

**PRELIMINARY SITE ASSESSMENT
PARCEL #16
LAURENCE WATSON, JR. & KENNETH TICKLE PROPERTY
9400 WEST MARKET STREET
COLFAX, GUILFORD COUNTY, NORTH CAROLINA
STATE PROJECT: R-2611
WBS ELEMENT: 34482.1.1**

Prepared for:

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Solutions-IES Project No. 3948.11A3.NDOT

May 26, 2011



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1.0 INTRODUCTION

Parcel #16 (Laurence Watson, Jr. and Kenneth Tickle Property) in Guilford County is currently in use as an Advanced Business Concepts business located at 9400 West Market Street, Colfax, Guilford County, North Carolina. The location of the property is shown on **Figures 1 and 2**. The North Carolina Department of Transportation (NCDOT) plans to acquire this property due to the planned expansion of West Market Street. This report summarizes the results of field and laboratory activities conducted during the Preliminary Site Assessment (PSA) of the subject property. The scope of work executed at the site was performed in general accordance with Solutions-IES proposal NC11017 dated February 11, 2011, and was initiated based on a Notice to Proceed issued by the NCDOT Preconstruction Professional Services Management Unit on February 17, 2011, under contract 7000010453, dated June 25, 2009.

2.0 BACKGROUND AND SITE DESCRIPTION

Parcel #16 is currently developed with a commercial building occupied by Advanced Business Concepts. The commercial building, located at the northwest corner of 9400 West Market Street and North Bunker Hill Road, was reportedly formerly operated as a store and gas station. The PSA was performed within the proposed right-of-way (ROW) and/or easement on each side of the Advanced Business Concepts building extending north along North Bunker Hill Road and west along West Market Street. Work was not performed in areas of the properties outside of the proposed ROW and/or easement. Photographs of the site are included in **Appendix A**.

3.0 FIELD ACTIVITIES

Prior to mobilizing to the site to conduct work, Solutions-IES contacted North Carolina One Call and contracted KCI Associates of North Carolina, P.A. (KCI) to locate underground utilities at the site. Pyramid Environmental & Engineering, P.C. (Pyramid) was contracted to perform a geophysical survey, and mobilized to the study area February 28 and March 8, 2011. The geophysical investigation consisted of electromagnetic (EM) induction-metal detection surveys using a Geonics EM61-MK1 metal detection instrument and ground penetrating radar (GPR) surveys using a GSSI SIR-2000 unit equipped with a 400 MHz antenna. Results of the survey suggested that the proposed ROW and/or easement area at Parcel #16 does not contain metallic underground storage tanks (USTs). Images of the EM and GPR findings are included in the geophysical report included as **Appendix B**. After a review of the geophysical report, Solutions-IES mobilized to the site on March 28 and 29, 2011, to collect soil samples. Eleven soil

borings were advanced to a depth of 8 feet below ground surface (ft bgs). These eleven borings were advanced using a Geoprobe[®]. The approximate location of the soil borings are displayed in **Figure 3**. The GPS coordinates of the boring locations are included in **Appendix C**.

A Macro-Core[®] sampler fitted with a dedicated polyvinyl chloride (PVC) liner was used to collect samples at 2-foot intervals. Each soil sample was split into two aliquots. Each aliquot was placed in a separate resealable plastic bag. One bag was placed on ice for possible laboratory analysis, while the other bag was sealed and placed at ambient temperature for field screening with a flame ionization detector (FID). After approximately 20 minutes to allow accumulation of volatile organic compounds (VOCs) in the headspace of the bag, each sealed bag was scanned with the FID. The FID measurements were entered into the field logbook along with the soil description and indications of petroleum staining or odor. That information was subsequently transferred onto boring logs. The boring logs are provided in **Appendix D** and the field screening results are summarized in **Table 1**. The field screening results are also summarized on the boring logs.

During the initial site visit, Solutions-IES personnel observed an above ground storage tank (AST) on the northeast side of the commercial building at the site. The AST was labeled for fuel oil and surface staining was observed beneath the filter and supply line connecting the AST to the building. Solutions-IES remobilized to the site on April 29, 2011, to collect two soil samples near the AST. The first boring was advanced to 8 ft bgs at the location of the surface staining and the second was advanced to 4 ft bgs on the opposite side of the tank. Both borings were advanced using a hand auger. FID measurements were recorded in 2-foot intervals and screening results did not suggest the presence of volatile vapors. As a result of courier delays, the two AST soil samples arrived at the laboratory above the recommended sample preservation temperature and were not analyzed. Solutions-IES returned to the site on May 5, 2011, to collect two additional samples from the vicinity of the AST. These borings were advanced to 2 ft bgs at the location of the surface staining and on the opposite side of the AST using a hand auger. Boring logs were not prepared for these borings. However, FID measurements were recorded and presented in Table 1 as Borings 16-12 and 16-13.

The subsurface at the site generally consisted of red-brown silty or sandy clays (Unified Soil Classification CL). Soils were dry to moist and groundwater was not encountered in the borings to a depth of 8 ft bgs.

Table 1 shows the FID field screening results of the soils ranged from not detected to 0.40 parts per million (ppm). A soil sample was collected from each boring at the interval identified in **Table 1** and was placed in laboratory-supplied jars and stored on ice pending courier service to SGS Laboratories in Wilmington, NC. Sample information was recorded on the chain-of-custody form, and the samples were submitted for analysis of gasoline range organics (GRO) and diesel range organics (DRO) total petroleum hydrocarbons (TPH) by EPA Modified Method 8015C with preparation methods 5035 and 3541, respectively. GRO and DRO TPH analysis can be used to screen soil which may be impacted by fuel constituents.

4.0 LABORATORY RESULTS

The laboratory analytical results from samples collected indicate the presence of TPH in soil at concentrations above the laboratory reporting limits at Parcel #16. The analytical results are summarized in **Table 2**, and the laboratory reports are included in **Appendix E**.

Specifically, TPH (DRO) was detected in boring 16-12 at a concentration of 39.9 milligrams per kilogram (mg/kg). The laboratory analytical results do not indicate the presence of TPH in soil samples collected from borings 16-1 through 16-11 and 16-13.

5.0 DISCUSSION

The geophysical survey conducted at the site suggested that buried metallic objects such as a UST are not present within the proposed ROW and/or easement at Parcel #16. Solutions-IES advanced 11 soil borings to a depth of 8 ft bgs and two soil borings to a depth of 2 ft bgs from which samples were analyzed for petroleum constituents. The highest FID reading measured 0.40 ppm in boring 16-5 at a depth of 4 to 6 ft bgs.

The laboratory analytical results from boring 16-12 collected from the area of observed staining beneath the AST indicate the presence of TPH DRO above the laboratory reporting limit but below the action level of 40 mg/kg specified in the *UST Section Guidelines for the Investigation and Remediation of Contamination from Non-UST Petroleum Releases* ([NCDENR, Division of Waste Management [DWM], *UST Section, Effective July 1, 2007*). TPH was not detected above the laboratory reporting limits in the other samples collected from the site. Further assessment at this site is not necessary at this time.

TABLES

Table 1
Summary of Field Screening Results for Soil
Parcel #16
9400 West Market Street
Colfax, Guilford County, North Carolina
WBS Element: 34482.1.1; State Project: R-2611
Sample Collection Date: March 28-29, 2011

Sample Depth Below Ground Surface	Soil Boring												
	16-1	16-2	16-3	16-4	16-5	16-6	16-7	16-8	16-9	16-10	16-11	16-12	16-13
	FID Reading (ppm)												
0 - 2 feet	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2 - 4 feet	0.00	0.00	0.20	0.00	0.00	0.00	0.00	0.00	0.10	0.00	0.00	NA	NA
4 - 6 feet	0.30	0.00	0.00	0.00	0.40	0.00	0.00	0.20	0.00	0.00	0.00	NA	NA
6 - 8 feet	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.30	0.00	0.00	NA	NA

Notes:

Samples denoted by shaded cells were submitted for laboratory analysis.

FID readings were obtained with a Foxboro TVA 1000 Vapor Analyzer.

ppm = parts per million

NA = Not analyzed

Table 2
Summary of Soil Analytical Results
Parcel #16
9400 West Market Street
Colfax, Guilford County, North Carolina
WBS Element: 34482.1.1; State Project: R-2611
Sample Collection Date: March 28-29, 2011

Sample Information		Total Petroleum Hydrocarbons	
Sample ID	Date Collected	Gasoline Range ¹ (mg/kg)	Diesel Range ² (mg/kg)
16-1	3/28/2011	<3.50	<7.63
16-2	3/28/2011	<4.53	<8.97
16-3	3/28/2011	<3.73	<7.93
16-4	3/28/2011	<4.67	<8.86
16-5	3/28/2011	<4.12	<7.90
16-6	3/29/2011	<5.44	<6.85
16-7	3/29/2011	<3.88	<7.94
16-8	3/29/2011	<4.02	<7.97
16-9	3/29/2011	<4.49	<8.79
16-10	3/29/2011	<4.54	<8.03
16-11	3/29/2011	<4.74	<8.27
16-12	5/5/2011	<3.22	39.9
16-13	5/5/2011	<3.81	<7.67

Notes:

1. Total Petroleum Hydrocarbons (TPH) Method 5035/8015C - Gasoline Range Hydrocarbons
 2. Total Petroleum Hydrocarbons (TPH) Method 3541/8015C - Diesel Range Hydrocarbons
- mg/kg = milligram per kilogram
- Bold values indicate detection above laboratory reporting limit.

FIGURES

PROJECT NUMBER
3948.11A3.NDOT

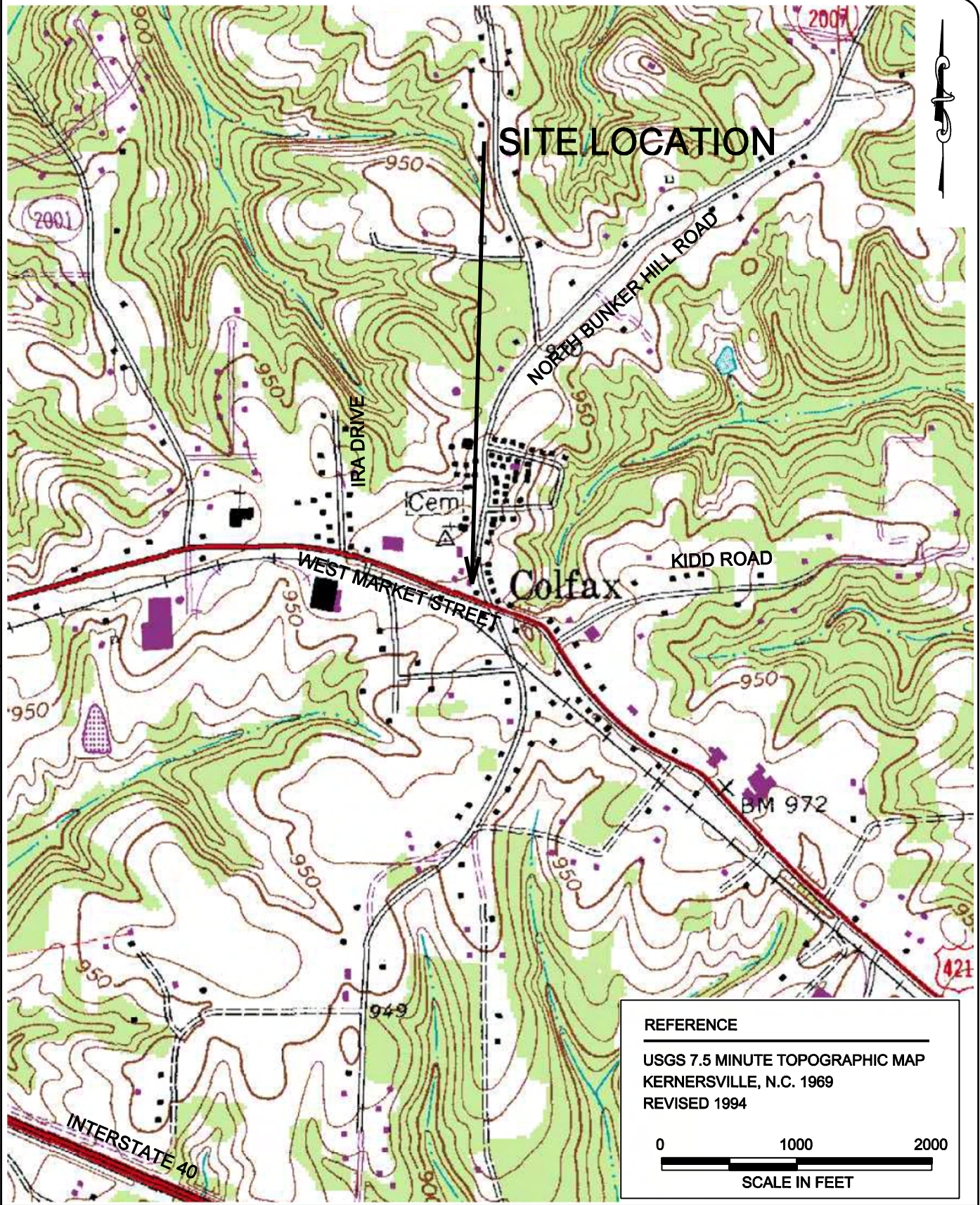
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PROJECT MANAGER
JO

DATE
5/20/11

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Figure 1.pdf



 **Solutions-IES**
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SITE LOCATION
PARCEL #16 - WATSON PROPERTY
9400 WEST MARKET STREET
COLFAX, GUILFORD COUNTY, NORTH CAROLINA
STATE PROJECT: R-2611
WBS ELEMENT: 34482.1.1

FIGURE:

1

PROJECT NUMBER
3948.11A3.NDOT

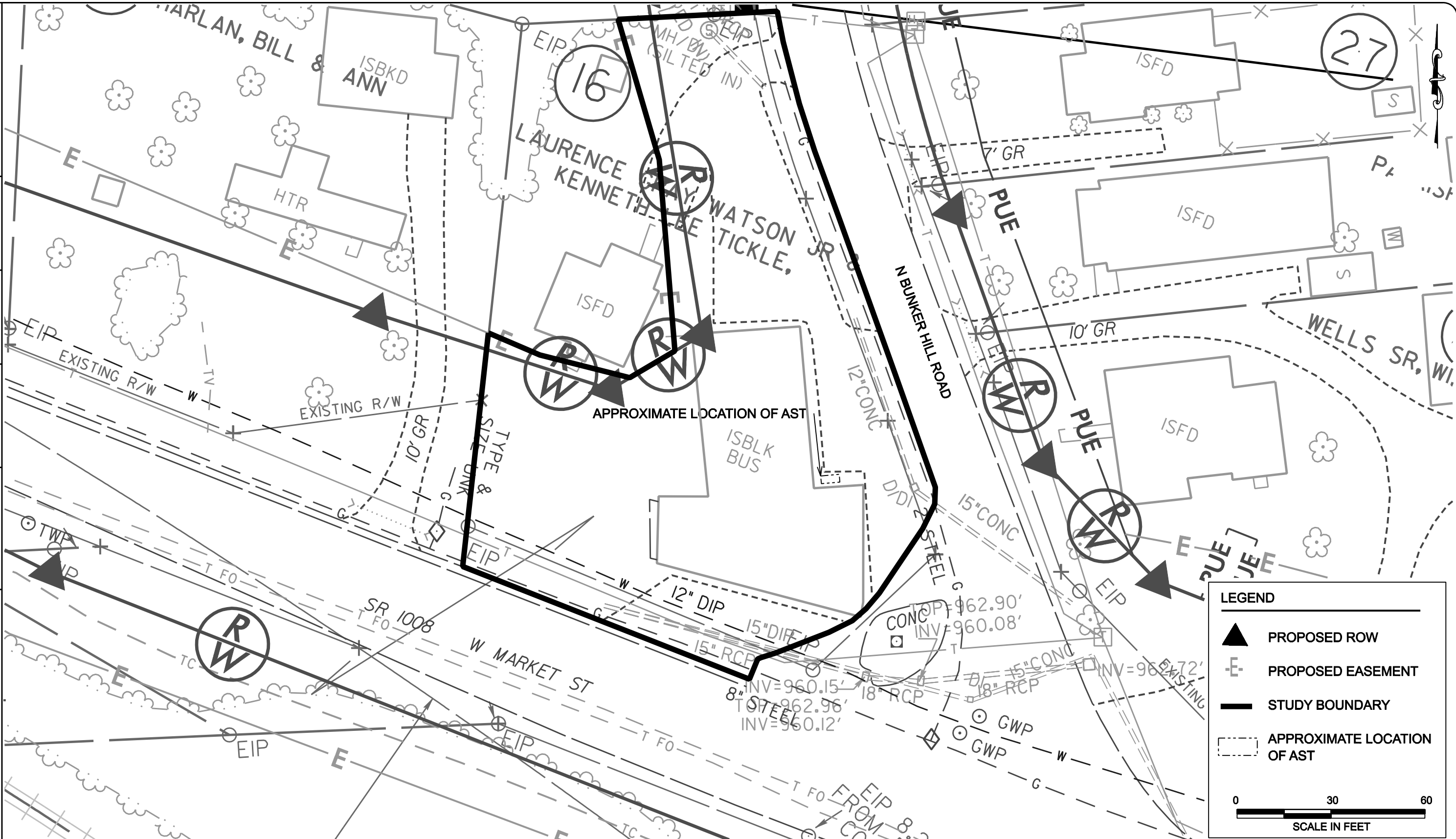
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DATE
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LEGEND

- PROPOSED ROW
- PROPOSED EASEMENT
- STUDY BOUNDARY
- APPROXIMATE LOCATION OF AST

0 30 60
SCALE IN FEET

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PARCEL #16 - WATSON PROPERTY
9400 WEST MARKET STREET
COLFAX, GUILFORD COUNTY, NORTH CAROLINA
STATE PROJECT: R-2611
WBS ELEMENT: 34482.1.1

SITE LOCATION

FIGURE:

2

PROJECT NUMBER
3948.11A3.NDOT

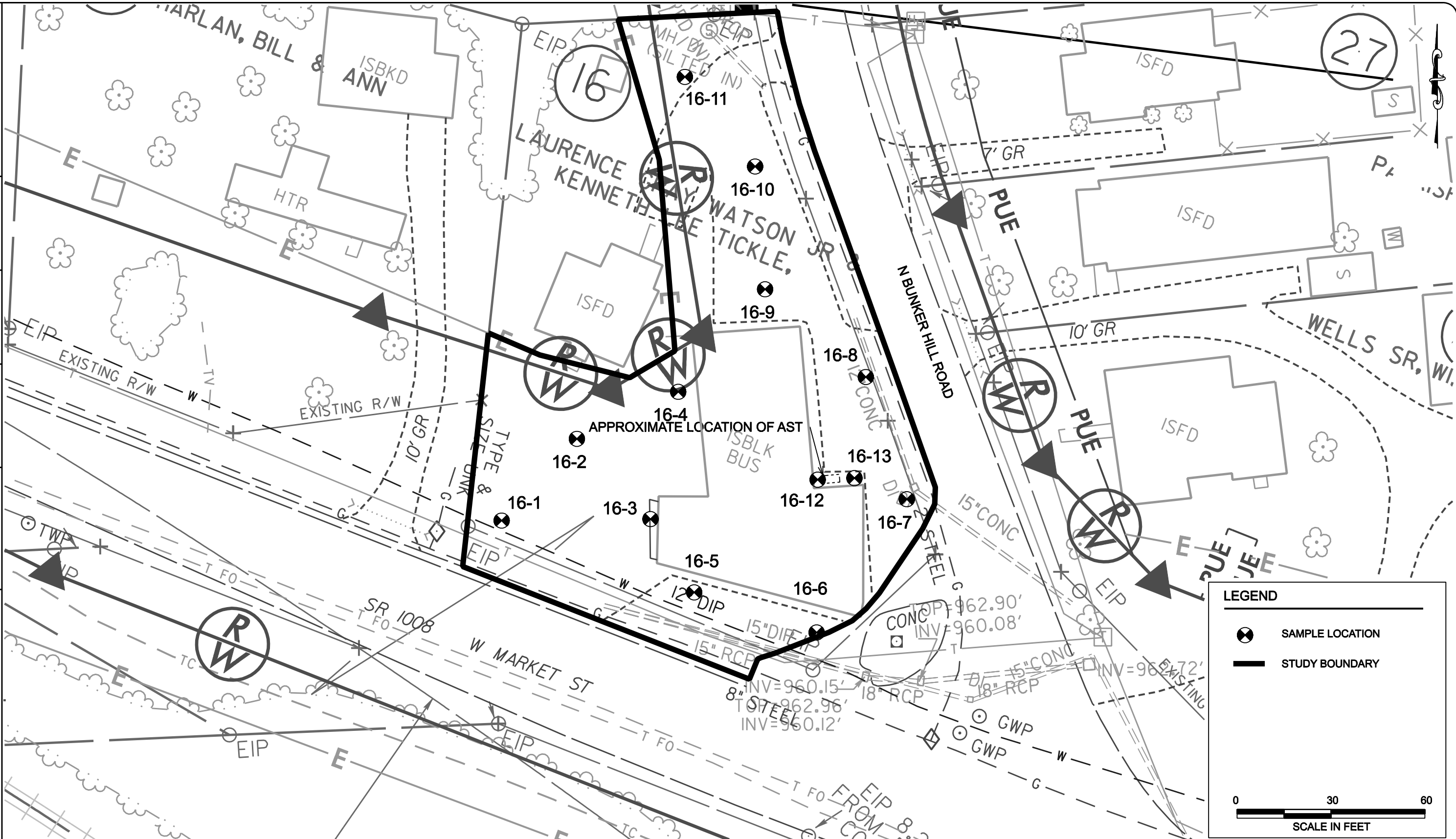
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5/20/2011

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Figure 3.pdf



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PARCEL #16 - WATSON PROPERTY
9400 WEST MARKET STREET
COLFAX, GUILFORD COUNTY, NORTH CAROLINA
STATE PROJECT: R-2611
WBS ELEMENT: 34482.1.1

SOIL SAMPLE LOCATION MAP

FIGURE:

3

APPENDIX A
PHOTOGRAPHS

Appendix A - Photographs



Photograph 1 – View of Parcel #16 looking southeast from the residence at 9402 West Market Street.



Photograph 2 – View of Parcel #16 looking north from the intersection of West Market Street with North Bunker Hill Road.

Appendix A - Photographs



Photograph 3 – View of Parcel #16 looking east at the back of the Advanced Business Concept's building.



Photograph 4 – View of Parcel #16 looking south from the north along North Bunker Hill Road.

Appendix A - Photographs



Photograph 5 – View of Geoprobe and boring location 16-11 on the north side of Parcel #16 along North Bunker Hill Road.



Photograph 6 – View of AST located on the east side of the commercial building at Parcel #16.

Appendix A - Photographs



Photograph 7 – View of surface staining beneath AST supply line and filter adjacent to commercial building.

APPENDIX B
GEOPHYSICAL REPORT

GEOPHYSICAL INVESTIGATION REPORT

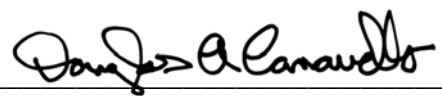
EM61 & GPR SURVEYS

**LAURENCE WATSON PROPERTY (PARCEL 16)
Colfax, North Carolina**

March 15, 2011

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Solutions-IES
GEOPHYSICAL INVESTIGATION REPORT
LAURENCE WATSON PROPERTY (PARCEL 16)
Colfax, North Carolina

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FIGURES

Figure 1	Geophysical Equipment & Site Photographs
Figure 2	Geophysical Survey Line Locations
Figure 3	EM61 Metal Detection – Bottom Coil Results
Figure 4	EM61 Metal Detection – Differential Results

1.0 INTRODUCTION

Pyramid Environmental conducted geophysical investigations for Solutions-IES across the proposed Right-of-Way (ROW) portion of the Laurence Watson property (Parcel 16) located at 9400 West Market Street in Colfax, North Carolina. A residential home and a commercial building (Advance Business Concepts office) occupy the property. The proposed ROW area at Parcel 16 consists primarily of gravel and grass-covered surfaces that surround the commercial building. West Market Street and North Bunker Hill Road border the southern and eastern perimeters of the property.

Conducted on February 28 and March 8, 2011, 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 (UST's) were present beneath the area of interest at Parcel 16. Solutions-IES representative, Ms. Jody Overmyer, P.E. provided site maps that identified the geophysical survey area perimeter to Pyramid Environmental personnel. The survey area has a maximum length and width of 210 feet and 160 feet, respectively. Photographs of the geophysical equipment used in this investigation and the geophysical survey area of the Laurence Watson property 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 using measuring tapes 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 and ground penetrating radar (GPR) surveys. The EM survey was performed on February 28, 2011 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 or easterly-westerly 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 March 8, 2011 across selected areas recording EM61 differential anomalies 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.

Locations of the EM61 metal detection survey lines and the GPR survey lines acquired across the geophysical survey area are shown as red dots and purple lines, respectively in **Figure 2**. Each red dot represents an EM61 data point.

Contour plots of the EM61 bottom coil and differential results are presented in **Figures 3 and 4**, 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 contour plots of the EM61 bottom coil and EM61 differential results obtained from the survey area were emailed to Ms. Overmyer on March 13, 2011.

3.0 DISCUSSION OF RESULTS

The two linear EM61 bottom coil anomalies running along the edge of West Market Street and intersecting grid coordinates X=100 Y=40 are probably in response to several buried utility lines. GPR data suggest the EM anomalies centered near grid coordinates X=108 Y=100, X=120 Y=53, X=144 Y=100, and X=155 Y=56 are in response to the commercial building and other known surface objects. Similarly, GPR data suggest that the EM61 differential anomalies centered near grid coordinates X=85 Y=128 and 90 Y=123 are in response to the home, satellite dish, gas meter, and the air conditioning unit. The dashed magenta line shown in the figures and intersecting grid coordinates X=50 Y=130 represents the approximate location of a probable gas line, as suggested by the GPR data. The probable line appears to run from the gas meter, to the east edge of the drive way and then to the ditch area.

GPR data suggest the EM61 anomalies centered near grid coordinates X=105 Y=160 are in response to buried miscellaneous debris or objects. The remaining EM61 anomalies are probably in response to known surface objects or to buried miscellaneous debris. The geophysical investigation suggests that the surveyed portion of Parcel 16 does not contain metallic USTs.

4.0 SUMMARY & CONCLUSIONS

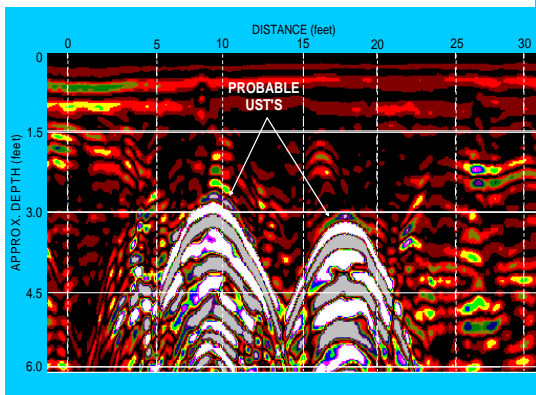
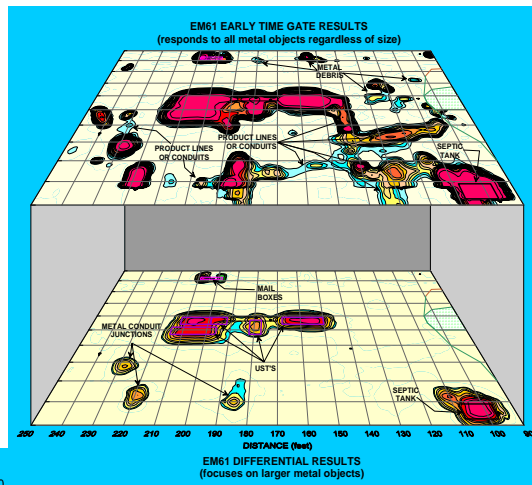
Our evaluation of the EM61 and GPR data collected across the proposed ROW area at the Laurence Watson property (Parcel 16) located at 9400 West Market Street in Colfax, North Carolina in Colfax, North Carolina, provides the following summary and conclusions:

- The EM61 and GPR surveys provided reliable results for the detection of metallic USTs within the surveyed portion of the site.
- The two linear EM61 bottom coil anomalies running along the edge of West Market Street and intersecting grid coordinates X=100 Y=40 are probably in response to several buried utility lines.

- GPR data suggest that the EM61 differential anomalies centered near grid coordinates X=85 Y=128 and 90 Y=123 are in response to the home, satellite dish, gas meter, and the air conditioning unit.
- The geophysical investigation suggests that the surveyed portion of the site does not contain buried metallic USTs.

5.0 LIMITATIONS

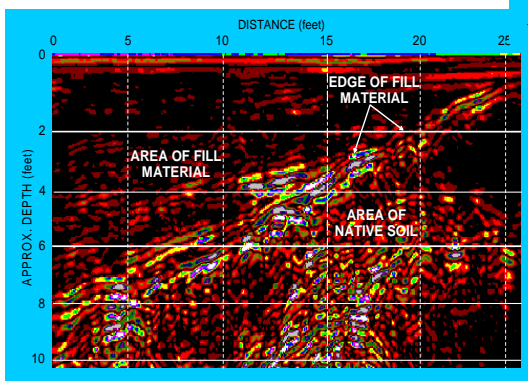
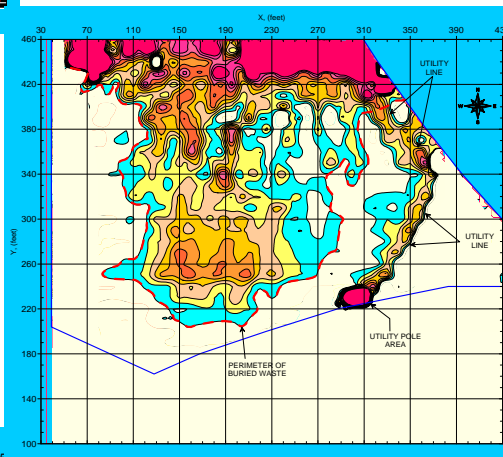
EM61 and GPR surveys have been performed and this report prepared for Solutions-IES in accordance with generally accepted guidelines for EM61 and GPR surveys. It is generally recognized that the results of the EM61 and GPR are non-unique and may not represent actual subsurface conditions. The EM61 and GPR results do not conclusively determine that the proposed ROW area of the site does not contain 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 across the proposed Right-of-Way area at Parcel 16 on February 28, 2011.



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 16 on March 8, 2011.



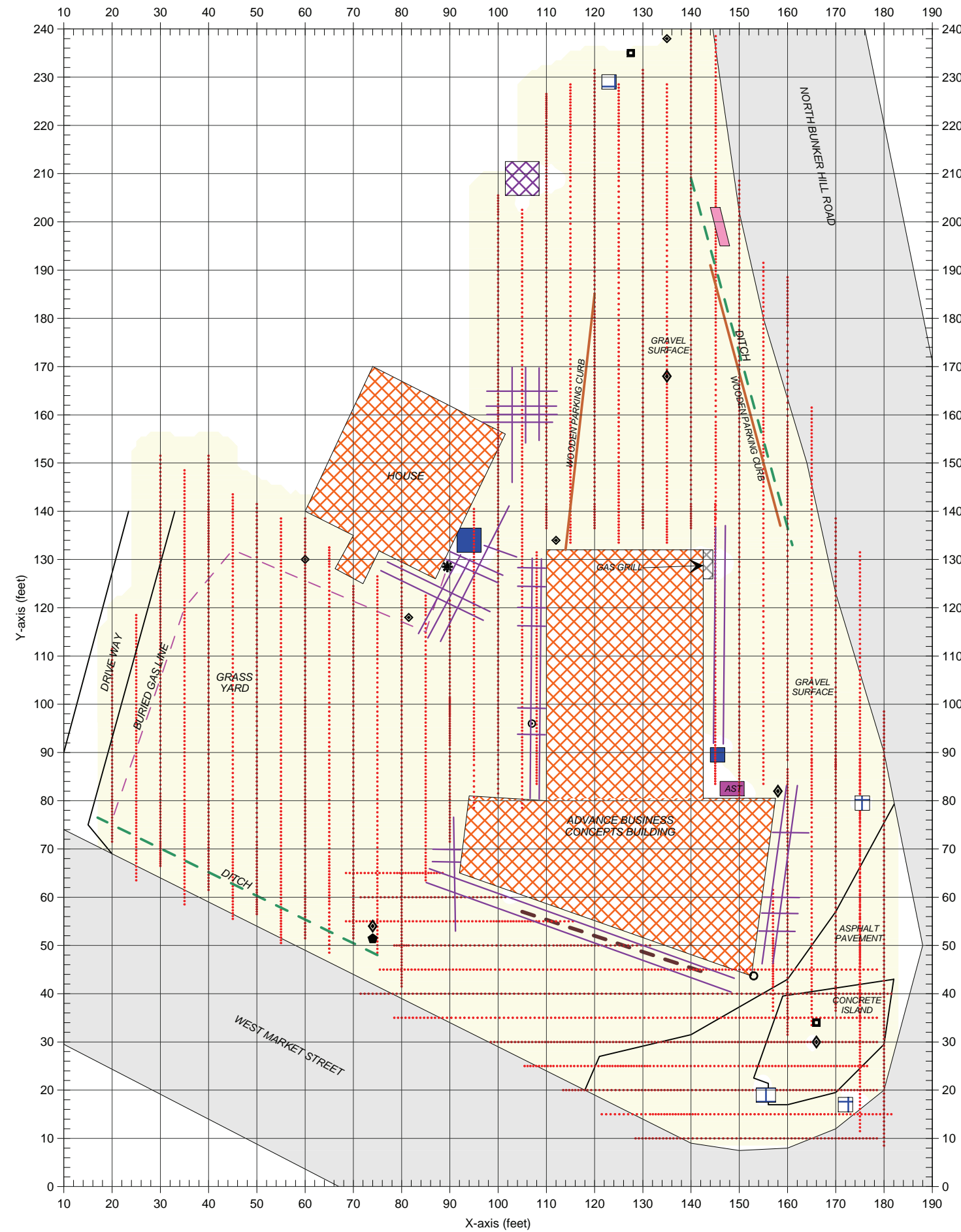
The photograph shows the Laurence Watson property (Parcel 16) located at the intersection of West Market Street and North Bunker Hill Road in Colfax, North Carolina. The photograph is viewed in a northeasterly direction.



CLIENT	SOLUTIONS-IES		DATE	03/15/11	BY	MJD
SITE	LAURENCE WATSON PROPERTY (PARCEL 16)		LAY		CPND	
CITY	COLFAX	STATE	NORTH CAROLINA		ENG	
TITLE	GEOPHYSICAL RESULTS		PROJ	2011-048	PROJ#	

GEOPHYSICAL EQUIPMENT & SITE PHOTOGRAPHS

FIGURE 1



Note: The red polygon in the aerial photograph represents the perimeter of the geophysical survey area at the Laurence Watson property (Parcel 16) located at 9400 West Market Street.



LEGEND

SURVEY AREA: EM61 DATA ACQUIRED ALONG X-AXIS OR Y-AXIS TRENDING LINES SPACED 5 FEET APART	PVC CLEANOUT PIPE
BUILDING	METAL PIPE
CONCRETE PARKING CURBS	UTILITY POLE
NATURAL GAS METER	DUMPSTER
AIR CONDITIONING UNIT	MAIL BOXES
UTILITY LINE BOX	METALLIC AST
ROAD SIGN	STORM SEWER GRATE
PROPOSED ROW MARKER	EM61 METAL DETECTION SURVEY LINE
	GPR SURVEY LINE

Note: The map shows the geophysical survey area at the Laurence Watson property located at 9400 West Market Street. The red dots represent the EM61 metal detection survey lines that were acquired on February 28, 2011 using a Geonics EM61 metal detection instrument. Each dot represents an EM61 data point.

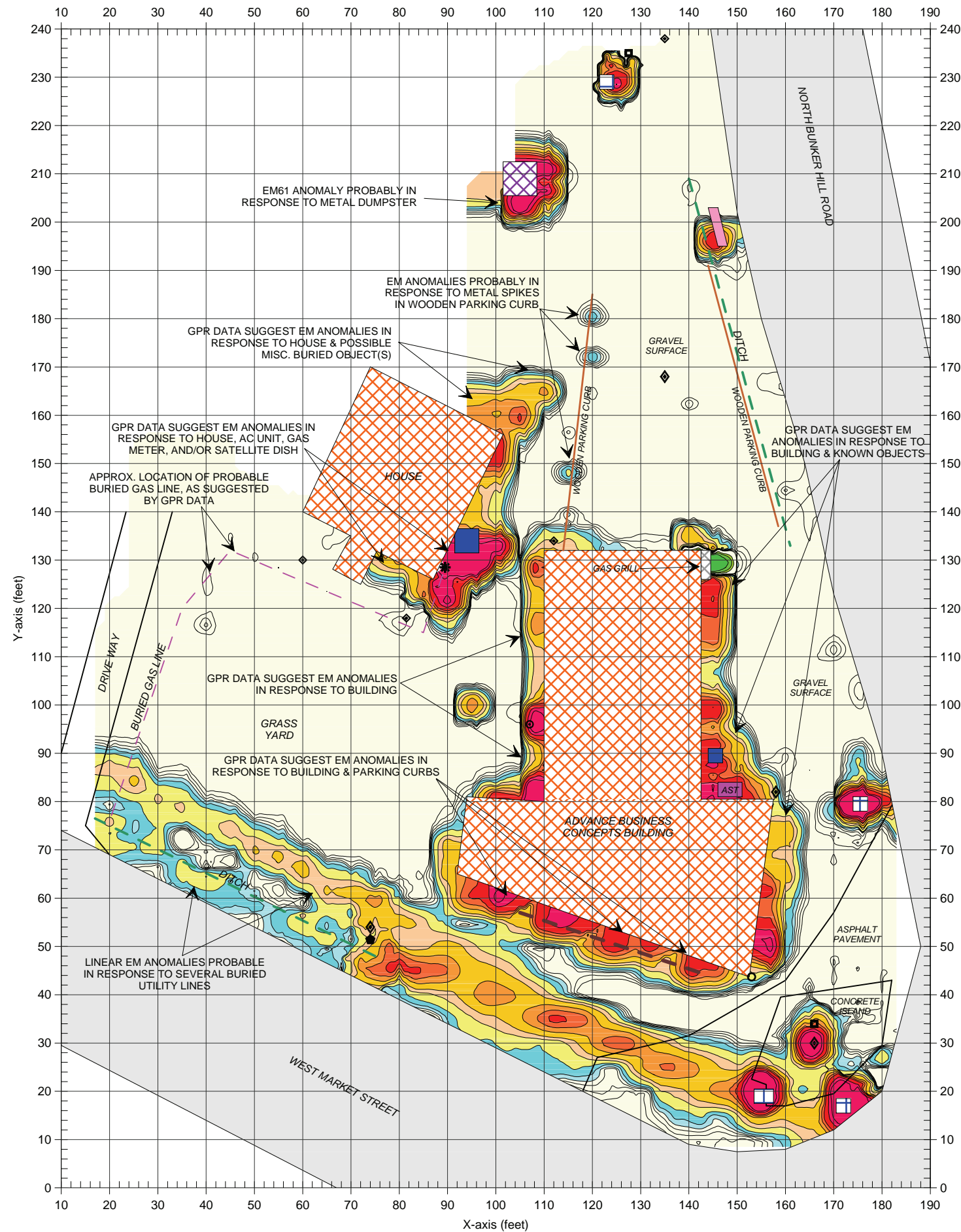
The solid purple lines represent the GPR survey lines. The GPR investigation was conducted on March 8, 2011 using a Geophysical Survey Systems SIR-2000 unit with a 400 MHz antenna.

**GEOPHYSICAL SURVEY
LINE LOCATIONS**

FIGURE 2

CLIENT	SOLUTIONS-IES	DATE	DRAWN	MJD
LAURENCE WATSON PROPERTY (PARCEL 16)		03/15/11	CHKO	
CITY	STATE	DWG	LAY	FIGURE
COLFAX	NORTH CAROLINA			2011-048
TITLE	GEOPHYSICAL RESULTS			

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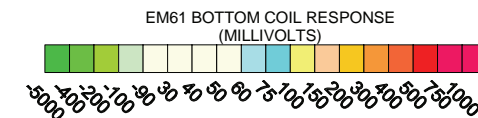


Note: The red polygon in the aerial photograph represents the perimeter of the geophysical survey area at the Laurence Watson property (Parcel 16) located at 9400 West Market Street.



LEGEND

SURVEY AREA: EM61 DATA ACQUIRED ALONG X-AXIS OR Y-AXIS TRENDING LINES SPACED 5 FEET APART	PROPOSED ROW MARKER
BUILDING	PVC CLEANOUT PIPE
CONCRETE PARKING CURBS	METAL PIPE
NATURAL GAS METER	UTILITY POLE
AIR CONDITIONING UNIT	DUMPSTER
UTILITY LINE BOX	MAIL BOXES
ROAD SIGN	METALLIC AST
	STORM SEWER GRATE



The contour plot shows the bottom coil (most sensitive) response of the EM61 instrument in millivolts (mV). The bottom coil response shows buried metallic objects regardless of size. The EM metal detection data were collected on February 28, 2011 using a Geonics EM61 instrument. Ground penetrating radar (GPR) data were acquired on March 8, 2011 across selected EM61 differential anomalies using a Geophysical Survey Systems SIR 2000 instrument with a 400 MHz antenna.

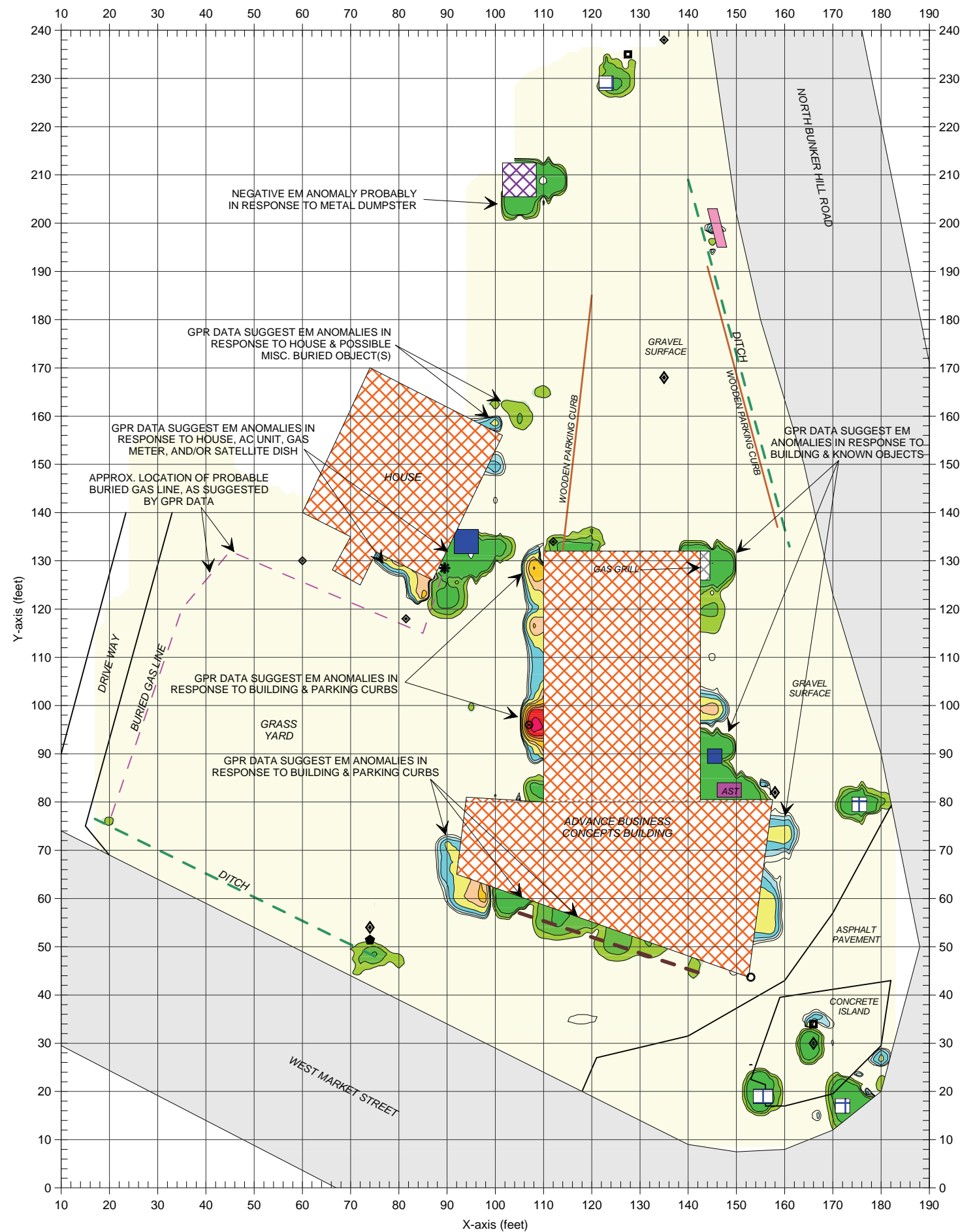
The geophysical investigation suggests that the surveyed portion of Parcel 16 does not contain metallic USTs.

EM61 METAL DETECTION (BOTTOM COIL RESULTS)

FIGURE 3

CLIENT	SOLUTIONS-IES	DATE	MJD
LAURENCE WATSON PROPERTY (PARCEL 16)		03/15/11	
CITY	STATE	DWG	FIGURE
COLFAX	NORTH CAROLINA	2011-048	
TITLE	GEOPHYSICAL RESULTS		

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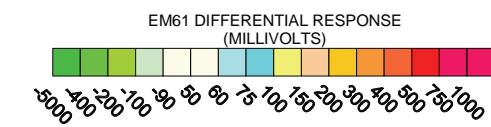


Note: The red polygon in the aerial photograph represents the perimeter of the geophysical survey area at the Laurence Watson property (Parcel 16) located at 9400 West Market Street.



LEGEND

SURVEY AREA: EM61 DATA ACQUIRED ALONG X-AXIS OR Y-AXIS TRENDING LINES SPACED 5 FEET APART	PROPOSED ROW MARKER
BUILDING	PVC CLEANOUT PIPE
CONCRETE PARKING CURBS	METAL PIPE
NATURAL GAS METER	UTILITY POLE
AIR CONDITIONING UNIT	DUMPSTER
UTILITY LINE BOX	MAIL BOXES
ROAD SIGN	METALLIC AST
	STORM SEWER GRATE



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 miscellaneous, buried, metal debris. The EM61 data were collected on February 28, 2011 using a Geonics EM61 instrument. Ground penetrating radar (GPR) data were acquired on March 08, 2011 using a Geophysical Survey Systems SIR 2000 instrument with a 400 MHz antenna.

The geophysical investigation suggests that the surveyed portion of Parcel 16 does not contain metallic USTs.

**EM61 METAL DETECTION
(DIFFERENTIAL RESULTS)**

FIGURE 4

DATE	03/15/11	DRAWN	MJD	GRAPHIC SCALE IN FEET	FIGURE	2011-048
LAYER		CLIENT	SOLUTIONS-IES			
DWG		SITE	LAURENCE WATSON PROPERTY (PARCEL 16)			
L-NO.		CITY	NORTH CAROLINA			
		TITLE	GEOPHYSICAL RESULTS			

PYRAMID
ENVIRONMENTAL & ENGINEERING, P.C.

APPENDIX C
GPS COORDINATES

APPENDIX C
Boring Location GPS Coordinates
Parcel #16
9400 West Market Street
Colfax, Guilford County, North Carolina
WBS Element: 34482.1.1; State Project: R-2611

Boring Identification	Latitude	Longitude
16-1	36.11266237	-80.01486347
16-2	36.11285708	-80.01491494
16-3	36.11275993	-80.01484771
16-4	36.11285398	-80.01482919
16-5	36.11266857	-80.01484092
16-6	36.11263085	-80.01467127
16-7	36.11276186	-80.01455510
16-8	36.11287761	-80.01460506
16-9	36.11295573	-80.01469927
16-10	36.11308021	-80.01471922
16-11	36.11317777	-80.01477856
16-12	36.11281148	-80.01463414
16-13	36.11280804	-80.01460849

APPENDIX D

BORING LOGS

Log of Soil Boring: 16-1

Project Name: **Guilford Co PSA**

Solutions-IES Project Number: **3948.11A3.NDOT**

Client: **NCDOT**

Northing: **861443.264**

Easting: **1700228.366**

Project Location: **Colfax, NC**

State: **NC**

County: **Guilford**

City: **Colfax**

Site or Area: **Parcel 16**

Date Started: **3/28/11**

Date Completed: **3/28/11**

Drilling Method: **Direct Push**

Initial Water Level: **NA**

Final Water Level: **NA**

Sample Method: **MC**

Date & Time (i):






Date & Time (f):

Logged by: **BE**

Checked by:

WBS #: **34482.1.1**

State Project #: **R-2611**

Depth		Lithology Sample Information					Laboratory Sample Information		Well Information	
Depth	Elevation	USCS Symbol	Description	Sample Interval	Recovery %	Blows / 0.5 FT	Field Screen	Sample Interval	Sample ID	Well Const.
0	0.00		Ground Surface							
			No Recovery							
			Asphalt Moist, black asphalt and gravel				0.00			
2			CL Dry, red sandy clay		90					
4			CL Moist, brown silty clay				0.00			
			CL Moist, red silty clay				0.30			
6			CL Moist, red and brown sandy clay		100		0.00		16-1-6-8	
8			End of Boring							
10										
12										
14										

Well Construction Details

Drilling Contractor: **Solutions-IES**

Size of Borehole: **2.75**

TOC Elevation: **NA**

Screen Interval: **NA**

Completion: **NA**

Casing Diameter: **NA**

Screen Material: **NA**

Total Depth: **NA**

Casing Material: **NA**

Slot Size: **NA**



1101 Nowell Road
Raleigh, North Carolina 27607
Tel.: 919.873.1060 Fax.: 919.813.1074

Log of Soil Boring: 16-2

Project Name: **Guilford Co PSA**

Solutions-IES Project Number: **3948.11A3.NDOT**

Client: **NCDOT**

Northing: **861514.297**

Easting: **1700213.888**

Project Location: **Colfax, NC**

State: **NC**

County: **Guilford**

City: **Colfax**

Site or Area: **Parcel 16**

Date Started: **3/28/11**

Date Completed: **3/28/11**

Drilling Method: **Direct Push**

Initial Water Level: **NA**

Final Water Level: **NA**

Sample Method: **MC**

Date & Time (i):

Date & Time (f):

Logged by: **BE**

Checked by:

WBS #: **34482.1.1**

State Project #: **R-2611**

Depth		Lithology Sample Information					Laboratory Sample Information		Well Information	
Depth	Elevation	USCS Symbol	Description	Sample Interval	Recovery %	Blows / 0.5 FT	Field Screen	Sample Interval	Sample ID	Well Const.
0	0.00		Ground Surface							
			No Recovery				0.00			
2		SM	Dry, black and brown silty sand		75		0.00			
		CL	Dry, red silty clay				0.00			
4		CL	Moist, red mottled clay with mica				0.00			
6					100		0.00		16-2-6-8	
8			End of Boring							
10										
12										
14										

Well Construction Details

Drilling Contractor: **Solutions-IES**

Size of Borehole: **2.75**

TOC Elevation: **NA**

Screen Interval: **NA**

Completion: **NA**

Casing Diameter: **NA**

Screen Material: **NA**

Total Depth: **NA**

Casing Material: **NA**

Slot Size: **NA**



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Log of Soil Boring: 16-3

Project Name: **Guilford Co PSA**

Solutions-IES Project Number: **3948.11A3.NDOT**

Client: **NCDOT**

Northing: **861478.73**

Easting: **1700233.384**

Project Location: **Colfax, NC**

State: **NC**

County: **Guilford**

City: **Colfax**

Site or Area: **Parcel 16**

Date Started: **3/28/11**

Date Completed: **3/28/11**

Drilling Method: **Direct Push**

Initial Water Level: **NA**

Final Water Level: **NA**

Sample Method: **MC**

Date & Time (i):

Date & Time (f):

Logged by: **BE**

Checked by:

WBS #: **34482.1.1**

State Project #: **R-2611**

Depth		Lithology Sample Information					Laboratory Sample Information		Well Information	
Depth	Elevation	USCS Symbol	Description	Sample Interval	Recovery %	Blows / 0.5 FT	Field Screen	Sample Interval	Sample ID	Well Const.
0	0.00		Ground Surface							
		SM	Dry, black silty sand				0.00			
		CL	Dry, brown silty clay		100		0.20			
		CL	Moist, red and orange clay				0.00			
			No Recovery							
		CL	Moist, red silty micaceous clay		90		0.00			
							0.00		16-3-6-8	
8			End of Boring							
10										
12										
14										

Well Construction Details

Drilling Contractor: **Solutions-IES**

Size of Borehole: **2.75**

TOC Elevation: **NA**

Screen Interval: **NA**

Completion: **NA**

Casing Diameter: **NA**

Screen Material: **NA**

Total Depth: **NA**

Casing Material: **NA**

Slot Size: **NA**



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 Tel.: 919.873.1060 Fax.: 919.813.1074

Log of Soil Boring: 16-4

Project Name: **Guilford Co PSA**

Solutions-IES Project Number: **3948.11A3.NDOT**

Client: **NCDOT**

Northing: **861512.91**

Easting: **1700239.204**

Project Location: **Colfax, NC**

State: **NC**

County: **Guilford**

City: **Colfax**

Site or Area: **Parcel 16**

Date Started: **3/28/11**

Date Completed: **3/28/11**

Drilling Method: **Direct Push**

Initial Water Level: **NA**

Final Water Level: **NA**

Sample Method: **MC**

Date & Time (i):

Date & Time (f):

Logged by: **BE**

Checked by:

WBS #: **34482.1.1**

State Project #: **R-2611**

Depth		Lithology Sample Information					Laboratory Sample Information		Well Information	
Depth	Elevation	USCS Symbol	Description	Sample Interval	Recovery %	Blows / 0.5 FT	Field Screen	Sample Interval	Sample ID	Well Const.
0	0.00		Ground Surface							
		CL	Dry, brown silty clay				0.00			
		CL	Dry, brown sandy clay							
2		CL	Dry, red clay		100		0.00			
4		CL	Dry, red micaceous tight clay				0.00			
6					100		0.00		16-4-6-8	
8			End of Boring							
10										
12										
14										

Well Construction Details

Drilling Contractor: **Solutions-IES**

Size of Borehole: **2.75**

TOC Elevation: **NA**

Screen Interval: **NA**

Completion: **NA**

Casing Diameter: **NA**

Screen Material: **NA**

Total Depth: **NA**

Casing Material: **NA**

Slot Size: **NA**



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Log of Soil Boring: 16-5

Project Name: **Guilford Co PSA**

Solutions-IES Project Number: **3948.11A3.NDOT**

Client: **NCDOT**

Northing: **861445.452**

Easting: **1700235.049**

Project Location: **Colfax, NC**

State: **NC**

County: **Guilford**

City: **Colfax**

Site or Area: **Parcel 16**

Date Started: **3/28/11**

Date Completed: **3/28/11**

Drilling Method: **Direct Push**

Initial Water Level: **NA**

Final Water Level: **NA**

Sample Method: **MC**

Date & Time (i):

Date & Time (f):

Logged by: **BE**

Checked by:

WBS #: **34482.1.1**

State Project #: **R-2611**

Depth		Lithology Sample Information					Laboratory Sample Information		Well Information	
Depth	Elevation	USCS Symbol	Description	Sample Interval	Recovery %	Blows / 0.5 FT	Field Screen	Sample Interval	Sample ID	Well Const.
0	0.00		Ground Surface							
		GW	Dry, gray gravel				0.00			
		SM	Dry, brown sandy silt							
2		CL	Dry, red silty clay with some mica		100		0.00			
4		CL	Dry, red micaceous silty clay				0.40			
6					100		0.00		16-5-6-8	
8			End of Boring							
10										
12										
14										

Well Construction Details

Drilling Contractor: **Solutions-IES**

Size of Borehole: **2.75**

TOC Elevation: **NA**

Screen Interval: **NA**

Completion: **NA**

Casing Diameter: **NA**

Screen Material: **NA**

Total Depth: **NA**

Casing Material: **NA**

Slot Size: **NA**



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Log of Soil Boring: 16-6

Project Name: **Guilford Co PSA**

Solutions-IES Project Number: **3948.11A3.NDOT**

Client: **NCDOT**

Northing: **861431.209**

Easting: **1700285.019**

Project Location: **Colfax, NC**

State: **NC**

County: **Guilford**

City: **Colfax**

Site or Area: **Parcel 16**

Date Started: **3/29/11**

Date Completed: **3/29/11**

Drilling Method: **Direct Push**

Initial Water Level: **NA**

Final Water Level: **NA**

Sample Method: **MC**

Date & Time (i):





Date & Time (f):

Logged by: **BE**

Checked by:

WBS #: **34482.1.1**

State Project #: **R-2611**

Depth		Lithology Sample Information					Laboratory Sample Information		Well Information	
Depth	Elevation	USCS Symbol	Description	Sample Interval	Recovery %	Blows / 0.5 FT	Field Screen	Sample Interval	Sample ID	Well Const.
0	0.00		Ground Surface							
			No Recovery				0.00			
2			GW Dry, gray gravel and sand		50		0.00			
			CL Moist, orange silty clay				0.00			
4			No Recovery							
			CL Moist, orange silty clay, some gravel				0.00			
6			CL Dry, red and white mottled clay		90		0.00		16-6-6-8	
8			End of Boring							
10										
12										
14										

Well Construction Details

Drilling Contractor: **Solutions-IES**

Size of Borehole: **2.75**

TOC Elevation: **NA**

Screen Interval: **NA**

Completion: **NA**

Casing Diameter: **NA**

Screen Material: **NA**

Total Depth: **NA**

Casing Material: **NA**

Slot Size: **NA**



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Log of Soil Boring: 16-7

Project Name: **Guilford Co PSA**

Solutions-IES Project Number: **3948.11A3.NDOT**

Client: **NCDOT**

Northing: **861478.549**

Easting: **1700319.819**

Project Location: **Colfax, NC**

State: **NC**

County: **Guilford**

City: **Colfax**

Site or Area: **Parcel 16**

Date Started: **3/29/11**

Date Completed: **3/29/11**

Drilling Method: **Direct Push**

Initial Water Level: **NA**

Final Water Level: **NA**

Sample Method: **MC**

Date & Time (i):






Date & Time (f):

Logged by: **BE**

Checked by:

WBS #: **34482.1.1**

State Project #: **R-2611**

Depth		Lithology Sample Information					Laboratory Sample Information		Well Information	
Depth	Elevation	USCS Symbol	Description	Sample Interval	Recovery %	Blows / 0.5 FT	Field Screen	Sample Interval	Sample ID	Well Const.
0	0.00		Ground Surface							
			GC Moist, red and black gravelly clay				0.00			
2			CL Dry, red silty clay		100		0.00			
4			GC Dry, red gravelly clay				0.00			
6			CL Dry, red micaceous clay		100		0.00			
8			CL Moist, red clay				0.00		16-7-6-8	
8			End of Boring							
10										
12										
14										

Well Construction Details

Drilling Contractor: **Solutions-IES**

Size of Borehole: **2.75**

TOC Elevation: **NA**

Screen Interval: **NA**

Completion: **NA**

Casing Diameter: **NA**

Screen Material: **NA**

Total Depth: **NA**

Casing Material: **NA**

Slot Size: **NA**



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Log of Soil Boring: 16-8

Project Name: **Guilford Co PSA**

Solutions-IES Project Number: **3948.11A3.NDOT**

Client: **NCDOT**

Northing: **861520.835**

Easting: **1700305.493**

Project Location: **Colfax, NC**

State: **NC**

County: **Guilford**

City: **Colfax**

Site or Area: **Parcel 16**

Date Started: **3/29/11**

Date Completed: **3/29/11**

Drilling Method: **Direct Push**

Initial Water Level: **NA**

Final Water Level: **NA**

Sample Method: **MC**

Date & Time (i):

Date & Time (f):

Logged by: **BE**

Checked by:

WBS #: **34482.1.1**

State Project #: **R-2611**

Depth		Lithology Sample Information					Laboratory Sample Information		Well Information	
Depth	Elevation	USCS Symbol	Description	Sample Interval	Recovery %	Blows / 0.5 FT	Field Screen	Sample Interval	Sample ID	Well Const.
0	0.00		Ground Surface							
		GW	Dry, gray gravel				0.00			
		CL	Dry, red silty clay		100		0.00			
		CL	Dry, red and orange micaceous clay		100		0.20			
							0.00		16-8-6-8	
8			End of Boring							
10										
12										
14										

Well Construction Details

Drilling Contractor: **Solutions-IES**

Size of Borehole: **2.75**

TOC Elevation: **NA**

Screen Interval: **NA**

Completion: **NA**

Casing Diameter: **NA**

Screen Material: **NA**

Total Depth: **NA**

Casing Material: **NA**

Slot Size: **NA**



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Log of Soil Boring: 16-9

Project Name: **Guilford Co PSA**

Solutions-IES Project Number: **3948.11A3.NDOT**

Client: **NCDOT**

Northing: **861549.557**

Easting: **1700277.957**

Project Location: **Colfax, NC**

State: **NC**

County: **Guilford**

City: **Colfax**

Site or Area: **Parcel 16**

Date Started: **3/29/11**

Date Completed: **3/29/11**

Drilling Method: **Direct Push**

Initial Water Level: **NA**

Final Water Level: **NA**

Sample Method: **MC**

Date & Time (i):

Date & Time (f):

Logged by: **BE**

Checked by:

WBS #: **34482.1.1**

State Project #: **R-2611**

Depth		Lithology Sample Information					Laboratory Sample Information		Well Information	
Depth	Elevation	USCS Symbol	Description	Sample Interval	Recovery %	Blows / 0.5 FT	Field Screen	Sample Interval	Sample ID	Well Const.
0	0.00		Ground Surface							
		CL	Dry, black and red silty clay	CL	100		0.00			
			Dry, red tight clay							
2			Dry, red and orange micaceous clay							
4			Dry, orange silty clay							
6					100		0.00			
8							0.30		16-9-6-8	
			End of Boring							
10										
12										
14										

Well Construction Details

Drilling Contractor: **Solutions-IES**

Size of Borehole: **2.75**

TOC Elevation: **NA**

Screen Interval: **NA**

Completion: **NA**

Casing Diameter: **NA**

Screen Material: **NA**

Total Depth: **NA**

Casing Material: **NA**

Slot Size: **NA**



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 Tel.: 919.873.1060 Fax.: 919.813.1074

Log of Soil Boring: 16-10

Project Name: **Guilford Co PSA**

Solutions-IES Project Number: **3948.11A3.NDOT**

Client: **NCDOT**

Northing: **861594.93**

Easting: **1700272.528**

Project Location: **Colfax, NC**

State: **NC**

County: **Guilford**

City: **Colfax**

Site or Area: **Parcel 16**

Date Started: **3/29/11**

Date Completed: **3/29/11**

Drilling Method: **Direct Push**

Initial Water Level: **NA**

Final Water Level: **NA**

Sample Method: **MC**

Date & Time (i):

Date & Time (f):

Logged by: **BE**

Checked by:

WBS #: **34482.1.1**

State Project #: **R-2611**

Depth		Lithology Sample Information					Laboratory Sample Information		Well Information	
Depth	Elevation	USCS Symbol	Description	Sample Interval	Recovery %	Blows / 0.5 FT	Field Screen	Sample Interval	Sample ID	Well Const.
0	0.00		Ground Surface							
		CL	CL Dry, gray and red clay	CL	100		0.00			
2			CL Dry, red and orange silty clay				0.00			
4							0.00			
6			CL Dry, orange micaceous clay				0.00			
8		CL	CL Dry, orange sandy clay	CL	100		0.00		16-10-6-8	
							0.00			
			End of Boring							
10										
12										
14										

Well Construction Details

Drilling Contractor: **Solutions-IES**

Size of Borehole: **2.75**

TOC Elevation: **NA**

Screen Interval: **NA**

Completion: **NA**

Casing Diameter: **NA**

Screen Material: **NA**

Total Depth: **NA**

Casing Material: **NA**

Slot Size: **NA**



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Log of Soil Boring: 16-11

Project Name: **Guilford Co PSA**

Solutions-IES Project Number: **3948.11A3.NDOT**

Client: **NCDOT**

Northing: **861630.623**

Easting: **1700255.364**

Project Location: **Colfax, NC**

State: **NC**

County: **Guilford**

City: **Colfax**

Site or Area: **Parcel 16**

Date Started: **3/29/11**

Date Completed: **3/29/11**

Drilling Method: **Direct Push**

Initial Water Level: **NA**

Final Water Level: **NA**

Sample Method: **MC**

Date & Time (i):

Date & Time (f):

Logged by: **BE**

Checked by:

WBS #: **34482.1.1**

State Project #: **R-2611**

Depth		Lithology Sample Information					Laboratory Sample Information		Well Information	
Depth	Elevation	USCS Symbol	Description	Sample Interval	Recovery %	Blows / 0.5 FT	Field Screen	Sample Interval	Sample ID	Well Const.
0	0.00		Ground Surface							
		GW Dry, gray gravel					0.00			
2		CL Dry, red and orange silty clay			100		0.00			
4							0.00			
6		CL Dry, orange sandy clay			100		0.00		16-11-6-8	
8			End of Boring							
10										
12										
14										

Well Construction Details

Drilling Contractor: **Solutions-IES**

Size of Borehole: **2.75**

TOC Elevation: **NA**

Screen Interval: **NA**

Completion: **NA**

Casing Diameter: **NA**

Screen Material: **NA**

Total Depth: **NA**

Casing Material: **NA**

Slot Size: **NA**



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APPENDIX E

LABORATORY ANALYTICAL REPORTS



Laboratory Report of Analysis

To: Jody Overmyer
SOLUTIONS-IES
1101 Nowell Rd.
Raleigh, NC 27607

Report Number: **31100611**

Client Project: **3948-Guilford Co. Parcel 16**

Dear Jody Overmyer,

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. All results are intended to be used in their entirety and SGS is not responsible for use of less than the complete report. 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.

Lori Lockamy
Project Manager
lori.lockamy@sgs.com

Date

Laboratory Qualifiers

Report Definitions

DL	Method, Instrument, or Estimated Detection Limit per Analytical Method
CL	Control Limits for the recovery result of a parameter
LOQ	Reporting Limit
DF	Dilution Factor
RPD	Relative Percent Difference
LCS(D)	Laboratory Control Spike (Duplicate)
MS(D)	Matrix Spike (Duplicate)
MB	Method Blank

Qualifier Definitions

*	Recovery or RPD outside of control limits
B	Analyte was detected in the Lab Method Blank at a level above the LOQ
U	Undetected (Reported as ND or < LOD)
V	Recovery is below quality control limit. The data has been validated based on a favorable signal-to-noise and detection limit
A	Amount detected is less than the Lower Method Calibration Limit
J	Amount detected is between the Method Detection Limit and the Lower Calibration Limit
O	The recovery of this analyte in the OPR is above the Method QC Limits and the reported concentration in the sample may be biased high
E	Amount detected is greater than the Upper Calibration Limit
S	The amount of analyte present has saturated the detector. This situation results in an underestimation of the affected analyte(s)
Q	Indicates the presence of a quantitative interference. This situation may result in an underestimation of the affected analyte(s)
I	Indicates the presence of a qualitative interference that could cause a false positive or an overestimation of the affected analyte(s)
DPE	Indicates the presence of a peak in the polychlorinated diphenylether channel that could cause a false positive or an overestimation of the affected analyte(s)
TIC	Tentatively Identified Compound
EMC	Estimated Maximum possible Concentration due to ion ratio failure
ND	Not Detected
K	Result is estimated due to ion ratio failure in High Resolution PCB Analysis
P	RPD > 40% between results of dual columns
D	Spike or surrogate was diluted out in order to achieve a parameter result within instrument calibration range
M1	Mis-identified peak
M2	Software did not integrate peak
M3	Incorrect baseline construction (i.e. not all of peak included; two peaks integrated as one)
M4	Pattern integration required (i.e. DRO, GRO, PCB, Toxaphene and Technical Chlordane)
M5	Other - Explained in case narrative

Note Results pages that include a value for "Solids (%)" have been adjusted for moisture content.

Sample Summary

<u>Client Sample ID</u>	<u>Lab Sample ID</u>	<u>Collected</u>	<u>Received</u>	<u>Matrix</u>
16-1-6-8	31100611001	03/28/2011 17:45	03/30/2011 10:00	Soil
16-2-6-8	31100611002	03/28/2011 17:50	03/30/2011 10:00	Soil
16-3-6-8	31100611003	03/28/2011 17:55	03/30/2011 10:00	Soil
16-4-6-8	31100611004	03/28/2011 18:05	03/30/2011 10:00	Soil
16-5-6-8	31100611005	03/28/2011 18:00	03/30/2011 10:00	Soil
16-6-6-8	31100611006	03/29/2011 09:18	03/30/2011 10:00	Soil
16-7-6-8	31100611007	03/29/2011 09:20	03/30/2011 10:00	Soil
16-8-6-8	31100611008	03/29/2011 09:22	03/30/2011 10:00	Soil
16-9-6-8	31100611009	03/29/2011 09:24	03/30/2011 10:00	Soil
16-10-6-8	31100611010	03/29/2011 09:26	03/30/2011 10:00	Soil
16-11-6-8	31100611011	03/29/2011 09:28	03/30/2011 10:00	Soil

Results of 16-1-6-8

Client Sample ID: **16-1-6-8**
 Client Project ID: **3948-Guilford Co. Parcel 16**
 Lab Sample ID: 31100611001-B
 Lab Project ID: 31100611

Collection Date: 03/28/2011 17:45
 Received Date: 03/30/2011 10:00
 Matrix: Soil
 Solids (%): 82

Results by SW-846 8015C GRO

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>LOQ/CL</u>	<u>Units</u>	<u>DF</u>
Gasoline Range Organics (GRO)	ND		3.50	mg/kg	1

Surrogates

4-Bromofluorobenzene	96.1		70.0-130	%	1
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Batch Information

Analytical Batch: **VGC1115**
 Analytical Method: **SW-846 8015C GRO**
 Instrument: **GC4**
 Analyst: **LMC**
 Analytical Date/Time: **04/02/2011 03:59**

Prep Batch: **VXX1266**
 Prep Method: **SW-846 5035**
 Prep Date/Time: **04/01/2011 15:21**
 Prep Initial Wt./Vol.: **6.97 g**
 Prep Extract Vol: **5 mL**

Results of 16-1-6-8

Client Sample ID: **16-1-6-8**
Client Project ID: **3948-Guilford Co. Parcel 16**
Lab Sample ID: 31100611001-A
Lab Project ID: 31100611

Collection Date: 03/28/2011 17:45
Received Date: 03/30/2011 10:00
Matrix: Soil
Solids (%): 82

Results by SW-846 8015C DRO

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>LOQ/CL</u>	<u>Units</u>	<u>DF</u>
Diesel Range Organics (DRO)	ND		7.63	mg/kg	1
Surrogates					
o-Terphenyl	78.5		40.0-140	%	1

Batch Information

Analytical Batch: **XGC1121**
Analytical Method: **SW-846 8015C DRO**
Instrument: **GC6**
Analyst: **DTF**
Analytical Date/Time: **04/01/2011 17:20**

Prep Batch: **XXX1169**
Prep Method: **SW-846 3541**
Prep Date/Time: **03/31/2011 16:40**
Prep Initial Wt./Vol.: **31.96 g**
Prep Extract Vol: **10 mL**

Results of 16-2-6-8

Client Sample ID: **16-2-6-8**
 Client Project ID: **3948-Guilford Co. Parcel 16**
 Lab Sample ID: 31100611002-B
 Lab Project ID: 31100611

Collection Date: 03/28/2011 17:50
 Received Date: 03/30/2011 10:00
 Matrix: Soil
 Solids (%): 70

Results by SW-846 8015C GRO

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>LOQ/CL</u>	<u>Units</u>	<u>DF</u>
Gasoline Range Organics (GRO)	ND		4.53	mg/kg	1

Surrogates

4-Bromofluorobenzene	97.5		70.0-130	%	1
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Batch Information

Analytical Batch: **VGC1115**
 Analytical Method: **SW-846 8015C GRO**
 Instrument: **GC4**
 Analyst: **LMC**
 Analytical Date/Time: **04/02/2011 04:26**

Prep Batch: **VXX1266**
 Prep Method: **SW-846 5035**
 Prep Date/Time: **04/01/2011 15:21**
 Prep Initial Wt./Vol.: **6.3 g**
 Prep Extract Vol: **5 mL**

Results of 16-2-6-8

Client Sample ID: **16-2-6-8**
Client Project ID: **3948-Guilford Co. Parcel 16**
Lab Sample ID: 31100611002-A
Lab Project ID: 31100611

Collection Date: 03/28/2011 17:50
Received Date: 03/30/2011 10:00
Matrix: Soil
Solids (%): 70

Results by SW-846 8015C DRO

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>LOQ/CL</u>	<u>Units</u>	<u>DF</u>
Diesel Range Organics (DRO)	ND		8.97	mg/kg	1

Surrogates

o-Terphenyl	65.6		40.0-140	%	1
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Batch Information

Analytical Batch: **XGC1121**
Analytical Method: **SW-846 8015C DRO**
Instrument: **GC6**
Analyst: **DTF**
Analytical Date/Time: **04/01/2011 17:48**

Prep Batch: **XXX1169**
Prep Method: **SW-846 3541**
Prep Date/Time: **03/31/2011 16:40**
Prep Initial Wt./Vol.: **31.83 g**
Prep Extract Vol: **10 mL**



Results of **16-3-6-8**

Client Sample ID: **16-3-6-8**
Client Project ID: **3948-Guilford Co. Parcel 16**
Lab Sample ID: 31100611003-B
Lab Project ID: 31100611

Collection Date: 03/28/2011 17:55
Received Date: 03/30/2011 10:00
Matrix: Soil
Solids (%): 77

Results by **SW-846 8015C GRO**

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>LOQ/CL</u>	<u>Units</u>	<u>DF</u>
Gasoline Range Organics (GRO)	ND		3.73	mg/kg	1

Surrogates

4-Bromofluorobenzene	95.2		70.0-130	%	1
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Batch Information

Analytical Batch: **VGC1115**
Analytical Method: **SW-846 8015C GRO**
Instrument: **GC4**
Analyst: **LMC**
Analytical Date/Time: **04/02/2011 04:52**

Prep Batch: **VXX1266**
Prep Method: **SW-846 5035**
Prep Date/Time: **04/01/2011 15:21**
Prep Initial Wt./Vol.: **6.96 g**
Prep Extract Vol: **5 mL**



Results of **16-3-6-8**

Client Sample ID: **16-3-6-8**
Client Project ID: **3948-Guilford Co. Parcel 16**
Lab Sample ID: 31100611003-A
Lab Project ID: 31100611

Collection Date: 03/28/2011 17:55
Received Date: 03/30/2011 10:00
Matrix: Soil
Solids (%): 77

Results by **SW-846 8015C DRO**

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>LOQ/CL</u>	<u>Units</u>	<u>DF</u>
Diesel Range Organics (DRO)	ND		7.93	mg/kg	1
Surrogates					
o-Terphenyl	73.6		40.0-140	%	1

Batch Information

Analytical Batch: **XGC1121**
Analytical Method: **SW-846 8015C DRO**
Instrument: **GC6**
Analyst: **DTF**
Analytical Date/Time: **04/01/2011 18:17**

Prep Batch: **XXX1169**
Prep Method: **SW-846 3541**
Prep Date/Time: **03/31/2011 16:40**
Prep Initial Wt./Vol.: **32.76 g**
Prep Extract Vol: **10 mL**

Results of 16-4-6-8

Client Sample ID: **16-4-6-8**
 Client Project ID: **3948-Guilford Co. Parcel 16**
 Lab Sample ID: 31100611004-B
 Lab Project ID: 31100611

Collection Date: 03/28/2011 18:05
 Received Date: 03/30/2011 10:00
 Matrix: Soil
 Solids (%): 70

Results by SW-846 8015C GRO

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>LOQ/CL</u>	<u>Units</u>	<u>DF</u>
Gasoline Range Organics (GRO)	ND		4.67	mg/kg	1

Surrogates

4-Bromofluorobenzene	101		70.0-130	%	1
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Batch Information

Analytical Batch: **VGC1115**
 Analytical Method: **SW-846 8015C GRO**
 Instrument: **GC4**
 Analyst: **LMC**
 Analytical Date/Time: **04/02/2011 05:19**

Prep Batch: **VXX1266**
 Prep Method: **SW-846 5035**
 Prep Date/Time: **04/01/2011 15:21**
 Prep Initial Wt./Vol.: **6.16 g**
 Prep Extract Vol: **5 mL**

Results of 16-4-6-8

Client Sample ID: **16-4-6-8**
Client Project ID: **3948-Guilford Co. Parcel 16**
Lab Sample ID: 31100611004-A
Lab Project ID: 31100611

Collection Date: 03/28/2011 18:05
Received Date: 03/30/2011 10:00
Matrix: Soil
Solids (%): 70

Results by SW-846 8015C DRO

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>LOQ/CL</u>	<u>Units</u>	<u>DF</u>
Diesel Range Organics (DRO)	ND		8.86	mg/kg	1
Surrogates					
o-Terphenyl	63.8		40.0-140	%	1

Batch Information

Analytical Batch: **XGC1121**
Analytical Method: **SW-846 8015C DRO**
Instrument: **GC6**
Analyst: **DTF**
Analytical Date/Time: **04/01/2011 19:43**

Prep Batch: **XXX1169**
Prep Method: **SW-846 3541**
Prep Date/Time: **03/31/2011 16:40**
Prep Initial Wt./Vol.: **32.45 g**
Prep Extract Vol: **10 mL**

Results of 16-5-6-8

Client Sample ID: **16-5-6-8**
 Client Project ID: **3948-Guilford Co. Parcel 16**
 Lab Sample ID: 31100611005-B
 Lab Project ID: 31100611

Collection Date: 03/28/2011 18:00
 Received Date: 03/30/2011 10:00
 Matrix: Soil
 Solids (%): 75

Results by SW-846 8015C GRO

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>LOQ/CL</u>	<u>Units</u>	<u>DF</u>
Gasoline Range Organics (GRO)	ND		4.12	mg/kg	1

Surrogates

4-Bromofluorobenzene	99.0		70.0-130	%	1
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Batch Information

Analytical Batch: **VGC1115**
 Analytical Method: **SW-846 8015C GRO**
 Instrument: **GC4**
 Analyst: **LMC**
 Analytical Date/Time: **04/02/2011 05:46**

Prep Batch: **VXX1266**
 Prep Method: **SW-846 5035**
 Prep Date/Time: **04/01/2011 15:21**
 Prep Initial Wt./Vol.: **6.5 g**
 Prep Extract Vol: **5 mL**

Results of 16-5-6-8

Client Sample ID: **16-5-6-8**
 Client Project ID: **3948-Guilford Co. Parcel 16**
 Lab Sample ID: 31100611005-A
 Lab Project ID: 31100611

Collection Date: 03/28/2011 18:00
 Received Date: 03/30/2011 10:00
 Matrix: Soil
 Solids (%): 75

Results by SW-846 8015C DRO

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>LOQ/CL</u>	<u>Units</u>	<u>DF</u>
Diesel Range Organics (DRO)	ND		7.90	mg/kg	1
Surrogates					
o-Terphenyl	73.8		40.0-140	%	1

Batch Information

Analytical Batch: **XGC1121**
 Analytical Method: **SW-846 8015C DRO**
 Instrument: **GC6**
 Analyst: **DTF**
 Analytical Date/Time: **04/01/2011 20:12**

Prep Batch: **XXX1169**
 Prep Method: **SW-846 3541**
 Prep Date/Time: **03/31/2011 16:40**
 Prep Initial Wt./Vol.: **33.92 g**
 Prep Extract Vol: **10 mL**

Results of 16-6-6-8

Client Sample ID: **16-6-6-8**
 Client Project ID: **3948-Guilford Co. Parcel 16**
 Lab Sample ID: 31100611006-B
 Lab Project ID: 31100611

Collection Date: 03/29/2011 09:18
 Received Date: 03/30/2011 10:00
 Matrix: Soil
 Solids (%): 87

Results by SW-846 8015C GRO

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>LOQ/CL</u>	<u>Units</u>	<u>DF</u>
Gasoline Range Organics (GRO)	ND		5.44	mg/kg	1

Surrogates

4-Bromofluorobenzene	98.2		70.0-130	%	1
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Batch Information

Analytical Batch: **VGC1115**
 Analytical Method: **SW-846 8015C GRO**
 Instrument: **GC4**
 Analyst: **LMC**
 Analytical Date/Time: **04/02/2011 06:12**

Prep Batch: **VXX1266**
 Prep Method: **SW-846 5035**
 Prep Date/Time: **04/01/2011 15:21**
 Prep Initial Wt./Vol.: **4.24 g**
 Prep Extract Vol: **5 mL**

Results of 16-6-6-8

Client Sample ID: **16-6-6-8**
Client Project ID: **3948-Guilford Co. Parcel 16**
Lab Sample ID: 31100611006-A
Lab Project ID: 31100611

Collection Date: 03/29/2011 09:18
Received Date: 03/30/2011 10:00
Matrix: Soil
Solids (%): 87

Results by SW-846 8015C DRO

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>LOQ/CL</u>	<u>Units</u>	<u>DF</u>
Diesel Range Organics (DRO)	ND		6.85	mg/kg	1

Surrogates

o-Terphenyl	76.9		40.0-140	%	1
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Batch Information

Analytical Batch: **XGC1121**
Analytical Method: **SW-846 8015C DRO**
Instrument: **GC6**
Analyst: **DTF**
Analytical Date/Time: **04/01/2011 20:40**

Prep Batch: **XXX1169**
Prep Method: **SW-846 3541**
Prep Date/Time: **03/31/2011 16:40**
Prep Initial Wt./Vol.: **33.67 g**
Prep Extract Vol: **10 mL**

Results of 16-7-6-8

Client Sample ID: **16-7-6-8**
Client Project ID: **3948-Guilford Co. Parcel 16**
Lab Sample ID: 31100611007-B
Lab Project ID: 31100611

Collection Date: 03/29/2011 09:20
Received Date: 03/30/2011 10:00
Matrix: Soil
Solids (%): 78

Results by SW-846 8015C GRO

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>LOQ/CL</u>	<u>Units</u>	<u>DF</u>
Gasoline Range Organics (GRO)	ND		3.88	mg/kg	1

Surrogates

4-Bromofluorobenzene	97.3		70.0-130	%	1
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Batch Information

Analytical Batch: **VGC1115**
Analytical Method: **SW-846 8015C GRO**
Instrument: **GC4**
Analyst: **LMC**
Analytical Date/Time: **04/02/2011 06:39**

Prep Batch: **VXX1266**
Prep Method: **SW-846 5035**
Prep Date/Time: **04/01/2011 15:21**
Prep Initial Wt./Vol.: **6.65 g**
Prep Extract Vol: **5 mL**

Results of 16-7-6-8

Client Sample ID: **16-7-6-8**
Client Project ID: **3948-Guilford Co. Parcel 16**
Lab Sample ID: 31100611007-A
Lab Project ID: 31100611

Collection Date: 03/29/2011 09:20
Received Date: 03/30/2011 10:00
Matrix: Soil
Solids (%): 78

Results by SW-846 8015C DRO

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>LOQ/CL</u>	<u>Units</u>	<u>DF</u>
Diesel Range Organics (DRO)	ND		7.94	mg/kg	1

Surrogates

o-Terphenyl	74.5		40.0-140	%	1
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Batch Information

Analytical Batch: **XGC1121**
Analytical Method: **SW-846 8015C DRO**
Instrument: **GC6**
Analyst: **DTF**
Analytical Date/Time: **04/01/2011 21:08**

Prep Batch: **XXX1169**
Prep Method: **SW-846 3541**
Prep Date/Time: **03/31/2011 16:40**
Prep Initial Wt./Vol.: **32.46 g**
Prep Extract Vol: **10 mL**

Results of 16-8-6-8

Client Sample ID: **16-8-6-8**
Client Project ID: **3948-Guilford Co. Parcel 16**
Lab Sample ID: 31100611008-B
Lab Project ID: 31100611

Collection Date: 03/29/2011 09:22
Received Date: 03/30/2011 10:00
Matrix: Soil
Solids (%): 77

Results by SW-846 8015C GRO

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>LOQ/CL</u>	<u>Units</u>	<u>DF</u>
Gasoline Range Organics (GRO)	ND		4.02	mg/kg	1

Surrogates

4-Bromofluorobenzene	96.2		70.0-130	%	1
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Batch Information

Analytical Batch: **VGC1115**
Analytical Method: **SW-846 8015C GRO**
Instrument: **GC4**
Analyst: **LMC**
Analytical Date/Time: **04/02/2011 07:05**

Prep Batch: **VXX1266**
Prep Method: **SW-846 5035**
Prep Date/Time: **04/01/2011 15:21**
Prep Initial Wt./Vol.: **6.42 g**
Prep Extract Vol: **5 mL**

Results of 16-8-6-8

Client Sample ID: **16-8-6-8**
Client Project ID: **3948-Guilford Co. Parcel 16**
Lab Sample ID: 31100611008-A
Lab Project ID: 31100611

Collection Date: 03/29/2011 09:22
Received Date: 03/30/2011 10:00
Matrix: Soil
Solids (%): 77

Results by SW-846 8015C DRO

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>LOQ/CL</u>	<u>Units</u>	<u>DF</u>
Diesel Range Organics (DRO)	ND		7.97	mg/kg	1

Surrogates

o-Terphenyl	75.6		40.0-140	%	1
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Batch Information

Analytical Batch: **XGC1121**
Analytical Method: **SW-846 8015C DRO**
Instrument: **GC6**
Analyst: **DTF**
Analytical Date/Time: **04/01/2011 21:37**

Prep Batch: **XXX1169**
Prep Method: **SW-846 3541**
Prep Date/Time: **03/31/2011 16:40**
Prep Initial Wt./Vol.: **32.4 g**
Prep Extract Vol: **10 mL**

Results of 16-9-6-8

Client Sample ID: **16-9-6-8**
 Client Project ID: **3948-Guilford Co. Parcel 16**
 Lab Sample ID: 31100611009-B
 Lab Project ID: 31100611

Collection Date: 03/29/2011 09:24
 Received Date: 03/30/2011 10:00
 Matrix: Soil
 Solids (%): 72

Results by SW-846 8015C GRO

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>LOQ/CL</u>	<u>Units</u>	<u>DF</u>
Gasoline Range Organics (GRO)	ND		4.49	mg/kg	1

Surrogates

4-Bromofluorobenzene	98.3		70.0-130	%	1
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Batch Information

Analytical Batch: **VGC1115**
 Analytical Method: **SW-846 8015C GRO**
 Instrument: **GC4**
 Analyst: **LMC**
 Analytical Date/Time: **04/02/2011 07:32**

Prep Batch: **VXX1266**
 Prep Method: **SW-846 5035**
 Prep Date/Time: **04/01/2011 15:21**
 Prep Initial Wt./Vol.: **6.21 g**
 Prep Extract Vol: **5 mL**

Results of 16-9-6-8

Client Sample ID: **16-9-6-8**
 Client Project ID: **3948-Guilford Co. Parcel 16**
 Lab Sample ID: 31100611009-A
 Lab Project ID: 31100611

Collection Date: 03/29/2011 09:24
 Received Date: 03/30/2011 10:00
 Matrix: Soil
 Solids (%): 72

Results by SW-846 8015C DRO

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>LOQ/CL</u>	<u>Units</u>	<u>DF</u>
Diesel Range Organics (DRO)	ND		8.79	mg/kg	1
Surrogates					
o-Terphenyl	81.5		40.0-140	%	1

Batch Information

Analytical Batch: **XGC1121**
 Analytical Method: **SW-846 8015C DRO**
 Instrument: **GC6**
 Analyst: **DTF**
 Analytical Date/Time: **04/01/2011 22:05**

Prep Batch: **XXX1169**
 Prep Method: **SW-846 3541**
 Prep Date/Time: **03/31/2011 16:40**
 Prep Initial Wt./Vol.: **31.7 g**
 Prep Extract Vol: **10 mL**

Results of 16-10-6-8

Client Sample ID: **16-10-6-8**
Client Project ID: **3948-Guilford Co. Parcel 16**
Lab Sample ID: 31100611010-B
Lab Project ID: 31100611

Collection Date: 03/29/2011 09:26
Received Date: 03/30/2011 10:00
Matrix: Soil
Solids (%): 77

Results by SW-846 8015C GRO

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>LOQ/CL</u>	<u>Units</u>	<u>DF</u>
Gasoline Range Organics (GRO)	ND		4.54	mg/kg	1

Surrogates

4-Bromofluorobenzene	97.5		70.0-130	%	1
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Batch Information

Analytical Batch: **VGC1115**
Analytical Method: **SW-846 8015C GRO**
Instrument: **GC4**
Analyst: **LMC**
Analytical Date/Time: **04/02/2011 07:59**

Prep Batch: **VXX1266**
Prep Method: **SW-846 5035**
Prep Date/Time: **04/01/2011 15:21**
Prep Initial Wt./Vol.: **5.69 g**
Prep Extract Vol: **5 mL**



Results of 16-10-6-8

Client Sample ID: **16-10-6-8**
Client Project ID: **3948-Guilford Co. Parcel 16**
Lab Sample ID: 31100611010-A
Lab Project ID: 31100611

Collection Date: 03/29/2011 09:26
Received Date: 03/30/2011 10:00
Matrix: Soil
Solids (%): 77

Results by SW-846 8015C DRO

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>LOQ/CL</u>	<u>Units</u>	<u>DF</u>
Diesel Range Organics (DRO)	ND		8.03	mg/kg	1
Surrogates					
o-Terphenyl	73.7		40.0-140	%	1

Batch Information

Analytical Batch: **XGC1121**
Analytical Method: **SW-846 8015C DRO**
Instrument: **GC6**
Analyst: **DTF**
Analytical Date/Time: **04/01/2011 22:34**

Prep Batch: **XXX1169**
Prep Method: **SW-846 3541**
Prep Date/Time: **03/31/2011 16:40**
Prep Initial Wt./Vol.: **32.19 g**
Prep Extract Vol: **10 mL**

Results of 16-11-6-8

Client Sample ID: **16-11-6-8**
 Client Project ID: **3948-Guilford Co. Parcel 16**
 Lab Sample ID: 31100611011-B
 Lab Project ID: 31100611

Collection Date: 03/29/2011 09:28
 Received Date: 03/30/2011 10:00
 Matrix: Soil
 Solids (%): 74

Results by SW-846 8015C GRO

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>LOQ/CL</u>	<u>Units</u>	<u>DF</u>
Gasoline Range Organics (GRO)	ND		4.74	mg/kg	1

Surrogates

4-Bromofluorobenzene	100		70.0-130	%	1
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Batch Information

Analytical Batch: **VGC1115**
 Analytical Method: **SW-846 8015C GRO**
 Instrument: **GC4**
 Analyst: **LMC**
 Analytical Date/Time: **04/02/2011 08:25**

Prep Batch: **VXX1266**
 Prep Method: **SW-846 5035**
 Prep Date/Time: **04/01/2011 15:21**
 Prep Initial Wt./Vol.: **5.69 g**
 Prep Extract Vol: **5 mL**



Results of **16-11-6-8**

Client Sample ID: **16-11-6-8**
Client Project ID: **3948-Guilford Co. Parcel 16**
Lab Sample ID: 31100611011-A
Lab Project ID: 31100611

Collection Date: 03/29/2011 09:28
Received Date: 03/30/2011 10:00
Matrix: Soil
Solids (%): 74

Results by **SW-846 8015C DRO**

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>LOQ/CL</u>	<u>Units</u>	<u>DF</u>
Diesel Range Organics (DRO)	ND		8.27	mg/kg	1
Surrogates					
o-Terphenyl	71.6		40.0-140	%	1

Batch Information

Analytical Batch: **XGC1121**
Analytical Method: **SW-846 8015C DRO**
Instrument: **GC6**
Analyst: **DTF**
Analytical Date/Time: **04/01/2011 23:03**

Prep Batch: **XXX1169**
Prep Method: **SW-846 3541**
Prep Date/Time: **03/31/2011 16:40**
Prep Initial Wt./Vol.: **32.61 g**
Prep Extract Vol: **10 mL**

SGS North America Inc.

Sample Receipt Checklist (SRC)

Client: Solutions IES Work Order No.: 31100611

- | | | |
|-----|---|---------------------------------------|
| 1. | <input type="checkbox"/> Shipped | Notes: _____ |
| | <input checked="" type="checkbox"/> Hand Delivered | _____ |
| 2. | <input checked="" type="checkbox"/> COC Present on Receipt | _____ |
| | <input type="checkbox"/> No COC | _____ |
| | <input type="checkbox"/> Additional Transmittal Forms | _____ |
| 3. | <input type="checkbox"/> Custody Tape on Container | _____ |
| | <input checked="" type="checkbox"/> No Custody Tape | _____ |
| 4. | <input checked="" type="checkbox"/> Samples Intact | _____ |
| | <input type="checkbox"/> Samples Broken / Leaking | _____ |
| 5. | <input checked="" type="checkbox"/> Chilled on Receipt | Actual Temp.(s) in °C: <u>3.2 4.2</u> |
| | <input type="checkbox"/> Ambient on Receipt | _____ |
| | <input type="checkbox"/> Walk-in on Ice; Coming down to temp. | _____ |
| | <input type="checkbox"/> Received Outside of Temperature Specifications | _____ |
| 6. | <input checked="" type="checkbox"/> Sufficient Sample Submitted | _____ |
| | <input type="checkbox"/> Insufficient Sample Submitted | _____ |
| 7. | <input type="checkbox"/> Chlorine absent | _____ |
| | <input type="checkbox"/> HNO3 < 2 | _____ |
| | <input type="checkbox"/> HCL < 2 | _____ |
| | <input type="checkbox"/> Additional Preservatives verified (see notes) | _____ |
| 8. | <input checked="" type="checkbox"/> Received Within Holding Time | _____ |
| | <input type="checkbox"/> Not Received Within Holding Time | _____ |
| 9. | <input checked="" type="checkbox"/> No Discrepancies Noted | _____ |
| | <input type="checkbox"/> Discrepancies Noted | _____ |
| 10. | <input type="checkbox"/> No Headspace present in VOC vials | _____ |
| | <input type="checkbox"/> Headspace present in VOC vials >6mm | _____ |

Comments: _____

Inspected and Logged in by: JJ
Date: Wed-3/30/11 00:00



Laboratory Report of Analysis

To: Jody Overmyer
SOLUTIONS-IES
1101 Nowell Rd.
Raleigh, NC 27607

Report Number: **31101069**

Client Project: **3948 Guilford Co**

Dear Jody Overmyer,

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. All results are intended to be used in their entirety and SGS is not responsible for use of less than the complete report. 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 Michael D. Page 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.

Michael D. Page
Project Manager
michael.page@sgs.com

Date

Laboratory Qualifiers

Report Definitions

DL	Method, Instrument, or Estimated Detection Limit per Analytical Method
CL	Control Limits for the recovery result of a parameter
LOQ	Reporting Limit
DF	Dilution Factor
RPD	Relative Percent Difference
LCS(D)	Laboratory Control Spike (Duplicate)
MS(D)	Matrix Spike (Duplicate)
MB	Method Blank

Qualifier Definitions

*	Recovery or RPD outside of control limits
B	Analyte was detected in the Lab Method Blank at a level above the LOQ
U	Undetected (Reported as ND or < LOD)
V	Recovery is below quality control limit. The data has been validated based on a favorable signal-to-noise and detection limit
A	Amount detected is less than the Lower Method Calibration Limit
J	Amount detected is between the Method Detection Limit and the Lower Calibration Limit
O	The recovery of this analyte in the OPR is above the Method QC Limits and the reported concentration in the sample may be biased high
E	Amount detected is greater than the Upper Calibration Limit
S	The amount of analyte present has saturated the detector. This situation results in an underestimation of the affected analyte(s)
Q	Indicates the presence of a quantitative interference. This situation may result in an underestimation of the affected analyte(s)
I	Indicates the presence of a qualitative interference that could cause a false positive or an overestimation of the affected analyte(s)
DPE	Indicates the presence of a peak in the polychlorinated diphenylether channel that could cause a false positive or an overestimation of the affected analyte(s)
TIC	Tentatively Identified Compound
EMC	Estimated Maximum possible Concentration due to ion ratio failure
ND	Not Detected
K	Result is estimated due to ion ratio failure in High Resolution PCB Analysis
P	RPD > 40% between results of dual columns
D	Spike or surrogate was diluted out in order to achieve a parameter result within instrument calibration range
M1	Mis-identified peak
M2	Software did not integrate peak
M3	Incorrect baseline construction (i.e. not all of peak included; two peaks integrated as one)
M4	Pattern integration required (i.e. DRO, GRO, PCB, Toxaphene and Technical Chlordane)
M5	Other - Explained in case narrative

Note Results pages that include a value for "Solids (%)" have been adjusted for moisture content.

Sample Summary

<u>Client Sample ID</u>	<u>Lab Sample ID</u>	<u>Collected</u>	<u>Received</u>	<u>Matrix</u>
16-12-0-2	31101069001	05/05/2011 09:30	05/06/2011 10:30	Soil-Solid as dr
16-13-0-2	31101069002	05/05/2011 09:45	05/06/2011 10:30	Soil-Solid as dr

Results of 16-12-0-2

Client Sample ID: **16-12-0-2**
 Client Project ID: **3948 Guilford Co**
 Lab Sample ID: 31101069001-B
 Lab Project ID: 31101069

Collection Date: 05/05/2011 09:30
 Received Date: 05/06/2011 10:30
 Matrix: Soil-Solid as dry weight
 Solids (%): 81

Results by SW-846 8015C GRO

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>DL</u>	<u>LOQ/CL</u>	<u>Units</u>	<u>DF</u>
Gasoline Range Organics (GRO)	ND	U	3.22	3.22	mg/kg	1

Surrogates

4-Bromofluorobenzene	90.6			70.0-130	%	1
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Batch Information

Analytical Batch: **VGC1189**
 Analytical Method: **SW-846 8015C GRO**
 Instrument: **GC4**
 Analyst: **LMC**
 Analytical Date/Time: **05/09/2011 17:19**

Prep Batch: **VXX1456**
 Prep Method: **SW-846 5035**
 Prep Date/Time: **05/09/2011 10:20**
 Prep Initial Wt./Vol.: **7.7 g**
 Prep Extract Vol: **5 mL**



Results of **16-12-0-2**

Client Sample ID: **16-12-0-2**
Client Project ID: **3948 Guilford Co**
Lab Sample ID: 31101069001-C
Lab Project ID: 31101069

Collection Date: 05/05/2011 09:30
Received Date: 05/06/2011 10:30
Matrix: Soil-Solid as dry weight
Solids (%): 81

Results by **SW-846 8015C DRO**

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>DL</u>	<u>LOQ/CL</u>	<u>Units</u>	<u>DF</u>
Diesel Range Organics (DRO)	39.9		7.61	7.61	mg/kg	1

Surrogates

o-Terphenyl	75.9			40.0-140	%	1
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Batch Information

Analytical Batch: **XGC1206**
Analytical Method: **SW-846 8015C DRO**
Instrument: **GC6**
Analyst: **DTF**
Analytical Date/Time: **05/10/2011 15:36**

Prep Batch: **XXX1303**
Prep Method: **SW-846 3541**
Prep Date/Time: **05/10/2011 09:00**
Prep Initial Wt./Vol.: **32.53 g**
Prep Extract Vol: **10 mL**

Results of 16-13-0-2

Client Sample ID: **16-13-0-2**
 Client Project ID: **3948 Guilford Co**
 Lab Sample ID: 31101069002-B
 Lab Project ID: 31101069

Collection Date: 05/05/2011 09:45
 Received Date: 05/06/2011 10:30
 Matrix: Soil-Solid as dry weight
 Solids (%): 79

Results by SW-846 8015C GRO

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>DL</u>	<u>LOQ/CL</u>	<u>Units</u>	<u>DF</u>
Gasoline Range Organics (GRO)	ND	U	3.81	3.81	mg/kg	1

Surrogates

4-Bromofluorobenzene	92.1			70.0-130	%	1
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Batch Information

Analytical Batch: **VGC1189**
 Analytical Method: **SW-846 8015C GRO**
 Instrument: **GC4**
 Analyst: **LMC**
 Analytical Date/Time: **05/09/2011 17:46**

Prep Batch: **VXX1456**
 Prep Method: **SW-846 5035**
 Prep Date/Time: **05/09/2011 10:20**
 Prep Initial Wt./Vol.: **6.63 g**
 Prep Extract Vol: **5 mL**

Results of 16-13-0-2

Client Sample ID: **16-13-0-2**
 Client Project ID: **3948 Guilford Co**
 Lab Sample ID: 31101069002-C
 Lab Project ID: 31101069

Collection Date: 05/05/2011 09:45
 Received Date: 05/06/2011 10:30
 Matrix: Soil-Solid as dry weight
 Solids (%): 79

Results by SW-846 8015C DRO

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>DL</u>	<u>LOQ/CL</u>	<u>Units</u>	<u>DF</u>
Diesel Range Organics (DRO)	ND	U	7.67	7.67	mg/kg	1

Surrogates

o-Terphenyl	73.4			40.0-140	%	1
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Batch Information

Analytical Batch: **XGC1206**
 Analytical Method: **SW-846 8015C DRO**
 Instrument: **GC6**
 Analyst: **DTF**
 Analytical Date/Time: **05/10/2011 16:04**

Prep Batch: **XXX1303**
 Prep Method: **SW-846 3541**
 Prep Date/Time: **05/10/2011 09:00**
 Prep Initial Wt./Vol.: **32.94 g**
 Prep Extract Vol: **10 mL**



CHAIN OF CUSTODY RECORD SGS North America Inc.

- Locations Nationwide
- Alaska
 - Maryland
 - New Jersey
 - North Carolina
 - Ohio

www.us.sgs.com

103018

1 CLIENT: SOLUTIONS - IES
 CONTACT: Jody Overmyer PHONE NO: (919) 873-1060
 PROJECT: 2948 Guilford Co SITE/PWSID#: PAVGL116
 REPORTS TO: 1101 NOLAN RD
 RAUIGHT NC 27607 FAX NO.:
 INVOICE TO: MCDOT QUOTE #:
 WBS 34482.1.1 P.O. NUMBER: 4300163800

2

LAB NO.	SAMPLE IDENTIFICATION	DATE	TIME	MATRIX	No	C	O	N	T	A	I	N	E	R	S	SAMPLE TYPE	Preservatives Used	Analysis Required	REMARKS
	16-12-0-2	5/5/11	0930	SOIL	3	X										G			
	16-13-0-2	5/5/11	0945	SOIL	3	X										G			

3 No CONTAINERS

SGS Reference: 103018

4

Shipping Carrier: TRP DRD BOISC
 Shipping Ticket No: TRP GRD BOISC
 Special Deliverable Requirements: ③
 Samples Received Cold? (Circle) YES NO
 Temperature °C: 0.9
 Chain of Custody Seal: (Circle) INTACT BROKEN ABSENT

5

Collected/Relinquished By: (1) Jammy P. Tager Received By: ABJ
 Relinquished By: (2) Date: 5/5/11 Time: 1645
 Relinquished By: (3) Date: _____ Time: _____
 Relinquished By: (4) Date: 5/6/11 Time: 10:30

Requested Turnaround Time: RUSH STD Date Needed _____

SGS North America Inc.

Sample Receipt Checklist (SRC)

Client: NCDOT-Solutions IES

Work Order No.: 31101069

- | | | |
|-----|--|--------------------------------------|
| 1. | <input checked="" type="checkbox"/> Shipped
<input type="checkbox"/> Hand Delivered | Notes: _____
_____ |
| 2. | <input checked="" type="checkbox"/> COC Present on Receipt
<input type="checkbox"/> No COC
<input type="checkbox"/> Additional Transmittal Forms | _____

_____ |
| 3. | <input type="checkbox"/> Custody Tape on Container
<input checked="" type="checkbox"/> No Custody Tape | _____
_____ |
| 4. | <input checked="" type="checkbox"/> Samples Intact
<input type="checkbox"/> Samples Broken / Leaking | _____
_____ |
| 5. | <input checked="" type="checkbox"/> Chilled on Receipt Actual Temp.(s) in °C: <u>0.9</u>
<input type="checkbox"/> Ambient on Receipt
<input type="checkbox"/> Walk-in on Ice; Coming down to temp.
<input type="checkbox"/> Received Outside of Temperature Specifications | _____

_____ |
| 6. | <input checked="" type="checkbox"/> Sufficient Sample Submitted
<input type="checkbox"/> Insufficient Sample Submitted | _____
_____ |
| 7. | <input type="checkbox"/> Chlorine absent
<input type="checkbox"/> HNO3 < 2
<input type="checkbox"/> HCL < 2
<input type="checkbox"/> Additional Preservatives verified (see notes) | <u>NA</u>

_____ |
| 8. | <input checked="" type="checkbox"/> Received Within Holding Time
<input type="checkbox"/> Not Received Within Holding Time | _____
_____ |
| 9. | <input checked="" type="checkbox"/> No Discrepancies Noted
<input type="checkbox"/> Discrepancies Noted | _____

_____ |
| 10. | <input type="checkbox"/> No Headspace present in VOC vials
<input type="checkbox"/> Headspace present in VOC vials >6mm | _____
_____ |

Comments: _____

Inspected and Logged in by: TP
Date: Fri-5/6/11 00:00