

# Preliminary Site Assessment

521 West 10th Street  
Parcel #84, Sanderson, Derik A.  
East Carolina Coin and Pawn Shop  
Greenville, Pitt County, North Carolina

State Project No. U-3315

WBS Element: 35781.1.2

February 20, 2013

Terracon Project No. 70127335



**Prepared for:**

North Carolina Department of Transportation (NCDOT)  
Geotechnical Engineering Unit

**Prepared by:**

Terracon Consultants, Inc.  
Raleigh, North Carolina

Offices Nationwide  
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**Terracon**

Geotechnical    ■    Environmental    ■    Construction Materials    ■    Facilities

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February 20, 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 84, Sanderson, Derik A.  
East Carolina Coin and Pawn Shop  
521 West 10th Street  
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



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Geotechnical



Environmental



Construction Materials



Facilities

# PRELIMINARY SITE ASSESSMENT

## PARCEL 84, SANDERSON, DERIK A. 521 WEST 10TH STREET GREENVILLE, PITT COUNTY, NORTH CAROLINA

### 1.0 INTRODUCTION

#### 1.1 Site Description

<b>Site Name</b>	Parcel 84, Sanderson, Derik A. (East Carolina Coin and Pawn Shop)
<b>Site Location/Address</b>	Located at 521 West 10th Street, Greenville, North Carolina
<b>General Site Description</b>	The site is currently occupied by East Carolina Coin and Pawn Shop, based on historical fire insurance maps, a former structure located in the northern portion of the site operated as a "pressing and cleaning" facility.

#### 1.2 Site History

According to information provided by NCDOT and collected by Terracon, there are no known release incidents associated with the site and the facility is not enrolled within the North Carolina Department of Environment and Natural Resources (NCDENR) DSCA Program. The site is currently occupied by East Carolina Coin and Pawn Shop. According to a historical fire insurance map dated 1923, a former structure located at the northern portion of the site (currently a parking/driveway area of the pawn shop) operated as a "pressing and cleaning" facility presumed to be a dry cleaning operation. A historical fire insurance map dated 1946 depicts a gas tank near the southeastern corner of the structure; however, there is no evidence of known or removed tanks at the property. The NCDOT intends to acquire the entire parcel as part of their proposed road construction activities.

#### 1.3 Scope of Work

Terracon has prepared the following Preliminary Site Assessment (PSA) scope of work in accordance with the NCDOT's 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 five soil samples and two groundwater samples 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). Any 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 September 10 and 12, 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 depicts the approximate locations of the site features, soil boring locations and laboratory data.

### **2.1 Geophysical Survey**

On August 22, 23, and 29, 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 site. 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 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 five (5) soil borings along the exterior portions of the pawn shop building and parking/driveway areas on September 10, 2012. The borings were completed by Bridger Drilling Enterprises, Inc., a North Carolina licensed driller using a Geoprobe® rig.

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* field-portable Photoionization/Flame Ionization Detector (PID/FID) by inserting the probe tip into the headspace of each bag. The PID readings and soil sample depths are included on Table 1 and on individual boring logs in Appendix A.

Soil borings S-1 through S-5 were advanced to depths of approximately 15 feet below ground surface (bgs). Since groundwater was detected in the soils at an approximate depth of 7.5 feet bgs, soils were only screened at depths above the saturated zone. Soil samples obtained from the acetate sleeves were separated into two and half foot intervals.

The soil samples were placed in laboratory prepared glassware and packed in ice within 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 S-3, located in the vicinity of the presumed dry cleaning operation, and soil boring S-5, located in an apparent down-gradient position at the southeastern corner of the on-site building, were converted to temporary groundwater sampling wells (TW-1 and TW-2 respectively) by driving the direct push probe to approximately 15 feet bgs and installing a well. The well locations are included in the attached Exhibit 2. The temporary monitoring wells were 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 wells at an approximate depth of 7.5 feet bgs. The water that flowed into the temporary screen was purged with a peristaltic pump until turbidity decreased. A water sample was collected from each of the temporary monitoring wells and placed into laboratory supplied, pre-preserved sample containers. The ice-packed sample containers 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 15 feet included silty sands, clayey sands, silty clay, and sandy clay. Odors and elevated PID readings were noted in a sample from boring S-5 at a depth of 7.5 to 10 feet. The sample is believed to have been collected from the smear zone where groundwater typically fluctuates. Apparent staining was also observed in the soils from boring S-5 at a depth of 10 to 13 feet bgs. The stained soils and elevated PID readings may be attributed to the gas tank that was depicted on the 1946 historical fire insurance map.

Apparent construction/demolition debris was encountered in soil borings S-1, S-2, S-3, and S-5 from approximately 0.5 to 5.0 feet bgs. Soil samples from the interval in each boring exhibiting the highest PID readings or most obvious evidence of contamination were submitted for laboratory analysis.

## **3.0 LABORATORY ANALYSES**

Soil and groundwater samples were submitted for laboratory analysis of volatile organic compounds (VOCs) by EPA Method 8260 and semi-volatile organic compounds (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**

VOC or SVOC constituents were not detected in the soil samples submitted for laboratory analysis above the laboratory reporting limits. A summary of the soil sampling analytical results is included in Table 1 as an attachment to this report.

### **4.2 Groundwater Analytical Results and Interpretation**

Laboratory analytical results for groundwater sample TW-1 reported tetrachloroethene (29.3 ug/L) and trichloroethene (9.11 ug/L) at concentrations that exceed their respective NCAC 2L Groundwater Quality Standards.

The laboratory results also reported cis-1,2-dichloroethene (4.28 ug/L) above the laboratory method detection limit in sample TW-1 but the detected concentration was below the NCAC 2L Groundwater Quality Standard.

Laboratory results from groundwater sample TW-2 did not detect constituents above their respective laboratory method detection limits. A summary of the groundwater sampling analytical results is included in Table 2 as an attachment to this report.

## 5.0 CONCLUSIONS

The findings of this investigation are discussed below.

- The geophysical investigation did not reveal probable metallic USTs or other buried anomalies in the area of investigation identified for this site.
- Five soil samples were advanced to depths of approximately 15 feet bgs.
- VOC or SVOC compounds were not detected in the soil samples submitted for laboratory analysis above the laboratory reporting limits.
- Groundwater at the site was measured at an approximate depth of 7.5 feet bgs.
- Laboratory analytical results for groundwater sample TW-1 reported tetrachloroethene (29.3 ug/L) and trichloroethene (9.11 ug/L) at concentrations that exceed their respective NCAC 2L Groundwater Quality Standards. The laboratory results reported cis-1,2-dichloroethene (4.28 ug/L) above the laboratory method detection limit in sample TW-1 but the detected concentration was below the NCAC 2L Groundwater Quality Standard.
- Laboratory results from groundwater sample TW-2 did not detect constituents above their respective laboratory method detection limits.
- Based on the laboratory analytical results, impacted soils were not identified within the project area.
- Chlorinated compounds were detected in the groundwater near the location of the former "pressing and cleaning" facility presumed to be a dry cleaning operation.



## **TABLES**

- Table 1 - Soil Sampling Analytical Results Summary**
- Table 2 – Groundwater Sampling Analytical Results Summary**

**Table 1**  
**Soil Sampling Analytical Results Summary**  
**Parcel #84, Sanderson, Derik A. Property**  
**Greenville, Pitt County, North Carolina**

					Sample ID	S-1	S-2	S-3	S-4	S-5	
					Depth	5.0-7.5 FT	5.0-7.5 FT	2.5-5.0 FT	2.5-5.0 FT	2.5-5.0 FT	
Method	Parameter	Units			Value	Value	Value	Value	Value		
			Industrial	Protection of Groundwater							
8260B	VOCs	mg/kg	No Analytes Detected Above the Laboratory Detection Limits								
8270C	SVOCs	mg/kg	No Analytes Detected Above the Laboratory Detection Limits								

Notes:

Samples collected on September 10, 2012

NE = Not established

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

**Bold concentrations were reported above the IHSB Industrial Soil Remediation Goals**

**Table 2**  
**Groundwater Sampling Analytical Results Summary**  
**Parcel #84, Sanderson, Derick A. Property**  
**Greenville, Pitt County, North Carolina**

				Sample ID Depth	TW-1 9.1 FT	TW-2 9.1 FT
Method	Parameter	Units	NCAC 2L Groundwater Quality Standard	Value	Value	
8260B	Tetrachloroethene	ug/l	0.7	<b>29.3</b>	<1.0	
	Trichloroethene	ug/l	3	<b>9.11</b>	<1.0	
	cis-1,2-Dichloroethene	ug/l	70	<b>4.28</b>	<1.0	
8270C	SVOCs	ug/l	No Analytes Detected Above the Laboratory Detection Limits			

Notes:

Sample GW collected on September 10 and 12, 2012

NE = Not established

units = ug/L - sample analyte compound concentrations measured in micrograms per liter

**Bold concentrations were reported above the laboratory method detection limits but below the NCAC 2L Groundwater Quality Standard**

## **FIGURES**

**Exhibit 1 – Site Vicinity Map (Topographic Map)**

**Exhibit 2 – Site Diagram with Soil Boring Locations and Analytical Data**

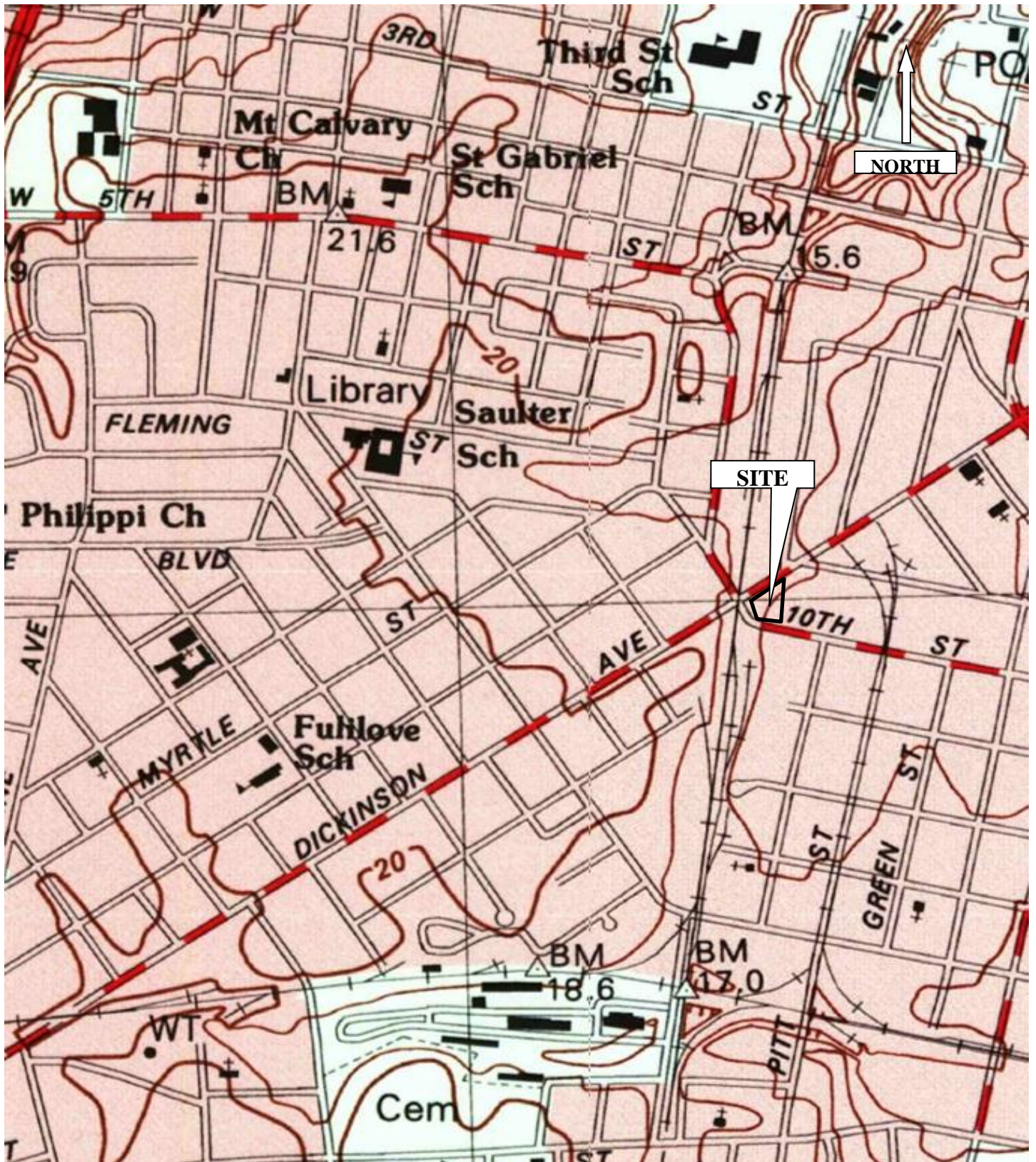


Diagram is for general location only

**Site Vicinity Map**  
**Parcel # 84**  
**521 West 10th Street**  
**Greenville, Pitt County, North Carolina**












Reference: Greenville SW, NC USGS Quadrangle

Dated Year: 1998

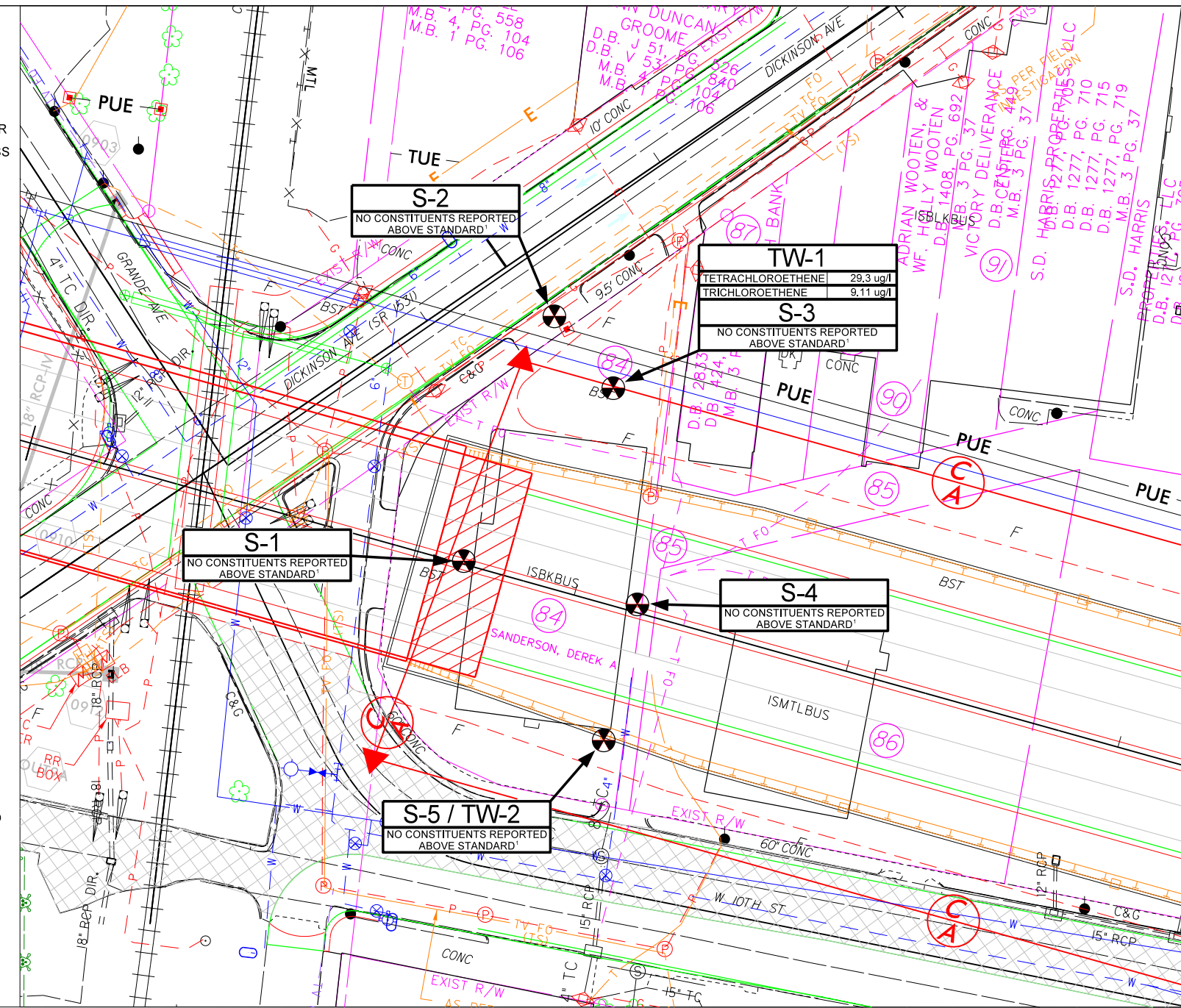
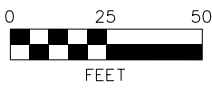
**Terracon**

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

# LEGEND

-  PROPERTY LINE
-  EXISTING RIGHT OF WAY LINE
-  PROPOSED RIGHT OF WAY LINE WITH IRON PIN AND CAP MARKER
-  PROPOSED CONTROL OF ACCESS
-  PROPOSED CONSTRUCTION EASEMENT
-  PROPOSED EDGE OF TRAVEL
-  PROPOSED CUT / FILL LINE
-  PUE - PROPOSED PERMANENT UTILITY EASEMENT
-  PROPOSED CATCH BASIN
-  PROPOSED DRAINAGE PIPING
-  SOIL AND/OR GROUNDWATER SAMPLE LOCATION

- NOTES:**
- IHSB INDUSTRIAL SOIL REMEDIATION GOALS  
NCAC 2L GROUNDWATER QUALITY STANDARD



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

SANDERSON, DEREK A. PROPERTY - PARCEL 84  
 -L- STATION 66+70  
 521 W 10TH STREET  
 GREENVILLE, PITT COUNTY, NORTH CAROLINA

**EXHIBIT**

**2**

## **APPENDICES**

**Appendix A – Boring Logs**

**Appendix B – Geophysical Survey Report**

**Appendix C – Laboratory Analytical Reports and Chain of Custody**

### SOIL BORING LOG

PROJECT NAME: Stantonsburg/Tenth Street Connector	SOIL BORING I.D.: B-1
PROJECT NO.: 70127335	DATE(S) DRILLED: September 10, 2012
PROJECT LOCATION: Parcel #84, 521 West 10th Street 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	0.3	No petroleum odors	0.0	Asphalt	
					0.5	Red clay brick chips/fragments	
					1.0		
					1.5		
					2.0		
2.5 - 5.0		NA	0.3		2.5		
					3.0		
					3.5		Cave in at 3.8 feet
					4.0		
					4.5		
5.0 - 7.5*		NA	0.9		5.0		
					5.5		
					6.0		
					6.5		
					7.0		
7.5 - 10.0		NA	1.1	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		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





### SOIL BORING LOG

PROJECT NAME: Stantonsburg/Tenth Street Connector	SOIL BORING I.D.: B-2
PROJECT NO.: 70127335	DATE(S) DRILLED: September 10, 2012
PROJECT LOCATION: Parcel #84, 521 West 10th Street 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	Grey, tan sand
					0.5	
					1.0	
					1.5	
					2.0	
2.5 - 5.0		NA	0.1		2.5	White, tan sand Cave in at 3.2 feet
					3.0	
					3.5	
					4.0	Red, clay brick chips/fragments
					4.5	
5.0 - 7.5*		NA	0.1		5.0	Orange sand/moist
					5.5	
					6.0	
					6.5	
					7.0	
7.5 - 10.0		NA	0.7	7.5	Tan, orange sand/moist	
				8.0		
				8.5		
				9.0		
				9.5		
10.0 - 12.5		NA	1.2	10.0	Wet at 12 feet bgs	
				10.5		
				11.0		
				11.5		
				12.0		
				12.5		
				13.0		
12.5 - 15		NA	NA	13.5	Boring Terminated at 15.0 feet bgs	
				14.0		
				14.5		
				15.0		
				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		

<p><b>DRILLING METHODS</b>                  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</p>	<p><b>SAMPLING METHODS</b>                  SS - SPLIT SPOON                  ST - SHELBY TUBE                  GP - GEOPROBE</p> <p>* - Sample collected for analysis                  ND = &lt;1 ppm</p>
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### SOIL BORING LOG

PROJECT NAME: Stantonsburg/Tenth Street Connector	SOIL BORING I.D.: B-3
PROJECT NO.: 70127335	DATE(S) DRILLED: September 10, 2012
PROJECT LOCATION: Parcel #84, 521 West 10th Street 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	0.7	No petroleum odors	0.0	Asphalt
					0.5	Grey, tan sand and brick chips/fragments
					1.0	
					1.5	
					2.0	
2.5 - 5.0*		NA	1.8		2.5	
					3.0	White, tan fine to medium sand/ brick/concrete/moist
					3.5	
					4.0	
					4.5	
5.0 - 7.5		NA	2.2		5.0	
					5.5	
					6.0	
					6.5	
					7.0	
7.5 - 10.0		NA	2.2		7.5	
					8.0	
					8.5	
					9.0	Orange, clayey sand
					9.5	Water table at 9.1 feet bgs
10.0 - 12.5		NA	NA		10.0	
					10.5	
					11.0	
					11.5	
					12.0	
12.5 - 15		NA	NA	12.5		
				13.0	Black, grey, clay/wet	
				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		

<b>DRILLING METHODS</b> 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	<b>SAMPLING METHODS</b> SS - SPLIT SPOON ST - SHELBY TUBE GP - GEOPROBE * - Sample collected for analysis ND = <1 ppm
---	--



### SOIL BORING LOG

PROJECT NAME: Stantonsburg/Tenth Street Connector	SOIL BORING I.D.: B-4
PROJECT NO.: 70127335	DATE(S) DRILLED: September 10, 2012
PROJECT LOCATION: Parcel #84, 521 West 10th Street 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	1.8	No petroleum odors	0.0	Asphalt
					0.5	Tan, brown fine to medium sand
					1.0	
					1.5	
					2.0	
					2.5	
2.5 - 5.0*		NA	1.8		3.0	
					3.5	
					4.0	
					4.5	
					5.0	
5.0 - 7.5		NA	2.7		5.5	Cave in at 6 feet bgs
					6.0	
					6.5	
					7.0	
				7.5		
7.5 - 10.0		NA	NA	8.0	Orange clay/wet	
				8.5		
				9.0		
				9.5		
				10.0		
10.0 - 12.5		NA	NA	10.5		
				11.0		
				11.5		
				12.0		
				12.5		
12.5 - 15		NA	NA	13.0	Black, grey clay/wet	
				13.5		
				14.0		
				14.5		
				15.0		
				15.5	Boring Terminated at 15.0 feet bgs	
				16.0		
				16.5		
				17.0		
				17.5		
				18.0		
				18.5		
				19.0		
				19.5		
				20.0		
				20.5		
				21.0		
				21.5		

<p><b>DRILLING METHODS</b>                  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</p>	<p><b>SAMPLING METHODS</b>                  SS - SPLIT SPOON                  ST - SHELBY TUBE                  GP - GEOPROBE</p> <p>* - Sample collected for analysis                  ND = &lt;1 ppm</p>
--	--



### SOIL BORING LOG

PROJECT NAME: Stantonsburg/Tenth Street Connector	SOIL BORING I.D.: B-5
PROJECT NO.: 70127335	DATE(S) DRILLED: September 10, 2012
PROJECT LOCATION: Parcel #84, 521 West 10th Street 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	1.8	No petroleum odors	0.0	Asphalt
					0.5	Tan sand
					1.0	Red clay, brick chips/fragments/ across foundation
					1.5	
					2.0	
					2.5	
2.5 - 5.0*		NA	1.8		3.0	Brown, tan sand
					3.5	
					4.0	
					4.5	
					5.0	
5.0 - 7.5		NA	2.7		5.5	Brown tan clayey sand/moist
					6.0	
					6.5	
					7.0	
				7.5		
7.5 - 10.0		NA	NA	8.0	Water table at 7.5 feet bgs	
				8.5		
				9.0		
				9.5		
				10.0		
10.0 - 12.5		NA	NA	10.5	Tan, black/grey stained sand/wet	
				11.0		
				11.5		
				12.0		
				12.5		
12.5 - 15*		NA	NA	13.0	Tan clay/wet	
				13.5		
				14.0		
				14.5		
				15.0		
				15.5	Boring Terminated at 15.0 feet bgs	
				16.0		
				16.5		
				17.0		
				17.5		
				18.0		
				18.5		
				19.0		
				19.5		
				20.0		
				20.5		
				21.0		
				21.5		

<p><b>DRILLING METHODS</b>                  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</p>	<p><b>SAMPLING METHODS</b>                  SS - SPLIT SPOON                  ST - SHELBY TUBE                  GP - GEOPROBE</p> <p>* - Sample collected for analysis                  ND = &lt;1 ppm</p>
--	--



## **GEOPHYSICAL INVESTIGATION REPORT**

### **EM61 & GPR SURVEYS**

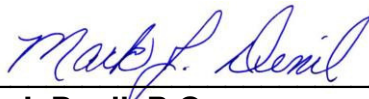
**DERIK A. SANDERSON PROPERTY (PARCEL 84)**

**521 West 10<sup>th</sup> Street  
Greenville, North Carolina**

**September 26, 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**  
**DERIK A. SANDERSON PROPERTY (PARCEL 84)**  
**521 West 10<sup>th</sup> Street**  
**Greenville, North Carolina**

<u>TABLE OF CONTENTS</u>		<u>PAGE</u>
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2.0 FIELD METHODOLOGY .....		1
3.0 DISCUSSION OF RESULTS .....		2
4.0 SUMMARY & CONCLUSIONS .....		3
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FIGURES

Figure 1	Geophysical Equipment & Site Photographs
Figure 2	EM61 Metal Detection Results

## **1.0 INTRODUCTION**

Pyramid Environmental conducted a geophysical investigation for Terracon across the Derik A. Sanderson property (Parcel 84) located at 521 West 10<sup>th</sup> Street in Greenville, North Carolina. Conducted on August 22 and 24, 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 site.

The Derik Sanderson property is occupied by the East Carolina Coin and Pawn shop. The property contains a one-story commercial building surrounded by an asphalt-covered parking lot. The back portion of the site also contains asphalt pavement. Dickinson Avenue and West 10<sup>th</sup> Street run along the northern, southern and western perimeters of the property. An adjacent commercial property lies along the eastern perimeter of Parcel 84. The geophysical survey area has a maximum length and width of 220 feet and 105 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 area using measuring tapes and water-based marking paint. These grid marks were used as X-Y coordinates for location control when collecting the geophysical data and establishing base maps for the geophysical results.

The geophysical investigation consisted of electromagnetic (EM) induction-metal detection surveys and ground penetrating radar (GPR) surveys. The EM survey was performed 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 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 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 September 3, 2012.

### **3.0 DISCUSSION OF RESULTS**

Contour plots of the EM61 bottom coil and differential results are presented in **Figure 2**. 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=20 Y=60, X=30 Y=80, X=40 Y=60, X=40 Y=113, and X=110 Y=20 are probably in response to buried utility lines or



conduits. Similarly, the linear, bottom coil anomalies intersecting grid coordinates X=64 Y=165, X=75 Y=170 and X=95 Y=170 are probably in response to buried metallic conduits or a series of buried, miscellaneous debris. The linear bottom coil anomaly recorded along the edge of Dickinson Avenue and intersecting grid coordinates X=70 Y=187 is probably in response to one or more buried utility lines. GPR data suggest the EM61 anomalies intersecting grid coordinates X=54 Y=100, X=80 Y=143 and X=90 Y=37 are in response to the building, the steel reinforced concrete walkway and/or bollards.

GPR data suggest the EM61 differential anomalies centered near grid coordinates X=40 Y=60, X=80 Y=166, X=110 Y=12, X=110 Y=18, X=110 Y=213, and X=115 Y=120 are in response to portions of buried utility lines or conduits. GPR data also detected four or more, northerly-southerly trending, buried lines or conduits that run between grid lines X=108 to X=128. The GPR detected lines or conduits run across the back portion of the property from West 10<sup>th</sup> Street to grid line Y=140. The lines were marked in the field using orange spray paint.

The remaining EM61 anomalies shown in Figure 2 and not mentioned in this report are probably in response to known surface objects, conduits or to small, insignificant metal debris/objects. The geophysical investigation suggests that the surveyed portion of the Derik A. Sanderson property (Parcel 84) does not contain metallic USTs.

#### **4.0 SUMMARY & CONCLUSIONS**

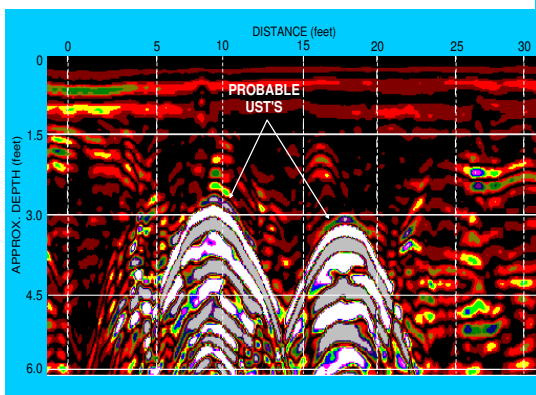
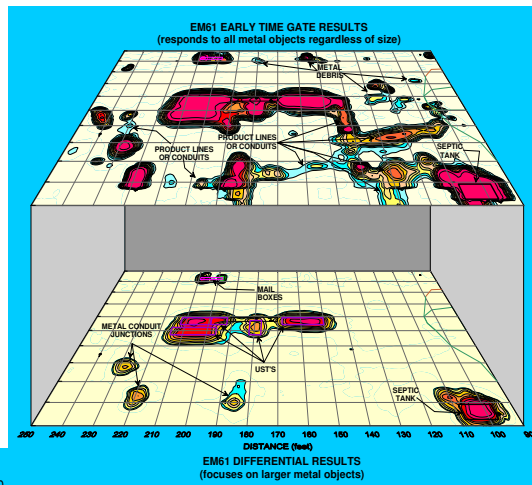
Our evaluation of the EM61 and GPR data collected across the Derik A. Sanderson property (Parcel 84) located at 521 West 10<sup>th</sup> Street in Greenville, North Carolina, provides the following summary and conclusions:

- 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=20 Y=60, X=30 Y=80, X=40 Y=60, X=40 Y=113, and X=110 Y=20 are probably in response to buried utility lines or conduits.
- GPR data suggest the EM61 differential anomalies centered near grid coordinates X=40 Y=60, X=80 Y=166, X=110 Y=12, X=110 Y=18, X=110 Y=213, and X=115 Y=120 are in response to portions of buried utility lines or conduits.
- The geophysical investigation suggests that the surveyed portion of Parcel 84 does not contain metallic USTs.

## **5.0 LIMITATIONS**

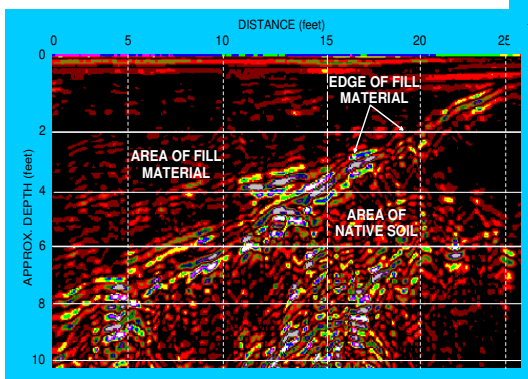
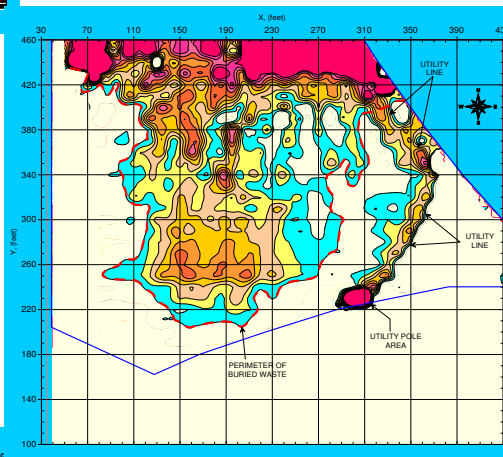
EM61 and GPR surveys have been performed and this report prepared for Terracon Consultants, Inc. in accordance with generally accepted guidelines for EM61 and GPR surveys. It is generally recognized that the results of the EM61 and GPR are non-unique and may not represent actual subsurface conditions. 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 Derik A. Sanderson property (Parcel 84) on August 22, 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 selected EM61 differential anomalies at the Parcel 84 site on August 24, 2012.



The photograph shows the northern and western portions of the Derik A. Sanderson property (Parcel 84) located at the intersection of Dickinson Avenue and West 10th Street in Greenville, North Carolina. The photograph is viewed in a southerly direction.

CLIENT	TERRACON CONSULTANTS, INC.	DATE	09/26/12
SITE	DERIK A. SANDERSON PROPERTY (PARCEL 84)	STATE	NORTH CAROLINA
CITY	GREENVILLE	TITLE	GEOPHYSICAL RESULTS
WARD	MJD	DRIVING SCALE IN FEET	
CNCL		EM61	2012-212

EM61 METAL DETECTION RESULTS

FIGURE 2



**LEGEND**

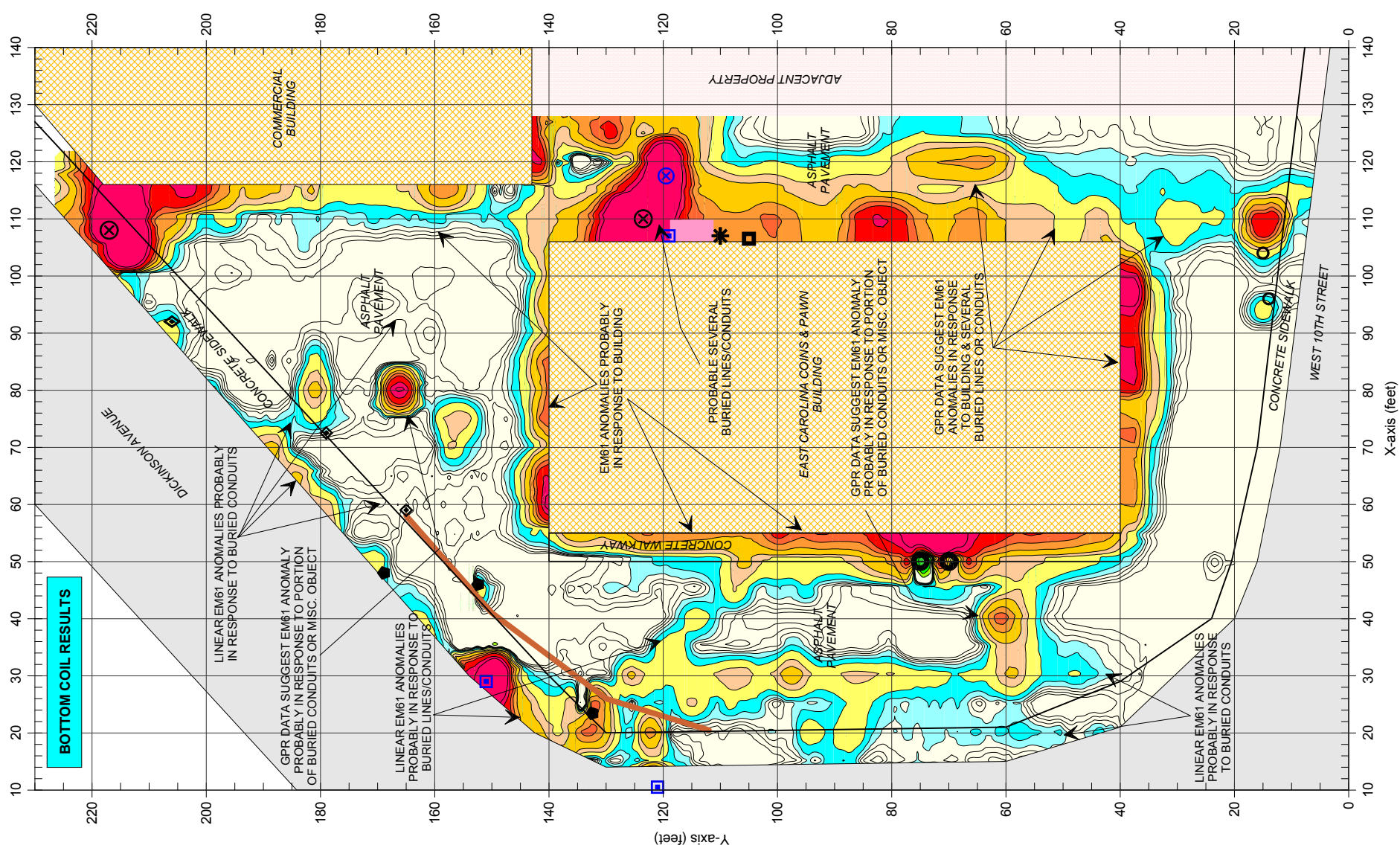
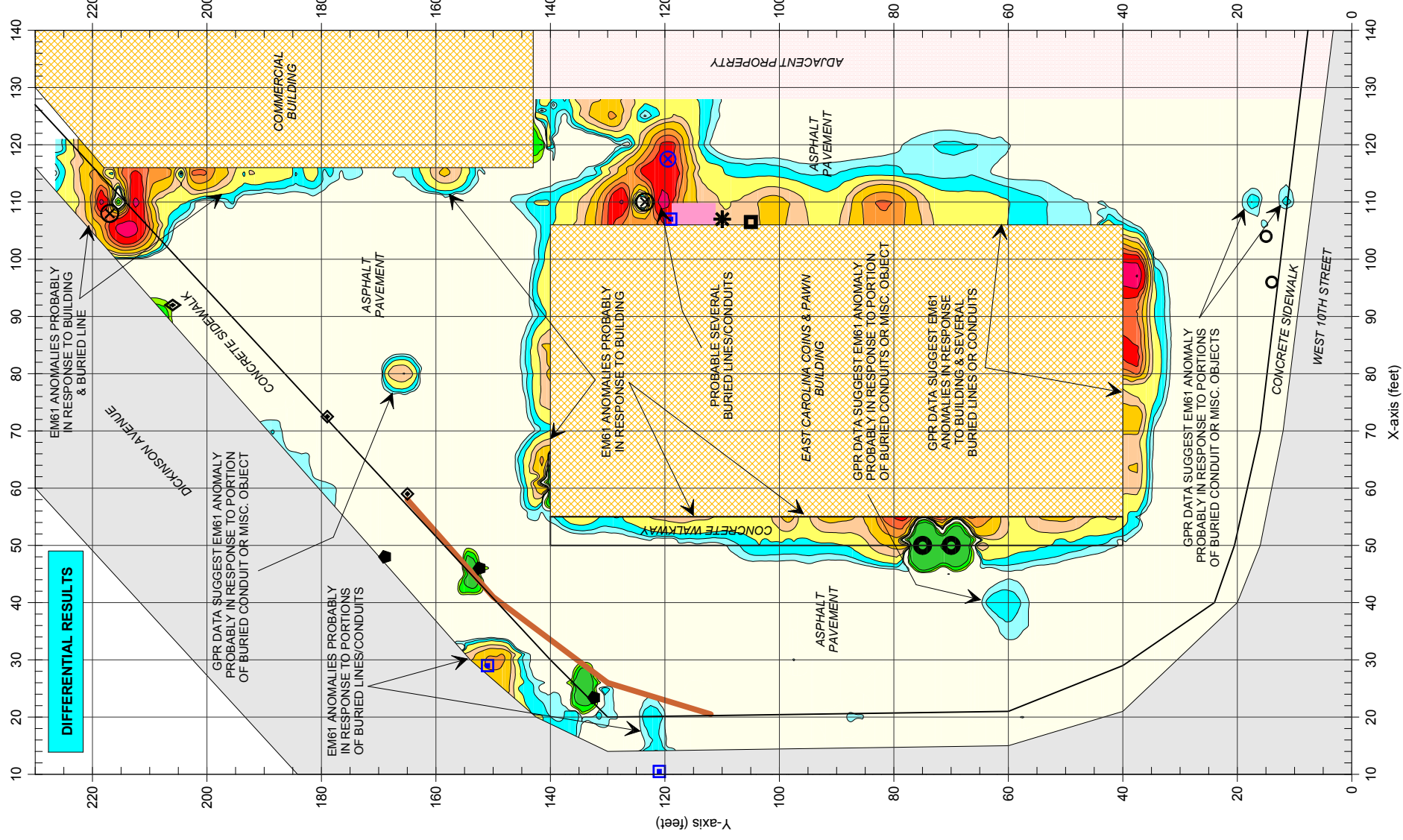
SURVEY AREA: EM61 DATA ACQUIRED ALONG X-AXIS TRENDED LINES SPACED 5 FEET APART

- BUILDING
- UTILITY BOX
- BRICK LANDSCAPING WALL
- PROPOSED RIGHT-OF-WAY MARKER
- MANHOLE COVER
- METAL PIPE
- UTILITY LINE METER
- LIGHT OR UTILITY POLE
- GAS LINE METER
- BOLLARD
- ROAD SIGN
- UTILITY LINE BOX
- WATER LINE METER

EM61 METAL DETECTION RESPONSE (MILLIVOLTS)

The contour plot shows the bottom coil (most sensitive) and differential results of the EM61 instrument in millivolts (mV). The bottom coil response shows buried metallic objects regardless of size. The differential response focuses on larger, buried metallic objects such as drums and USTs and ignores smaller miscellaneous, buried, metal debris. The EM61 data were collected on August 22, 2012 using a Geonics EM61 instrument.

Ground penetrating radar (GPR) data were acquired across selected EM61 anomalies on August 24, 2012 using a Geophysical Survey Systems SIR 2000 instrument with a 400 MHz antenna.



**Laboratory Report of Analysis**

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

Report Number: **31202906**

Client Project: **70127335 U3315 #84**

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  
Project Manager  
michael.page@sgs.com

Date

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

## 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

<u>Client Sample ID</u>	<u>Lab Sample ID</u>	<u>Collected</u>	<u>Received</u>	<u>Matrix</u>
S-1	31202906001	09/10/2012 13:23	09/12/2012 14:20	Soil-Solid as dry weight
S-2	31202906002	09/10/2012 13:46	09/12/2012 14:20	Soil-Solid as dry weight
S-3	31202906003	09/10/2012 14:18	09/12/2012 14:20	Soil-Solid as dry weight
S-4	31202906004	09/10/2012 15:23	09/12/2012 14:20	Soil-Solid as dry weight
S-5	31202906005	09/10/2012 16:07	09/12/2012 14:20	Soil-Solid as dry weight
TW-1	31202906006	09/10/2012 15:06	09/12/2012 14:20	Water



**Results of S-1**

Client Sample ID: **S-1**  
 Client Project ID: **70127335 U3315 #84**  
 Lab Sample ID: 31202906001-B  
 Lab Project ID: 31202906

Collection Date: 09/10/2012 13:23  
 Received Date: 09/12/2012 14:20  
 Matrix: Soil-Solid as dry weight  
 Solids (%): 85.90

**Results by SW-846 8260B**

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>LOQ/CL</u>	<u>Units</u>	<u>DF</u>	<u>Date Analyzed</u>
1,1,1,2-Tetrachloroethane	ND		4.63	ug/Kg	1	09/17/2012 17:36
1,1,1-Trichloroethane	ND		4.63	ug/Kg	1	09/17/2012 17:36
1,1,2,2-Tetrachloroethane	ND		4.63	ug/Kg	1	09/17/2012 17:36
1,1,2-Trichloroethane	ND		4.63	ug/Kg	1	09/17/2012 17:36
1,1-Dichloroethane	ND		4.63	ug/Kg	1	09/17/2012 17:36
1,1-Dichloroethene	ND		4.63	ug/Kg	1	09/17/2012 17:36
1,1-Dichloropropene	ND		4.63	ug/Kg	1	09/17/2012 17:36
1,2,3-Trichlorobenzene	ND		4.63	ug/Kg	1	09/17/2012 17:36
1,2,3-Trichloropropane	ND		4.63	ug/Kg	1	09/17/2012 17:36
1,2,4-Trichlorobenzene	ND		4.63	ug/Kg	1	09/17/2012 17:36
1,2,4-Trimethylbenzene	ND		4.63	ug/Kg	1	09/17/2012 17:36
1,2-Dibromo-3-chloropropane	ND		27.8	ug/Kg	1	09/17/2012 17:36
1,2-Dibromoethane	ND		4.63	ug/Kg	1	09/17/2012 17:36
1,2-Dichlorobenzene	ND		4.63	ug/Kg	1	09/17/2012 17:36
1,2-Dichloroethane	ND		4.63	ug/Kg	1	09/17/2012 17:36
1,2-Dichloropropane	ND		4.63	ug/Kg	1	09/17/2012 17:36
1,3,5-Trimethylbenzene	ND		4.63	ug/Kg	1	09/17/2012 17:36
1,3-Dichlorobenzene	ND		4.63	ug/Kg	1	09/17/2012 17:36
1,3-Dichloropropane	ND		4.63	ug/Kg	1	09/17/2012 17:36
1,4-Dichlorobenzene	ND		4.63	ug/Kg	1	09/17/2012 17:36
2,2-Dichloropropane	ND		4.63	ug/Kg	1	09/17/2012 17:36
2-Butanone	ND		23.2	ug/Kg	1	09/17/2012 17:36
2-Chlorotoluene	ND		4.63	ug/Kg	1	09/17/2012 17:36
2-Hexanone	ND		11.6	ug/Kg	1	09/17/2012 17:36
4-Chlorotoluene	ND		4.63	ug/Kg	1	09/17/2012 17:36
4-Isopropyltoluene	ND		4.63	ug/Kg	1	09/17/2012 17:36
4-Methyl-2-pentanone	ND		11.6	ug/Kg	1	09/17/2012 17:36
Acetone	ND		46.3	ug/Kg	1	09/17/2012 17:36
Benzene	ND		4.63	ug/Kg	1	09/17/2012 17:36
Bromobenzene	ND		4.63	ug/Kg	1	09/17/2012 17:36
Bromochloromethane	ND		4.63	ug/Kg	1	09/17/2012 17:36
Bromodichloromethane	ND		4.63	ug/Kg	1	09/17/2012 17:36
Bromoform	ND		4.63	ug/Kg	1	09/17/2012 17:36
Bromomethane	ND		4.63	ug/Kg	1	09/17/2012 17:36
n-Butylbenzene	ND		4.63	ug/Kg	1	09/17/2012 17:36
Carbon disulfide	ND		4.63	ug/Kg	1	09/17/2012 17:36
Carbon tetrachloride	ND		4.63	ug/Kg	1	09/17/2012 17:36
Chlorobenzene	ND		4.63	ug/Kg	1	09/17/2012 17:36
Chloroethane	ND		4.63	ug/Kg	1	09/17/2012 17:36
Chloroform	ND		4.63	ug/Kg	1	09/17/2012 17:36
Chloromethane	ND		4.63	ug/Kg	1	09/17/2012 17:36
Dibromochloromethane	ND		4.63	ug/Kg	1	09/17/2012 17:36
Dibromomethane	ND		4.63	ug/Kg	1	09/17/2012 17:36

**Results of S-1**

Client Sample ID: **S-1**  
 Client Project ID: **70127335 U3315 #84**  
 Lab Sample ID: 31202906001-B  
 Lab Project ID: 31202906

Collection Date: 09/10/2012 13:23  
 Received Date: 09/12/2012 14:20  
 Matrix: Soil-Solid as dry weight  
 Solids (%): 85.90

**Results by SW-846 8260B**

Parameter	Result	Qual	LOQ/CL	Units	DF	Date Analyzed
Dichlorodifluoromethane	ND		4.63	ug/Kg	1	09/17/2012 17:36
cis-1,3-Dichloropropene	ND		4.63	ug/Kg	1	09/17/2012 17:36
trans-1,3-Dichloropropene	ND		4.63	ug/Kg	1	09/17/2012 17:36
Diisopropyl Ether	ND		4.63	ug/Kg	1	09/17/2012 17:36
Ethyl Benzene	ND		4.63	ug/Kg	1	09/17/2012 17:36
Hexachlorobutadiene	ND		4.63	ug/Kg	1	09/17/2012 17:36
Isopropylbenzene (Cumene)	ND		4.63	ug/Kg	1	09/17/2012 17:36
Methyl iodide	ND		4.63	ug/Kg	1	09/17/2012 17:36
Methylene chloride	ND		18.5	ug/Kg	1	09/17/2012 17:36
Naphthalene	ND		4.63	ug/Kg	1	09/17/2012 17:36
Styrene	ND		4.63	ug/Kg	1	09/17/2012 17:36
Tetrachloroethene	ND		4.63	ug/Kg	1	09/17/2012 17:36
Toluene	ND		4.63	ug/Kg	1	09/17/2012 17:36
Trichloroethene	ND		4.63	ug/Kg	1	09/17/2012 17:36
Trichlorofluoromethane	ND		4.63	ug/Kg	1	09/17/2012 17:36
Vinyl chloride	ND		4.63	ug/Kg	1	09/17/2012 17:36
Xylene (total)	ND		9.27	ug/Kg	1	09/17/2012 17:36
cis-1,2-Dichloroethene	ND		4.63	ug/Kg	1	09/17/2012 17:36
m,p-Xylene	ND		9.27	ug/Kg	1	09/17/2012 17:36
n-Propylbenzene	ND		4.63	ug/Kg	1	09/17/2012 17:36
o-Xylene	ND		4.63	ug/Kg	1	09/17/2012 17:36
sec-Butylbenzene	ND		4.63	ug/Kg	1	09/17/2012 17:36
tert-Butyl methyl ether (MTBE)	ND		4.63	ug/Kg	1	09/17/2012 17:36
tert-Butylbenzene	ND		4.63	ug/Kg	1	09/17/2012 17:36
trans-1,2-Dichloroethene	ND		4.63	ug/Kg	1	09/17/2012 17:36
trans-1,4-Dichloro-2-butene	ND		23.2	ug/Kg	1	09/17/2012 17:36

**Surrogates**

1,2-Dichloroethane-d4	114		55.0-173	%	1	09/17/2012 17:36
4-Bromofluorobenzene	100		23.0-141	%	1	09/17/2012 17:36
Toluene d8	105		57.0-134	%	1	09/17/2012 17:36

**Batch Information**

Analytical Batch: **VMS2554**  
 Analytical Method: **SW-846 8260B**  
 Instrument: **MSD9**  
 Analyst: **DVO**

Prep Batch: **VXX4008**  
 Prep Method: **SW-846 5035 SL**  
 Prep Date/Time: **09/13/2012 11:20**  
 Prep Initial Wt./Vol.: **6.28 g**  
 Prep Extract Vol: **5 mL**

**Results of S-1**

Client Sample ID: **S-1**  
 Client Project ID: **70127335 U3315 #84**  
 Lab Sample ID: 31202906001-E  
 Lab Project ID: 31202906

Collection Date: 09/10/2012 13:23  
 Received Date: 09/12/2012 14:20  
 Matrix: Soil-Solid as dry weight  
 Solids (%): 85.90

**Results by SW-846 8270D**

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>LOQ/CL</u>	<u>Units</u>	<u>DF</u>	<u>Date Analyzed</u>
1,2,4-Trichlorobenzene	ND		338	ug/Kg	1	09/19/2012 19:20
1,2-Dichlorobenzene	ND		338	ug/Kg	1	09/19/2012 19:20
1,3-Dichlorobenzene	ND		338	ug/Kg	1	09/19/2012 19:20
1,4-Dichlorobenzene	ND		338	ug/Kg	1	09/19/2012 19:20
2,4,5-Trichlorophenol	ND		338	ug/Kg	1	09/19/2012 19:20
2,4,6-Trichlorophenol	ND		338	ug/Kg	1	09/19/2012 19:20
2,4-Dichlorophenol	ND		338	ug/Kg	1	09/19/2012 19:20
2,4-Dinitrophenol	ND		1690	ug/Kg	1	09/19/2012 19:20
2,4-Dinitrotoluene	ND		338	ug/Kg	1	09/19/2012 19:20
2,6-Dinitrotoluene	ND		338	ug/Kg	1	09/19/2012 19:20
2-Chloronaphthalene	ND		338	ug/Kg	1	09/19/2012 19:20
2-Chlorophenol	ND		338	ug/Kg	1	09/19/2012 19:20
2-Methylnaphthalene	ND		338	ug/Kg	1	09/19/2012 19:20
2-Methylphenol	ND		338	ug/Kg	1	09/19/2012 19:20
2-Nitroaniline	ND		338	ug/Kg	1	09/19/2012 19:20
2-Nitrophenol	ND		338	ug/Kg	1	09/19/2012 19:20
3 and/or 4-Methylphenol	ND		338	ug/Kg	1	09/19/2012 19:20
3,3'-Dichlorobenzidine	ND		676	ug/Kg	1	09/19/2012 19:20
3-Nitroaniline	ND		1690	ug/Kg	1	09/19/2012 19:20
4,6-Dinitro-2-methylphenol	ND		1690	ug/Kg	1	09/19/2012 19:20
4-Chloro-3-methylphenol	ND		338	ug/Kg	1	09/19/2012 19:20
4-Chloroaniline	ND		338	ug/Kg	1	09/19/2012 19:20
4-Chlorophenyl phenyl ether	ND		338	ug/Kg	1	09/19/2012 19:20
Acenaphthene	ND		338	ug/Kg	1	09/19/2012 19:20
Acenaphthylene	ND		338	ug/Kg	1	09/19/2012 19:20
Anthracene	ND		338	ug/Kg	1	09/19/2012 19:20
Benzo(a)anthracene	ND		338	ug/Kg	1	09/19/2012 19:20
Benzo(a)pyrene	ND		338	ug/Kg	1	09/19/2012 19:20
Benzo(b)fluoranthene	ND		338	ug/Kg	1	09/19/2012 19:20
Benzo(g,h,i)perylene	ND		338	ug/Kg	1	09/19/2012 19:20
Benzo(k)fluoranthene	ND		338	ug/Kg	1	09/19/2012 19:20
Benzoic acid	ND		1690	ug/Kg	1	09/19/2012 19:20
Bis(2-Chloroethoxy)methane	ND		338	ug/Kg	1	09/19/2012 19:20
Bis(2-Chloroethyl)ether	ND		338	ug/Kg	1	09/19/2012 19:20
Bis(2-Chloroisopropyl)ether	ND		338	ug/Kg	1	09/19/2012 19:20
Bis(2-Ethylhexyl)phthalate	ND		338	ug/Kg	1	09/19/2012 19:20
4-Bromophenyl phenyl ether	ND		338	ug/Kg	1	09/19/2012 19:20
Butyl benzyl phthalate	ND		338	ug/Kg	1	09/19/2012 19:20
Chrysene	ND		338	ug/Kg	1	09/19/2012 19:20
Di-n-butyl phthalate	ND		338	ug/Kg	1	09/19/2012 19:20
Di-n-octyl phthalate	ND		338	ug/Kg	1	09/19/2012 19:20
Dibenz(a,h)anthracene	ND		338	ug/Kg	1	09/19/2012 19:20
Dibenzofuran	ND		338	ug/Kg	1	09/19/2012 19:20

**Results of S-1**

Client Sample ID: **S-1**  
 Client Project ID: **70127335 U3315 #84**  
 Lab Sample ID: 31202906001-E  
 Lab Project ID: 31202906

Collection Date: 09/10/2012 13:23  
 Received Date: 09/12/2012 14:20  
 Matrix: Soil-Solid as dry weight  
 Solids (%): 85.90

**Results by SW-846 8270D**

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>LOQ/CL</u>	<u>Units</u>	<u>DF</u>	<u>Date Analyzed</u>
Diethyl phthalate	ND		338	ug/Kg	1	09/19/2012 19:20
Dimethyl phthalate	ND		338	ug/Kg	1	09/19/2012 19:20
2,4-Dimethylphenol	ND		338	ug/Kg	1	09/19/2012 19:20
Diphenylamine	ND		338	ug/Kg	1	09/19/2012 19:20
Fluoranthene	ND		338	ug/Kg	1	09/19/2012 19:20
Fluorene	ND		338	ug/Kg	1	09/19/2012 19:20
Hexachlorobenzene	ND		1690	ug/Kg	1	09/19/2012 19:20
Hexachlorobutadiene	ND		338	ug/Kg	1	09/19/2012 19:20
Hexachlorocyclopentadiene	ND		676	ug/Kg	1	09/19/2012 19:20
Hexachloroethane	ND		338	ug/Kg	1	09/19/2012 19:20
Indeno(1,2,3-cd)pyrene	ND		338	ug/Kg	1	09/19/2012 19:20
Isophorone	ND		338	ug/Kg	1	09/19/2012 19:20
Naphthalene	ND		338	ug/Kg	1	09/19/2012 19:20
4-Nitroaniline	ND		1690	ug/Kg	1	09/19/2012 19:20
Nitrobenzene	ND		338	ug/Kg	1	09/19/2012 19:20
4-Nitrophenol	ND		1690	ug/Kg	1	09/19/2012 19:20
Pentachlorophenol	ND		1690	ug/Kg	1	09/19/2012 19:20
Phenanthrene	ND		338	ug/Kg	1	09/19/2012 19:20
Phenol	ND		338	ug/Kg	1	09/19/2012 19:20
Pyrene	ND		338	ug/Kg	1	09/19/2012 19:20
n-Nitrosodi-n-propylamine	ND		338	ug/Kg	1	09/19/2012 19:20

**Surrogates**

2,4,6-Tribromophenol	88.0		41.0-129	%	1	09/19/2012 19:20
2-Fluorobiphenyl	90.0		48.0-123	%	1	09/19/2012 19:20
2-Fluorophenol	82.0		42.0-123	%	1	09/19/2012 19:20
Nitrobenzene-d5	92.0		46.0-117	%	1	09/19/2012 19:20
Phenol-d6	95.0		48.0-125	%	1	09/19/2012 19:20
Terphenyl-d14	99.0		44.0-140	%	1	09/19/2012 19:20

**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.: **34.48 g**  
 Prep Extract Vol: **10 mL**

**Results of S-2**

Client Sample ID: **S-2**  
 Client Project ID: **70127335 U3315 #84**  
 Lab Sample ID: 31202906002-A  
 Lab Project ID: 31202906

Collection Date: 09/10/2012 13:46  
 Received Date: 09/12/2012 14:20  
 Matrix: Soil-Solid as dry weight  
 Solids (%): 86.80

**Results by SW-846 8260B**

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>LOQ/CL</u>	<u>Units</u>	<u>DF</u>	<u>Date Analyzed</u>
1,1,1,2-Tetrachloroethane	ND		4.33	ug/Kg	1	09/17/2012 18:03
1,1,1-Trichloroethane	ND		4.33	ug/Kg	1	09/17/2012 18:03
1,1,2,2-Tetrachloroethane	ND		4.33	ug/Kg	1	09/17/2012 18:03
1,1,2-Trichloroethane	ND		4.33	ug/Kg	1	09/17/2012 18:03
1,1-Dichloroethane	ND		4.33	ug/Kg	1	09/17/2012 18:03
1,1-Dichloroethene	ND		4.33	ug/Kg	1	09/17/2012 18:03
1,1-Dichloropropene	ND		4.33	ug/Kg	1	09/17/2012 18:03
1,2,3-Trichlorobenzene	ND		4.33	ug/Kg	1	09/17/2012 18:03
1,2,3-Trichloropropane	ND		4.33	ug/Kg	1	09/17/2012 18:03
1,2,4-Trichlorobenzene	ND		4.33	ug/Kg	1	09/17/2012 18:03
1,2,4-Trimethylbenzene	ND		4.33	ug/Kg	1	09/17/2012 18:03
1,2-Dibromo-3-chloropropane	ND		26.0	ug/Kg	1	09/17/2012 18:03
1,2-Dibromoethane	ND		4.33	ug/Kg	1	09/17/2012 18:03
1,2-Dichlorobenzene	ND		4.33	ug/Kg	1	09/17/2012 18:03
1,2-Dichloroethane	ND		4.33	ug/Kg	1	09/17/2012 18:03
1,2-Dichloropropane	ND		4.33	ug/Kg	1	09/17/2012 18:03
1,3,5-Trimethylbenzene	ND		4.33	ug/Kg	1	09/17/2012 18:03
1,3-Dichlorobenzene	ND		4.33	ug/Kg	1	09/17/2012 18:03
1,3-Dichloropropane	ND		4.33	ug/Kg	1	09/17/2012 18:03
1,4-Dichlorobenzene	ND		4.33	ug/Kg	1	09/17/2012 18:03
2,2-Dichloropropane	ND		4.33	ug/Kg	1	09/17/2012 18:03
2-Butanone	ND		21.7	ug/Kg	1	09/17/2012 18:03
2-Chlorotoluene	ND		4.33	ug/Kg	1	09/17/2012 18:03
2-Hexanone	ND		10.8	ug/Kg	1	09/17/2012 18:03
4-Chlorotoluene	ND		4.33	ug/Kg	1	09/17/2012 18:03
4-Isopropyltoluene	ND		4.33	ug/Kg	1	09/17/2012 18:03
4-Methyl-2-pentanone	ND		10.8	ug/Kg	1	09/17/2012 18:03
Acetone	ND		43.3	ug/Kg	1	09/17/2012 18:03
Benzene	ND		4.33	ug/Kg	1	09/17/2012 18:03
Bromobenzene	ND		4.33	ug/Kg	1	09/17/2012 18:03
Bromochloromethane	ND		4.33	ug/Kg	1	09/17/2012 18:03
Bromodichloromethane	ND		4.33	ug/Kg	1	09/17/2012 18:03
Bromoform	ND		4.33	ug/Kg	1	09/17/2012 18:03
Bromomethane	ND		4.33	ug/Kg	1	09/17/2012 18:03
n-Butylbenzene	ND		4.33	ug/Kg	1	09/17/2012 18:03
Carbon disulfide	ND		4.33	ug/Kg	1	09/17/2012 18:03
Carbon tetrachloride	ND		4.33	ug/Kg	1	09/17/2012 18:03
Chlorobenzene	ND		4.33	ug/Kg	1	09/17/2012 18:03
Chloroethane	ND		4.33	ug/Kg	1	09/17/2012 18:03
Chloroform	ND		4.33	ug/Kg	1	09/17/2012 18:03
Chloromethane	ND		4.33	ug/Kg	1	09/17/2012 18:03
Dibromochloromethane	ND		4.33	ug/Kg	1	09/17/2012 18:03
Dibromomethane	ND		4.33	ug/Kg	1	09/17/2012 18:03

**Results of S-2**

Client Sample ID: **S-2**  
 Client Project ID: **70127335 U3315 #84**  
 Lab Sample ID: 31202906002-A  
 Lab Project ID: 31202906

Collection Date: 09/10/2012 13:46  
 Received Date: 09/12/2012 14:20  
 Matrix: Soil-Solid as dry weight  
 Solids (%): 86.80

**Results by SW-846 8260B**

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>LOQ/CL</u>	<u>Units</u>	<u>DF</u>	<u>Date Analyzed</u>
Dichlorodifluoromethane	ND		4.33	ug/Kg	1	09/17/2012 18:03
cis-1,3-Dichloropropene	ND		4.33	ug/Kg	1	09/17/2012 18:03
trans-1,3-Dichloropropene	ND		4.33	ug/Kg	1	09/17/2012 18:03
Diisopropyl Ether	ND		4.33	ug/Kg	1	09/17/2012 18:03
Ethyl Benzene	ND		4.33	ug/Kg	1	09/17/2012 18:03
Hexachlorobutadiene	ND		4.33	ug/Kg	1	09/17/2012 18:03
Isopropylbenzene (Cumene)	ND		4.33	ug/Kg	1	09/17/2012 18:03
Methyl iodide	ND		4.33	ug/Kg	1	09/17/2012 18:03
Methylene chloride	ND		17.3	ug/Kg	1	09/17/2012 18:03
Naphthalene	ND		4.33	ug/Kg	1	09/17/2012 18:03
Styrene	ND		4.33	ug/Kg	1	09/17/2012 18:03
Tetrachloroethene	ND		4.33	ug/Kg	1	09/17/2012 18:03
Toluene	ND		4.33	ug/Kg	1	09/17/2012 18:03
Trichloroethene	ND		4.33	ug/Kg	1	09/17/2012 18:03
Trichlorofluoromethane	ND		4.33	ug/Kg	1	09/17/2012 18:03
Vinyl chloride	ND		4.33	ug/Kg	1	09/17/2012 18:03
Xylene (total)	ND		8.66	ug/Kg	1	09/17/2012 18:03
cis-1,2-Dichloroethene	ND		4.33	ug/Kg	1	09/17/2012 18:03
m,p-Xylene	ND		8.66	ug/Kg	1	09/17/2012 18:03
n-Propylbenzene	ND		4.33	ug/Kg	1	09/17/2012 18:03
o-Xylene	ND		4.33	ug/Kg	1	09/17/2012 18:03
sec-Butylbenzene	ND		4.33	ug/Kg	1	09/17/2012 18:03
tert-Butyl methyl ether (MTBE)	ND		4.33	ug/Kg	1	09/17/2012 18:03
tert-Butylbenzene	ND		4.33	ug/Kg	1	09/17/2012 18:03
trans-1,2-Dichloroethene	ND		4.33	ug/Kg	1	09/17/2012 18:03
trans-1,4-Dichloro-2-butene	ND		21.7	ug/Kg	1	09/17/2012 18:03

**Surrogates**

1,2-Dichloroethane-d4	114		55.0-173	%	1	09/17/2012 18:03
4-Bromofluorobenzene	100		23.0-141	%	1	09/17/2012 18:03
Toluene d8	104		57.0-134	%	1	09/17/2012 18:03

**Batch Information**

Analytical Batch: **VMS2554**  
 Analytical Method: **SW-846 8260B**  
 Instrument: **MSD9**  
 Analyst: **DVO**

Prep Batch: **VXX4008**  
 Prep Method: **SW-846 5035 SL**  
 Prep Date/Time: **09/13/2012 11:22**  
 Prep Initial Wt./Vol.: **6.65 g**  
 Prep Extract Vol: **5 mL**

**Results of S-2**

Client Sample ID: **S-2**  
 Client Project ID: **70127335 U3315 #84**  
 Lab Sample ID: 31202906002-E  
 Lab Project ID: 31202906

Collection Date: 09/10/2012 13:46  
 Received Date: 09/12/2012 14:20  
 Matrix: Soil-Solid as dry weight  
 Solids (%): 86.80

**Results by SW-846 8270D**

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>LOQ/CL</u>	<u>Units</u>	<u>DF</u>	<u>Date Analyzed</u>
1,2,4-Trichlorobenzene	ND		361	ug/Kg	1	09/19/2012 19:42
1,2-Dichlorobenzene	ND		361	ug/Kg	1	09/19/2012 19:42
1,3-Dichlorobenzene	ND		361	ug/Kg	1	09/19/2012 19:42
1,4-Dichlorobenzene	ND		361	ug/Kg	1	09/19/2012 19:42
2,4,5-Trichlorophenol	ND		361	ug/Kg	1	09/19/2012 19:42
2,4,6-Trichlorophenol	ND		361	ug/Kg	1	09/19/2012 19:42
2,4-Dichlorophenol	ND		361	ug/Kg	1	09/19/2012 19:42
2,4-Dinitrophenol	ND		1810	ug/Kg	1	09/19/2012 19:42
2,4-Dinitrotoluene	ND		361	ug/Kg	1	09/19/2012 19:42
2,6-Dinitrotoluene	ND		361	ug/Kg	1	09/19/2012 19:42
2-Chloronaphthalene	ND		361	ug/Kg	1	09/19/2012 19:42
2-Chlorophenol	ND		361	ug/Kg	1	09/19/2012 19:42
2-Methylnaphthalene	ND		361	ug/Kg	1	09/19/2012 19:42
2-Methylphenol	ND		361	ug/Kg	1	09/19/2012 19:42
2-Nitroaniline	ND		361	ug/Kg	1	09/19/2012 19:42
2-Nitrophenol	ND		361	ug/Kg	1	09/19/2012 19:42
3 and/or 4-Methylphenol	ND		361	ug/Kg	1	09/19/2012 19:42
3,3'-Dichlorobenzidine	ND		722	ug/Kg	1	09/19/2012 19:42
3-Nitroaniline	ND		1810	ug/Kg	1	09/19/2012 19:42
4,6-Dinitro-2-methylphenol	ND		1810	ug/Kg	1	09/19/2012 19:42
4-Chloro-3-methylphenol	ND		361	ug/Kg	1	09/19/2012 19:42
4-Chloroaniline	ND		361	ug/Kg	1	09/19/2012 19:42
4-Chlorophenyl phenyl ether	ND		361	ug/Kg	1	09/19/2012 19:42
Acenaphthene	ND		361	ug/Kg	1	09/19/2012 19:42
Acenaphthylene	ND		361	ug/Kg	1	09/19/2012 19:42
Anthracene	ND		361	ug/Kg	1	09/19/2012 19:42
Benzo(a)anthracene	ND		361	ug/Kg	1	09/19/2012 19:42
Benzo(a)pyrene	ND		361	ug/Kg	1	09/19/2012 19:42
Benzo(b)fluoranthene	ND		361	ug/Kg	1	09/19/2012 19:42
Benzo(g,h,i)perylene	ND		361	ug/Kg	1	09/19/2012 19:42
Benzo(k)fluoranthene	ND		361	ug/Kg	1	09/19/2012 19:42
Benzoic acid	ND		1810	ug/Kg	1	09/19/2012 19:42
Bis(2-Chloroethoxy)methane	ND		361	ug/Kg	1	09/19/2012 19:42
Bis(2-Chloroethyl)ether	ND		361	ug/Kg	1	09/19/2012 19:42
Bis(2-Chloroisopropyl)ether	ND		361	ug/Kg	1	09/19/2012 19:42
Bis(2-Ethylhexyl)phthalate	ND		361	ug/Kg	1	09/19/2012 19:42
4-Bromophenyl phenyl ether	ND		361	ug/Kg	1	09/19/2012 19:42
Butyl benzyl phthalate	ND		361	ug/Kg	1	09/19/2012 19:42
Chrysene	ND		361	ug/Kg	1	09/19/2012 19:42
Di-n-butyl phthalate	ND		361	ug/Kg	1	09/19/2012 19:42
Di-n-octyl phthalate	ND		361	ug/Kg	1	09/19/2012 19:42
Dibenz(a,h)anthracene	ND		361	ug/Kg	1	09/19/2012 19:42
Dibenzofuran	ND		361	ug/Kg	1	09/19/2012 19:42

**Results of S-2**

Client Sample ID: **S-2**  
 Client Project ID: **70127335 U3315 #84**  
 Lab Sample ID: 31202906002-E  
 Lab Project ID: 31202906

Collection Date: 09/10/2012 13:46  
 Received Date: 09/12/2012 14:20  
 Matrix: Soil-Solid as dry weight  
 Solids (%): 86.80

**Results by SW-846 8270D**

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>LOQ/CL</u>	<u>Units</u>	<u>DF</u>	<u>Date Analyzed</u>
Diethyl phthalate	ND		361	ug/Kg	1	09/19/2012 19:42
Dimethyl phthalate	ND		361	ug/Kg	1	09/19/2012 19:42
2,4-Dimethylphenol	ND		361	ug/Kg	1	09/19/2012 19:42
Diphenylamine	ND		361	ug/Kg	1	09/19/2012 19:42
Fluoranthene	ND		361	ug/Kg	1	09/19/2012 19:42
Fluorene	ND		361	ug/Kg	1	09/19/2012 19:42
Hexachlorobenzene	ND		1810	ug/Kg	1	09/19/2012 19:42
Hexachlorobutadiene	ND		361	ug/Kg	1	09/19/2012 19:42
Hexachlorocyclopentadiene	ND		722	ug/Kg	1	09/19/2012 19:42
Hexachloroethane	ND		361	ug/Kg	1	09/19/2012 19:42
Indeno(1,2,3-cd)pyrene	ND		361	ug/Kg	1	09/19/2012 19:42
Isophorone	ND		361	ug/Kg	1	09/19/2012 19:42
Naphthalene	ND		361	ug/Kg	1	09/19/2012 19:42
4-Nitroaniline	ND		1810	ug/Kg	1	09/19/2012 19:42
Nitrobenzene	ND		361	ug/Kg	1	09/19/2012 19:42
4-Nitrophenol	ND		1810	ug/Kg	1	09/19/2012 19:42
Pentachlorophenol	ND		1810	ug/Kg	1	09/19/2012 19:42
Phenanthrene	ND		361	ug/Kg	1	09/19/2012 19:42
Phenol	ND		361	ug/Kg	1	09/19/2012 19:42
Pyrene	ND		361	ug/Kg	1	09/19/2012 19:42
n-Nitrosodi-n-propylamine	ND		361	ug/Kg	1	09/19/2012 19:42

**Surrogates**

2,4,6-Tribromophenol	87.0		41.0-129	%	1	09/19/2012 19:42
2-Fluorobiphenyl	99.0		48.0-123	%	1	09/19/2012 19:42
2-Fluorophenol	86.0		42.0-123	%	1	09/19/2012 19:42
Nitrobenzene-d5	96.0		46.0-117	%	1	09/19/2012 19:42
Phenol-d6	97.0		48.0-125	%	1	09/19/2012 19:42
Terphenyl-d14	104		44.0-140	%	1	09/19/2012 19:42

**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.: **31.95 g**  
 Prep Extract Vol: **10 mL**



**Results of S-3**

Client Sample ID: **S-3**  
 Client Project ID: **70127335 U3315 #84**  
 Lab Sample ID: 31202906003-A  
 Lab Project ID: 31202906

Collection Date: 09/10/2012 14:18  
 Received Date: 09/12/2012 14:20  
 Matrix: Soil-Solid as dry weight  
 Solids (%): 96.00

**Results by SW-846 8260B**

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>LOQ/CL</u>	<u>Units</u>	<u>DF</u>	<u>Date Analyzed</u>
1,1,1,2-Tetrachloroethane	ND		4.84	ug/Kg	1	09/17/2012 18:29
1,1,1-Trichloroethane	ND		4.84	ug/Kg	1	09/17/2012 18:29
1,1,2,2-Tetrachloroethane	ND		4.84	ug/Kg	1	09/17/2012 18:29
1,1,2-Trichloroethane	ND		4.84	ug/Kg	1	09/17/2012 18:29
1,1-Dichloroethane	ND		4.84	ug/Kg	1	09/17/2012 18:29
1,1-Dichloroethene	ND		4.84	ug/Kg	1	09/17/2012 18:29
1,1-Dichloropropene	ND		4.84	ug/Kg	1	09/17/2012 18:29
1,2,3-Trichlorobenzene	ND		4.84	ug/Kg	1	09/17/2012 18:29
1,2,3-Trichloropropane	ND		4.84	ug/Kg	1	09/17/2012 18:29
1,2,4-Trichlorobenzene	ND		4.84	ug/Kg	1	09/17/2012 18:29
1,2,4-Trimethylbenzene	ND		4.84	ug/Kg	1	09/17/2012 18:29
1,2-Dibromo-3-chloropropane	ND		29.1	ug/Kg	1	09/17/2012 18:29
1,2-Dibromoethane	ND		4.84	ug/Kg	1	09/17/2012 18:29
1,2-Dichlorobenzene	ND		4.84	ug/Kg	1	09/17/2012 18:29
1,2-Dichloroethane	ND		4.84	ug/Kg	1	09/17/2012 18:29
1,2-Dichloropropane	ND		4.84	ug/Kg	1	09/17/2012 18:29
1,3,5-Trimethylbenzene	ND		4.84	ug/Kg	1	09/17/2012 18:29
1,3-Dichlorobenzene	ND		4.84	ug/Kg	1	09/17/2012 18:29
1,3-Dichloropropane	ND		4.84	ug/Kg	1	09/17/2012 18:29
1,4-Dichlorobenzene	ND		4.84	ug/Kg	1	09/17/2012 18:29
2,2-Dichloropropane	ND		4.84	ug/Kg	1	09/17/2012 18:29
2-Butanone	ND		24.2	ug/Kg	1	09/17/2012 18:29
2-Chlorotoluene	ND		4.84	ug/Kg	1	09/17/2012 18:29
2-Hexanone	ND		12.1	ug/Kg	1	09/17/2012 18:29
4-Chlorotoluene	ND		4.84	ug/Kg	1	09/17/2012 18:29
4-Isopropyltoluene	ND		4.84	ug/Kg	1	09/17/2012 18:29
4-Methyl-2-pentanone	ND		12.1	ug/Kg	1	09/17/2012 18:29
Acetone	ND		48.4	ug/Kg	1	09/17/2012 18:29
Benzene	ND		4.84	ug/Kg	1	09/17/2012 18:29
Bromobenzene	ND		4.84	ug/Kg	1	09/17/2012 18:29
Bromochloromethane	ND		4.84	ug/Kg	1	09/17/2012 18:29
Bromodichloromethane	ND		4.84	ug/Kg	1	09/17/2012 18:29
Bromoform	ND		4.84	ug/Kg	1	09/17/2012 18:29
Bromomethane	ND		4.84	ug/Kg	1	09/17/2012 18:29
n-Butylbenzene	ND		4.84	ug/Kg	1	09/17/2012 18:29
Carbon disulfide	ND		4.84	ug/Kg	1	09/17/2012 18:29
Carbon tetrachloride	ND		4.84	ug/Kg	1	09/17/2012 18:29
Chlorobenzene	ND		4.84	ug/Kg	1	09/17/2012 18:29
Chloroethane	ND		4.84	ug/Kg	1	09/17/2012 18:29
Chloroform	ND		4.84	ug/Kg	1	09/17/2012 18:29
Chloromethane	ND		4.84	ug/Kg	1	09/17/2012 18:29
Dibromochloromethane	ND		4.84	ug/Kg	1	09/17/2012 18:29
Dibromomethane	ND		4.84	ug/Kg	1	09/17/2012 18:29

**Results of S-3**

Client Sample ID: **S-3**  
 Client Project ID: **70127335 U3315 #84**  
 Lab Sample ID: 31202906003-A  
 Lab Project ID: 31202906

Collection Date: 09/10/2012 14:18  
 Received Date: 09/12/2012 14:20  
 Matrix: Soil-Solid as dry weight  
 Solids (%): 96.00

**Results by SW-846 8260B**

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>LOQ/CL</u>	<u>Units</u>	<u>DF</u>	<u>Date Analyzed</u>
Dichlorodifluoromethane	ND		4.84	ug/Kg	1	09/17/2012 18:29
cis-1,3-Dichloropropene	ND		4.84	ug/Kg	1	09/17/2012 18:29
trans-1,3-Dichloropropene	ND		4.84	ug/Kg	1	09/17/2012 18:29
Diisopropyl Ether	ND		4.84	ug/Kg	1	09/17/2012 18:29
Ethyl Benzene	ND		4.84	ug/Kg	1	09/17/2012 18:29
Hexachlorobutadiene	ND		4.84	ug/Kg	1	09/17/2012 18:29
Isopropylbenzene (Cumene)	ND		4.84	ug/Kg	1	09/17/2012 18:29
Methyl iodide	ND		4.84	ug/Kg	1	09/17/2012 18:29
Methylene chloride	ND		19.4	ug/Kg	1	09/17/2012 18:29
Naphthalene	ND		4.84	ug/Kg	1	09/17/2012 18:29
Styrene	ND		4.84	ug/Kg	1	09/17/2012 18:29
Tetrachloroethene	ND		4.84	ug/Kg	1	09/17/2012 18:29
Toluene	ND		4.84	ug/Kg	1	09/17/2012 18:29
Trichloroethene	ND		4.84	ug/Kg	1	09/17/2012 18:29
Trichlorofluoromethane	ND		4.84	ug/Kg	1	09/17/2012 18:29
Vinyl chloride	ND		4.84	ug/Kg	1	09/17/2012 18:29
Xylene (total)	ND		9.68	ug/Kg	1	09/17/2012 18:29
cis-1,2-Dichloroethene	ND		4.84	ug/Kg	1	09/17/2012 18:29
m,p-Xylene	ND		9.68	ug/Kg	1	09/17/2012 18:29
n-Propylbenzene	ND		4.84	ug/Kg	1	09/17/2012 18:29
o-Xylene	ND		4.84	ug/Kg	1	09/17/2012 18:29
sec-Butylbenzene	ND		4.84	ug/Kg	1	09/17/2012 18:29
tert-Butyl methyl ether (MTBE)	ND		4.84	ug/Kg	1	09/17/2012 18:29
tert-Butylbenzene	ND		4.84	ug/Kg	1	09/17/2012 18:29
trans-1,2-Dichloroethene	ND		4.84	ug/Kg	1	09/17/2012 18:29
trans-1,4-Dichloro-2-butene	ND		24.2	ug/Kg	1	09/17/2012 18:29

**Surrogates**

1,2-Dichloroethane-d4	118		55.0-173	%	1	09/17/2012 18:29
4-Bromofluorobenzene	103		23.0-141	%	1	09/17/2012 18:29
Toluene d8	103		57.0-134	%	1	09/17/2012 18:29

**Batch Information**

Analytical Batch: **VMS2554**  
 Analytical Method: **SW-846 8260B**  
 Instrument: **MSD9**  
 Analyst: **DVO**

Prep Batch: **VXX4008**  
 Prep Method: **SW-846 5035 SL**  
 Prep Date/Time: **09/13/2012 11:23**  
 Prep Initial Wt./Vol.: **5.38 g**  
 Prep Extract Vol: **5 mL**

**Results of S-3**

Client Sample ID: **S-3**  
 Client Project ID: **70127335 U3315 #84**  
 Lab Sample ID: 31202906003-E  
 Lab Project ID: 31202906

Collection Date: 09/10/2012 14:18  
 Received Date: 09/12/2012 14:20  
 Matrix: Soil-Solid as dry weight  
 Solids (%): 96.00

**Results by SW-846 8270D**

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>LOQ/CL</u>	<u>Units</u>	<u>DF</u>	<u>Date Analyzed</u>
1,2,4-Trichlorobenzene	ND		293	ug/Kg	1	09/19/2012 20:05
1,2-Dichlorobenzene	ND		293	ug/Kg	1	09/19/2012 20:05
1,3-Dichlorobenzene	ND		293	ug/Kg	1	09/19/2012 20:05
1,4-Dichlorobenzene	ND		293	ug/Kg	1	09/19/2012 20:05
2,4,5-Trichlorophenol	ND		293	ug/Kg	1	09/19/2012 20:05
2,4,6-Trichlorophenol	ND		293	ug/Kg	1	09/19/2012 20:05
2,4-Dichlorophenol	ND		293	ug/Kg	1	09/19/2012 20:05
2,4-Dinitrophenol	ND		1460	ug/Kg	1	09/19/2012 20:05
2,4-Dinitrotoluene	ND		293	ug/Kg	1	09/19/2012 20:05
2,6-Dinitrotoluene	ND		293	ug/Kg	1	09/19/2012 20:05
2-Chloronaphthalene	ND		293	ug/Kg	1	09/19/2012 20:05
2-Chlorophenol	ND		293	ug/Kg	1	09/19/2012 20:05
2-Methylnaphthalene	ND		293	ug/Kg	1	09/19/2012 20:05
2-Methylphenol	ND		293	ug/Kg	1	09/19/2012 20:05
2-Nitroaniline	ND		293	ug/Kg	1	09/19/2012 20:05
2-Nitrophenol	ND		293	ug/Kg	1	09/19/2012 20:05
3 and/or 4-Methylphenol	ND		293	ug/Kg	1	09/19/2012 20:05
3,3'-Dichlorobenzidine	ND		585	ug/Kg	1	09/19/2012 20:05
3-Nitroaniline	ND		1460	ug/Kg	1	09/19/2012 20:05
4,6-Dinitro-2-methylphenol	ND		1460	ug/Kg	1	09/19/2012 20:05
4-Chloro-3-methylphenol	ND		293	ug/Kg	1	09/19/2012 20:05
4-Chloroaniline	ND		293	ug/Kg	1	09/19/2012 20:05
4-Chlorophenyl phenyl ether	ND		293	ug/Kg	1	09/19/2012 20:05
Acenaphthene	ND		293	ug/Kg	1	09/19/2012 20:05
Acenaphthylene	ND		293	ug/Kg	1	09/19/2012 20:05
Anthracene	ND		293	ug/Kg	1	09/19/2012 20:05
Benzo(a)anthracene	ND		293	ug/Kg	1	09/19/2012 20:05
Benzo(a)pyrene	ND		293	ug/Kg	1	09/19/2012 20:05
Benzo(b)fluoranthene	ND		293	ug/Kg	1	09/19/2012 20:05
Benzo(g,h,i)perylene	ND		293	ug/Kg	1	09/19/2012 20:05
Benzo(k)fluoranthene	ND		293	ug/Kg	1	09/19/2012 20:05
Benzoic acid	ND		1460	ug/Kg	1	09/19/2012 20:05
Bis(2-Chloroethoxy)methane	ND		293	ug/Kg	1	09/19/2012 20:05
Bis(2-Chloroethyl)ether	ND		293	ug/Kg	1	09/19/2012 20:05
Bis(2-Chloroisopropyl)ether	ND		293	ug/Kg	1	09/19/2012 20:05
Bis(2-Ethylhexyl)phthalate	ND		293	ug/Kg	1	09/19/2012 20:05
4-Bromophenyl phenyl ether	ND		293	ug/Kg	1	09/19/2012 20:05
Butyl benzyl phthalate	ND		293	ug/Kg	1	09/19/2012 20:05
Chrysene	ND		293	ug/Kg	1	09/19/2012 20:05
Di-n-butyl phthalate	ND		293	ug/Kg	1	09/19/2012 20:05
Di-n-octyl phthalate	ND		293	ug/Kg	1	09/19/2012 20:05
Dibenz(a,h)anthracene	ND		293	ug/Kg	1	09/19/2012 20:05
Dibenzofuran	ND		293	ug/Kg	1	09/19/2012 20:05

**Results of S-3**

Client Sample ID: **S-3**  
 Client Project ID: **70127335 U3315 #84**  
 Lab Sample ID: 31202906003-E  
 Lab Project ID: 31202906

Collection Date: 09/10/2012 14:18  
 Received Date: 09/12/2012 14:20  
 Matrix: Soil-Solid as dry weight  
 Solids (%): 96.00

**Results by SW-846 8270D**

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>LOQ/CL</u>	<u>Units</u>	<u>DF</u>	<u>Date Analyzed</u>
Diethyl phthalate	ND		293	ug/Kg	1	09/19/2012 20:05
Dimethyl phthalate	ND		293	ug/Kg	1	09/19/2012 20:05
2,4-Dimethylphenol	ND		293	ug/Kg	1	09/19/2012 20:05
Diphenylamine	ND		293	ug/Kg	1	09/19/2012 20:05
Fluoranthene	ND		293	ug/Kg	1	09/19/2012 20:05
Fluorene	ND		293	ug/Kg	1	09/19/2012 20:05
Hexachlorobenzene	ND		1460	ug/Kg	1	09/19/2012 20:05
Hexachlorobutadiene	ND		293	ug/Kg	1	09/19/2012 20:05
Hexachlorocyclopentadiene	ND		585	ug/Kg	1	09/19/2012 20:05
Hexachloroethane	ND		293	ug/Kg	1	09/19/2012 20:05
Indeno(1,2,3-cd)pyrene	ND		293	ug/Kg	1	09/19/2012 20:05
Isophorone	ND		293	ug/Kg	1	09/19/2012 20:05
Naphthalene	ND		293	ug/Kg	1	09/19/2012 20:05
4-Nitroaniline	ND		1460	ug/Kg	1	09/19/2012 20:05
Nitrobenzene	ND		293	ug/Kg	1	09/19/2012 20:05
4-Nitrophenol	ND		1460	ug/Kg	1	09/19/2012 20:05
Pentachlorophenol	ND		1460	ug/Kg	1	09/19/2012 20:05
Phenanthrene	ND		293	ug/Kg	1	09/19/2012 20:05
Phenol	ND		293	ug/Kg	1	09/19/2012 20:05
Pyrene	ND		293	ug/Kg	1	09/19/2012 20:05
n-Nitrosodi-n-propylamine	ND		293	ug/Kg	1	09/19/2012 20:05

**Surrogates**

2,4,6-Tribromophenol	85.0		41.0-129	%	1	09/19/2012 20:05
2-Fluorobiphenyl	98.0		48.0-123	%	1	09/19/2012 20:05
2-Fluorophenol	84.0		42.0-123	%	1	09/19/2012 20:05
Nitrobenzene-d5	93.0		46.0-117	%	1	09/19/2012 20:05
Phenol-d6	96.0		48.0-125	%	1	09/19/2012 20:05
Terphenyl-d14	100		44.0-140	%	1	09/19/2012 20:05

**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.: **35.68 g**  
 Prep Extract Vol: **10 mL**

**Results of S-4**

Client Sample ID: **S-4**  
 Client Project ID: **70127335 U3315 #84**  
 Lab Sample ID: 31202906004-A  
 Lab Project ID: 31202906

Collection Date: 09/10/2012 15:23  
 Received Date: 09/12/2012 14:20  
 Matrix: Soil-Solid as dry weight  
 Solids (%): 93.40

**Results by SW-846 8260B**

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>LOQ/CL</u>	<u>Units</u>	<u>DF</u>	<u>Date Analyzed</u>
1,1,1,2-Tetrachloroethane	ND		5.01	ug/Kg	1	09/17/2012 18:56
1,1,1-Trichloroethane	ND		5.01	ug/Kg	1	09/17/2012 18:56
1,1,2,2-Tetrachloroethane	ND		5.01	ug/Kg	1	09/17/2012 18:56
1,1,2-Trichloroethane	ND		5.01	ug/Kg	1	09/17/2012 18:56
1,1-Dichloroethane	ND		5.01	ug/Kg	1	09/17/2012 18:56
1,1-Dichloroethene	ND		5.01	ug/Kg	1	09/17/2012 18:56
1,1-Dichloropropene	ND		5.01	ug/Kg	1	09/17/2012 18:56
1,2,3-Trichlorobenzene	ND		5.01	ug/Kg	1	09/17/2012 18:56
1,2,3-Trichloropropane	ND		5.01	ug/Kg	1	09/17/2012 18:56
1,2,4-Trichlorobenzene	ND		5.01	ug/Kg	1	09/17/2012 18:56
1,2,4-Trimethylbenzene	ND		5.01	ug/Kg	1	09/17/2012 18:56
1,2-Dibromo-3-chloropropane	ND		30.1	ug/Kg	1	09/17/2012 18:56
1,2-Dibromoethane	ND		5.01	ug/Kg	1	09/17/2012 18:56
1,2-Dichlorobenzene	ND		5.01	ug/Kg	1	09/17/2012 18:56
1,2-Dichloroethane	ND		5.01	ug/Kg	1	09/17/2012 18:56
1,2-Dichloropropane	ND		5.01	ug/Kg	1	09/17/2012 18:56
1,3,5-Trimethylbenzene	ND		5.01	ug/Kg	1	09/17/2012 18:56
1,3-Dichlorobenzene	ND		5.01	ug/Kg	1	09/17/2012 18:56
1,3-Dichloropropane	ND		5.01	ug/Kg	1	09/17/2012 18:56
1,4-Dichlorobenzene	ND		5.01	ug/Kg	1	09/17/2012 18:56
2,2-Dichloropropane	ND		5.01	ug/Kg	1	09/17/2012 18:56
2-Butanone	ND		25.1	ug/Kg	1	09/17/2012 18:56
2-Chlorotoluene	ND		5.01	ug/Kg	1	09/17/2012 18:56
2-Hexanone	ND		12.5	ug/Kg	1	09/17/2012 18:56
4-Chlorotoluene	ND		5.01	ug/Kg	1	09/17/2012 18:56
4-Isopropyltoluene	ND		5.01	ug/Kg	1	09/17/2012 18:56
4-Methyl-2-pentanone	ND		12.5	ug/Kg	1	09/17/2012 18:56
Acetone	ND		50.1	ug/Kg	1	09/17/2012 18:56
Benzene	ND		5.01	ug/Kg	1	09/17/2012 18:56
Bromobenzene	ND		5.01	ug/Kg	1	09/17/2012 18:56
Bromochloromethane	ND		5.01	ug/Kg	1	09/17/2012 18:56
Bromodichloromethane	ND		5.01	ug/Kg	1	09/17/2012 18:56
Bromoform	ND		5.01	ug/Kg	1	09/17/2012 18:56
Bromomethane	ND		5.01	ug/Kg	1	09/17/2012 18:56
n-Butylbenzene	ND		5.01	ug/Kg	1	09/17/2012 18:56
Carbon disulfide	ND		5.01	ug/Kg	1	09/17/2012 18:56
Carbon tetrachloride	ND		5.01	ug/Kg	1	09/17/2012 18:56
Chlorobenzene	ND		5.01	ug/Kg	1	09/17/2012 18:56
Chloroethane	ND		5.01	ug/Kg	1	09/17/2012 18:56
Chloroform	ND		5.01	ug/Kg	1	09/17/2012 18:56
Chloromethane	ND		5.01	ug/Kg	1	09/17/2012 18:56
Dibromochloromethane	ND		5.01	ug/Kg	1	09/17/2012 18:56
Dibromomethane	ND		5.01	ug/Kg	1	09/17/2012 18:56

**Results of S-4**

Client Sample ID: **S-4**  
 Client Project ID: **70127335 U3315 #84**  
 Lab Sample ID: 31202906004-A  
 Lab Project ID: 31202906

Collection Date: 09/10/2012 15:23  
 Received Date: 09/12/2012 14:20  
 Matrix: Soil-Solid as dry weight  
 Solids (%): 93.40

**Results by SW-846 8260B**

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>LOQ/CL</u>	<u>Units</u>	<u>DF</u>	<u>Date Analyzed</u>
Dichlorodifluoromethane	ND		5.01	ug/Kg	1	09/17/2012 18:56
cis-1,3-Dichloropropene	ND		5.01	ug/Kg	1	09/17/2012 18:56
trans-1,3-Dichloropropene	ND		5.01	ug/Kg	1	09/17/2012 18:56
Diisopropyl Ether	ND		5.01	ug/Kg	1	09/17/2012 18:56
Ethyl Benzene	ND		5.01	ug/Kg	1	09/17/2012 18:56
Hexachlorobutadiene	ND		5.01	ug/Kg	1	09/17/2012 18:56
Isopropylbenzene (Cumene)	ND		5.01	ug/Kg	1	09/17/2012 18:56
Methyl iodide	ND		5.01	ug/Kg	1	09/17/2012 18:56
Methylene chloride	ND		20.1	ug/Kg	1	09/17/2012 18:56
Naphthalene	ND		5.01	ug/Kg	1	09/17/2012 18:56
Styrene	ND		5.01	ug/Kg	1	09/17/2012 18:56
Tetrachloroethene	ND		5.01	ug/Kg	1	09/17/2012 18:56
Toluene	ND		5.01	ug/Kg	1	09/17/2012 18:56
Trichloroethene	ND		5.01	ug/Kg	1	09/17/2012 18:56
Trichlorofluoromethane	ND		5.01	ug/Kg	1	09/17/2012 18:56
Vinyl chloride	ND		5.01	ug/Kg	1	09/17/2012 18:56
Xylene (total)	ND		10.0	ug/Kg	1	09/17/2012 18:56
cis-1,2-Dichloroethene	ND		5.01	ug/Kg	1	09/17/2012 18:56
m,p-Xylene	ND		10.0	ug/Kg	1	09/17/2012 18:56
n-Propylbenzene	ND		5.01	ug/Kg	1	09/17/2012 18:56
o-Xylene	ND		5.01	ug/Kg	1	09/17/2012 18:56
sec-Butylbenzene	ND		5.01	ug/Kg	1	09/17/2012 18:56
tert-Butyl methyl ether (MTBE)	ND		5.01	ug/Kg	1	09/17/2012 18:56
tert-Butylbenzene	ND		5.01	ug/Kg	1	09/17/2012 18:56
trans-1,2-Dichloroethene	ND		5.01	ug/Kg	1	09/17/2012 18:56
trans-1,4-Dichloro-2-butene	ND		25.1	ug/Kg	1	09/17/2012 18:56

**Surrogates**

1,2-Dichloroethane-d4	117		55.0-173	%	1	09/17/2012 18:56
4-Bromofluorobenzene	100		23.0-141	%	1	09/17/2012 18:56
Toluene d8	103		57.0-134	%	1	09/17/2012 18:56

**Batch Information**

Analytical Batch: **VMS2554**  
 Analytical Method: **SW-846 8260B**  
 Instrument: **MSD9**  
 Analyst: **DVO**

Prep Batch: **VXX4008**  
 Prep Method: **SW-846 5035 SL**  
 Prep Date/Time: **09/13/2012 11:25**  
 Prep Initial Wt./Vol.: **5.34 g**  
 Prep Extract Vol: **5 mL**

**Results of S-4**

Client Sample ID: **S-4**  
 Client Project ID: **70127335 U3315 #84**  
 Lab Sample ID: 31202906004-E  
 Lab Project ID: 31202906

Collection Date: 09/10/2012 15:23  
 Received Date: 09/12/2012 14:20  
 Matrix: Soil-Solid as dry weight  
 Solids (%): 93.40

**Results by SW-846 8270D**

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>LOQ/CL</u>	<u>Units</u>	<u>DF</u>	<u>Date Analyzed</u>
1,2,4-Trichlorobenzene	ND		315	ug/Kg	1	09/19/2012 20:28
1,2-Dichlorobenzene	ND		315	ug/Kg	1	09/19/2012 20:28
1,3-Dichlorobenzene	ND		315	ug/Kg	1	09/19/2012 20:28
1,4-Dichlorobenzene	ND		315	ug/Kg	1	09/19/2012 20:28
2,4,5-Trichlorophenol	ND		315	ug/Kg	1	09/19/2012 20:28
2,4,6-Trichlorophenol	ND		315	ug/Kg	1	09/19/2012 20:28
2,4-Dichlorophenol	ND		315	ug/Kg	1	09/19/2012 20:28
2,4-Dinitrophenol	ND		1570	ug/Kg	1	09/19/2012 20:28
2,4-Dinitrotoluene	ND		315	ug/Kg	1	09/19/2012 20:28
2,6-Dinitrotoluene	ND		315	ug/Kg	1	09/19/2012 20:28
2-Chloronaphthalene	ND		315	ug/Kg	1	09/19/2012 20:28
2-Chlorophenol	ND		315	ug/Kg	1	09/19/2012 20:28
2-Methylnaphthalene	ND		315	ug/Kg	1	09/19/2012 20:28
2-Methylphenol	ND		315	ug/Kg	1	09/19/2012 20:28
2-Nitroaniline	ND		315	ug/Kg	1	09/19/2012 20:28
2-Nitrophenol	ND		315	ug/Kg	1	09/19/2012 20:28
3 and/or 4-Methylphenol	ND		315	ug/Kg	1	09/19/2012 20:28
3,3'-Dichlorobenzidine	ND		629	ug/Kg	1	09/19/2012 20:28
3-Nitroaniline	ND		1570	ug/Kg	1	09/19/2012 20:28
4,6-Dinitro-2-methylphenol	ND		1570	ug/Kg	1	09/19/2012 20:28
4-Chloro-3-methylphenol	ND		315	ug/Kg	1	09/19/2012 20:28
4-Chloroaniline	ND		315	ug/Kg	1	09/19/2012 20:28
4-Chlorophenyl phenyl ether	ND		315	ug/Kg	1	09/19/2012 20:28
Acenaphthene	ND		315	ug/Kg	1	09/19/2012 20:28
Acenaphthylene	ND		315	ug/Kg	1	09/19/2012 20:28
Anthracene	ND		315	ug/Kg	1	09/19/2012 20:28
Benzo(a)anthracene	ND		315	ug/Kg	1	09/19/2012 20:28
Benzo(a)pyrene	ND		315	ug/Kg	1	09/19/2012 20:28
Benzo(b)fluoranthene	ND		315	ug/Kg	1	09/19/2012 20:28
Benzo(g,h,i)perylene	ND		315	ug/Kg	1	09/19/2012 20:28
Benzo(k)fluoranthene	ND		315	ug/Kg	1	09/19/2012 20:28
Benzoic acid	ND		1570	ug/Kg	1	09/19/2012 20:28
Bis(2-Chloroethoxy)methane	ND		315	ug/Kg	1	09/19/2012 20:28
Bis(2-Chloroethyl)ether	ND		315	ug/Kg	1	09/19/2012 20:28
Bis(2-Chloroisopropyl)ether	ND		315	ug/Kg	1	09/19/2012 20:28
Bis(2-Ethylhexyl)phthalate	ND		315	ug/Kg	1	09/19/2012 20:28
4-Bromophenyl phenyl ether	ND		315	ug/Kg	1	09/19/2012 20:28
Butyl benzyl phthalate	ND		315	ug/Kg	1	09/19/2012 20:28
Chrysene	ND		315	ug/Kg	1	09/19/2012 20:28
Di-n-butyl phthalate	ND		315	ug/Kg	1	09/19/2012 20:28
Di-n-octyl phthalate	ND		315	ug/Kg	1	09/19/2012 20:28
Dibenz(a,h)anthracene	ND		315	ug/Kg	1	09/19/2012 20:28
Dibenzofuran	ND		315	ug/Kg	1	09/19/2012 20:28

**Results of S-4**

Client Sample ID: **S-4**  
 Client Project ID: **70127335 U3315 #84**  
 Lab Sample ID: 31202906004-E  
 Lab Project ID: 31202906

Collection Date: 09/10/2012 15:23  
 Received Date: 09/12/2012 14:20  
 Matrix: Soil-Solid as dry weight  
 Solids (%): 93.40

**Results by SW-846 8270D**

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>LOQ/CL</u>	<u>Units</u>	<u>DF</u>	<u>Date Analyzed</u>
Diethyl phthalate	ND		315	ug/Kg	1	09/19/2012 20:28
Dimethyl phthalate	ND		315	ug/Kg	1	09/19/2012 20:28
2,4-Dimethylphenol	ND		315	ug/Kg	1	09/19/2012 20:28
Diphenylamine	ND		315	ug/Kg	1	09/19/2012 20:28
Fluoranthene	ND		315	ug/Kg	1	09/19/2012 20:28
Fluorene	ND		315	ug/Kg	1	09/19/2012 20:28
Hexachlorobenzene	ND		1570	ug/Kg	1	09/19/2012 20:28
Hexachlorobutadiene	ND		315	ug/Kg	1	09/19/2012 20:28
Hexachlorocyclopentadiene	ND		629	ug/Kg	1	09/19/2012 20:28
Hexachloroethane	ND		315	ug/Kg	1	09/19/2012 20:28
Indeno(1,2,3-cd)pyrene	ND		315	ug/Kg	1	09/19/2012 20:28
Isophorone	ND		315	ug/Kg	1	09/19/2012 20:28
Naphthalene	ND		315	ug/Kg	1	09/19/2012 20:28
4-Nitroaniline	ND		1570	ug/Kg	1	09/19/2012 20:28
Nitrobenzene	ND		315	ug/Kg	1	09/19/2012 20:28
4-Nitrophenol	ND		1570	ug/Kg	1	09/19/2012 20:28
Pentachlorophenol	ND		1570	ug/Kg	1	09/19/2012 20:28
Phenanthrene	ND		315	ug/Kg	1	09/19/2012 20:28
Phenol	ND		315	ug/Kg	1	09/19/2012 20:28
Pyrene	ND		315	ug/Kg	1	09/19/2012 20:28
n-Nitrosodi-n-propylamine	ND		315	ug/Kg	1	09/19/2012 20:28

**Surrogates**

2,4,6-Tribromophenol	87.0		41.0-129	%	1	09/19/2012 20:28
2-Fluorobiphenyl	99.0		48.0-123	%	1	09/19/2012 20:28
2-Fluorophenol	85.0		42.0-123	%	1	09/19/2012 20:28
Nitrobenzene-d5	95.0		46.0-117	%	1	09/19/2012 20:28
Phenol-d6	96.0		48.0-125	%	1	09/19/2012 20:28
Terphenyl-d14	103		44.0-140	%	1	09/19/2012 20:28

**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.: **34.08 g**  
 Prep Extract Vol: **10 mL**



**Results of S-5**

Client Sample ID: **S-5**  
 Client Project ID: **70127335 U3315 #84**  
 Lab Sample ID: 31202906005-A  
 Lab Project ID: 31202906

Collection Date: 09/10/2012 16:07  
 Received Date: 09/12/2012 14:20  
 Matrix: Soil-Solid as dry weight  
 Solids (%): 87.60

**Results by SW-846 8260B**

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>LOQ/CL</u>	<u>Units</u>	<u>DF</u>	<u>Date Analyzed</u>
1,1,1,2-Tetrachloroethane	ND		4.66	ug/Kg	1	09/17/2012 19:22
1,1,1-Trichloroethane	ND		4.66	ug/Kg	1	09/17/2012 19:22
1,1,2,2-Tetrachloroethane	ND		4.66	ug/Kg	1	09/17/2012 19:22
1,1,2-Trichloroethane	ND		4.66	ug/Kg	1	09/17/2012 19:22
1,1-Dichloroethane	ND		4.66	ug/Kg	1	09/17/2012 19:22
1,1-Dichloroethene	ND		4.66	ug/Kg	1	09/17/2012 19:22
1,1-Dichloropropene	ND		4.66	ug/Kg	1	09/17/2012 19:22
1,2,3-Trichlorobenzene	ND		4.66	ug/Kg	1	09/17/2012 19:22
1,2,3-Trichloropropane	ND		4.66	ug/Kg	1	09/17/2012 19:22
1,2,4-Trichlorobenzene	ND		4.66	ug/Kg	1	09/17/2012 19:22
1,2,4-Trimethylbenzene	ND		4.66	ug/Kg	1	09/17/2012 19:22
1,2-Dibromo-3-chloropropane	ND		27.9	ug/Kg	1	09/17/2012 19:22
1,2-Dibromoethane	ND		4.66	ug/Kg	1	09/17/2012 19:22
1,2-Dichlorobenzene	ND		4.66	ug/Kg	1	09/17/2012 19:22
1,2-Dichloroethane	ND		4.66	ug/Kg	1	09/17/2012 19:22
1,2-Dichloropropane	ND		4.66	ug/Kg	1	09/17/2012 19:22
1,3,5-Trimethylbenzene	ND		4.66	ug/Kg	1	09/17/2012 19:22
1,3-Dichlorobenzene	ND		4.66	ug/Kg	1	09/17/2012 19:22
1,3-Dichloropropane	ND		4.66	ug/Kg	1	09/17/2012 19:22
1,4-Dichlorobenzene	ND		4.66	ug/Kg	1	09/17/2012 19:22
2,2-Dichloropropane	ND		4.66	ug/Kg	1	09/17/2012 19:22
2-Butanone	ND		23.3	ug/Kg	1	09/17/2012 19:22
2-Chlorotoluene	ND		4.66	ug/Kg	1	09/17/2012 19:22
2-Hexanone	ND		11.6	ug/Kg	1	09/17/2012 19:22
4-Chlorotoluene	ND		4.66	ug/Kg	1	09/17/2012 19:22
4-Isopropyltoluene	ND		4.66	ug/Kg	1	09/17/2012 19:22
4-Methyl-2-pentanone	ND		11.6	ug/Kg	1	09/17/2012 19:22
Acetone	ND		46.6	ug/Kg	1	09/17/2012 19:22
Benzene	ND		4.66	ug/Kg	1	09/17/2012 19:22
Bromobenzene	ND		4.66	ug/Kg	1	09/17/2012 19:22
Bromochloromethane	ND		4.66	ug/Kg	1	09/17/2012 19:22
Bromodichloromethane	ND		4.66	ug/Kg	1	09/17/2012 19:22
Bromoform	ND		4.66	ug/Kg	1	09/17/2012 19:22
Bromomethane	ND		4.66	ug/Kg	1	09/17/2012 19:22
n-Butylbenzene	ND		4.66	ug/Kg	1	09/17/2012 19:22
Carbon disulfide	ND		4.66	ug/Kg	1	09/17/2012 19:22
Carbon tetrachloride	ND		4.66	ug/Kg	1	09/17/2012 19:22
Chlorobenzene	ND		4.66	ug/Kg	1	09/17/2012 19:22
Chloroethane	ND		4.66	ug/Kg	1	09/17/2012 19:22
Chloroform	ND		4.66	ug/Kg	1	09/17/2012 19:22
Chloromethane	ND		4.66	ug/Kg	1	09/17/2012 19:22
Dibromochloromethane	ND		4.66	ug/Kg	1	09/17/2012 19:22
Dibromomethane	ND		4.66	ug/Kg	1	09/17/2012 19:22

**Results of S-5**

Client Sample ID: **S-5**  
 Client Project ID: **70127335 U3315 #84**  
 Lab Sample ID: 31202906005-A  
 Lab Project ID: 31202906

Collection Date: 09/10/2012 16:07  
 Received Date: 09/12/2012 14:20  
 Matrix: Soil-Solid as dry weight  
 Solids (%): 87.60

**Results by SW-846 8260B**

Parameter	Result	Qual	LOQ/CL	Units	DF	Date Analyzed
Dichlorodifluoromethane	ND		4.66	ug/Kg	1	09/17/2012 19:22
cis-1,3-Dichloropropene	ND		4.66	ug/Kg	1	09/17/2012 19:22
trans-1,3-Dichloropropene	ND		4.66	ug/Kg	1	09/17/2012 19:22
Diisopropyl Ether	ND		4.66	ug/Kg	1	09/17/2012 19:22
Ethyl Benzene	ND		4.66	ug/Kg	1	09/17/2012 19:22
Hexachlorobutadiene	ND		4.66	ug/Kg	1	09/17/2012 19:22
Isopropylbenzene (Cumene)	ND		4.66	ug/Kg	1	09/17/2012 19:22
Methyl iodide	ND		4.66	ug/Kg	1	09/17/2012 19:22
Methylene chloride	ND		18.6	ug/Kg	1	09/17/2012 19:22
Naphthalene	ND		4.66	ug/Kg	1	09/17/2012 19:22
Styrene	ND		4.66	ug/Kg	1	09/17/2012 19:22
Tetrachloroethene	ND		4.66	ug/Kg	1	09/17/2012 19:22
Toluene	ND		4.66	ug/Kg	1	09/17/2012 19:22
Trichloroethene	ND		4.66	ug/Kg	1	09/17/2012 19:22
Trichlorofluoromethane	ND		4.66	ug/Kg	1	09/17/2012 19:22
Vinyl chloride	ND		4.66	ug/Kg	1	09/17/2012 19:22
Xylene (total)	ND		9.31	ug/Kg	1	09/17/2012 19:22
cis-1,2-Dichloroethene	ND		4.66	ug/Kg	1	09/17/2012 19:22
m,p-Xylene	ND		9.31	ug/Kg	1	09/17/2012 19:22
n-Propylbenzene	ND		4.66	ug/Kg	1	09/17/2012 19:22
o-Xylene	ND		4.66	ug/Kg	1	09/17/2012 19:22
sec-Butylbenzene	ND		4.66	ug/Kg	1	09/17/2012 19:22
tert-Butyl methyl ether (MTBE)	ND		4.66	ug/Kg	1	09/17/2012 19:22
tert-Butylbenzene	ND		4.66	ug/Kg	1	09/17/2012 19:22
trans-1,2-Dichloroethene	ND		4.66	ug/Kg	1	09/17/2012 19:22
trans-1,4-Dichloro-2-butene	ND		23.3	ug/Kg	1	09/17/2012 19:22

**Surrogates**

1,2-Dichloroethane-d4	119		55.0-173	%	1	09/17/2012 19:22
4-Bromofluorobenzene	95.0		23.0-141	%	1	09/17/2012 19:22
Toluene d8	102		57.0-134	%	1	09/17/2012 19:22

**Batch Information**

Analytical Batch: **VMS2554**  
 Analytical Method: **SW-846 8260B**  
 Instrument: **MSD9**  
 Analyst: **DVO**

Prep Batch: **VXX4008**  
 Prep Method: **SW-846 5035 SL**  
 Prep Date/Time: **09/13/2012 11:27**  
 Prep Initial Wt./Vol.: **6.13 g**  
 Prep Extract Vol: **5 mL**

**Results of S-5**

Client Sample ID: **S-5**  
 Client Project ID: **70127335 U3315 #84**  
 Lab Sample ID: 31202906005-E  
 Lab Project ID: 31202906

Collection Date: 09/10/2012 16:07  
 Received Date: 09/12/2012 14:20  
 Matrix: Soil-Solid as dry weight  
 Solids (%): 87.60

**Results by SW-846 8270D**

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>LOQ/CL</u>	<u>Units</u>	<u>DF</u>	<u>Date Analyzed</u>
1,2,4-Trichlorobenzene	ND		322	ug/Kg	1	09/19/2012 20:51
1,2-Dichlorobenzene	ND		322	ug/Kg	1	09/19/2012 20:51
1,3-Dichlorobenzene	ND		322	ug/Kg	1	09/19/2012 20:51
1,4-Dichlorobenzene	ND		322	ug/Kg	1	09/19/2012 20:51
2,4,5-Trichlorophenol	ND		322	ug/Kg	1	09/19/2012 20:51
2,4,6-Trichlorophenol	ND		322	ug/Kg	1	09/19/2012 20:51
2,4-Dichlorophenol	ND		322	ug/Kg	1	09/19/2012 20:51
2,4-Dinitrophenol	ND		1610	ug/Kg	1	09/19/2012 20:51
2,4-Dinitrotoluene	ND		322	ug/Kg	1	09/19/2012 20:51
2,6-Dinitrotoluene	ND		322	ug/Kg	1	09/19/2012 20:51
2-Chloronaphthalene	ND		322	ug/Kg	1	09/19/2012 20:51
2-Chlorophenol	ND		322	ug/Kg	1	09/19/2012 20:51
2-Methylnaphthalene	ND		322	ug/Kg	1	09/19/2012 20:51
2-Methylphenol	ND		322	ug/Kg	1	09/19/2012 20:51
2-Nitroaniline	ND		322	ug/Kg	1	09/19/2012 20:51
2-Nitrophenol	ND		322	ug/Kg	1	09/19/2012 20:51
3 and/or 4-Methylphenol	ND		322	ug/Kg	1	09/19/2012 20:51
3,3'-Dichlorobenzidine	ND		645	ug/Kg	1	09/19/2012 20:51
3-Nitroaniline	ND		1610	ug/Kg	1	09/19/2012 20:51
4,6-Dinitro-2-methylphenol	ND		1610	ug/Kg	1	09/19/2012 20:51
4-Chloro-3-methylphenol	ND		322	ug/Kg	1	09/19/2012 20:51
4-Chloroaniline	ND		322	ug/Kg	1	09/19/2012 20:51
4-Chlorophenyl phenyl ether	ND		322	ug/Kg	1	09/19/2012 20:51
Acenaphthene	ND		322	ug/Kg	1	09/19/2012 20:51
Acenaphthylene	ND		322	ug/Kg	1	09/19/2012 20:51
Anthracene	ND		322	ug/Kg	1	09/19/2012 20:51
Benzo(a)anthracene	ND		322	ug/Kg	1	09/19/2012 20:51
Benzo(a)pyrene	ND		322	ug/Kg	1	09/19/2012 20:51
Benzo(b)fluoranthene	ND		322	ug/Kg	1	09/19/2012 20:51
Benzo(g,h,i)perylene	ND		322	ug/Kg	1	09/19/2012 20:51
Benzo(k)fluoranthene	ND		322	ug/Kg	1	09/19/2012 20:51
Benzoic acid	ND		1610	ug/Kg	1	09/19/2012 20:51
Bis(2-Chloroethoxy)methane	ND		322	ug/Kg	1	09/19/2012 20:51
Bis(2-Chloroethyl)ether	ND		322	ug/Kg	1	09/19/2012 20:51
Bis(2-Chloroisopropyl)ether	ND		322	ug/Kg	1	09/19/2012 20:51
Bis(2-Ethylhexyl)phthalate	ND		322	ug/Kg	1	09/19/2012 20:51
4-Bromophenyl phenyl ether	ND		322	ug/Kg	1	09/19/2012 20:51
Butyl benzyl phthalate	ND		322	ug/Kg	1	09/19/2012 20:51
Chrysene	ND		322	ug/Kg	1	09/19/2012 20:51
Di-n-butyl phthalate	ND		322	ug/Kg	1	09/19/2012 20:51
Di-n-octyl phthalate	ND		322	ug/Kg	1	09/19/2012 20:51
Dibenz(a,h)anthracene	ND		322	ug/Kg	1	09/19/2012 20:51
Dibenzofuran	ND		322	ug/Kg	1	09/19/2012 20:51

**Results of S-5**

Client Sample ID: **S-5**  
 Client Project ID: **70127335 U3315 #84**  
 Lab Sample ID: 31202906005-E  
 Lab Project ID: 31202906

Collection Date: 09/10/2012 16:07  
 Received Date: 09/12/2012 14:20  
 Matrix: Soil-Solid as dry weight  
 Solids (%): 87.60

**Results by SW-846 8270D**

Parameter	Result	Qual	LOQ/CL	Units	DF	Date Analyzed
Diethyl phthalate	ND		322	ug/Kg	1	09/19/2012 20:51
Dimethyl phthalate	ND		322	ug/Kg	1	09/19/2012 20:51
2,4-Dimethylphenol	ND		322	ug/Kg	1	09/19/2012 20:51
Diphenylamine	ND		322	ug/Kg	1	09/19/2012 20:51
Fluoranthene	ND		322	ug/Kg	1	09/19/2012 20:51
Fluorene	ND		322	ug/Kg	1	09/19/2012 20:51
Hexachlorobenzene	ND		1610	ug/Kg	1	09/19/2012 20:51
Hexachlorobutadiene	ND		322	ug/Kg	1	09/19/2012 20:51
Hexachlorocyclopentadiene	ND		645	ug/Kg	1	09/19/2012 20:51
Hexachloroethane	ND		322	ug/Kg	1	09/19/2012 20:51
Indeno(1,2,3-cd)pyrene	ND		322	ug/Kg	1	09/19/2012 20:51
Isophorone	ND		322	ug/Kg	1	09/19/2012 20:51
Naphthalene	ND		322	ug/Kg	1	09/19/2012 20:51
4-Nitroaniline	ND		1610	ug/Kg	1	09/19/2012 20:51
Nitrobenzene	ND		322	ug/Kg	1	09/19/2012 20:51
4-Nitrophenol	ND		1610	ug/Kg	1	09/19/2012 20:51
Pentachlorophenol	ND		1610	ug/Kg	1	09/19/2012 20:51
Phenanthrene	ND		322	ug/Kg	1	09/19/2012 20:51
Phenol	ND		322	ug/Kg	1	09/19/2012 20:51
Pyrene	ND		322	ug/Kg	1	09/19/2012 20:51
n-Nitrosodi-n-propylamine	ND		322	ug/Kg	1	09/19/2012 20:51

**Surrogates**

2,4,6-Tribromophenol	73.0		41.0-129	%	1	09/19/2012 20:51
2-Fluorobiphenyl	92.0		48.0-123	%	1	09/19/2012 20:51
2-Fluorophenol	79.0		42.0-123	%	1	09/19/2012 20:51
Nitrobenzene-d5	92.0		46.0-117	%	1	09/19/2012 20:51
Phenol-d6	93.0		48.0-125	%	1	09/19/2012 20:51
Terphenyl-d14	94.0		44.0-140	%	1	09/19/2012 20:51

**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.: **35.47 g**  
 Prep Extract Vol: **10 mL**

**Results of TW-1**

Client Sample ID: **TW-1**  
 Client Project ID: **70127335 U3315 #84**  
 Lab Sample ID: 31202906006-A  
 Lab Project ID: 31202906

Collection Date: 09/10/2012 15:06  
 Received Date: 09/12/2012 14:20  
 Matrix: Water

**Results by SW-846 8260B**

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>LOQ/CL</u>	<u>Units</u>	<u>DF</u>	<u>Date Analyzed</u>
1,1,1,2-Tetrachloroethane	ND		1.00	ug/L	1	09/13/2012 17:05
1,1,1-Trichloroethane	ND		1.00	ug/L	1	09/13/2012 17:05
1,1,2,2-Tetrachloroethane	ND		1.00	ug/L	1	09/13/2012 17:05
1,1,2-Trichloroethane	ND		1.00	ug/L	1	09/13/2012 17:05
1,1-Dichloroethane	ND		1.00	ug/L	1	09/13/2012 17:05
1,1-Dichloroethene	ND		1.00	ug/L	1	09/13/2012 17:05
1,1-Dichloropropene	ND		1.00	ug/L	1	09/13/2012 17:05
1,2,3-Trichlorobenzene	ND		1.00	ug/L	1	09/13/2012 17:05
1,2,3-Trichloropropane	ND		1.00	ug/L	1	09/13/2012 17:05
1,2,4-Trichlorobenzene	ND		1.00	ug/L	1	09/13/2012 17:05
1,2,4-Trimethylbenzene	ND		1.00	ug/L	1	09/13/2012 17:05
1,2-Dibromo-3-chloropropane	ND		5.00	ug/L	1	09/13/2012 17:05
1,2-Dibromoethane	ND		1.00	ug/L	1	09/13/2012 17:05
1,2-Dichlorobenzene	ND		1.00	ug/L	1	09/13/2012 17:05
1,2-Dichloroethane	ND		1.00	ug/L	1	09/13/2012 17:05
1,2-Dichloropropane	ND		1.00	ug/L	1	09/13/2012 17:05
1,3,5-Trimethylbenzene	ND		1.00	ug/L	1	09/13/2012 17:05
1,3-Dichlorobenzene	ND		1.00	ug/L	1	09/13/2012 17:05
1,3-Dichloropropane	ND		1.00	ug/L	1	09/13/2012 17:05
1,4-Dichlorobenzene	ND		1.00	ug/L	1	09/13/2012 17:05
2,2-Dichloropropane	ND		1.00	ug/L	1	09/13/2012 17:05
2-Butanone	ND		25.0	ug/L	1	09/13/2012 17:05
2-Chlorotoluene	ND		1.00	ug/L	1	09/13/2012 17:05
2-Hexanone	ND		5.00	ug/L	1	09/13/2012 17:05
4-Chlorotoluene	ND		1.00	ug/L	1	09/13/2012 17:05
4-Isopropyltoluene	ND		1.00	ug/L	1	09/13/2012 17:05
4-Methyl-2-pentanone	ND		5.00	ug/L	1	09/13/2012 17:05
Acetone	ND		25.0	ug/L	1	09/13/2012 17:05
Benzene	ND		1.00	ug/L	1	09/13/2012 17:05
Bromobenzene	ND		1.00	ug/L	1	09/13/2012 17:05
Bromochloromethane	ND		1.00	ug/L	1	09/13/2012 17:05
Bromodichloromethane	ND		1.00	ug/L	1	09/13/2012 17:05
Bromoform	ND		1.00	ug/L	1	09/13/2012 17:05
Bromomethane	ND		1.00	ug/L	1	09/13/2012 17:05
n-Butylbenzene	ND		1.00	ug/L	1	09/13/2012 17:05
Carbon disulfide	ND		1.00	ug/L	1	09/13/2012 17:05
Carbon tetrachloride	ND		1.00	ug/L	1	09/13/2012 17:05
Chlorobenzene	ND		1.00	ug/L	1	09/13/2012 17:05
Chloroethane	ND		1.00	ug/L	1	09/13/2012 17:05
Chloroform	ND		1.00	ug/L	1	09/13/2012 17:05
Chloromethane	ND		1.00	ug/L	1	09/13/2012 17:05
Dibromochloromethane	ND		1.00	ug/L	1	09/13/2012 17:05
Dibromomethane	ND		1.00	ug/L	1	09/13/2012 17:05

**Results of TW-1**

Client Sample ID: **TW-1**  
 Client Project ID: **70127335 U3315 #84**  
 Lab Sample ID: 31202906006-A  
 Lab Project ID: 31202906

Collection Date: 09/10/2012 15:06  
 Received Date: 09/12/2012 14:20  
 Matrix: Water

**Results by SW-846 8260B**

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>LOQ/CL</u>	<u>Units</u>	<u>DF</u>	<u>Date Analyzed</u>
Dichlorodifluoromethane	ND		5.00	ug/L	1	09/13/2012 17:05
cis-1,3-Dichloropropene	ND		1.00	ug/L	1	09/13/2012 17:05
trans-1,3-Dichloropropene	ND		1.00	ug/L	1	09/13/2012 17:05
Diisopropyl Ether	ND		1.00	ug/L	1	09/13/2012 17:05
Ethyl Benzene	ND		1.00	ug/L	1	09/13/2012 17:05
Hexachlorobutadiene	ND		1.00	ug/L	1	09/13/2012 17:05
Isopropylbenzene (Cumene)	ND		1.00	ug/L	1	09/13/2012 17:05
Methyl iodide	ND		1.00	ug/L	1	09/13/2012 17:05
Methylene chloride	ND		5.00	ug/L	1	09/13/2012 17:05
Naphthalene	ND		1.00	ug/L	1	09/13/2012 17:05
Styrene	ND		1.00	ug/L	1	09/13/2012 17:05
Tetrachloroethene	<b>29.3</b>		1.00	ug/L	1	09/13/2012 17:05
Toluene	ND		1.00	ug/L	1	09/13/2012 17:05
Trichloroethene	<b>9.11</b>		1.00	ug/L	1	09/13/2012 17:05
Trichlorofluoromethane	ND		1.00	ug/L	1	09/13/2012 17:05
Vinyl chloride	ND		1.00	ug/L	1	09/13/2012 17:05
Xylene (total)	ND		2.00	ug/L	1	09/13/2012 17:05
cis-1,2-Dichloroethene	<b>4.28</b>		1.00	ug/L	1	09/13/2012 17:05
m,p-Xylene	ND		2.00	ug/L	1	09/13/2012 17:05
n-Propylbenzene	ND		1.00	ug/L	1	09/13/2012 17:05
o-Xylene	ND		1.00	ug/L	1	09/13/2012 17:05
sec-Butylbenzene	ND		1.00	ug/L	1	09/13/2012 17:05
tert-Butyl methyl ether (MTBE)	ND		1.00	ug/L	1	09/13/2012 17:05
tert-Butylbenzene	ND		1.00	ug/L	1	09/13/2012 17:05
trans-1,2-Dichloroethene	ND		1.00	ug/L	1	09/13/2012 17:05
trans-1,4-Dichloro-2-butene	ND		5.00	ug/L	1	09/13/2012 17:05

**Surrogates**

1,2-Dichloroethane-d4	102		64.0-140	%	1	09/13/2012 17:05
4-Bromofluorobenzene	100		85.0-115	%	1	09/13/2012 17:05
Toluene d8	102		82.0-117	%	1	09/13/2012 17:05

**Batch Information**

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

Prep Batch: **VXX3990**  
 Prep Method: **SW-846 5030B**  
 Prep Date/Time: **09/13/2012 08:33**  
 Prep Initial Wt./Vol.: **40 mL**  
 Prep Extract Vol: **40 mL**

**Results of TW-1**

Client Sample ID: **TW-1**  
 Client Project ID: **70127335 U3315 #84**  
 Lab Sample ID: 31202906006-D  
 Lab Project ID: 31202906

Collection Date: 09/10/2012 15:06  
 Received Date: 09/12/2012 14:20  
 Matrix: Water

**Results by SW-846 8270D**

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>LOQ/CL</u>	<u>Units</u>	<u>DF</u>	<u>Date Analyzed</u>
1,2,4-Trichlorobenzene	ND		5.07	ug/L	1	09/19/2012 21:13
1,2-Dichlorobenzene	ND		5.07	ug/L	1	09/19/2012 21:13
1,3-Dichlorobenzene	ND		5.07	ug/L	1	09/19/2012 21:13
1,4-Dichlorobenzene	ND		5.07	ug/L	1	09/19/2012 21:13
2,4,5-Trichlorophenol	ND		5.07	ug/L	1	09/19/2012 21:13
2,4,6-Trichlorophenol	ND		5.07	ug/L	1	09/19/2012 21:13
2,4-Dichlorophenol	ND		5.07	ug/L	1	09/19/2012 21:13
2,4-Dinitrophenol	ND		25.3	ug/L	1	09/19/2012 21:13
2,4-Dinitrotoluene	ND		5.07	ug/L	1	09/19/2012 21:13
2,6-Dinitrotoluene	ND		5.07	ug/L	1	09/19/2012 21:13
2-Chloronaphthalene	ND		5.07	ug/L	1	09/19/2012 21:13
2-Chlorophenol	ND		5.07	ug/L	1	09/19/2012 21:13
2-Methylnaphthalene	ND		5.07	ug/L	1	09/19/2012 21:13
2-Methylphenol	ND		5.07	ug/L	1	09/19/2012 21:13
2-Nitroaniline	ND		5.07	ug/L	1	09/19/2012 21:13
2-Nitrophenol	ND		5.07	ug/L	1	09/19/2012 21:13
3 and/or 4-Methylphenol	ND		5.07	ug/L	1	09/19/2012 21:13
3,3'-Dichlorobenzidine	ND		10.1	ug/L	1	09/19/2012 21:13
3-Nitroaniline	ND		25.3	ug/L	1	09/19/2012 21:13
4,6-Dinitro-2-methylphenol	ND		25.3	ug/L	1	09/19/2012 21:13
4-Chloro-3-methylphenol	ND		5.07	ug/L	1	09/19/2012 21:13
4-Chloroaniline	ND		25.3	ug/L	1	09/19/2012 21:13
4-Chlorophenyl phenyl ether	ND		5.07	ug/L	1	09/19/2012 21:13
Acenaphthene	ND		5.07	ug/L	1	09/19/2012 21:13
Acenaphthylene	ND		5.07	ug/L	1	09/19/2012 21:13
Anthracene	ND		5.07	ug/L	1	09/19/2012 21:13
Benzo(a)anthracene	ND		5.07	ug/L	1	09/19/2012 21:13
Benzo(a)pyrene	ND		5.07	ug/L	1	09/19/2012 21:13
Benzo(b)fluoranthene	ND		5.07	ug/L	1	09/19/2012 21:13
Benzo(g,h,i)perylene	ND		5.07	ug/L	1	09/19/2012 21:13
Benzo(k)fluoranthene	ND		5.07	ug/L	1	09/19/2012 21:13
Benzoic acid	ND		5.07	ug/L	1	09/19/2012 21:13
Bis(2-Chloroethoxy)methane	ND		5.07	ug/L	1	09/19/2012 21:13
Bis(2-Chloroethyl)ether	ND		5.07	ug/L	1	09/19/2012 21:13
Bis(2-Chloroisopropyl)ether	ND		5.07	ug/L	1	09/19/2012 21:13
Bis(2-Ethylhexyl)phthalate	ND		5.07	ug/L	1	09/19/2012 21:13
4-Bromophenyl phenyl ether	ND		5.07	ug/L	1	09/19/2012 21:13
Butyl benzyl phthalate	ND		5.07	ug/L	1	09/19/2012 21:13
Chrysene	ND		5.07	ug/L	1	09/19/2012 21:13
Di-n-butyl phthalate	ND		5.07	ug/L	1	09/19/2012 21:13
Di-n-octyl phthalate	ND		5.07	ug/L	1	09/19/2012 21:13
Dibenz(a,h)anthracene	ND		5.07	ug/L	1	09/19/2012 21:13
Dibenzofuran	ND		5.07	ug/L	1	09/19/2012 21:13

**Results of TW-1**

Client Sample ID: **TW-1**  
 Client Project ID: **70127335 U3315 #84**  
 Lab Sample ID: 31202906006-D  
 Lab Project ID: 31202906

Collection Date: 09/10/2012 15:06  
 Received Date: 09/12/2012 14:20  
 Matrix: Water

**Results by SW-846 8270D**

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>LOQ/CL</u>	<u>Units</u>	<u>DF</u>	<u>Date Analyzed</u>
Diethyl phthalate	ND		5.07	ug/L	1	09/19/2012 21:13
Dimethyl phthalate	ND		5.07	ug/L	1	09/19/2012 21:13
2,4-Dimethylphenol	ND		5.07	ug/L	1	09/19/2012 21:13
Diphenylamine	ND		5.07	ug/L	1	09/19/2012 21:13
Fluoranthene	ND		5.07	ug/L	1	09/19/2012 21:13
Fluorene	ND		5.07	ug/L	1	09/19/2012 21:13
Hexachlorobenzene	ND		5.07	ug/L	1	09/19/2012 21:13
Hexachlorobutadiene	ND		5.07	ug/L	1	09/19/2012 21:13
Hexachlorocyclopentadiene	ND		10.1	ug/L	1	09/19/2012 21:13
Hexachloroethane	ND		5.07	ug/L	1	09/19/2012 21:13
Indeno(1,2,3-cd)pyrene	ND		5.07	ug/L	1	09/19/2012 21:13
Isophorone	ND		5.07	ug/L	1	09/19/2012 21:13
Naphthalene	ND		5.07	ug/L	1	09/19/2012 21:13
4-Nitroaniline	ND		25.3	ug/L	1	09/19/2012 21:13
Nitrobenzene	ND		5.07	ug/L	1	09/19/2012 21:13
4-Nitrophenol	ND		25.3	ug/L	1	09/19/2012 21:13
Pentachlorophenol	ND		25.3	ug/L	1	09/19/2012 21:13
Phenanthrene	ND		5.07	ug/L	1	09/19/2012 21:13
Phenol	ND		5.07	ug/L	1	09/19/2012 21:13
Pyrene	ND		5.07	ug/L	1	09/19/2012 21:13
n-Nitrosodi-n-propylamine	ND		5.07	ug/L	1	09/19/2012 21:13

**Surrogates**

2,4,6-Tribromophenol	102		29.3-152	%	1	09/19/2012 21:13
2-Fluorobiphenyl	104		50.0-107	%	1	09/19/2012 21:13
2-Fluorophenol	80.0		33.1-118	%	1	09/19/2012 21:13
Nitrobenzene-d5	101		46.0-118	%	1	09/19/2012 21:13
Phenol-d6	102		49.0-120	%	1	09/19/2012 21:13
Terphenyl-d14	120		22.1-142	%	1	09/19/2012 21:13

**Batch Information**

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

Prep Batch: **XXX3053**  
 Prep Method: **SW-846 3520C**  
 Prep Date/Time: **09/17/2012 10:29**  
 Prep Initial Wt./Vol.: **987 mL**  
 Prep Extract Vol: **5 mL**





CHAIN OF CUSTODY RECORD  
SGS North America Inc.

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

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104693

1 CLIENT: TERRACON PHONE NO: (919) 873-2211 SITE/PSID#: U-3315 # 84

CONTACT: LORI HOFFMAN

PROJECT: 70127335

REPORTS TO: Lori Hoffman

lchoffman@terracon.com FAX NO.:( )

INVOICE TO: NC007 QUOTE #: NC007 P.O. NUMBER:

2

LAB NO.	SAMPLE IDENTIFICATION	DATE	TIME	MATRIX	No CONTAINERS	SAMPLE TYPE C= COMP G= GRAB	Preservatives Used Analysis Required	REMARKS
	S-1	9-10-12	1323	SOIL	5	G	X	
	S-2		1346				X	
	S-3		1418				X	
	S-4		1523				X	
	S-5		1607				X	
	7W-1		1506	GW			X	

3 / 202906 PAGE 1 OF 1

8:260 (VCLs) (8270 (VCLs)) (8270 (VCLs))

4

5

Collected/Relinquished By: (1) BW SWIFT Date 9-10-12 Time 1832 Received By: Colby Date 9/11/12 Time 1300

Relinquished By: (2) Colby Date 9/12/12 Time 1420 Received By: Judith Date 9/12/12 Time 1506

Relinquished By: (3)

Relinquished By: (4)

Shipping Carrier: \_\_\_\_\_ Samples Received Cold? (Circle) YES NO

Shipping Ticket No: \_\_\_\_\_ Temperature C: 0-2°C.

Special Deliverable Requirements: \_\_\_\_\_ Chain of Custody Seal: (Circle) INTACT BROKEN

Special Instructions: \_\_\_\_\_

Requested Turnaround Time: \_\_\_\_\_ Date Needed: ASTD

RUSH  STD

White - Retained by Lab  
Pink - Retained by Client

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

SGS North America Inc.

Sample Receipt Checklist (SRC)

Client: NCDOT-Terracon

Work Order No.: 31202906

- |     |  |                         |
|-----|--|-------------------------|
| 1.  | <input type="checkbox"/> Shipped<br><input checked="" type="checkbox"/> Hand Delivered   | Notes: _____<br>_____   |
| 2.  | <input checked="" type="checkbox"/> COC Present on Receipt<br><input type="checkbox"/> No COC<br><input type="checkbox"/> Additional Transmittal Forms   | _____<br>_____          |
| 3.  | <input type="checkbox"/> Custody Tape on Container<br><input checked="" type="checkbox"/> No Custody Tape  | _____<br>_____          |
| 4.  | <input checked="" type="checkbox"/> Samples Intact<br><input type="checkbox"/> Samples Broken / Leaking  | _____<br>_____          |
| 5.  | <input checked="" type="checkbox"/> Chilled on Receipt    Actual Temp.(s) in °C: <u>0.2</u><br><input type="checkbox"/> Ambient on Receipt<br><input type="checkbox"/> Walk-in on Ice; Coming down to temp.<br><input type="checkbox"/> Received Outside of Temperature Specifications | _____<br>_____<br>_____ |
| 6.  | <input checked="" type="checkbox"/> Sufficient Sample Submitted<br><input type="checkbox"/> Insufficient Sample Submitted  | _____<br>_____          |
| 7.  | <input type="checkbox"/> Chlorine absent<br><input type="checkbox"/> HNO3 < 2<br><input type="checkbox"/> HCL < 2<br><input type="checkbox"/> Additional Preservatives verified (see notes)  | _____<br>_____<br>_____ |
| 8.  | <input checked="" type="checkbox"/> Received Within Holding Time<br><input type="checkbox"/> Not Received Within Holding Time  | _____<br>_____          |
| 9.  | <input checked="" type="checkbox"/> No Discrepancies Noted<br><input type="checkbox"/> Discrepancies Noted<br><input type="checkbox"/> NCDENR notified of Discrepancies*   | _____<br>_____<br>_____ |
| 10. | <input checked="" type="checkbox"/> No Headspace present in VOC vials<br><input type="checkbox"/> Headspace present in VOC vials >6mm  | _____<br>_____          |

Comments: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Inspected and Logged in by: JJ  
Date: Thu-9/13/12 00:00

## Laboratory Report of Analysis

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

Report Number: **31202940**

Client Project: **70127335 U-3315 #84**

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  
Project Manager  
michael.page@sgs.com

Date

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

## 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

<u>Client Sample ID</u>	<u>Lab Sample ID</u>	<u>Collected</u>	<u>Received</u>	<u>Matrix</u>
TW-2	31202940001	09/12/2012 13:58	09/17/2012 08:40	Water

**Results of TW-2**

Client Sample ID: **TW-2**  
 Client Project ID: **70127335 U-3315 #84**  
 Lab Sample ID: 31202940001-A  
 Lab Project ID: 31202940

Collection Date: 09/12/2012 13:58  
 Received Date: 09/17/2012 08:40  
 Matrix: Water

**Results by SW-846 8260B**

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>LOQ/CL</u>	<u>Units</u>	<u>DF</u>	<u>Date Analyzed</u>
1,1,1,2-Tetrachloroethane	ND		1.00	ug/L	1	09/18/2012 15:16
1,1,1-Trichloroethane	ND		1.00	ug/L	1	09/18/2012 15:16
1,1,2,2-Tetrachloroethane	ND		1.00	ug/L	1	09/18/2012 15:16
1,1,2-Trichloroethane	ND		1.00	ug/L	1	09/18/2012 15:16
1,1-Dichloroethane	ND		1.00	ug/L	1	09/18/2012 15:16
1,1-Dichloroethene	ND		1.00	ug/L	1	09/18/2012 15:16
1,1-Dichloropropene	ND		1.00	ug/L	1	09/18/2012 15:16
1,2,3-Trichlorobenzene	ND		1.00	ug/L	1	09/18/2012 15:16
1,2,3-Trichloropropane	ND		1.00	ug/L	1	09/18/2012 15:16
1,2,4-Trichlorobenzene	ND		1.00	ug/L	1	09/18/2012 15:16
1,2,4-Trimethylbenzene	ND		1.00	ug/L	1	09/18/2012 15:16
1,2-Dibromo-3-chloropropane	ND		5.00	ug/L	1	09/18/2012 15:16
1,2-Dibromoethane	ND		1.00	ug/L	1	09/18/2012 15:16
1,2-Dichlorobenzene	ND		1.00	ug/L	1	09/18/2012 15:16
1,2-Dichloroethane	ND		1.00	ug/L	1	09/18/2012 15:16
1,2-Dichloropropane	ND		1.00	ug/L	1	09/18/2012 15:16
1,3,5-Trimethylbenzene	ND		1.00	ug/L	1	09/18/2012 15:16
1,3-Dichlorobenzene	ND		1.00	ug/L	1	09/18/2012 15:16
1,3-Dichloropropane	ND		1.00	ug/L	1	09/18/2012 15:16
1,4-Dichlorobenzene	ND		1.00	ug/L	1	09/18/2012 15:16
2,2-Dichloropropane	ND		1.00	ug/L	1	09/18/2012 15:16
2-Butanone	ND		25.0	ug/L	1	09/18/2012 15:16
2-Chlorotoluene	ND		1.00	ug/L	1	09/18/2012 15:16
2-Hexanone	ND		5.00	ug/L	1	09/18/2012 15:16
4-Chlorotoluene	ND		1.00	ug/L	1	09/18/2012 15:16
4-Isopropyltoluene	ND		1.00	ug/L	1	09/18/2012 15:16
4-Methyl-2-pentanone	ND		5.00	ug/L	1	09/18/2012 15:16
Acetone	ND		25.0	ug/L	1	09/18/2012 15:16
Benzene	ND		1.00	ug/L	1	09/18/2012 15:16
Bromobenzene	ND		1.00	ug/L	1	09/18/2012 15:16
Bromochloromethane	ND		1.00	ug/L	1	09/18/2012 15:16
Bromodichloromethane	ND		1.00	ug/L	1	09/18/2012 15:16
Bromoform	ND		1.00	ug/L	1	09/18/2012 15:16
Bromomethane	ND		1.00	ug/L	1	09/18/2012 15:16
n-Butylbenzene	ND		1.00	ug/L	1	09/18/2012 15:16
Carbon disulfide	ND		1.00	ug/L	1	09/18/2012 15:16
Carbon tetrachloride	ND		1.00	ug/L	1	09/18/2012 15:16
Chlorobenzene	ND		1.00	ug/L	1	09/18/2012 15:16
Chloroethane	ND		1.00	ug/L	1	09/18/2012 15:16
Chloroform	ND		1.00	ug/L	1	09/18/2012 15:16
Chloromethane	ND		1.00	ug/L	1	09/18/2012 15:16
Dibromochloromethane	ND		1.00	ug/L	1	09/18/2012 15:16
Dibromomethane	ND		1.00	ug/L	1	09/18/2012 15:16

**Results of TW-2**

Client Sample ID: **TW-2**  
 Client Project ID: **70127335 U-3315 #84**  
 Lab Sample ID: 31202940001-A  
 Lab Project ID: 31202940

Collection Date: 09/12/2012 13:58  
 Received Date: 09/17/2012 08:40  
 Matrix: Water

**Results by SW-846 8260B**

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>LOQ/CL</u>	<u>Units</u>	<u>DF</u>	<u>Date Analyzed</u>
Dichlorodifluoromethane	ND		5.00	ug/L	1	09/18/2012 15:16
cis-1,3-Dichloropropene	ND		1.00	ug/L	1	09/18/2012 15:16
trans-1,3-Dichloropropene	ND		1.00	ug/L	1	09/18/2012 15:16
Diisopropyl Ether	ND		1.00	ug/L	1	09/18/2012 15:16
Ethyl Benzene	ND		1.00	ug/L	1	09/18/2012 15:16
Hexachlorobutadiene	ND		1.00	ug/L	1	09/18/2012 15:16
Isopropylbenzene (Cumene)	ND		1.00	ug/L	1	09/18/2012 15:16
Methyl iodide	ND		1.00	ug/L	1	09/18/2012 15:16
Methylene chloride	ND		5.00	ug/L	1	09/18/2012 15:16
Naphthalene	ND		1.00	ug/L	1	09/18/2012 15:16
Styrene	ND		1.00	ug/L	1	09/18/2012 15:16
Tetrachloroethene	ND		1.00	ug/L	1	09/18/2012 15:16
Toluene	ND		1.00	ug/L	1	09/18/2012 15:16
Trichloroethene	ND		1.00	ug/L	1	09/18/2012 15:16
Trichlorofluoromethane	ND		1.00	ug/L	1	09/18/2012 15:16
Vinyl chloride	ND		1.00	ug/L	1	09/18/2012 15:16
Xylene (total)	ND		2.00	ug/L	1	09/18/2012 15:16
cis-1,2-Dichloroethene	ND		1.00	ug/L	1	09/18/2012 15:16
m,p-Xylene	ND		2.00	ug/L	1	09/18/2012 15:16
n-Propylbenzene	ND		1.00	ug/L	1	09/18/2012 15:16
o-Xylene	ND		1.00	ug/L	1	09/18/2012 15:16
sec-Butylbenzene	ND		1.00	ug/L	1	09/18/2012 15:16
tert-Butyl methyl ether (MTBE)	ND		1.00	ug/L	1	09/18/2012 15:16
tert-Butylbenzene	ND		1.00	ug/L	1	09/18/2012 15:16
trans-1,2-Dichloroethene	ND		1.00	ug/L	1	09/18/2012 15:16
trans-1,4-Dichloro-2-butene	ND		5.00	ug/L	1	09/18/2012 15:16

**Surrogates**

1,2-Dichloroethane-d4	101		64.0-140	%	1	09/18/2012 15:16
4-Bromofluorobenzene	104		85.0-115	%	1	09/18/2012 15:16
Toluene d8	105		82.0-117	%	1	09/18/2012 15:16

**Batch Information**

Analytical Batch: **VMS2558**  
 Analytical Method: **SW-846 8260B**  
 Instrument: **MSD4**  
 Analyst: **BWS**

Prep Batch: **VXX4013**  
 Prep Method: **SW-846 5030B**  
 Prep Date/Time: **09/18/2012 08:30**  
 Prep Initial Wt./Vol.: **40 mL**  
 Prep Extract Vol: **40 mL**

**Results of TW-2**

Client Sample ID: **TW-2**  
 Client Project ID: **70127335 U-3315 #84**  
 Lab Sample ID: 31202940001-D  
 Lab Project ID: 31202940

Collection Date: 09/12/2012 13:58  
 Received Date: 09/17/2012 08:40  
 Matrix: Water

**Results by SW-846 8270D**

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>LOQ/CL</u>	<u>Units</u>	<u>DF</u>	<u>Date Analyzed</u>
1,2,4-Trichlorobenzene	ND		5.29	ug/L	1	09/21/2012 14:34
1,2-Dichlorobenzene	ND		5.29	ug/L	1	09/21/2012 14:34
1,3-Dichlorobenzene	ND		5.29	ug/L	1	09/21/2012 14:34
1,4-Dichlorobenzene	ND		5.29	ug/L	1	09/21/2012 14:34
2,4,5-Trichlorophenol	ND		5.29	ug/L	1	09/21/2012 14:34
2,4,6-Trichlorophenol	ND		5.29	ug/L	1	09/21/2012 14:34
2,4-Dichlorophenol	ND		5.29	ug/L	1	09/21/2012 14:34
2,4-Dinitrophenol	ND		26.5	ug/L	1	09/21/2012 14:34
2,4-Dinitrotoluene	ND		5.29	ug/L	1	09/21/2012 14:34
2,6-Dinitrotoluene	ND		5.29	ug/L	1	09/21/2012 14:34
2-Chloronaphthalene	ND		5.29	ug/L	1	09/21/2012 14:34
2-Chlorophenol	ND		5.29	ug/L	1	09/21/2012 14:34
2-Methylnaphthalene	ND		5.29	ug/L	1	09/21/2012 14:34
2-Methylphenol	ND		5.29	ug/L	1	09/21/2012 14:34
2-Nitroaniline	ND		5.29	ug/L	1	09/21/2012 14:34
2-Nitrophenol	ND		5.29	ug/L	1	09/21/2012 14:34
3 and/or 4-Methylphenol	ND		5.29	ug/L	1	09/21/2012 14:34
3,3'-Dichlorobenzidine	ND		10.6	ug/L	1	09/21/2012 14:34
3-Nitroaniline	ND		26.5	ug/L	1	09/21/2012 14:34
4,6-Dinitro-2-methylphenol	ND		26.5	ug/L	1	09/21/2012 14:34
4-Chloro-3-methylphenol	ND		5.29	ug/L	1	09/21/2012 14:34
4-Chloroaniline	ND		26.5	ug/L	1	09/21/2012 14:34
4-Chlorophenyl phenyl ether	ND		5.29	ug/L	1	09/21/2012 14:34
Acenaphthene	ND		5.29	ug/L	1	09/21/2012 14:34
Acenaphthylene	ND		5.29	ug/L	1	09/21/2012 14:34
Anthracene	ND		5.29	ug/L	1	09/21/2012 14:34
Benzo(a)anthracene	ND		5.29	ug/L	1	09/21/2012 14:34
Benzo(a)pyrene	ND		5.29	ug/L	1	09/21/2012 14:34
Benzo(b)fluoranthene	ND		5.29	ug/L	1	09/21/2012 14:34
Benzo(g,h,i)perylene	ND		5.29	ug/L	1	09/21/2012 14:34
Benzo(k)fluoranthene	ND		5.29	ug/L	1	09/21/2012 14:34
Benzoic acid	ND		5.29	ug/L	1	09/21/2012 14:34
Bis(2-Chloroethoxy)methane	ND		5.29	ug/L	1	09/21/2012 14:34
Bis(2-Chloroethyl)ether	ND		5.29	ug/L	1	09/21/2012 14:34
Bis(2-Chloroisopropyl)ether	ND		5.29	ug/L	1	09/21/2012 14:34
Bis(2-Ethylhexyl)phthalate	ND		5.29	ug/L	1	09/21/2012 14:34
4-Bromophenyl phenyl ether	ND		5.29	ug/L	1	09/21/2012 14:34
Butyl benzyl phthalate	ND		5.29	ug/L	1	09/21/2012 14:34
Chrysene	ND		5.29	ug/L	1	09/21/2012 14:34
Di-n-butyl phthalate	ND		5.29	ug/L	1	09/21/2012 14:34
Di-n-octyl phthalate	ND		5.29	ug/L	1	09/21/2012 14:34
Dibenz(a,h)anthracene	ND		5.29	ug/L	1	09/21/2012 14:34
Dibenzofuran	ND		5.29	ug/L	1	09/21/2012 14:34



**Results of TW-2**

Client Sample ID: **TW-2**  
 Client Project ID: **70127335 U-3315 #84**  
 Lab Sample ID: 31202940001-D  
 Lab Project ID: 31202940

Collection Date: 09/12/2012 13:58  
 Received Date: 09/17/2012 08:40  
 Matrix: Water

**Results by SW-846 8270D**

Parameter	Result	Qual	LOQ/CL	Units	DF	Date Analyzed
Diethyl phthalate	ND		5.29	ug/L	1	09/21/2012 14:34
Dimethyl phthalate	ND		5.29	ug/L	1	09/21/2012 14:34
2,4-Dimethylphenol	ND		5.29	ug/L	1	09/21/2012 14:34
Diphenylamine	ND		5.29	ug/L	1	09/21/2012 14:34
Fluoranthene	ND		5.29	ug/L	1	09/21/2012 14:34
Fluorene	ND		5.29	ug/L	1	09/21/2012 14:34
Hexachlorobenzene	ND		5.29	ug/L	1	09/21/2012 14:34
Hexachlorobutadiene	ND		5.29	ug/L	1	09/21/2012 14:34
Hexachlorocyclopentadiene	ND		10.6	ug/L	1	09/21/2012 14:34
Hexachloroethane	ND		5.29	ug/L	1	09/21/2012 14:34
Indeno(1,2,3-cd)pyrene	ND		5.29	ug/L	1	09/21/2012 14:34
Isophorone	ND		5.29	ug/L	1	09/21/2012 14:34
Naphthalene	ND		5.29	ug/L	1	09/21/2012 14:34
4-Nitroaniline	ND		26.5	ug/L	1	09/21/2012 14:34
Nitrobenzene	ND		5.29	ug/L	1	09/21/2012 14:34
4-Nitrophenol	ND		26.5	ug/L	1	09/21/2012 14:34
Pentachlorophenol	ND		26.5	ug/L	1	09/21/2012 14:34
Phenanthrene	ND		5.29	ug/L	1	09/21/2012 14:34
Phenol	ND		5.29	ug/L	1	09/21/2012 14:34
Pyrene	ND		5.29	ug/L	1	09/21/2012 14:34
n-Nitrosodi-n-propylamine	ND		5.29	ug/L	1	09/21/2012 14:34

**Surrogates**

2,4,6-Tribromophenol	97.0		29.3-152	%	1	09/21/2012 14:34
2-Fluorobiphenyl	88.0		50.0-107	%	1	09/21/2012 14:34
2-Fluorophenol	74.0		33.1-118	%	1	09/21/2012 14:34
Nitrobenzene-d5	89.0		46.0-118	%	1	09/21/2012 14:34
Phenol-d6	88.0		49.0-120	%	1	09/21/2012 14:34
Terphenyl-d14	103		22.1-142	%	1	09/21/2012 14:34

**Batch Information**

Analytical Batch: **XMS1672**  
 Analytical Method: **SW-846 8270D**  
 Instrument: **MSD10**  
 Analyst: **CMP**

Prep Batch: **XXX3066**  
 Prep Method: **SW-846 3520C**  
 Prep Date/Time: **09/18/2012 16:37**  
 Prep Initial Wt./Vol.: **945 mL**  
 Prep Extract Vol: **5 mL**



SGS North America Inc.

Sample Receipt Checklist (SRC)

Client: NCDOT-Terracon

Work Order No.: 31202940

- 1.  Shipped  
 Hand Delivered
- 2.  COC Present on Receipt  
 No COC  
 Additional Transmittal Forms
- 3.  Custody Tape on Container  
 No Custody Tape
- 4.  Samples Intact  
 Samples Broken / Leaking
- 5.  Chilled on Receipt    Actual Temp.(s) in °C: 0.2  
 Ambient on Receipt  
 Walk-in on Ice; Coming down to temp.  
 Received Outside of Temperature Specifications
- 6.  Sufficient Sample Submitted  
 Insufficient Sample Submitted
- 7.  Chlorine absent  
 HNO3 < 2  
 HCL < 2  
 Additional Preservatives verified (see notes)
- 8.  Received Within Holding Time  
 Not Received Within Holding Time
- 9.  No Discrepancies Noted  
 Discrepancies Noted  
 NCDENR notified of Discrepancies\*
- 10.  No Headspace present in VOC vials  
 Headspace present in VOC vials >6mm

Notes: \_\_\_\_\_  
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Comments: \_\_\_\_\_  
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Inspected and Logged in by: JJ  
Date: Mon-9/17/12 00:00