

PRELIMINARY SITE ASSESSMENT

**PARCEL #147, REUSE STORE
2727 SOUTHERN AVENUE EXTENSION, FAYETTEVILLE, NORTH CAROLINA**

**FAYETTEVILLE – SR 1132 (LEGION ROAD) FROM SR 1363 (ELK ROAD)
TO SR 1007 (OWEN ROAD)
CUMBERLAND COUNTY, NORTH CAROLINA**

**NCDOT WBS ELEMENT 34865.2.3
STATE PROJECT U-2809B**

December 20, 2010

Prepared for:

**Ethan J. Caldwell, L.G., P. E.
North Carolina Department of Transportation
Geotechnical Engineering Unit
GeoEnvironmental Section
1589 Mail Service Center
Raleigh, North Carolina 27699-1589**

Prepared by:

**Kleinfelder Southeast, Inc.
313 Gallimore Dairy Road
Greensboro, North Carolina 27409**

Kleinfelder Project No. 113754

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PROJECT FOR WHICH THIS REPORT WAS PREPARED.**



December 20, 2010
File No. 113754 | GSO10R253

Ethan J. Caldwell, L.G., P. E.
North Carolina Department of Transportation
1589 Mail Service Center
Raleigh, North Carolina 27699-1589

Reference: **Preliminary Site Assessment**
WBS Element No. 34865.2.3, State Project U-2809B
Parcel # 147, Reuse Store
2727 Southern Avenue Extension, Fayetteville
Cumberland County, North Carolina

Dear Mr. Caldwell:

Please find enclosed a report summarizing the sampling activities for the preliminary site assessment conducted at the referenced site. Laboratory analysis of soil samples collected at the site did not detect petroleum or volatile hydrocarbon concentrations above the method detection limits of the laboratory methods. This report summarizes our field activities, results, laboratory report, and conclusions.

Should questions arise or additional information be required, please contact the undersigned.

Sincerely,

Kleinfelder Southeast, Inc.



Peter F. Pozzo, L.G.
Staff Professional II



John M. Stewart, L.G.
Senior Professional

PFP/JMS:cas
Enclosure

PRELIMINARY SITE ASSESSMENT

Site Name and Location: Parcel #147, Reuse Store
2727 Southern Avenue Extension
Fayetteville, Cumberland County, North
Carolina

Latitude and Longitude: 35° 00' 53" N, 78° 54' 24" W

Facility ID Number: None Given

Property Owner Charles Taylor Huggins
1742 Orangeburg Road
Summerville, South Carolina 29483

NCDOT Project No.: NCDOT WBS Element 34865.2.3
State Project U-2809B

Date of Report: December 20, 2010

Consultant: Kleinfelder
313 Gallimore Dairy Road
Greensboro, North Carolina 27409
Attn: Mr. John M. Stewart
Phone: 336.668.0093 X115

Seal and Signature of Certifying Licensed Geologist

I, John M. Stewart, a Licensed Geologist for Kleinfelder Southeast, Inc., do certify that the information contained in this report is correct and accurate to the best of my knowledge.

John M. Stewart, P.G.
NC License No. 1046

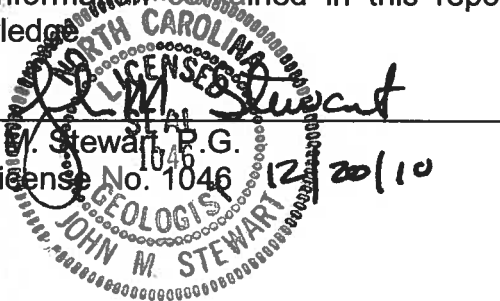


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1.0 INTRODUCTION

Kleinfelder Southeast, Inc. (Kleinfelder) has prepared this Preliminary Site Assessment (PSA) report documenting assessment activities performed at the Reuse Store property (Parcel 147) located at 2727 Southern Avenue Extension in Fayetteville, Cumberland County, North Carolina (Figure 1). This assessment was conducted on behalf of the North Carolina Department of Transportation (NCDOT) in accordance with Kleinfelder's October 7, 2010 proposal.

NCDOT is proposing to widen SR 1132 (Legion Road) from SR 1363 (Elk Road) to SR 1007 (Owen Road). The proposed right-of-way is located along the west and south sides of the property (Figure 2). There is concern that contaminated soils could be encountered during the construction activities at this site.

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 SR 1132 (Legion Road) from SR 1363 (Elk Road) to SR 1007 (Owen Road).

1.1 Site Description

The proposed right-of-way is located along west and south sides of the property owned by Charles T. Huggins and at the time of our site reconnaissance, this parcel was vacant at the time. Three buildings were located along the west side of the property. The rear of the property was being used as an impound lot and contained several trucks and cars. Site photographs are shown in Appendix A.

1.2 Site Location

The facility is located in the northeast quadrant of the Legion Road and Mountain Avenue intersection. A residence is located north and east of the property. Legion Road and residences are located west of the property; and Mountain Avenue and a Mexican restaurant are located south of the property.

1.3 NCDENR File Review

Kleinfelder reviewed incident files at the North Carolina Department of Environment and Natural Resources (NDENR) Fayetteville Regional Office. No incidents were reported for the property.

2.0 SITE ASSESSMENT

2.1 Geophysical Investigation

Pyramid Environmental & Engineering, P.C. (Pyramid) conducted a geophysical investigation of the proposed right-of-way/easement on the west and south side of the property on October 21, 2010. Pyramid utilized electromagnetic (EM) induction technology to identify potential geophysical anomalies and potential USTs at the site. On October 29, 2010, Pyramid conducted a ground penetrating radar (GPR) survey of several magnetic anomalies identified during the EM survey. A more detailed description of their scope of work is explained in their Geophysical Investigation Report included in Appendix B. Prior to drilling the soil borings, buried utilities were marked by NC One Call and Northstate Utility Locating, Inc. (Northstate).

2.2 Soil Sampling

To determine if contaminated soil may be encountered during the proposed construction activities, soil samples were collected along the west and south sides of the property. A Kleinfelder geologist and direct push rig crew met at the property on November 18, 2010; Kleinfelder advanced 10 soil borings (SS-1 to SS-10) by direct push technology (DPT) and two borings using a hand auger (HA-1 and HA-2). The approximate location of the borings is shown on Figure 3.

Soil borings were advanced to a depth of eight feet below the ground surface (bgs). The borings were located along proposed drainage features. The direct push samples were collected by driving a macrocore sampler in 4-foot intervals in each boring. Each 4-foot sample sleeve was divided in half and screened for volatile organic compounds in the field using a MiniRae 2000 photoionization detectors (PID). The hand auger borings were advanced in one foot intervals. In each boring, the soil interval with the

highest PID reading was collected for laboratory analysis. If no organic vapors were detected, the sample collected from the bottom of the boring was submitted for analysis. The PID readings are summarized in Table 1. Copies of the boring logs are included in Appendix C.

Prior to the initial boring and after each subsequent boring, the sampling equipment was decontaminated. The soil samples collected for laboratory analysis were analyzed for total petroleum hydrocarbons (TPH) similar to diesel and gasoline (DRO/GRO) using EPA Method 8015B following 3550 and 5035 preparation and for volatile organic compounds (VOCs) using EPA Method 8260B. All soil samples were placed into laboratory provided jars, labeled, and maintained on ice until delivered to SGS, a NCDOT contract laboratory for chemical analysis.

3.0 RESULTS

3.1 Geophysical Investigation

Pyramid's results indicate that the GPR and EM investigation did not detect any unknown metallic USTs within the survey area. Pyramid's report is included in Appendix B.

3.2 Soil Sample

Low concentrations (8.33 parts per million) of diesel range organics were detected in the sample collected from SS-6 at a depth of 2 feet below land surface (bls) and low concentrations of naphthalene (5.2 parts per billion) were detected in boring HA-2 at a depth of 4 feet bls. Both concentrations are below State action levels. No other diesel range organics (DRO), gasoline range organics (GRO), or volatile organic hydrocarbons were detected at concentrations above the method reporting limits in the soil samples. The laboratory results are summarized in Table 2 and on Figure 3. The laboratory report and associated chain-of-custody document are included in Appendix D.

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4.0 CONCLUSIONS

Based on results of the laboratory analysis and field observations, Kleinfelder has the following conclusions:

- ◆ Groundwater was not encountered in the soil borings;
- ◆ Low concentrations of TPH similar to diesel were detected at a depth of two feet in the sample collected from boring SS-6 which was located in the southwest corner of the right-of-way. There is no known source for the TPH: therefore Kleinfelder is of the opinion that the contamination is likely from incidental roadway spills. Low concentrations of naphthalene were detected at a depth of four feet in the sample collected from boring HA-2 which was located along the south side of the right-of-way. There is no known source for the naphthalene: therefore Kleinfelder is of the opinion that the contamination is likely from incidental roadway spills or from *de minimis* spills from cars and trucks which are parked in this area.
- ◆ TPH and VOCs were not detected in the soil samples at concentrations above the State's action limits.

5.0 LIMITATIONS

Our work has been performed in a manner consistent with that level of care and skill ordinarily exercised by other members of Kleinfelder's profession practicing in the same locality, under similar conditions and at the date the services were provided. Our conclusions, opinions and recommendations are based on a limited number of observations and data. It is possible that conditions could vary between or beyond the data evaluated. Kleinfelder makes no guarantee or warranty, express or implied, regarding the services, communication (oral or written), report, opinion, or instrument of service provided.

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TABLES

TABLE 1: SOIL SAMPLE PID RESULTS

SAMPLE LOCATION	DEPTH (feet bgs)	PID READINGS
SS-1	1.5 - 2.0	3
	3.5 - 4.0	4.8
	5.5 - 6.0	3.5
	7.5 - 8.0	5.2
SS-2	1.5 - 2.0	3.2
	3.5 - 4.0	2
	5.5 - 6.0	1.5
	7.5 - 8.0	3.1
SS-3	1.5 - 2.0	1.8
	3.5 - 4.0	2.7
	5.5 - 6.0	1.3
	7.5 - 8.0	2.1
SS-4	1.5 - 2.0	0.6
	3.5 - 4.0	1.5
	5.5 - 6.0	1.9
	7.5 - 8.0	1.4
SS-5	1.5 - 2.0	0.9
	3.5 - 4.0	1.1
	5.5 - 6.0	1.9
	7.5 - 8.0	2.4
SS-6	1.5 - 2.0	2.7
	3.5 - 4.0	2.4
	5.5 - 6.0	1.6
	7.5 - 8.0	2.4
SS-7	1.5 - 2.0	2.2
	3.5 - 4.0	3.7
	5.5 - 6.0	2
	7.5 - 8.0	3.3
SS-8	1.5 - 2.0	2.1
	3.5 - 4.0	2.4
	5.5 - 6.0	2.4
	7.5 - 8.0	2.7
SS-9	1.5 - 2.0	0.4
	3.5 - 4.0	1.5
	5.5 - 6.0	3.7
	7.5 - 8.0	3.8
SS-10	1.5 - 2.0	2.0
	3.5 - 4.0	3.7
	5.5 - 6.0	2.6
	7.5 - 8.0	3.5
HA-1	1.5 - 2.0	1.5
	3.5 - 4.0	1.2
	5.5 - 6.0	1.3
	7.5 - 8.0	1.2
HA-2	1.5 - 2.0	1.7
	3.5 - 4.0	21.3
	5.5 - 6.0	10.2
	7.5 - 8.0	2.8

Notes:

Samples were collected on November 18, 2010.
 Readings reported in parts per million
 feet bgs = feet below ground surface
Bold = Selected for laboratory analysis

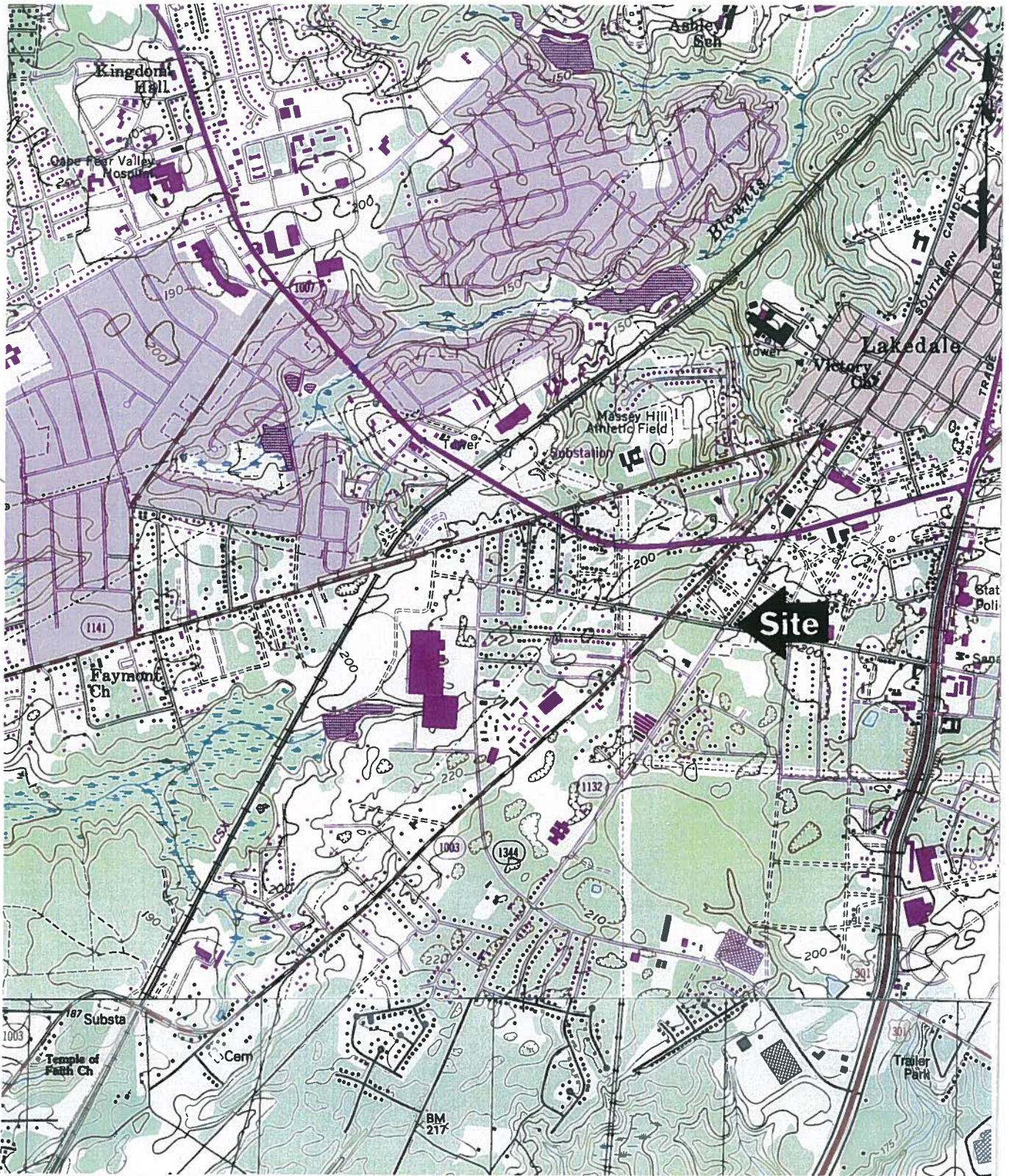
TABLE 2: SOIL SAMPLE ANALYTICAL SUMMARY

SAMPLE ID	COLLECTION DATE	DRO	GRO	METHOD 8260
SS-1 8.0 ft	11/18/2010	BQL	BQL	*BQL
SS-2 2.0 ft	11/18/2010	BQL	BQL	*BQL
SS-3 4.0 ft	11/18/2010	BQL	BQL	*BQL
SS-4 6.0 ft	11/18/2010	BQL	BQL	*BQL
SS-5 8.0 ft	11/18/2010	BQL	BQL	*BQL
SS-6 2.0 ft	11/18/2010	8.33	BQL	*BQL
SS-7 4.0 ft	11/18/2010	BQL	BQL	*BQL
SS-8 8.0 ft	11/18/2010	BQL	BQL	*BQL
SS-9 8.0 ft	11/18/2010	BQL	BQL	*BQL
SS-10 4.0 ft	11/18/2010	BQL	BQL	*BQL
HA-1 2.0 ft	11/18/2010	BQL	BQL	*BQL
HA-2 4.0 ft	11/18/2010	BQL	BQL	0.0052
State Action Level		10	10	Varies

Notes:

Sample collection depth is indicated in Sample ID, following sequential soil sample number
 Results presented in milligrams per kilogram, analogous to parts per million
 DRO = Diesel Range Organics
 GRO = Gasoline Range Organics
 BQL = Below quantitation limit
Bold denotes concentration exceeds the State Action Level
 *BQL = 8260 Method deliverable compounds
 a = Naphthalene

FIGURES



**FIGURE 1
SITE LOCATION MAP
PARCEL # 147, REUSE STORE
2727 LEGION ROAD
CUMBERLAND COUNTY, NORTH CAROLINA**



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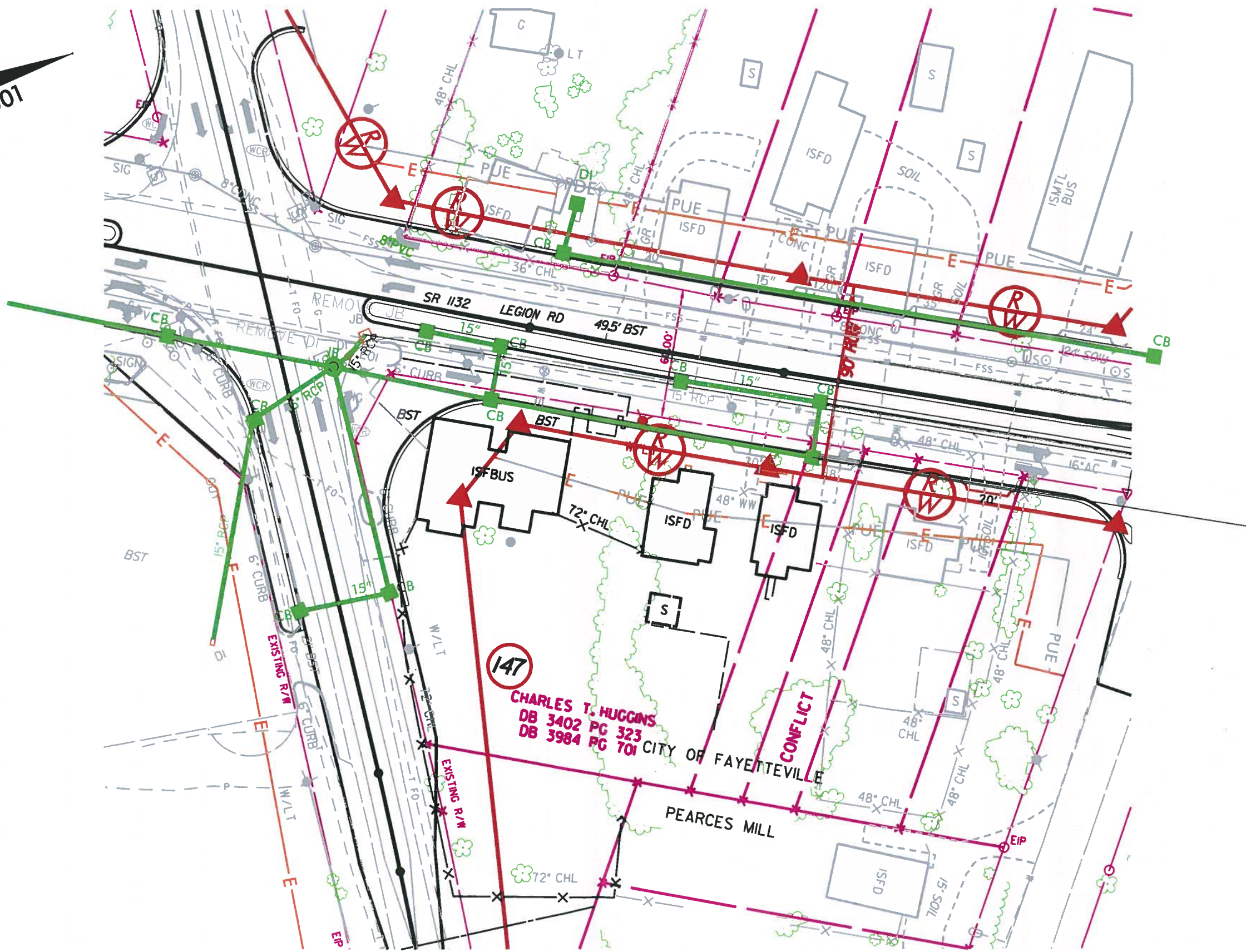
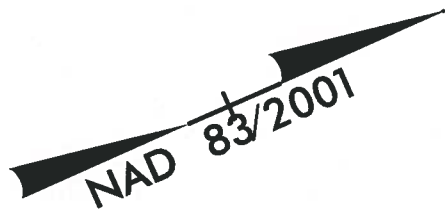
DATE: December 17, 2010

SOURCE: USGS 7.5' Topographic Map,
Fayetteville & Hope Mills Quadrangle

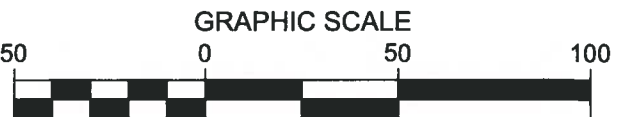
APPROVED
BY:

SCALE: 1" to 24,000'

PROJECT NO. 113754



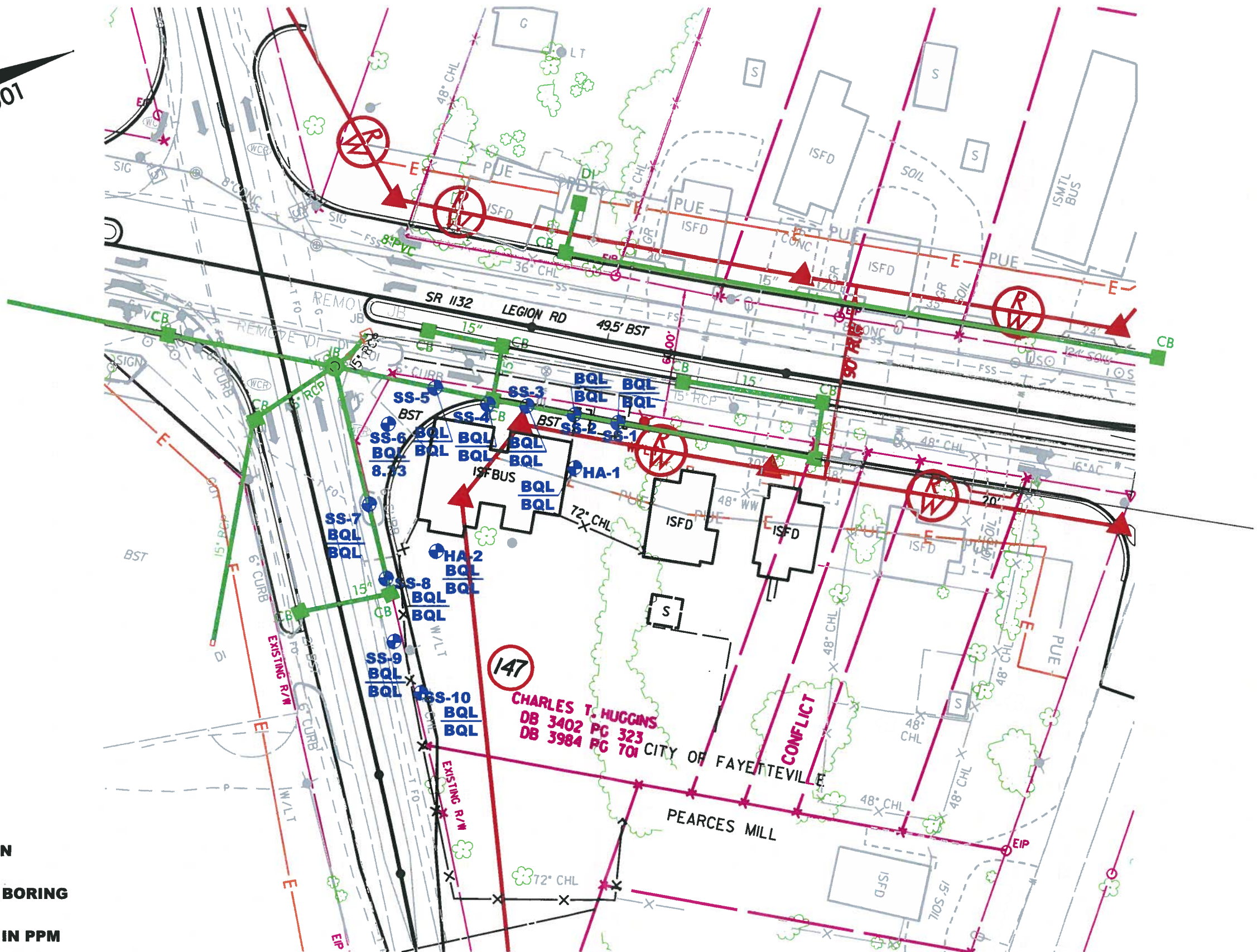
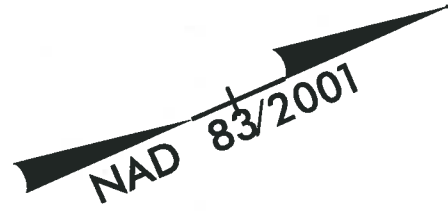
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PROJECT NO.	113754
DRAWN:	11/24/2010
DRAWN BY:	DJH
CHECKED BY:	JMS
SCALE:	1" = 50'

SITE MAP	
PARCEL #147	
CHARLES T. HUGGINS	
2727 SOUTHERN AVENUE EXTENSION	
TIP NO.	U-2809B
WBS ELEMENT NO.	34865.2.3
CUMBERLAND COUNTY NORTH CAROLINA	

FIGURE:
2

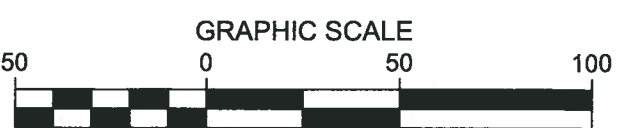


EXPLANATION

- SS-1 SOIL BORING
- BQL GRO IN PPM
- BQL DRO

**NOTE: BQL - BELOW QUANTITATION LIMIT
GRO - GASOLINE RANGE ORGANICS
DRO - DIESEL RANGE ORGANICS**

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PROJECT NO.	113754
DRAWN:	11/24/2010
DRAWN BY:	DJH
CHECKED BY:	JMS
SCALE:	1" = 50'

BORING LOCATION MAP	
PARCEL #147	
CHARELS T. HUGGINS	
2727 SOUTHERN AVENUE EXTENSION	
TIP NO.	U-2809B
WBS ELEMENT NO.	34865.2.3
CUMBERLAND COUNTY	
NORTH CAROLINA	

FIGURE:
3

APPENDIX A

**SITE PHOTOGRAPHS
KLEINFELDER PROJECT NO. 113754
PARCEL NO. 147 REUSE STORE PROPERTY**



Photograph 1 – View looking north at the site from across Mountain Ave.



Photograph 2 – View looking east along the north side of the building.

SITE PHOTOGRAPHS
KLEINFELDER PROJECT NO. 113754
PARCEL NO. 147 REUSE STORE PROPERTY



Photograph 3 – View looking east of the location of one hand auger boring.



Photograph 4 – View looking south along Legion Rd. in the area where five soil samples were collected.

**SITE PHOTOGRAPHS
KLEINFELDER PROJECT NO. 113754
PARCEL NO. 147 REUSE STORE PROPERTY**



Photograph 5 – View looking east along Mountain Ave. where five soil samples were collected.



Photograph 6 – View looking north of the location of one hand auger boring.

APPENDIX B

GEOPHYSICAL INVESTIGATION REPORT

EM61 & GPR SURVEYS

CHARLES T. HUGGINS PROPERTY

PARCEL 147

Fayetteville, North Carolina

November 5, 2010

Report prepared for: John Stewart P.G.
Kleinfelder
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Greensboro, NC 27409

Prepared by: 
Mark J. Denil, P.G.

Reviewed by: 
Douglas Canavello, P.G.

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GREENSBORO, NC 27416-0265
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Kleinfelder
GEOPHYSICAL INVESTIGATION REPORT
CHARLES T. HUGGINS PROPERTY
PARCEL 147
Fayetteville, North Carolina

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| Figure 2 | EM61 Metal Detection – Bottom Coil Results |
| Figure 3 | EM61 Metal Detection – Differential Results |

1.0 INTRODUCTION

Pyramid Environmental conducted a geophysical investigation for Kleinfelder across the western and southern portions (proposed Right-of-Way area) of the Charles T. Huggins property (Parcel 147) located along Legion Road and West Mountain Drive in Fayetteville, North Carolina. Conducted on October 21 and 29, 2010 the geophysical investigation was performed as part of the North Carolina Department of Transportation (NCDOT) preliminary site assessment project to determine if unknown, metallic, underground storage tanks (USTs) were present beneath the area of interest at Parcel 147.

Kleinfelder representative Mr. John Stewart, P.G provided site maps to Pyramid Environmental personnel during the week of September 30, 2010, which identified the geophysical survey area of the Strickland property. The geophysical survey area along Legion Road had a maximum length and width of 250 feet and 40 feet, respectively and the survey area along West Mountain Drive had a maximum length and width of 200 feet and 50 feet, respectively. Photographs of the geophysical equipment used in this investigation and a portion of the geophysical survey area at Parcel 147 are shown in **Figure 1**.

2.0 FIELD METHODOLOGY

Prior to conducting the geophysical investigation, a 10-foot by 10-foot survey grid was established across the geophysical survey area (property) using measuring tapes, pin flags and water-based marking paint. These grid marks were used as X-Y coordinates for location control when collecting the geophysical data and establishing base maps for the geophysical results.

The geophysical investigation consisted of electromagnetic (EM) induction-metal detection surveys. The EM survey was performed on October 21, 2010 using a Geonics EM61-MK1 metal detection instrument. According to the instrument specifications, the EM61 can detect a metal drum down to a maximum depth of approximately 8 feet. Smaller objects (1-foot or less in size) can be detected to a maximum depth of 4 to 5 feet. All of the EM61 data were digitally collected at approximately 0.8

foot intervals along northerly-southerly (X-axis) parallel survey lines spaced five feet apart. All of the data were downloaded to a computer and reviewed in the field and office using the Geonics DAT61W and Surfer for Windows Version 7.0 software programs.

GPR surveys were conducted on October 29, 2010 across selected EM61 differential anomalies and steel reinforced concrete pavement using a GSSI SIR-2000 unit equipped with a 400 MHz antenna. Data were digitally collected in a continuous mode along X-axis and/or Y-axis survey lines, spaced 2.5 to 5.0 feet apart using a vertical scan of 512 samples, at a rate of 48 scans per second. A 70 MHz high pass filter and an 800 MHz low pass filter were used during data acquisition with the 400 MHz antenna. GPR data were collected down to a maximum depth of approximately 5 feet, based on an estimated two-way travel time of 8 nanoseconds per foot. All of the GPR data were downloaded to a field computer and reviewed in the field and office using Radprint software.

Contour plots of the EM61 bottom coil and differential results are presented in **Figures 2 and 3**, respectively. The bottom coil results represent the most sensitive component of the EM61 instrument and detect metal objects regardless of size. The bottom coil response can be used to delineate metal conduits or utility lines, small, isolated metal objects, and areas containing insignificant metal debris. The differential results are obtained from the difference between the top and bottom coils of the EM61 instrument. The differential results focus on the larger metal objects such as drum and UST-size objects and ignore the smaller insignificant metal objects.

Preliminary geophysical results obtained from Parcel 147 were reported to Mr. Stewart on November 3, 2010.

3.0 DISCUSSION OF RESULTS

The linear EM61 bottom coil anomalies intersecting grid coordinates X=14 Y=234 and X=40 Y=160 are probably in response to buried utility lines or conduits. The EM61 anomalies centered near grid coordinates X=25 Y=25 and X=25 Y=105 are probably in response to known surface utility line-related objects such as the metal plate that covers a line connection vault, road sign, water meter

cover, and a storm sewer drain. GPR data suggest the high amplitude EM61 anomaly centered near grid coordinates X=40 Y=192 is in response to a parked vehicle. GPR data also suggest the series of EM61 anomalies recorded between grid lines Y=50 to Y=90 are in response to the metal pole, building, parked vehicles and/or metal fence. The EM61 bottom coil anomalies centered near grid coordinates X=95 Y=36 and X=180 Y=110 are probably in response to miscellaneous metal objects and parked vehicles that are not shown on the maps, respectively.

The EM61 metal detection and GPR results suggest the surveyed portion of Parcel 147 does not contain metallic USTs.

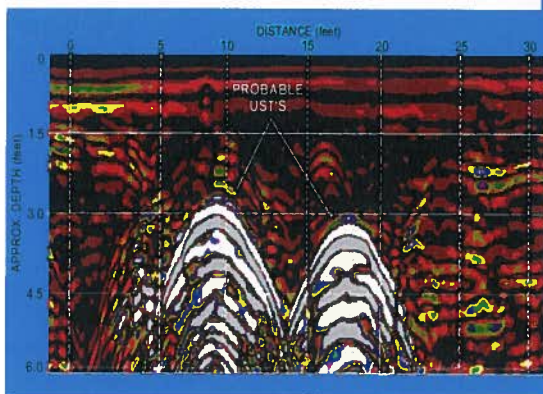
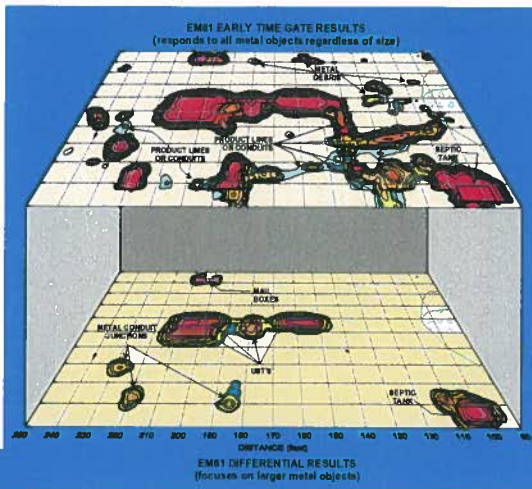
4.0 SUMMARY & CONCLUSIONS

Our evaluation of the EM61 and GPR data collected across the area of interest at the Charles T. Huggins property (Parcel 147) located in Fayetteville, North Carolina, provides the following summary and conclusions:

- The EM61 and GPR surveys provided reliable results for the detection of metallic USTs within the surveyed portions of the site.
- The linear EM61 bottom coil anomalies intersecting grid coordinates X=14 Y=234 and X=40 Y=160 are probably in response to buried utility lines or conduits.
- The EM61 anomalies centered near grid coordinates X=25 Y=25 and X=25 Y=105 are probably in response to known surface utility line-related objects such as the metal plate that covers a line connection vault, road sign, water meter cover, and a storm sewer drain.
- The EM61 metal detection and GPR results suggest the surveyed portion of Parcel 147 does not contain metallic USTs.

5.0 LIMITATIONS

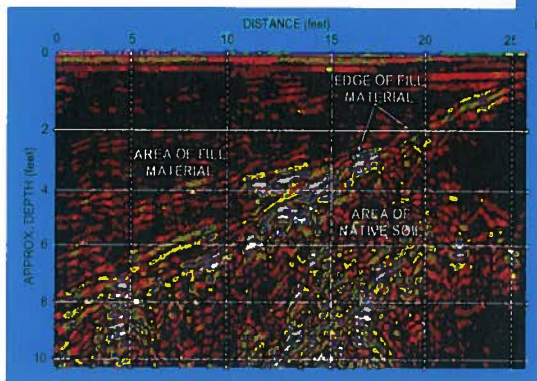
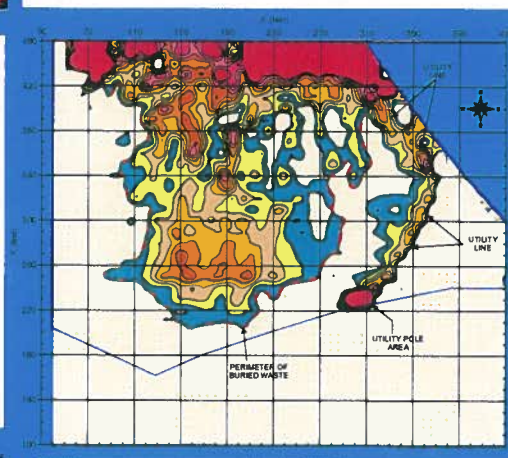
EM61 and GPR surveys have been performed and this report prepared for Kleinfelder in accordance with generally accepted guidelines for EM61 metal detection and GPR surveys. It is generally recognized that the results of the geophysical surveys are non-unique and may not represent actual subsurface conditions. The geophysical results obtained for this project have not conclusively determined that the surveyed portion of the site does not contain unknown, buried, metallic USTs, but that none were detected.



FIGURES

(on the following pages)

Figures shown on this page are for esthetic purposes only and are not related to the geophysical results discussed in this report.



The photograph shows the Geonics EM61 metal detector that was used to conduct the metal detection survey at Parcel 147 on October 21, 2010.



The photographs show the SIR-2000 GPR system equipped with a 400 MHz antenna that were used to conduct the ground penetrating radar investigation at Parcel 147 on October 29, 2010.

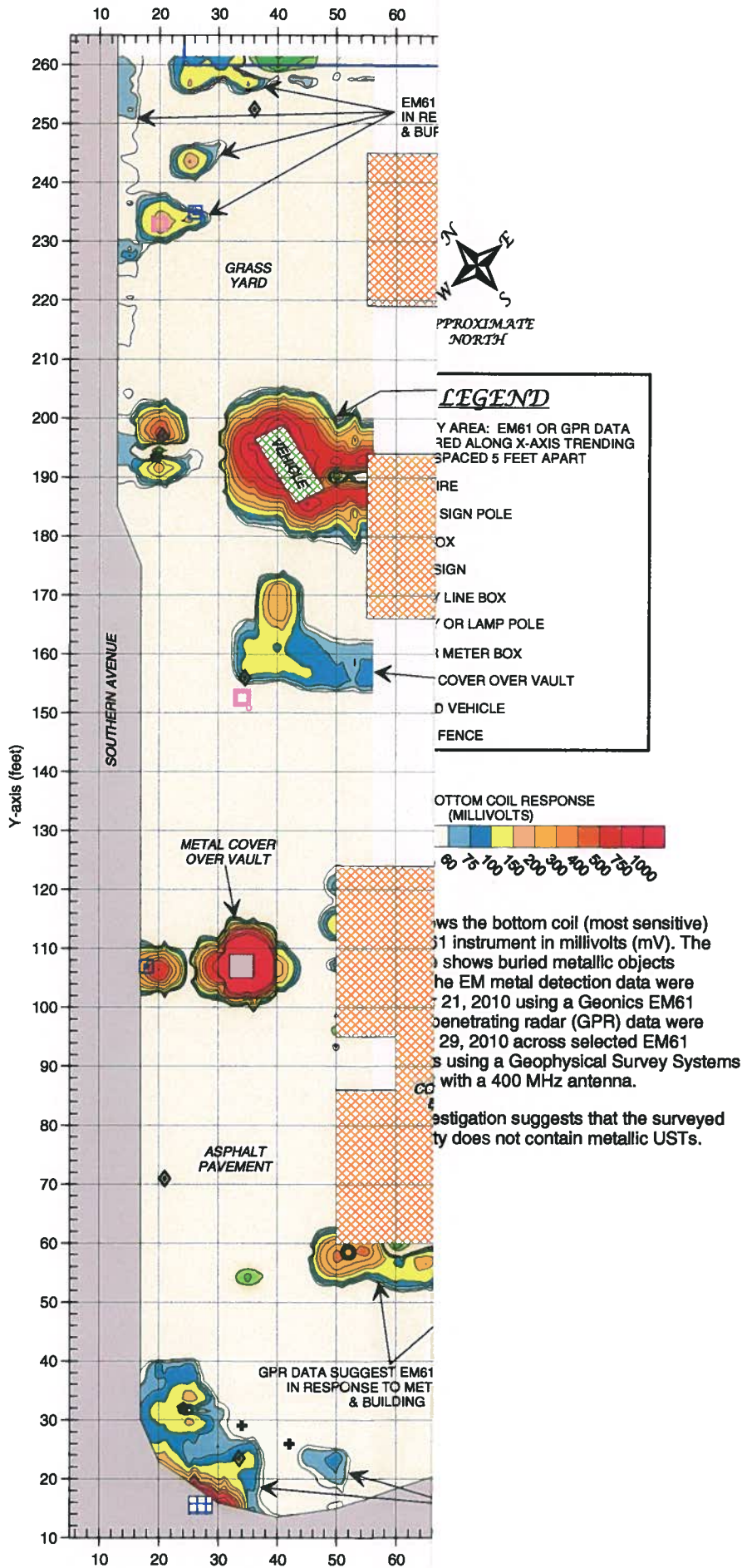


The photograph shows the western and southern portions of the Charles T. Huggins property (Parcel 147) located at the intersection of Legion Road and West Mountain Drive in Fayetteville, North Carolina. The photograph is viewed in a northeasterly direction.



SUBJECT	KLEINFELDER		DATE	11/02/10	BY	MJD
SITE	CHARLES T. HUGGINS PROPERTY (PARCEL 147)		LAST		REVISED	
CITY	FAYETTEVILLE	STATE	NORTH CAROLINA	DATE		
TITLE	GEOPHYSICAL RESULTS		NO.	2010-258	REVISED	

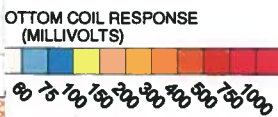
GEOPHYSICAL EQUIPMENT
& SITE PHOTOGRAPHS



LEGEND

Y AREA: EM61 OR GPR DATA
 RED ALONG X-AXIS TRENDING
 SPACED 5 FEET APART

WIRE
 SIGN POLE
 BOX
 SIGN
 LINE BOX
 OR LAMP POLE
 METER BOX
 COVER OVER VAULT
 D VEHICLE
 FENCE



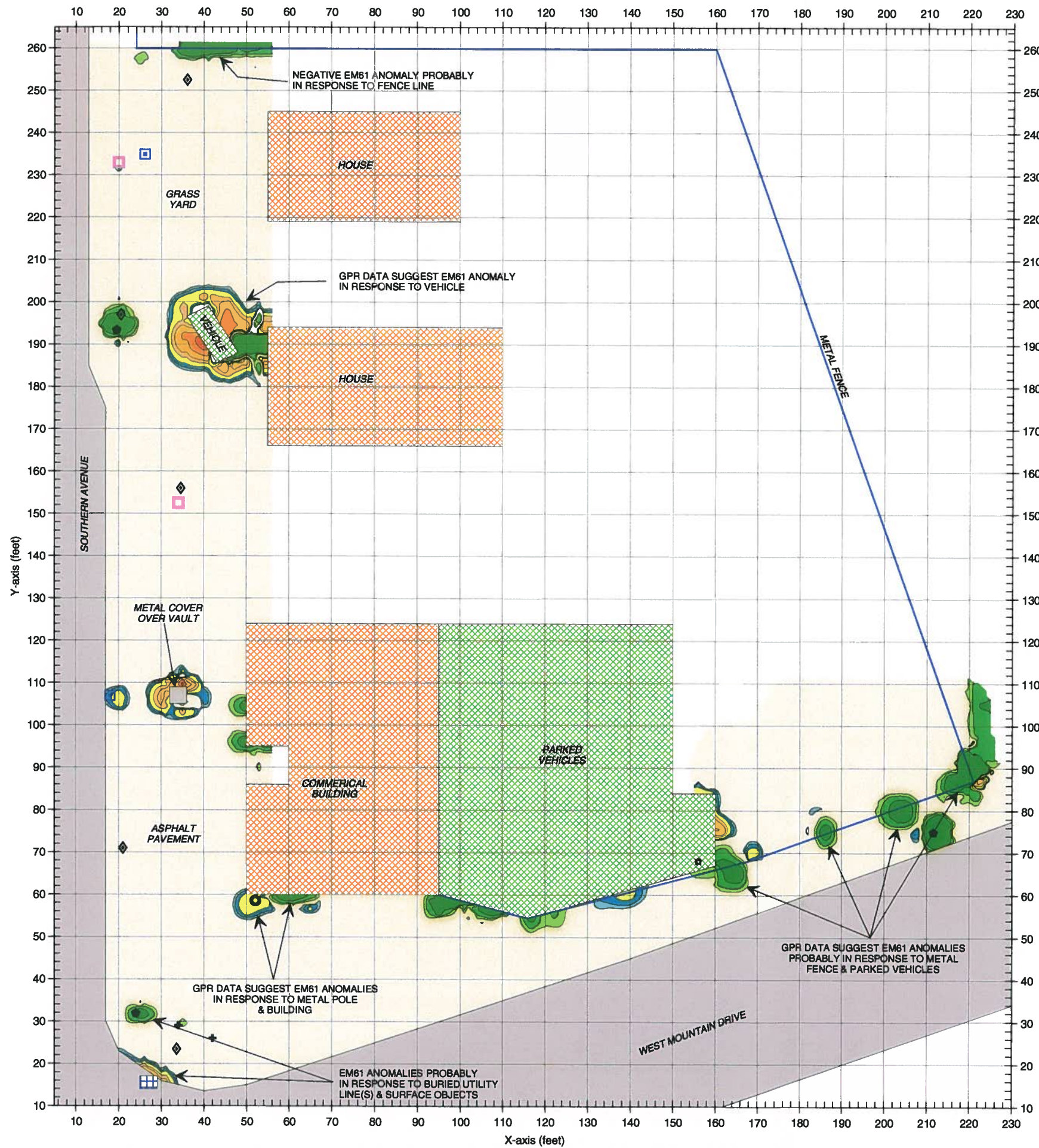
Shows the bottom coil (most sensitive) EM61 instrument in millivolts (mV). The map shows buried metallic objects. The EM metal detection data were collected on 11/21, 2010 using a Geonics EM61 metal detector. GPR data were collected on 11/29, 2010 across selected EM61 data points using a Geophysical Survey Systems International (GSSI) EM61 instrument with a 400 MHz antenna. The investigation suggests that the surveyed property does not contain metallic USTs.

EM61 METAL DETECTION (BOTTOM COIL RESULTS)

FIGURE 2

GRAPHIC SCALE IN FEET		MJD	
DATE	DWG	DATE	FIGURE
11/03/10		2010-258	
CLIENT	SITE	DATE	TITLE
KLEINFELDER	CHARLES T. HUGGINS PROPERTY (PARCEL 147)		EM61 METAL DETECTION (BOTTOM COIL RESULTS)
	FAYETTEVILLE		GEOPHYSICAL RESULTS
	NORTH CAROLINA		





LEGEND

- SURVEY AREA: EM61 OR GPR DATA ACQUIRED ALONG X-AXIS TRENDING LINES SPACED 5 FEET APART
- ✦ GUY WIRE
- METAL SIGN POLE
- MAIL BOX
- ROAD SIGN
- UTILITY LINE BOX
- ◇ UTILITY OR LAMP POLE
- WATER METER BOX
- METAL COVER OVER VAULT
- ▨ PARKED VEHICLE
- METAL FENCE



Note: The contour plot shows the differential response between the bottom and top coils of the EM61 instrument in millivolts (mV). The differential response focuses on larger, buried metallic objects such as drums and USTs and ignores smaller misc. buried, metal debris. The EM metal detection data were collected on October 21, 2010 using a Geonics EM61 instrument. Ground penetrating radar (GPR) data were acquired on October 29, 2010 across selected EM61 differential anomalies using a Geophysical Survey Systems SIR 2000 instrument with a 400 MHz antenna.

The geophysical investigation suggests that the surveyed portion of the property does not contain metallic USTs.

EM61 METAL DETECTION (DIFFERENTIAL RESULTS)

FIGURE 3

MJD	11/03/10	DATE	2010-258
NAME	CHARLES T. HUGGINS PROPERTY (PARCEL 147)	STATE	NORTH CAROLINA
DATE	FAYETTEVILLE	STATE	GEOPHYSICAL RESULTS

KLEINFELDER

PYRAMID
ENVIRONMENTAL & ENGINEERING, P.C.

APPENDIX C

LOG OF BORING SS-1

SHEET 1 OF 1

Client NCDOT
 Project Name U-2809B
 Number 113754
 Location Huggins Property #147

Drill Contractor Kleinfelder
 Drill Method 2 inch Direct Push
 Drilling Started 11/18/10 Ended 11/18/10
 Logged By P. Pozzo

Elevation --
 Total Depth 8.0
 Depth To Water

DEPTH FEET	SAMPLE NO.	BLOWS/FT	PID ppm	USCS	LITHOLOGY	DESCRIPTION	DEPTH FEET
3.0				SM		Tan Silty SAND	
4.8				SM		Tan Silty SAND	
5.2				SM		Tan Silty SAND	5
5.2	SS 1-8'			SM		Tan Silty SAND	5
						Boring Terminated at 8 feet in RESIDUAL	10
							15
							20
							25
							30

LOG A EWIN05 113754.GPJ LOG A EWIN05.GDT 12/16/10



Kleinfelder
 313 Gallimore Dairy Road
 Greensboro, NC 27409
 Telephone: 336-668-0093
 Fax: 336-668-3868

Remarks Sample SS-1 collected at 8 ft. submitted for laboratory analysis.

See key sheet for symbols and abbreviations used above.

LOG OF BORING SS-2

SHEET 1 OF 1

Client NCDOT
 Project Name U-2809B
 Number 113754
 Location Huggins Property #147

Drill Contractor Kleinfelder
 Drill Method 2 inch Direct Push
 Drilling Started 11/18/10 Ended 11/18/10
 Logged By P. Pozzo

Elevation —
 Total Depth 8.0
 Depth To Water

DEPTH FEET	SAMPLE NO.	BLOWS/FT	PID ppm	USCS	LITHOLOGY	DESCRIPTION	DEPTH FEET
5	SS 2-2'		3.2	SM	[Dotted Pattern]	Tan Silty SAND and Gravel	5
			2	SM		Tan Silty SAND and Gravel	
			1.5	SM	[Dotted Pattern]	Brown Silty SAND	
			3.1	SW	[Dotted Pattern]	Tan SAND	
10					Boring Terminated at 8 feet in RESIDUAL		10
15						15	
20						20	
25						25	
30						30	

LOG A EWINN05 113754.GPJ LOG A EWINN05.GDT 12/16/10



Kleinfelder
 313 Gallimore Dairy Road
 Greensboro, NC 27409
 Telephone: 336-668-0093
 Fax: 336-668-3868

Remarks Sample SS-2 collected at 2 ft. submitted for laboratory analysis.

See key sheet for symbols and abbreviations used above.

LOG OF BORING SS-3

SHEET 1 OF 1

Client NCDOT

Drill Contractor Kleinfelder

Project Name U-2809B

Drill Method 2 inch Direct Push

Elevation --

Number 113754

Drilling Started 11/18/10 Ended 11/18/10

Total Depth 8.0

Location Huggins Property #147

Logged By P. Pozzo

Depth To Water

DEPTH FEET	SAMPLE NO.	BLOWS/FT	PID ppm	USCS	LITHOLOGY	DESCRIPTION	DEPTH FEET
5	SS 3-4'		1.5	SM	[Dotted Pattern]	Tan Silty SAND	5
				SM		Tan Brown Silty SAND	
				SW	[Dotted Pattern]	Tan SAND	
				SW	[Dotted Pattern]	Tan SAND	
10					Boring Terminated at 8 feet in RESIDUAL		10
15							15
20							20
25							25
30							30

LOG A EWINN05 113754.GPJ LOG A EWINN05.GDT 12/16/10



Kleinfelder
 313 Gallimore Dairy Road
 Greensboro, NC 27409
 Telephone: 336-668-0093
 Fax: 336-668-3868

Remarks Sample SS-3 collected at 4 ft. submitted for laboratory analysis.

See key sheet for symbols and abbreviations used above.

LOG OF BORING SS-4

SHEET 1 OF 1

Client NCDOT
 Project Name U-2809B
 Number 113754
 Location Huggins Property #147

Drill Contractor Kleinfelder
 Drill Method 2 inch Direct Push
 Drilling Started 11/18/10 Ended 11/18/10
 Logged By P. Pozzo

Elevation —
 Total Depth 8.0
 Depth To Water

DEPTH FEET	SAMPLE NO.	BLOWS/FT	PID ppm	USCS	LITHOLOGY	DESCRIPTION	DEPTH FEET
5	SS 4-6'		0.6	SM	[Dotted]	Tan Silty SAND	5
			1.5	SM	[Dotted]	Tan Brown Silty SAND	
			1.9	SW	[Dotted]	Tan SAND	
			1.4	SW	[Dotted]	Tan SAND	
			Boring Terminated at 8 feet in RESIDUAL				
10							10
15							15
20							20
25							25
30							30

LOG A EWINN05 113754.GPJ LOG A EWINN05.GDT 12/16/10



Kleinfelder
 313 Gallimore Dairy Road
 Greensboro, NC 27409
 Telephone: 336-668-0093
 Fax: 336-668-3868

Remarks Sample SS-4 collected at 6 ft. submitted for laboratory analysis.

See key sheet for symbols and abbreviations used above.

LOG OF BORING SS-5

SHEET 1 OF 1

Client NCDOT
 Project Name U-2809B
 Number 113754
 Location Huggins Property #147

Drill Contractor Kleinfelder
 Drill Method 2 inch Direct Push
 Drilling Started 11/18/10 Ended 11/18/10
 Logged By P. Pozzo

Elevation -
 Total Depth 8.0
 Depth To Water

DEPTH FEET	SAMPLE NO.	BLOWS/FT	PID ppm	USCS	LITHOLOGY	DESCRIPTION	DEPTH FEET
0.0 - 0.9			0.9	SM	Tan Silty SAND		0.0 - 0.9
0.9 - 1.1			1.1	SM	Tan Silty SAND		0.9 - 1.1
1.1 - 1.9			1.9	SW	Tan SAND		1.1 - 1.9
1.9 - 2.4			2.4	SW	Tan SAND		1.9 - 2.4
2.4 - 8.0	SS 5-8'					Boring Terminated at 8 feet in RESIDUAL	2.4 - 8.0

LOG A EWINN05 113754.GPJ LOG A EWINN05.GDT 12/16/10



Kleinfelder
 313 Gallimore Dairy Road
 Greensboro, NC 27409
 Telephone: 336-668-0093
 Fax: 336-668-3868

Remarks Sample SS-5 collected at 8 ft. submitted for laboratory analysis.

See key sheet for symbols and abbreviations used above.

LOG OF BORING SS-6

SHEET 1 OF 1


Client NCDOT
 Project Name U-2809B
 Number 113754
 Location Huggins Property #147

Drill Contractor Kleinfelder
 Drill Method 2 inch Direct Push
 Drilling Started 11/18/10 Ended 11/18/10
 Logged By P. Pozzo

Elevation —
 Total Depth 8.0
 Depth To Water

DEPTH FEET	SAMPLE NO.	BLOWS/FT	PID ppm	USCS	LITHOLOGY	DESCRIPTION	DEPTH FEET
5	SS 6-2'		2.7	SM	[Dotted Pattern]	Tan Silty SAND	5
			2.4	SM		Tan Silty SAND	
			1.6	SW	[Dotted Pattern]	Tan SAND	
			2.4	SW		Tan SAND	
8.0					Boring Terminated at 8 feet in RESIDUAL		

LOG A EWINN05 113754.GPJ LOG A EWINN05.GDT 12/16/10



Kleinfelder
 313 Gallimore Dairy Road
 Greensboro, NC 27409
 Telephone: 336-668-0093
 Fax: 336-668-3868

Remarks Sample SS-6 collected at 2 ft. submitted for laboratory analysis.

See key sheet for symbols and abbreviations used above.

LOG OF BORING SS-7

SHEET 1 OF 1

Client NCDOT

Drill Contractor Kleinfelder

Project Name U-2809B

Drill Method 2 inch Direct Push

Elevation --

Number 113754

Drilling Started 11/18/10 Ended 11/18/10

Total Depth 8.0

Location Huggins Property #147

Logged By P. Pozzo

Depth To Water

DEPTH FEET	SAMPLE NO.	BLOWS/FT	PID ppm	USCS	LITHOLOGY	DESCRIPTION	DEPTH FEET
5	SS 7-4'		2.2	SM		Tan Silty SAND	5
			3.7	SM		Tan Silty SAND	
			2	SM		Tan Brown Silty SAND	
			3.3	SM		Tan Silty SAND	
8					Boring Terminated at 8 feet in RESIDUAL		

LOG A EWRN05 113754.GPJ LOG A EWRN05.GDT 12/16/10



Kleinfelder
 313 Gallimore Dairy Road
 Greensboro, NC 27409
 Telephone: 336-668-0093
 Fax: 336-668-3868

Remarks Sample SS-7 collected at 4 ft. submitted for laboratory analysis.

See key sheet for symbols and abbreviations used above.

LOG OF BORING SS-8

SHEET 1 OF 1

Client NCDOT

Drill Contractor Kleinfelder

Project Name U-2809B

Drill Method 2 inch Direct Push

Elevation --

Number 113754

Drilling Started 11/18/10 Ended 11/18/10

Total Depth 8.0

Location Huggins Property #147

Logged By P. Pozzo

Depth To Water

DEPTH FEET	SAMPLE NO.	BLOWS/FT	PID ppm	USCS	LITHOLOGY	DESCRIPTION	DEPTH FEET
2.1				SM	Tan Silty SAND		
2.4				SM	Tan Silty SAND		
2.4				SM	Tan Silty SAND		5
2.7	SS 8-8'			SC	Gray Tan Silty Clayey SAND		
Boring Terminated at 8 feet in RESIDUAL							

LOG A EWINN05 113754.GPJ LOG A EWINN05.GDT 12/16/10



Kleinfelder
 313 Gallimore Dairy Road
 Greensboro, NC 27409
 Telephone: 336-668-0093
 Fax: 336-668-3868

Remarks Sample SS-8 collected at 8 ft. submitted for laboratory analysis.

See key sheet for symbols and abbreviations used above.

LOG OF BORING SS-9

SHEET 1 OF 1

Client NCDOT
 Project Name U-2809B
 Number 113754
 Location Huggins Property #147

Drill Contractor Kleinfelder
 Drill Method 2 inch Direct Push
 Drilling Started 11/18/10 Ended 11/18/10
 Logged By P. Pozzo

Elevation --
 Total Depth 8.0
 Depth To Water

DEPTH FEET	SAMPLE NO.	BLOWS/FT	PID ppm	USCS	LITHOLOGY	DESCRIPTION	DEPTH FEET
			0.4	SM		Tan Silty SAND	
			1.5	SW		Tan SAND	
5			3.7	SC		Tan Gray Silty Clayey SAND	5
			3.8	ML		Gray Sandy Clayey SILT	
						Boring Terminated at 8 feet in RESIDUAL	

SS 9-8'

LOG A EWIN05 113754.GPJ LOG A EWIN05.GDT 12/16/10



Kleinfelder
 313 Gallimore Dairy Road
 Greensboro, NC 27409
 Telephone: 336-668-0093
 Fax: 336-668-3868

Remarks Sample SS-9 collected at 8 ft. submitted for laboratory analysis.

See key sheet for symbols and abbreviations used above.

LOG OF BORING SS-10

SHEET 1 OF 1

Client NCDOT
 Project Name U-2809B
 Number 113754
 Location Huggins Property #147

Drill Contractor Kleinfelder
 Drill Method 2 inch Direct Push
 Drilling Started 11/18/10 Ended 11/18/10
 Logged By P. Pozzo

Elevation --
 Total Depth 8.0
 Depth To Water

DEPTH FEET	SAMPLE NO.	BLOWS/FT	PID ppm	USCS	LITHOLOGY	DESCRIPTION	DEPTH FEET
5	SS 10-4'		2	SM	[Dotted Pattern]	Tan Silty SAND	5
			3.7	SM		Tan Silty SAND	
			2.6	ML		Tan Gray Sandy Clayey SILT	
			3.5	ML		Tan Gray Sandy Clayey SILT	
10					Boring Terminated at 8 feet in RESIDUAL		10
15							15
20							20
25							25
30							30

LOG A EWINN05 113754.GPJ LOG A EWINN05.GDT 12/16/10



Kleinfelder
 313 Gallimore Dairy Road
 Greensboro, NC 27409
 Telephone: 336-668-0093
 Fax: 336-668-3868

Remarks Sample SS-10 collected at 4 ft. submitted for laboratory analysis.

See key sheet for symbols and abbreviations used above.

LOG OF BORING HA-1

SHEET 1 OF 1


Client NCDOT
 Project Name U-2809B
 Number 113754
 Location Huggins Property #147

Drill Contractor Kleinfelder
 Drill Method 2 inch Direct Push
 Drilling Started 11/18/10 Ended 11/18/10
 Logged By P. Pozzo

Elevation --
 Total Depth 8.0
 Depth To Water

DEPTH FEET	SAMPLE NO.	BLOWS/FT	PID ppm	USCS	LITHOLOGY	DESCRIPTION	DEPTH FEET
5	SS HA-1-2		1.5	SM	[Dotted Pattern]	Tan Silty SAND	5
			1.2	SM		Tan Silty SAND	
			1.3	SM		Tan Silty SAND	
			1.2	SM		Tan Silty SAND	
10						Boring Terminated at 8 feet in RESIDUAL	10
15							15
20							20
25							25
30							30

LOG A EWN05 113754.GPJ LOG A EWN05.GDT 12/16/10



Kleinfelder
 313 Gallimore Dairy Road
 Greensboro, NC 27409
 Telephone: 336-668-0093
 Fax: 336-668-3868

Remarks Sample HA-1 collected at 2 ft. submitted for laboratory analysis.

See key sheet for symbols and abbreviations used above.

LOG OF BORING HA-2

SHEET 1 OF 1


Client NCDOT
 Project Name U-2809B
 Number 113754
 Location Huggins Property #147

Drill Contractor Kleinfelder
 Drill Method 2 inch Direct Push
 Drilling Started 11/18/10 Ended 11/18/10
 Logged By P. Pozzo

Elevation --
 Total Depth 8.0
 Depth To Water

DEPTH FEET	SAMPLE NO.	BLOWS/FT	PID ppm	USCS	LITHOLOGY	DESCRIPTION	DEPTH FEET	
			1.7	SW		Tan SAND		
			21.3	SC		Tan Silty Clayey SAND		
5	SS HA-2-4		10.2	SM		Tan Silty SAND	5	
			2.8	SM		Tan Silty SAND		
			Boring Terminated at 8 feet in RESIDUAL					

LOG A EWN05 113754.GPJ LOG A EWN05.GDT 12/16/10



Kleinfelder
 313 Gallimore Dairy Road
 Greensboro, NC 27409
 Telephone: 336-668-0093
 Fax: 336-668-3868

Remarks

See key sheet for symbols and abbreviations used above.

APPENDIX D



Peter Pozzo
Trigon/Kleinfelder
313 Gallimore Dairy Road
Greensboro, NC 27409

Report Number: G118-597

Client Project: NCDOT Fayetteville PSA

Dear Peter Pozzo,

Enclosed are the results of the analytical services performed under the referenced project for the received samples and associated QC as applicable. 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 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 services performed during this project, please call Lori Lockamy at (910) 350-1903. We will be happy to answer any questions or concerns which you may have.

Thank you for using SGS North America, Inc. for your analytical services. We look forward to working with you again on any additional analytical needs.

Sincerely,
SGS North America, Inc.

for:
Project Manager
Lori Lockamy

Barbara Hager

12/10/10
Date

SGS North America, Inc.

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

UJ = Target analytes with recoveries that are $10\% < \%R < LCL$; # of MEs are allowable and compounds are not detected in the sample.

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

% solids = 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: 147 SS-1 8'
Client Project ID: NCDOT Fayetteville PSA
Lab Sample ID: G118-597-10A
Lab Project ID: G118-597
Report Basis: Dry Weight

Analyzed By: LMC
Date Collected: 11/18/2010 10:17
Date Received: 11/19/2010
Matrix: Soil
Solids 95.07

Analyte	Result	RL	Units	Dilution Factor	Date Analyzed
Gasoline Range Organics	BQL	4.96	mg/Kg	1	12/02/10 00:05

Surrogate Spike Results

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

Comments:

Batch Information

Analytical Batch: VP120110
Analytical Method: 8015
Instrument ID: GC4
Analyst: LMC

Prep Method: 5035
Initial Wt/Vol: 6.36 g
Final Volume: 5 mL

Analyst: wml

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

Client Sample ID: 147 SS-1 8'
 Client Project ID: NCDOT Fayetteville PSA
 Lab Sample ID: G118-597-10G
 Lab Project ID: G118-597

Date Collected: 11/18/2010 10:17
 Date Received: 11/19/2010
 Matrix: Soil
 Solids 95.07
 Report Basis: Dry Weight

Parameter	Result	RL	Units	Dilution Factor	Date Analyzed
Diesel Range Organics	BQL	6.36	mg/Kg	1	11/22/10 11:18
Surrogate Spike Results		Spike Added	Control Limits	Spike Result	Percent Recovery
OTP		40	40-140	29.1	72.8

Comments:

Batch Information

Analytical Batch: EP112210
 Analytical Method: 8015
 Instrument: GC6
 Analyst: DTF

Prep batch: 17790
 Prep Method: 3541
 Prep Date: 11/19/10
 Initial Prep Wt/Vol: 33.06 G
 Prep Final Vol: 10 mL

Analyst: FA

NC Certification #481

N.C. Certification #481

Reviewed By: 
 DKO.XLS

SGS North America, Inc.

Results for Volatiles
by GCMS 8260-5035

Client Sample ID: 147 SS-1 8'
Client Project ID: NCDOT Fayetteville PSA
Lab Sample ID G118-597-10D
Lab Project ID: G118-597
Report Basis: Dry Weight

Analyzed By: BWS
Date Collected: 11-18-2010 10:17
Date Received: 11/19/2010
Matrix: Soil
Sample Amount: 6.09 g
%Solids: 95.1

Report Name Compound	Result UG/KG	Quantitation Limit UG/KG	Dilution Factor	Date Analyzed
Acetone	BQL	43.2	1	11/24/2010
Benzene	BQL	4.32	1	11/24/2010
Bromobenzene	BQL	4.32	1	11/24/2010
Bromochloromethane	BQL	4.32	1	11/24/2010
Bromodichloromethane	BQL	4.32	1	11/24/2010
Bromoform	BQL	4.32	1	11/24/2010
Bromomethane	BQL	4.32	1	11/24/2010
2-Butanone	BQL	21.6	1	11/24/2010
n-Butylbenzene	BQL	4.32	1	11/24/2010
sec-Butylbenzene	BQL	4.32	1	11/24/2010
tert-Butylbenzene	BQL	4.32	1	11/24/2010
Carbon disulfide	BQL	4.32	1	11/24/2010
Carbon tetrachloride	BQL	4.32	1	11/24/2010
Chlorobenzene	BQL	4.32	1	11/24/2010
Chloroethane	BQL	4.32	1	11/24/2010
Chloroform	BQL	4.32	1	11/24/2010
Chloromethane	BQL	4.32	1	11/24/2010
2-Chlorotoluene	BQL	4.32	1	11/24/2010
4-Chlorotoluene	BQL	4.32	1	11/24/2010
Dibromochloromethane	BQL	4.32	1	11/24/2010
1,2-Dibromo-3-chloropropane	BQL	21.6	1	11/24/2010
Dibromomethane	BQL	4.32	1	11/24/2010
1,2-Dibromoethane (EDB)	BQL	4.32	1	11/24/2010
1,2-Dichlorobenzene	BQL	4.32	1	11/24/2010
1,3-Dichlorobenzene	BQL	4.32	1	11/24/2010
1,4-Dichlorobenzene	BQL	4.32	1	11/24/2010
trans-1,4-Dichloro-2-butene	BQL	21.6	1	11/24/2010
1,1-Dichloroethane	BQL	4.32	1	11/24/2010
1,1-Dichloroethene	BQL	4.32	1	11/24/2010
1,2-Dichloroethane	BQL	4.32	1	11/24/2010
cis-1,2-Dichloroethene	BQL	4.32	1	11/24/2010
trans-1,2-dichloroethene	BQL	4.32	1	11/24/2010
1,2-Dichloropropane	BQL	4.32	1	11/24/2010
1,3-Dichloropropane	BQL	4.32	1	11/24/2010
2,2-Dichloropropane	BQL	4.32	1	11/24/2010
1,1-Dichloropropene	BQL	4.32	1	11/24/2010
cis-1,3-Dichloropropene	BQL	4.32	1	11/24/2010
trans-1,3-Dichloropropene	BQL	4.32	1	11/24/2010
Dichlorodifluoromethane	BQL	4.32	1	11/24/2010
Diisopropyl ether (DIPE)	BQL	4.32	1	11/24/2010
Ethylbenzene	BQL	4.32	1	11/24/2010
Hexachlorobutadiene	BQL	4.32	1	11/24/2010
2-Hexanone	BQL	10.8	1	11/24/2010
Iodomethane	BQL	4.32	1	11/24/2010

SGS North America, Inc.

Results for Volatiles
by GCMS 8260-5035

Client Sample ID: 147 SS-1 8'
Client Project ID: NCDOT Fayetteville PSA
Lab Sample ID G118-597-10D
Lab Project ID: G118-597
Report Basis: Dry Weight

Analyzed By: BWS
Date Collected: 11-18-2010 10:17
Date Received: 11/19/2010
Matrix: Soil
Sample Amount: 6.09 g
%Solids: 95.1

Report Name Compound	Result UG/KG	Quantitation Limit UG/KG	Dilution Factor	Date Analyzed
Isopropylbenzene	BQL	4.32	1	11/24/2010
4-Isopropyltoluene	BQL	4.32	1	11/24/2010
Methylene chloride	BQL	17.3	1	11/24/2010
4-Methyl-2-pentanone	BQL	10.8	1	11/24/2010
Methyl-tert-butyl ether (MTBE)	BQL	4.32	1	11/24/2010
Naphthalene	BQL	4.32	1	11/24/2010
n-Propyl benzene	BQL	4.32	1	11/24/2010
Styrene	BQL	4.32	1	11/24/2010
1,1,1,2-Tetrachloroethane	BQL	4.32	1	11/24/2010
1,1,2,2-Tetrachloroethane	BQL	4.32	1	11/24/2010
Tetrachloroethene	BQL	4.32	1	11/24/2010
Toluene	BQL	4.32	1	11/24/2010
1,2,3-Trichlorobenzene	BQL	4.32	1	11/24/2010
1,2,4-Trichlorobenzene	BQL	4.32	1	11/24/2010
Trichloroethene	BQL	4.32	1	11/24/2010
1,1,1-Trichloroethane	BQL	4.32	1	11/24/2010
1,1,2-Trichloroethane	BQL	4.32	1	11/24/2010
Trichlorofluoromethane	BQL	4.32	1	11/24/2010
1,2,3-Trichloropropane	BQL	4.32	1	11/24/2010
1,2,4-Trimethylbenzene	BQL	4.32	1	11/24/2010
1,3,5-Trimethylbenzene	BQL	4.32	1	11/24/2010
Vinyl chloride	BQL	4.32	1	11/24/2010
m-,p-Xylene	BQL	8.64	1	11/24/2010
o-Xylene	BQL	4.32	1	11/24/2010

	Spike Added	Spike Result	Percent Recovered
1,2-Dichloroethane-d4	30	40.1	134
Toluene-d8	30	24.1	80
4-Bromofluorobenzene	30	25.4	85

Comments:

Flags:

BQL = Below Quantitation Limits.

Analyst: Dvo

Reviewed By: 

Results for Total Petroleum Hydrocarbons
by GC/FID 8015

Client Sample ID: 147 SS-2 2'
Client Project ID: NCDOT Fayetteville PSA
Lab Sample ID: G118-597-31A
Lab Project ID: G118-597
Report Basis: Dry Weight

Analyzed By: LMC
Date Collected: 11/18/2010 10:28
Date Received: 11/19/2010
Matrix: Soil
Solids 90.68

Analyte	Result	RL	Units	Dilution Factor	Date Analyzed
Gasoline Range Organics	BQL	5.02	mg/Kg	1	11/30/10 06:30

Surrogate Spike Results

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

Comments:

Batch Information

Analytical Batch: VP112910
Analytical Method: 8015
Instrument ID: GC4
Analyst: LMC

Prep Method: 5035
Initial Wt/Vol: 6.59 g
Final Volume: 5 mL

Analyst: LMC

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

Client Sample ID: 147 SS-2 2'
 Client Project ID: NCDOT Fayetteville PSA
 Lab Sample ID: G118-597-31G
 Lab Project ID: G118-597

Date Collected: 11/18/2010 10:28
 Date Received: 11/19/2010
 Matrix: Soil
 Solids 90.68
 Report Basis: Dry Weight

Parameter	Result	RL	Units	Dilution Factor	Date Analyzed
Diesel Range Organics	BQL	6.81	mg/Kg	1	11/29/10 01:18
Surrogate Spike Results		Spike Added	Control Limits	Spike Result	Percent Recovery
OTP		40	40-140	28.7	71.6

Comments:

Batch Information

Analytical Batch: EP112810
 Analytical Method: 8015
 Instrument: GC6
 Analyst: DTF

Prep batch: 17808
 Prep Method: 3541
 Prep Date: 11/23/10
 Initial Prep Wt/Vol: 32.4 G
 Prep Final Vol: 10 mL

Analyst: FK

NC Certification #481

N.C. Certification #481

Reviewed By: 
 DRO.XLS

SGS North America, Inc.

**Results for Volatiles
by GCMS 8260-5035**

Client Sample ID: 147 SS-2 2'
Client Project ID: NCDOT Fayetteville PSA
Lab Sample ID G118-597-31D
Lab Project ID: G118-597
Report Basis: Dry Weight

Analyzed By: BWS
Date Collected: 11-18-2010 10:28
Date Received: 11/19/2010
Matrix: Soil
Sample Amount: 7.36 g
%Solids: 90.7

Report Name Compound	Result UG/KG	Quantitation Limit UG/KG	Dilution Factor	Date Analyzed
Acetone	BQL	37.4	1	11/24/2010
Benzene	BQL	3.74	1	11/24/2010
Bromobenzene	BQL	3.74	1	11/24/2010
Bromochloromethane	BQL	3.74	1	11/24/2010
Bromodichloromethane	BQL	3.74	1	11/24/2010
Bromoform	BQL	3.74	1	11/24/2010
Bromomethane	BQL	3.74	1	11/24/2010
2-Butanone	BQL	18.7	1	11/24/2010
n-Butylbenzene	BQL	3.74	1	11/24/2010
sec-Butylbenzene	BQL	3.74	1	11/24/2010
tert-Butylbenzene	BQL	3.74	1	11/24/2010
Carbon disulfide	BQL	3.74	1	11/24/2010
Carbon tetrachloride	BQL	3.74	1	11/24/2010
Chlorobenzene	BQL	3.74	1	11/24/2010
Chloroethane	BQL	3.74	1	11/24/2010
Chloroform	BQL	3.74	1	11/24/2010
Chloromethane	BQL	3.74	1	11/24/2010
2-Chlorotoluene	BQL	3.74	1	11/24/2010
4-Chlorotoluene	BQL	3.74	1	11/24/2010
Dibromochloromethane	BQL	3.74	1	11/24/2010
1,2-Dibromo-3-chloropropane	BQL	18.7	1	11/24/2010
Dibromomethane	BQL	3.74	1	11/24/2010
1,2-Dibromoethane (EDB)	BQL	3.74	1	11/24/2010
1,2-Dichlorobenzene	BQL	3.74	1	11/24/2010
1,3-Dichlorobenzene	BQL	3.74	1	11/24/2010
1,4-Dichlorobenzene	BQL	3.74	1	11/24/2010
trans-1,4-Dichloro-2-butene	BQL	18.7	1	11/24/2010
1,1-Dichloroethane	BQL	3.74	1	11/24/2010
1,1-Dichloroethene	BQL	3.74	1	11/24/2010
1,2-Dichloroethane	BQL	3.74	1	11/24/2010
cis-1,2-Dichloroethene	BQL	3.74	1	11/24/2010
trans-1,2-dichloroethene	BQL	3.74	1	11/24/2010
1,2-Dichloropropane	BQL	3.74	1	11/24/2010
1,3-Dichloropropane	BQL	3.74	1	11/24/2010
2,2-Dichloropropane	BQL	3.74	1	11/24/2010
1,1-Dichloropropene	BQL	3.74	1	11/24/2010
cis-1,3-Dichloropropene	BQL	3.74	1	11/24/2010
trans-1,3-Dichloropropene	BQL	3.74	1	11/24/2010
Dichlorodifluoromethane	BQL	3.74	1	11/24/2010
Diisopropyl ether (DIPE)	BQL	3.74	1	11/24/2010
Ethylbenzene	BQL	3.74	1	11/24/2010
Hexachlorobutadiene	BQL	3.74	1	11/24/2010
2-Hexanone	BQL	9.35	1	11/24/2010
Iodomethane	BQL	3.74	1	11/24/2010

SGS North America, Inc.

Results for Volatiles
by GCMS 8260-5035

Client Sample ID: 147 SS-2 2'
Client Project ID: NCDOT Fayetteville PSA
Lab Sample ID G118-597-31D
Lab Project ID: G118-597
Report Basis: Dry Weight

Analyzed By: BWS
Date Collected: 11-18-2010 10:28
Date Received: 11/19/2010
Matrix: Soil
Sample Amount: 7.36 g
%Solids: 90.7

Report Name Compound	Result UG/KG	Quantitation Limit UG/KG	Dilution Factor	Date Analyzed
Isopropylbenzene	BQL	3.74	1	11/24/2010
4-Isopropyltoluene	BQL	3.74	1	11/24/2010
Methylene chloride	BQL	15.0	1	11/24/2010
4-Methyl-2-pentanone	BQL	9.35	1	11/24/2010
Methyl-tert-butyl ether (MTBE)	BQL	3.74	1	11/24/2010
Naphthalene	BQL	3.74	1	11/24/2010
n-Propyl benzene	BQL	3.74	1	11/24/2010
Styrene	BQL	3.74	1	11/24/2010
1,1,1,2-Tetrachloroethane	BQL	3.74	1	11/24/2010
1,1,2,2-Tetrachloroethane	BQL	3.74	1	11/24/2010
Tetrachloroethene	BQL	3.74	1	11/24/2010
Toluene	BQL	3.74	1	11/24/2010
1,2,3-Trichlorobenzene	BQL	3.74	1	11/24/2010
1,2,4-Trichlorobenzene	BQL	3.74	1	11/24/2010
Trichloroethene	BQL	3.74	1	11/24/2010
1,1,1-Trichloroethane	BQL	3.74	1	11/24/2010
1,1,2-Trichloroethane	BQL	3.74	1	11/24/2010
Trichlorofluoromethane	BQL	3.74	1	11/24/2010
1,2,3-Trichloropropane	BQL	3.74	1	11/24/2010
1,2,4-Trimethylbenzene	BQL	3.74	1	11/24/2010
1,3,5-Trimethylbenzene	BQL	3.74	1	11/24/2010
Vinyl chloride	BQL	3.74	1	11/24/2010
m-,p-Xylene	BQL	7.48	1	11/24/2010
o-Xylene	BQL	3.74	1	11/24/2010

	Spike Added	Spike Result	Percent Recovered
1,2-Dichloroethane-d4	30	38.9	130
Toluene-d8	30	26.8	89
4-Bromofluorobenzene	30	26.4	88

Comments:

Flags:

BQL = Below Quantitation Limits.

Analyst: OVO

Reviewed By: 

Results for Total Petroleum Hydrocarbons
by GC/FID 8015

Client Sample ID: 147 SS-3 4'
Client Project ID: NCDOT Fayetteville PSA
Lab Sample ID: G118-597-32A
Lab Project ID: G118-597
Report Basis: Dry Weight

Analyzed By: LMC
Date Collected: 11/18/2010 10:40
Date Received: 11/19/2010
Matrix: Soil
Solids 95.26

Analyte	Result	RL	Units	Dilution Factor	Date Analyzed
Gasoline Range Organics	BQL	5.30	mg/Kg	1	11/30/10 06:56

Surrogate Spike Results

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

Comments:

Batch Information

Analytical Batch: VP112910
Analytical Method: 8015
Instrument ID: GC4
Analyst: LMC

Prep Method: 5035
Initial Wt/Vol: 5.94 g
Final Volume: 5 mL

Analyst: LMC

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

Client Sample ID: 147 SS-3 4'
 Client Project ID: NCDOT Fayetteville PSA
 Lab Sample ID: G118-597-32G
 Lab Project ID: G118-597

Date Collected: 11/18/2010 10:40
 Date Received: 11/19/2010
 Matrix: Soil
 Solids 95.26
 Report Basis: Dry Weight

Parameter	Result	RL	Units	Dilution Factor	Date Analyzed
Diesel Range Organics	BQL	6.42	mg/Kg	1	11/29/10 01:46
Surrogate Spike Results		Spike Added	Control Limits	Spike Result	Percent Recovery
OTP		40	40-140	29.5	73.6

Comments:

Batch Information

Analytical Batch: EP112810
 Analytical Method: 8015
 Instrument: GC6
 Analyst: DTF

Prep batch: 17808
 Prep Method: 3541
 Prep Date: 11/23/10
 Initial Prep Wt/Vol: 32.68 G
 Prep Final Vol: 10 mL

Analyst: FL

NC Certification #481

N.C. Certification #481

Reviewed By: 
 DRO.XLS
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SGS North America, Inc.

Results for Volatiles
by GCMS 8260-5035

Client Sample ID: 147 SS-3 4'
Client Project ID: NCDOT Fayetteville PSA
Lab Sample ID G118-597-32D
Lab Project ID: G118-597
Report Basis: Dry Weight

Analyzed By: BWS
Date Collected: 11-18-2010 10:40
Date Received: 11/19/2010
Matrix: Soil
Sample Amount: 5.57 g
%Solids: 95.3

Report Name Compound	Result UG/KG	Quantitation Limit UG/KG	Dilution Factor	Date Analyzed
Acetone	BQL	47.1	1	11/24/2010
Benzene	BQL	4.71	1	11/24/2010
Bromobenzene	BQL	4.71	1	11/24/2010
Bromochloromethane	BQL	4.71	1	11/24/2010
Bromodichloromethane	BQL	4.71	1	11/24/2010
Bromoform	BQL	4.71	1	11/24/2010
Bromomethane	BQL	4.71	1	11/24/2010
2-Butanone	BQL	23.6	1	11/24/2010
n-Butylbenzene	BQL	4.71	1	11/24/2010
sec-Butylbenzene	BQL	4.71	1	11/24/2010
tert-Butylbenzene	BQL	4.71	1	11/24/2010
Carbon disulfide	BQL	4.71	1	11/24/2010
Carbon tetrachloride	BQL	4.71	1	11/24/2010
Chlorobenzene	BQL	4.71	1	11/24/2010
Chloroethane	BQL	4.71	1	11/24/2010
Chloroform	BQL	4.71	1	11/24/2010
Chloromethane	BQL	4.71	1	11/24/2010
2-Chlorotoluene	BQL	4.71	1	11/24/2010
4-Chlorotoluene	BQL	4.71	1	11/24/2010
Dibromochloromethane	BQL	4.71	1	11/24/2010
1,2-Dibromo-3-chloropropane	BQL	23.6	1	11/24/2010
Dibromomethane	BQL	4.71	1	11/24/2010
1,2-Dibromoethane (EDB)	BQL	4.71	1	11/24/2010
1,2-Dichlorobenzene	BQL	4.71	1	11/24/2010
1,3-Dichlorobenzene	BQL	4.71	1	11/24/2010
1,4-Dichlorobenzene	BQL	4.71	1	11/24/2010
trans-1,4-Dichloro-2-butene	BQL	23.6	1	11/24/2010
1,1-Dichloroethane	BQL	4.71	1	11/24/2010
1,1-Dichloroethene	BQL	4.71	1	11/24/2010
1,2-Dichloroethane	BQL	4.71	1	11/24/2010
cis-1,2-Dichloroethene	BQL	4.71	1	11/24/2010
trans-1,2-dichloroethene	BQL	4.71	1	11/24/2010
1,2-Dichloropropane	BQL	4.71	1	11/24/2010
1,3-Dichloropropane	BQL	4.71	1	11/24/2010
2,2-Dichloropropane	BQL	4.71	1	11/24/2010
1,1-Dichloropropene	BQL	4.71	1	11/24/2010
cis-1,3-Dichloropropene	BQL	4.71	1	11/24/2010
trans-1,3-Dichloropropene	BQL	4.71	1	11/24/2010
Dichlorodifluoromethane	BQL	4.71	1	11/24/2010
Diisopropyl ether (DIPE)	BQL	4.71	1	11/24/2010
Ethylbenzene	BQL	4.71	1	11/24/2010
Hexachlorobutadiene	BQL	4.71	1	11/24/2010
2-Hexanone	BQL	11.8	1	11/24/2010
Iodomethane	BQL	4.71	1	11/24/2010

SGS North America, Inc.

Results for Volatiles
by GCMS 8260-5035

Client Sample ID: 147 SS-3 4'
Client Project ID: NCDOT Fayetteville PSA
Lab Sample ID G118-597-32D
Lab Project ID: G118-597
Report Basis: Dry Weight

Analyzed By: BWS
Date Collected: 11-18-2010 10:40
Date Received: 11/19/2010
Matrix: Soil
Sample Amount: 5.57 g
%Solids: 95.3

Report Name Compound	Result UG/KG	Quantitation Limit UG/KG	Dilution Factor	Date Analyzed
Isopropylbenzene	BQL	4.71	1	11/24/2010
4-Isopropyltoluene	BQL	4.71	1	11/24/2010
Methylene chloride	BQL	18.8	1	11/24/2010
4-Methyl-2-pentanone	BQL	11.8	1	11/24/2010
Methyl-tert-butyl ether (MTBE)	BQL	4.71	1	11/24/2010
Naphthalene	BQL	4.71	1	11/24/2010
n-Propyl benzene	BQL	4.71	1	11/24/2010
Styrene	BQL	4.71	1	11/24/2010
1,1,1,2-Tetrachloroethane	BQL	4.71	1	11/24/2010
1,1,2,2-Tetrachloroethane	BQL	4.71	1	11/24/2010
Tetrachloroethene	BQL	4.71	1	11/24/2010
Toluene	BQL	4.71	1	11/24/2010
1,2,3-Trichlorobenzene	BQL	4.71	1	11/24/2010
1,2,4-Trichlorobenzene	BQL	4.71	1	11/24/2010
Trichloroethene	BQL	4.71	1	11/24/2010
1,1,1-Trichloroethane	BQL	4.71	1	11/24/2010
1,1,2-Trichloroethane	BQL	4.71	1	11/24/2010
Trichlorofluoromethane	BQL	4.71	1	11/24/2010
1,2,3-Trichloropropane	BQL	4.71	1	11/24/2010
1,2,4-Trimethylbenzene	BQL	4.71	1	11/24/2010
1,3,5-Trimethylbenzene	BQL	4.71	1	11/24/2010
Vinyl chloride	BQL	4.71	1	11/24/2010
m-,p-Xylene	BQL	9.42	1	11/24/2010
o-Xylene	BQL	4.71	1	11/24/2010

	Spike Added	Spike Result	Percent Recovered
1,2-Dichloroethane-d4	30	36.8	123
Toluene-d8	30	21.9	73
4-Bromofluorobenzene	30	26.1	87

Comments:

Flags:

BQL = Below Quantitation Limits.

Analyst: DVD

Reviewed By: [Signature]

Results for Total Petroleum Hydrocarbons
by GC/FID 8015

Client Sample ID: 147 SS-4 6'
Client Project ID: NCDOT Fayetteville PSA
Lab Sample ID: G118-597-33A
Lab Project ID: G118-597
Report Basis: Dry Weight

Analyzed By: LMC
Date Collected: 11/18/2010 11:07
Date Received: 11/19/2010
Matrix: Soil
Solids 93.80

Analyte	Result	RL	Units	Dilution Factor	Date Analyzed
Gasoline Range Organics	BQL	5.38	mg/Kg	1	11/30/10 06:56

Surrogate Spike Results

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

Comments:

Batch Information

Analytical Batch: 0
Analytical Method: 8015
Instrument ID: GC4
Analyst: LMC

Prep Method: 5035
Initial Wt/Vol: 5.94 g
Final Volume: 5 mL

Analyst: uml

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

Client Sample ID: 147 SS-4 6'
 Client Project ID: NCDOT Fayetteville PSA
 Lab Sample ID: G118-597-33G
 Lab Project ID: G118-597

Date Collected: 11/18/2010 11:07
 Date Received: 11/19/2010
 Matrix: Soil
 Solids 93.80
 Report Basis: Dry Weight

Parameter	Result	RL	Units	Dilution Factor	Date Analyzed
Diesel Range Organics	BQL	6.29	mg/Kg	1	11/29/10 02:13
Surrogate Spike Results		Spike Added	Control Limits	Spike Result	Percent Recovery
OTP		40	40-140	30.4	75.9

Comments:

Batch Information

Analytical Batch: EP112810
 Analytical Method: 8015
 Instrument: GC6
 Analyst: DTF

Prep batch: 17808
 Prep Method: 3541
 Prep Date: 11/23/10
 Initial Prep Wt/Vol: 33.88 G
 Prep Final Vol: 10 mL

Analyst: FL

NC Certification #481

N.C. Certification #481

Reviewed By: MA
DR0.XLS
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SGS North America, Inc.

Results for Volatiles
by GCMS 8260-5035

Client Sample ID: 147 SS-4 6'
Client Project ID: NCDOT Fayetteville PSA
Lab Sample ID G118-597-33D
Lab Project ID: G118-597
Report Basis: Dry Weight

Analyzed By: BWS
Date Collected: 11-18-2010 11:07
Date Received: 11/19/2010
Matrix: Soil
Sample Amount: 5.63 g
%Solids: 93.8

Report Name Compound	Result UG/KG	Quantitation Limit UG/KG	Dilution Factor	Date Analyzed
Acetone	BQL	47.3	1	11/24/2010
Benzene	BQL	4.73	1	11/24/2010
Bromobenzene	BQL	4.73	1	11/24/2010
Bromochloromethane	BQL	4.73	1	11/24/2010
Bromodichloromethane	BQL	4.73	1	11/24/2010
Bromoform	BQL	4.73	1	11/24/2010
Bromomethane	BQL	4.73	1	11/24/2010
2-Butanone	BQL	23.6	1	11/24/2010
n-Butylbenzene	BQL	4.73	1	11/24/2010
sec-Butylbenzene	BQL	4.73	1	11/24/2010
tert-Butylbenzene	BQL	4.73	1	11/24/2010
Carbon disulfide	BQL	4.73	1	11/24/2010
Carbon tetrachloride	BQL	4.73	1	11/24/2010
Chlorobenzene	BQL	4.73	1	11/24/2010
Chloroethane	BQL	4.73	1	11/24/2010
Chloroform	BQL	4.73	1	11/24/2010
Chloromethane	BQL	4.73	1	11/24/2010
2-Chlorotoluene	BQL	4.73	1	11/24/2010
4-Chlorotoluene	BQL	4.73	1	11/24/2010
Dibromochloromethane	BQL	4.73	1	11/24/2010
1,2-Dibromo-3-chloropropane	BQL	23.6	1	11/24/2010
Dibromomethane	BQL	4.73	1	11/24/2010
1,2-Dibromoethane (EDB)	BQL	4.73	1	11/24/2010
1,2-Dichlorobenzene	BQL	4.73	1	11/24/2010
1,3-Dichlorobenzene	BQL	4.73	1	11/24/2010
1,4-Dichlorobenzene	BQL	4.73	1	11/24/2010
trans-1,4-Dichloro-2-butene	BQL	23.6	1	11/24/2010
1,1-Dichloroethane	BQL	4.73	1	11/24/2010
1,1-Dichloroethene	BQL	4.73	1	11/24/2010
1,2-Dichloroethane	BQL	4.73	1	11/24/2010
cis-1,2-Dichloroethene	BQL	4.73	1	11/24/2010
trans-1,2-dichloroethene	BQL	4.73	1	11/24/2010
1,2-Dichloropropane	BQL	4.73	1	11/24/2010
1,3-Dichloropropane	BQL	4.73	1	11/24/2010
2,2-Dichloropropane	BQL	4.73	1	11/24/2010
1,1-Dichloropropene	BQL	4.73	1	11/24/2010
cis-1,3-Dichloropropene	BQL	4.73	1	11/24/2010
trans-1,3-Dichloropropene	BQL	4.73	1	11/24/2010
Dichlorodifluoromethane	BQL	4.73	1	11/24/2010
Diisopropyl ether (DIPE)	BQL	4.73	1	11/24/2010
Ethylbenzene	BQL	4.73	1	11/24/2010
Hexachlorobutadiene	BQL	4.73	1	11/24/2010
2-Hexanone	BQL	11.8	1	11/24/2010
Iodomethane	BQL	4.73	1	11/24/2010

SGS North America, Inc.

Results for Volatiles
by GCMS 8260-5035

Client Sample ID: 147 SS-4 6'
Client Project ID: NCDOT Fayetteville PSA
Lab Sample ID G118-597-33D
Lab Project ID: G118-597
Report Basis: Dry Weight

Analyzed By: BWS
Date Collected: 11-18-2010 11:07
Date Received: 11/19/2010
Matrix: Soil
Sample Amount: 5.63 g
%Solids: 93.8

Report Name Compound	Result UG/KG	Quantitation Limit UG/KG	Dilution Factor	Date Analyzed
Isopropylbenzene	BQL	4.73	1	11/24/2010
4-Isopropyltoluene	BQL	4.73	1	11/24/2010
Methylene chloride	BQL	18.9	1	11/24/2010
4-Methyl-2-pentanone	BQL	11.8	1	11/24/2010
Methyl-tert-butyl ether (MTBE)	BQL	4.73	1	11/24/2010
Naphthalene	BQL	4.73	1	11/24/2010
n-Propyl benzene	BQL	4.73	1	11/24/2010
Styrene	BQL	4.73	1	11/24/2010
1,1,1,2-Tetrachloroethane	BQL	4.73	1	11/24/2010
1,1,2,2-Tetrachloroethane	BQL	4.73	1	11/24/2010
Tetrachloroethene	BQL	4.73	1	11/24/2010
Toluene	BQL	4.73	1	11/24/2010
1,2,3-Trichlorobenzene	BQL	4.73	1	11/24/2010
1,2,4-Trichlorobenzene	BQL	4.73	1	11/24/2010
Trichloroethene	BQL	4.73	1	11/24/2010
1,1,1-Trichloroethane	BQL	4.73	1	11/24/2010
1,1,2-Trichloroethane	BQL	4.73	1	11/24/2010
Trichlorofluoromethane	BQL	4.73	1	11/24/2010
1,2,3-Trichloropropane	BQL	4.73	1	11/24/2010
1,2,4-Trimethylbenzene	BQL	4.73	1	11/24/2010
1,3,5-Trimethylbenzene	BQL	4.73	1	11/24/2010
Vinyl chloride	BQL	4.73	1	11/24/2010
m-,p-Xylene	BQL	9.45	1	11/24/2010
o-Xylene	BQL	4.73	1	11/24/2010

	Spike Added	Spike Result	Percent Recovered
1,2-Dichloroethane-d4	30	41.2	137
Toluene-d8	30	26.8	89
4-Bromofluorobenzene	30	26.6	89

Comments:

Flags:

BQL = Below Quantitation Limits.

Analyst: DVO

Reviewed By: ,

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

Client Sample ID: 147 SS-5 8'
 Client Project ID: NCDOT Fayetteville PSA
 Lab Sample ID: G118-597-34A
 Lab Project ID: G118-597
 Report Basis: Dry Weight

Analyzed By: LMC
 Date Collected: 11/18/2010 11:24
 Date Received: 11/19/2010
 Matrix: Soil
 Solids 91.44

Analyte	Result	RL	Units	Dilution Factor	Date Analyzed
Gasoline Range Organics	BQL	5.49	mg/Kg	1	12/01/10 02:59

Surrogate Spike Results

	Added	Result	Recovery	Flag	Limits
BFB	100	97.5	97.5		70-130

Comments:

Batch Information

Analytical Batch: VP113010
 Analytical Method: 8015
 Instrument ID: GC4
 Analyst: LMC

Prep Method: 5035
 Initial Wt/Vol: 5.98 g
 Final Volume: 5 mL

Analyst: *wml*

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

Client Sample ID: 147 SS-5 8'
 Client Project ID: NCDOT Fayetteville PSA
 Lab Sample ID: G118-597-34H
 Lab Project ID: G118-597

Date Collected: 11/18/2010 11:24
 Date Received: 11/19/2010
 Matrix: Soil
 Solids 91.44
 Report Basis: Dry Weight

Parameter	Result	RL	Units	Dilution Factor	Date Analyzed
Diesel Range Organics	BQL	6.81	mg/Kg	1	11/30/10 11:06
Surrogate Spike Results		Spike Added	Control Limits	Spike Result	Percent Recovery
OTP		40	40-140	29.9	74.7

Comments:

Batch Information

Analytical Batch: EP113010
 Analytical Method: 8015
 Instrument: GC6
 Analyst: DTF

Prep batch: 17821
 Prep Method: 3541
 Prep Date: 11/29/10
 Initial Prep Wt/Vol: 32.1 G
 Prep Final Vol: 10 mL

Analyst: FX

NC Certification #481

N.C. Certification #481

Reviewed By: 
 DRO.XLS
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SGS North America, Inc.

Results for Volatiles
by GCMS 8260-5035

Client Sample ID: 147 SS-5 8'
Client Project ID: NCDOT Fayetteville PSA
Lab Sample ID G118-597-34D
Lab Project ID: G118-597
Report Basis: Dry Weight

Analyzed By: BWS
Date Collected: 11-18-2010 11:24
Date Received: 11/19/2010
Matrix: Soil
Sample Amount: 6.09 g
%Solids: 91.4

Report Name Compound	Result UG/KG	Quantitation Limit UG/KG	Dilution Factor	Date Analyzed
Acetone	BQL	44.9	1	11/24/2010
Benzene	BQL	4.49	1	11/24/2010
Bromobenzene	BQL	4.49	1	11/24/2010
Bromochloromethane	BQL	4.49	1	11/24/2010
Bromodichloromethane	BQL	4.49	1	11/24/2010
Bromoform	BQL	4.49	1	11/24/2010
Bromomethane	BQL	4.49	1	11/24/2010
2-Butanone	BQL	22.4	1	11/24/2010
n-Butylbenzene	BQL	4.49	1	11/24/2010
sec-Butylbenzene	BQL	4.49	1	11/24/2010
tert-Butylbenzene	BQL	4.49	1	11/24/2010
Carbon disulfide	BQL	4.49	1	11/24/2010
Carbon tetrachloride	BQL	4.49	1	11/24/2010
Chlorobenzene	BQL	4.49	1	11/24/2010
Chloroethane	BQL	4.49	1	11/24/2010
Chloroform	BQL	4.49	1	11/24/2010
Chloromethane	BQL	4.49	1	11/24/2010
2-Chlorotoluene	BQL	4.49	1	11/24/2010
4-Chlorotoluene	BQL	4.49	1	11/24/2010
Dibromochloromethane	BQL	4.49	1	11/24/2010
1,2-Dibromo-3-chloropropane	BQL	22.4	1	11/24/2010
Dibromomethane	BQL	4.49	1	11/24/2010
1,2-Dibromoethane (EDB)	BQL	4.49	1	11/24/2010
1,2-Dichlorobenzene	BQL	4.49	1	11/24/2010
1,3-Dichlorobenzene	BQL	4.49	1	11/24/2010
1,4-Dichlorobenzene	BQL	4.49	1	11/24/2010
trans-1,4-Dichloro-2-butene	BQL	22.4	1	11/24/2010
1,1-Dichloroethane	BQL	4.49	1	11/24/2010
1,1-Dichloroethene	BQL	4.49	1	11/24/2010
1,2-Dichloroethane	BQL	4.49	1	11/24/2010
cis-1,2-Dichloroethene	BQL	4.49	1	11/24/2010
trans-1,2-dichloroethene	BQL	4.49	1	11/24/2010
1,2-Dichloropropane	BQL	4.49	1	11/24/2010
1,3-Dichloropropane	BQL	4.49	1	11/24/2010
2,2-Dichloropropane	BQL	4.49	1	11/24/2010
1,1-Dichloropropene	BQL	4.49	1	11/24/2010
cis-1,3-Dichloropropene	BQL	4.49	1	11/24/2010
trans-1,3-Dichloropropene	BQL	4.49	1	11/24/2010
Dichlorodifluoromethane	BQL	4.49	1	11/24/2010
Diisopropyl ether (DIPE)	BQL	4.49	1	11/24/2010
Ethylbenzene	BQL	4.49	1	11/24/2010
Hexachlorobutadiene	BQL	4.49	1	11/24/2010
2-Hexanone	BQL	11.2	1	11/24/2010
Iodomethane	BQL	4.49	1	11/24/2010

SGS North America, Inc.

**Results for Volatiles
by GCMS 8260-5035**

Client Sample ID: 147 SS-5 8'
Client Project ID: NCDOT Fayetteville PSA
Lab Sample ID G118-597-34D
Lab Project ID: G118-597
Report Basis: Dry Weight

Analyzed By: BWS
Date Collected: 11-18-2010 11:24
Date Received: 11/19/2010
Matrix: Soil
Sample Amount: 6.09 g
%Solids: 91.4

Report Name Compound	Result UG/KG	Quantitation Limit UG/KG	Dilution Factor	Date Analyzed
Isopropylbenzene	BQL	4.49	1	11/24/2010
4-Isopropyltoluene	BQL	4.49	1	11/24/2010
Methylene chloride	BQL	18.0	1	11/24/2010
4-Methyl-2-pentanone	BQL	11.2	1	11/24/2010
Methyl-tert-butyl ether (MTBE)	BQL	4.49	1	11/24/2010
Naphthalene	BQL	4.49	1	11/24/2010
n-Propyl benzene	BQL	4.49	1	11/24/2010
Styrene	BQL	4.49	1	11/24/2010
1,1,1,2-Tetrachloroethane	BQL	4.49	1	11/24/2010
1,1,2,2-Tetrachloroethane	BQL	4.49	1	11/24/2010
Tetrachloroethene	BQL	4.49	1	11/24/2010
Toluene	BQL	4.49	1	11/24/2010
1,2,3-Trichlorobenzene	BQL	4.49	1	11/24/2010
1,2,4-Trichlorobenzene	BQL	4.49	1	11/24/2010
Trichloroethene	BQL	4.49	1	11/24/2010
1,1,1-Trichloroethane	BQL	4.49	1	11/24/2010
1,1,2-Trichloroethane	BQL	4.49	1	11/24/2010
Trichlorofluoromethane	BQL	4.49	1	11/24/2010
1,2,3-Trichloropropane	BQL	4.49	1	11/24/2010
1,2,4-Trimethylbenzene	BQL	4.49	1	11/24/2010
1,3,5-Trimethylbenzene	BQL	4.49	1	11/24/2010
Vinyl chloride	BQL	4.49	1	11/24/2010
m-,p-Xylene	BQL	8.98	1	11/24/2010
o-Xylene	BQL	4.49	1	11/24/2010

	Spike Added	Spike Result	Percent Recovered
1,2-Dichloroethane-d4	30	39.8	133
Toluene-d8	30	23.5	78
4-Bromofluorobenzene	30	25.8	86

Comments:

Flags:

BQL = Below Quantitation Limits.

Analyst: DVD

Reviewed By: 

Results for Total Petroleum Hydrocarbons
by GC/FID 8015

Client Sample ID: 147 SS-6 2'
Client Project ID: NCDOT Fayetteville PSA
Lab Sample ID: G118-597-35A
Lab Project ID: G118-597
Report Basis: Dry Weight

Analyzed By: LMC
Date Collected: 11/18/2010 12:52
Date Received: 11/19/2010
Matrix: Soil
Solids 95.33

Analyte	Result	RL	Units	Dilution Factor	Date Analyzed
Gasoline Range Organics	BQL	5.55	mg/Kg	1	12/01/10 03:26

Surrogate Spike Results

	Added	Result	Recovery	Flag	Limits
BFB	100	97.4	97.4		70-130

Comments:

Batch Information

Analytical Batch: VP113010
Analytical Method: 8015
Instrument ID: GC4
Analyst: LMC

Prep Method: 5035
Initial Wt/Vol: 5.67 g
Final Volume: 5 mL

Analyst: WML

Results for Total Petroleum Hydrocarbons
by GC/FID 8015

Client Sample ID: 147 SS-6 2'
Client Project ID: NCDOT Fayetteville PSA
Lab Sample ID: G118-597-35H
Lab Project ID: G118-597

Date Collected: 11/18/2010 12:52
Date Received: 11/19/2010
Matrix: Soil
Solids 95.33
Report Basis: Dry Weight

Parameter	Result	RL	Units	Dilution Factor	Date Analyzed
Diesel Range Organics	8.33	6.48	mg/Kg	1	11/30/10 11:34
Surrogate Spike Results		Spike Added	Control Limits	Spike Result	Percent Recovery
OTP		40	40-140	31.4	78.5

Comments:

Batch Information


Analytical Batch: EP113010
Analytical Method: 8015
Instrument: GC6
Analyst: DTF

Prep batch: 17821
Prep Method: 3541
Prep Date: 11/29/10
Initial Prep Wt/Vol: 32.37 G
Prep Final Vol: 10 mL

Analyst: FX

NC Certification #481

N.C. Certification #481

Reviewed By: 
DRO.XLS
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SGS North America, Inc.

**Results for Volatiles
by GCMS 8260-5035**

Client Sample ID: 147 SS-6 2'
 Client Project ID: NCDOT Fayetteville PSA
 Lab Sample ID G118-597-35D
 Lab Project ID: G118-597
 Report Basis: Dry Weight

Analyzed By: BWS
 Date Collected: 11-18-2010 12:52
 Date Received: 11/19/2010
 Matrix: Soil
 Sample Amount: 4.59 g
 %Solids: 95.3

Report Name Compound	Result UG/KG	Quantitation Limit UG/KG	Dilution Factor	Date Analyzed
Acetone	BQL	57.0	1	11/24/2010
Benzene	BQL	5.70	1	11/24/2010
Bromobenzene	BQL	5.70	1	11/24/2010
Bromochloromethane	BQL	5.70	1	11/24/2010
Bromodichloromethane	BQL	5.70	1	11/24/2010
Bromoform	BQL	5.70	1	11/24/2010
Bromomethane	BQL	5.70	1	11/24/2010
2-Butanone	BQL	28.5	1	11/24/2010
n-Butylbenzene	BQL	5.70	1	11/24/2010
sec-Butylbenzene	BQL	5.70	1	11/24/2010
tert-Butylbenzene	BQL	5.70	1	11/24/2010
Carbon disulfide	BQL	5.70	1	11/24/2010
Carbon tetrachloride	BQL	5.70	1	11/24/2010
Chlorobenzene	BQL	5.70	1	11/24/2010
Chloroethane	BQL	5.70	1	11/24/2010
Chloroform	BQL	5.70	1	11/24/2010
Chloromethane	BQL	5.70	1	11/24/2010
2-Chlorotoluene	BQL	5.70	1	11/24/2010
4-Chlorotoluene	BQL	5.70	1	11/24/2010
Dibromochloromethane	BQL	5.70	1	11/24/2010
1,2-Dibromo-3-chloropropane	BQL	28.5	1	11/24/2010
Dibromomethane	BQL	5.70	1	11/24/2010
1,2-Dibromoethane (EDB)	BQL	5.70	1	11/24/2010
1,2-Dichlorobenzene	BQL	5.70	1	11/24/2010
1,3-Dichlorobenzene	BQL	5.70	1	11/24/2010
1,4-Dichlorobenzene	BQL	5.70	1	11/24/2010
trans-1,4-Dichloro-2-butene	BQL	28.5	1	11/24/2010
1,1-Dichloroethane	BQL	5.70	1	11/24/2010
1,1-Dichloroethene	BQL	5.70	1	11/24/2010
1,2-Dichloroethane	BQL	5.70	1	11/24/2010
cis-1,2-Dichloroethene	BQL	5.70	1	11/24/2010
trans-1,2-dichloroethene	BQL	5.70	1	11/24/2010
1,2-Dichloropropane	BQL	5.70	1	11/24/2010
1,3-Dichloropropane	BQL	5.70	1	11/24/2010
2,2-Dichloropropane	BQL	5.70	1	11/24/2010
1,1-Dichloropropene	BQL	5.70	1	11/24/2010
cis-1,3-Dichloropropene	BQL	5.70	1	11/24/2010
trans-1,3-Dichloropropene	BQL	5.70	1	11/24/2010
Dichlorodifluoromethane	BQL	5.70	1	11/24/2010
Diisopropyl ether (DIPE)	BQL	5.70	1	11/24/2010
Ethylbenzene	BQL	5.70	1	11/24/2010
Hexachlorobutadiene	BQL	5.70	1	11/24/2010
2-Hexanone	BQL	14.3	1	11/24/2010
Iodomethane	BQL	5.70	1	11/24/2010

SGS North America, Inc.

**Results for Volatiles
by GCMS 8260-5035**

Client Sample ID: 147 SS-6 2'
Client Project ID: NCDOT Fayetteville PSA
Lab Sample ID G118-597-35D
Lab Project ID: G118-597
Report Basis: Dry Weight

Analyzed By: BWS
Date Collected: 11-18-2010 12:52
Date Received: 11/19/2010
Matrix: Soil
Sample Amount: 4.59 g
%Solids: 95.3

Report Name Compound	Result UG/KG	Quantitation Limit UG/KG	Dilution Factor	Date Analyzed
Isopropylbenzene	BQL	5.70	1	11/24/2010
4-Isopropyltoluene	BQL	5.70	1	11/24/2010
Methylene chloride	BQL	22.8	1	11/24/2010
4-Methyl-2-pentanone	BQL	14.3	1	11/24/2010
Methyl-tert-butyl ether (MTBE)	BQL	5.70	1	11/24/2010
Naphthalene	BQL	5.70	1	11/24/2010
n-Propyl benzene	BQL	5.70	1	11/24/2010
Styrene	BQL	5.70	1	11/24/2010
1,1,1,2-Tetrachloroethane	BQL	5.70	1	11/24/2010
1,1,2,2-Tetrachloroethane	BQL	5.70	1	11/24/2010
Tetrachloroethene	BQL	5.70	1	11/24/2010
Toluene	BQL	5.70	1	11/24/2010
1,2,3-Trichlorobenzene	BQL	5.70	1	11/24/2010
1,2,4-Trichlorobenzene	BQL	5.70	1	11/24/2010
Trichloroethene	BQL	5.70	1	11/24/2010
1,1,1-Trichloroethane	BQL	5.70	1	11/24/2010
1,1,2-Trichloroethane	BQL	5.70	1	11/24/2010
Trichlorofluoromethane	BQL	5.70	1	11/24/2010
1,2,3-Trichloropropane	BQL	5.70	1	11/24/2010
1,2,4-Trimethylbenzene	BQL	5.70	1	11/24/2010
1,3,5-Trimethylbenzene	BQL	5.70	1	11/24/2010
Vinyl chloride	BQL	5.70	1	11/24/2010
m-,p-Xylene	BQL	11.4	1	11/24/2010
o-Xylene	BQL	5.70	1	11/24/2010


	Spike Added	Spike Result	Percent Recovered
1,2-Dichloroethane-d4	30	39.9	133
Toluene-d8	30	24.4	81
4-Bromofluorobenzene	30	26.9	90

Comments:

Flags:

BQL = Below Quantitation Limits.

Analyst: DVO

Reviewed By: 

Results for Total Petroleum Hydrocarbons
by GC/FID 8015

Client Sample ID: 147 SS-7 4'
Client Project ID: NCDOT Fayetteville PSA
Lab Sample ID: G118-597-36A
Lab Project ID: G118-597
Report Basis: Dry Weight

Analyzed By: LMC
Date Collected: 11/18/2010 13:04
Date Received: 11/19/2010
Matrix: Soil
Solids 93.63

Analyte	Result	RL	Units	Dilution Factor	Date Analyzed
Gasoline Range Organics	BQL	5.54	mg/Kg	1	12/01/10 03:52

Surrogate Spike Results

	Added	Result	Recovery	Flag	Limits
BFB	100	97.0	97.0		70-130

Comments:

Batch Information

Analytical Batch: VP113010
Analytical Method: 8015
Instrument ID: GC4
Analyst: LMC

Prep Method: 5035
Initial Wt/Vol: 5.78 g
Final Volume: 5 mL

Analyst: 

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

Client Sample ID: 147 SS-7 4'
Client Project ID: NCDOT Fayetteville PSA
Lab Sample ID: G118-597-36G
Lab Project ID: G118-597

Date Collected: 11/18/2010 13:04
Date Received: 11/19/2010
Matrix: Soil
Solids 93.63
Report Basis: Dry Weight

Parameter	Result	RL	Units	Dilution Factor	Date Analyzed
Diesel Range Organics	BQL	6.65	mg/Kg	1	11/29/10 03:36
Surrogate Spike Results		Spike Added	Control Limits	Spike Result	Percent Recovery
OTP		40	40-140	28.7	71.9

Comments:

Batch Information

Analytical Batch: EP112810
Analytical Method: 8015
Instrument: GC6
Analyst: DTF

Prep batch: 17808
Prep Method: 3541
Prep Date: 11/23/10
Initial Prep Wt/Vol: 32.13 G
Prep Final Vol: 10 mL

Analyst: FX

NC Certification #481

N.C. Certification #481

Reviewed By: [Signature]
DRO.XLS
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SGS North America, Inc.

Results for Volatiles
by GCMS 8260-5035

Client Sample ID: 147 SS-7 4'
Client Project ID: NCDOT Fayetteville PSA
Lab Sample ID G118-597-36D
Lab Project ID: G118-597
Report Basis: Dry Weight

Analyzed By: BWS
Date Collected: 11-18-2010 13:04
Date Received: 11/19/2010
Matrix: Soil
Sample Amount: 3.68 g
%Solids: 93.6

Report Name Compound	Result UG/KG	Quantitation Limit UG/KG	Dilution Factor	Date Analyzed
Acetone	BQL	72.6	1	11/24/2010
Benzene	BQL	7.26	1	11/24/2010
Bromobenzene	BQL	7.26	1	11/24/2010
Bromochloromethane	BQL	7.26	1	11/24/2010
Bromodichloromethane	BQL	7.26	1	11/24/2010
Bromoform	BQL	7.26	1	11/24/2010
Bromomethane	BQL	7.26	1	11/24/2010
2-Butanone	BQL	36.3	1	11/24/2010
n-Butylbenzene	BQL	7.26	1	11/24/2010
sec-Butylbenzene	BQL	7.26	1	11/24/2010
tert-Butylbenzene	BQL	7.26	1	11/24/2010
Carbon disulfide	BQL	7.26	1	11/24/2010
Carbon tetrachloride	BQL	7.26	1	11/24/2010
Chlorobenzene	BQL	7.26	1	11/24/2010
Chloroethane	BQL	7.26	1	11/24/2010
Chloroform	BQL	7.26	1	11/24/2010
Chloromethane	BQL	7.26	1	11/24/2010
2-Chlorotoluene	BQL	7.26	1	11/24/2010
4-Chlorotoluene	BQL	7.26	1	11/24/2010
Dibromochloromethane	BQL	7.26	1	11/24/2010
1,2-Dibromo-3-chloropropane	BQL	36.3	1	11/24/2010
Dibromomethane	BQL	7.26	1	11/24/2010
1,2-Dibromoethane (EDB)	BQL	7.26	1	11/24/2010
1,2-Dichlorobenzene	BQL	7.26	1	11/24/2010
1,3-Dichlorobenzene	BQL	7.26	1	11/24/2010
1,4-Dichlorobenzene	BQL	7.26	1	11/24/2010
trans-1,4-Dichloro-2-butene	BQL	36.3	1	11/24/2010
1,1-Dichloroethane	BQL	7.26	1	11/24/2010
1,1-Dichloroethene	BQL	7.26	1	11/24/2010
1,2-Dichloroethane	BQL	7.26	1	11/24/2010
cis-1,2-Dichloroethene	BQL	7.26	1	11/24/2010
trans-1,2-dichloroethene	BQL	7.26	1	11/24/2010
1,2-Dichloropropane	BQL	7.26	1	11/24/2010
1,3-Dichloropropane	BQL	7.26	1	11/24/2010
2,2-Dichloropropane	BQL	7.26	1	11/24/2010
1,1-Dichloropropene	BQL	7.26	1	11/24/2010
cis-1,3-Dichloropropene	BQL	7.26	1	11/24/2010
trans-1,3-Dichloropropene	BQL	7.26	1	11/24/2010
Dichlorodifluoromethane	BQL	7.26	1	11/24/2010
Diisopropyl ether (DIPE)	BQL	7.26	1	11/24/2010
Ethylbenzene	BQL	7.26	1	11/24/2010
Hexachlorobutadiene	BQL	7.26	1	11/24/2010
2-Hexanone	BQL	18.1	1	11/24/2010
Iodomethane	BQL	7.26	1	11/24/2010

SGS North America, Inc.

Results for Volatiles
by GCMS 8260-5035

Client Sample ID: 147 SS-7 4'
Client Project ID: NCDOT Fayetteville PSA
Lab Sample ID G118-597-36D
Lab Project ID: G118-597
Report Basis: Dry Weight

Analyzed By: BWS
Date Collected: 11-18-2010 13:04
Date Received: 11/19/2010
Matrix: Soil
Sample Amount: 3.68 g
%Solids: 93.6

Report Name Compound	Result UG/KG	Quantitation Limit UG/KG	Dilution Factor	Date Analyzed
Isopropylbenzene	BQL	7.26	1	11/24/2010
4-Isopropyltoluene	BQL	7.26	1	11/24/2010
Methylene chloride	BQL	29.0	1	11/24/2010
4-Methyl-2-pentanone	BQL	18.1	1	11/24/2010
Methyl-tert-butyl ether (MTBE)	BQL	7.26	1	11/24/2010
Naphthalene	BQL	7.26	1	11/24/2010
n-Propyl benzene	BQL	7.26	1	11/24/2010
Styrene	BQL	7.26	1	11/24/2010
1,1,1,2-Tetrachloroethane	BQL	7.26	1	11/24/2010
1,1,2,2-Tetrachloroethane	BQL	7.26	1	11/24/2010
Tetrachloroethene	BQL	7.26	1	11/24/2010
Toluene	BQL	7.26	1	11/24/2010
1,2,3-Trichlorobenzene	BQL	7.26	1	11/24/2010
1,2,4-Trichlorobenzene	BQL	7.26	1	11/24/2010
Trichloroethene	BQL	7.26	1	11/24/2010
1,1,1-Trichloroethane	BQL	7.26	1	11/24/2010
1,1,2-Trichloroethane	BQL	7.26	1	11/24/2010
Trichlorofluoromethane	BQL	7.26	1	11/24/2010
1,2,3-Trichloropropane	BQL	7.26	1	11/24/2010
1,2,4-Trimethylbenzene	BQL	7.26	1	11/24/2010
1,3,5-Trimethylbenzene	BQL	7.26	1	11/24/2010
Vinyl chloride	BQL	7.26	1	11/24/2010
m-p-Xylene	BQL	14.5	1	11/24/2010
o-Xylene	BQL	7.26	1	11/24/2010

	Spike Added	Spike Result	Percent Recovered
1,2-Dichloroethane-d4	30	40.2	134
Toluene-d8	30	22.3	74
4-Bromofluorobenzene	30	25.8	86

Comments:

Flags:

BQL = Below Quantitation Limits.

Analyst: DVO

Reviewed By: 

Results for Total Petroleum Hydrocarbons
by GC/FID 8015

Client Sample ID: 147 SS-8 8'
Client Project ID: NCDOT Fayetteville PSA
Lab Sample ID: G118-597-37A
Lab Project ID: G118-597
Report Basis: Dry Weight

Analyzed By: LMC
Date Collected: 11/18/2010 13:20
Date Received: 11/19/2010
Matrix: Soil
Solids 84.65

Analyte	Result	RL	Units	Dilution Factor	Date Analyzed
Gasoline Range Organics	BQL	4.94	mg/Kg	1	12/01/10 04:19

Surrogate Spike Results


	Added	Result	Recovery	Flag	Limits
BFB	100	96.0	96.0		70-130

Comments:

Batch Information

Analytical Batch: VP113010
Analytical Method: 8015
Instrument ID: GC4
Analyst: LMC

Prep Method: 5035
Initial Wt/Vol: 7.17 g
Final Volume: 5 mL

Analyst: 

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

Client Sample ID: 147 SS-8 8'
 Client Project ID: NCDOT Fayetteville PSA
 Lab Sample ID: G118-597-37G
 Lab Project ID: G118-597

Date Collected: 11/18/2010 13:20
 Date Received: 11/19/2010
 Matrix: Soil
 Solids 84.65
 Report Basis: Dry Weight

Parameter	Result	RL	Units	Dilution Factor	Date Analyzed
Diesel Range Organics	BQL	7.52	mg/Kg	1	11/29/10 04:04
Surrogate Spike Results		Spike Added	Control Limits	Spike Result	Percent Recovery
OTP		40	40-140	27.4	68.6

Comments:

Batch Information


Analytical Batch: EP112810
 Analytical Method: 8015
 Instrument: GC6
 Analyst: DTF

Prep batch: 17808
 Prep Method: 3541
 Prep Date: 11/23/10
 Initial Prep Wt/Vol: 31.4 G
 Prep Final Vol: 10 mL

Analyst: FX

NC Certification #481

N.C. Certification #481

Reviewed By: 
 DRO.XLS
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SGS North America, Inc.

**Results for Volatiles
by GCMS 8260-5035**

Client Sample ID: 147 SS-8 8'
 Client Project ID: NCDOT Fayetteville PSA
 Lab Sample ID G118-597-37D
 Lab Project ID: G118-597
 Report Basis: Dry Weight

Analyzed By: BWS
 Date Collected: 11-18-2010 13:20
 Date Received: 11/19/2010
 Matrix: Soil
 Sample Amount: 7.36 g
 %Solids: 84.7

Report Name Compound	Result UG/KG	Quantitation Limit UG/KG	Dilution Factor	Date Analyzed
Acetone	BQL	40.1	1	11/24/2010
Benzene	BQL	4.01	1	11/24/2010
Bromobenzene	BQL	4.01	1	11/24/2010
Bromochloromethane	BQL	4.01	1	11/24/2010
Bromodichloromethane	BQL	4.01	1	11/24/2010
Bromoform	BQL	4.01	1	11/24/2010
Bromomethane	BQL	4.01	1	11/24/2010
2-Butanone	BQL	20.1	1	11/24/2010
n-Butylbenzene	BQL	4.01	1	11/24/2010
sec-Butylbenzene	BQL	4.01	1	11/24/2010
tert-Butylbenzene	BQL	4.01	1	11/24/2010
Carbon disulfide	BQL	4.01	1	11/24/2010
Carbon tetrachloride	BQL	4.01	1	11/24/2010
Chlorobenzene	BQL	4.01	1	11/24/2010
Chloroethane	BQL	4.01	1	11/24/2010
Chloroform	BQL	4.01	1	11/24/2010
Chloromethane	BQL	4.01	1	11/24/2010
2-Chlorotoluene	BQL	4.01	1	11/24/2010
4-Chlorotoluene	BQL	4.01	1	11/24/2010
Dibromochloromethane	BQL	4.01	1	11/24/2010
1,2-Dibromo-3-chloropropane	BQL	20.1	1	11/24/2010
Dibromomethane	BQL	4.01	1	11/24/2010
1,2-Dibromoethane (EDB)	BQL	4.01	1	11/24/2010
1,2-Dichlorobenzene	BQL	4.01	1	11/24/2010
1,3-Dichlorobenzene	BQL	4.01	1	11/24/2010
1,4-Dichlorobenzene	BQL	4.01	1	11/24/2010
trans-1,4-Dichloro-2-butene	BQL	20.1	1	11/24/2010
1,1-Dichloroethane	BQL	4.01	1	11/24/2010
1,1-Dichloroethene	BQL	4.01	1	11/24/2010
1,2-Dichloroethane	BQL	4.01	1	11/24/2010
cis-1,2-Dichloroethene	BQL	4.01	1	11/24/2010
trans-1,2-dichloroethene	BQL	4.01	1	11/24/2010
1,2-Dichloropropane	BQL	4.01	1	11/24/2010
1,3-Dichloropropane	BQL	4.01	1	11/24/2010
2,2-Dichloropropane	BQL	4.01	1	11/24/2010
1,1-Dichloropropene	BQL	4.01	1	11/24/2010
cis-1,3-Dichloropropene	BQL	4.01	1	11/24/2010
trans-1,3-Dichloropropene	BQL	4.01	1	11/24/2010
Dichlorodifluoromethane	BQL	4.01	1	11/24/2010
Diisopropyl ether (DIPE)	BQL	4.01	1	11/24/2010
Ethylbenzene	BQL	4.01	1	11/24/2010
Hexachlorobutadiene	BQL	4.01	1	11/24/2010
2-Hexanone	BQL	10.0	1	11/24/2010
Iodomethane	BQL	4.01	1	11/24/2010

SGS North America, Inc.

Results for Volatiles
by GCMS 8260-5035

Client Sample ID: 147 SS-8 8'
Client Project ID: NCDOT Fayetteville PSA
Lab Sample ID G118-597-37D
Lab Project ID: G118-597
Report Basis: Dry Weight

Analyzed By: BWS
Date Collected: 11-18-2010 13:20
Date Received: 11/19/2010
Matrix: Soil
Sample Amount: 7.36 g
%Solids: 84.7

Report Name Compound	Result UG/KG	Quantitation Limit UG/KG	Dilution Factor	Date Analyzed
Isopropylbenzene	BQL	4.01	1	11/24/2010
4-Isopropyltoluene	BQL	4.01	1	11/24/2010
Methylene chloride	BQL	16.1	1	11/24/2010
4-Methyl-2-pentanone	BQL	10.0	1	11/24/2010
Methyl-tert-butyl ether (MTBE)	BQL	4.01	1	11/24/2010
Naphthalene	BQL	4.01	1	11/24/2010
n-Propyl benzene	BQL	4.01	1	11/24/2010
Styrene	BQL	4.01	1	11/24/2010
1,1,1,2-Tetrachloroethane	BQL	4.01	1	11/24/2010
1,1,2,2-Tetrachloroethane	BQL	4.01	1	11/24/2010
Tetrachloroethene	BQL	4.01	1	11/24/2010
Toluene	BQL	4.01	1	11/24/2010
1,2,3-Trichlorobenzene	BQL	4.01	1	11/24/2010
1,2,4-Trichlorobenzene	BQL	4.01	1	11/24/2010
Trichloroethene	BQL	4.01	1	11/24/2010
1,1,1-Trichloroethane	BQL	4.01	1	11/24/2010
1,1,2-Trichloroethane	BQL	4.01	1	11/24/2010
Trichlorofluoromethane	BQL	4.01	1	11/24/2010
1,2,3-Trichloropropane	BQL	4.01	1	11/24/2010
1,2,4-Trimethylbenzene	BQL	4.01	1	11/24/2010
1,3,5-Trimethylbenzene	BQL	4.01	1	11/24/2010
Vinyl chloride	BQL	4.01	1	11/24/2010
m-,p-Xylene	BQL	8.03	1	11/24/2010
o-Xylene	BQL	4.01	1	11/24/2010

	Spike Added	Spike Result	Percent Recovered
1,2-Dichloroethane-d4	30	41.4	138
Toluene-d8	30	23.8	79
4-Bromofluorobenzene	30	26.3	88

Comments:

Flags:

BQL = Below Quantitation Limits.

Analyst: Dvo

Reviewed By: 

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

Client Sample ID: 147 SS-9 8'
 Client Project ID: NCDOT Fayetteville PSA
 Lab Sample ID: G118-597-38A
 Lab Project ID: G118-597
 Report Basis: Dry Weight

Analyzed By: LMC
 Date Collected: 11/18/2010 13:38
 Date Received: 11/19/2010
 Matrix: Soil
 Solids 85.12

Analyte	Result	RL	Units	Dilution Factor	Date Analyzed
Gasoline Range Organics	BQL	4.88	mg/Kg	1	12/01/10 04:46

Surrogate Spike Results

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

Comments:

Batch Information

Analytical Batch: VP113010
 Analytical Method: 8015
 Instrument ID: GC4
 Analyst: LMC

Prep Method: 5035
 Initial Wt/Vol: 7.22 g
 Final Volume: 5 mL

Analyst: LMC

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

Client Sample ID: 147 SS-9 8'
Client Project ID: NCDOT Fayetteville PSA
Lab Sample ID: G118-597-38J
Lab Project ID: G118-597

Date Collected: 11/18/2010 13:38
Date Received: 11/19/2010
Matrix: Soil
Solids 85.12
Report Basis: Dry Weight

Parameter	Result	RL	Units	Dilution Factor	Date Analyzed
Diesel Range Organics	BQL	6.95	mg/Kg	1	11/29/10 04:32
Surrogate Spike Results		Spike Added	Control Limits	Spike Result	Percent Recovery
OTP		40	40-140	23.9	59.7

Comments:

Batch Information

Analytical Batch: EP112810
Analytical Method: 8015
Instrument: GC6
Analyst: DTF

Prep batch: 17808
Prep Method: 3541
Prep Date: 11/23/10
Initial Prep Wt/Vol: 33.82 G
Prep Final Vol: 10 mL

Analyst: FX

NC Certification #481

N.C. Certification #481

Reviewed By: 
DRO.XLS
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SGS North America, Inc.

Results for Volatiles
by GCMS 8260-5035

Client Sample ID: 147 SS-9 8'
Client Project ID: NCDOT Fayetteville PSA
Lab Sample ID G118-597-38D
Lab Project ID: G118-597
Report Basis: Dry Weight

Analyzed By: BWS
Date Collected: 11-18-2010 13:38
Date Received: 11/19/2010
Matrix: Soil
Sample Amount: 6.78 g
%Solids: 85.1

Report Name Compound	Result UG/KG	Quantitation Limit UG/KG	Dilution Factor	Date Analyzed
Acetone	BQL	43.3	1	11/24/2010
Benzene	BQL	4.33	1	11/24/2010
Bromobenzene	BQL	4.33	1	11/24/2010
Bromochloromethane	BQL	4.33	1	11/24/2010
Bromodichloromethane	BQL	4.33	1	11/24/2010
Bromoform	BQL	4.33	1	11/24/2010
Bromomethane	BQL	4.33	1	11/24/2010
2-Butanone	BQL	21.6	1	11/24/2010
n-Butylbenzene	BQL	4.33	1	11/24/2010
sec-Butylbenzene	BQL	4.33	1	11/24/2010
tert-Butylbenzene	BQL	4.33	1	11/24/2010
Carbon disulfide	BQL	4.33	1	11/24/2010
Carbon tetrachloride	BQL	4.33	1	11/24/2010
Chlorobenzene	BQL	4.33	1	11/24/2010
Chloroethane	BQL	4.33	1	11/24/2010
Chloroform	BQL	4.33	1	11/24/2010
Chloromethane	BQL	4.33	1	11/24/2010
2-Chlorotoluene	BQL	4.33	1	11/24/2010
4-Chlorotoluene	BQL	4.33	1	11/24/2010
Dibromochloromethane	BQL	4.33	1	11/24/2010
1,2-Dibromo-3-chloropropane	BQL	21.6	1	11/24/2010
Dibromomethane	BQL	4.33	1	11/24/2010
1,2-Dibromoethane (EDB)	BQL	4.33	1	11/24/2010
1,2-Dichlorobenzene	BQL	4.33	1	11/24/2010
1,3-Dichlorobenzene	BQL	4.33	1	11/24/2010
1,4-Dichlorobenzene	BQL	4.33	1	11/24/2010
trans-1,4-Dichloro-2-butene	BQL	21.6	1	11/24/2010
1,1-Dichloroethane	BQL	4.33	1	11/24/2010
1,1-Dichloroethene	BQL	4.33	1	11/24/2010
1,2-Dichloroethane	BQL	4.33	1	11/24/2010
cis-1,2-Dichloroethene	BQL	4.33	1	11/24/2010
trans-1,2-dichloroethene	BQL	4.33	1	11/24/2010
1,2-Dichloropropane	BQL	4.33	1	11/24/2010
1,3-Dichloropropane	BQL	4.33	1	11/24/2010
2,2-Dichloropropane	BQL	4.33	1	11/24/2010
1,1-Dichloropropene	BQL	4.33	1	11/24/2010
cis-1,3-Dichloropropene	BQL	4.33	1	11/24/2010
trans-1,3-Dichloropropene	BQL	4.33	1	11/24/2010
Dichlorodifluoromethane	BQL	4.33	1	11/24/2010
Diisopropyl ether (DIPE)	BQL	4.33	1	11/24/2010
Ethylbenzene	BQL	4.33	1	11/24/2010
Hexachlorobutadiene	BQL	4.33	1	11/24/2010
2-Hexanone	BQL	10.8	1	11/24/2010
Iodomethane	BQL	4.33	1	11/24/2010

SGS North America, Inc.

**Results for Volatiles
by GCMS 8260-5035**

Client Sample ID: 147 SS-9 8'
Client Project ID: NCDOT Fayetteville PSA
Lab Sample ID G118-597-38D
Lab Project ID: G118-597
Report Basis: Dry Weight

Analyzed By: BWS
Date Collected: 11-18-2010 13:38
Date Received: 11/19/2010
Matrix: Soil
Sample Amount: 6.78 g
%Solids: 85.1

Report Name Compound	Result UG/KG	Quantitation Limit UG/KG	Dilution Factor	Date Analyzed
Isopropylbenzene	BQL	4.33	1	11/24/2010
4-Isopropyltoluene	BQL	4.33	1	11/24/2010
Methylene chloride	BQL	17.3	1	11/24/2010
4-Methyl-2-pentanone	BQL	10.8	1	11/24/2010
Methyl-tert-butyl ether (MTBE)	BQL	4.33	1	11/24/2010
Naphthalene	BQL	4.33	1	11/24/2010
n-Propyl benzene	BQL	4.33	1	11/24/2010
Styrene	BQL	4.33	1	11/24/2010
1,1,1,2-Tetrachloroethane	BQL	4.33	1	11/24/2010
1,1,2,2-Tetrachloroethane	BQL	4.33	1	11/24/2010
Tetrachloroethene	BQL	4.33	1	11/24/2010
Toluene	BQL	4.33	1	11/24/2010
1,2,3-Trichlorobenzene	BQL	4.33	1	11/24/2010
1,2,4-Trichlorobenzene	BQL	4.33	1	11/24/2010
Trichloroethene	BQL	4.33	1	11/24/2010
1,1,1-Trichloroethane	BQL	4.33	1	11/24/2010
1,1,2-Trichloroethane	BQL	4.33	1	11/24/2010
Trichlorofluoromethane	BQL	4.33	1	11/24/2010
1,2,3-Trichloropropane	BQL	4.33	1	11/24/2010
1,2,4-Trimethylbenzene	BQL	4.33	1	11/24/2010
1,3,5-Trimethylbenzene	BQL	4.33	1	11/24/2010
Vinyl chloride	BQL	4.33	1	11/24/2010
m-,p-Xylene	BQL	8.65	1	11/24/2010
o-Xylene	BQL	4.33	1	11/24/2010

	Spike Added	Spike Result	Percent Recovered
1,2-Dichloroethane-d4	30	40	133
Toluene-d8	30	22.6	75
4-Bromofluorobenzene	30	25	83

Comments:

Flags:

BQL = Below Quantitation Limits.

Analyst: Dvo

Reviewed By: 

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

Client Sample ID: 147 SS-10 4'
Client Project ID: NCDOT Fayetteville PSA
Lab Sample ID: G118-597-39A
Lab Project ID: G118-597
Report Basis: Dry Weight

Analyzed By: LMC
Date Collected: 11/18/2010 14:06
Date Received: 11/19/2010
Matrix: Soil
Solids 93.17

Analyte	Result	RL	Units	Dilution Factor	Date Analyzed
Gasoline Range Organics	BQL	5.30	mg/Kg	1	12/01/10 05:13

Surrogate Spike Results

	Added	Result	Recovery	Flag	Limits
BFB	100	93.0	93.0		70-130

Comments:

Batch Information

Analytical Batch: VP113010
Analytical Method: 8015
Instrument ID: GC4
Analyst: LMC

Prep Method: 5035
Initial Wt/Vol: 6.08 g
Final Volume: 5 mL

Analyst: LMC

Results for Total Petroleum Hydrocarbons
by GC/FID 8015

Client Sample ID: 147 SS-10 4'
Client Project ID: NCDOT Fayetteville PSA
Lab Sample ID: G118-597-39G
Lab Project ID: G118-597

Date Collected: 11/18/2010 14:06
Date Received: 11/19/2010
Matrix: Soil
Solids 93.17
Report Basis: Dry Weight

Parameter	Result	RL	Units	Dilution Factor	Date Analyzed
Diesel Range Organics	BQL	6.66	mg/Kg	1	11/24/10 22:43
Surrogate Spike Results		Spike Added	Control Limits	Spike Result	Percent Recovery
OTP		40	40-140	31.3	78.3

Comments:

Batch Information

Analytical Batch: EP112410
Analytical Method: 8015
Instrument: GC6
Analyst: DTF

Prep batch: 17817
Prep Method: 3541
Prep Date: 11/24/10
Initial Prep Wt/Vol: 32.23 G
Prep Final Vol: 10 mL

Analyst: FA

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N.C. Certification #481

Reviewed By: 
DRO XLS
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SGS North America, Inc.

Results for Volatiles
by GCMS 8260-5035

Client Sample ID: 147 SS-10 4'
Client Project ID: NCDOT Fayetteville PSA
Lab Sample ID G118-597-39D
Lab Project ID: G118-597
Report Basis: Dry Weight

Analyzed By: BWS
Date Collected: 11-18-2010 14:06
Date Received: 11/19/2010
Matrix: Soil
Sample Amount: 5.80 g
%Solids: 93.2

Report Name Compound	Result UG/KG	Quantitation Limit UG/KG	Dilution Factor	Date Analyzed
Acetone	BQL	46.2	1	11/24/2010
Benzene	BQL	4.62	1	11/24/2010
Bromobenzene	BQL	4.62	1	11/24/2010
Bromochloromethane	BQL	4.62	1	11/24/2010
Bromodichloromethane	BQL	4.62	1	11/24/2010
Bromoform	BQL	4.62	1	11/24/2010
Bromomethane	BQL	4.62	1	11/24/2010
2-Butanone	BQL	23.1	1	11/24/2010
n-Butylbenzene	BQL	4.62	1	11/24/2010
sec-Butylbenzene	BQL	4.62	1	11/24/2010
tert-Butylbenzene	BQL	4.62	1	11/24/2010
Carbon disulfide	BQL	4.62	1	11/24/2010
Carbon tetrachloride	BQL	4.62	1	11/24/2010
Chlorobenzene	BQL	4.62	1	11/24/2010
Chloroethane	BQL	4.62	1	11/24/2010
Chloroform	BQL	4.62	1	11/24/2010
Chloromethane	BQL	4.62	1	11/24/2010
2-Chlorotoluene	BQL	4.62	1	11/24/2010
4-Chlorotoluene	BQL	4.62	1	11/24/2010
Dibromochloromethane	BQL	4.62	1	11/24/2010
1,2-Dibromo-3-chloropropane	BQL	23.1	1	11/24/2010
Dibromomethane	BQL	4.62	1	11/24/2010
1,2-Dibromoethane (EDB)	BQL	4.62	1	11/24/2010
1,2-Dichlorobenzene	BQL	4.62	1	11/24/2010
1,3-Dichlorobenzene	BQL	4.62	1	11/24/2010
1,4-Dichlorobenzene	BQL	4.62	1	11/24/2010
trans-1,4-Dichloro-2-butene	BQL	23.1	1	11/24/2010
1,1-Dichloroethane	BQL	4.62	1	11/24/2010
1,1-Dichloroethene	BQL	4.62	1	11/24/2010
1,2-Dichloroethane	BQL	4.62	1	11/24/2010
cis-1,2-Dichloroethene	BQL	4.62	1	11/24/2010
trans-1,2-dichloroethene	BQL	4.62	1	11/24/2010
1,2-Dichloropropane	BQL	4.62	1	11/24/2010
1,3-Dichloropropane	BQL	4.62	1	11/24/2010
2,2-Dichloropropane	BQL	4.62	1	11/24/2010
1,1-Dichloropropene	BQL	4.62	1	11/24/2010
cis-1,3-Dichloropropene	BQL	4.62	1	11/24/2010
trans-1,3-Dichloropropene	BQL	4.62	1	11/24/2010
Dichlorodifluoromethane	BQL	4.62	1	11/24/2010
Diisopropyl ether (DIPE)	BQL	4.62	1	11/24/2010
Ethylbenzene	BQL	4.62	1	11/24/2010
Hexachlorobutadiene	BQL	4.62	1	11/24/2010
2-Hexanone	BQL	11.5	1	11/24/2010
Iodomethane	BQL	4.62	1	11/24/2010

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Results for Volatiles
by GCMS 8260-5035

Client Sample ID: 147 SS-10 4'
Client Project ID: NCDOT Fayetteville PSA
Lab Sample ID G118-597-39D
Lab Project ID: G118-597
Report Basis: Dry Weight

Analyzed By: BWS
Date Collected: 11-18-2010 14:06
Date Received: 11/19/2010
Matrix: Soil
Sample Amount: 5.80 g
%Solids: 93.2

Report Name Compound	Result UG/KG	Quantitation Limit UG/KG	Dilution Factor	Date Analyzed
Isopropylbenzene	BQL	4.62	1	11/24/2010
4-Isopropyltoluene	BQL	4.62	1	11/24/2010
Methylene chloride	BQL	18.5	1	11/24/2010
4-Methyl-2-pentanone	BQL	11.5	1	11/24/2010
Methyl-tert-butyl ether (MTBE)	BQL	4.62	1	11/24/2010
Naphthalene	BQL	4.62	1	11/24/2010
n-Propyl benzene	BQL	4.62	1	11/24/2010
Styrene	BQL	4.62	1	11/24/2010
1,1,1,2-Tetrachloroethane	BQL	4.62	1	11/24/2010
1,1,2,2-Tetrachloroethane	BQL	4.62	1	11/24/2010
Tetrachloroethene	BQL	4.62	1	11/24/2010
Toluene	BQL	4.62	1	11/24/2010
1,2,3-Trichlorobenzene	BQL	4.62	1	11/24/2010
1,2,4-Trichlorobenzene	BQL	4.62	1	11/24/2010
Trichloroethene	BQL	4.62	1	11/24/2010
1,1,1-Trichloroethane	BQL	4.62	1	11/24/2010
1,1,2-Trichloroethane	BQL	4.62	1	11/24/2010
Trichlorofluoromethane	BQL	4.62	1	11/24/2010
1,2,3-Trichloropropane	BQL	4.62	1	11/24/2010
1,2,4-Trimethylbenzene	BQL	4.62	1	11/24/2010
1,3,5-Trimethylbenzene	BQL	4.62	1	11/24/2010
Vinyl chloride	BQL	4.62	1	11/24/2010
m-,p-Xylene	BQL	9.24	1	11/24/2010
o-Xylene	BQL	4.62	1	11/24/2010

	Spike Added	Spike Result	Percent Recovered
1,2-Dichloroethane-d4	30	40.5	135
Toluene-d8	30	22	73
4-Bromofluorobenzene	30	24.8	83

Comments:

Flags:

BQL = Below Quantitation Limits.

Analyst: DVO

Reviewed By: [Signature]

Results for Total Petroleum Hydrocarbons
by GC/FID 8015

Client Sample ID: 147 HA-1 2'
Client Project ID: NCDOT Fayetteville PSA
Lab Sample ID: G118-597-40A
Lab Project ID: G118-597
Report Basis: Dry Weight

Analyzed By: LMC
Date Collected: 11/18/2010 15:00
Date Received: 11/19/2010
Matrix: Soil
Solids 89.10

Analyte	Result	RL	Units	Dilution Factor	Date Analyzed
Gasoline Range Organics	BQL	5.12	mg/Kg	1	12/01/10 05:40

Surrogate Spike Results

	Added	Result	Recovery	Flag	Limits
BFB	100	96.4	96.4		70-130

Comments:

Batch Information

Analytical Batch: VP113010
Analytical Method: 8015
Instrument ID: GC4
Analyst: LMC

Prep Method: 5035
Initial Wt/Vol: 6.57 g
Final Volume: 5 mL

Analyst: LMC

Results for Total Petroleum Hydrocarbons
by GC/FID 8015

Client Sample ID: 147 HA-1 2'
Client Project ID: NCDOT Fayetteville PSA
Lab Sample ID: G118-597-40G
Lab Project ID: G118-597

Date Collected: 11/18/2010 15:00
Date Received: 11/19/2010
Matrix: Soil
Solids 89.10
Report Basis: Dry Weight

Parameter	Result	RL	Units	Dilution Factor	Date Analyzed
Diesel Range Organics	BQL	6.60	mg/Kg	1	11/29/10 20:28
Surrogate Spike Results		Spike Added	Control Limits	Spike Result	Percent Recovery
OTP		40	40-140	29.1	72.7

Comments:

Batch Information

Analytical Batch: EP112910
Analytical Method: 8015
Instrument: GC6
Analyst: DTF

Prep batch: 17812
Prep Method: 3541
Prep Date: 11/24/10
Initial Prep Wt/Vol: 34.01 G
Prep Final Vol: 10 mL

Analyst: FX

NC Certification #481

N.C. Certification #481

Reviewed By: [Signature]
Page 11/20/10 11:49:08

Results for Total Petroleum Hydrocarbons
by GC/FID 8015

Client Sample ID: 147 HA-2 4'
Client Project ID: NCDOT Fayetteville PSA
Lab Sample ID: G118-597-41A
Lab Project ID: G118-597
Report Basis: Dry Weight

Analyzed By: LMC
Date Collected: 11/18/2010 14:34
Date Received: 11/19/2010
Matrix: Soil
Solids 84.05

Analyte	Result	RL	Units	Dilution Factor	Date Analyzed
Gasoline Range Organics	BQL	5.30	mg/Kg	1	12/01/10 06:07

Surrogate Spike Results

	Added	Result	Recovery	Flag	Limits
BFB	100	92.6	92.6		70-130

Comments:

Batch Information

Analytical Batch: VP113010
Analytical Method: 8015
Instrument ID: GC4
Analyst: LMC

Prep Method: 5035
Initial Wt/Vol: 6.73 g
Final Volume: 5 mL

Analyst: 

Results for Total Petroleum Hydrocarbons
by GC/FID 8015

Client Sample ID: 147 HA-2 4'
Client Project ID: NCDOT Fayetteville PSA
Lab Sample ID: G118-597-41G
Lab Project ID: G118-597

Date Collected: 11/18/2010 14:34
Date Received: 11/19/2010
Matrix: Soil
Solids 84.05
Report Basis: Dry Weight

Parameter	Result	RL	Units	Dilution Factor	Date Analyzed
Diesel Range Organics	BQL	7.55	mg/Kg	1	11/29/10 20:56
Surrogate Spike Results		Spike Added	Control Limits	Spike Result	Percent Recovery
OTP		40	40-140	28.2	70.6

Comments:

Batch Information


Analytical Batch: EP112910
Analytical Method: 8015
Instrument: GC6
Analyst: DTF

Prep batch: 17812
Prep Method: 3541
Prep Date: 11/24/10
Initial Prep Wt/Vol: 31.53 G
Prep Final Vol: 10 mL

Analyst: _____

NC Certification #481

N.C. Certification #481

Reviewed By: 
DRO.XLS
Page 113 of 118



SGS North America, Inc.
Environmental Chemists, Inc.

6602 Windmill Way • Wilmington, NC 28405
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 (252) 473-5702

ANALYTICAL & CONSULTING
 CHEMISTS

NCDENR: DWQ CERTIFICATE #94. DLS CERTIFICATE #37729

Customer:

SGS ENVIRONMENTAL SERVICES, INC.
 5500 Business Drive
 Wilmington, NC 28405
 Attn: Jeannie Milholland

Date of Report: December 9, 2010

Purchase Order #:

Report Number: 10-11951

REPORT OF ANALYSIS

Date Sampled: 11/16,18/2010

Sampled By: Client

SOIL:

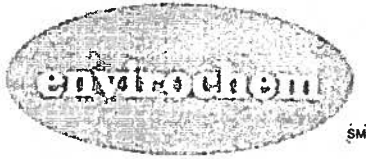
147 HA-1 4¹

147 HA-2 4¹ Page 1 of 3

EPA 8260	G118-597-40 # 30208	G118-597-41 # 30209	MDL
Analyte µg/Kg			
1,1,1,2-Tetrachloroethane	< 1.40	< 1.39	0.99
1,1,1-Trichloroethane	< 1.40	< 1.39	0.74
1,1,2,2-Tetrachloroethane	< 1.40	< 1.39	0.99
1,1,2-Trichloroethane	< 1.40	< 1.39	0.83
1,1-Dichloroethane	< 1.40	< 1.39	0.74
1,1-Dichloroethene	< 1.40	< 1.39	0.69
1,1-Dichloropropene	< 1.40	< 1.39	0.86
1,2,3-Trichlorobenzene	< 1.40	< 1.39	0.56
1,2,3-Trichloropropane	< 1.40	< 1.39	0.88
1,2,4-Trichlorobenzene	< 1.40	< 1.39	0.78
1,2,4-Trimethylbenzene	< 1.40	< 1.39	0.84
1,2-Dibromo-3-chloropropane	< 1.40	< 1.39	0.52
1,2-Dibromoethane	< 1.40	< 1.39	0.87
1,2-Dichlorobenzene	< 1.40	< 1.39	0.97
1,2-Dichloroethane	< 1.40	< 1.39	0.92
1,2-Dichloropropane	< 1.40	< 1.39	0.89
1,3,5-Trimethylbenzene	< 1.40	< 1.39	0.99
1,3-Dichlorobenzene	< 1.40	< 1.39	0.69
1,3-Dichloropropane	< 1.40	< 1.39	0.77
1,4-Dichlorobenzene	< 1.40	< 1.39	0.99
2,2-Dichloropropane	< 1.40	< 1.39	0.52
2-Chloroethylvinyl ether	< 1.40	< 1.39	0.61
2-Chlorotoluene	< 1.40	< 1.39	0.99
2-Hexanone	< 7.00	< 6.95	1.89
4-Chlorotoluene	< 1.40	< 1.39	0.74

Comments:

Results reported on an as received basis.



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 (252) 473-5702

ANALYTICAL & CONSULTING
 CHEMISTS

NCDENR: DWQ CERTIFICATE #94. DLS CERTIFICATE #37729

Customer: **SGS Environmental Services**

Report **10-11951**

Page **2 of 3**

SOIL:

147 HA-1 4'

147 HA-2 4'

EPA 8260	G118-597-40 # 30208	G118-597-41 # 30209	MDL
Analyte µg/Kg			
Acetone	< 7.00	< 6.95	2.35
Benzene	< 1.40	< 1.39	0.92
Bromobenzene	< 1.40	< 1.39	0.95
Bromochloromethane	< 1.40	< 1.39	0.85
Bromodichloromethane	< 1.40	< 1.39	0.66
Bromoform	< 1.40	< 1.39	0.95
Bromomethane	< 1.40	< 1.39	0.66
Carbon Tetrachloride	< 1.40	< 1.39	0.79
Chlorobenzene	< 1.40	< 1.39	0.61
Chloroethane	< 1.40	< 1.39	0.98
Chloroform	< 1.40	< 1.39	0.76
Chloromethane	< 1.40	< 1.39	0.77
Cis-1,2-Dichloroethene	< 1.40	< 1.39	0.73
Cis-1,3-Dichloropropene	< 1.40	< 1.39	0.13
Dibromochloromethane	< 1.40	< 1.39	0.91
Dibromomethane	< 1.40	< 1.39	0.89
Dichlorodifluoromethane	< 1.40	< 1.39	0.70
Ethanol	< 70.0	< 69.5	49.2
Ethylbenzene	< 1.40	< 1.39	0.93
Hexachlorobutadiene	< 1.40	< 1.39	0.76
Isopropyl Ether	< 1.40	< 1.39	0.88
Isopropylbenzene	< 1.40	< 1.39	0.96
M+P Xylene	< 2.80	< 2.78	0.84
MEK	< 7.00	< 6.95	2.06
Methylene Chloride	< 1.40	< 1.39	0.60
MIBK	< 7.00	< 6.95	2.25
MTBE	< 1.40	< 1.39	0.62
n-Butylbenzene	< 1.40	1.23 est.*	0.72
n-Propylbenzene	< 1.40	< 1.39	0.99
Naphthalene	< 1.40	5.20	0.33
O-Xylene	< 1.40	< 1.39	0.94
p-Isopropyltoluene	< 1.40	< 1.39	0.98
Sec-Butylbenzene	< 1.40	< 1.39	0.82
Styrene	< 1.40	< 1.39	0.78

Comments:

Results reported on an as received basis.

* Analyte detected below the reporting limit.



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Customer: **SGS Environmental Services**

Report **10-11951**

Page **3 of 3**

SOIL:

147 HA-1 1'

147 HA-2 1'

EPA 8260	G118-597-40 # 30208	G118-597-41 # 30209	MDL
Analyte µg/Kg			
Tert-Butylbenzene	< 1.40	< 1.39	0.71
Tetrachloroethene	< 1.40	< 1.39	0.96
Toluene	< 1.40	< 1.39	0.80
Trans-1,3-Dichloropropene	< 1.40	< 1.39	0.89
Trichloroethene	< 1.40	< 1.39	0.67
Trichlorofluoromethane	< 1.40	< 1.39	0.79
Vinyl acetate	< 7.00	< 6.95	1.63
Vinyl Chloride	< 1.40	< 1.39	0.48
Date Analysis Began	11/30/10	11/30/10	
Date Analysis Completed	12/08/10	12/08/10	

Comments:

Results reported on an as received basis.

Method 8260 Surrogate Recoveries (%)	G118-597-40 # 30208	G118-597-41 # 30209	Acceptable Ranges
Dibromofluoromethane	99.23	98.35	70-135
1,2-Dichloroethane-d ₄	105.7	105.4	70-135
Toluene - d ₈	83.76	86.70	70-135
4-Bromofluorobenzene	74.29	75.49	70-135

Reviewed by: Shawna Stohas, Analytical Chemist



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099436

1

CLIENT: Klenfelder
 CONTACT: Peter Pozzo PHONE NO: 336 6680093
 PROJECT: NC DOT Fayetteville SITE/PROJECT ID#: 4-2809-B
 REPORTS TO: Peter Pozzo
 INVOICE TO: John Stewart FAX NO.: ()
Carol Shore QUOTE #: NC DOT
 P.O. NUMBER: WBS 34865.2.3

SGS Reference: WBS 34865.2.3 PAGE 1 OF 5

LAB NO.	SAMPLE IDENTIFICATION	DATE	TIME	MATRIX	CONTAINERS	SAMPLE TYPE	Preservatives Used	Analysis Required	REMARKS
43	SS-3 4'	11/17/10	1500	Soil	3	G	✓	③	
43	SS-4 6'	11/17/10	1509	Soil	3	G	✓	③	
43	SS-5 6'	11/17/10	1517	Soil	3	G	✓	③	
19	SS-1 4'	11/14/10	759	Soil	3	G	✓	③	
19	SS-2 4'	11/14/10	808	Soil	3	G	✓	③	
19	SS-3 4'	11/14/10	824	Soil	3	G	✓	③	
22	SS-4 2'	11/14/10	829	Soil	6	G	✓	③	
22	SS-5 2'	11/14/10	910	Soil	6	G	✓	③	
22	SS-6 4'	11/14/10	851	Soil	6	G	✓	③	
147	SS-1 8'	11/14/10	1017	Soil	6	G	✓	③	

5

Collected/Relinquished By: (1) [Signature] Date: 11/19/10 Time: 1735 Received By: FedEx
 Relinquished By: (2) [Signature] Date: _____ Time: _____ Received By: _____
 Relinquished By: (3) _____ Date: _____ Time: _____ Received By: _____
 Relinquished By: (4) _____ Date: 11/19/10 Time: 9:55 Received By: [Signature]

4

Shipping Carrier: _____
 Shipping Ticket No: _____
 Special Deliverable Requirements: _____
 Special Instructions: _____
 Samples Received Cold? (Circle) YES NO
 Temperature C: 4.6
 Chain of Custody Seal: (Circle) INTACT BROKEN ABSENT
 Requested Turnaround Time: _____
 RUSH STD Date Needed: _____



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099437

1 CLIENT: Kleinfelder
 CONTACT: Peter Pozzo PHONE NO: (336) 668 0093
 PROJECT: NCDOT Fayetteville, PA SITE/PWSID#: 4-28-0913
 REPORTS TO: Peter Pozzo FAX NO.:()
 INVOICE TO: John Stewart QUOTE #: NCDOT
Carol Shore P.O. NUMBER: WBS 34865.2.3

2

LAB NO.	SAMPLE IDENTIFICATION	DATE	TIME	MATRIX	CONTAINERS	SAMPLE TYPE	Preservatives Used	Analysis Required	REMARKS
	168 SS-1	11/17/10	9:50	SO.1	3	G			
	168 SS-2		10:19						
	168 SS-3		10:06						
	168 SS-5		9:34						
	168 SS-6		10:35						
	168 SS-7		10:44						
	168 SS-8		10:58						
	168 SS-9		11:06						
	168 SS-10		11:21						
	168 SS-11		11:32						

3 PRESERVATIVES USED: None
 ANALYSIS REQUIRED: 3
DRO
GRA

4

SGS Reference: WBS 34865.2.3 PAGE 2 OF 5

5

Collected/Relinquished By: (1) [Signature] Date 11/18/10 Time 1735 Received By: Feder
 Relinquished By: (2) _____ Date _____ Time _____ Received By: _____
 Relinquished By: (3) _____ Date _____ Time _____ Received By: _____
 Relinquished By: (4) _____ Date 11/19/10 Time 9:55 Received By: [Signature]

Shipping Carrier: _____
 Shipping Ticket No: _____
 Special Deliverable Requirements: _____
 Special Instructions: _____

Samples Received Cold? (Circle) YES (YES) NO
 Temperature C: 4.651
 Chain of Custody Seal: (Circle) INTACT (INTACT) BROKEN ABSENT

Requested Turnaround Time: _____
 RUSH _____ Date Needed _____
 STD



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099435

1

CLIENT: Kleinfelder
 CONTACT: Peter Pozzo PHONE NO: 336 668 0043
 PROJECT: NC DOT Fayetteville SITE/PWSID#: U-2-80913
 REPORTS TO: Peter Pozzo
John Stewart
 INVOICE TO: Carol Shore QUOTE #: NC DOT
 P.O. NUMBER: WBS 34865, 2.3

SGS Reference: WBS 34865, 2.3 PAGE 3 OF 5

LAB NO.	SAMPLE IDENTIFICATION	DATE	TIME	MATRIX	No CONTAINERS	SAMPLE TYPE	Preservatives Used	Analysis Required	REMARKS	Shipping Carrier	Samples Received Cold? (Circle) YES NO	Temperature °C: <u>4.6 5.1</u>	Chain of Custody Seal: (Circle) INTACT BROKEN ABSENT
	168 SS-12	11/17/10	1148	Soil	3	G							
	142 SS-1		1404										
	142 SS-2		1352										
	142 SS-3		1339										
	142 SS-4		1326										
	142 SS-5		1314										
	142 SS-6		1301										
	142 SS-7		1250										
	43 SS-1		1437										
	42 SS-2		1447										

2

3

4

5

Collected/Relinquished By: (1) [Signature] Date 11/18/10 Time 1735 Received By: Fed Ex

Relinquished By: (2) [Signature] Date 11/19/10 Time 9:55 Received By: [Signature]

Relinquished By: (3) [Signature] Date 11/19/10 Time 9:55 Received By: [Signature]

Relinquished By: (4) [Signature] Date 11/19/10 Time 9:55 Received By: [Signature]

Requested Turnaround Time: RUSH STD Date Needed _____

SGS North America, Inc.

White - Retained by Lab
Pink - Retained by Client



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099431

1 CLIENT: Kleinfelder
 CONTACT: Peter B220
 PROJECT: NCDOT Fayetteville
 REPORTS TO:
 INVOICE TO:
 P.O. NUMBER: WBS 34966.2.3

SGS Reference: G118-S97

LAB NO.	SAMPLE IDENTIFICATION	DATE	TIME	MATRIX	CONTAINERS	SAMPLE TYPE	Preservatives Used	Analysis Required	REMARKS
147	SS-2	11/8/10	1024	Soil	6	G			
147	SS-3		1040		6	G			
147	SS-4		1107		6	G			
147	SS-5		1124						
147	SS-6		1252						
147	SS-7		1304						
147	SS-8		1320						
147	SS-9		1338						
147	SS-10		1406						
147	1A-2	11/19/10	1500						sample discharged 14 per P. POLES. 11/11

2

3

4

5

Shipping Carrier: FedEx
 Shipping Ticket No:
 Samples Received Cold? (Circle YES/NO)
 Temperature °C: 4.65
 Chain of Custody Seal: (Circle) INTACT
 Special Deliverable Requirements:
 Special Instructions:
 Requested Turnaround Time: RUSH STD
 Date Needed

Collected/Relinquished By: (1)
 Relinquished By: (2)
 Relinquished By: (3)
 Relinquished By: (4)

