mg/Kg	1	06/18/10 17:02

Surrogate Spike Results	Spike Added	Control Limits	Spike Result	Percent Recovery
OTP	40	40-140	34.6	86.4

Comments:

Batch Information

Analytical Batch: EP061810
Analytical Method: 8015
Instrument: GC6
Analyst: DTF

Prep batch: 16832
Prep Method: 3541
Prep Date: 06/18/10
Initial Prep Wt/Vol: 33.16 G
Prep Final Vol: 10 mL

Analyst: FX

NC Certification #481

Reviewed By: _____

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

Client Sample ID: 151-3 1-2
Client Project ID: ROW-308
Lab Sample ID: G609-58-3D
Lab Project ID: G609-58

Date Collected: 6/15/2010 13:20
Date Received: 6/17/2010
Matrix: Soil
Solids 95.57
Report Basis: Dry Weight

Parameter	Result	RL	Units	Dilution Factor	Date Analyzed
Diesel Range Organics	**11.9**	6.20	mg/Kg	1	06/18/10 17:31

Surrogate Spike Results	Spike Added	Control Limits	Spike Result	Percent Recovery
OTP	40	40-140	37.7	94.3

Comments:

Batch Information

Analytical Batch: EP061810
Analytical Method: 8015
Instrument: GC6
Analyst: DTF

Prep batch: 16832
Prep Method: 3541
Prep Date: 06/18/10
Initial Prep Wt/Vol: 33.74 G
Prep Final Vol: 10 mL

Analyst: _____ NC Certification #481 Reviewed By: _____

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

Client Sample ID: 151-4 3-4
Client Project ID: ROW-308
Lab Sample ID: G609-58-4D
Lab Project ID: G609-58

Date Collected: 6/15/2010 14:05
Date Received: 6/17/2010
Matrix: Soil
Solids 94.38
Report Basis: Dry Weight

Parameter	Result	RL	Units	Dilution Factor	Date Analyzed
Diesel Range Organics	1310	64.4	mg/Kg	10	06/21/10 10:56

Surrogate Spike Results	Spike Added	Control Limits	Spike Result	Percent Recovery
OTP	40	40-140	36.1	90.3

Comments:
NA : Surrogates diluted out

Batch Information

Analytical Batch: EP062110
Analytical Method: 8015
Instrument: GC6
Analyst: DTF

Prep batch: 16832
Prep Method: 3541
Prep Date: 06/18/10
Initial Prep Wt/Vol: 32.92 G
Prep Final Vol: 10 mL

Analyst: _____ NC Certification #481 Reviewed By: _____

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

Client Sample ID: 151-5 2-3
Client Project ID: ROW-308
Lab Sample ID: G609-58-5D
Lab Project ID: G609-58

Date Collected: 6/15/2010 15:40
Date Received: 6/17/2010
Matrix: Soil
Solids 96.50
Report Basis: Dry Weight

Parameter	Result	RL	Units	Dilution Factor	Date Analyzed
Diesel Range Organics	**10.9**	6.11	mg/Kg	1	06/18/10 18:28

Surrogate Spike Results	Spike Added	Control Limits	Spike Result	Percent Recovery
OTP	40	40-140	36	90.1

Comments:

Batch Information

Analytical Batch: EP061810
Analytical Method: 8015
Instrument: GC6
Analyst: DTF

Prep batch: 16832
Prep Method: 3541
Prep Date: 06/18/10
Initial Prep Wt/Vol: 33.92 G
Prep Final Vol: 10 mL

Analyst: TX

NC Certification #481

Reviewed By: DRO.XLS

Results for Total Petroleum Hydrocarbons
by GC/FID 8015

Client Sample ID: 151-6 2-3
Client Project ID: ROW-308
Lab Sample ID: G609-58-6D
Lab Project ID: G609-58

Date Collected: 6/15/2010 16:00
Date Received: 6/17/2010
Matrix: Soil
Solids 93.84
Report Basis: Dry Weight

Parameter	Result	RL	Units	Dilution Factor	Date Analyzed
Diesel Range Organics	BQL	6.58	mg/Kg	1	06/18/10 18:57

Surrogate Spike Results	Spike Added	Control Limits	Spike Result	Percent Recovery
OTP	40	40-140	32.3	80.9

Comments:

Batch Information

Analytical Batch: EP061810
Analytical Method: 8015
Instrument: GC6
Analyst: DTF

Prep batch: 16832
Prep Method: 3541
Prep Date: 06/18/10
Initial Prep Wt/Vol: 32.4 G
Prep Final Vol: 10 mL

Analyst: FX

NC Certification #481

Reviewed By:

Results for Total Petroleum Hydrocarbons
by GC/FID 8015

Client Sample ID: 151-7 1-2
Client Project ID: ROW-308
Lab Sample ID: G609-58-7D
Lab Project ID: G609-58

Date Collected: 6/15/2010 16:30
Date Received: 6/17/2010
Matrix: Soil
Solids 97.00
Report Basis: Dry Weight

Parameter	Result	RL	Units	Dilution Factor	Date Analyzed
Diesel Range Organics	**8.90**	6.22	mg/Kg	1	06/18/10 19:25

Surrogate Spike Results	Spike Added	Control Limits	Spike Result	Percent Recovery
OTP	40	40-140	34.5	86.2

Comments:

Batch Information

Analytical Batch: EP061810
Analytical Method: 8015
Instrument: GC6
Analyst: DTF

Prep batch: 16832
Prep Method: 3541
Prep Date: 06/18/10
Initial Prep Wt/Vol: 33.16 G
Prep Final Vol: 10 mL

Analyst: FX

NC Certification #481

Reviewed By:

DRO.XLS

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

Client Sample ID: 151-8 3-4
Client Project ID: ROW-308
Lab Sample ID: G609-58-8D
Lab Project ID: G609-58

Date Collected: 6/15/2010 17:45
Date Received: 6/17/2010
Matrix: Soil
Solids 95.12
Report Basis: Dry Weight

Parameter	Result	RL	Units	Dilution Factor	Date Analyzed
Diesel Range Organics	**35.4**	6.45	mg/Kg	1	06/18/10 19:54

Surrogate Spike Results	Spike Added	Control Limits	Spike Result	Percent Recovery
OTP	40	40-140	36.5	91.2

Comments:

Batch Information

Analytical Batch: EP061810
Analytical Method: 8015
Instrument: GC6
Analyst: DTF

Prep batch: 16832
Prep Method: 3541
Prep Date: 06/18/10
Initial Prep Wt/Vol: 32.62 G
Prep Final Vol: 10 mL

Analyst: _____ NC Certification #481 Reviewed By: _____

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

Client Sample ID: 151-9 1-2
Client Project ID: ROW-308
Lab Sample ID: G609-58-9D
Lab Project ID: G609-58

Date Collected: 6/15/2010 18:35
Date Received: 6/17/2010
Matrix: Soil
Solids 94.02
Report Basis: Dry Weight

Parameter	Result	RL	Units	Dilution Factor	Date Analyzed
Diesel Range Organics	**1000**	63.9	mg/Kg	10	06/21/10 11:24

Surrogate Spike Results	Spike Added	Control Limits	Spike Result	Percent Recovery
OTP	40	40-140	38.4	96.1

Comments:
NA : Surrogates diluted out

Batch Information

Analytical Batch: EP062110
Analytical Method: 8015
Instrument: GC6
Analyst: DTF

Prep batch: 16832
Prep Method: 3541
Prep Date: 06/18/10
Initial Prep Wt/Vol: 33.29 G
Prep Final Vol: 10 mL

Analyst: _____ NC Certification #481 Reviewed By: _____

Results for Total Petroleum Hydrocarbons
by GC/FID 8015

Client Sample ID: 151-10 3-4
Client Project ID: ROW-308
Lab Sample ID: G609-58-10D
Lab Project ID: G609-58

Date Collected: 6/15/2010 18:45
Date Received: 6/17/2010
Matrix: Soil
Solids 94.00
Report Basis: Dry Weight

Parameter	Result	RL	Units	Dilution Factor	Date Analyzed
Diesel Range Organics	BQL	6.48	mg/Kg	1	06/18/10 20:51

Surrogate Spike Results	Spike Added	Control Limits	Spike Result	Percent Recovery
OTP	40	40-140	34.1	85.3

Comments:

Batch Information

Analytical Batch: EP061810
Analytical Method: 8015
Instrument: GC6
Analyst: DTF

Prep batch: 16832
Prep Method: 3541
Prep Date: 06/18/10
Initial Prep Wt/Vol: 32.84 G
Prep Final Vol: 10 mL

Analyst: FK

NC Certification #481

Reviewed By:

SGS

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(1)
CLIENT: Hart + Hickman, PC
CONTACT: Dave Graham PHONE NO:(704) 586-0007
PROJECT: ROW-308 SITE/PWSID# :
REPORTS TO: Dave Graham email: dgraham@hart-hickman.com
FAX NO.:( )
INVOICE TO: NCDOT QUOTE #:
(2) WBS #-34866.1.1 P.O. NUMBER:

SGS Reference: 6609-58

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LAB NO.	SAMPLE IDENTIFICATION	DATE	TIME	MATRIX	No CONTAINERS	SAMPLE TYPE C=COMP G=GRAB	Preservatives Used	(3) Analysis Required: TPH DRO	TPH GRO	REMARKS
	151-1 3-4	6-15-10	11:40	soil	3	G		X	X	
	151-2 1-2	6-15-10	12:30	soil	3	G		X	X	
	151-3 1-2	6-15-10	13:20	soil	3	G		X	X	
	151-4 3-4	6-15-10	14:05	soil	3	G		X	X	
	151-5 2-3	6-15-10	15:40	soil	3	G		X	X	
	151-6 2-3	6-15-10	16:00	soil	3	G		X	X	
	151-7 1-2	6-15-10	16:30	soil	3	G		X	X	
	151-8 3-4	6-15-10	17:45	soil	3	G		X	X	
	151-9 1-2	6-15-10	18:35	soil	3	G		X	X	
	151-10 3-4	6-15-10	18:45	soil	3	G		X	X	

(5)

	Date	Time	
Collected/Relinquished By:(1)	6-16-10	15:00	Received By: 6/16/10 15:00
Relinquished By: (2)	6/16/10	15:30	Received By:
Relinquished By: (3)	6/17/10	1000	Received By:
Relinquished By: (4)	Date	Time	Received By:

(4)
Shipping Carrier:
Shipping Ticket No:
Special Deliverable Requirements:
Samples Received Cold? (Circle) YES NO
Temperature°C: 4.4
Chain of Custody Seal: (Circle)
INTACT BROKEN ABSENT
Special Instructions:
Requested Turnaround Time:
☐ RUSH _____ (Date Needed) ☐ STD

☐ 200 W. Potter Drive Anchorage, AK 99518 Tel: (907) 562-2343 Fax: (907) 561-5301
☐ 5500 Business Drive Wilmington, NC 28405 Tel: (910) 350-1903 Fax: (910) 350-1557

White - Retained by Lab
Pink - Retained by Client