Preliminary Site Assessment

514 North Watauga Avenue

Parcel #21, ALI SAMIR

Vacant Gasoline/Service Station

Greenville, Pitt County, North Carolina

State Project No. U-3315

WBS Element: 35781.1.2

February 22, 2013

Terracon Project No. 70127335

Prepared for:

North Carolina Department of Transportation (NCDOT)

Geotechnical Engineering Unit

Prepared by:

Terracon Consultants, Inc.

Raleigh, North Carolina

TABLE OF CONTENTS

Page No.

Terracon

February 22, 2013

North Carolina Department of Transportation
Attention: Mr. Gordon Box, LG
Geotechnical Engineering Unit
1589 Mail Service Center
Raleigh, NC 27699

Re: Preliminary Site Assessment (PSA)
Parcel #21, ALI SAMIR
Vacant Gasoline/Service Station
514 North Watauga Avenue
Greenville, Pitt County, North Carolina
Terracon Project No. 70127335
WBS Element: 35781.1.2

Dear Mr. Box:

Terracon Consultants, Inc. (Terracon) is pleased to submit a Preliminary Site Assessment (PSA) report for the above referenced site. This assessment was performed in accordance with our Proposal for Preliminary Site Assessment (Terracon Proposal No. P70127314) dated August 7, 2012. This report includes the findings of the investigation, and provides our conclusions and recommendations.

Terracon appreciates the opportunity to provide these services to the NCDOT. If you have any questions concerning this report or need additional information, please contact us at 919-873-2211.

Sincerely,
Terracon Consultants, Inc.

Prepared by:

Benjamin W. Swift
Environmental Professional

Reviewed by:

for Christopher L. Corbitt, PG
Authorized Project Reviewer

Lori Hoffman, PE
Environmental Department Manager

PRELIMINARY SITE ASSESSMENT

PARCEL #21, ALI SAMIR
514 NORTH WATAUGA AVENUE
GREENVILLE, PITT COUNTY, NORTH CAROLINA

1.0 INTRODUCTION

1.1 Site Description

Site Name	Parcel #21, Ali Samir (Vacant Gasoline/Service Station)
Site Location/Address	514 North Watauga Avenue, Greenville, North Carolina
General Site Description	The site is occupied by a vacant gasoline/service station (former Greenville Shop).

1.2 Site History

The site is currently a vacant gasoline/service station (former Greenville Shop). The USTs at the site were reportedly removed in 1992 and no LUST incidents have been reported for the site. During Terracon's site reconnaissance, Terracon observed four service bays and an apparent former dispenser island (and possible UST basin) in the western portion of the property along Line Avenue. Four vent pipes were observed at the northern end of the building.

1.3 Scope of Work

Terracon has prepared the following Preliminary Site Assessment (PSA) scope of work in accordance with the NCDOTs Request for Technical and Cost Proposal dated June 19, 2012 and Terracon's Proposal for Preliminary Site Assessment (Proposal No. P70127314) dated August 7, 2012. The scope of work included a geophysical investigation, the collection of 13 soil samples and one groundwater sample for laboratory analysis and preparation of a report documenting our environmental investigation activities.

1.4 Standard of Care

Terracon's services were performed in a manner consistent with generally accepted practices of the profession undertaken in similar studies in the same geographical area during the same time period. Terracon makes no warranties, either expressed or implied, regarding the findings, conclusions or recommendations. Please note that Terracon does not warrant the work of laboratories, regulatory agencies or other third parties supplying information used in the preparation of the report. These PSA services were performed in accordance with the scope of work authorized by you and were not conducted in accordance with ASTM E1903-97.

1.5 Additional Scope Limitations

Findings, conclusions and recommendations resulting from these services are based upon information derived from the on-site activities and other services performed under this scope of work; such information is subject to change over time. Certain indicators of the presence of hazardous substances, petroleum products, or other constituents may have been latent, inaccessible, unobservable, undetectable or not present during these services; thus, we cannot represent that the site is free of hazardous substances, toxic materials, petroleum products, or other latent conditions beyond those identified during this PSA. Subsurface conditions may vary from those encountered at specific borings or wells or during other surveys, tests, assessments, investigations or exploratory services; the data, interpretations, findings, and our recommendations are based solely upon data obtained at the time and within the scope of these services.

1.6 Reliance

This report has been prepared for the exclusive use of the North Carolina Department of Transportation (NCDOT). Authorization for use or reliance by any other party (except a governmental entity having jurisdiction over the site) is prohibited without the expressed written authorization of the client and Terracon.

2.0 FIELD ACTIVITIES

The following PSA activities are presented in the order that they were conducted in the field on August 16, 23, 30 and 31, 2012. Exhibit 1 presents the general boundaries and topography of the site on portions of the USGS topographic quadrangle map of Greenville SW, North Carolina dated 1998. Exhibit 2 is a site layout plan that indicates the approximate locations of the site features and soil boring locations.

2.1 Geophysical Survey

On August 16, and 23, 2012, Pyramid Environmental conducted a geophysical investigation at the site in an effort to determine if unknown, metallic underground storage tanks (USTs) were present beneath the proposed right-of-way (ROW) area. The geophysical investigation included an electromagnetic (EM) induction survey using a Geonics EM-61 MK1 metal detection instrument and a ground penetrating radar (GPR) survey using a GSSI SIR-2000 unit.

The geophysical investigation did not reveal any probable metallic USTs in the area of investigation identified for this site. A copy of the geophysical report is included in Appendix B.

2.2 Soil Sampling

Based on the findings of the geophysical investigation, Terracon provided oversight for the advancement of eight (8) soil borings along the exterior portions of the former gasoline station and five (5) soil borings in the area of the former dispenser island and presumed location of the former UST basin on August 30 and 31, 2012. The borings were completed by Bridger Drilling Enterprises, Inc., a North Carolina licensed driller using a Geoprobe® rig.

Soil borings B-1 through B-4 were advanced along the southwestern side of the building with one boring at each service bay. Soil boring B-5 was also advanced along the southwestern side of the building, near an entrance door. Soil boring B-6 was advanced along the southeastern side of the building. Soil boring B-7 was advanced near a concrete pad (possible compressor location) along the northeastern side of the building. Soil boring B-8 was advanced near vent pipes located along the northwestern side of the building. Soil borings B-9 and B-10 were advanced in the area of the former dispenser island while soil borings B-11, B-12, and B-13 were advanced in the presumed area of the former UST basin in the northwestern portion of the site.

Soil samples were collected in 5-foot, disposable, acetate sleeves to document soil lithology, color, moisture content, and sensory evidence of impairment. The soil samples were placed in resealable plastic bags for a sufficient amount of time to allow volatilization of organic compounds from the soils. The soil samples were then screened using a *Thermo Electron Corporation TVA-1000* Photoionization/Flame Ionization Detector (PID/FID) by inserting the probe tip into the headspace of each bagged sample. The PID readings and soil sample depths are included on Table 1 and on individual boring logs in Appendix A.

Soil borings B-2 through B-8, B-11, B-12, B-13 were each advanced to a depth of approximately 15 feet below ground surface (bgs). Soil borings B-9 and B-10 were advanced to approximately 20 feet below bgs. Soil boring B-1 was advanced to approximately 17.5 feet bgs. Soils obtained from the acetate sleeves were separated into two and half foot intervals.

The soil samples were collected and placed in laboratory prepared glassware and packed in ice in a cooler. The sample cooler and completed chain-of-custody forms were relinquished to SGS North American Inc. in Wilmington, North Carolina.

2.3 Groundwater Sampling

Following soil sampling activities, soil boring B-11 was converted to a temporary groundwater monitoring well (TW-1) by driving the direct push probe to approximately 15 feet bgs and installing a temporary well. The temporary well location is included in Exhibit 2. The temporary well was constructed using the following materials:

- 1-inch diameter, 0.010-inch machine slotted PVC well screen with a threaded bottom cap; and,
- 1-inch diameter, threaded, flush-joint PVC riser pipe to surface.

Groundwater was measured in the temporary well at a depth of approximately 10.5 feet bgs. Prior to sampling, the well was purged with a peristaltic pump until turbidity decreased. The water sample collected from the monitoring well was placed into laboratory supplied, pre-preserved sample containers and packed in ice. The sample cooler and chain of custody documentation were picked up by a courier for delivery to the laboratory.

2.4 Subsurface Conditions

The soil samples from ground surface to a depth of about 20 feet included silty sands, clayey sands, silty clay, and sandy clay. Petroleum odors and elevated PID readings were noted in samples collected from soil boring B-10 (5-10 feet) and soil boring B-11 (12.5-15 feet). The sample collected from boring B-11 is believed to have been collected at a depth below the water table. Soil samples from the interval in each boring exhibiting the highest PID reading or most obvious evidence of contamination were submitted for laboratory analysis.

3.0 LABORATORY ANALYSES

Soil samples were submitted for laboratory analysis of Total Petroleum Hydrocarbons (TPH) Diesel Range Organics (DRO) by EPA Method 3546 and TPH Gasoline Range Organics (GRO) by EPA Method 5035. Soil samples were also collected for analysis of North Carolina Department of Environment and Natural Resources (NCDENR) risk-based parameters including volatile organic compounds (VOCs) by EPA Method 8260 and semi-volatile organic compounds (SVOCs) by EPA Method 8270, MADEP VPH, and MADEP EPH pending analytical results of the DRO/GRO samples. The groundwater sample was submitted for laboratory analysis of VOCs by EPA Method 8260 and SVOCs by EPA Method 8270. Samples were submitted to SGS North American Inc. in Wilmington, North Carolina for analysis. Please refer to Appendix C for the laboratory analytical reports.

4.0 DATA EVALUATION

4.1 Soil Sample Analytical Results and Interpretation

Diesel Range Organics (DRO) were detected above the laboratory method detection limits in sample S-8 at a concentration of 9.99 milligrams per kilogram (mg/kg), sample S-10 (64.1 mg/kg), sample S-12 (17.4 mg/kg), and sample S-13 (8.32 mg/kg). TPH DRO compounds were detected at concentrations above the NCDENR UST Action Level (10 mg/kg) in samples S-10 and S-12.

Gasoline Range Organics (GRO) were detected in sample S-10 at a concentration of 80.3 mg/kg which is above the NCDENR UST Action Level (10 mg/kg).

Based on the DRO/GRO analytical results for sample S-10, risk-based analyses reported 1,2,4-trimethylbenzene (0.404 mg/kg), 1,3,5-trimethylbenzene (0.118 mg/kg), 4-isopropyltoluene (0.146 mg/kg), and naphthalene (0.26 mg/kg) above their respective laboratory reporting limits. 4-isopropyltoluene and naphthalene were also detected at concentrations above their respective NCDENR Soil-to-Groundwater Maximum Soil Contamination Concentrations (MSCCs). Risk-based analyses for sample S-12 did not detect analytes above the laboratory method detection limits.

Laboratory analytical results also reported C5-C8 Aliphatics (7.1 mg/kg), C9-C22 Aromatics (57.4 mg/kg), and C9-C18 Aliphatics (150.2 mg/kg) for soil sample S-10. Based on the NCDENR UST Section MADEP Groundwater Sample Worksheet, C9-C22 Aromatics exceed the NCDENR Soil-to-Groundwater MSCC (31 mg/kg).

A summary of the soil sampling analytical results are included in Tables 1, 2 and 3 as an attachment to this report.

4.2 Groundwater Analytical Results and Interpretation

Laboratory analytical results for groundwater sample TW-1 did not detect concentrations above their respective laboratory method detection limits.

5.0 CONCLUSIONS

The findings of this investigation are discussed below.

- The geophysical investigation did not reveal probable metallic USTs in the area of investigation identified for this site.

- Thirteen soil borings were advanced at the site to depths of approximately 15 to 20 feet bgs.

- TPH DRO compounds were detected at concentrations above the NCDENR UST Action Level (10 mg/kg) in samples S-10 and S-12. Gasoline Range Organics (GRO) were also detected in sample S-10 at a concentration of 80.3 mg/kg which is above the NCDENR UST Action Level (10 mg/kg).

- Based on the DRO/GRO analytical results for sample S-10, risk-based analyses reported 4-isopropyltoluene and naphthalene at concentrations above their respective NCDENR Soil-to-Groundwater Maximum Soil Contamination Concentrations (MSCCs). Risk-based analyses for sample S-12 did not detect constituents above the laboratory method detection limits.

- Laboratory analytical results also reported C5-C8 Aliphatics (7.1 mg/kg), C9-C22 Aromatics (57.4 mg/kg), and C9-C18 Aliphatics (150.2 mg/kg) for soil sample S-10. Based on the NCDENR UST Section MADEP Groundwater Sample Worksheet, C9-C22 Aromatics exceed the NCDENR Soil-to-Groundwater MSCC (31 mg/kg).

- The depth to groundwater was measured in the temporary monitoring well at approximately 10.5 feet bgs.

- Laboratory analytical results for groundwater sample TW-1 did not detect petroleum constituent concentrations above their respective laboratory method detection limits. Based on information provided by the NCDOT, groundwater does not appear to impact the proposed NCDOT right of way.

- The extent of soil contamination appears to be localized at the site. The actual amount of impacted soil can only be determined after excavation or by advancing additional borings at the site to further delineate the extent of contamination.

  Based on information provided by NCDOT, Terracon estimates a total of 220 cubic yards or 330 tons of contaminated soil be used for estimating quantities to be removed during construction. This is based on the following assumptions:

  Utility Excavation
  - 85 feet of water line through the contaminated area at 10 feet deep by 5 feet wide = 4250 cubic feet or 157 cubic yards;

  Roadway Excavation
  - For the portion of contaminated soil within roadway at S-12, assume 26 square feet at 10 feet deep = 260 cubic feet or 9.5 cubic yards
  - Line Ave alignment is not changing. Assume 70 feet of new curb and gutter will be constructed through contaminated area. Assuming a cross-section area of curb and gutter cub of 18 square feet (18 ft^2 x 70 ft) = 1260 cubic feet or 46.5 cubic yards.

- Assume a minor cut, less than one foot, at corner of existing Line Ave and Farmville Blvd and is triangular shaped (0.5 x 15 ft x 25 ft x 1 ft) = 187.5 cubic feet or 7 cubic yards.

TABLES

Table 1 – Soil Sampling Analytical Results Summary (DRO and GRO)
Table 2 – Soil Sampling Analytical Results Summary (VOCs and SVOCs)
Table 3 – Soil Sampling Analytical Results Summary (EPH and VPH)

Table 1
Soil Sampling Analytical Results Summary (DRO and GRO)
Parcel #21, Samir Ali Property
Greenville, Pitt County, North Carolina

Sample ID	Depth	PID reading	Method 5035/GRO	Method 3546/DRO
	ft bgs	ppm	mg/kg	mg/kg
S-1	0-2.5	0	<3.24	<6.51
S-2	0-2.5	0	<2.99	<6.97
S-3	0-2.5	0	<3.16	<7.04
S-4	2.5-5.0	0	<2.99	<7.22
S-5	0-2.5	0	<3.15	<7.01
S-6	0-2.5	0	<3.16	<7.07
S-7	0-2.5	0	<2.80	<7.48
S-8	5.0-7.5	0	<3.16	**9.99**
S-9	5.0-7.5	0	<4.54	<7.74
S-10	7.5-10.0	32.7	**80.3**	**64.1**
S-11	2.5-5.0	0.3	<3.45	<6.28
S-12	5.0-7.5	0	<3.35	**17.4**
S-13	5.0-7.5	0	<3.57	**8.32**
NCDENR Action Level			10	10

Notes:
ft bgs = feet below ground surface
ppm = parts per million
mg/kg = milligrams per kilogram
DRO = Diesel Range Organics
GRO = Gasoline Range Organics
ND = Below laboratory detection limits
Highlight indicates above NCDENR UST Section Action Level

Table 2
Soil Sampling Analytical Results Summary (VOCs and SVOCs)
Parcel #21, Samir Ali Property
Greenville, Pitt County, North Carolina

			Sample ID	S-10	S-12
			Depth	7.5-10.0 FT	5.0-7.5 FT
Method	**Parameter**	**Units**		**Value**	**Value**
8260B	1,2,4-Trimethylbenzene	mg/kg		0.404	<0.00424
	1,3,5-Trimethylbenzene	mg/kg		0.118	<0.00424
	4-Isopropyltoluene	mg/kg		0.146	<0.00424
	Naphthalene	mg/kg		0.26	<0.00424
8270C	SVOCs	mg/kg		No Analytes Detected	

Notes:

Samples collected on August 31, 2012

NE = Not established

units = mg/kg - sample analyte compound concentrations measured in milligrams per kilogram

Bold concentrations were reported above the Maximum Soil Contaminant Concentration Levels (MSCCs)

= Greater than or equal to the Soil to Water Maximum Contaminant Concentration

* = Estimated Concentration (J Qualifier)

Table 3
Soil Sampling Analytical Results Summary Table EPH and VPH)
Parcel #21, Samir Ali Property
Greenville, Pitt County, North Carolina

Sample Designation / Sample Location Depth Date Sampled						S-10 7.5-10.0 FT 8/31/2012		S-12 5.0-7.5 FT 8/31/2012	
Hydrocarbon Fraction Ranges	**Analytical Hydrocarbon Fractions**		**Residential MSCC (mg/kg)**	**Industrial / Commercial MSCC (mg/kg)**	**Soil to Groundwater MSCC (mg/kg)**	**Lab Results Conc.**	**Final VPH and/or EPH Conc.**	**Lab Results Conc.**	**Final VPH and/or EPH Conc.**
C5-C8 Aliphatics	C5-C8 Aliphatics	VPH	939	24528	68	7.1	7.1	< 4.18	<4.18
C9-C18 Aliphatics	C9-C12 Aliphatics	VPH	1500	40000	540	72.1	<150.2	< 4.18	<10.2
	C9-C18 Aliphatics	EPH				< 78.1		< 6.02	
C19-C36 Aliphatics	C19-C36 Aliphatics	EPH	31000	810000	Considered Immobile	< 8.29	<8.29	< 6.95	<6.95
C9-C22 Aromatics	C9-C10 Aromatics	VPH	469	12264	31	57.4	<73.5	< 4.18	<17.68
	C11-C22 Aromatics	EPH				< 16.1		< 13.5	

Notes:
ft = feet
ug/L = micrograms per liter
Where no detectable concentration was measured, the method detection limit was used for the final calculation

FIGURES

Exhibit 1 – Site Vicinity Map (Topographic Map)
Exhibit 2 – Site Diagram with Soil Boring Locations and Analytical Data

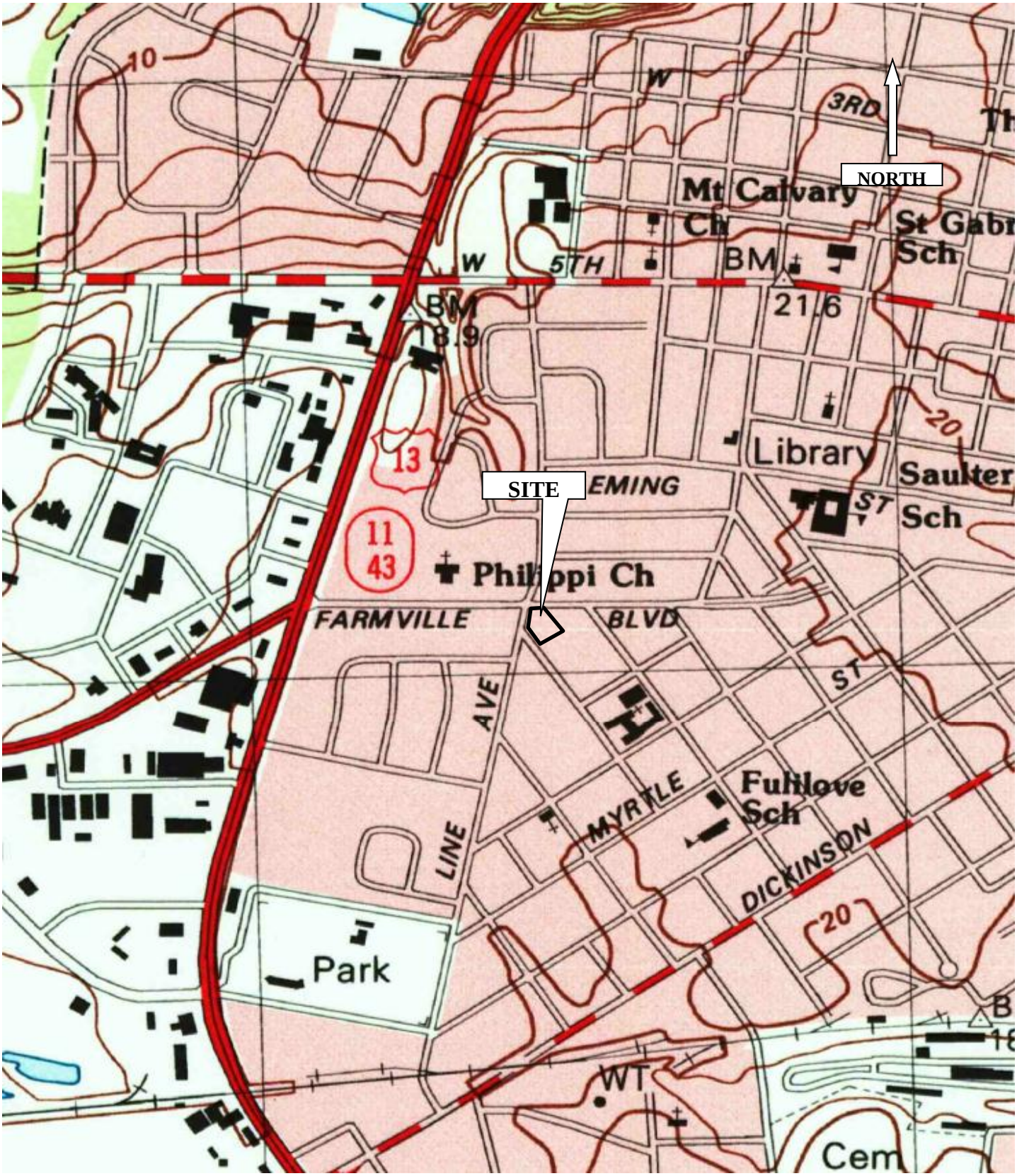


Diagram is for general location only

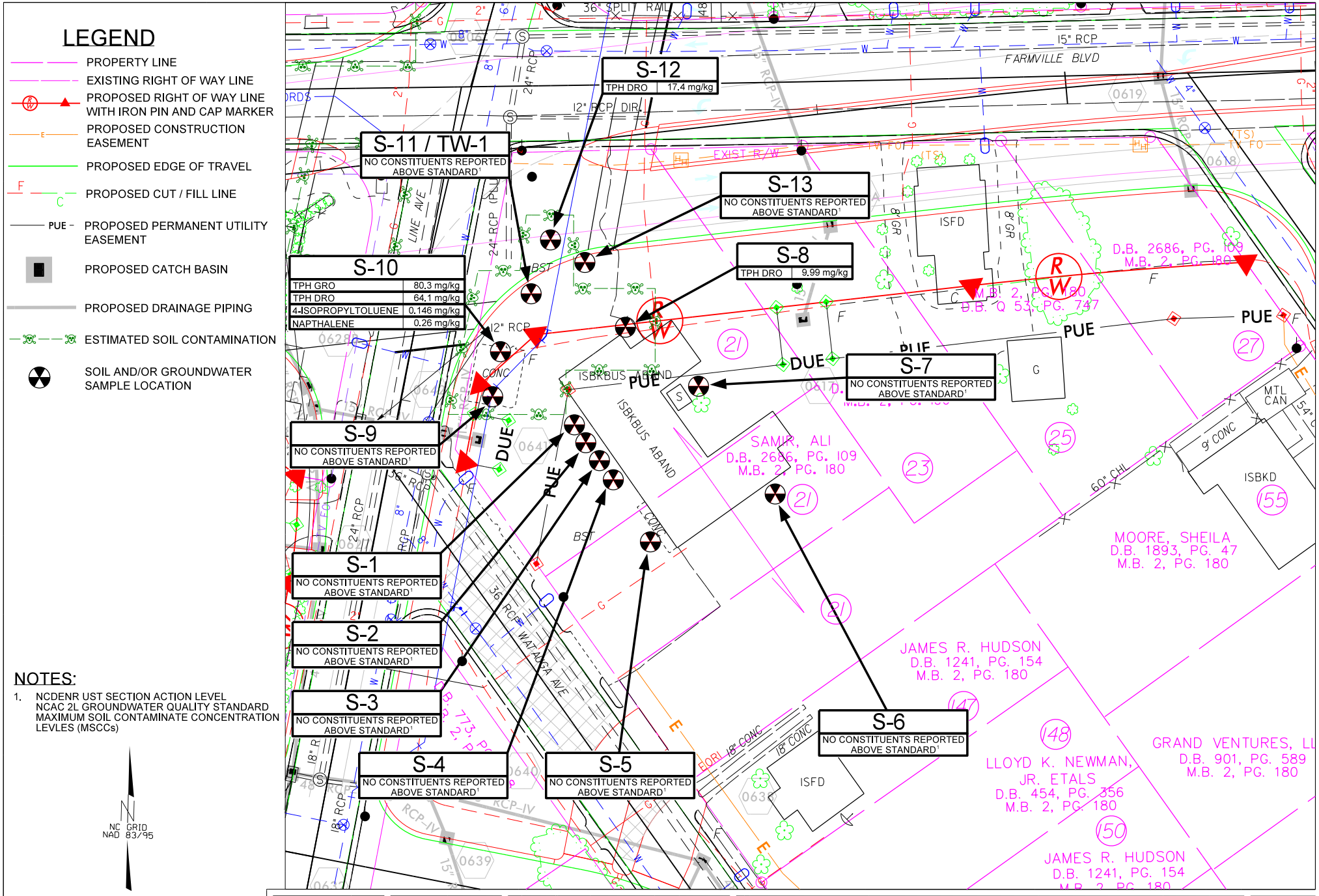
Site Vicinity Map
Parcel # 21
514 North Watauga Avenue
Greenville, Pitt County, North Carolina

Reference: Greenville SW, NC USGS Quadrangle

Dated Year: 1998

Terracon

PROJECT NO.:	70127335
DATE: 10/2/12	CONTOUR INT: 2 meters
DRAWN: MDP	CHECK: LCH
SCALE: NTS	



NOTES:

1. NCDENR UST SECTION ACTION LEVEL NCAC 2L GROUNDWATER QUALITY STANDARD MAXIMUM SOIL CONTAMINATE CONCENTRATION LEVLES (MSCCs)

SCALE:	1:50
DATE:	FEBRUARY 2013
DRAWN BY:	MJA
APPROVED BY:	LCH / BWS
PROJ. REFERENCE NUMBER:	35781.1.2
TIP NUMBER:	U-3315
COUNTY:	PITT
TERRACON PROJECT:	70127335

Terracon
5240 GREEN'S DAIRY ROAD RALEIGH, NC 27616
PH. (919) 873-2211 FAX. (919) 873-9555

SITE DIAGRAM WITH SOIL BORING LOCATIONS AND ANALYTICAL DATA

SAMIR, ALI PROPERTY - PARCEL 21
-L- STATION 33+00
514 N. WATAUGA AVENUE
GREENVILLE, PITT COUNTY, NORTH CAROLINA

EXHIBIT 2

APPENDIX A

Boring Logs

SOIL BORING LOG

PROJECT NAME: Stantonsburg/Tenth Street Connector	SOIL BORING I.D.: B-1
PROJECT NO.: 70127335	DATE(S) DRILLED: August 30, 2012
PROJECT LOCATION: Parcel #21, 514 North Watauga Avenue Greenville, North Carolina	DRILLING CONTR.: Bridger Drilling Enterprises, Inc. DRILL METHOD: Geoprobe BORING DIAMETER: 2 inches
CLIENT: NCDOT Geoenvironmental	SAMPLING METHOD/INTERVAL: 5-Foot
LOGGED BY: Ben Swift	REMARKS: BGS = below grade surface

DESCRIPTIVE LOG

SAMPLE INTERVAL	SAMPLE REC. (IN.)	BLOWS PER 6"	PID/FID (ppm)	Odors	DEPTH (FT)	DESCRIPTION OF SOIL
0-2.5*		NA	0.0	No petroleum odors	0.0	Asphalt
					0.5	Brown, tan sandy clay/moist
					1.0	
					1.5	
					2.0	Tan, orange clay/moist
2.5 - 5.0*		NA	0.0		2.5	
					3.0	
					3.5	
					4.0	
					4.5	
5.0 - 7.5		NA	0.0		5.0	
					5.5	
					6.0	Grey, orange clay/stiff
					6.5	
					7.0	
7.5 - 10.0		NA	0.0		7.5	
					8.0	
					8.5	
					9.0	
					9.5	
10.0 - 12.5		NA	0.0		10.0	
					10.5	
					11.0	Grey clay/stiff
					11.5	
					12.0	
12.5 - 15		NA	0.0		12.5	Water level at 13 feet bgs
					13.0	
					13.5	
					14.0	
					14.5	
15.0 - 17.5		NA	0.0		15.0	
					15.5	
					16.0	
					16.5	
					17.0	
					17.5	Boring terminated at 17.5 feet bgs
					18.0	
					18.5	
					19.0	
					19.5	
					20.0	
					20.5	
					21.0	
					21.5	

DRILLING METHODS
AR - AIR ROTARY
CFA - CONTINUOUS FLIGHT AUGER
DC - DRIVEN CASING
HA - HAND AUGER
HSA - HOLLOW STEM AUGER
MD - MUD DRILLING
RC - ROCK CORING
WR - WATER ROTARY

SAMPLING METHODS
SS - SPLIT SPOON
ST - SHELBY TUBE
GP - GEOPROBE

* - Sample collected for analysis
ND = <1 ppm

Terracon

SOIL BORING LOG

PROJECT NAME: Stantonsburg/Tenth Street Connector	SOIL BORING I.D.: B-2
PROJECT NO.: 70127335	DATE(S) DRILLED: August 30, 2012
PROJECT LOCATION: Parcel #21, 514 North Watauga Avenue Greenville, North Carolina	DRILLING CONTR.: Bridger Drilling Enterprises, Inc. DRILL METHOD: Geoprobe BORING DIAMETER: 2 inches
CLIENT: NCDOT Geoenvironmental	SAMPLING METHOD/INTERVAL: 5-Foot
LOGGED BY: Ben Swift	REMARKS: BGS = below grade surface

DESCRIPTIVE LOG

SAMPLE INTERVAL	SAMPLE REC. (IN.)	BLOWS PER 6"	PID/FID (ppm)	Odors	DEPTH (FT)	DESCRIPTION OF SOIL
0-2.5		NA	0.0	No petroleum odors	0.0	Asphalt
					0.5	Brown, tan sandy clay/moist
					1.0	
					1.5	
					2.0	
2.5 - 5.0*		NA	0.0		2.5	
					3.0	Orange clay/moist
					3.5	
					4.0	
					4.5	
5.0 - 7.5		NA	0.0		5.0	
					5.5	
					6.0	
					6.5	
					7.0	Grey, oragne clay/stiff
7.5 - 10.0		NA	0.0		7.5	
					8.0	
					8.5	
					9.0	
					9.5	
10.0 - 12.5		NA	0.0		10.0	Grey, tan clay
					10.5	
					11.0	
					11.5	
					12.0	
12.5 - 15		NA	0.0		12.5	
					13.0	
					13.5	
					14.0	
					14.5	
					15.0	Boring terminated at 15.0 feet bgs
					15.5	
					16.0	
					16.5	
					17.0	
					17.5	
					18.0	
					18.5	
					19.0	
					19.5	
					20.0	
					20.5	
					21.0	
					21.5	

DRILLING METHODS
AR - AIR ROTARY
CFA - CONTINUOUS FLIGHT AUGER
DC - DRIVEN CASING
HA - HAND AUGER
HSA - HOLLOW STEM AUGER
MD - MUD DRILLING
RC - ROCK CORING
WR - WATER ROTARY

SAMPLING METHODS
SS - SPLIT SPOON
ST - SHELBY TUBE
GP - GEOPROBE

* - Sample collected for analysis
ND = <1 ppm

Terracon

SOIL BORING LOG

PROJECT NAME: Stantonsburg/Tenth Street Connector	SOIL BORING I.D.: B-3
PROJECT NO.: 70127335	DATE(S) DRILLED: August 30, 2012
PROJECT LOCATION: Parcel #21, 514 North Watauga Avenue Greenville, North Carolina	DRILLING CONTR.: Bridger Drilling Enterprises, Inc. DRILL METHOD: Geoprobe BORING DIAMETER: 2 inches
CLIENT: NCDOT Geoenvironmental	SAMPLING METHOD/INTERVAL: 5-Foot
LOGGED BY: Ben Swift	REMARKS: BGS = below grade surface

DESCRIPTIVE LOG

SAMPLE INTERVAL	SAMPLE REC. (IN.)	BLOWS PER 6"	PID/FID (ppm)	Odors	DEPTH (FT)	DESCRIPTION OF SOIL
0-2.5*		NA	0.00	No petroleum odors	0.0	Concrete
					0.5	Brown silty sand/wet
					1.0	
					1.5	
					2.0	Grey, orange sandy clay/moist
2.5 - 5.0		NA	0.00		2.5	
					3.0	
					3.5	
					4.0	
					4.5	
5.0 - 7.5		NA	0.00		5.0	
					5.5	
					6.0	
					6.5	
					7.0	Orange sand
7.5 - 10.0		NA	0.00		7.5	
					8.0	Grey, orange clay/stiff
					8.5	
					9.0	
					9.5	
10.0 - 12.5		NA	0.00		10.0	Orange, tan clay/stiff
					10.5	
					11.0	
					11.5	
					12.0	
12.5 - 15		NA	0.00		12.5	
					13.0	
					13.5	
					14.0	
					14.5	
					15.0	Boring terminated at 15.0 feet bgs
					15.5	
					16.0	
					16.5	
					17.0	
					17.5	
					18.0	
					18.5	
					19.0	
					19.5	
					20.0	
					20.5	
					21.0	
					21.5	

DRILLING METHODS
AR - AIR ROTARY
CFA - CONTINUOUS FLIGHT AUGER
DC - DRIVEN CASING
HA - HAND AUGER
HSA - HOLLOW STEM AUGER
MD - MUD DRILLING
RC - ROCK CORING
WR - WATER ROTARY

SAMPLING METHODS
SS - SPLIT SPOON
ST - SHELBY TUBE
GP - GEOPROBE

* - Sample collected for analysis
ND = <1 ppm

Terracon

SOIL BORING LOG

PROJECT NAME: Stantonsburg/Tenth Street Connector	SOIL BORING I.D.: B-4
PROJECT NO.: 70127335	DATE(S) DRILLED: August 30, 2012
PROJECT LOCATION: Parcel #21, 514 North Watauga Avenue Greenville, North Carolina	DRILLING CONTR.: Bridger Drilling Enterprises, Inc. DRILL METHOD: Geoprobe BORING DIAMETER: 2 inches
CLIENT: NCDOT Geoenvironmental	SAMPLING METHOD/INTERVAL: 5-Foot
LOGGED BY: Ben Swift	REMARKS: BGS = below grade surface

DESCRIPTIVE LOG

SAMPLE INTERVAL	SAMPLE REC. (IN.)	BLOWS PER 6"	PID/FID (ppm)	Odors	DEPTH (FT)	DESCRIPTION OF SOIL
0-2.5		NA	0.0	No petroleum odors	0.0	Concrete
					0.5	Brown silty sand/wet
					1.0	
					1.5	
					2.0	
2.5 - 5.0*		NA	0.0		2.5	
					3.0	Orange, grey clay/moist
					3.5	
					4.0	
					4.5	
5.0 - 7.5		NA	0.0		5.0	
					5.5	
					6.0	Orange, grey clay/stiff
					6.5	
					7.0	
7.5 - 10.0		NA	0.0		7.5	
					8.0	
					8.5	
					9.0	
					9.5	
10.0 - 12.5		NA	0.0		10.0	
					10.5	
					11.0	Grey clay/stiff
					11.5	
					12.0	
12.5 - 15		NA	0.0		12.5	
					13.0	
					13.5	
					14.0	
					14.5	
					15.0	Boring terminated at 15.0 feet bgs
					15.5	
					16.0	
					16.5	
					17.0	
					17.5	
					18.0	
					18.5	
					19.0	
					19.5	
					20.0	
					20.5	
					21.0	
					21.5	

DRILLING METHODS
AR - AIR ROTARY
CFA - CONTINUOUS FLIGHT AUGER
DC - DRIVEN CASING
HA - HAND AUGER
HSA - HOLLOW STEM AUGER
MD - MUD DRILLING
RC - ROCK CORING
WR - WATER ROTARY

SAMPLING METHODS
SS - SPLIT SPOON
ST - SHELBY TUBE
GP - GEOPROBE

* - Sample collected for analysis
ND = <1 ppm

Terracon

SOIL BORING LOG

PROJECT NAME: Stantonsburg/Tenth Street Connector	SOIL BORING I.D.: B-5
PROJECT NO.: 70127335	DATE(S) DRILLED: August 30, 2012
PROJECT LOCATION: Parcel #21, 514 North Watauga Avenue Greenville, North Carolina	DRILLING CONTR.: Bridger Drilling Enterprises, Inc. DRILL METHOD: Geoprobe BORING DIAMETER: 2 inches
CLIENT: NCDOT Geoenvironmental	SAMPLING METHOD/INTERVAL: 5-Foot
LOGGED BY: Ben Swift	REMARKS: BGS = below grade surface

DESCRIPTIVE LOG

SAMPLE INTERVAL	SAMPLE REC. (IN.)	BLOWS PER 6"	PID/FID (ppm)	Odors	DEPTH (FT)	DESCRIPTION OF SOIL
0-2.5*		NA	0.0	No petroleum odors	0.0	Asphalt
					0.5	Tan, orange sandy clay/moist
					1.0	
					1.5	
					2.0	Tan, orange sandy clay
2.5 - 5.0		NA	0.0		2.5	
					3.0	
					3.5	
					4.0	
					4.5	
5.0 - 7.5		NA	0.0		5.0	Tan, sandy silt/wet
					5.5	
					6.0	Orange, grey clay (Water table at 6 feet bgs)
					6.5	
					7.0	
7.5 - 10.0		NA	0.0		7.5	
					8.0	
					8.5	
					9.0	
					9.5	
10.0 - 12.5		NA	0.0		10.0	
					10.5	
					11.0	
					11.5	
					12.0	
12.5 - 15		NA	0.0		12.5	
					13.0	
					13.5	
					14.0	
					14.5	
					15.0	Boring terminated at 15.0 feet bgs
					15.5	
					16.0	
					16.5	
					17.0	
					17.5	
					18.0	
					18.5	
					19.0	
					19.5	
					20.0	
					20.5	
					21.0	
					21.5	

DRILLING METHODS
AR - AIR ROTARY
CFA - CONTINUOUS FLIGHT AUGER
DC - DRIVEN CASING
HA - HAND AUGER
HSA - HOLLOW STEM AUGER
MD - MUD DRILLING
RC - ROCK CORING
WR - WATER ROTARY

SAMPLING METHODS
SS - SPLIT SPOON
ST - SHELBY TUBE
GP - GEOPROBE

* - Sample collected for analysis
ND = <1 ppm

Terracon

SOIL BORING LOG

PROJECT NAME: Stantonsburg/Tenth Street Connector	SOIL BORING I.D.: B-6
PROJECT NO.: 70127335	DATE(S) DRILLED: August 30, 2012
PROJECT LOCATION: Parcel #21, 514 North Watauga Avenue Greenville, North Carolina	DRILLING CONTR.: Bridger Drilling Enterprises, Inc. DRILL METHOD: Geoprobe BORING DIAMETER: 2 inches
CLIENT: NCDOT Geoenvironmental	SAMPLING METHOD/INTERVAL: 5-Foot
LOGGED BY: Ben Swift	REMARKS: BGS = below grade surface

DESCRIPTIVE LOG

SAMPLE INTERVAL	SAMPLE REC. (IN.)	BLOWS PER 6"	PID/FID (ppm)	Odors	DEPTH (FT)	DESCRIPTION OF SOIL
0-2.5*		NA	0.0	No petroleum odors	0.0	Topsoil/moist
					0.5	
					1.0	Tan silty sand/moist
					1.5	
					2.0	
2.5 - 5.0		NA	0.0		2.5	
					3.0	
					3.5	
					4.0	
					4.5	
5.0 - 7.5		NA	0.0		5.0	
					5.5	
					6.0	Grey, tan sandy clay
					6.5	
					7.0	
7.5 - 10.0		NA	0.0		7.5	
					8.0	Grey, tan clay/stiff
					8.5	
					9.0	
					9.5	
10.0 - 12.5		NA	0.0		10.0	
					10.5	
					11.0	
					11.5	
					12.0	
12.5 - 15		NA	0.0		12.5	
					13.0	
					13.5	
					14.0	
					14.5	
					15.0	Boring terminated at 15.0 feet bgs
					15.5	
					16.0	
					16.5	
					17.0	
					17.5	
					18.0	
					18.5	
					19.0	
					19.5	
					20.0	
					20.5	
					21.0	
					21.5	

DRILLING METHODS
AR - AIR ROTARY
CFA - CONTINUOUS FLIGHT AUGER
DC - DRIVEN CASING
HA - HAND AUGER
HSA - HOLLOW STEM AUGER
MD - MUD DRILLING
RC - ROCK CORING
WR - WATER ROTARY

SAMPLING METHODS
SS - SPLIT SPOON
ST - SHELBY TUBE
GP - GEOPROBE

* - Sample collected for analysis
ND = <1 ppm

Terracon

SOIL BORING LOG

PROJECT NAME: Stantonsburg/Tenth Street Connector	SOIL BORING I.D.: B-7
PROJECT NO.: 70127335	DATE(S) DRILLED: August 30, 2012
PROJECT LOCATION: Parcel #21, 514 North Watauga Avenue Greenville, North Carolina	DRILLING CONTR.: Bridger Drilling Enterprises, Inc. DRILL METHOD: Geoprobe BORING DIAMETER: 2 inches
CLIENT: NCDOT Geoenvironmental	SAMPLING METHOD/INTERVAL: 5-Foot
LOGGED BY: Ben Swift	REMARKS: BGS = below grade surface

DESCRIPTIVE LOG

SAMPLE INTERVAL	SAMPLE REC. (IN.)	BLOWS PER 6"	PID/FID (ppm)	Odors	DEPTH (FT)	DESCRIPTION OF SOIL
0-2.5*		NA	0.0	No petroleum odors	0.0	Topsoil
					0.5	
					1.0	Tan, grey silty sand
					1.5	
					2.0	
2.5 - 5.0		NA	0.0		2.5	
					3.0	Orange, tan sandy clay
					3.5	
					4.0	
					4.5	
5.0 - 7.5		NA	0.0		5.0	
					5.5	
					6.0	
					6.5	
					7.0	
7.5 - 10.0		NA	0.0		7.5	
					8.0	
					8.5	
					9.0	
					9.5	
10.0 - 12.5		NA	0.0		10.0	
					10.5	
					11.0	
					11.5	
					12.0	Wet at 12 feet bgs
12.5 - 15		NA	0.0		12.5	
					13.0	
					13.5	
					14.0	
					14.5	
					15.0	Boring terminated at 15.0 feet bgs
					15.5	
					16.0	
					16.5	
					17.0	
					17.5	
					18.0	
					18.5	
					19.0	
					19.5	
					20.0	
					20.5	
					21.0	
					21.5	

DRILLING METHODS
AR - AIR ROTARY
CFA - CONTINUOUS FLIGHT AUGER
DC - DRIVEN CASING
HA - HAND AUGER
HSA - HOLLOW STEM AUGER
MD - MUD DRILLING
RC - ROCK CORING
WR - WATER ROTARY

SAMPLING METHODS
SS - SPLIT SPOON
ST - SHELBY TUBE
GP - GEOPROBE

* - Sample collected for analysis
ND = <1 ppm

Terracon

SOIL BORING LOG

PROJECT NAME: Stantonsburg/Tenth Street Connector	SOIL BORING I.D.: B-8
PROJECT NO.: 70127335	DATE(S) DRILLED: August 30, 2012
PROJECT LOCATION: Parcel #21, 514 North Watauga Avenue Greenville, North Carolina	DRILLING CONTR.: Bridger Drilling Enterprises, Inc. DRILL METHOD: Geoprobe BORING DIAMETER: 2 inches
CLIENT: NCDOT Geoenvironmental	SAMPLING METHOD/INTERVAL: 5-Foot
LOGGED BY: Ben Swift	REMARKS: BGS = below grade surface

DESCRIPTIVE LOG

SAMPLE INTERVAL	SAMPLE REC. (IN.)	BLOWS PER 6"	PID/FID (ppm)	Odors	DEPTH (FT)	DESCRIPTION OF SOIL
0-2.5		NA	0.0	No petroleum odors	0.0	Topsoil
					0.5	Black, brown sand
					1.0	
					1.5	
					2.0	
2.5 - 5.0		NA	0.0		2.5	Orange, tand sandy clay
					3.0	Wet at 3 feet bgs
					3.5	
					4.0	
					4.5	
5.0 - 7.5*		NA	0.0		5.0	
					5.5	
					6.0	Tan, grey sandy clay
					6.5	
					7.0	
7.5 - 10.0		NA	0.0		7.5	
					8.0	
					8.5	
					9.0	
					9.5	
10.0 - 12.5		NA	NA		10.0	
					10.5	
					11.0	Water table at 11 feet bgs
					11.5	
					12.0	
12.5 - 15		NA	NA		12.5	
					13.0	
					13.5	
					14.0	
					14.5	
					15.0	Boring terminated at 15.0 feet bgs
					15.5	
					16.0	
					16.5	
					17.0	
					17.5	
					18.0	
					18.5	
					19.0	
					19.5	
					20.0	
					20.5	
					21.0	
					21.5	

DRILLING METHODS
AR - AIR ROTARY
CFA - CONTINUOUS FLIGHT AUGER
DC - DRIVEN CASING
HA - HAND AUGER
HSA - HOLLOW STEM AUGER
MD - MUD DRILLING
RC - ROCK CORING
WR - WATER ROTARY

SAMPLING METHODS
SS - SPLIT SPOON
ST - SHELBY TUBE
GP - GEOPROBE

* - Sample collected for analysis
ND = <1 ppm

Terracon

SOIL BORING LOG

PROJECT NAME: Stantonsburg/Tenth Street Connector	SOIL BORING I.D.: B-9
PROJECT NO.: 70127335	DATE(S) DRILLED: August 30, 2012
PROJECT LOCATION: Parcel #21, 514 North Watauga Avenue Greenville, North Carolina	DRILLING CONTR.: Bridger Drilling Enterprises, Inc. DRILL METHOD: Geoprobe BORING DIAMETER: 2 inches
CLIENT: NCDOT Geoenvironmental	SAMPLING METHOD/INTERVAL: 5-Foot
LOGGED BY: Ben Swift	REMARKS: BGS = below grade surface

DESCRIPTIVE LOG

SAMPLE INTERVAL	SAMPLE REC. (IN.)	BLOWS PER 6"	PID/FID (ppm)	Odors	DEPTH (FT)	DESCRIPTION OF SOIL
				No petroleum odors	0.0	Concrete
					0.5	Tan, brown fine to coarse sand
					1.0	
					1.5	
					2.0	
0 - 5.0		NA	0.00		2.5	
					3.0	
					3.5	
					4.0	
					4.5	
5.0 - 7.5*		NA	0.00		5.0	Tan, grey clay
					5.5	
					6.0	
					6.5	
					7.0	
7.5 - 10.0		NA	0.00		7.5	
					8.0	
					8.5	
					9.0	
					9.5	
10.0 - 12.5		NA	NA		10.0	
					10.5	
					11.0	
					11.5	
					12.0	
12.5 - 15.0		NA	NA		12.5	
					13.0	
					13.5	
					14.0	
					14.5	
15.0 - 17.5		NA	NA		15.0	
					15.5	
					16.0	
					16.5	
					17.0	
17.5 - 20.0		NA	NA		17.5	
					18.0	
					18.5	
					19.0	
					19.5	
					20.0	Boring terminated at 20.0 feet bgs
					20.5	
					21.0	
					21.5	

DRILLING METHODS
AR - AIR ROTARY
CFA - CONTINUOUS FLIGHT AUGER
DC - DRIVEN CASING
HA - HAND AUGER
HSA - HOLLOW STEM AUGER
MD - MUD DRILLING
RC - ROCK CORING
WR - WATER ROTARY

SAMPLING METHODS
SS - SPLIT SPOON
ST - SHELBY TUBE
GP - GEOPROBE

* - Sample collected for analysis
ND = <1 ppm

Terracon

SOIL BORING LOG

PROJECT NAME: Stantonsburg/Tenth Street Connector	SOIL BORING I.D.: B-10
PROJECT NO.: 70127335	DATE(S) DRILLED: August 31, 2012
PROJECT LOCATION: Parcel #21, 1006 Bancroft Avenue Greenville, North Carolina	DRILLING CONTR.: Bridger Drilling Enterprises, Inc. DRILL METHOD: Geoprobe BORING DIAMETER: 2 inches
CLIENT: NCDOT Geoenvironmental	SAMPLING METHOD/INTERVAL: 5-Foot
LOGGED BY: Ben Swift	REMARKS: BGS = below grade surface

DESCRIPTIVE LOG

SAMPLE INTERVAL	SAMPLE REC. (IN.)	BLOWS PER 6"	PID/FID (ppm)	Odors	DEPTH (FT)	DESCRIPTION OF SOIL
				No petroleum odors	0.0	Concrete
					0.5	Tan, brown sand
					1.0	
					1.5	
					2.0	
2.5 - 5.0		NA	0.0		2.5	
					3.0	
					3.5	
					4.0	Tan, grey sandy clay
					4.5	
5.0 - 7.5		NA	11.8	Yes	5.0	
					5.5	
					6.0	
					6.5	
					7.0	
7.5 - 10.0*		NA	32.7		7.5	
					8.0	Obvious staining
					8.5	
				No	9.0	Tan, grey clay
					9.5	
10.0 - 12.5		NA	0.0		10.0	Tan, orange clay
					10.5	
					11.0	
					11.5	
					12.0	
12.5 - 15.0		NA	0.0		12.5	
					13.0	Orange clay
					13.5	
					14.0	
					14.5	
15.0 - 17.5		NA	NA		15.0	Orange fine to medium sand
					15.5	
					16.0	
					16.5	
					17.0	Water table at 17 feet bgs
17.5 - 20.0		NA	0.0		17.5	
					18.0	
					18.5	
					19.0	
					19.5	
					20.0	Boring terminated at 20.0 feet bgs
					20.5	
					21.0	
					21.5	

DRILLING METHODS
AR - AIR ROTARY
CFA - CONTINUOUS FLIGHT AUGER
DC - DRIVEN CASING
HA - HAND AUGER
HSA - HOLLOW STEM AUGER
MD - MUD DRILLING
RC - ROCK CORING
WR - WATER ROTARY

SAMPLING METHODS
SS - SPLIT SPOON
ST - SHELBY TUBE
GP - GEOPROBE

* - Sample collected for analysis
ND = <1 ppm

Terracon

SOIL BORING LOG

PROJECT NAME: Stantonsburg/Tenth Street Connector	SOIL BORING I.D.: B-11
PROJECT NO.: 70127335	DATE(S) DRILLED: August 31, 2012
PROJECT LOCATION: Parcel #21, 514 North Watauga Avenue Greenville, North Carolina	DRILLING CONTR.: Bridger Drilling Enterprises, Inc. DRILL METHOD: Geoprobe BORING DIAMETER: 2 inches
CLIENT: NCDOT Geoenvironmental	SAMPLING METHOD/INTERVAL: 5-Foot
LOGGED BY: Ben Swift	REMARKS: BGS = below grade surface

DESCRIPTIVE LOG

SAMPLE INTERVAL	SAMPLE REC. (IN.)	BLOWS PER 6"	PID/FID (ppm)	Odors	DEPTH (FT)	DESCRIPTION OF SOIL
0-2.5		NA	0.0	No petroleum odors	0.0	Asphalt
					0.5	Orange fine to medium sand
					1.0	
					1.5	
					2.0	
2.5 - 5.0*		NA	0.3		2.5	
					3.0	Tan, orange fine to medium sand
					3.5	
					4.0	
					4.5	
5.0 - 7.5		NA	0.0		5.0	
					5.5	
					6.0	
					6.5	
					7.0	
7.5 - 10.0		NA	0.0		7.5	
					8.0	Tan, orange sandy clay
					8.5	
					9.0	
					9.5	
10.0 - 12.5		NA	0.0		10.0	
					10.5	
					11.0	
					11.5	
					12.0	Tan, grey clay/wet
12.5 - 15		NA	0.0	Yes	12.5	
					13.0	
					13.5	
					14.0	
					14.5	
					15.0	Boring terminated at 15.0 feet bgs
					15.5	
					16.0	
					16.5	
					17.0	
					17.5	
					18.0	
					18.5	
					19.0	
					19.5	
					20.0	
					20.5	
					21.0	
					21.5	

DRILLING METHODS
AR - AIR ROTARY
CFA - CONTINUOUS FLIGHT AUGER
DC - DRIVEN CASING
HA - HAND AUGER
HSA - HOLLOW STEM AUGER
MD - MUD DRILLING
RC - ROCK CORING
WR - WATER ROTARY

SAMPLING METHODS
SS - SPLIT SPOON
ST - SHELBY TUBE
GP - GEOPROBE

* - Sample collected for analysis
ND = <1 ppm

Terracon

SOIL BORING LOG

PROJECT NAME: Stantonsburg/Tenth Street Connector	SOIL BORING I.D.: B-12
PROJECT NO.: 70127335	DATE(S) DRILLED: August 31, 2012
PROJECT LOCATION: Parcel #21, 514 North Watauga Avenue Greenville, North Carolina	DRILLING CONTR.: Bridger Drilling Enterprises, Inc. DRILL METHOD: Geoprobe BORING DIAMETER: 2 inches
CLIENT: NCDOT Geoenvironmental	SAMPLING METHOD/INTERVAL: 5-Foot
LOGGED BY: Ben Swift	REMARKS: BGS = below grade surface

DESCRIPTIVE LOG

SAMPLE INTERVAL	SAMPLE REC. (IN.)	BLOWS PER 6"	PID/FID (ppm)	Odors	DEPTH (FT)	DESCRIPTION OF SOIL
0-2.5		NA	0.0	No petroleum odors	0.0	Asphalt
					0.5	Orange fine to medium sand
					1.0	
					1.5	
					2.0	
2.5 - 5.0		NA	0.0		2.5	
					3.0	Orange , tand sandy clay
					3.5	
					4.0	
					4.5	
5.0 - 7.5*		NA	0.0		5.0	
					5.5	
					6.0	
					6.5	
					7.0	
7.5 - 10.0		NA	0.0		7.5	
					8.0	Orange, tan, grey clay
					8.5	
					9.0	
					9.5	
10.0 - 12.5		NA	0.0		10.0	
					10.5	
					11.0	
					11.5	
					12.0	Wet at 12 feet bgs
12.5 - 15		NA	0.0		12.5	
					13.0	
					13.5	
					14.0	
					14.5	
					15.0	Boring terminated at 15.0 feet bgs
					15.5	
					16.0	
					16.5	
					17.0	
					17.5	
					18.0	
					18.5	
					19.0	
					19.5	
					20.0	
					20.5	
					21.0	
					21.5	

DRILLING METHODS
AR - AIR ROTARY
CFA - CONTINUOUS FLIGHT AUGER
DC - DRIVEN CASING
HA - HAND AUGER
HSA - HOLLOW STEM AUGER
MD - MUD DRILLING
RC - ROCK CORING
WR - WATER ROTARY

SAMPLING METHODS
SS - SPLIT SPOON
ST - SHELBY TUBE
GP - GEOPROBE

* - Sample collected for analysis
ND = <1 ppm

Terracon

SOIL BORING LOG

PROJECT NAME: Stantonsburg/Tenth Street Connector	SOIL BORING I.D.: B-13
PROJECT NO.: 70127335	DATE(S) DRILLED: August 31, 2012
PROJECT LOCATION: Parcel #21, 514 North Watauga Avenue Greenville, North Carolina	DRILLING CONTR.: Bridger Drilling Enterprises, Inc. DRILL METHOD: Geoprobe BORING DIAMETER: 2 inches
CLIENT: NCDOT Geoenvironmental	SAMPLING METHOD/INTERVAL: 5-Foot
LOGGED BY: Ben Swift	REMARKS: BGS = below grade surface

DESCRIPTIVE LOG

SAMPLE INTERVAL	SAMPLE REC. (IN.)	BLOWS PER 6"	PID/FID (ppm)	Odors	DEPTH (FT)	DESCRIPTION OF SOIL
0-2.5		NA	0.0	No petroleum odors	0.0	Asphalt
					0.5	Tan, brown clayey sand
					1.0	
					1.5	
					2.0	
2.5 - 5.0		NA	0.0		2.5	
					3.0	
					3.5	
					4.0	Orange fine to medium sand
					4.5	
5.0 - 7.5*		NA	0.0		5.0	Tan, brown fine to medium sand
					5.5	
					6.0	
					6.5	
					7.0	
7.5 - 10.0		NA	0.0		7.5	
					8.0	
					8.5	
					9.0	Brown, grey clay/wet
					9.5	
10.0 - 12.5		NA	0.0		10.0	orange, brown fine to medium sand/wet
					10.5	
					11.0	
					11.5	
					12.0	Tan, orange clay/wet
12.5 - 15		NA	0.0		12.5	
					13.0	
					13.5	
					14.0	
					14.5	
					15.0	Boring terminated at 15.0 feet bgs
					15.5	
					16.0	
					16.5	
					17.0	
					17.5	
					18.0	
					18.5	
					19.0	
					19.5	
					20.0	
					20.5	
					21.0	
					21.5	

DRILLING METHODS
AR - AIR ROTARY
CFA - CONTINUOUS FLIGHT AUGER
DC - DRIVEN CASING
HA - HAND AUGER
HSA - HOLLOW STEM AUGER
MD - MUD DRILLING
RC - ROCK CORING
WR - WATER ROTARY

SAMPLING METHODS
SS - SPLIT SPOON
ST - SHELBY TUBE
GP - GEOPROBE

* - Sample collected for analysis
ND = <1 ppm

Terracon

APPENDIX B

Geophysical Survey Report

Pyramid Project # 2012212

GEOPHYSICAL INVESTIGATION REPORT

EM61 & GPR SURVEYS

ALI SAMIR PROPERTY (PARCEL 21)
514 North Watauga Avenue
Greenville, North Carolina

September 24, 2012

Report prepared for: **Lori C. Hoffman, PE**
Stephen J. Kerlin
Terracon
5240 Green's Dairy Road
Raleigh, North Carolina 27616

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

PYRAMID ENVIRONMENTAL & ENGINEERING, P.C.
P.O. Box 16265
GREENSBORO, NC 27416-0265
(336) 335-3174

Terracon
GEOPHYSICAL INVESTIGATION REPORT
ALI SAMIR PROPERTY (PARCEL 21)
514 North Watauga Avenue
Greenville, North Carolina

TABLE OF CONTENTS PAGE

FIGURES

1.0 INTRODUCTION

Pyramid Environmental conducted a geophysical investigation for Terracon across the proposed Right-of Way (ROW) area at the Ali Samir property (Parcel 21) located at 514 North Watauga Avenue in Greenville, North Carolina. Conducted on August 16 and 23, 2012, the geophysical investigation was performed as part of the North Carolina Department of Transportation (NCDOT) preliminary site assessment for state project number U-3315 (WBS Element 35781.1.2) to determine if unknown, metallic, underground storage tanks (USTs) were present beneath the proposed ROW area of the site.

The Ali Samir property consists of a vacant (but newly remodeled) one-story building surrounded by asphalt pavement and grass yards. The property was a former store and gas station facility and a concrete slab located adjacent to the building represents the former pump island area. The geophysical survey (proposed ROW) area has a maximum length and width of 200 feet and 160 feet, respectively.

Terracon representatives Mr. Stephen Kerlin and Ms. Lori Hoffman, PE provided information and maps identifying the geophysical survey area to Mark Denil, PG prior to conducting the investigation. Photographs of the geophysical equipment used in this investigation and the property are shown in **Figure 1**.

2.0 FIELD METHODOLOGY

Prior to conducting the geophysical investigation, a 10-foot by 20-foot survey grid was established across the geophysical survey (proposed ROW) area 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 and ground penetrating radar (GPR) surveys. The EM survey was performed 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 trending, 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.

The GPR investigation was conducted across the areas containing steel reinforced concrete and selected 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.

Verbal, preliminary geophysical results obtained from the site were provided to Mr. Kerlin or Ms Hoffman during the week of August 27, 2012.

3.0 DISCUSSION OF RESULTS

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.

The linear, EM61 bottom coil anomalies intersecting grid coordinates X=60 Y=55, X=60 Y=67, X=78 Y=137, and X=85 Y=144 are probably in response to buried utility lines or conduits. The linear bottom coil anomaly intersecting grid coordinates X=110 Y=142 is possibly in response to a segment of one or more buried UST vent/product lines

GPR data suggest the high amplitude EM61 differential anomalies centered near grid coordinates X=90 Y=190, X=100 Y=213 and X=120 Y=205 are in response to known surface objects, buried, miscellaneous, metal objects or utility line-related objects. GPR data also suggest that the EM61 differential anomaly centered near grid coordinates X=60 Y=150 is in response to steel reinforced concrete of the former pump island area and buried, pump island-related equipment and conduits.

The remaining EM61 anomalies shown in Figures 2 and 3 are probably in response to known surface objects, conduits or to small, insignificant metal debris/objects. The geophysical investigation suggests that the proposed ROW area at Parcel 21 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 Ali Samir property (Parcel 21) located at 514 North Watauga Avenue in Greenville, 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.

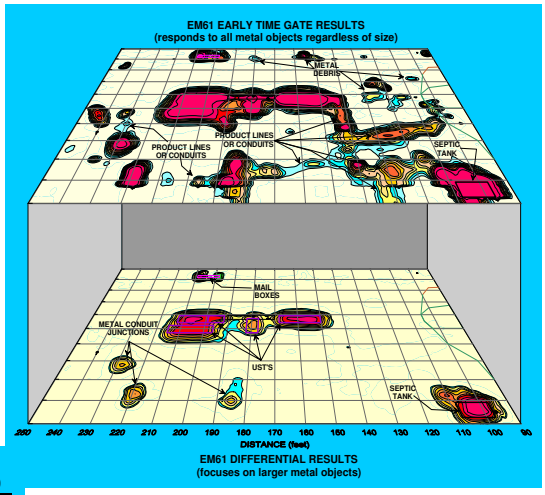
- The linear, EM61 bottom coil anomalies intersecting grid coordinates X=60 Y=55, X=60 Y=67, X=78 Y=137, and X=85 Y=144 are probably in response to buried utility lines or conduits.

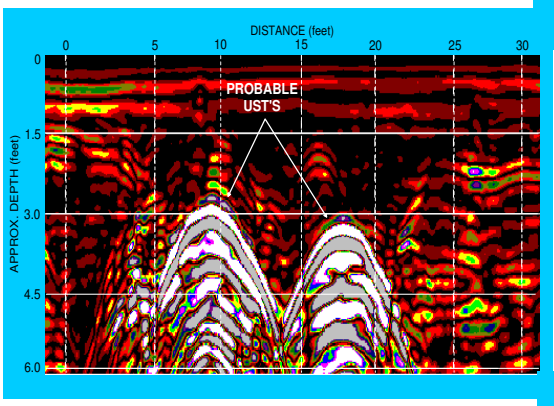
- GPR data also suggest that the EM61 differential anomaly centered near grid coordinates X=60 Y=150 is in response to steel reinforced concrete of the former pump island area and buried, pump island-related equipment and conduits.

- The geophysical investigation suggests that the proposed ROW area at Parcel 21 does not contain metallic USTs within the surveyed portion of the site.

5.0 LIMITATIONS

EM61 and GPR surveys have been performed and this report prepared for Terracon Consultants, Inc. 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 obtained for this project have not conclusively determined that the area of interest does not contain buried, metallic USTs, but that none were detected.

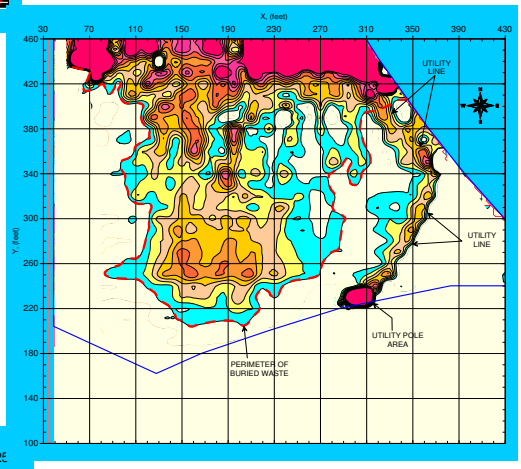


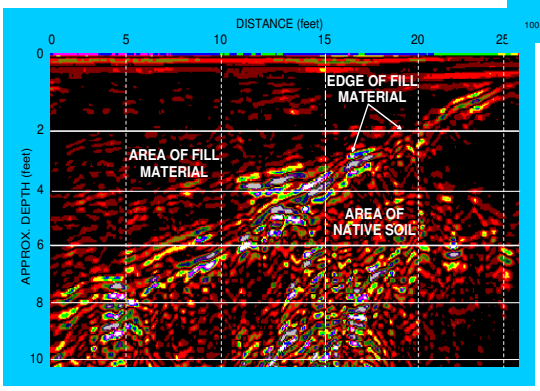


FIGURES

(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 across the proposed Right-of-Way area at the Ali Samir property (Parcel 21) on August 16, 2012.

The photographs show the SIR-2000 GPR system equipped with a 400 MHz antenna that were used to conduct the ground penetrating radar investigation across the areas containing steel reinforced concrete and selected EM61 differential anomalies at the Parcel 21 site on August 23, 2012.

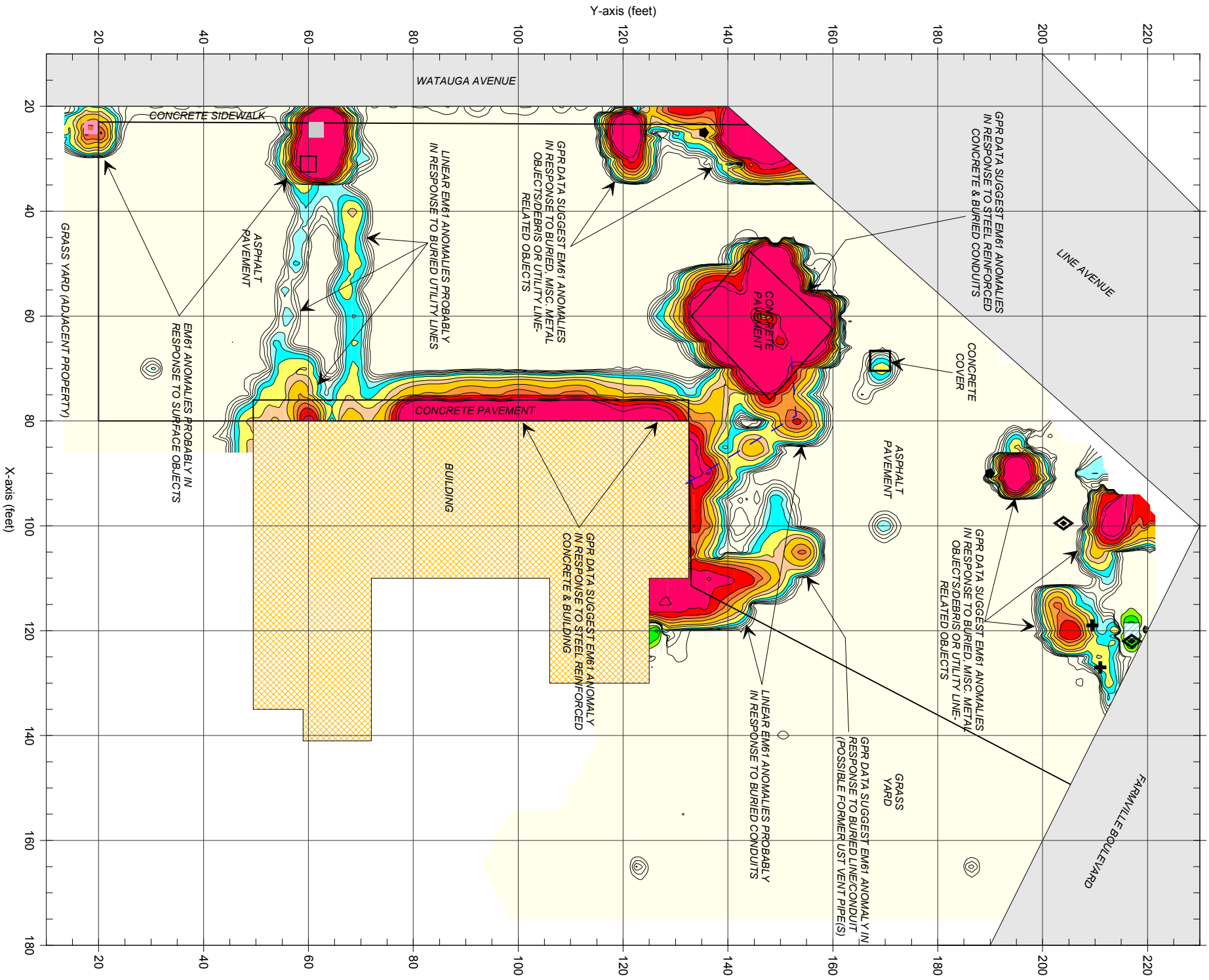
The photograph shows the Ali Samir property (Parcel 21) located at the intersection of Farmville Boulevard and Watauga Avenue/Line Avenue in Greenville, North Carolina. The photograph is viewed in a southerly direction.

PYRAMID
ENVIRONMENTAL & ENGINEERING, P.C.

CLIENT	TERRACON CONSULTANTS, INC.		DATE	09/24/12	DRWN MJD
SITE	ALI SAMIR PROPERTY (PARCEL 21)		LAY		CHKD
CITY	GREENVILLE	STATE NORTH CAROLINA	DWG		
TITLE	GEOPHYSICAL RESULTS		JNO	2012-212	FIGURE

GEOPHYSICAL EQUIPMENT & SITE PHOTOGRAPHS

FIGURE 1



APPROXIMATE NORTH

LEGEND

- SURVEY AREA: EM61 DATA ACQUIRED ALONG X-AXIS OR Y-AXIS TRENDING LINES SPACED 5 FEET APART
- BUILDING
- BURIED CONDUIT
- UTILITY POLE
- METAL VALVE COVER
- TRAFFIC SIGNAL BOX
- GUY WIRE
- MAIL BOX
- ROAD SIGN

EM61 BOTTOM COIL RESPONSE (MILLIVOLTS)

-3000 -2000 -1000 -90 -80 -70 -60 -50 -40 -30 -20 -10 0 10 20 30 40 50 60 70 80 90 100 200 300 400 500 1000 2000 3000

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 EM61 survey was conducted on August 16, 2012 using a Geonics EM61 instrument. Ground penetrating radar (GPR) scans were also conducted across areas containing steel reinforced concrete and selected EM61 anomalies on August 23, 2012 using a Geophysical Survey Systems SIR 2000 instrument with a 400 MHz antenna.

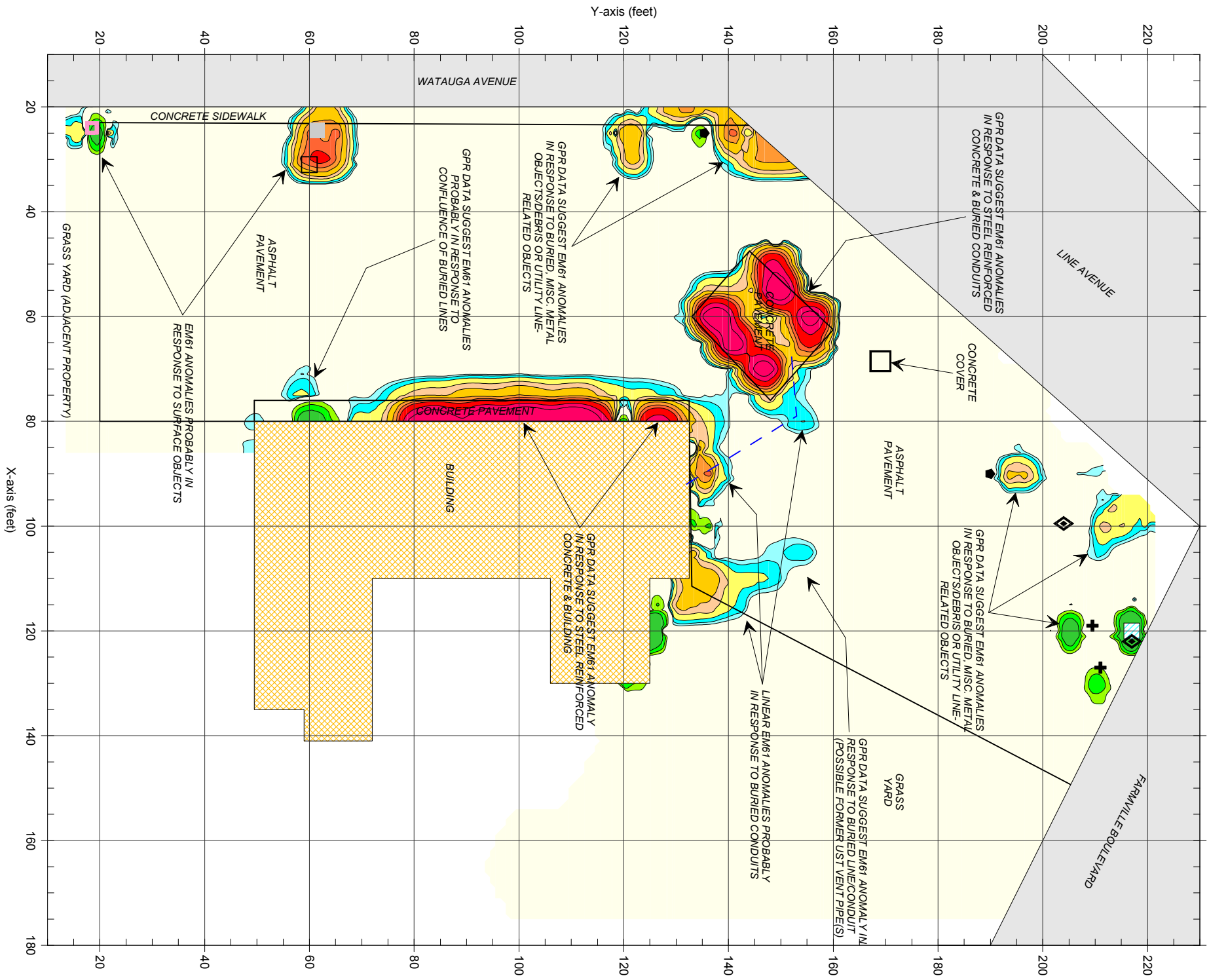
PYRAMID
ENVIRONMENTAL & ENGINEERING, P.C.

CLIENT	TERRACON CONSULTANTS, INC.	DATE	09/24/12	DRWN	MJD
SITE	ALI SAMIR PROPERTY (PARCEL 21)	LAY		CHKD	
CITY	GREENVILLE	STATE	NORTH CAROLINA	DWG	
TITLE	GEOPHYSICAL RESULTS	JOB NO.	2012-212	FIGURE	

GRAPHIC SCALE IN FEET

EM61 METAL DETECTION
(BOTTOM COIL RESULTS)

FIGURE 2



APPROXIMATE NORTH

LEGEND

- SURVEY AREA: EM61 DATA ACQUIRED ALONG X-AXIS OR Y-AXIS TRENDING LINES SPACED 5 FEET APART
- BUILDING
- BURIED CONDUIT
- UTILITY POLE
- METAL VALVE COVER
- TRAFFIC SIGNAL BOX
- GUY WIRE
- MAIL BOX
- ROAD SIGN

EM61 DIFFERENTIAL RESPONSE (MILLIVOLTS)

-500 -400 -320 -100 -80 -60 -45 -30 -20 -15 -10 -7.5 -5 -2.5 0 2.5 5 7.5 10 15 20 30 40 50 60 100 500

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 survey was conducted on August 16, 2012 using a Geonics EM61 instrument. Ground penetrating radar (GPR) scans were conducted across areas containing steel reinforced concrete and selected EM61 anomalies on August 23, 2012 using a Geophysical Survey Systems SIR 2000 instrument with a 400 MHz antenna.

PYRAMID
ENVIRONMENTAL & ENGINEERING, P.C.

CLIENT	TERRACON CONSULTANTS, INC.	DATE	09/24/12	DRWN	MJD
SITE	ALI SAMIR PROPERTY (PARCEL 21)	LAY		CHKD	
CITY	GREENVILLE	STATE	NORTH CAROLINA	DWG	
TITLE	GEOPHYSICAL RESULTS	JOB NO.	2012-212	FIGURE	

GRAPHIC SCALE IN FEET

EM61 METAL DETECTION
(DIFFERENTIAL RESULTS)

FIGURE 3

APPENDIX C

Laboratory Analytical Reports and Chain of Custody

Laboratory Report of Analysis

To: Steve Kerlin
Terracon
5240 Greens Dairy Rd
Raleigh, NC 27616

Report Number: **31202791**

Client Project: **70127335 U-3315 #21**

Dear Steve Kerlin,

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 Date

Print Date: 09/11/2012 N.C. Certification # 481

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 < DL)
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	Estimated Concentration.
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
EMPC	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

Samples requiring manual integrations for various congeners and/or standards are marked and dated by the analyst. A code definition is provided below:

M1	Mis-identified peak

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

Sample Summary

Client Sample ID	Lab Sample ID	Collected	Received	Matrix
S-1	31202791001	08/31/2012 13:15	09/04/2012 08:00	Soil-Solid as dry weight
S-2	31202791002	08/31/2012 13:21	09/04/2012 08:00	Soil-Solid as dry weight
S-3	31202791003	08/31/2012 13:26	09/04/2012 08:00	Soil-Solid as dry weight
S-4	31202791004	08/31/2012 13:35	09/04/2012 08:00	Soil-Solid as dry weight
S-5	31202791005	08/31/2012 13:40	09/04/2012 08:00	Soil-Solid as dry weight
S-6	31202791006	08/31/2012 13:46	09/04/2012 08:00	Soil-Solid as dry weight
S-7	31202791007	08/31/2012 13:51	09/04/2012 08:00	Soil-Solid as dry weight
S-8	31202791008	08/31/2012 14:02	09/04/2012 08:00	Soil-Solid as dry weight
S-9	31202791009	08/31/2012 14:10	09/04/2012 08:00	Soil-Solid as dry weight
S-10	31202791010	08/31/2012 14:30	09/04/2012 08:00	Soil-Solid as dry weight
S-11	31202791011	08/31/2012 14:44	09/04/2012 08:00	Soil-Solid as dry weight
S-12	31202791012	08/31/2012 15:05	09/04/2012 08:00	Soil-Solid as dry weight
S-13	31202791013	08/31/2012 15:20	09/04/2012 08:00	Soil-Solid as dry weight
TW-1	31202791014	08/31/2012 15:40	09/04/2012 08:00	Water

Results of **S-1**

Client Sample ID: **S-1**
Client Project ID: **70127335 U-3315 #21**
Lab Sample ID: 31202791001-A
Lab Project ID: 31202791

Collection Date: 08/31/2012 13:15
Received Date: 09/04/2012 08:00
Matrix: Soil-Solid as dry weight
Solids (%): 87.60

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

Parameter	Result	Qual	LOQ/CL	Units	DF	Date Analyzed
Gasoline Range Organics (GRO)	ND		3.24	mg/kg	1	09/5/2012 12:51
Surrogates						
4-Bromofluorobenzene	97.6		70.0-130	%	1	09/5/2012 12:51

Batch Information

Analytical Batch: **VGC2124**
Analytical Method: **SW-846 8015C GRO**
Instrument: **GC7**
Analyst: **MDY**

Prep Batch: **VXX3951**
Prep Method: **SW-846 5035**
Prep Date/Time: **09/04/2012 14:05**
Prep Initial Wt./Vol.: **7.05 g**
Prep Extract Vol: **5 mL**

Print Date: 09/11/2012

N.C. Certification # 481

Results of **S-1**

Client Sample ID: **S-1**
Client Project ID: **70127335 U-3315 #21**
Lab Sample ID: 31202791001-C
Lab Project ID: 31202791

Collection Date: 08/31/2012 13:15
Received Date: 09/04/2012 08:00
Matrix: Soil-Solid as dry weight
Solids (%): 87.60

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

Parameter	Result	Qual	LOQ/CL	Units	DF	Date Analyzed
Diesel Range Organics (DRO)	ND		6.51	mg/kg	1	09/8/2012 1:03
Surrogates						
o-Terphenyl	86.1		40.0-140	%	1	09/8/2012 1:03

Batch Information

Analytical Batch: **XGC2508**
Analytical Method: **SW-846 8015C DRO**
Instrument: **GC6**
Analyst: **DTF**

Prep Batch: **XXX3013**
Prep Method: **SW-846 3541**
Prep Date/Time: **09/06/2012 13:46**
Prep Initial Wt./Vol.: **35.04 g**
Prep Extract Vol: **10 mL**

Print Date: 09/11/2012

N.C. Certification # 481

Results of **S-2**

Client Sample ID: **S-2**
Client Project ID: **70127335 U-3315 #21**
Lab Sample ID: 31202791002-A
Lab Project ID: 31202791

Collection Date: 08/31/2012 13:21
Received Date: 09/04/2012 08:00
Matrix: Soil-Solid as dry weight
Solids (%): 85.70

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

Parameter	Result	Qual	LOQ/CL	Units	DF	Date Analyzed
Gasoline Range Organics (GRO)	ND		2.99	mg/kg	1	09/5/2012 13:17
Surrogates						
4-Bromofluorobenzene	102		70.0-130	%	1	09/5/2012 13:17

Batch Information

Analytical Batch: **VGC2124**
Analytical Method: **SW-846 8015C GRO**
Instrument: **GC7**
Analyst: **MDY**

Prep Batch: **VXX3951**
Prep Method: **SW-846 5035**
Prep Date/Time: **09/04/2012 14:06**
Prep Initial Wt./Vol.: **7.82 g**
Prep Extract Vol: **5 mL**

Print Date: 09/11/2012

N.C. Certification # 481

Results of **S-2**

Client Sample ID: **S-2**
Client Project ID: **70127335 U-3315 #21**
Lab Sample ID: 31202791002-C
Lab Project ID: 31202791

Collection Date: 08/31/2012 13:21
Received Date: 09/04/2012 08:00
Matrix: Soil-Solid as dry weight
Solids (%): 85.70

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

Parameter	Result	Qual	LOQ/CL	Units	DF	Date Analyzed
Diesel Range Organics (DRO)	ND		6.97	mg/kg	1	09/8/2012 1:31
Surrogates						
o-Terphenyl	77.1		40.0-140	%	1	09/8/2012 1:31

Batch Information

Analytical Batch: **XGC2508**
Analytical Method: **SW-846 8015C DRO**
Instrument: **GC6**
Analyst: **DTF**

Prep Batch: **XXX3013**
Prep Method: **SW-846 3541**
Prep Date/Time: **09/06/2012 13:46**
Prep Initial Wt./Vol.: **33.48 g**
Prep Extract Vol: **10 mL**

Print Date: 09/11/2012

N.C. Certification # 481

Results of **S-3**

Client Sample ID: **S-3**
Client Project ID: **70127335 U-3315 #21**
Lab Sample ID: 31202791003-A
Lab Project ID: 31202791

Collection Date: 08/31/2012 13:26
Received Date: 09/04/2012 08:00
Matrix: Soil-Solid as dry weight
Solids (%): 85.30

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

Parameter	Result	Qual	LOQ/CL	Units	DF	Date Analyzed
Gasoline Range Organics (GRO)	ND		3.16	mg/kg	1	09/5/2012 13:42
Surrogates						
4-Bromofluorobenzene	101		70.0-130	%	1	09/5/2012 13:42

Batch Information

Analytical Batch: **VGC2124**
Analytical Method: **SW-846 8015C GRO**
Instrument: **GC7**
Analyst: **MDY**

Prep Batch: **VXX3951**
Prep Method: **SW-846 5035**
Prep Date/Time: **09/04/2012 14:06**
Prep Initial Wt./Vol.: **7.42 g**
Prep Extract Vol: **5 mL**

Print Date: 09/11/2012

N.C. Certification # 481

Results of **S-3**

Client Sample ID: **S-3**
Client Project ID: **70127335 U-3315 #21**
Lab Sample ID: 31202791003-C
Lab Project ID: 31202791

Collection Date: 08/31/2012 13:26
Received Date: 09/04/2012 08:00
Matrix: Soil-Solid as dry weight
Solids (%): 85.30

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

Parameter	Result	Qual	LOQ/CL	Units	DF	Date Analyzed
Diesel Range Organics (DRO)	ND		7.04	mg/kg	1	09/8/2012 2:00
Surrogates						
o-Terphenyl	85.9		40.0-140	%	1	09/8/2012 2:00

Batch Information

Analytical Batch: **XGC2508**
Analytical Method: **SW-846 8015C DRO**
Instrument: **GC6**
Analyst: **DTF**

Prep Batch: **XXX3013**
Prep Method: **SW-846 3541**
Prep Date/Time: **09/06/2012 13:46**
Prep Initial Wt./Vol.: **33.31 g**
Prep Extract Vol: **10 mL**

Print Date: 09/11/2012

N.C. Certification # 481

Results of **S-4**

Client Sample ID: **S-4**
Client Project ID: **70127335 U-3315 #21**
Lab Sample ID: 31202791004-A
Lab Project ID: 31202791

Collection Date: 08/31/2012 13:35
Received Date: 09/04/2012 08:00
Matrix: Soil-Solid as dry weight
Solids (%): 85.80

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

Parameter	Result	Qual	LOQ/CL	Units	DF	Date Analyzed
Gasoline Range Organics (GRO)	ND		2.99	mg/kg	1	09/5/2012 14:07
Surrogates						
4-Bromofluorobenzene	103		70.0-130	%	1	09/5/2012 14:07

Batch Information

Analytical Batch: **VGC2124**
Analytical Method: **SW-846 8015C GRO**
Instrument: **GC7**
Analyst: **MDY**

Prep Batch: **VXX3951**
Prep Method: **SW-846 5035**
Prep Date/Time: **09/04/2012 14:07**
Prep Initial Wt./Vol.: **7.8 g**
Prep Extract Vol: **5 mL**

Print Date: 09/11/2012

N.C. Certification # 481

Results of **S-4**

Client Sample ID: **S-4**
Client Project ID: **70127335 U-3315 #21**
Lab Sample ID: 31202791004-C
Lab Project ID: 31202791

Collection Date: 08/31/2012 13:35
Received Date: 09/04/2012 08:00
Matrix: Soil-Solid as dry weight
Solids (%): 85.80

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

Parameter	Result	Qual	LOQ/CL	Units	DF	Date Analyzed
Diesel Range Organics (DRO)	ND		7.22	mg/kg	1	09/8/2012 2:28
Surrogates						
o-Terphenyl	94.9		40.0-140	%	1	09/8/2012 2:28

Batch Information

Analytical Batch: **XGC2508**
Analytical Method: **SW-846 8015C DRO**
Instrument: **GC6**
Analyst: **DTF**

Prep Batch: **XXX3013**
Prep Method: **SW-846 3541**
Prep Date/Time: **09/06/2012 13:46**
Prep Initial Wt./Vol.: **32.3 g**
Prep Extract Vol: **10 mL**

Print Date: 09/11/2012

N.C. Certification # 481

Results of **S-5**

Client Sample ID: **S-5**
Client Project ID: **70127335 U-3315 #21**
Lab Sample ID: 31202791005-A
Lab Project ID: 31202791

Collection Date: 08/31/2012 13:40
Received Date: 09/04/2012 08:00
Matrix: Soil-Solid as dry weight
Solids (%): 84.50

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

Parameter	Result	Qual	LOQ/CL	Units	DF	Date Analyzed
Gasoline Range Organics (GRO)	ND		3.15	mg/kg	1	09/5/2012 14:33
Surrogates						
4-Bromofluorobenzene	103		70.0-130	%	1	09/5/2012 14:33

Batch Information

Analytical Batch: **VGC2124**
Analytical Method: **SW-846 8015C GRO**
Instrument: **GC7**
Analyst: **MDY**

Prep Batch: **VXX3951**
Prep Method: **SW-846 5035**
Prep Date/Time: **09/04/2012 14:08**
Prep Initial Wt./Vol.: **7.52 g**
Prep Extract Vol: **5 mL**

Print Date: 09/11/2012

N.C. Certification # 481

Results of **S-5**

Client Sample ID: **S-5**
Client Project ID: **70127335 U-3315 #21**
Lab Sample ID: 31202791005-C
Lab Project ID: 31202791

Collection Date: 08/31/2012 13:40
Received Date: 09/04/2012 08:00
Matrix: Soil-Solid as dry weight
Solids (%): 84.50

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

Parameter	Result	Qual	LOQ/CL	Units	DF	Date Analyzed
Diesel Range Organics (DRO)	ND		7.01	mg/kg	1	09/8/2012 2:56
Surrogates						
o-Terphenyl	92.9		40.0-140	%	1	09/8/2012 2:56

Batch Information

Analytical Batch: **XGC2508**
Analytical Method: **SW-846 8015C DRO**
Instrument: **GC6**
Analyst: **DTF**

Prep Batch: **XXX3013**
Prep Method: **SW-846 3541**
Prep Date/Time: **09/06/2012 13:46**
Prep Initial Wt./Vol.: **33.74 g**
Prep Extract Vol: **10 mL**

Print Date: 09/11/2012

N.C. Certification # 481

Results of **S-6**

Client Sample ID: **S-6**
Client Project ID: **70127335 U-3315 #21**
Lab Sample ID: 31202791006-A
Lab Project ID: 31202791

Collection Date: 08/31/2012 13:46
Received Date: 09/04/2012 08:00
Matrix: Soil-Solid as dry weight
Solids (%): 85.30

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

Parameter	Result	Qual	LOQ/CL	Units	DF	Date Analyzed
Gasoline Range Organics (GRO)	ND		3.16	mg/kg	1	09/5/2012 14:58
Surrogates						
4-Bromofluorobenzene	105		70.0-130	%	1	09/5/2012 14:58

Batch Information

Analytical Batch: **VGC2124**
Analytical Method: **SW-846 8015C GRO**
Instrument: **GC7**
Analyst: **MDY**

Prep Batch: **VXX3951**
Prep Method: **SW-846 5035**
Prep Date/Time: **09/04/2012 14:11**
Prep Initial Wt./Vol.: **7.43 g**
Prep Extract Vol: **5 mL**

Print Date: 09/11/2012

N.C. Certification # 481

Results of **S-6**

Client Sample ID: **S-6**
Client Project ID: **70127335 U-3315 #21**
Lab Sample ID: 31202791006-C
Lab Project ID: 31202791

Collection Date: 08/31/2012 13:46
Received Date: 09/04/2012 08:00
Matrix: Soil-Solid as dry weight
Solids (%): 85.30

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

Parameter	Result	Qual	LOQ/CL	Units	DF	Date Analyzed
Diesel Range Organics (DRO)	ND		7.07	mg/kg	1	09/8/2012 4:21
Surrogates						
o-Terphenyl	89.8		40.0-140	%	1	09/8/2012 4:21

Batch Information

Analytical Batch: **XGC2508**
Analytical Method: **SW-846 8015C DRO**
Instrument: **GC6**
Analyst: **DTF**

Prep Batch: **XXX3013**
Prep Method: **SW-846 3541**
Prep Date/Time: **09/06/2012 13:46**
Prep Initial Wt./Vol.: **33.16 g**
Prep Extract Vol: **10 mL**

Print Date: 09/11/2012

N.C. Certification # 481

Results of **S-7**

Client Sample ID: **S-7**
Client Project ID: **70127335 U-3315 #21**
Lab Sample ID: 31202791007-A
Lab Project ID: 31202791

Collection Date: 08/31/2012 13:51
Received Date: 09/04/2012 08:00
Matrix: Soil-Solid as dry weight
Solids (%): 84.50

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

Parameter	Result	Qual	LOQ/CL	Units	DF	Date Analyzed
Gasoline Range Organics (GRO)	ND		2.80	mg/kg	1	09/5/2012 15:23
Surrogates						
4-Bromofluorobenzene	103		70.0-130	%	1	09/5/2012 15:23

Batch Information

Analytical Batch: **VGC2124**
Analytical Method: **SW-846 8015C GRO**
Instrument: **GC7**
Analyst: **MDY**

Prep Batch: **VXX3951**
Prep Method: **SW-846 5035**
Prep Date/Time: **09/04/2012 14:12**
Prep Initial Wt./Vol.: **8.47 g**
Prep Extract Vol: **5 mL**

Print Date: 09/11/2012

N.C. Certification # 481

Results of **S-7**

Client Sample ID: **S-7**
Client Project ID: **70127335 U-3315 #21**
Lab Sample ID: 31202791007-C
Lab Project ID: 31202791

Collection Date: 08/31/2012 13:51
Received Date: 09/04/2012 08:00
Matrix: Soil-Solid as dry weight
Solids (%): 84.50

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

Parameter	Result	Qual	LOQ/CL	Units	DF	Date Analyzed
Diesel Range Organics (DRO)	ND		7.48	mg/kg	1	09/8/2012 4:50
Surrogates						
o-Terphenyl	81.1		40.0-140	%	1	09/8/2012 4:50

Batch Information

Analytical Batch: **XGC2508**
Analytical Method: **SW-846 8015C DRO**
Instrument: **GC6**
Analyst: **DTF**

Prep Batch: **XXX3013**
Prep Method: **SW-846 3541**
Prep Date/Time: **09/06/2012 13:46**
Prep Initial Wt./Vol.: **31.65 g**
Prep Extract Vol: **10 mL**

Print Date: 09/11/2012

N.C. Certification # 481

Results of **S-8**

Client Sample ID: **S-8**
Client Project ID: **70127335 U-3315 #21**
Lab Sample ID: 31202791008-A
Lab Project ID: 31202791

Collection Date: 08/31/2012 14:02
Received Date: 09/04/2012 08:00
Matrix: Soil-Solid as dry weight
Solids (%): 89.60

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

Parameter	Result	Qual	LOQ/CL	Units	DF	Date Analyzed
Gasoline Range Organics (GRO)	ND		3.16	mg/kg	1	09/5/2012 15:48
Surrogates						
4-Bromofluorobenzene	104		70.0-130	%	1	09/5/2012 15:48

Batch Information

Analytical Batch: **VGC2124**
Analytical Method: **SW-846 8015C GRO**
Instrument: **GC7**
Analyst: **MDY**

Prep Batch: **VXX3951**
Prep Method: **SW-846 5035**
Prep Date/Time: **09/04/2012 14:14**
Prep Initial Wt./Vol.: **7.07 g**
Prep Extract Vol: **5 mL**

Print Date: 09/11/2012

N.C. Certification # 481

Results of **S-8**

Client Sample ID: **S-8**
Client Project ID: **70127335 U-3315 #21**
Lab Sample ID: 31202791008-C
Lab Project ID: 31202791

Collection Date: 08/31/2012 14:02
Received Date: 09/04/2012 08:00
Matrix: Soil-Solid as dry weight
Solids (%): 89.60

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

Parameter	Result	Qual	LOQ/CL	Units	DF	Date Analyzed
Diesel Range Organics (DRO)	**9.99**		6.79	mg/kg	1	09/8/2012 5:19
Surrogates						
o-Terphenyl	88.9		40.0-140	%	1	09/8/2012 5:19

Batch Information

Analytical Batch: **XGC2508**
Analytical Method: **SW-846 8015C DRO**
Instrument: **GC6**
Analyst: **DTF**

Prep Batch: **XXX3013**
Prep Method: **SW-846 3541**
Prep Date/Time: **09/06/2012 13:46**
Prep Initial Wt./Vol.: **32.86 g**
Prep Extract Vol: **10 mL**

Print Date: 09/11/2012

N.C. Certification # 481

Results of **S-9**

Client Sample ID: **S-9**
Client Project ID: **70127335 U-3315 #21**
Lab Sample ID: 31202791009-E
Lab Project ID: 31202791

Collection Date: 08/31/2012 14:10
Received Date: 09/04/2012 08:00
Matrix: Soil-Solid as dry weight
Solids (%): 75.30

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

Parameter	Result	Qual	LOQ/CL	Units	DF	Date Analyzed
Gasoline Range Organics (GRO)	ND		4.54	mg/kg	1	09/5/2012 16:14
Surrogates						
4-Bromofluorobenzene	101		70.0-130	%	1	09/5/2012 16:14

Batch Information

Analytical Batch: **VGC2124**
Analytical Method: **SW-846 8015C GRO**
Instrument: **GC7**
Analyst: **MDY**

Prep Batch: **VXX3951**
Prep Method: **SW-846 5035**
Prep Date/Time: **09/04/2012 14:17**
Prep Initial Wt./Vol.: **5.85 g**
Prep Extract Vol: **5 mL**

Print Date: 09/11/2012

N.C. Certification # 481

Results of **S-9**

Client Sample ID: **S-9**
Client Project ID: **70127335 U-3315 #21**
Lab Sample ID: 31202791009-I
Lab Project ID: 31202791

Collection Date: 08/31/2012 14:10
Received Date: 09/04/2012 08:00
Matrix: Soil-Solid as dry weight
Solids (%): 75.30

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

Parameter	Result	Qual	LOQ/CL	Units	DF	Date Analyzed
Diesel Range Organics (DRO)	ND		7.74	mg/kg	1	09/8/2012 5:47
Surrogates						
o-Terphenyl	73.9		40.0-140	%	1	09/8/2012 5:47

Batch Information

Analytical Batch: **XGC2508**
Analytical Method: **SW-846 8015C DRO**
Instrument: **GC6**
Analyst: **DTF**

Prep Batch: **XXX3013**
Prep Method: **SW-846 3541**
Prep Date/Time: **09/06/2012 13:46**
Prep Initial Wt./Vol.: **34.34 g**
Prep Extract Vol: **10 mL**

Print Date: 09/11/2012

N.C. Certification # 481

Results of **S-10**

Client Sample ID: **S-10**
Client Project ID: **70127335 U-3315 #21**
Lab Sample ID: 31202791010-E
Lab Project ID: 31202791

Collection Date: 08/31/2012 14:30
Received Date: 09/04/2012 08:00
Matrix: Soil-Solid as dry weight
Solids (%): 77.50

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

Parameter	Result	Qual	LOQ/CL	Units	DF	Date Analyzed
Gasoline Range Organics (GRO)	**80.3**		8.99	mg/kg	2	09/6/2012 13:34
Surrogates						
4-Bromofluorobenzene	105		70.0-130	%	2	09/6/2012 13:34

Batch Information

Analytical Batch: **VGC2125**
Analytical Method: **SW-846 8015C GRO**
Instrument: **GC7**
Analyst: **MDY**

Prep Batch: **VXX3956**
Prep Method: **SW-846 5035**
Prep Date/Time: **09/04/2012 14:20**
Prep Initial Wt./Vol.: **5.74 g**
Prep Extract Vol: **5 mL**

Print Date: 09/11/2012

N.C. Certification # 481

Results of **S-10**

Client Sample ID: **S-10**
Client Project ID: **70127335 U-3315 #21**
Lab Sample ID: 31202791010-I
Lab Project ID: 31202791

Collection Date: 08/31/2012 14:30
Received Date: 09/04/2012 08:00
Matrix: Soil-Solid as dry weight
Solids (%): 77.50

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

Parameter	Result	Qual	LOQ/CL	Units	DF	Date Analyzed
Diesel Range Organics (DRO)	**64.1**		7.56	mg/kg	1	09/8/2012 6:15
Surrogates						
o-Terphenyl	84.3		40.0-140	%	1	09/8/2012 6:15

Batch Information

Analytical Batch: **XGC2508**
Analytical Method: **SW-846 8015C DRO**
Instrument: **GC6**
Analyst: **DTF**

Prep Batch: **XXX3013**
Prep Method: **SW-846 3541**
Prep Date/Time: **09/06/2012 13:46**
Prep Initial Wt./Vol.: **34.13 g**
Prep Extract Vol: **10 mL**

Print Date: 09/11/2012

N.C. Certification # 481

Results of **S-11**

Client Sample ID: **S-11**
Client Project ID: **70127335 U-3315 #21**
Lab Sample ID: 31202791011-E
Lab Project ID: 31202791

Collection Date: 08/31/2012 14:44
Received Date: 09/04/2012 08:00
Matrix: Soil-Solid as dry weight
Solids (%): 92.10

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

Parameter	Result	Qual	LOQ/CL	Units	DF	Date Analyzed
Gasoline Range Organics (GRO)	ND		3.45	mg/kg	1	09/5/2012 17:04
Surrogates						
4-Bromofluorobenzene	100		70.0-130	%	1	09/5/2012 17:04

Batch Information

Analytical Batch: **VGC2124**
Analytical Method: **SW-846 8015C GRO**
Instrument: **GC7**
Analyst: **MDY**

Prep Batch: **VXX3951**
Prep Method: **SW-846 5035**
Prep Date/Time: **09/04/2012 14:27**
Prep Initial Wt./Vol.: **6.3 g**
Prep Extract Vol: **5 mL**

Print Date: 09/11/2012

N.C. Certification # 481

Results of **S-11**

Client Sample ID: **S-11**
Client Project ID: **70127335 U-3315 #21**
Lab Sample ID: 31202791011-I
Lab Project ID: 31202791

Collection Date: 08/31/2012 14:44
Received Date: 09/04/2012 08:00
Matrix: Soil-Solid as dry weight
Solids (%): 92.10

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

Parameter	Result	Qual	LOQ/CL	Units	DF	Date Analyzed
Diesel Range Organics (DRO)	ND		6.28	mg/kg	1	09/8/2012 6:43
Surrogates						
o-Terphenyl	96.7		40.0-140	%	1	09/8/2012 6:43

Batch Information

Analytical Batch: **XGC2508**
Analytical Method: **SW-846 8015C DRO**
Instrument: **GC6**
Analyst: **DTF**

Prep Batch: **XXX3013**
Prep Method: **SW-846 3541**
Prep Date/Time: **09/06/2012 13:46**
Prep Initial Wt./Vol.: **34.61 g**
Prep Extract Vol: **10 mL**

Print Date: 09/11/2012

N.C. Certification # 481

Results of **S-12**

Client Sample ID: **S-12**
Client Project ID: **70127335 U-3315 #21**
Lab Sample ID: 31202791012-E
Lab Project ID: 31202791

Collection Date: 08/31/2012 15:05
Received Date: 09/04/2012 08:00
Matrix: Soil-Solid as dry weight
Solids (%): 88.30

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

Parameter	Result	Qual	LOQ/CL	Units	DF	Date Analyzed
Gasoline Range Organics (GRO)	ND		3.35	mg/kg	1	09/5/2012 17:30
Surrogates						
4-Bromofluorobenzene	102		70.0-130	%	1	09/5/2012 17:30

Batch Information

Analytical Batch: **VGC2124**
Analytical Method: **SW-846 8015C GRO**
Instrument: **GC7**
Analyst: **MDY**

Prep Batch: **VXX3951**
Prep Method: **SW-846 5035**
Prep Date/Time: **09/04/2012 14:30**
Prep Initial Wt./Vol.: **6.76 g**
Prep Extract Vol: **5 mL**

Print Date: 09/11/2012

N.C. Certification # 481

Results of **S-12**

Client Sample ID: **S-12**
Client Project ID: **70127335 U-3315 #21**
Lab Sample ID: 31202791012-I
Lab Project ID: 31202791

Collection Date: 08/31/2012 15:05
Received Date: 09/04/2012 08:00
Matrix: Soil-Solid as dry weight
Solids (%): 88.30

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

Parameter	Result	Qual	LOQ/CL	Units	DF	Date Analyzed
Diesel Range Organics (DRO)	**17.4**		6.86	mg/kg	1	09/8/2012 7:12
Surrogates						
o-Terphenyl	96.9		40.0-140	%	1	09/8/2012 7:12

Batch Information

Analytical Batch: **XGC2508**
Analytical Method: **SW-846 8015C DRO**
Instrument: **GC6**
Analyst: **DTF**

Prep Batch: **XXX3013**
Prep Method: **SW-846 3541**
Prep Date/Time: **09/06/2012 13:46**
Prep Initial Wt./Vol.: **33.01 g**
Prep Extract Vol: **10 mL**

Print Date: 09/11/2012

N.C. Certification # 481

Results of **S-13**

Client Sample ID: **S-13**
Client Project ID: **70127335 U-3315 #21**
Lab Sample ID: 31202791013-E
Lab Project ID: 31202791

Collection Date: 08/31/2012 15:20
Received Date: 09/04/2012 08:00
Matrix: Soil-Solid as dry weight
Solids (%): 94.50

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

Parameter	Result	Qual	LOQ/CL	Units	DF	Date Analyzed
Gasoline Range Organics (GRO)	ND		3.57	mg/kg	1	09/5/2012 17:55
Surrogates						
4-Bromofluorobenzene	104		70.0-130	%	1	09/5/2012 17:55

Batch Information

Analytical Batch: **VGC2124**
Analytical Method: **SW-846 8015C GRO**
Instrument: **GC7**
Analyst: **MDY**

Prep Batch: **VXX3951**
Prep Method: **SW-846 5035**
Prep Date/Time: **09/04/2012 14:33**
Prep Initial Wt./Vol.: **5.93 g**
Prep Extract Vol: **5 mL**

Print Date: 09/11/2012

N.C. Certification # 481

Results of **S-13**

Client Sample ID: **S-13**
Client Project ID: **70127335 U-3315 #21**
Lab Sample ID: 31202791013-I
Lab Project ID: 31202791

Collection Date: 08/31/2012 15:20
Received Date: 09/04/2012 08:00
Matrix: Soil-Solid as dry weight
Solids (%): 94.50

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

Parameter	Result	Qual	LOQ/CL	Units	DF	Date Analyzed
Diesel Range Organics (DRO)	**8.32**		6.53	mg/kg	1	09/8/2012 7:40
Surrogates						
o-Terphenyl	103		40.0-140	%	1	09/8/2012 7:40

Batch Information

Analytical Batch: **XGC2508**
Analytical Method: **SW-846 8015C DRO**
Instrument: **GC6**
Analyst: **DTF**

Prep Batch: **XXX3013**
Prep Method: **SW-846 3541**
Prep Date/Time: **09/06/2012 13:46**
Prep Initial Wt./Vol.: **32.42 g**
Prep Extract Vol: **10 mL**

Print Date: 09/11/2012

N.C. Certification # 481

Results of **TW-1**

Client Sample ID: **TW-1**
Client Project ID: **70127335 U-3315 #21**
Lab Sample ID: 31202791014-A
Lab Project ID: 31202791

Collection Date: 08/31/2012 15:40
Received Date: 09/04/2012 08:00
Matrix: Water

Results by **SW-846 8260B**

Parameter	Result	Qual	LOQ/CL	Units	DF	Date Analyzed
1,1,1,2-Tetrachloroethane	ND		1.00	ug/L	1	09/5/2012 15:44
1,1,1-Trichloroethane	ND		1.00	ug/L	1	09/5/2012 15:44
1,1,2,2-Tetrachloroethane	ND		1.00	ug/L	1	09/5/2012 15:44
1,1,2-Trichloroethane	ND		1.00	ug/L	1	09/5/2012 15:44
1,1-Dichloroethane	ND		1.00	ug/L	1	09/5/2012 15:44
1,1-Dichloroethene	ND		1.00	ug/L	1	09/5/2012 15:44
1,1-Dichloropropene	ND		1.00	ug/L	1	09/5/2012 15:44
1,2,3-Trichlorobenzene	ND		1.00	ug/L	1	09/5/2012 15:44
1,2,3-Trichloropropane	ND		1.00	ug/L	1	09/5/2012 15:44
1,2,4-Trichlorobenzene	ND		1.00	ug/L	1	09/5/2012 15:44
1,2,4-Trimethylbenzene	ND		1.00	ug/L	1	09/5/2012 15:44
1,2-Dibromo-3-chloropropane	ND		5.00	ug/L	1	09/5/2012 15:44
1,2-Dibromoethane	ND		1.00	ug/L	1	09/5/2012 15:44
1,2-Dichlorobenzene	ND		1.00	ug/L	1	09/5/2012 15:44
1,2-Dichloroethane	ND		1.00	ug/L	1	09/5/2012 15:44
1,2-Dichloropropane	ND		1.00	ug/L	1	09/5/2012 15:44
1,3,5-Trimethylbenzene	ND		1.00	ug/L	1	09/5/2012 15:44
1,3-Dichlorobenzene	ND		1.00	ug/L	1	09/5/2012 15:44
1,3-Dichloropropane	ND		1.00	ug/L	1	09/5/2012 15:44
1,4-Dichlorobenzene	ND		1.00	ug/L	1	09/5/2012 15:44
2,2-Dichloropropane	ND		1.00	ug/L	1	09/5/2012 15:44
2-Butanone	ND		25.0	ug/L	1	09/5/2012 15:44
2-Chlorotoluene	ND		1.00	ug/L	1	09/5/2012 15:44
2-Hexanone	ND		5.00	ug/L	1	09/5/2012 15:44
4-Chlorotoluene	ND		1.00	ug/L	1	09/5/2012 15:44
4-Isopropyltoluene	ND		1.00	ug/L	1	09/5/2012 15:44
4-Methyl-2-pentanone	ND		5.00	ug/L	1	09/5/2012 15:44
Acetone	ND		25.0	ug/L	1	09/5/2012 15:44
Benzene	ND		1.00	ug/L	1	09/5/2012 15:44
Bromobenzene	ND		1.00	ug/L	1	09/5/2012 15:44
Bromochloromethane	ND		1.00	ug/L	1	09/5/2012 15:44
Bromodichloromethane	ND		1.00	ug/L	1	09/5/2012 15:44
Bromoform	ND		1.00	ug/L	1	09/5/2012 15:44
Bromomethane	ND		1.00	ug/L	1	09/5/2012 15:44
n-Butylbenzene	ND		1.00	ug/L	1	09/5/2012 15:44
Carbon disulfide	ND		1.00	ug/L	1	09/5/2012 15:44
Carbon tetrachloride	ND		1.00	ug/L	1	09/5/2012 15:44
Chlorobenzene	ND		1.00	ug/L	1	09/5/2012 15:44
Chloroethane	ND		1.00	ug/L	1	09/5/2012 15:44
Chloroform	ND		1.00	ug/L	1	09/5/2012 15:44
Chloromethane	ND		1.00	ug/L	1	09/5/2012 15:44
Dibromochloromethane	ND		1.00	ug/L	1	09/5/2012 15:44
Dibromomethane	ND		1.00	ug/L	1	09/5/2012 15:44

Print Date: 09/11/2012

N.C. Certification # 481

Results of **TW-1**

Client Sample ID: **TW-1**
Client Project ID: **70127335 U-3315 #21**
Lab Sample ID: 31202791014-A
Lab Project ID: 31202791

Collection Date: 08/31/2012 15:40
Received Date: 09/04/2012 08:00
Matrix: Water

Results by **SW-846 8260B**

Parameter	Result	Qual	LOQ/CL	Units	DF	Date Analyzed
Dichlorodifluoromethane	ND		5.00	ug/L	1	09/5/2012 15:44
cis-1,3-Dichloropropene	ND		1.00	ug/L	1	09/5/2012 15:44
trans-1,3-Dichloropropene	ND		1.00	ug/L	1	09/5/2012 15:44
Diisopropyl Ether	ND		1.00	ug/L	1	09/5/2012 15:44
Ethyl Benzene	ND		1.00	ug/L	1	09/5/2012 15:44
Hexachlorobutadiene	ND		1.00	ug/L	1	09/5/2012 15:44
Isopropylbenzene (Cumene)	ND		1.00	ug/L	1	09/5/2012 15:44
Methyl iodide	ND		1.00	ug/L	1	09/5/2012 15:44
Methylene chloride	ND		5.00	ug/L	1	09/5/2012 15:44
Naphthalene	ND		1.00	ug/L	1	09/5/2012 15:44
Styrene	ND		1.00	ug/L	1	09/5/2012 15:44
Tetrachloroethene	ND		1.00	ug/L	1	09/5/2012 15:44
Toluene	ND		1.00	ug/L	1	09/5/2012 15:44
Trichloroethene	ND		1.00	ug/L	1	09/5/2012 15:44
Trichlorofluoromethane	ND		1.00	ug/L	1	09/5/2012 15:44
Vinyl chloride	ND		1.00	ug/L	1	09/5/2012 15:44
Xylene (total)	ND		2.00	ug/L	1	09/5/2012 15:44
cis-1,2-Dichloroethene	ND		1.00	ug/L	1	09/5/2012 15:44
m,p-Xylene	ND		2.00	ug/L	1	09/5/2012 15:44
n-Propylbenzene	ND		1.00	ug/L	1	09/5/2012 15:44
o-Xylene	ND		1.00	ug/L	1	09/5/2012 15:44
sec-Butylbenzene	ND		1.00	ug/L	1	09/5/2012 15:44
tert-Butyl methyl ether (MTBE)	ND		1.00	ug/L	1	09/5/2012 15:44
tert-Butylbenzene	ND		1.00	ug/L	1	09/5/2012 15:44
trans-1,2-Dichloroethene	ND		1.00	ug/L	1	09/5/2012 15:44
trans-1,4-Dichloro-2-butene	ND		5.00	ug/L	1	09/5/2012 15:44
Surrogates						
1,2-Dichloroethane-d4	103		64.0-140	%	1	09/5/2012 15:44
4-Bromofluorobenzene	100		85.0-115	%	1	09/5/2012 15:44
Toluene d8	99.0		82.0-117	%	1	09/5/2012 15:44

Batch Information

Analytical Batch: **VMS2529**
Analytical Method: **SW-846 8260B**
Instrument: **MSD4**
Analyst: **DVO**

Prep Batch: **VXX3952**
Prep Method: **SW-846 5030B**
Prep Date/Time: **09/05/2012 08:00**
Prep Initial Wt./Vol.: **40 mL**
Prep Extract Vol: **40 mL**

Print Date: 09/11/2012

N.C. Certification # 481

Results of **TW-1**

Client Sample ID: **TW-1**
Client Project ID: **70127335 U-3315 #21**
Lab Sample ID: 31202791014-D
Lab Project ID: 31202791

Collection Date: 08/31/2012 15:40
Received Date: 09/04/2012 08:00
Matrix: Water

Results by **SW-846 8270D**

Parameter	Result	Qual	LOQ/CL	Units	DF	Date Analyzed
1,2,4-Trichlorobenzene	ND		5.01	ug/L	1	09/10/2012 12:57
1,2-Dichlorobenzene	ND		5.01	ug/L	1	09/10/2012 12:57
1,3-Dichlorobenzene	ND		5.01	ug/L	1	09/10/2012 12:57
1,4-Dichlorobenzene	ND		5.01	ug/L	1	09/10/2012 12:57
2,4,5-Trichlorophenol	ND		5.01	ug/L	1	09/10/2012 12:57
2,4,6-Trichlorophenol	ND		5.01	ug/L	1	09/10/2012 12:57
2,4-Dichlorophenol	ND		5.01	ug/L	1	09/10/2012 12:57
2,4-Dinitrophenol	ND		25.0	ug/L	1	09/10/2012 12:57
2,4-Dinitrotoluene	ND		5.01	ug/L	1	09/10/2012 12:57
2,6-Dinitrotoluene	ND		5.01	ug/L	1	09/10/2012 12:57
2-Chloronaphthalene	ND		5.01	ug/L	1	09/10/2012 12:57
2-Chlorophenol	ND		5.01	ug/L	1	09/10/2012 12:57
2-Methylnaphthalene	ND		5.01	ug/L	1	09/10/2012 12:57
2-Methylphenol	ND		5.01	ug/L	1	09/10/2012 12:57
2-Nitroaniline	ND		5.01	ug/L	1	09/10/2012 12:57
2-Nitrophenol	ND		5.01	ug/L	1	09/10/2012 12:57
3 and/or 4-Methylphenol	ND		5.01	ug/L	1	09/10/2012 12:57
3,3'-Dichlorobenzidine	ND		10.0	ug/L	1	09/10/2012 12:57
3-Nitroaniline	ND		25.0	ug/L	1	09/10/2012 12:57
4,6-Dinitro-2-methylphenol	ND		25.0	ug/L	1	09/10/2012 12:57
4-Chloro-3-methylphenol	ND		5.01	ug/L	1	09/10/2012 12:57
4-Chloroaniline	ND		25.0	ug/L	1	09/10/2012 12:57
4-Chlorophenyl phenyl ether	ND		5.01	ug/L	1	09/10/2012 12:57
Acenaphthene	ND		5.01	ug/L	1	09/10/2012 12:57
Acenaphthylene	ND		5.01	ug/L	1	09/10/2012 12:57
Anthracene	ND		5.01	ug/L	1	09/10/2012 12:57
Benzo(a)anthracene	ND		5.01	ug/L	1	09/10/2012 12:57
Benzo(a)pyrene	ND		5.01	ug/L	1	09/10/2012 12:57
Benzo(b)fluoranthene	ND		5.01	ug/L	1	09/10/2012 12:57
Benzo(g,h,i)perylene	ND		5.01	ug/L	1	09/10/2012 12:57
Benzo(k)fluoranthene	ND		5.01	ug/L	1	09/10/2012 12:57
Benzoic acid	ND		5.01	ug/L	1	09/10/2012 12:57
Bis(2-Chloroethoxy)methane	ND		5.01	ug/L	1	09/10/2012 12:57
Bis(2-Chloroethyl)ether	ND		5.01	ug/L	1	09/10/2012 12:57
Bis(2-Chloroisopropyl)ether	ND		5.01	ug/L	1	09/10/2012 12:57
Bis(2-Ethylhexyl)phthalate	ND		5.01	ug/L	1	09/10/2012 12:57
4-Bromophenyl phenyl ether	ND		5.01	ug/L	1	09/10/2012 12:57
Butyl benzyl phthalate	ND		5.01	ug/L	1	09/10/2012 12:57
Chrysene	ND		5.01	ug/L	1	09/10/2012 12:57
Di-n-butyl phthalate	ND		5.01	ug/L	1	09/10/2012 12:57
Di-n-octyl phthalate	ND		5.01	ug/L	1	09/10/2012 12:57
Dibenz(a,h)anthracene	ND		5.01	ug/L	1	09/10/2012 12:57
Dibenzofuran	ND		5.01	ug/L	1	09/10/2012 12:57

Print Date: 09/11/2012

N.C. Certification # 481

Results of **TW-1**

Client Sample ID: **TW-1**
Client Project ID: **70127335 U-3315 #21**
Lab Sample ID: 31202791014-D
Lab Project ID: 31202791

Collection Date: 08/31/2012 15:40
Received Date: 09/04/2012 08:00
Matrix: Water

Results by **SW-846 8270D**

Parameter	Result	Qual	LOQ/CL	Units	DF	Date Analyzed
Diethyl phthalate	ND		5.01	ug/L	1	09/10/2012 12:57
Dimethyl phthalate	ND		5.01	ug/L	1	09/10/2012 12:57
2,4-Dimethylphenol	ND		5.01	ug/L	1	09/10/2012 12:57
Diphenylamine	ND		5.01	ug/L	1	09/10/2012 12:57
Fluoranthene	ND		5.01	ug/L	1	09/10/2012 12:57
Fluorene	ND		5.01	ug/L	1	09/10/2012 12:57
Hexachlorobenzene	ND		5.01	ug/L	1	09/10/2012 12:57
Hexachlorobutadiene	ND		5.01	ug/L	1	09/10/2012 12:57
Hexachlorocyclopentadiene	ND		10.0	ug/L	1	09/10/2012 12:57
Hexachloroethane	ND		5.01	ug/L	1	09/10/2012 12:57
Indeno(1,2,3-cd)pyrene	ND		5.01	ug/L	1	09/10/2012 12:57
Isophorone	ND		5.01	ug/L	1	09/10/2012 12:57
Naphthalene	ND		5.01	ug/L	1	09/10/2012 12:57
4-Nitroaniline	ND		25.0	ug/L	1	09/10/2012 12:57
Nitrobenzene	ND		5.01	ug/L	1	09/10/2012 12:57
4-Nitrophenol	ND		25.0	ug/L	1	09/10/2012 12:57
Pentachlorophenol	ND		25.0	ug/L	1	09/10/2012 12:57
Phenanthrene	ND		5.01	ug/L	1	09/10/2012 12:57
Phenol	ND		5.01	ug/L	1	09/10/2012 12:57
Pyrene	ND		5.01	ug/L	1	09/10/2012 12:57
n-Nitrosodi-n-propylamine	ND		5.01	ug/L	1	09/10/2012 12:57
Surrogates						
2,4,6-Tribromophenol	98.0		29.3-152	%	1	09/10/2012 12:57
2-Fluorobiphenyl	77.0		50.0-107	%	1	09/10/2012 12:57
2-Fluorophenol	67.0		33.1-118	%	1	09/10/2012 12:57
Nitrobenzene-d5	84.0		46.0-118	%	1	09/10/2012 12:57
Phenol-d6	83.0		49.0-120	%	1	09/10/2012 12:57
Terphenyl-d14	112		22.1-142	%	1	09/10/2012 12:57

Batch Information

Analytical Batch: **XMS1659**
Analytical Method: **SW-846 8270D**
Instrument: **MSD10**
Analyst: **CMP**

Prep Batch: **XXX3014**
Prep Method: **SW-846 3520C**
Prep Date/Time: **09/06/2012 15:15**
Prep Initial Wt./Vol.: **999 mL**
Prep Extract Vol: **5 mL**

Print Date: 09/11/2012

N.C. Certification # 481

CHAIN OF CUSTODY

SGS ANALYTICAL PERSPECTIVES
5500 Business Drive
Wilmington, NC 28405
+1 910 350 1903
WWW.SGS.COM

CLIENT:	Terracon
CONTACT:	Ben Swift
PHONE NO:	(919) 873-2211
PROJECT:	70127335
SITE / PWSID / WBS #:	U-3315 #21
REPORTS TO:	Lori Hoffman
EMAIL:	lchoffman@terracon.com
INVOICE TO:	NCDOT
QUOTE #	
P.O. NUMBER	

SGS Reference #: 3120279 1

PAGE 1 **OF** 2

LAB NO.	SAMPLE IDENTIFICATION	DATE	TIME	MATRIX	# CONTAINERS	SAMPLE TYPE (C=COMP, G=GRAB)	PRESERVATIVES USED	ANALYSIS REQUIRED: DRO	GRO	*HOLD / SVOCs / VOCs / VPH / EPH							REMARKS
	S-1	8-31-12	1315	Soil	3	G		X	X								
	S-2		1321														
	S-3		1326														
	S-4		1335														
	S-5		1340														
	S-6		1346														
	S-7		1351														
	S-8		1402														
	S-9		1410		11					X							
	S-10		1430		11					X							

COLLECTED/RELINQUISHED BY: (1)	**DATE**	**TIME**	**RECEIVED BY:**	**REPORT LEVEL:** ☐ Level I ☐ Level II ☐ Level IV	**REQUESTED TURNAROUND TIME:** ☐ Rush:_____ ☒ Standard
Ben Swift	8-31-12	1741			
Relinquished By: (2)	Date	Time	Received By:	**SPECIAL DELIVERABLES:** State of Origin:_____ ☐ Trust Fund	
	9/2/12	1900		☐ DoD ☐ EDD:_____ Other:_____	
Relinquished By: (3)	Date	Time	Received By:	**SPECIAL INSTRUCTIONS:**	
Received For Laboratory By:	Date	Time	CoC Seal: INTACT BROKEN ABSENT	Shipping Carrier:	Notes:
	9/4/12	0800	Sample Receipt Temp: C 0.2, 0.2	Shipping Ticket No:	

SGS-00055 (06/12)

ANALYTICAL PERSPECTIVES IS NOW PART OF SGS, THE WORLD'S LEADING INSPECTION, VERIFICATION, TESTING AND CERTIFICATION COMPANY.

White - Retained by Lab
Yellow - Retained by Client

CHAIN OF CUSTODY

SGS ANALYTICAL PERSPECTIVES
5500 Business Drive
Wilmington, NC 28405
+1 910 350 1903
WWW.SGS.COM

CLIENT: TERRACON		SGS Reference #: 3120791	PAGE 2 OF 2
CONTACT: BEN SWIFT	**PHONE NO:** (919) 873-2211		
PROJECT: 70122335	**SITE / PWSID / WBS #:** U-3315 #21		
REPORTS TO: LORI HOFFMAN			
EMAIL: lchoffman@terracon.com			
INVOICE TO: NCDOT	**QUOTE #** / **P.O. NUMBER**		

LAB NO.	SAMPLE IDENTIFICATION	DATE	TIME	MATRIX	# CONTAINERS	SAMPLE TYPE (C= COMP, G= GRAB)	PRESERVATIVES USED	ANALYSIS REQUIRED: GRO	DRO	* HOLD / SVOCs / VOCs / VPH / EPH	REMARKS
	S-11	8-31-12	1444	SOIL	11	G		X	X	X	
	S-12	"	1505	"	"	"		"	"	"	
	S-13	"	1520	"	"	"		"	"	"	

COLLECTED/RELINQUISHED BY: (1) BEN SWIFT	**DATE** 8-31-12	**TIME** 1740	**RECEIVED BY:**	**REPORT LEVEL:** ☐ Level I ☐ Level II ☐ Level IV — **REQUESTED TURNAROUND TIME:** ☐ Rush:_____ ☒ Standard
Relinquished By: (2)	Date 9/2/12	Time 1900	Received By:	**SPECIAL DELIVERABLES:** State of Origin:_____ ☐ Trust Fund ☐ DoD ☐ EDD:_____ Other:_____
Relinquished By: (3)	Date	Time	Received By:	**SPECIAL INSTRUCTIONS:**
Received For Laboratory By:	Date 9/4/12	Time 0800	CoC Seal: INTACT BROKEN (ABSENT) Sample Receipt Temp: C 0.2, 0.2°	Shipping Carrier: Shipping Ticket No: — Notes:

SGS-00055 (06/12)

ANALYTICAL PERSPECTIVES IS NOW PART OF SGS, THE WORLD'S LEADING INSPECTION, VERIFICATION, TESTING AND CERTIFICATION COMPANY.

White - Retained by Lab
Yellow - Retained by Client

SGS North America Inc.

Sample Receipt Checklist (SRC)

Client: **NCDOT-Terracon** Work Order No.: **31202791**

1. ___ Shipped
   X Hand Delivered

2. X COC Present on Receipt
   ___ No COC
   ___ Additional Transmittal Forms

3. ___ Custody Tape on Container
   X No Custody Tape

4. X Samples Intact
   ___ Samples Broken / Leaking

5. X Chilled on Receipt Actual Temp.(s) in °C: 0.2, 0.2
   ___ Ambient on Receipt
   ___ Walk-in on Ice; Coming down to temp.
   ___ Received Outside of Temperature Specifications

6. X Sufficient Sample Submitted
   ___ Insufficient Sample Submitted

7. ___ Chlorine absent
   ___ HNO3 < 2
   ___ HCL < 2
   ___ Additional Preservatives verified (see notes)

8. X Received Within Holding Time
   ___ Not Received Within Holding Time

9. ___ No Discrepancies Noted
   X Discrepancies Noted
   ___ NCDENR notified of Discrepancies*

10. X No Headspace present in VOC vials
    ___ Headspace present in VOC vials >6mm

Notes:

Comments: Received three HCL vials and two liters not on COC. Collection date/time on samples is 8/29/12 15:40.

Inspected and Logged in by: JJ

Date: Tue-9/4/12 00:00

*NCDENR must be notified when collection, holding time or preservation requirements are not met. MI_11.6

Laboratory Report of Analysis

To: Steve Kerlin
Terracon
5240 Greens Dairy Rd
Raleigh, NC 27616

Report Number: **31202911**

Client Project: **70127335 U-3315 #21**

Dear Steve Kerlin,

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 Date
Project Manager
michael.page@sgs.com

Print Date: 09/25/2012 N.C. Certification # 481

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 < DL)
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	Estimated Concentration.
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
EMPC	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

Samples requiring manual integrations for various congeners and/or standards are marked and dated by the analyst. A code definition is provided below:

M1	Mis-identified peak

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

Sample Summary

Client Sample ID	Lab Sample ID	Collected	Received	Matrix
S-10	31202911001	08/31/2012 14:30	09/04/2012 08:00	Soil-Solid as dry weight
S-12	31202911002	08/31/2012 15:05	09/04/2012 08:00	Soil-Solid as dry weight

SGS Analytical Perspectives | 5500 Business Dr. US - 28405 - Wilmington, NC t +1 910 350 1903 f +1 910 350 1557 www.sgs.com
Member of the SGS Group (SGS SA)

Results of **S-10**

Client Sample ID: **S-10**
Client Project ID: **70127335 U-3315 #21**
Lab Sample ID: 31202911001-D
Lab Project ID: 31202911

Collection Date: 08/31/2012 14:30
Received Date: 09/04/2012 08:00
Matrix: Soil-Solid as dry weight
Solids (%): 78.60

Results by **SW-846 8260B**

Parameter	Result	Qual	LOQ/CL	Units	DF	Date Analyzed
1,1,1,2-Tetrachloroethane	ND		90.1	ug/Kg	100	09/13/2012 19:29
1,1,1-Trichloroethane	ND		90.1	ug/Kg	100	09/13/2012 19:29
1,1,2,2-Tetrachloroethane	ND		90.1	ug/Kg	100	09/13/2012 19:29
1,1,2-Trichloroethane	ND		90.1	ug/Kg	100	09/13/2012 19:29
1,1-Dichloroethane	ND		90.1	ug/Kg	100	09/13/2012 19:29
1,1-Dichloroethene	ND		90.1	ug/Kg	100	09/13/2012 19:29
1,1-Dichloropropene	ND		90.1	ug/Kg	100	09/13/2012 19:29
1,2,3-Trichlorobenzene	ND		90.1	ug/Kg	100	09/13/2012 19:29
1,2,3-Trichloropropane	ND		90.1	ug/Kg	100	09/13/2012 19:29
1,2,4-Trichlorobenzene	ND		90.1	ug/Kg	100	09/13/2012 19:29
1,2,4-Trimethylbenzene	**404**		90.1	ug/Kg	100	09/13/2012 19:29
1,2-Dibromo-3-chloropropane	ND		451	ug/Kg	100	09/13/2012 19:29
1,2-Dibromoethane	ND		90.1	ug/Kg	100	09/13/2012 19:29
1,2-Dichlorobenzene	ND		90.1	ug/Kg	100	09/13/2012 19:29
1,2-Dichloroethane	ND		90.1	ug/Kg	100	09/13/2012 19:29
1,2-Dichloropropane	ND		90.1	ug/Kg	100	09/13/2012 19:29
1,3,5-Trimethylbenzene	**118**		90.1	ug/Kg	100	09/13/2012 19:29
1,3-Dichlorobenzene	ND		90.1	ug/Kg	100	09/13/2012 19:29
1,3-Dichloropropane	ND		90.1	ug/Kg	100	09/13/2012 19:29
1,4-Dichlorobenzene	ND		90.1	ug/Kg	100	09/13/2012 19:29
2,2-Dichloropropane	ND		90.1	ug/Kg	100	09/13/2012 19:29
2-Butanone	ND		2250	ug/Kg	100	09/13/2012 19:29
2-Chlorotoluene	ND		90.1	ug/Kg	100	09/13/2012 19:29
2-Hexanone	ND		451	ug/Kg	100	09/13/2012 19:29
4-Chlorotoluene	ND		90.1	ug/Kg	100	09/13/2012 19:29
4-Isopropyltoluene	**146**		90.1	ug/Kg	100	09/13/2012 19:29
4-Methyl-2-pentanone	ND		451	ug/Kg	100	09/13/2012 19:29
Acetone	ND		2250	ug/Kg	100	09/13/2012 19:29
Benzene	ND		90.1	ug/Kg	100	09/13/2012 19:29
Bromobenzene	ND		90.1	ug/Kg	100	09/13/2012 19:29
Bromochloromethane	ND		90.1	ug/Kg	100	09/13/2012 19:29
Bromodichloromethane	ND		90.1	ug/Kg	100	09/13/2012 19:29
Bromoform	ND		90.1	ug/Kg	100	09/13/2012 19:29
Bromomethane	ND		90.1	ug/Kg	100	09/13/2012 19:29
n-Butylbenzene	ND		90.1	ug/Kg	100	09/13/2012 19:29
Carbon disulfide	ND		90.1	ug/Kg	100	09/13/2012 19:29
Carbon tetrachloride	ND		90.1	ug/Kg	100	09/13/2012 19:29
Chlorobenzene	ND		90.1	ug/Kg	100	09/13/2012 19:29
Chloroethane	ND		90.1	ug/Kg	100	09/13/2012 19:29
Chloroform	ND		90.1	ug/Kg	100	09/13/2012 19:29
Chloromethane	ND		90.1	ug/Kg	100	09/13/2012 19:29
Dibromochloromethane	ND		90.1	ug/Kg	100	09/13/2012 19:29
Dibromomethane	ND		90.1	ug/Kg	100	09/13/2012 19:29

Print Date: 09/25/2012

N.C. Certification # 481

Results of **S-10**

Client Sample ID: **S-10**
Client Project ID: **70127335 U-3315 #21**
Lab Sample ID: 31202911001-D
Lab Project ID: 31202911

Collection Date: 08/31/2012 14:30
Received Date: 09/04/2012 08:00
Matrix: Soil-Solid as dry weight
Solids (%): 78.60

Results by **SW-846 8260B**

Parameter	Result	Qual	LOQ/CL	Units	DF	Date Analyzed
Dichlorodifluoromethane	ND		451	ug/Kg	100	09/13/2012 19:29
cis-1,3-Dichloropropene	ND		90.1	ug/Kg	100	09/13/2012 19:29
trans-1,3-Dichloropropene	ND		90.1	ug/Kg	100	09/13/2012 19:29
Diisopropyl Ether	ND		90.1	ug/Kg	100	09/13/2012 19:29
Ethyl Benzene	ND		90.1	ug/Kg	100	09/13/2012 19:29
Hexachlorobutadiene	ND		90.1	ug/Kg	100	09/13/2012 19:29
Isopropylbenzene (Cumene)	ND		90.1	ug/Kg	100	09/13/2012 19:29
Methyl iodide	ND		90.1	ug/Kg	100	09/13/2012 19:29
Methylene chloride	ND		451	ug/Kg	100	09/13/2012 19:29
Naphthalene	**260**		90.1	ug/Kg	100	09/13/2012 19:29
Styrene	ND		90.1	ug/Kg	100	09/13/2012 19:29
Tetrachloroethene	ND		90.1	ug/Kg	100	09/13/2012 19:29
Toluene	ND		90.1	ug/Kg	100	09/13/2012 19:29
Trichloroethene	ND		90.1	ug/Kg	100	09/13/2012 19:29
Trichlorofluoromethane	ND		90.1	ug/Kg	100	09/13/2012 19:29
Vinyl chloride	ND		90.1	ug/Kg	100	09/13/2012 19:29
Xylene (total)	ND		180	ug/Kg	100	09/13/2012 19:29
cis-1,2-Dichloroethene	ND		90.1	ug/Kg	100	09/13/2012 19:29
m,p-Xylene	ND		180	ug/Kg	100	09/13/2012 19:29
n-Propylbenzene	ND		90.1	ug/Kg	100	09/13/2012 19:29
o-Xylene	ND		90.1	ug/Kg	100	09/13/2012 19:29
sec-Butylbenzene	ND		90.1	ug/Kg	100	09/13/2012 19:29
tert-Butyl methyl ether (MTBE)	ND		90.1	ug/Kg	100	09/13/2012 19:29
tert-Butylbenzene	ND		90.1	ug/Kg	100	09/13/2012 19:29
trans-1,2-Dichloroethene	ND		90.1	ug/Kg	100	09/13/2012 19:29
trans-1,4-Dichloro-2-butene	ND		451	ug/Kg	100	09/13/2012 19:29
Surrogates						
1,2-Dichloroethane-d4	100		55.0-173	%	100	09/13/2012 19:29
4-Bromofluorobenzene	111		23.0-141	%	100	09/13/2012 19:29
Toluene d8	101		57.0-134	%	100	09/13/2012 19:29

Batch Information

Analytical Batch: **VMS2548**
Analytical Method: **SW-846 8260B**
Instrument: **MSD4**
Analyst: **BWS**

Prep Batch: **VXX3998**
Prep Method: **SW-846 5035 SM**
Prep Date/Time: **09/13/2012 12:06**
Prep Initial Wt./Vol.: **7.06 g**
Prep Extract Vol: **5 mL**

Print Date: 09/25/2012

N.C. Certification # 481

Results of **S-10**

Client Sample ID: **S-10**
Client Project ID: **70127335 U-3315 #21**
Lab Sample ID: 31202911001-E
Lab Project ID: 31202911

Collection Date: 08/31/2012 14:30
Received Date: 09/04/2012 08:00
Matrix: Soil-Solid as dry weight
Solids (%): 78.60

Results by **MADEP VPH**

Parameter	Result	Qual	LOQ/CL	Units	DF	Date Analyzed
C5-C8 Aliphatics	**7.10**		5.54	mg/kg	1	09/14/2012 12:29
C9-C10 Aromatics	**57.4**		5.54	mg/kg	1	09/14/2012 12:29
C9-C12 Aliphatics	**72.1**		5.54	mg/kg	1	09/14/2012 12:29
Surrogates						
FID - 4-Bromofluorobenzene	99.0		70.0-130	%	1	09/14/2012 12:29
PID - 4-Bromofluorobenzene	103		70.0-130	%	1	09/14/2012 12:29

Batch Information

Analytical Batch: **VGC2140**
Analytical Method: **MADEP VPH**
Instrument: **GC4**
Analyst: **MDY**

Prep Batch: **VXX4002**
Prep Method: **SW-846 5035 VPH prep**
Prep Date/Time: **09/13/2012 12:06**
Prep Initial Wt./Vol.: **5.74 g**
Prep Extract Vol: **5 mL**

Print Date: 09/25/2012

N.C. Certification # 481

Results of **S-10**

Client Sample ID: **S-10**
Client Project ID: **70127335 U-3315 #21**
Lab Sample ID: 31202911001-F
Lab Project ID: 31202911

Collection Date: 08/31/2012 14:30
Received Date: 09/04/2012 08:00
Matrix: Soil-Solid as dry weight
Solids (%): 78.60

Results by **SW-846 8270D**

Parameter	Result	Qual	LOQ/CL	Units	DF	Date Analyzed
1,2,4-Trichlorobenzene	ND		366	ug/Kg	1	09/19/2012 18:12
1,2-Dichlorobenzene	ND		366	ug/Kg	1	09/19/2012 18:12
1,3-Dichlorobenzene	ND		366	ug/Kg	1	09/19/2012 18:12
1,4-Dichlorobenzene	ND		366	ug/Kg	1	09/19/2012 18:12
2,4,5-Trichlorophenol	ND		366	ug/Kg	1	09/19/2012 18:12
2,4,6-Trichlorophenol	ND		366	ug/Kg	1	09/19/2012 18:12
2,4-Dichlorophenol	ND		366	ug/Kg	1	09/19/2012 18:12
2,4-Dinitrophenol	ND		1830	ug/Kg	1	09/19/2012 18:12
2,4-Dinitrotoluene	ND		366	ug/Kg	1	09/19/2012 18:12
2,6-Dinitrotoluene	ND		366	ug/Kg	1	09/19/2012 18:12
2-Chloronaphthalene	ND		366	ug/Kg	1	09/19/2012 18:12
2-Chlorophenol	ND		366	ug/Kg	1	09/19/2012 18:12
2-Methylnaphthalene	ND		366	ug/Kg	1	09/19/2012 18:12
2-Methylphenol	ND		366	ug/Kg	1	09/19/2012 18:12
2-Nitroaniline	ND		366	ug/Kg	1	09/19/2012 18:12
2-Nitrophenol	ND		366	ug/Kg	1	09/19/2012 18:12
3 and/or 4-Methylphenol	ND		366	ug/Kg	1	09/19/2012 18:12
3,3'-Dichlorobenzidine	ND		732	ug/Kg	1	09/19/2012 18:12
3-Nitroaniline	ND		1830	ug/Kg	1	09/19/2012 18:12
4,6-Dinitro-2-methylphenol	ND		1830	ug/Kg	1	09/19/2012 18:12
4-Chloro-3-methylphenol	ND		366	ug/Kg	1	09/19/2012 18:12
4-Chloroaniline	ND		366	ug/Kg	1	09/19/2012 18:12
4-Chlorophenyl phenyl ether	ND		366	ug/Kg	1	09/19/2012 18:12
Acenaphthene	ND		366	ug/Kg	1	09/19/2012 18:12
Acenaphthylene	ND		366	ug/Kg	1	09/19/2012 18:12
Anthracene	ND		366	ug/Kg	1	09/19/2012 18:12
Benzo(a)anthracene	ND		366	ug/Kg	1	09/19/2012 18:12
Benzo(a)pyrene	ND		366	ug/Kg	1	09/19/2012 18:12
Benzo(b)fluoranthene	ND		366	ug/Kg	1	09/19/2012 18:12
Benzo(g,h,i)perylene	ND		366	ug/Kg	1	09/19/2012 18:12
Benzo(k)fluoranthene	ND		366	ug/Kg	1	09/19/2012 18:12
Benzoic acid	ND		1830	ug/Kg	1	09/19/2012 18:12
Bis(2-Chloroethoxy)methane	ND		366	ug/Kg	1	09/19/2012 18:12
Bis(2-Chloroethyl)ether	ND		366	ug/Kg	1	09/19/2012 18:12
Bis(2-Chloroisopropyl)ether	ND		366	ug/Kg	1	09/19/2012 18:12
Bis(2-Ethylhexyl)phthalate	ND		366	ug/Kg	1	09/19/2012 18:12
4-Bromophenyl phenyl ether	ND		366	ug/Kg	1	09/19/2012 18:12
Butyl benzyl phthalate	ND		366	ug/Kg	1	09/19/2012 18:12
Chrysene	ND		366	ug/Kg	1	09/19/2012 18:12
Di-n-butyl phthalate	ND		366	ug/Kg	1	09/19/2012 18:12
Di-n-octyl phthalate	ND		366	ug/Kg	1	09/19/2012 18:12
Dibenz(a,h)anthracene	ND		366	ug/Kg	1	09/19/2012 18:12
Dibenzofuran	ND		366	ug/Kg	1	09/19/2012 18:12

Print Date: 09/25/2012

N.C. Certification # 481

Results of **S-10**

Client Sample ID: **S-10**
Client Project ID: **70127335 U-3315 #21**
Lab Sample ID: 31202911001-F
Lab Project ID: 31202911

Collection Date: 08/31/2012 14:30
Received Date: 09/04/2012 08:00
Matrix: Soil-Solid as dry weight
Solids (%): 78.60

Results by **SW-846 8270D**

Parameter	Result	Qual	LOQ/CL	Units	DF	Date Analyzed
Diethyl phthalate	ND		366	ug/Kg	1	09/19/2012 18:12
Dimethyl phthalate	ND		366	ug/Kg	1	09/19/2012 18:12
2,4-Dimethylphenol	ND		366	ug/Kg	1	09/19/2012 18:12
Diphenylamine	ND		366	ug/Kg	1	09/19/2012 18:12
Fluoranthene	ND		366	ug/Kg	1	09/19/2012 18:12
Fluorene	ND		366	ug/Kg	1	09/19/2012 18:12
Hexachlorobenzene	ND		1830	ug/Kg	1	09/19/2012 18:12
Hexachlorobutadiene	ND		366	ug/Kg	1	09/19/2012 18:12
Hexachlorocyclopentadiene	ND		732	ug/Kg	1	09/19/2012 18:12
Hexachloroethane	ND		366	ug/Kg	1	09/19/2012 18:12
Indeno(1,2,3-cd)pyrene	ND		366	ug/Kg	1	09/19/2012 18:12
Isophorone	ND		366	ug/Kg	1	09/19/2012 18:12
Naphthalene	ND		366	ug/Kg	1	09/19/2012 18:12
4-Nitroaniline	ND		1830	ug/Kg	1	09/19/2012 18:12
Nitrobenzene	ND		366	ug/Kg	1	09/19/2012 18:12
4-Nitrophenol	ND		1830	ug/Kg	1	09/19/2012 18:12
Pentachlorophenol	ND		1830	ug/Kg	1	09/19/2012 18:12
Phenanthrene	ND		366	ug/Kg	1	09/19/2012 18:12
Phenol	ND		366	ug/Kg	1	09/19/2012 18:12
Pyrene	ND		366	ug/Kg	1	09/19/2012 18:12
n-Nitrosodi-n-propylamine	ND		366	ug/Kg	1	09/19/2012 18:12
Surrogates						
2,4,6-Tribromophenol	82.0		41.0-129	%	1	09/19/2012 18:12
2-Fluorobiphenyl	93.0		48.0-123	%	1	09/19/2012 18:12
2-Fluorophenol	83.0		42.0-123	%	1	09/19/2012 18:12
Nitrobenzene-d5	91.0		46.0-117	%	1	09/19/2012 18:12
Phenol-d6	95.0		48.0-125	%	1	09/19/2012 18:12
Terphenyl-d14	97.0		44.0-140	%	1	09/19/2012 18:12

Batch Information

Analytical Batch: **XMS1669**
Analytical Method: **SW-846 8270D**
Instrument: **MSD10**
Analyst: **CMP**

Prep Batch: **XXX3044**
Prep Method: **SW-846 3541**
Prep Date/Time: **09/13/2012 17:00**
Prep Initial Wt./Vol.: **34.8 g**
Prep Extract Vol: **10 mL**

Print Date: 09/25/2012

N.C. Certification # 481

Results of **S-10**

Client Sample ID: **S-10**
Client Project ID: **70127335 U-3315 #21**
Lab Sample ID: 31202911001-F
Lab Project ID: 31202911

Collection Date: 08/31/2012 14:30
Received Date: 09/04/2012 08:00
Matrix: Soil-Solid as dry weight
Solids (%): 78.60

Results by **MADEP EPH**

Parameter	Result	Qual	LOQ/CL	Units	DF	Date Analyzed
C11-C22 Aromatics	ND		16.1	mg/kg	1	09/22/2012 0:56
C19-C36 Aliphatics	ND		8.29	mg/kg	1	09/22/2012 0:28
C9-C18 Aliphatics	**78.1**		7.18	mg/kg	1	09/22/2012 0:28
Surrogates						
2-Bromonaphthalene	89.7		40.0-140	%	1	09/22/2012 0:56
2-Fluorobiphenyl	85.0		40.0-140	%	1	09/22/2012 0:56
n-Tricosane	128		40.0-140	%	1	09/22/2012 0:28
o-Terphenyl	93.0		40.0-140	%	1	09/22/2012 0:56

Batch Information

Analytical Batch: **XGC2553**
Analytical Method: **MADEP EPH**
Instrument: **GC6**
Analyst: **DTF**

Prep Batch: **XXX3049**
Prep Method: **SW-846 3541/8015 EPH**
Prep Date/Time: **09/14/2012 11:29**
Prep Initial Wt./Vol.: **12.34 g**
Prep Extract Vol: **10 mL**

Print Date: 09/25/2012

N.C. Certification # 481

Results of **S-12**

Client Sample ID: **S-12**
Client Project ID: **70127335 U-3315 #21**
Lab Sample ID: 31202911002-A
Lab Project ID: 31202911

Collection Date: 08/31/2012 15:05
Received Date: 09/04/2012 08:00
Matrix: Soil-Solid as dry weight
Solids (%): 88.50

Results by **SW-846 8260B**

Parameter	Result	Qual	LOQ/CL	Units	DF	Date Analyzed
1,1,1,2-Tetrachloroethane	ND		4.24	ug/Kg	1	09/13/2012 16:39
1,1,1-Trichloroethane	ND		4.24	ug/Kg	1	09/13/2012 16:39
1,1,2,2-Tetrachloroethane	ND		4.24	ug/Kg	1	09/13/2012 16:39
1,1,2-Trichloroethane	ND		4.24	ug/Kg	1	09/13/2012 16:39
1,1-Dichloroethane	ND		4.24	ug/Kg	1	09/13/2012 16:39
1,1-Dichloroethene	ND		4.24	ug/Kg	1	09/13/2012 16:39
1,1-Dichloropropene	ND		4.24	ug/Kg	1	09/13/2012 16:39
1,2,3-Trichlorobenzene	ND		4.24	ug/Kg	1	09/13/2012 16:39
1,2,3-Trichloropropane	ND		4.24	ug/Kg	1	09/13/2012 16:39
1,2,4-Trichlorobenzene	ND		4.24	ug/Kg	1	09/13/2012 16:39
1,2,4-Trimethylbenzene	ND		4.24	ug/Kg	1	09/13/2012 16:39
1,2-Dibromo-3-chloropropane	ND		25.4	ug/Kg	1	09/13/2012 16:39
1,2-Dibromoethane	ND		4.24	ug/Kg	1	09/13/2012 16:39
1,2-Dichlorobenzene	ND		4.24	ug/Kg	1	09/13/2012 16:39
1,2-Dichloroethane	ND		4.24	ug/Kg	1	09/13/2012 16:39
1,2-Dichloropropane	ND		4.24	ug/Kg	1	09/13/2012 16:39
1,3,5-Trimethylbenzene	ND		4.24	ug/Kg	1	09/13/2012 16:39
1,3-Dichlorobenzene	ND		4.24	ug/Kg	1	09/13/2012 16:39
1,3-Dichloropropane	ND		4.24	ug/Kg	1	09/13/2012 16:39
1,4-Dichlorobenzene	ND		4.24	ug/Kg	1	09/13/2012 16:39
2,2-Dichloropropane	ND		4.24	ug/Kg	1	09/13/2012 16:39
2-Butanone	ND		21.2	ug/Kg	1	09/13/2012 16:39
2-Chlorotoluene	ND		4.24	ug/Kg	1	09/13/2012 16:39
2-Hexanone	ND		10.6	ug/Kg	1	09/13/2012 16:39
4-Chlorotoluene	ND		4.24	ug/Kg	1	09/13/2012 16:39
4-Isopropyltoluene	ND		4.24	ug/Kg	1	09/13/2012 16:39
4-Methyl-2-pentanone	ND		10.6	ug/Kg	1	09/13/2012 16:39
Acetone	ND		42.4	ug/Kg	1	09/13/2012 16:39
Benzene	ND		4.24	ug/Kg	1	09/13/2012 16:39
Bromobenzene	ND		4.24	ug/Kg	1	09/13/2012 16:39
Bromochloromethane	ND		4.24	ug/Kg	1	09/13/2012 16:39
Bromodichloromethane	ND		4.24	ug/Kg	1	09/13/2012 16:39
Bromoform	ND		4.24	ug/Kg	1	09/13/2012 16:39
Bromomethane	ND		4.24	ug/Kg	1	09/13/2012 16:39
n-Butylbenzene	ND		4.24	ug/Kg	1	09/13/2012 16:39
Carbon disulfide	ND		4.24	ug/Kg	1	09/13/2012 16:39
Carbon tetrachloride	ND		4.24	ug/Kg	1	09/13/2012 16:39
Chlorobenzene	ND		4.24	ug/Kg	1	09/13/2012 16:39
Chloroethane	ND		4.24	ug/Kg	1	09/13/2012 16:39
Chloroform	ND		4.24	ug/Kg	1	09/13/2012 16:39
Chloromethane	ND		4.24	ug/Kg	1	09/13/2012 16:39
Dibromochloromethane	ND		4.24	ug/Kg	1	09/13/2012 16:39
Dibromomethane	ND		4.24	ug/Kg	1	09/13/2012 16:39

Print Date: 09/25/2012

N.C. Certification # 481

Results of **S-12**

Client Sample ID: **S-12**
Client Project ID: **70127335 U-3315 #21**
Lab Sample ID: 31202911002-A
Lab Project ID: 31202911

Collection Date: 08/31/2012 15:05
Received Date: 09/04/2012 08:00
Matrix: Soil-Solid as dry weight
Solids (%): 88.50

Results by **SW-846 8260B**

Parameter	Result	Qual	LOQ/CL	Units	DF	Date Analyzed
Dichlorodifluoromethane	ND		4.24	ug/Kg	1	09/13/2012 16:39
cis-1,3-Dichloropropene	ND		4.24	ug/Kg	1	09/13/2012 16:39
trans-1,3-Dichloropropene	ND		4.24	ug/Kg	1	09/13/2012 16:39
Diisopropyl Ether	ND		4.24	ug/Kg	1	09/13/2012 16:39
Ethyl Benzene	ND		4.24	ug/Kg	1	09/13/2012 16:39
Hexachlorobutadiene	ND		4.24	ug/Kg	1	09/13/2012 16:39
Isopropylbenzene (Cumene)	ND		4.24	ug/Kg	1	09/13/2012 16:39
Methyl iodide	ND		4.24	ug/Kg	1	09/13/2012 16:39
Methylene chloride	ND		16.9	ug/Kg	1	09/13/2012 16:39
Naphthalene	ND		4.24	ug/Kg	1	09/13/2012 16:39
Styrene	ND		4.24	ug/Kg	1	09/13/2012 16:39
Tetrachloroethene	ND		4.24	ug/Kg	1	09/13/2012 16:39
Toluene	ND		4.24	ug/Kg	1	09/13/2012 16:39
Trichloroethene	ND		4.24	ug/Kg	1	09/13/2012 16:39
Trichlorofluoromethane	ND		4.24	ug/Kg	1	09/13/2012 16:39
Vinyl chloride	ND		4.24	ug/Kg	1	09/13/2012 16:39
Xylene (total)	ND		8.47	ug/Kg	1	09/13/2012 16:39
cis-1,2-Dichloroethene	ND		4.24	ug/Kg	1	09/13/2012 16:39
m,p-Xylene	ND		8.47	ug/Kg	1	09/13/2012 16:39
n-Propylbenzene	ND		4.24	ug/Kg	1	09/13/2012 16:39
o-Xylene	ND		4.24	ug/Kg	1	09/13/2012 16:39
sec-Butylbenzene	ND		4.24	ug/Kg	1	09/13/2012 16:39
tert-Butyl methyl ether (MTBE)	ND		4.24	ug/Kg	1	09/13/2012 16:39
tert-Butylbenzene	ND		4.24	ug/Kg	1	09/13/2012 16:39
trans-1,2-Dichloroethene	ND		4.24	ug/Kg	1	09/13/2012 16:39
trans-1,4-Dichloro-2-butene	ND		21.2	ug/Kg	1	09/13/2012 16:39
Surrogates						
1,2-Dichloroethane-d4	115		55.0-173	%	1	09/13/2012 16:39
4-Bromofluorobenzene	85.0		23.0-141	%	1	09/13/2012 16:39
Toluene d8	103		57.0-134	%	1	09/13/2012 16:39

Batch Information

Analytical Batch: **VMS2550**
Analytical Method: **SW-846 8260B**
Instrument: **MSD9**
Analyst: **DVO**

Prep Batch: **VXX3994**
Prep Method: **SW-846 5035 SL**
Prep Date/Time: **09/13/2012 12:07**
Prep Initial Wt./Vol.: **6.67 g**
Prep Extract Vol: **5 mL**

Print Date: 09/25/2012

N.C. Certification # 481

Results of **S-12**

Client Sample ID: **S-12**
Client Project ID: **70127335 U-3315 #21**
Lab Sample ID: 31202911002-E
Lab Project ID: 31202911

Collection Date: 08/31/2012 15:05
Received Date: 09/04/2012 08:00
Matrix: Soil-Solid as dry weight
Solids (%): 88.50

Results by **MADEP VPH**

Parameter	Result	Qual	LOQ/CL	Units	DF	Date Analyzed
C5-C8 Aliphatics	ND		4.18	mg/kg	1	09/14/2012 12:56
C9-C10 Aromatics	ND		4.18	mg/kg	1	09/14/2012 12:56
C9-C12 Aliphatics	ND		4.18	mg/kg	1	09/14/2012 12:56
Surrogates						
FID - 4-Bromofluorobenzene	90.0		70.0-130	%	1	09/14/2012 12:56
PID - 4-Bromofluorobenzene	85.0		70.0-130	%	1	09/14/2012 12:56

Batch Information

Analytical Batch: **VGC2140**
Analytical Method: **MADEP VPH**
Instrument: **GC4**
Analyst: **MDY**

Prep Batch: **VXX4002**
Prep Method: **SW-846 5035 VPH prep**
Prep Date/Time: **09/13/2012 12:07**
Prep Initial Wt./Vol.: **6.76 g**
Prep Extract Vol: **5 mL**

Print Date: 09/25/2012

N.C. Certification # 481

Results of **S-12**

Client Sample ID: **S-12**
Client Project ID: **70127335 U-3315 #21**
Lab Sample ID: 31202911002-F
Lab Project ID: 31202911

Collection Date: 08/31/2012 15:05
Received Date: 09/04/2012 08:00
Matrix: Soil-Solid as dry weight
Solids (%): 88.50

Results by **SW-846 8270D**

Parameter	Result	Qual	LOQ/CL	Units	DF	Date Analyzed
1,2,4-Trichlorobenzene	ND		325	ug/Kg	1	09/19/2012 18:34
1,2-Dichlorobenzene	ND		325	ug/Kg	1	09/19/2012 18:34
1,3-Dichlorobenzene	ND		325	ug/Kg	1	09/19/2012 18:34
1,4-Dichlorobenzene	ND		325	ug/Kg	1	09/19/2012 18:34
2,4,5-Trichlorophenol	ND		325	ug/Kg	1	09/19/2012 18:34
2,4,6-Trichlorophenol	ND		325	ug/Kg	1	09/19/2012 18:34
2,4-Dichlorophenol	ND		325	ug/Kg	1	09/19/2012 18:34
2,4-Dinitrophenol	ND		1620	ug/Kg	1	09/19/2012 18:34
2,4-Dinitrotoluene	ND		325	ug/Kg	1	09/19/2012 18:34
2,6-Dinitrotoluene	ND		325	ug/Kg	1	09/19/2012 18:34
2-Chloronaphthalene	ND		325	ug/Kg	1	09/19/2012 18:34
2-Chlorophenol	ND		325	ug/Kg	1	09/19/2012 18:34
2-Methylnaphthalene	ND		325	ug/Kg	1	09/19/2012 18:34
2-Methylphenol	ND		325	ug/Kg	1	09/19/2012 18:34
2-Nitroaniline	ND		325	ug/Kg	1	09/19/2012 18:34
2-Nitrophenol	ND		325	ug/Kg	1	09/19/2012 18:34
3 and/or 4-Methylphenol	ND		325	ug/Kg	1	09/19/2012 18:34
3,3'-Dichlorobenzidine	ND		649	ug/Kg	1	09/19/2012 18:34
3-Nitroaniline	ND		1620	ug/Kg	1	09/19/2012 18:34
4,6-Dinitro-2-methylphenol	ND		1620	ug/Kg	1	09/19/2012 18:34
4-Chloro-3-methylphenol	ND		325	ug/Kg	1	09/19/2012 18:34
4-Chloroaniline	ND		325	ug/Kg	1	09/19/2012 18:34
4-Chlorophenyl phenyl ether	ND		325	ug/Kg	1	09/19/2012 18:34
Acenaphthene	ND		325	ug/Kg	1	09/19/2012 18:34
Acenaphthylene	ND		325	ug/Kg	1	09/19/2012 18:34
Anthracene	ND		325	ug/Kg	1	09/19/2012 18:34
Benzo(a)anthracene	ND		325	ug/Kg	1	09/19/2012 18:34
Benzo(a)pyrene	ND		325	ug/Kg	1	09/19/2012 18:34
Benzo(b)fluoranthene	ND		325	ug/Kg	1	09/19/2012 18:34
Benzo(g,h,i)perylene	ND		325	ug/Kg	1	09/19/2012 18:34
Benzo(k)fluoranthene	ND		325	ug/Kg	1	09/19/2012 18:34
Benzoic acid	ND		1620	ug/Kg	1	09/19/2012 18:34
Bis(2-Chloroethoxy)methane	ND		325	ug/Kg	1	09/19/2012 18:34
Bis(2-Chloroethyl)ether	ND		325	ug/Kg	1	09/19/2012 18:34
Bis(2-Chloroisopropyl)ether	ND		325	ug/Kg	1	09/19/2012 18:34
Bis(2-Ethylhexyl)phthalate	ND		325	ug/Kg	1	09/19/2012 18:34
4-Bromophenyl phenyl ether	ND		325	ug/Kg	1	09/19/2012 18:34
Butyl benzyl phthalate	ND		325	ug/Kg	1	09/19/2012 18:34
Chrysene	ND		325	ug/Kg	1	09/19/2012 18:34
Di-n-butyl phthalate	ND		325	ug/Kg	1	09/19/2012 18:34
Di-n-octyl phthalate	ND		325	ug/Kg	1	09/19/2012 18:34
Dibenz(a,h)anthracene	ND		325	ug/Kg	1	09/19/2012 18:34
Dibenzofuran	ND		325	ug/Kg	1	09/19/2012 18:34

Print Date: 09/25/2012

N.C. Certification # 481

Results of **S-12**

Client Sample ID: **S-12**
Client Project ID: **70127335 U-3315 #21**
Lab Sample ID: 31202911002-F
Lab Project ID: 31202911

Collection Date: 08/31/2012 15:05
Received Date: 09/04/2012 08:00
Matrix: Soil-Solid as dry weight
Solids (%): 88.50

Results by **SW-846 8270D**

Parameter	Result	Qual	LOQ/CL	Units	DF	Date Analyzed
Diethyl phthalate	ND		325	ug/Kg	1	09/19/2012 18:34
Dimethyl phthalate	ND		325	ug/Kg	1	09/19/2012 18:34
2,4-Dimethylphenol	ND		325	ug/Kg	1	09/19/2012 18:34
Diphenylamine	ND		325	ug/Kg	1	09/19/2012 18:34
Fluoranthene	ND		325	ug/Kg	1	09/19/2012 18:34
Fluorene	ND		325	ug/Kg	1	09/19/2012 18:34
Hexachlorobenzene	ND		1620	ug/Kg	1	09/19/2012 18:34
Hexachlorobutadiene	ND		325	ug/Kg	1	09/19/2012 18:34
Hexachlorocyclopentadiene	ND		649	ug/Kg	1	09/19/2012 18:34
Hexachloroethane	ND		325	ug/Kg	1	09/19/2012 18:34
Indeno(1,2,3-cd)pyrene	ND		325	ug/Kg	1	09/19/2012 18:34
Isophorone	ND		325	ug/Kg	1	09/19/2012 18:34
Naphthalene	ND		325	ug/Kg	1	09/19/2012 18:34
4-Nitroaniline	ND		1620	ug/Kg	1	09/19/2012 18:34
Nitrobenzene	ND		325	ug/Kg	1	09/19/2012 18:34
4-Nitrophenol	ND		1620	ug/Kg	1	09/19/2012 18:34
Pentachlorophenol	ND		1620	ug/Kg	1	09/19/2012 18:34
Phenanthrene	ND		325	ug/Kg	1	09/19/2012 18:34
Phenol	ND		325	ug/Kg	1	09/19/2012 18:34
Pyrene	ND		325	ug/Kg	1	09/19/2012 18:34
n-Nitrosodi-n-propylamine	ND		325	ug/Kg	1	09/19/2012 18:34
Surrogates						
2,4,6-Tribromophenol	88.0		41.0-129	%	1	09/19/2012 18:34
2-Fluorobiphenyl	97.0		48.0-123	%	1	09/19/2012 18:34
2-Fluorophenol	88.0		42.0-123	%	1	09/19/2012 18:34
Nitrobenzene-d5	98.0		46.0-117	%	1	09/19/2012 18:34
Phenol-d6	102		48.0-125	%	1	09/19/2012 18:34
Terphenyl-d14	106		44.0-140	%	1	09/19/2012 18:34

Batch Information

Analytical Batch: **XMS1669**
Analytical Method: **SW-846 8270D**
Instrument: **MSD10**
Analyst: **CMP**

Prep Batch: **XXX3044**
Prep Method: **SW-846 3541**
Prep Date/Time: **09/13/2012 17:00**
Prep Initial Wt./Vol.: **34.87 g**
Prep Extract Vol: **10 mL**

Print Date: 09/25/2012

N.C. Certification # 481

Results of **S-12**

Client Sample ID: **S-12**
Client Project ID: **70127335 U-3315 #21**
Lab Sample ID: 31202911002-F
Lab Project ID: 31202911

Collection Date: 08/31/2012 15:05
Received Date: 09/04/2012 08:00
Matrix: Soil-Solid as dry weight
Solids (%): 88.50

Results by **MADEP EPH**

Parameter	Result	Qual	LOQ/CL	Units	DF	Date Analyzed
C11-C22 Aromatics	ND		13.5	mg/kg	1	09/24/2012 19:26
C19-C36 Aliphatics	ND		6.95	mg/kg	1	09/24/2012 18:58
C9-C18 Aliphatics	ND		6.02	mg/kg	1	09/24/2012 18:58
Surrogates						
2-Bromonaphthalene	78.6		40.0-140	%	1	09/24/2012 19:26
2-Fluorobiphenyl	72.0		40.0-140	%	1	09/24/2012 19:26
n-Tricosane	125		40.0-140	%	1	09/24/2012 18:58
o-Terphenyl	91.0		40.0-140	%	1	09/24/2012 19:26

Batch Information

Analytical Batch: **XGC2555**
Analytical Method: **MADEP EPH**
Instrument: **GC6**
Analyst: **DTF**

Prep Batch: **XXX3049**
Prep Method: **SW-846 3541/8015 EPH**
Prep Date/Time: **09/14/2012 11:29**
Prep Initial Wt./Vol.: **13.08 g**
Prep Extract Vol: **10 mL**

Print Date: 09/25/2012

N.C. Certification # 481

CHAIN OF CUSTODY

SGS ANALYTICAL PERSPECTIVES
5500 Business Drive
Wilmington, NC 28405
+1 910 350 1903
WWW.SGS.COM

3120291 1 9/13/12

CLIENT: TERRACON
CONTACT: BEN SWIFT PHONE NO: (919) 873-2211
PROJECT: 70127335 SITE / PWSID / WBS #: U-3315 #21
REPORTS TO: LORI HOFFMAN
EMAIL: lchoffman@terracon.com
INVOICE TO: NCDOT QUOTE #
P.O. NUMBER

SGS Reference #: 3120291

PAGE 1 OF 2

LAB NO.	SAMPLE IDENTIFICATION	DATE	TIME	MATRIX	# CONTAINERS	SAMPLE TYPE (C=COMP G=GRAB)	PRESERVATIVES USED	ANALYSIS REQUIRED: 8260	GRO	*HOLD - SVOCs / VOCs / VPH / EPH							REMARKS
	S-1	8-31-12	1315	SOIL	3	G		X	X								
	S-2		1321														
	S-3		1326														
	S-4		1335														
	S-5		1340														
	S-6		1346														
	S-7		1351														
	S-8		1402														
	S-9		1410		11					X							
	S-10		1430		11					X							

COLLECTED/RELINQUISHED BY: (1)	DATE	TIME	RECEIVED BY:	REPORT LEVEL:	REQUESTED TURNAROUND TIME:
BEN SWIFT	8-31-12	1741		☐ Level I ☐ Level II ☐ Level IV	☐ Rush: ☒ Standard
Relinquished By: (2)	Date	Time	Received By:	SPECIAL DELIVERABLES: State of Origin:	☐ Trust Fund
	9/4/12	1900		☐ DoD ☐ EDD:	Other:
Relinquished By: (3)	Date	Time	Received By:	SPECIAL INSTRUCTIONS:	
Received For Laboratory By:	Date	Time	CoC Seal: INTACT BROKEN ABSENT	Shipping Carrier:	Notes:
	9/4/12	0800	Sample Receipt Temp: C 0.2 / 0.2	Shipping Ticket No:	

SGS-00055 (06/12)

ANALYTICAL PERSPECTIVES IS NOW PART OF SGS, THE WORLD'S LEADING INSPECTION, VERIFICATION, TESTING AND CERTIFICATION COMPANY.

White - Retained by Lab
Yellow - Retained by Client

CHAIN OF CUSTODY

SGS ANALYTICAL PERSPECTIVES
5500 Business Drive
Wilmington, NC 28405
+1 910 350 1903
WWW.SGS.COM

312029 11

CLIENT: TERRACON
CONTACT: BEN SWIFT PHONE NO: (919) 873-2211
PROJECT: 70127335 SITE / PWSID / WBS #: U-3315 #21
REPORTS TO: LORI HOFFMAN
EMAIL: lchoffman@terracon.com
INVOICE TO: NCDOT QUOTE # P.O. NUMBER

SGS Reference #: 312029 11

PAGE 2 OF 2

LAB NO.	SAMPLE IDENTIFICATION	DATE	TIME	MATRIX	# CONTAINERS	SAMPLE TYPE (C=COMP G=GRAB)	PRESERVATIVES USED	ANALYSIS REQUIRED: GRO	DRO	* HOLD (SVOCs / VPH / EPH)	REMARKS
	S-11	8-31-12	1444	SOIL	11	G		X	X	X	
	S-12	"	1505	"	"	"		"	"	"	
	S-13	"	1520	"	"	"		"	"	"	

COLLECTED/RELINQUISHED BY: (1)	DATE	TIME	RECEIVED BY:
BEN SWIFT	8-31-12	1740	
Relinquished By: (2)	Date 9/2/12	Time 1900	Received By:
Relinquished By: (3)	Date	Time	Received By:
Received For Laboratory By:	Date 9/4/12	Time 0800	CoC Seal: INTACT BROKEN (ABSENT) Sample Receipt Temp: C 0.2, 0.2°C

REPORT LEVEL: ☐ Level I ☐ Level II ☐ Level IV

REQUESTED TURNAROUND TIME: ☐ Rush:_____ ☒ Standard

SPECIAL DELIVERABLES: State of Origin:_____ ☐ Trust Fund
☐ DoD ☐ EDD:_____ Other:_____

SPECIAL INSTRUCTIONS:

Shipping Carrier:
Shipping Ticket No:

Notes:

SGS-00055 (06/12)

ANALYTICAL PERSPECTIVES IS NOW PART OF SGS, THE WORLD'S LEADING INSPECTION, VERIFICATION, TESTING AND CERTIFICATION COMPANY.

White - Retained by Lab
Yellow - Retained by Client

SGS North America Inc.

Sample Receipt Checklist (SRC)

Client: **NCDOT-Terracon** Work Order No.: **31202791**

1. ___ Shipped
   X Hand Delivered

2. X COC Present on Receipt
   ___ No COC
   ___ Additional Transmittal Forms

3. ___ Custody Tape on Container
   X No Custody Tape

4. X Samples Intact
   ___ Samples Broken / Leaking

5. X Chilled on Receipt Actual Temp.(s) in °C: 0.2, 0.2
   ___ Ambient on Receipt
   ___ Walk-in on Ice; Coming down to temp.
   ___ Received Outside of Temperature Specifications

6. X Sufficient Sample Submitted
   ___ Insufficient Sample Submitted

7. ___ Chlorine absent
   ___ HNO3 < 2
   ___ HCL < 2
   ___ Additional Preservatives verified (see notes)

8. X Received Within Holding Time
   ___ Not Received Within Holding Time

9. ___ No Discrepancies Noted
   X Discrepancies Noted
   ___ NCDENR notified of Discrepancies*

10. X No Headspace present in VOC vials
    ___ Headspace present in VOC vials >6mm

Notes:

Comments: Received three HCL vials and two liters not on COC. Collection date/time on samples is 8/29/12 15:40.

Inspected and Logged in by: JJ

Date: Tue-9/4/12 00:00

*NCDENR must be notified when collection, holding time or preservation requirements are not met. MI_11.6

SGS North America Inc.

Sample Receipt Checklist (SRC)

Client: **NCDOT-Terracon** Work Order No.: **31202911**

1. _X_ Shipped
   ___ Hand Delivered

2. _X_ COC Present on Receipt
   ___ No COC
   ___ Additional Transmittal Forms

3. ___ Custody Tape on Container
   _X_ No Custody Tape

4. _X_ Samples Intact
   ___ Samples Broken / Leaking

5. _X_ Chilled on Receipt Actual Temp.(s) in °C: 0.2, 0.2
   ___ Ambient on Receipt
   ___ Walk-in on Ice; Coming down to temp.
   ___ Received Outside of Temperature Specifications

6. _X_ Sufficient Sample Submitted
   ___ Insufficient Sample Submitted

7. ___ Chlorine absent
   ___ HNO3 < 2
   ___ HCL < 2
   ___ Additional Preservatives verified (see notes)

8. _X_ Received Within Holding Time
   ___ Not Received Within Holding Time

9. _X_ No Discrepancies Noted
   ___ Discrepancies Noted
   ___ NCDENR notified of Discrepancies*

10. _X_ No Headspace present in VOC vials
    ___ Headspace present in VOC vials >6mm

Notes:

Comments: Relog of 31202791.

Inspected and Logged in by: JJ

Date: Thu-9/13/12 00:00

*NCDENR must be notified when collection, holding time or preservation requirements are not met. MI_11.6