PRELIMINARY SITE ASSESSMENT
FOR
PARCEL 197, WARD HOLDINGS, LLC
BOYD'S BARBER SHOP
1008 EVANS STREET
GREENVILLE, PITT COUNTY, NORTH CAROLINA

STATE PROJECT: U-3315
WBS ELEMENT: 35781.1.2

PREPARED FOR:

NCDOT GEOTECHNICAL ENGINEERING UNIT
GEOENVIRONMENTAL SECTION
1589 MSC
RALEIGH, NORTH CAROLINA 27699-1589

NOVEMBER 20, 2012

PREPARED BY:

CATLIN ENGINEERS AND SCIENTISTS
P. O. BOX 10279
WILMINGTON, NORTH CAROLINA 28404-0279
(910) 452-5861

CATLIN PROJECT NO. 212077

CORPORATE GEOLOGY LICENSE CERTIFICATION NO. C-118
CORPORATE LICENSURE NO. FOR ENGINEERING SERVICES C-0585

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NOVEMBER 20, 2012

1.0 PURPOSE OF INVESTIGATION AND DESCRIPTION

CATLIN Engineers and Scientists (CATLIN) was retained by the North Carolina Department of Transportation (NCDOT) Geotechnical Engineering Unit to provide a field investigation concluding with a Preliminary Site Assessment (PSA) for the above site. In response to a June 19, 2012 Request for Proposal (RFP) (Updated July 10, 2012) and subsequent work scope clarifications with Mr. Gordon Box, LG and Mr. Cyrus Parker, PE, LG, CATLIN submitted a proposal for conducting an investigation at the Parcel 197, Ward Holdings, LLC. The parcel/property is located at 1008 Evans Street along the NCDOT Project "*Stantonsburg Road/Tenth Street Connector from Memorial Drive (US 13) to Evans Street*" in Greenville, North Carolina. Sheet 1 illustrates the general location.

The following specific parcel information was provided by NCDOT:

> *The site currently functions as a barber shop. Vent(s) likely associated with UST(s) were noted at this site upon site reconnaissance, which suggests the site may have been a gas station and may have USTs. Parcel 197 is located 200 feet south of 10th Street and 100 feet north of 11th Street.*

According to NCDOT acquisition of the right of way (ROW) is necessary for roadway construction (State Project U-3315) and specifically at the above referenced parcel (Parcel 197). A site investigation is requested before ROW acquisition and roadway construction. Underground storage tanks (USTs) and/or associated piping are suspected in the proposed ROW and/or easement(s).

The work scope as requested includes:

- Communicate progress reports to the GeoEnvironmental Section.
- Determine if contaminated soils or USTs are present within the NCDOT ROW, controlled access boundary (CA), or easement with particular emphasis on the vicinity of proposed excavations for drainage, utilities, and slope stake cuts.
- Estimate the quantity of impacted soils. Estimate the volume of impacted soils across the study area and the volume that will require excavation during construction. Indicate the approximate area of soil contamination on a site map and CADD file.
- Research the site for past uses and possible releases and include findings in final report.
- Report the depth to groundwater and obtain one groundwater sample from the site with emphasis on the vicinity of proposed drainage features. Test groundwater sample for contaminants relevant to the site's past use and/or possible releases.
- Provide a MicroStation file with the boring locations and estimated extent of impacted soils (if any).
- Prepare a report including field activities, findings, and recommendations and submit in triplicate and electronically to the NCDOT GeoEnvironmental Section.

This report documents our activities and findings at Parcel 197, Ward Holdings, LLC property (currently Boyd's Barber Shop), 1008 Evans Street, Greenville, North Carolina. The site is illustrated on Sheet 2.

2.0 METHODS

Approximate proposed boring locations were discussed with NCDOT personnel before final Workplan submittal. There were no slope stake cuts identified within the subject site. Per NCDOT request, borings (soil samples) were located near proposed drainage features (as indicated on NCDOT provided plan sheets). The NCDOT Conventional Plan Sheet Symbols are provided on Sheet 1A. Accessible proposed drainage features at the site include drainage piping and catch basin number 1105.

North Carolina Department of Environment and Natural Resources (NCDENR) UST Section personnel were interviewed and the NCDENR UST database was reviewed. NCDENR Dry-cleaning Solvent Cleanup Act (DSCA) Program personnel were also interviewed and the DSCA site list was reviewed.

CATLIN coordinated geophysical activities concurrently with soil boring and sampling. The geophysical investigation methods are detailed in the SCHNABEL ENGINEERING SOUTH, PC (Schnabel) geophysical report provided in Appendix A. Final boring/sample locations were determined

based on proposed drainage feature locations and elevations, geophysical results, file review information, field observations, and discussion with NCDOT personnel. CATLIN's field activities began at the site on July 25, 2012 and concluded on July 26, 2012.

2.1 FIELD METHODS

All field work was conducted in general accordance with state and federal guidelines and industry standards.

Underground utility locating was coordinated by CATLIN personnel. The North Carolina One Call Center (NC-1-Call) was contacted for underground utility location. The areas around the proposed boring locations were checked and underground utilities were indicated by NC-1-Call personnel.

CATLIN personnel gathered subsurface soil data at the site by Direct Push Technology (DPT) boring advancement using an AMS PowerProbe™ 9600D (PowerProbe). Borings were identified by the parcel number 197 followed by "DPT" and boring number (example: 197DPT-01). A boring was located near proposed catch basin number 1105. The boring was advanced to depth by static force and a 90-pound hydraulic percussion hammer. Two and one-quarter inch diameter by four-foot length steel is used as casing. Soil samples were continuously collected in four-foot long and one and one-half inch diameter clear liners. Liners are removed from the casing and then cut in half longitudinally to allow for visual/manual classification utilizing the Unified Soil Classification System (USCS). Soils were collected continuously from near the surface to boring termination. The boring for soil sample collection was terminated at eight (8) feet below land surface (BLS). Half of the soils from the liners were removed in two-foot intervals and placed in sealable polyethylene bags for organic vapor analysis (OVA) headspace screening utilizing a photo ionization detector (PID). The USCS, OVA/PID reading, and any indication of petroleum impact were recorded on a field log and have been transferred to the Boring Log provided in Appendix B. As illustrated on Sheet 2, one (1) boring was advanced for soil sample collection.

Soil samples for laboratory analysis were collected from the sample interval above the water table with the highest OVA/PID reading and/or the sample interval near the bottom of the proposed drainage feature installation elevation. The sample interval was included with the boring identification as part of the soil sample identification [197DPT-01(5.5-6.1 ft)]. The sample identification is included on the Boring Log in Appendix B and the laboratory analytical Chain of Custody in Appendix C.

After soil sample collection the 197DPT-01 boring was further advanced and terminated at 16 feet BLS for approximate depth to water (DTW) determination and groundwater sample collection. Following removal of the PowerProbe tooling, groundwater was pumped directly into the appropriate laboratory provided glassware utilizing new polypropylene tubing and a peristaltic pump.

New disposable nitrile gloves were worn during sampling activities. All samples were placed into laboratory provided glassware and packed on ice in an insulated cooler for transportation to the laboratory. Sample integrity was maintained by following proper Chain of Custody procedures. A copy of the Chain of Custody is provided following the analytical report in Appendix C.

The borehole was abandoned to just below the surface using three-eighth inch bentonite chips. Bentonite and water were poured into the borehole simultaneously to facilitate hydration. Final borehole and sample locations were surveyed utilizing a Trimble® GPS survey instrument.

2.2 LABORATORY TESTING

Following boring advancement, selected soils were placed in the appropriately labeled glassware. In an attempt to provide information regarding possible petroleum and/or dry cleaning solvent impact to soils and groundwater, soil samples were analyzed for volatile and semi-volatile organics by Environmental Protection Agency (EPA) Methods 8260B and 8270D Base Neutral (BN) and the groundwater sample was also analyzed for volatile and semi-volatile organics per EPA Methods 8260B and 8270D BN.

One (1) soil sample and one (1) groundwater sample were submitted to SGS Analytical Perspectives (NC Certification #481). Chain of Custody documentation is included in Appendix C.

3.0 RESULTS

NCDENR Interview and File Review

NCDENR Washington Regional Office personnel were not aware of any releases on record for the site. The NCDENR UST database does not list any tanks registered at the site. NCDENR DSCA Program personnel were also interviewed. The site does not appear on the NCDENR DSCA site list. There are no UST or DSCA sites adjacent to the subject site.

Historical aerial photographs were also reviewed and local "historians" were interviewed. Based on review of the historical aerial photographs and locals

with knowledge of the area, there is no indication the site was previously utilized as a gas/service station.

Geophysical Investigation

The complete geophysical investigation report by Schnabel is included in Appendix A and indicates that metallic USTs are unlikely to be encountered within 8 feet of the ground surface in the areas surveyed on the subject property.

Site Reconnaissance

CATLIN personnel identified the proposed drainage feature locations. Photographs of the site are provided in Appendix D. Additional photographs are included in the Schnabel report provided in Appendix A.

Soil and Groundwater

Sand, clayey sand, and clay were encountered at boring 197DPT-01. No petroleum hydrocarbon odor was noted in any soils. The boring log, including OVA/PID results, is provided in Appendix B.

Summarized soil sample analytical results are provided on Table 1. Soil sample locations and summarized soil analytical results are illustrated on Sheet 2. As indicated on Table 1 and Sheet 2, no compound concentrations were reported above the laboratory quantitation limits or UST Section Soil-To-Groundwater (STGW) Maximum Soil Contaminant Concentrations (MSCCs).

Summarized groundwater sample analytical results are provided on Table 2 and Sheet 2. As indicated on Table 2 and Sheet 2, Minor, estimated concentrations ("J" values) of a number of EPA Method 8260B parameters were revealed but well below the corresponding North Carolina Administrative Code (NCAC) T15A:02L Groundwater Quality Standards (2L GWQS). An estimated ("J" value) Dimethyl phthalate concentration was revealed per EPA Method 8270D BN above the laboratory method detection limits. There is no Dimethyl phthalate 2L GWQS. No other EPA Method 8270D BN parameters were detected above the reporting limits or 2L GWQSs. Depth to groundwater was not measured but is estimated at approximately nine (9) feet BLS. The complete laboratory analytical report is provided in Appendix C.

4.0 SUMMARY AND RECOMMENDATIONS

A preliminary site assessment was conducted at the subject site as requested by NCDOT. NCDOT is planning roadway construction including utility installation and ROW acquisition at the site.

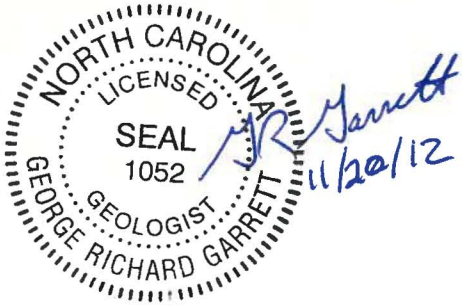
No contaminated soils or groundwater were revealed in samples collected from the proposed construction area. Based on geophysical survey results, site reconnaissance, and NCDENR file review information, there are no indications of any USTs remaining at the site.

5.0 LIMITATIONS

This report is based on the agreed work scope and a review of available data from limited sampling. It is possible that this investigation may have failed to reveal the presence of contamination in the project area where such contamination may exist. Although CATLIN has used accepted methods appropriate for soil and groundwater sampling, CATLIN cannot guarantee that additional soil and/or groundwater contamination does not exist.

6.0 SIGNATURES

Benjamin J. Ashba, P.G.
Project Manager



G. Richard Garrett, P.G.
Senior Project Manager

TABLES

TABLE 1
SUMMARY OF SOIL LABORATORY RESULTS
- EPA METHODS 8260B AND 8270D BASE NEUTRAL

Parcel 197, Ward Holdings, LLC– Boyd's Barber
1008 Evans Street

Sample ID	Method →		EPA Method 8260B		EPA Method 8270D Base Neutral
	Contaminant of Concern →		Methylene chloride	All other EPA Method 8260B Parameters	All EPA Method 8270D Base Neutral Parameters
	Date Collected	Location			
197DPT01 (5.5-6.1ft)	7/25/12	@ CB 1105	1.11 J	BMDL	BMDL
Residential MSCC (ug/kg)			85,000	Varies	Varies
Industrial/Commercial MSCC (ug/kg)			763,000	Varies	Varies
STGW MSCC (ug/kg)			20	Varies	Varies

All results in micrograms per kilogram (ug/kg).
Sample depth below land surface provided in parenthesis as part of the sample identification.
CB = Proposed Catch Basin
BMDL = Below Method Detection Limit, refer to analytical report for a complete list of parameters and detection limits
J = Estimated Concentration

TABLE 2
SUMMARY OF GROUNDWATER LABORATORY RESULTS
- EPA METHODS 8260B AND 8270D BASE NEUTRAL

Parcel 197, Ward Holdings, LLC– Boyd's Barber
1008 Evans Street

Sample ID	Method →		EPA Method 8260B					EPA Method 8270D Base Neutral	
	Contaminant of Concern →		1,2,4-Trimethylbenzene	Acetone	Toluene	Xylene (total)	All other EPA Method 8260B Parameters	Dimethyl phthalate	All other EPA Method 8270D Base Neutral Parameters
	Date Collected	Location							
197DPT-01	7/26/12 (8260B) & 7/31/12 (8270D)	@ CB 1105	0.100 J	2.60 J	0.490 J	0.540 J	BMDL	3.33 J	BMDL
2L GWQS (ug/L)			400	6,000	600	500	Varies	None Established	Varies

All results in micrograms per liter (ug/L).

BMDL = Below Method Detection Limit, refer to analytical report for a complete list of parameters and detection limits

J = Estimated Concentration

CB = Proposed Catch Basin

SHEETS

PROJECT REFERENCE NO.	SHEET
35781.1.2 (U-3315)	1

GeoEnvironmental

0 2,000 4,000

FEET

PARCEL 197

GREENVILLE

GREENVILLE

PITT - GREENVILLE AIRPORT

TAR RIVER

Lake Ellsworth

PROJECT REFERENCE NO.	SHEET NO.
U-XXX	1-A

Note: Not to Scale

**S.U.E. = Subsurface Utility Engineering*

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

CONVENTIONAL PLAN SHEET SYMBOLS

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

BOUNDARIES AND PROPERTY:

- State Line
- County Line
- Township Line
- City Line
- Reservation Line
- Property Line
- Existing Iron Pin
- Property Corner
- Property Monument
- Parcel/Sequence Number
- Existing Fence Line
- Proposed Woven Wire Fence
- Proposed Chain Link Fence
- Proposed Barbed Wire Fence
- Existing Wetland Boundary
- Proposed Wetland Boundary
- Existing Endangered Animal Boundary
- Existing Endangered Plant Boundary
- Known Soil Contamination: Area or Site
- Potential Soil Contamination: Area or Site

BUILDINGS AND OTHER CULTURE:

- Gas Pump Vent or U/G Tank Cap
- Sign
- Well
- Small Mine
- Foundation
- Area Outline
- Cemetery
- Building
- School
- Church
- Dam

HYDROLOGY:

- Stream or Body of Water
- Hydro, Pool or Reservoir
- Jurisdictional Stream (JS)
- Buffer Zone 1 (BZ 1)
- Buffer Zone 2 (BZ 2)
- Flow Arrow
- Disappearing Stream
- Spring
- Wetland
- Proposed Lateral, Tail, Head Ditch
- False Sump

RAILROADS:

- Standard Gauge (CSX TRANSPORTATION)
- RR Signal Milepost (MILEPOST 35)
- Switch (SWITCH)
- RR Abandoned
- RR Dismantled

RIGHT OF WAY:

- Baseline Control Point
- Existing Right of Way Marker
- Existing Right of Way Line
- Proposed Right of Way Line
- Proposed Right of Way Line with Iron Pin and Cap Marker
- Proposed Right of Way Line with Concrete or Granite Marker
- Existing Control of Access
- Proposed Control of Access
- Existing Easement Line (E)
- Proposed Temporary Construction Easement (E)
- Proposed Temporary Drainage Easement (TDE)
- Proposed Permanent Drainage Easement (PDE)
- Proposed Permanent Drainage / Utility Easement (DUE)
- Proposed Permanent Utility Easement (PUE)
- Proposed Temporary Utility Easement (TUE)
- Proposed Aerial Utility Easement (AUE)
- Proposed Permanent Easement with Iron Pin and Cap Marker

ROADS AND RELATED FEATURES:

- Existing Edge of Pavement
- Existing Curb
- Proposed Slope Stakes Cut
- Proposed Slope Stakes Fill
- Proposed Curb Ramp
- Curb Cut Future Ramp
- Existing Metal Guardrail
- Proposed Guardrail
- Existing Cable Guiderail
- Proposed Cable Guiderail
- Equality Symbol
- Pavement Removal

VEGETATION:

- Single Tree
- Single Shrub
- Hedge
- Woods Line
- Orchard
- Vineyard (Vineyard)

EXISTING STRUCTURES:

MAJOR:
- Bridge, Tunnel or Box Culvert (CONC)
- Bridge Wing Wall, Head Wall and End Wall (CONC WW)

MINOR:
- Head and End Wall (CONC HW)
- Pipe Culvert
- Footbridge
- Drainage Box: Catch Basin, DI or JB (CB)
- Paved Ditch Gutter
- Storm Sewer Manhole (S)
- Storm Sewer

UTILITIES:

POWER:
- Existing Power Pole
- Proposed Power Pole
- Existing Joint Use Pole
- Proposed Joint Use Pole
- Power Manhole
- Power Line Tower
- Power Transformer
- U/G Power Cable Hand Hole
- H-Frame Pole
- Recorded U/G Power Line
- Designated U/G Power Line (S.U.E.*)

TELEPHONE:
- Existing Telephone Pole
- Proposed Telephone Pole
- Telephone Manhole
- Telephone Booth
- Telephone Pedestal
- Telephone Cell Tower
- U/G Telephone Cable Hand Hole
- Recorded U/G Telephone Cable
- Designated U/G Telephone Cable (S.U.E.*)
- Recorded U/G Telephone Conduit
- Designated U/G Telephone Conduit (S.U.E.*)
- Recorded U/G Fiber Optics Cable
- Designated U/G Fiber Optics Cable (S.U.E.*)

WATER:
- Water Manhole
- Water Meter
- Water Valve
- Water Hydrant
- Recorded U/G Water Line
- Designated U/G Water Line (S.U.E.*)
- Above Ground Water Line (A/G Water)

TV:
- TV Satellite Dish
- TV Pedestal
- TV Tower
- U/G TV Cable Hand Hole
- Recorded U/G TV Cable (TV)
- Designated U/G TV Cable (S.U.E.*) (TV)
- Recorded U/G Fiber Optic Cable (TV FO)
- Designated U/G Fiber Optic Cable (S.U.E.*) (TV FO)

GAS:
- Gas Valve
- Gas Meter
- Recorded U/G Gas Line
- Designated U/G Gas Line (S.U.E.*)
- Above Ground Gas Line (A/G Gas)

SANITARY SEWER:
- Sanitary Sewer Manhole
- Sanitary Sewer Cleanout
- U/G Sanitary Sewer Line
- Above Ground Sanitary Sewer (A/G Sanitary Sewer)
- Recorded SS Forced Main Line (FM)
- Designated SS Forced Main Line (S.U.E.*) (FM)

MISCELLANEOUS:
- Utility Pole
- Utility Pole with Base
- Utility Located Object
- Utility Traffic Signal Box
- Utility Unknown U/G Line (?)
- U/G Tank; Water, Gas, Oil
- Underground Storage Tank, Approx. Loc. (UST)
- A/G Tank; Water, Gas, Oil
- Geoenvironmental Boring
- U/G Test Hole (S.U.E.*)
- Abandoned According to Utility Records — AATUR
- End of Information — E.O.I.

PROJECT REFERENCE NO.	SHEET
35781.1.2 (U-3315)	2

GeoEnvironmental

0 10 20
FEET

SUMMARY OF GROUNDWATER LABORATORY RESULTS
- EPA METHODS 8260B AND 8270D BASE NEUTRAL

Parcel 197, Ward Holdings, LLC– Boyd's Barber
1008 Evans Street

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All results in micrograms per liter (ug/L).
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J = Estimated Concentration
CB = Proposed Catch Basin

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Parcel 197, Ward Holdings, LLC– Boyd's Barber
1008 Evans Street

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	Contaminant of Concern →		Methylene chloride	All other EPA Method 8260B Parameters	All EPA Method 8270D Base Neutral Parameters
	Date Collected	Location			
197DPT01 (5.5-6.1ft)	7/25/12	@ CB 1105	1.11 J	BMDL	BMDL
Residential MSCC (ug/kg)			85,000	Varies	Varies
Industrial/Commercial MSCC (ug/kg)			763,000	Varies	Varies
STGW MSCC (ug/kg)			20	Varies	Varies

All results in micrograms per kilogram (ug/kg).
Sample depth below land surface provided in parenthesis as part of the sample identification.
CB = Proposed Catch Basin
BMDL = Below Method Detection Limit, refer to analytical report for a complete list of parameters and detection limits
J = Estimated Concentration

WARD HOLDINGS LLC
195
WARD HOLDINGS LLC
1008 S. EVANS ST.
197
WARD HOLDINGS LLC
197
197DPT-01
CB
21+00
S. EVANS ST.
BST
DUCT
C&G

LEGEND

ID.
SOIL BORING/SAMPLE & GROUNDWATER SAMPLE

NOTES:
- AERIAL PHOTOGRAPHS OBTAINED FROM NCDOT
- PROPOSED DETAILS OBTAINED FROM NCDOT

APPENDICES

APPENDIX A

SCHNABEL GEOPHYSICAL REPORT

Schnabel ENGINEERING

August 15, 2012

Mr. Richard Garrett, LG, Project Manager
Catlin Engineers and Scientists, Inc.
P.O. Box 10279
Wilmington, NC 28404-0279

RE:
State Project: U-3315
WBS Element: 35781.1.2
County: Pitt
Description: Stantonsburg Road/Tenth Street Connector from Memorial Drive (US 13) to Evans Street

Subject: **Project 11821014.17, Report on Geophysical Surveys**
Parcel 197, Ward Holdings LLC Property, Greenville, North Carolina

Dear Mr. Garrett:

SCHNABEL ENGINEERING SOUTH, PC (Schnabel) is pleased to present this report on the geophysical surveys we performed on the subject property. The report includes two 11x17 color figures and two 8.5x11 color figures.

INTRODUCTION

The work described in this report was performed on July 13 and 26, 2012, by Schnabel under our 2011 contract with the NCDOT. The surveys were performed over the accessible areas of the property as indicated by the NCDOT to support their environmental assessment of the subject property. Photographs of the property are included on Figure 1. The property contains two parcels which are located approximately 200 feet south of the Evans Street and W 10th Street intersection and approximately 100 feet north of 11th Street (on the west side of Evans Street) in Greenville, NC. The purpose of the geophysical surveys was to investigate the presence of metal underground storage tanks (USTs) in the accessible areas of the right-of-way and/or easement.

The geophysical surveys consisted of an electromagnetic (EM) induction survey and a ground penetrating radar (GPR) survey. The EM survey was performed using a Geonics EM61-MK2 instrument. The EM61 is a time domain metal detector that is used to locate metal objects buried up to about eight feet below ground surface. When collecting EM61 data, three or four time gates are recorded of the response decay rate. The GPR survey was performed over selected EM61 anomalies, including areas of reinforced

concrete, using a Geophysical Survey Systems SIR-3000 system equipped with a 400 MHz antenna. Photographs of the equipment used are shown on Figure 2.

FIELD METHODOLOGY

Locations of geophysical data points were obtained using a sub-meter Trimble Pro-XRS DGPS system. References to direction and location in this report are based on the US State Plane 1983 System, North Carolina 3200 Zone, using the NAD 83 datum, with units in US survey feet. We recorded the locations of existing site features (monitoring wells, signs, etc.) with the Trimble system for later correlation with the geophysical data and locations provided by the NCDOT.

The EM61 data were collected along parallel survey lines spaced approximately 2.5 feet apart. The EM61 and DGPS data were recorded digitally using a field computer and later transferred to a desktop computer for data processing. The GPR data were collected along survey lines spaced one to two feet apart in orthogonal directions over areas of reinforced concrete and anomalous EM readings not attributed to cultural features. The GPR data were reviewed in the field to evaluate the possible presence of USTs. The GPR data also were recorded digitally and later transferred to a desktop computer for further review.

DISCUSSION OF RESULTS

The contoured EM61 data collected over Parcel 197 are shown on Figures 3 and 4. The EM61 early time gate data are plotted on Figure 3. The early time gate data provide a more sensitive detection of metal objects than the later time gate data. Figure 4 shows the differential response between the top and bottom coils of the EM61 instrument. The differential response data filters out the effect of surface and very shallowly buried metallic objects. Typically, the differential response emphasizes anomalies from deeper and larger objects such as USTs.

The early time gate and differential results show anomalies of unknown cause, in addition to those apparently caused by buried utilities, or known site features (Figures 3 and 4). The GPR data indicate that the EM anomalies of unknown cause are probably caused by buried utilities. The GPR data collected at the site do not indicate the presence of metallic USTs within the areas surveyed.

CONCLUSIONS

Our evaluation of the geophysical data collected on the subject property on Project U-3315 in Greenville, NC indicates that metallic USTs are unlikely to be encountered within 8 feet of the ground surface in the areas surveyed on the subject property.

LIMITATIONS

These services have been performed and this report prepared for Catlin Engineers and Scientists, Inc. and the North Carolina Department of Transportation in accordance with generally accepted guidelines for conducting geophysical surveys. It is generally recognized that the results of geophysical surveys are non-unique and may not represent actual subsurface conditions.

We appreciate the opportunity to have provided these services. Please call if you need additional information or have any questions.

Sincerely,

SCHNABEL ENGINEERING SOUTH, PC

James W. Whitt, LG
Senior Staff Geophysicist

Jeremy S. Strohmeyer, LG
Project Manager

JW:JS
Attachments: Figures (4)
CC: NCDOT, Gordon Box
FILE: G:\2011-SDE-JOBS\11821014_00_NCDOT_2011_GEOTECHNICAL_UNIT_SERVICES\11821014_17_U-3315_PITT_COUNTY\REPORT\PARCEL 197\SCHNABEL GEOPHYSICAL REPORT ON PARCEL 197 (U-3315).DOCX

Parcel 197 (Ward Holdings LLC Property), looking west

Parcel 197 (Ward Holdings LLC Property), looking south

Schnabel ENGINEERING	STATE PROJECT U-3315 NC DEPT. OF TRANSPORTATION PITT COUNTY, NORTH CAROLINA PROJECT NO. 11821014.17	PARCEL 197 SITE PHOTOS FIGURE 1

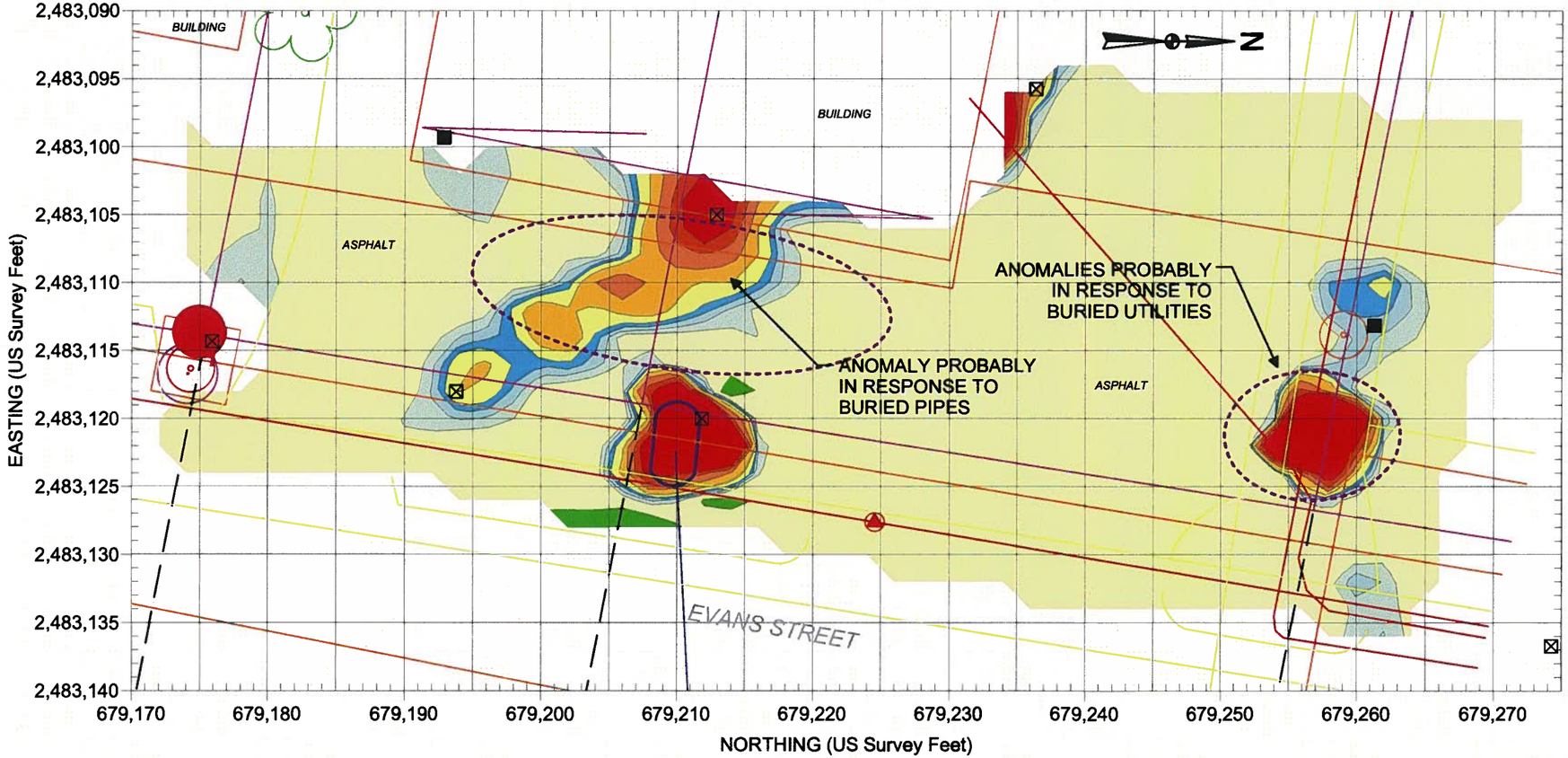
Geonics EM61-MK2 Metal Detector with Trimble DGPS Unit

GSSI SIR-3000 Ground-Penetrating Radar with 400 MHz Antenna

Note: Stock photographs – not taken on site.

Schnabel ENGINEERING	STATE PROJECT U-3315 NC DEPT. OF TRANSPORTATION PITT COUNTY, NORTH CAROLINA PROJECT NO. 11821014.17	PHOTOS OF GEOPHYSICAL EQUIPMENT USED FIGURE 2

PARCEL 197



EXPLANATION

- MISCELLANEOUS METALLIC OBJECT
- UTILITY MANHOLE, METER, BOX, ETC.
- EDGE OF NCDOT PROPOSED R/W
- PROPERTY LINE
- GPR SURVEY AREA

REF.: NCDOT FILE: u3315_rdy_psh11.dgn
(FOR SOME SITE FEATURES)

EM61 Early Time Gate Response (mV)

-15000 -100 0 50 100 150 200 300 500 750 1000 2000

Scale in US Survey Feet

0 10 20 30

Note: The contour plot shows the earliest and more sensitive time gate of the EM61 bottom coil/channel in millivolts (mV). The EM data were collected on July 13, 2012, using a Geonics EM61-MK2 instrument. Positioning for the EM61 survey was provided using a submeter Trimble ProXRS DGPS system. Coordinates are in the US State Plane 1983 System, North Carolina Zone 3200, using the NAD 1983 datum. GPR data were acquired on July 26, 2012, using a Geophysical Survey Systems SIR 3000 equipped with a 400 MHz antenna.

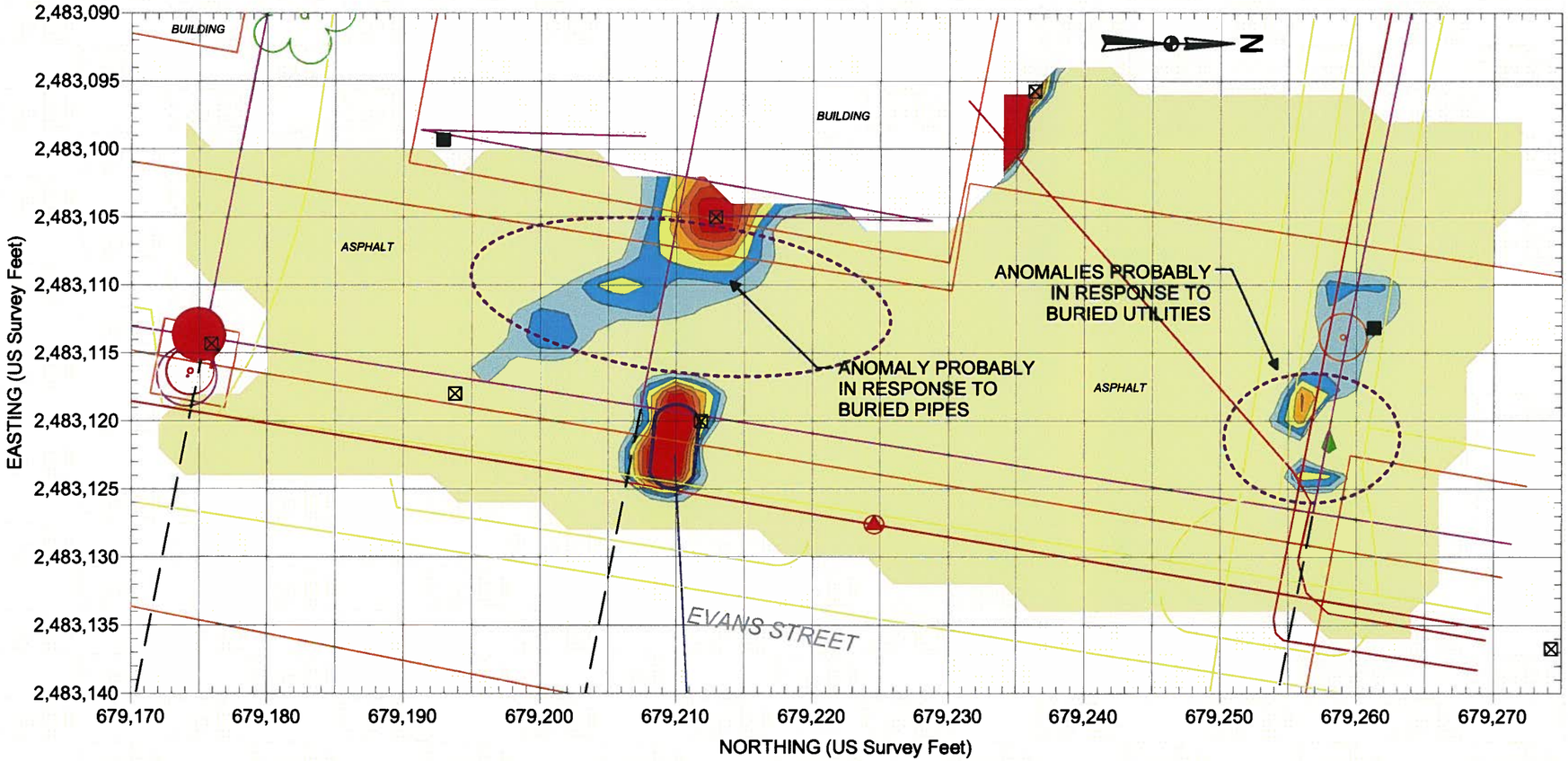
Schnabel ENGINEERING

STATE PROJECT U-3315
NC DEPARTMENT OF TRANSPORTATION
PITT COUNTY, NORTH CAROLINA
PROJECT NO. 11821014.17

EM61
EARLY TIME GATE
RESPONSE

FIGURE 3

PARCEL 197



EXPLANATION

- MISCELLANEOUS METALLIC OBJECT
- UTILITY MANHOLE, METER, BOX, ETC.
- EDGE OF NCDOT PROPOSED R/W
- PROPERTY LINE
- GPR SURVEY AREA

REF.: NCDOT FILE: u3315_rdy_psh11.dgn
(FOR SOME SITE FEATURES)

EM61 Differential Response (mV)

-20000 -100 0 40 60 80 100 120 140 160 200

Scale in US Survey Feet

0 10 20 30

Note: The contour plot shows the difference, in millivolts (mV), between the readings from the top and bottom coils of the EM61. The difference is taken to reduce the effect of shallow metal objects and emphasize anomalies caused by deeper metallic objects, such as drums and tanks. The EM data were collected on July 13, 2012, using a Geonics EM61-MK2 instrument. Positioning for the EM61 survey was provided using a submeter Trimble ProXRS DGPS system. Coordinates are in the US State Plane 1983 System, North Carolina 3200 Zone, using the NAD 1983 datum. GPR data were acquired on July 26, 2012, using a Geophysical Survey Systems SIR 3000 equipped with a 400 MHz antenna.

Schnabel ENGINEERING

STATE PROJECT U-3315
NC DEPARTMENT OF TRANSPORTATION
PITT COUNTY, NORTH CAROLINA
PROJECT NO. 11821014.17

EM61
DIFFERENTIAL
RESPONSE

FIGURE 4

APPENDIX B

BORING LOG

BORING LOG

CATLIN Engineers and Scientists
Wilmington, NC
WBS Element: 35781.1.2
State Project: U-3315

PROJECT NO.: 212077	STATE: NC	COUNTY: Pitt		LOCATION: Greenville	
PROJECT NAME: Parcel 197 - Ward Holdings, LLC - Boyd's Barber		LOGGED BY: Ben Ashba		BORING ID: 197DPT-01	
		DRILLER: William J. Miller			
NORTHING: 679,253.00	EASTING: 2,483,130.00	CREW: Corey Futral			
SYSTEM: NCSP NAD 83 (USft)	BORING LOCATION: @ CB 1105			LAND ELEV.: NM	
DRILL MACHINE: Power Probe	METHOD: CPT / DPT		0 HOUR DTW: N/A	BORING DEPTH: 16.0	
START DATE: 07/25/12	FINISH DATE: 07/25/12		24 HOUR DTW: 15.0	ROCK DEPTH: --	

DEPTH	BLOW COUNT 0.5 0.5 0.5 0.5	MOI.	PID RESULTS (ppm) 0 250 500 750 1,000	LAB.	USCS	LOG	DEPTH	SOIL AND ROCK DESCRIPTION	ELEVATION
							0.0	LAND SURFACE	
0.0					SM		0.5	TOPSOIL	
			▲0		SP			Brown and tannish gray, v.f. SAND w/tr. silt. Silt content increases w/depth.	
2.0			▲0						
4.0			▲0				4.5		
5.5			▲0	DPT-01 (5.5-6.1')	SC			Clayey SAND. Orange and brown.	
6.1			▲0				6.5		
			▲0		CH			CLAY. High plast. Mottled orange and gray.	
8.0							8.0		
				▼				Blind Point to 16' BLS.	
16.0							16.0		
								Boring Terminated at Depth 16.0 ft	

▽ = 0hr. DTW ▼ = 24hr. DTW

CATLIN ENVIRO LOG 212077 GREENVILLE PSAS U3315.GPJ CATLIN.GDT 11/20/12

APPENDIX C

LABORATORY REPORT AND CHAIN OF CUSTODY RECORD

Laboratory Report of Analysis

To: Ben Ashba
RICHARD CATLIN & ASSOCIATES
P.O. Box 10279
Wilmington, NC 28404

Report Number: **31202362**

Client Project: **NCDOT Parcel 197**

Dear Ben Ashba,

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 Barbara A. Hager 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.

Barbara A. Hager
2012.07.31 14:17:56 -05'00'

Barbara A. Hager Date
Project Manager
barbara.hager@sgs.com

Print Date: 07/31/2012 N.C. Certification # 481

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
M2	Software did not integrate peak
M3	Incorrect baseline construction (i.e. not all of peak included; two peaks integrated as one)
M4	Pattern integration required (i.e. DRO, GRO, PCB, Toxaphene and Technical Chlordane)
M5	Other - Explained in case narrative

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

Sample Summary

Client Sample ID	Lab Sample ID	Collected	Received	Matrix
197DPT-01 (5.5-6.1ft)	31202362001	07/25/2012 10:00	07/26/2012 16:42	Soil-Solid as dry weight
197DPT-01	31202362002	07/26/2012 13:00	07/26/2012 16:42	Water

Print Date: 07/31/2012

N.C. Certification # 481

Detectable Results Summary

Client Sample ID: **197DPT-01 (5.5-6.1ft)**
Lab Sample ID: 31202362001-A

	Parameter	Result	Units	
SW-846 8260B	Methylene chloride	1.11	ug/Kg	J

Client Sample ID: **197DPT-01**
Lab Sample ID: 31202362002-A

	Parameter	Result	Units	
SW-846 8260B	1,2,4-Trimethylbenzene	0.100	ug/L	J
	Acetone	2.60	ug/L	J
	Toluene	0.490	ug/L	J
	Xylene (total)	0.540	ug/L	J
	m,p-Xylene	0.380	ug/L	J
	o-Xylene	0.160	ug/L	J

Quality Control Samples

Client Sample ID: **MB-S for HBN 26131 [VXX/3717]**
Lab Sample ID: 82391

	Parameter	Result	Units	
SW-846 8260B	Methylene chloride	0.930	ug/Kg	J

SGS ANALYTICAL PERSPECTIVES

Results of 197DPT-01 (5.5-6.1ft)

Client Sample ID: **197DPT-01 (5.5-6.1ft)**
Client Project ID: **NCDOT Parcel 197**
Lab Sample ID: 31202362001-A
Lab Project ID: 31202362

Collection Date: 07/25/2012 10:00
Received Date: 07/26/2012 16:42
Matrix: Soil-Solid as dry weight
Solids (%): 86.60

Results by SW-846 8260B

Parameter	Result	Qual	DL	LOQ/CL	Units	DF	Date Analyzed
1,1,1,2-Tetrachloroethane	ND	U	0.865	4.08	ug/Kg	1	07/27/2012 14:58
1,1,1-Trichloroethane	ND	U	0.635	4.08	ug/Kg	1	07/27/2012 14:58
1,1,2,2-Tetrachloroethane	ND	U	0.922	4.08	ug/Kg	1	07/27/2012 14:58
1,1,2-Trichloroethane	ND	U	0.849	4.08	ug/Kg	1	07/27/2012 14:58
1,1-Dichloroethane	ND	U	0.704	4.08	ug/Kg	1	07/27/2012 14:58
1,1-Dichloroethene	ND	U	0.737	4.08	ug/Kg	1	07/27/2012 14:58
1,1-Dichloropropene	ND	U	0.753	4.08	ug/Kg	1	07/27/2012 14:58
1,2,3-Trichlorobenzene	ND	U	1.13	4.08	ug/Kg	1	07/27/2012 14:58
1,2,3-Trichloropropane	ND	U	0.906	4.08	ug/Kg	1	07/27/2012 14:58
1,2,4-Trichlorobenzene	ND	U	0.971	4.08	ug/Kg	1	07/27/2012 14:58
1,2,4-Trimethylbenzene	ND	U	0.873	4.08	ug/Kg	1	07/27/2012 14:58
1,2-Dibromo-3-chloropropane	ND	U	4.74	24.5	ug/Kg	1	07/27/2012 14:58
1,2-Dibromoethane	ND	U	0.619	4.08	ug/Kg	1	07/27/2012 14:58
1,2-Dichlorobenzene	ND	U	1.05	4.08	ug/Kg	1	07/27/2012 14:58
1,2-Dichloroethane	ND	U	0.723	4.08	ug/Kg	1	07/27/2012 14:58
1,2-Dichloropropane	ND	U	0.657	4.08	ug/Kg	1	07/27/2012 14:58
1,3,5-Trimethylbenzene	ND	U	0.803	4.08	ug/Kg	1	07/27/2012 14:58
1,3-Dichlorobenzene	ND	U	0.947	4.08	ug/Kg	1	07/27/2012 14:58
1,3-Dichloropropane	ND	U	0.658	4.08	ug/Kg	1	07/27/2012 14:58
1,4-Dichlorobenzene	ND	U	0.898	4.08	ug/Kg	1	07/27/2012 14:58
2,2-Dichloropropane	ND	U	0.681	4.08	ug/Kg	1	07/27/2012 14:58
2-Butanone	ND	U	1.27	20.4	ug/Kg	1	07/27/2012 14:58
2-Chlorotoluene	ND	U	0.914	4.08	ug/Kg	1	07/27/2012 14:58
2-Hexanone	ND	U	1.59	10.2	ug/Kg	1	07/27/2012 14:58
4-Chlorotoluene	ND	U	0.906	4.08	ug/Kg	1	07/27/2012 14:58
4-Isopropyltoluene	ND	U	0.849	4.08	ug/Kg	1	07/27/2012 14:58
4-Methyl-2-pentanone	ND	U	2.62	10.2	ug/Kg	1	07/27/2012 14:58
Acetone	ND	U	1.01	40.8	ug/Kg	1	07/27/2012 14:58
Benzene	ND	U	0.729	4.08	ug/Kg	1	07/27/2012 14:58
Bromobenzene	ND	U	0.805	4.08	ug/Kg	1	07/27/2012 14:58
Bromochloromethane	ND	U	0.713	4.08	ug/Kg	1	07/27/2012 14:58
Bromodichloromethane	ND	U	0.664	4.08	ug/Kg	1	07/27/2012 14:58
Bromoform	ND	U	0.546	4.08	ug/Kg	1	07/27/2012 14:58
Bromomethane	ND	U	1.44	4.08	ug/Kg	1	07/27/2012 14:58
n-Butylbenzene	ND	U	0.882	4.08	ug/Kg	1	07/27/2012 14:58
Carbon disulfide	ND	U	0.705	4.08	ug/Kg	1	07/27/2012 14:58
Carbon tetrachloride	ND	U	0.710	4.08	ug/Kg	1	07/27/2012 14:58
Chlorobenzene	ND	U	0.632	4.08	ug/Kg	1	07/27/2012 14:58
Chloroethane	ND	U	0.375	4.08	ug/Kg	1	07/27/2012 14:58
Chloroform	ND	U	0.663	4.08	ug/Kg	1	07/27/2012 14:58
Chloromethane	ND	U	0.592	4.08	ug/Kg	1	07/27/2012 14:58
Dibromochloromethane	ND	U	0.691	4.08	ug/Kg	1	07/27/2012 14:58
Dibromomethane	ND	U	0.663	4.08	ug/Kg	1	07/27/2012 14:58
Dichlorodifluoromethane	ND	U	0.593	4.08	ug/Kg	1	07/27/2012 14:58

Print Date: 07/31/2012

N.C. Certification # 481

Results of 197DPT-01 (5.5-6.1ft)

Client Sample ID: **197DPT-01 (5.5-6.1ft)**
Client Project ID: **NCDOT Parcel 197**
Lab Sample ID: 31202362001-A
Lab Project ID: 31202362

Collection Date: 07/25/2012 10:00
Received Date: 07/26/2012 16:42
Matrix: Soil-Solid as dry weight
Solids (%): 86.60

Results by SW-846 8260B

Parameter	Result	Qual	DL	LOQ/CL	Units	DF	Date Analyzed
cis-1,3-Dichloropropene	ND	U	0.703	4.08	ug/Kg	1	07/27/2012 14:58
trans-1,3-Dichloropropene	ND	U	0.731	4.08	ug/Kg	1	07/27/2012 14:58
Diisopropyl Ether	ND	U	0.733	4.08	ug/Kg	1	07/27/2012 14:58
Ethyl Benzene	ND	U	0.675	4.08	ug/Kg	1	07/27/2012 14:58
Hexachlorobutadiene	ND	U	1.12	4.08	ug/Kg	1	07/27/2012 14:58
Isopropylbenzene (Cumene)	ND	U	0.786	4.08	ug/Kg	1	07/27/2012 14:58
Methyl iodide	ND	U	0.691	4.08	ug/Kg	1	07/27/2012 14:58
Methylene chloride	1.11	J	0.570	16.3	ug/Kg	1	07/27/2012 14:58
Naphthalene	ND	U	0.988	4.08	ug/Kg	1	07/27/2012 14:58
Styrene	ND	U	0.805	4.08	ug/Kg	1	07/27/2012 14:58
Tetrachloroethene	ND	U	0.614	4.08	ug/Kg	1	07/27/2012 14:58
Toluene	ND	U	0.661	4.08	ug/Kg	1	07/27/2012 14:58
Trichloroethene	ND	U	0.683	4.08	ug/Kg	1	07/27/2012 14:58
Trichlorofluoromethane	ND	U	0.615	4.08	ug/Kg	1	07/27/2012 14:58
Vinyl chloride	ND	U	0.601	4.08	ug/Kg	1	07/27/2012 14:58
Xylene (total)	ND	U	1.44	8.16	ug/Kg	1	07/27/2012 14:58
cis-1,2-Dichloroethene	ND	U	0.633	4.08	ug/Kg	1	07/27/2012 14:58
m,p-Xylene	ND	U	1.44	8.16	ug/Kg	1	07/27/2012 14:58
n-Propylbenzene	ND	U	0.796	4.08	ug/Kg	1	07/27/2012 14:58
o-Xylene	ND	U	0.824	4.08	ug/Kg	1	07/27/2012 14:58
sec-Butylbenzene	ND	U	0.849	4.08	ug/Kg	1	07/27/2012 14:58
tert-Butyl methyl ether (MTBE)	ND	U	0.695	4.08	ug/Kg	1	07/27/2012 14:58
tert-Butylbenzene	ND	U	0.740	4.08	ug/Kg	1	07/27/2012 14:58
trans-1,2-Dichloroethene	ND	U	0.703	4.08	ug/Kg	1	07/27/2012 14:58
trans-1,4-Dichloro-2-butene	ND	U	4.42	20.4	ug/Kg	1	07/27/2012 14:58
Surrogates							
1,2-Dichloroethane-d4	110			55.0-173	%	1	07/27/2012 14:58
4-Bromofluorobenzene	100			23.0-141	%	1	07/27/2012 14:58
Toluene d8	103			57.0-134	%	1	07/27/2012 14:58

Batch Information

Analytical Batch: **VMS2418**
Analytical Method: **SW-846 8260B**
Instrument: **MSD2**
Analyst: **DVO**
Analytical Date/Time: **07/27/2012 14:58**

Prep Batch: **VXX3717**
Prep Method: **SW-846 5035 SL**
Prep Date/Time: **07/27/2012 10:36**
Prep Initial Wt./Vol.: **7.07 g**
Prep Extract Vol: **5 mL**

Print Date: 07/31/2012

N.C. Certification # 481

SGS ANALYTICAL PERSPECTIVES

Results of 197DPT-01 (5.5-6.1ft)

Client Sample ID: **197DPT-01 (5.5-6.1ft)**
Client Project ID: **NCDOT Parcel 197**
Lab Sample ID: 31202362001-E
Lab Project ID: 31202362

Collection Date: 07/25/2012 10:00
Received Date: 07/26/2012 16:42
Matrix: Soil-Solid as dry weight
Solids (%): 86.60

Results by SW-846 8270D

Parameter	Result	Qual	DL	LOQ/CL	Units	DF	Date Analyzed
1,2,4-Trichlorobenzene	ND	U	33.7	383	ug/Kg	1	07/30/2012 18:58
1,2-Dichlorobenzene	ND	U	19.1	383	ug/Kg	1	07/30/2012 18:58
1,3-Dichlorobenzene	ND	U	25.8	383	ug/Kg	1	07/30/2012 18:58
1,4-Dichlorobenzene	ND	U	27.0	383	ug/Kg	1	07/30/2012 18:58
2,4,5-Trichlorophenol	ND	U	25.5	383	ug/Kg	1	07/30/2012 18:58
2,4,6-Trichlorophenol	ND	U	25.9	383	ug/Kg	1	07/30/2012 18:58
2,4-Dichlorophenol	ND	U	22.1	383	ug/Kg	1	07/30/2012 18:58
2,4-Dinitrophenol	ND	U	35.4	764	ug/Kg	1	07/30/2012 18:58
2,4-Dinitrotoluene	ND	U	19.3	383	ug/Kg	1	07/30/2012 18:58
2,6-Dinitrotoluene	ND	U	27.4	383	ug/Kg	1	07/30/2012 18:58
2-Chloronaphthalene	ND	U	22.5	383	ug/Kg	1	07/30/2012 18:58
2-Chlorophenol	ND	U	20.3	383	ug/Kg	1	07/30/2012 18:58
2-Methylnaphthalene	ND	U	30.9	383	ug/Kg	1	07/30/2012 18:58
2-Methylphenol	ND	U	21.1	383	ug/Kg	1	07/30/2012 18:58
2-Nitroaniline	ND	U	25.2	383	ug/Kg	1	07/30/2012 18:58
2-Nitrophenol	ND	U	18.3	383	ug/Kg	1	07/30/2012 18:58
3 and/or 4-Methylphenol	ND	U	24.8	383	ug/Kg	1	07/30/2012 18:58
3,3'-Dichlorobenzidine	ND	U	18.3	383	ug/Kg	1	07/30/2012 18:58
3-Nitroaniline	ND	U	17.2	383	ug/Kg	1	07/30/2012 18:58
4,6-Dinitro-2-methylphenol	ND	U	18.0	383	ug/Kg	1	07/30/2012 18:58
4-Chloro-3-methylphenol	ND	U	19.1	383	ug/Kg	1	07/30/2012 18:58
4-Chloroaniline	ND	U	30.6	383	ug/Kg	1	07/30/2012 18:58
4-Chlorophenyl phenyl ether	ND	U	40.8	383	ug/Kg	1	07/30/2012 18:58
Acenaphthene	ND	U	17.4	383	ug/Kg	1	07/30/2012 18:58
Acenaphthylene	ND	U	16.1	383	ug/Kg	1	07/30/2012 18:58
Anthracene	ND	U	17.0	383	ug/Kg	1	07/30/2012 18:58
Benzo(a)anthracene	ND	U	21.0	383	ug/Kg	1	07/30/2012 18:58
Benzo(a)pyrene	ND	U	21.6	383	ug/Kg	1	07/30/2012 18:58
Benzo(b)fluoranthene	ND	U	22.0	383	ug/Kg	1	07/30/2012 18:58
Benzo(g,h,i)perylene	ND	U	60.9	383	ug/Kg	1	07/30/2012 18:58
Benzo(k)fluoranthene	ND	U	45.8	383	ug/Kg	1	07/30/2012 18:58
Benzoic acid	ND	U	8.48	383	ug/Kg	1	07/30/2012 18:58
Bis(2-Chloroethoxy)methane	ND	U	17.2	383	ug/Kg	1	07/30/2012 18:58
Bis(2-Chloroethyl)ether	ND	U	35.7	383	ug/Kg	1	07/30/2012 18:58
Bis(2-Chloroisopropyl)ether	ND	U	33.4	383	ug/Kg	1	07/30/2012 18:58
Bis(2-Ethylhexyl)phthalate	ND	U	18.3	383	ug/Kg	1	07/30/2012 18:58
4-Bromophenyl phenyl ether	ND	U	25.2	383	ug/Kg	1	07/30/2012 18:58
Butyl benzyl phthalate	ND	U	33.2	383	ug/Kg	1	07/30/2012 18:58
Chrysene	ND	U	44.5	383	ug/Kg	1	07/30/2012 18:58
Di-n-butyl phthalate	ND	U	18.1	383	ug/Kg	1	07/30/2012 18:58
Di-n-octyl phthalate	ND	U	21.1	383	ug/Kg	1	07/30/2012 18:58
Dibenz(a,h)anthracene	ND	U	17.2	383	ug/Kg	1	07/30/2012 18:58
Dibenzofuran	ND	U	29.9	383	ug/Kg	1	07/30/2012 18:58
Diethyl phthalate	ND	U	20.7	383	ug/Kg	1	07/30/2012 18:58

Print Date: 07/31/2012

N.C. Certification # 481

Results of 197DPT-01 (5.5-6.1ft)

Client Sample ID: **197DPT-01 (5.5-6.1ft)**
Client Project ID: **NCDOT Parcel 197**
Lab Sample ID: 31202362001-E
Lab Project ID: 31202362

Collection Date: 07/25/2012 10:00
Received Date: 07/26/2012 16:42
Matrix: Soil-Solid as dry weight
Solids (%): 86.60

Results by SW-846 8270D

Parameter	Result	Qual	DL	LOQ/CL	Units	DF	Date Analyzed
Dimethyl phthalate	ND	U	29.3	383	ug/Kg	1	07/30/2012 18:58
2,4-Dimethylphenol	ND	U	28.0	383	ug/Kg	1	07/30/2012 18:58
Diphenylamine	ND	U	17.2	383	ug/Kg	1	07/30/2012 18:58
Fluoranthene	ND	U	35.9	383	ug/Kg	1	07/30/2012 18:58
Fluorene	ND	U	20.3	383	ug/Kg	1	07/30/2012 18:58
Hexachlorobenzene	ND	U	36.2	383	ug/Kg	1	07/30/2012 18:58
Hexachlorobutadiene	ND	U	22.9	383	ug/Kg	1	07/30/2012 18:58
Hexachlorocyclopentadiene	ND	U	116	383	ug/Kg	1	07/30/2012 18:58
Hexachloroethane	ND	U	22.0	383	ug/Kg	1	07/30/2012 18:58
Indeno(1,2,3-cd)pyrene	ND	U	29.8	383	ug/Kg	1	07/30/2012 18:58
Isophorone	ND	U	17.4	383	ug/Kg	1	07/30/2012 18:58
Naphthalene	ND	U	33.0	383	ug/Kg	1	07/30/2012 18:58
4-Nitroaniline	ND	U	22.0	383	ug/Kg	1	07/30/2012 18:58
Nitrobenzene	ND	U	22.0	383	ug/Kg	1	07/30/2012 18:58
4-Nitrophenol	ND	U	37.6	383	ug/Kg	1	07/30/2012 18:58
Pentachlorophenol	ND	U	30.6	383	ug/Kg	1	07/30/2012 18:58
Phenanthrene	ND	U	25.2	383	ug/Kg	1	07/30/2012 18:58
Phenol	ND	U	35.7	383	ug/Kg	1	07/30/2012 18:58
Pyrene	ND	U	16.1	383	ug/Kg	1	07/30/2012 18:58
n-Nitrosodi-n-propylamine	ND	U	110	383	ug/Kg	1	07/30/2012 18:58
Surrogates							
2,4,6-Tribromophenol	100			41.0-129	%	1	07/30/2012 18:58
2-Fluorobiphenyl	96.0			48.0-123	%	1	07/30/2012 18:58
2-Fluorophenol	83.0			42.0-123	%	1	07/30/2012 18:58
Nitrobenzene-d5	94.0			46.0-117	%	1	07/30/2012 18:58
Phenol-d6	94.0			48.0-125	%	1	07/30/2012 18:58
Terphenyl-d14	111			44.0-140	%	1	07/30/2012 18:58

Batch Information

Analytical Batch: **XMS1614**
Analytical Method: **SW-846 8270D**
Instrument: **MSD10**
Analyst: **CMP**
Analytical Date/Time: **07/30/2012 18:58**

Prep Batch: **XXX2863**
Prep Method: **SW-846 3541**
Prep Date/Time: **07/27/2012 10:01**
Prep Initial Wt./Vol.: **30.22 g**
Prep Extract Vol: **10 mL**

Print Date: 07/31/2012

N.C. Certification # 481

SGS ANALYTICAL PERSPECTIVES

Results of 197DPT-01

Client Sample ID: **197DPT-01**
Client Project ID: **NCDOT Parcel 197**
Lab Sample ID: 31202362002-A
Lab Project ID: 31202362

Collection Date: 07/26/2012 13:00
Received Date: 07/26/2012 16:42
Matrix: Water

Results by SW-846 8260B

Parameter	Result	Qual	DL	LOQ/CL	Units	DF	Date Analyzed
1,1,1,2-Tetrachloroethane	ND	U	0.104	1.00	ug/L	1	07/27/2012 17:55
1,1,1-Trichloroethane	ND	U	0.123	1.00	ug/L	1	07/27/2012 17:55
1,1,2,2-Tetrachloroethane	ND	U	0.156	1.00	ug/L	1	07/27/2012 17:55
1,1,2-Trichloroethane	ND	U	0.126	1.00	ug/L	1	07/27/2012 17:55
1,1-Dichloroethane	ND	U	0.165	1.00	ug/L	1	07/27/2012 17:55
1,1-Dichloroethene	ND	U	0.212	1.00	ug/L	1	07/27/2012 17:55
1,1-Dichloropropene	ND	U	0.0863	1.00	ug/L	1	07/27/2012 17:55
1,2,3-Trichlorobenzene	ND	U	0.110	1.00	ug/L	1	07/27/2012 17:55
1,2,3-Trichloropropane	ND	U	0.212	1.00	ug/L	1	07/27/2012 17:55
1,2,4-Trichlorobenzene	ND	U	0.0913	1.00	ug/L	1	07/27/2012 17:55
1,2,4-Trimethylbenzene	**0.100**	J	0.0961	1.00	ug/L	1	07/27/2012 17:55
1,2-Dibromo-3-chloropropane	ND	U	0.748	5.00	ug/L	1	07/27/2012 17:55
1,2-Dibromoethane	ND	U	0.120	1.00	ug/L	1	07/27/2012 17:55
1,2-Dichlorobenzene	ND	U	0.137	1.00	ug/L	1	07/27/2012 17:55
1,2-Dichloroethane	ND	U	0.167	1.00	ug/L	1	07/27/2012 17:55
1,2-Dichloropropane	ND	U	0.163	1.00	ug/L	1	07/27/2012 17:55
1,3,5-Trimethylbenzene	ND	U	0.113	1.00	ug/L	1	07/27/2012 17:55
1,3-Dichlorobenzene	ND	U	0.103	1.00	ug/L	1	07/27/2012 17:55
1,3-Dichloropropane	ND	U	0.130	1.00	ug/L	1	07/27/2012 17:55
1,4-Dichlorobenzene	ND	U	0.130	1.00	ug/L	1	07/27/2012 17:55
2,2-Dichloropropane	ND	U	0.393	1.00	ug/L	1	07/27/2012 17:55
2-Butanone	ND	U	0.723	25.0	ug/L	1	07/27/2012 17:55
2-Chlorotoluene	ND	U	0.113	1.00	ug/L	1	07/27/2012 17:55
2-Hexanone	ND	U	0.728	5.00	ug/L	1	07/27/2012 17:55
4-Chlorotoluene	ND	U	0.125	1.00	ug/L	1	07/27/2012 17:55
4-Isopropyltoluene	ND	U	0.0769	1.00	ug/L	1	07/27/2012 17:55
4-Methyl-2-pentanone	ND	U	0.558	5.00	ug/L	1	07/27/2012 17:55
Acetone	**2.60**	J	0.864	25.0	ug/L	1	07/27/2012 17:55
Benzene	ND	U	0.113	1.00	ug/L	1	07/27/2012 17:55
Bromobenzene	ND	U	0.110	1.00	ug/L	1	07/27/2012 17:55
Bromochloromethane	ND	U	0.211	1.00	ug/L	1	07/27/2012 17:55
Bromodichloromethane	ND	U	0.110	1.00	ug/L	1	07/27/2012 17:55
Bromoform	ND	U	0.0974	1.00	ug/L	1	07/27/2012 17:55
Bromomethane	ND	U	0.237	1.00	ug/L	1	07/27/2012 17:55
n-Butylbenzene	ND	U	0.0769	1.00	ug/L	1	07/27/2012 17:55
Carbon disulfide	ND	U	0.106	1.00	ug/L	1	07/27/2012 17:55
Carbon tetrachloride	ND	U	0.101	1.00	ug/L	1	07/27/2012 17:55
Chlorobenzene	ND	U	0.116	1.00	ug/L	1	07/27/2012 17:55
Chloroethane	ND	U	0.311	1.00	ug/L	1	07/27/2012 17:55
Chloroform	ND	U	0.139	1.00	ug/L	1	07/27/2012 17:55
Chloromethane	ND	U	0.448	1.00	ug/L	1	07/27/2012 17:55
Dibromochloromethane	ND	U	0.134	1.00	ug/L	1	07/27/2012 17:55
Dibromomethane	ND	U	0.168	1.00	ug/L	1	07/27/2012 17:55
Dichlorodifluoromethane	ND	U	0.171	5.00	ug/L	1	07/27/2012 17:55

Print Date: 07/31/2012

N.C. Certification # 481

Results of 197DPT-01

Client Sample ID: **197DPT-01**
Client Project ID: **NCDOT Parcel 197**
Lab Sample ID: 31202362002-A
Lab Project ID: 31202362

Collection Date: 07/26/2012 13:00
Received Date: 07/26/2012 16:42
Matrix: Water

Results by SW-846 8260B

Parameter	Result	Qual	DL	LOQ/CL	Units	DF	Date Analyzed
cis-1,3-Dichloropropene	ND	U	0.0767	1.00	ug/L	1	07/27/2012 17:55
trans-1,3-Dichloropropene	ND	U	0.0862	1.00	ug/L	1	07/27/2012 17:55
Diisopropyl Ether	ND	U	0.294	1.00	ug/L	1	07/27/2012 17:55
Ethyl Benzene	ND	U	0.0877	1.00	ug/L	1	07/27/2012 17:55
Hexachlorobutadiene	ND	U	0.0792	1.00	ug/L	1	07/27/2012 17:55
Isopropylbenzene (Cumene)	ND	U	0.0869	1.00	ug/L	1	07/27/2012 17:55
Methyl iodide	ND	U	0.115	1.00	ug/L	1	07/27/2012 17:55
Methylene chloride	ND	U	0.152	5.00	ug/L	1	07/27/2012 17:55
Naphthalene	ND	U	0.0855	1.00	ug/L	1	07/27/2012 17:55
Styrene	ND	U	0.102	1.00	ug/L	1	07/27/2012 17:55
Tetrachloroethene	ND	U	0.155	1.00	ug/L	1	07/27/2012 17:55
Toluene	**0.490**	J	0.133	1.00	ug/L	1	07/27/2012 17:55
Trichloroethene	ND	U	0.125	1.00	ug/L	1	07/27/2012 17:55
Trichlorofluoromethane	ND	U	0.137	1.00	ug/L	1	07/27/2012 17:55
Vinyl chloride	ND	U	0.124	1.00	ug/L	1	07/27/2012 17:55
Xylene (total)	**0.540**	J	0.182	2.00	ug/L	1	07/27/2012 17:55
cis-1,2-Dichloroethene	ND	U	0.136	1.00	ug/L	1	07/27/2012 17:55
m,p-Xylene	**0.380**	J	0.182	2.00	ug/L	1	07/27/2012 17:55
n-Propylbenzene	ND	U	0.113	1.00	ug/L	1	07/27/2012 17:55
o-Xylene	**0.160**	J	0.0874	1.00	ug/L	1	07/27/2012 17:55
sec-Butylbenzene	ND	U	0.112	1.00	ug/L	1	07/27/2012 17:55
tert-Butyl methyl ether (MTBE)	ND	U	0.144	1.00	ug/L	1	07/27/2012 17:55
tert-Butylbenzene	ND	U	0.0855	1.00	ug/L	1	07/27/2012 17:55
trans-1,2-Dichloroethene	ND	U	0.223	1.00	ug/L	1	07/27/2012 17:55
trans-1,4-Dichloro-2-butene	ND	U	0.414	5.00	ug/L	1	07/27/2012 17:55
Surrogates							
1,2-Dichloroethane-d4	90.0			64.0-140	%	1	07/27/2012 17:55
4-Bromofluorobenzene	96.0			85.0-115	%	1	07/27/2012 17:55
Toluene d8	96.0			82.0-117	%	1	07/27/2012 17:55

Batch Information

Analytical Batch: **VMS2417**
Analytical Method: **SW-846 8260B**
Instrument: **MSD8**
Analyst: **DVO**
Analytical Date/Time: **07/27/2012 17:55**

Prep Batch: **VXX3716**
Prep Method: **SW-846 5030B**
Prep Date/Time: **07/27/2012 08:00**
Prep Initial Wt./Vol.: **40 mL**
Prep Extract Vol: **40 mL**

Print Date: 07/31/2012

N.C. Certification # 481

Batch Summary

Analytical Method: SW-846 8260B

Prep Method: SW-846 5030B
Prep Batch: VXX3716
Prep Date: 07/27/2012 10:08

Client Sample ID	Lab Sample ID	Analysis Date	Analytical Batch	Instrument	Analyst
LCS for HBN 26128 [VXX/3716]	82378	07/27/2012 11:12	VMS2417	MSD8	DVO
LCSD for HBN 26128 [VXX/3716]	82379	07/27/2012 11:37	VMS2417	MSD8	DVO
MB for HBN 26128 [VXX/3716]	82380	07/27/2012 12:27	VMS2417	MSD8	DVO
USTHPFF-MW17(81787MS)	82487	07/27/2012 14:59	VMS2417	MSD8	DVO
USTHPFF-MW17(81787MSD)	82488	07/27/2012 15:24	VMS2417	MSD8	DVO
197DPT-01	31202362002	07/27/2012 17:55	VMS2417	MSD8	DVO

Print Date: 07/31/2012

N.C. Certification # 481

Method Blank

Blank ID: MB for HBN 26128 [VXX/3716]
Blank Lab ID: 82380
QC for Samples:
31202362002

Matrix: Water

Results by **SW-846 8260B**

Parameter	Result	Qual	DL	LOQ/CL	Units	DF
Dichlorodifluoromethane	ND	U	0.171	5.00	ug/L	1
Chloromethane	ND	U	0.448	1.00	ug/L	1
Vinyl chloride	ND	U	0.124	1.00	ug/L	1
Bromomethane	ND	U	0.237	1.00	ug/L	1
Chloroethane	ND	U	0.311	1.00	ug/L	1
Trichlorofluoromethane	ND	U	0.137	1.00	ug/L	1
1,1-Dichloroethene	ND	U	0.212	1.00	ug/L	1
Acetone	ND	U	0.864	25.0	ug/L	1
Methylene chloride	ND	U	0.152	5.00	ug/L	1
trans-1,2-Dichloroethene	ND	U	0.223	1.00	ug/L	1
tert-Butyl methyl ether (MTBE)	ND	U	0.144	1.00	ug/L	1
1,1-Dichloroethane	ND	U	0.165	1.00	ug/L	1
Diisopropyl Ether	ND	U	0.294	1.00	ug/L	1
2,2-Dichloropropane	ND	U	0.393	1.00	ug/L	1
cis-1,2-Dichloroethene	ND	U	0.136	1.00	ug/L	1
2-Butanone	ND	U	0.723	25.0	ug/L	1
Bromochloromethane	ND	U	0.211	1.00	ug/L	1
Chloroform	ND	U	0.139	1.00	ug/L	1
1,1,1-Trichloroethane	ND	U	0.123	1.00	ug/L	1
Carbon tetrachloride	ND	U	0.101	1.00	ug/L	1
1,1-Dichloropropene	ND	U	0.0863	1.00	ug/L	1
Benzene	ND	U	0.113	1.00	ug/L	1
1,2-Dichloroethane	ND	U	0.167	1.00	ug/L	1
Trichloroethene	ND	U	0.125	1.00	ug/L	1
1,2-Dichloropropane	ND	U	0.163	1.00	ug/L	1
Dibromomethane	ND	U	0.168	1.00	ug/L	1
Bromodichloromethane	ND	U	0.110	1.00	ug/L	1
cis-1,3-Dichloropropene	ND	U	0.0767	1.00	ug/L	1
4-Methyl-2-pentanone	ND	U	0.558	5.00	ug/L	1
Toluene	ND	U	0.133	1.00	ug/L	1
Methyl iodide	ND	U	0.115	1.00	ug/L	1
trans-1,3-Dichloropropene	ND	U	0.0862	1.00	ug/L	1
Carbon disulfide	ND	U	0.106	1.00	ug/L	1
1,1,2-Trichloroethane	ND	U	0.126	1.00	ug/L	1
Tetrachloroethene	ND	U	0.155	1.00	ug/L	1
1,3-Dichloropropane	ND	U	0.130	1.00	ug/L	1
2-Hexanone	ND	U	0.728	5.00	ug/L	1
Dibromochloromethane	ND	U	0.134	1.00	ug/L	1
1,2-Dibromoethane	ND	U	0.120	1.00	ug/L	1
Chlorobenzene	ND	U	0.116	1.00	ug/L	1
1,1,1,2-Tetrachloroethane	ND	U	0.104	1.00	ug/L	1
Bromoform	ND	U	0.0974	1.00	ug/L	1

Print Date: 07/31/2012

N.C. Certification # 481

Method Blank

Blank ID: MB for HBN 26128 [VXX/3716]
Blank Lab ID: 82380
QC for Samples:
31202362002

Matrix: Water

Results by SW-846 8260B

Parameter	Result	Qual	DL	LOQ/CL	Units	DF
Bromobenzene	ND	U	0.110	1.00	ug/L	1
1,1,2,2-Tetrachloroethane	ND	U	0.156	1.00	ug/L	1
1,2,3-Trichloropropane	ND	U	0.212	1.00	ug/L	1
Ethyl Benzene	ND	U	0.0877	1.00	ug/L	1
m,p-Xylene	ND	U	0.182	2.00	ug/L	1
Styrene	ND	U	0.102	1.00	ug/L	1
o-Xylene	ND	U	0.0874	1.00	ug/L	1
Xylene (total)	ND	U	0.182	2.00	ug/L	1
Isopropylbenzene (Cumene)	ND	U	0.0869	1.00	ug/L	1
n-Propylbenzene	ND	U	0.113	1.00	ug/L	1
2-Chlorotoluene	ND	U	0.113	1.00	ug/L	1
4-Chlorotoluene	ND	U	0.125	1.00	ug/L	1
1,3,5-Trimethylbenzene	ND	U	0.113	1.00	ug/L	1
tert-Butylbenzene	ND	U	0.0855	1.00	ug/L	1
1,2,4-Trimethylbenzene	ND	U	0.0961	1.00	ug/L	1
sec-Butylbenzene	ND	U	0.112	1.00	ug/L	1
1,3-Dichlorobenzene	ND	U	0.103	1.00	ug/L	1
4-Isopropyltoluene	ND	U	0.0769	1.00	ug/L	1
1,4-Dichlorobenzene	ND	U	0.130	1.00	ug/L	1
1,2-Dichlorobenzene	ND	U	0.137	1.00	ug/L	1
n-Butylbenzene	ND	U	0.0769	1.00	ug/L	1
1,2-Dibromo-3-chloropropane	ND	U	0.748	5.00	ug/L	1
1,2,4-Trichlorobenzene	ND	U	0.0913	1.00	ug/L	1
Hexachlorobutadiene	ND	U	0.0792	1.00	ug/L	1
Naphthalene	ND	U	0.0855	1.00	ug/L	1
trans-1,4-Dichloro-2-butene	ND	U	0.414	5.00	ug/L	1
1,2,3-Trichlorobenzene	ND	U	0.110	1.00	ug/L	1
Surrogates						
1,2-Dichloroethane-d4	101			64.0-140	%	1
Toluene d8	100			82.0-117	%	1
4-Bromofluorobenzene	93.0			85.0-115	%	1

Batch Information

Analytical Batch: VMS2417
Analytical Method: SW-846 8260B
Instrument: MSD8
Analyst: DVO
Analytical Date/Time: 7/27/2012 12:27:00PM

Prep Batch: VXX3716
Prep Method: SW-846 5030B
Prep Date/Time: 7/27/2012 10:08:03AM
Prep Initial Wt./Vol.: 40 mL
Prep Extract Vol: 40 mL

Print Date: 07/31/2012

N.C. Certification # 481

Blank Spike Summary

Blank Spike ID: LCS for HBN 26128 [VXX/3716]
Blank Spike Lab ID: 82378
Date Analyzed: 07/27/2012 11:12

Spike Duplicate ID: LCSD for HBN 26128 [VXX/3716]
Spike Duplicate Lab ID: 82379
Date Analyzed: 07/27/2012 11:37
Matrix: Water

QC for Samples: 31202362002

Results by SW-846 8260B

	Blank Spike (ug/L)			Spike Duplicate (ug/L)					
Parameter	Spike	Result	Rec (%)	Spike	Result	Rec (%)	CL	RPD (%)	RPD CL
Dichlorodifluoromethane	5.00	5.54	111	5.00	4.85	97	33.0-170	13	30.00
Chloromethane	5.00	4.72	94	5.00	4.65	93	57.0-132	1.5	30.00
Vinyl chloride	5.00	5.20	104	5.00	4.65	93	59.0-138	11	30.00
Bromomethane	5.00	6.28	126	5.00	5.07	101	51.0-134	21	30.00
Chloroethane	5.00	5.47	109	5.00	4.76	95	64.0-145	14	30.00
Trichlorofluoromethane	5.00	5.11	102	5.00	4.57	91	64.0-133	11	30.00
1,1-Dichloroethene	5.00	6.78	136*	5.00	5.91	118	71.0-128	14	30.00
Acetone	25.0	31.2	125	25.0	30.7	123	52.0-140	1.6	30.00
Methylene chloride	5.00	5.25	105	5.00	5.04	101	70.0-113	4.1	30.00
trans-1,2-Dichloroethene	5.00	5.66	113	5.00	5.60	112	57.0-138	1.1	30.00
tert-Butyl methyl ether (MTBE)	5.00	5.60	112	5.00	5.13	103	47.0-142	8.8	30.00
1,1-Dichloroethane	5.00	5.87	117	5.00	5.28	106	68.0-133	11	30.00
Diisopropyl Ether	5.00	5.29	106	5.00	4.84	97	66.0-132	8.9	30.00
2,2-Dichloropropane	5.00	5.36	107	5.00	5.11	102	74.0-125	4.8	30.00
cis-1,2-Dichloroethene	5.00	5.76	115	5.00	5.79	116	73.0-128	0.52	30.00
2-Butanone	25.0	28.4	114	25.0	28.2	113	58.0-134	0.71	30.00
Bromochloromethane	5.00	6.08	122	5.00	5.83	117	73.0-128	4.2	30.00
Chloroform	5.00	5.89	118	5.00	5.44	109	74.0-124	7.9	30.00
1,1,1-Trichloroethane	5.00	5.66	113	5.00	5.11	102	76.0-119	10	30.00
Carbon tetrachloride	5.00	5.48	110	5.00	5.26	105	75.0-120	4.1	30.00
1,1-Dichloropropene	5.00	5.38	108	5.00	5.02	100	76.0-124	6.9	30.00
Benzene	5.00	5.46	109	5.00	5.10	102	76.0-124	6.8	30.00
1,2-Dichloroethane	5.00	5.93	119	5.00	5.06	101	76.0-119	16	30.00
Trichloroethene	5.00	5.29	106	5.00	5.25	105	74.0-121	0.76	30.00
1,2-Dichloropropane	5.00	5.46	109	5.00	4.66	93	74.0-124	16	30.00
Dibromomethane	5.00	5.73	115	5.00	4.98	100	71.0-128	14	30.00
Bromodichloromethane	5.00	5.44	109	5.00	4.99	100	72.0-120	8.6	30.00
cis-1,3-Dichloropropene	5.00	5.73	115	5.00	5.42	108	73.0-122	5.6	30.00
4-Methyl-2-pentanone	25.0	27.2	109	25.0	24.8	99	65.0-124	9.2	30.00
Toluene	5.00	5.59	112	5.00	5.25	105	75.0-123	6.3	30.00
Methyl iodide	5.00	5.15	103	5.00	4.80	96	55.0-123	7.0	30.00
trans-1,3-Dichloropropene	5.00	5.29	106	5.00	4.97	99	70.0-125	6.2	30.00
Carbon disulfide	5.00	5.68	114	5.00	5.24	105	65.0-132	8.1	30.00
1,1,2-Trichloroethane	5.00	5.18	104	5.00	5.12	102	76.0-121	1.2	30.00

Blank Spike Summary

Blank Spike ID: LCS for HBN 26128 [VXX/3716]
Blank Spike Lab ID: 82378
Date Analyzed: 07/27/2012 11:12

Spike Duplicate ID: LCSD for HBN 26128 [VXX/3716]
Spike Duplicate Lab ID: 82379
Date Analyzed: 07/27/2012 11:37
Matrix: Water

QC for Samples: 31202362002

Results by SW-846 8260B

	Blank Spike (ug/L)			Spike Duplicate (ug/L)					
Parameter	Spike	Result	Rec (%)	Spike	Result	Rec (%)	CL	RPD (%)	RPD CL
Tetrachloroethene	5.00	5.06	101	5.00	5.24	105	59.0-112	3.5	30.00
1,3-Dichloropropane	5.00	5.10	102	5.00	4.84	97	74.0-120	5.2	30.00
2-Hexanone	25.0	25.8	103	25.0	23.8	95	56.0-133	8.1	30.00
Dibromochloromethane	5.00	4.95	99	5.00	4.86	97	67.0-122	1.8	30.00
1,2-Dibromoethane	5.00	5.68	114	5.00	5.08	102	74.0-119	11	30.00
Chlorobenzene	5.00	5.24	105	5.00	5.01	100	74.0-120	4.5	30.00
1,1,1,2-Tetrachloroethane	5.00	4.76	95	5.00	4.81	96	73.0-119	1.0	30.00
Bromoform	5.00	4.83	97	5.00	5.16	103	62.0-127	6.6	30.00
Bromobenzene	5.00	5.03	101	5.00	4.74	95	75.0-120	5.9	30.00
1,1,2,2-Tetrachloroethane	5.00	5.24	105	5.00	5.22	104	68.0-129	0.38	30.00
1,2,3-Trichloropropane	5.00	5.21	104	5.00	5.08	102	67.0-126	2.5	30.00
Ethyl Benzene	5.00	5.44	109	5.00	4.97	99	76.0-123	9.0	30.00
m,p-Xylene	10.0	10.9	109	10.0	9.60	96	76.0-124	13	30.00
Styrene	5.00	5.29	106	5.00	4.79	96	76.0-121	9.9	30.00
o-Xylene	5.00	5.48	110	5.00	5.03	101	75.0-124	8.6	30.00
Isopropylbenzene (Cumene)	5.00	5.51	110	5.00	5.02	100	77.0-120	9.3	30.00
n-Propylbenzene	5.00	5.65	113	5.00	5.10	102	77.0-123	10	30.00
2-Chlorotoluene	5.00	5.59	112	5.00	5.10	102	74.0-127	9.2	30.00
4-Chlorotoluene	5.00	5.94	119	5.00	5.14	103	77.0-123	14	30.00
1,3,5-Trimethylbenzene	5.00	5.45	109	5.00	4.81	96	76.0-122	12	30.00
tert-Butylbenzene	5.00	5.46	109	5.00	4.91	98	67.0-122	11	30.00
1,2,4-Trimethylbenzene	5.00	5.38	108	5.00	4.82	96	76.0-124	11	30.00
sec-Butylbenzene	5.00	5.36	107	5.00	4.92	98	78.0-121	8.6	30.00
1,3-Dichlorobenzene	5.00	5.70	114	5.00	5.01	100	75.0-120	13	30.00
4-Isopropyltoluene	5.00	5.34	107	5.00	4.80	96	77.0-120	11	30.00
1,4-Dichlorobenzene	5.00	5.39	108	5.00	5.15	103	70.0-125	4.6	30.00
1,2-Dichlorobenzene	5.00	4.95	99	5.00	5.00	100	76.0-118	1.0	30.00
n-Butylbenzene	5.00	5.17	103	5.00	5.01	100	78.0-118	3.1	30.00
1,2-Dibromo-3-chloropropane	30.0	33.1	110	30.0	28.4	95	62.0-130	15	30.00
1,2,4-Trichlorobenzene	5.00	4.39	88	5.00	4.16	83	72.0-119	5.4	30.00
Hexachlorobutadiene	5.00	5.19	104	5.00	4.07	81	69.0-121	24	30.00
Naphthalene	5.00	4.63	93	5.00	4.40	88	67.0-122	5.1	30.00
trans-1,4-Dichloro-2-butene	25.0	29.1	116	25.0	24.2	97	61.0-132	18	30.00
1,2,3-Trichlorobenzene	5.00	4.77	95	5.00	4.42	88	68.0-123	7.6	30.00

Blank Spike Summary

Blank Spike ID: LCS for HBN 26128 [VXX/3716]
Blank Spike Lab ID: 82378
Date Analyzed: 07/27/2012 11:12

Spike Duplicate ID: LCSD for HBN 26128 [VXX/3716]
Spike Duplicate Lab ID: 82379
Date Analyzed: 07/27/2012 11:37
Matrix: Water

QC for Samples: 31202362002

Results by SW-846 8260B

Parameter	Blank Spike (%) Spike	Result	Rec (%)	Spike Duplicate (%) Spike	Result	Rec (%)	CL	RPD (%)	RPD CL
Surrogates									
1,2-Dichloroethane-d4			111			106	64.0-140		
Toluene d8			105			102	82.0-117		
4-Bromofluorobenzene			98			97	85.0-115		

Batch Information

Analytical Batch: **VMS2417**
Analytical Method: **SW-846 8260B**
Instrument: **MSD8**
Analyst: **DVO**

Prep Batch: **VXX3716**
Prep Method: **SW-846 5030B**
Prep Date/Time: **07/27/2012 10:08**
Spike Init Wt./Vol.: **40 mL** Extract Vol: **40 mL**
Dupe Init Wt./Vol.: **40 mL** Extract Vol: **40 mL**

Batch Summary

Analytical Method: SW-846 8260B

Prep Method: SW-846 5035 SL
Prep Batch: VXX3717
Prep Date: 07/27/2012 10:10

Client Sample ID	Lab Sample ID	Analysis Date	Analytical Batch	Instrument	Analyst
LCS-S for HBN 26131 [VXX/3717]	82389	07/27/2012 11:20	VMS2418	MSD2	DVO
LCSD-S for HBN 26131 [VXX/3717	82390	07/27/2012 11:44	VMS2418	MSD2	DVO
MB-S for HBN 26131 [VXX/3717]	82391	07/27/2012 12:31	VMS2418	MSD2	DVO
197DPT-01 (5.5-6.1ft)	31202362001	07/27/2012 14:58	VMS2418	MSD2	DVO
107DPT-01 (4.5-5ft)(82319DUP)	82697	07/27/2012 17:13	VMS2418	MSD2	DVO
107DPT-02 (5-5.7ft)(82320MS)	82698	07/27/2012 17:37	VMS2418	MSD2	DVO

Method Blank

Blank ID: MB-S for HBN 26131 [VXX/3717]
Blank Lab ID: 82391
QC for Samples:
31202362001

Matrix: Soil-Solid as dry weight

Results by SW-846 8260B

Parameter	Result	Qual	DL	LOQ/CL	Units	DF
Dichlorodifluoromethane	ND	U	0.727	5.00	ug/Kg	1
Chloromethane	ND	U	0.725	5.00	ug/Kg	1
Vinyl chloride	ND	U	0.736	5.00	ug/Kg	1
Bromomethane	ND	U	1.76	5.00	ug/Kg	1
Chloroethane	ND	U	0.460	5.00	ug/Kg	1
Trichlorofluoromethane	ND	U	0.754	5.00	ug/Kg	1
1,1-Dichloroethene	ND	U	0.903	5.00	ug/Kg	1
Acetone	ND	U	1.24	50.0	ug/Kg	1
Methylene chloride	**0.930**	J	0.698	20.0	ug/Kg	1
trans-1,2-Dichloroethene	ND	U	0.861	5.00	ug/Kg	1
tert-Butyl methyl ether (MTBE)	ND	U	0.852	5.00	ug/Kg	1
1,1-Dichloroethane	ND	U	0.863	5.00	ug/Kg	1
Diisopropyl Ether	ND	U	0.898	5.00	ug/Kg	1
2,2-Dichloropropane	ND	U	0.834	5.00	ug/Kg	1
cis-1,2-Dichloroethene	ND	U	0.775	5.00	ug/Kg	1
2-Butanone	ND	U	1.56	25.0	ug/Kg	1
Bromochloromethane	ND	U	0.873	5.00	ug/Kg	1
Chloroform	ND	U	0.812	5.00	ug/Kg	1
1,1,1-Trichloroethane	ND	U	0.778	5.00	ug/Kg	1
Carbon tetrachloride	ND	U	0.870	5.00	ug/Kg	1
1,1-Dichloropropene	ND	U	0.922	5.00	ug/Kg	1
Benzene	ND	U	0.893	5.00	ug/Kg	1
1,2-Dichloroethane	ND	U	0.886	5.00	ug/Kg	1
Trichloroethene	ND	U	0.837	5.00	ug/Kg	1
1,2-Dichloropropane	ND	U	0.805	5.00	ug/Kg	1
Dibromomethane	ND	U	0.812	5.00	ug/Kg	1
Bromodichloromethane	ND	U	0.813	5.00	ug/Kg	1
cis-1,3-Dichloropropene	ND	U	0.861	5.00	ug/Kg	1
4-Methyl-2-pentanone	ND	U	3.21	12.5	ug/Kg	1
Toluene	ND	U	0.810	5.00	ug/Kg	1
Methyl iodide	ND	U	0.846	5.00	ug/Kg	1
trans-1,3-Dichloropropene	ND	U	0.896	5.00	ug/Kg	1
Carbon disulfide	ND	U	0.864	5.00	ug/Kg	1
1,1,2-Trichloroethane	ND	U	1.04	5.00	ug/Kg	1
Tetrachloroethene	ND	U	0.752	5.00	ug/Kg	1
1,3-Dichloropropane	ND	U	0.806	5.00	ug/Kg	1
2-Hexanone	ND	U	1.95	12.5	ug/Kg	1
Dibromochloromethane	ND	U	0.847	5.00	ug/Kg	1
1,2-Dibromoethane	ND	U	0.758	5.00	ug/Kg	1
Chlorobenzene	ND	U	0.774	5.00	ug/Kg	1
1,1,1,2-Tetrachloroethane	ND	U	1.06	5.00	ug/Kg	1
Bromoform	ND	U	0.669	5.00	ug/Kg	1

Print Date: 07/31/2012

N.C. Certification # 481

Method Blank

Blank ID: MB-S for HBN 26131 [VXX/3717]
Blank Lab ID: 82391
QC for Samples:
31202362001

Matrix: Soil-Solid as dry weight

Results by SW-846 8260B

Parameter	Result	Qual	DL	LOQ/CL	Units	DF
Bromobenzene	ND	U	0.986	5.00	ug/Kg	1
1,1,2,2-Tetrachloroethane	ND	U	1.13	5.00	ug/Kg	1
1,2,3-Trichloropropane	ND	U	1.11	5.00	ug/Kg	1
Ethyl Benzene	ND	U	0.827	5.00	ug/Kg	1
m,p-Xylene	ND	U	1.77	10.0	ug/Kg	1
Styrene	ND	U	0.986	5.00	ug/Kg	1
o-Xylene	ND	U	1.01	5.00	ug/Kg	1
Xylene (total)	ND	U	1.77	10.0	ug/Kg	1
Isopropylbenzene (Cumene)	ND	U	0.963	5.00	ug/Kg	1
n-Propylbenzene	ND	U	0.975	5.00	ug/Kg	1
2-Chlorotoluene	ND	U	1.12	5.00	ug/Kg	1
4-Chlorotoluene	ND	U	1.11	5.00	ug/Kg	1
1,3,5-Trimethylbenzene	ND	U	0.984	5.00	ug/Kg	1
tert-Butylbenzene	ND	U	0.906	5.00	ug/Kg	1
1,2,4-Trimethylbenzene	ND	U	1.07	5.00	ug/Kg	1
sec-Butylbenzene	ND	U	1.04	5.00	ug/Kg	1
1,3-Dichlorobenzene	ND	U	1.16	5.00	ug/Kg	1
4-Isopropyltoluene	ND	U	1.04	5.00	ug/Kg	1
1,4-Dichlorobenzene	ND	U	1.10	5.00	ug/Kg	1
1,2-Dichlorobenzene	ND	U	1.29	5.00	ug/Kg	1
n-Butylbenzene	ND	U	1.08	5.00	ug/Kg	1
1,2-Dibromo-3-chloropropane	ND	U	5.81	30.0	ug/Kg	1
1,2,4-Trichlorobenzene	ND	U	1.19	5.00	ug/Kg	1
Hexachlorobutadiene	ND	U	1.37	5.00	ug/Kg	1
Naphthalene	ND	U	1.21	5.00	ug/Kg	1
trans-1,4-Dichloro-2-butene	ND	U	5.41	25.0	ug/Kg	1
1,2,3-Trichlorobenzene	ND	U	1.39	5.00	ug/Kg	1
Surrogates						
1,2-Dichloroethane-d4	100			55.0-173	%	1
Toluene d8	101			57.0-134	%	1
4-Bromofluorobenzene	102			23.0-141	%	1

Batch Information

Analytical Batch: VMS2418
Analytical Method: SW-846 8260B
Instrument: MSD2
Analyst: DVO
Analytical Date/Time: 7/27/2012 12:31:00PM

Prep Batch: VXX3717
Prep Method: SW-846 5035 SL
Prep Date/Time: 7/27/2012 10:10:34AM
Prep Initial Wt./Vol.: 5 g
Prep Extract Vol: 5 mL

Print Date: 07/31/2012

N.C. Certification # 481

Blank Spike Summary

Blank Spike ID: LCS-S for HBN 26131 [VXX/3717]
Blank Spike Lab ID: 82389
Date Analyzed: 07/27/2012 11:20

Spike Duplicate ID: LCSD-S for HBN 26131 [VXX/3717
Spike Duplicate Lab ID: 82390
Matrix: Soil-Solid as dry weight

QC for Samples: 31202362001

Results by SW-846 8260B

	Blank Spike (ug/Kg)			Spike Duplicate (ug/Kg)					
Parameter	Spike	Result	Rec (%)	Spike	Result	Rec (%)	CL	RPD (%)	RPD CL
Dichlorodifluoromethane	30.0	25.0	83	30.0	24.0	80	52.0-133	4.1	30.00
Chloromethane	30.0	27.8	93	30.0	25.9	86	64.0-126	7.1	30.00
Vinyl chloride	30.0	28.2	94	30.0	26.2	87	69.0-120	7.4	30.00
Bromomethane	30.0	28.8	96	30.0	27.1	90	41.0-160	6.1	30.00
Chloroethane	30.0	30.4	101	30.0	27.4	91	69.0-126	10	30.00
Trichlorofluoromethane	30.0	28.5	95	30.0	26.3	88	72.0-123	8.0	30.00
1,1-Dichloroethene	30.0	31.8	106	30.0	28.9	96	78.0-113	9.6	30.00
Acetone	75.0	86.5	115	75.0	92.6	123	0.00-243	6.8	30.00
Methylene chloride	30.0	27.9	93	30.0	24.6	82	40.0-156	13	30.00
trans-1,2-Dichloroethene	30.0	29.1	97	30.0	29.1	97	78.0-111	0.0	30.00
tert-Butyl methyl ether (MTBE)	30.0	28.4	95	30.0	28.7	96	68.0-138	1.1	30.00
1,1-Dichloroethane	30.0	28.6	95	30.0	28.5	95	71.0-121	0.35	30.00
Diisopropyl Ether	30.0	28.4	95	30.0	28.7	96	60.0-141	1.1	30.00
2,2-Dichloropropane	30.0	29.2	97	30.0	28.5	95	79.0-127	2.4	30.00
cis-1,2-Dichloroethene	30.0	28.7	96	30.0	29.6	99	80.0-114	3.1	30.00
2-Butanone	75.0	83.0	111	75.0	90.1	120	31.0-189	8.2	30.00
Bromochloromethane	30.0	30.5	102	30.0	32.3	108	81.0-115	5.7	30.00
Chloroform	30.0	27.4	91	30.0	28.4	95	76.0-114	3.6	30.00
1,1,1-Trichloroethane	30.0	27.6	92	30.0	27.4	91	79.0-117	0.73	30.00
Carbon tetrachloride	30.0	28.4	95	30.0	28.1	94	82.0-119	1.1	30.00
1,1-Dichloropropene	30.0	28.7	96	30.0	28.6	95	82.0-114	0.35	30.00
Benzene	30.0	28.4	95	30.0	28.9	96	82.0-113	1.7	30.00
1,2-Dichloroethane	30.0	28.1	94	30.0	29.1	97	72.0-126	3.5	30.00
Trichloroethene	30.0	28.5	95	30.0	29.0	97	82.0-108	1.7	30.00
1,2-Dichloropropane	30.0	28.5	95	30.0	29.2	97	78.0-116	2.4	30.00
Dibromomethane	30.0	30.9	103	30.0	30.8	103	79.0-125	0.32	30.00
Bromodichloromethane	30.0	27.9	93	30.0	27.8	93	79.0-122	0.36	30.00
cis-1,3-Dichloropropene	30.0	30.6	102	30.0	30.4	101	75.0-127	0.66	30.00
4-Methyl-2-pentanone	75.0	84.0	112	75.0	87.9	117	57.0-159	4.5	30.00
Toluene	30.0	29.7	99	30.0	29.9	100	83.0-111	0.67	30.00
Methyl iodide	30.0	29.0	97	30.0	29.7	99	63.0-137	2.4	30.00
trans-1,3-Dichloropropene	30.0	30.2	101	30.0	30.3	101	75.0-134	0.33	30.00
Carbon disulfide	30.0	26.2	87	30.0	26.6	89	72.0-116	1.5	30.00
1,1,2-Trichloroethane	30.0	31.5	105	30.0	31.6	105	73.0-121	0.32	30.00

Blank Spike Summary

Blank Spike ID: LCS-S for HBN 26131 [VXX/3717]
Blank Spike Lab ID: 82389
Date Analyzed: 07/27/2012 11:20

Spike Duplicate ID: LCSD-S for HBN 26131 [VXX/3717
Spike Duplicate Lab ID: 82390
Matrix: Soil-Solid as dry weight

QC for Samples: 31202362001

Results by SW-846 8260B

	Blank Spike (ug/Kg)			Spike Duplicate (ug/Kg)					
Parameter	Spike	Result	Rec (%)	Spike	Result	Rec (%)	CL	RPD (%)	RPD CL
Tetrachloroethene	30.0	28.9	96	30.0	29.5	98	60.0-118	2.1	30.00
1,3-Dichloropropane	30.0	30.7	102	30.0	30.8	103	76.0-121	0.33	30.00
2-Hexanone	75.0	86.4	115	75.0	93.0	124	41.0-171	7.4	30.00
Dibromochloromethane	30.0	29.8	99	30.0	31.2	104	77.0-126	4.6	30.00
1,2-Dibromoethane	30.0	30.2	101	30.0	32.8	109	76.0-125	8.3	30.00
Chlorobenzene	30.0	29.6	99	30.0	30.2	101	78.0-109	2.0	30.00
1,1,1,2-Tetrachloroethane	30.0	28.4	95	30.0	29.6	99	81.0-117	4.1	30.00
Bromoform	30.0	31.6	105	30.0	33.9	113	72.0-134	7.0	30.00
Bromobenzene	30.0	28.8	96	30.0	28.9	96	76.0-113	0.35	30.00
1,1,2,2-Tetrachloroethane	30.0	31.4	105	30.0	33.6	112	76.0-129	6.8	30.00
1,2,3-Trichloropropane	30.0	32.2	107	30.0	34.1	114	70.0-145	5.7	30.00
Ethyl Benzene	30.0	29.0	97	30.0	28.8	96	72.0-115	0.69	30.00
m,p-Xylene	60.0	58.2	97	60.0	57.8	96	73.0-114	0.69	30.00
Styrene	30.0	28.9	96	30.0	28.6	95	74.0-114	1.0	30.00
o-Xylene	30.0	29.3	98	30.0	28.8	96	74.0-113	1.7	30.00
Isopropylbenzene (Cumene)	30.0	29.3	98	30.0	28.8	96	72.0-115	1.7	30.00
n-Propylbenzene	30.0	30.1	100	30.0	29.7	99	71.0-117	1.3	30.00
2-Chlorotoluene	30.0	30.3	101	30.0	29.4	98	76.0-111	3.0	30.00
4-Chlorotoluene	30.0	28.8	96	30.0	28.7	96	75.0-113	0.35	30.00
1,3,5-Trimethylbenzene	30.0	29.4	98	30.0	28.9	96	72.0-115	1.7	30.00
tert-Butylbenzene	30.0	29.0	97	30.0	28.7	96	74.0-112	1.0	30.00
1,2,4-Trimethylbenzene	30.0	29.6	99	30.0	29.1	97	73.0-114	1.7	30.00
sec-Butylbenzene	30.0	28.9	96	30.0	28.4	95	72.0-115	1.7	30.00
1,3-Dichlorobenzene	30.0	29.4	98	30.0	29.8	99	75.0-110	1.4	30.00
4-Isopropyltoluene	30.0	29.2	97	30.0	28.7	96	73.0-114	1.7	30.00
1,4-Dichlorobenzene	30.0	29.4	98	30.0	29.7	99	76.0-110	1.0	30.00
1,2-Dichlorobenzene	30.0	29.6	99	30.0	29.7	99	77.0-109	0.34	30.00
n-Butylbenzene	30.0	29.4	98	30.0	29.4	98	72.0-118	0.0	30.00
1,2-Dibromo-3-chloropropane	180	206	114	180	223	124	54.0-166	7.9	30.00
1,2,4-Trichlorobenzene	30.0	27.9	93	30.0	28.4	95	76.0-115	1.8	30.00
Hexachlorobutadiene	30.0	27.5	92	30.0	26.8	89	70.0-111	2.6	30.00
Naphthalene	30.0	32.2	107	30.0	32.9	110	71.0-129	2.2	30.00
trans-1,4-Dichloro-2-butene	150	159	106	150	164	109	62.0-164	3.1	30.00
1,2,3-Trichlorobenzene	30.0	30.0	100	30.0	29.9	100	78.0-115	0.33	30.00

Blank Spike Summary

Blank Spike ID: LCS-S for HBN 26131 [VXX/3717]
Blank Spike Lab ID: 82389
Date Analyzed: 07/27/2012 11:20

Spike Duplicate ID: LCSD-S for HBN 26131 [VXX/3717
Spike Duplicate Lab ID: 82390
Matrix: Soil-Solid as dry weight

QC for Samples: 31202362001

Results by SW-846 8260B

	Blank Spike (%)			Spike Duplicate (%)					
Parameter	Spike	Result	Rec (%)	Spike	Result	Rec (%)	CL	RPD (%)	RPD CL
Surrogates									
1,2-Dichloroethane-d4			101			102	55.0-173		
Toluene d8			99			100	57.0-134		
4-Bromofluorobenzene			102			103	23.0-141		

Batch Information

Analytical Batch: **VMS2418**
Analytical Method: **SW-846 8260B**
Instrument: **MSD2**
Analyst: **DVO**

Prep Batch: **VXX3717**
Prep Method: **SW-846 5035 SL**
Prep Date/Time: **07/27/2012 10:10**
Spike Init Wt./Vol.: **5 g** Extract Vol: **5 mL**
Dupe Init Wt./Vol.: **5 g** Extract Vol: **5 mL**

Batch Summary

Analytical Method: SW-846 8270D

Prep Method: SW-846 3541
Prep Batch: XXX2863
Prep Date: 07/27/2012 10:01

Client Sample ID	Lab Sample ID	Analysis Date	Analytical Batch	Instrument	Analyst
MB for HBN 26126 [XXX/2863]	82374	07/30/2012 15:09	XMS1614	MSD10	CMP
LCS for HBN 26126 [XXX/2863]	82375	07/30/2012 15:55	XMS1614	MSD10	CMP
107DPT-01 (4.5-5ft)(82319MS)	82376	07/30/2012 17:27	XMS1614	MSD10	CMP
107DPT-01 (4.5-5ft)(82319MSD)	82377	07/30/2012 17:50	XMS1614	MSD10	CMP
197DPT-01 (5.5-6.1ft)	31202362001	07/30/2012 18:58	XMS1614	MSD10	CMP

Print Date: 07/31/2012

N.C. Certification # 481

Method Blank

Blank ID: MB for HBN 26126 [XXX/2863]
Blank Lab ID: 82374
QC for Samples:
31202362001

Matrix: Soil-Solid as dry weight

Results by **SW-846 8270D**

Parameter	Result	Qual	DL	LOQ/CL	Units	DF
Phenol	ND	U	29.2	313	ug/Kg	1
Bis(2-Chloroethyl)ether	ND	U	29.2	313	ug/Kg	1
2-Chlorophenol	ND	U	16.6	313	ug/Kg	1
1,3-Dichlorobenzene	ND	U	21.1	313	ug/Kg	1
1,4-Dichlorobenzene	ND	U	22.1	313	ug/Kg	1
1,2-Dichlorobenzene	ND	U	15.6	313	ug/Kg	1
2-Methylphenol	ND	U	17.3	313	ug/Kg	1
3 and/or 4-Methylphenol	ND	U	20.3	313	ug/Kg	1
Bis(2-Chloroisopropyl)ether	ND	U	27.3	313	ug/Kg	1
n-Nitrosodi-n-propylamine	ND	U	89.6	313	ug/Kg	1
Hexachloroethane	ND	U	18.0	313	ug/Kg	1
Nitrobenzene	ND	U	18.0	313	ug/Kg	1
Isophorone	ND	U	14.2	313	ug/Kg	1
2-Nitrophenol	ND	U	15.0	313	ug/Kg	1
2,4-Dimethylphenol	ND	U	22.9	313	ug/Kg	1
Bis(2-Chloroethoxy)methane	ND	U	14.1	313	ug/Kg	1
2,4-Dichlorophenol	ND	U	18.1	313	ug/Kg	1
1,2,4-Trichlorobenzene	ND	U	27.6	313	ug/Kg	1
Naphthalene	ND	U	27.0	313	ug/Kg	1
4-Chloroaniline	ND	U	25.0	313	ug/Kg	1
Hexachlorobutadiene	ND	U	18.7	313	ug/Kg	1
4-Chloro-3-methylphenol	ND	U	15.6	313	ug/Kg	1
2-Methylnaphthalene	ND	U	25.3	313	ug/Kg	1
Hexachlorocyclopentadiene	ND	U	94.7	313	ug/Kg	1
2,4,5-Trichlorophenol	ND	U	20.9	313	ug/Kg	1
2,4,6-Trichlorophenol	ND	U	21.2	313	ug/Kg	1
2-Chloronaphthalene	ND	U	18.4	313	ug/Kg	1
2-Nitroaniline	ND	U	20.6	313	ug/Kg	1
3-Nitroaniline	ND	U	14.1	313	ug/Kg	1
Dimethyl phthalate	ND	U	24.0	313	ug/Kg	1
2,6-Dinitrotoluene	ND	U	22.4	313	ug/Kg	1
Acenaphthene	ND	U	14.2	313	ug/Kg	1
2,4-Dinitrophenol	ND	U	29.0	625	ug/Kg	1
4-Nitrophenol	ND	U	30.8	313	ug/Kg	1
Dibenzofuran	ND	U	24.5	313	ug/Kg	1
2,4-Dinitrotoluene	ND	U	15.8	313	ug/Kg	1
Fluorene	ND	U	16.6	313	ug/Kg	1
Diethyl phthalate	ND	U	16.9	313	ug/Kg	1
4-Chlorophenyl phenyl ether	ND	U	33.4	313	ug/Kg	1
4-Nitroaniline	ND	U	18.0	313	ug/Kg	1
4,6-Dinitro-2-methylphenol	ND	U	14.7	313	ug/Kg	1
Diphenylamine	ND	U	14.1	313	ug/Kg	1

Print Date: 07/31/2012

N.C. Certification # 481

Method Blank

Blank ID: MB for HBN 26126 [XXX/2863]
Blank Lab ID: 82374
QC for Samples:
31202362001

Matrix: Soil-Solid as dry weight

Results by SW-846 8270D

Parameter	Result	Qual	DL	LOQ/CL	Units	DF
4-Bromophenyl phenyl ether	ND	U	20.6	313	ug/Kg	1
Hexachlorobenzene	ND	U	29.6	313	ug/Kg	1
Pentachlorophenol	ND	U	25.0	313	ug/Kg	1
Phenanthrene	ND	U	20.6	313	ug/Kg	1
Anthracene	ND	U	13.9	313	ug/Kg	1
Di-n-butyl phthalate	ND	U	14.8	313	ug/Kg	1
Fluoranthene	ND	U	29.4	313	ug/Kg	1
Pyrene	ND	U	13.2	313	ug/Kg	1
Butyl benzyl phthalate	ND	U	27.2	313	ug/Kg	1
Benzo(a)anthracene	ND	U	17.2	313	ug/Kg	1
3,3'-Dichlorobenzidine	ND	U	15.0	313	ug/Kg	1
Chrysene	ND	U	36.4	313	ug/Kg	1
Bis(2-Ethylhexyl)phthalate	ND	U	15.0	313	ug/Kg	1
Di-n-octyl phthalate	ND	U	17.3	313	ug/Kg	1
Benzo(b)fluoranthene	ND	U	18.0	313	ug/Kg	1
Benzo(k)fluoranthene	ND	U	37.5	313	ug/Kg	1
Benzo(a)pyrene	ND	U	17.7	313	ug/Kg	1
Indeno(1,2,3-cd)pyrene	ND	U	24.4	313	ug/Kg	1
Dibenz(a,h)anthracene	ND	U	14.1	313	ug/Kg	1
Benzo(g,h,i)perylene	ND	U	49.8	313	ug/Kg	1
Benzoic acid	ND	U	6.94	313	ug/Kg	1
Acenaphthylene	ND	U	13.2	313	ug/Kg	1
Surrogates						
2-Fluorophenol	62.0			42.0-123	%	1
Phenol-d6	74.0			48.0-125	%	1
Nitrobenzene-d5	73.0			46.0-117	%	1
2-Fluorobiphenyl	83.0			48.0-123	%	1
2,4,6-Tribromophenol	90.0			41.0-129	%	1
Terphenyl-d14	113			44.0-140	%	1

Batch Information

Analytical Batch: XMS1614
Analytical Method: SW-846 8270D
Instrument: MSD10
Analyst: CMP
Analytical Date/Time: 7/30/2012 3:09:00PM

Prep Batch: XXX2863
Prep Method: SW-846 3541
Prep Date/Time: 7/27/2012 10:01:47AM
Prep Initial Wt./Vol.: 32 g
Prep Extract Vol: 10 mL

Print Date: 07/31/2012

N.C. Certification # 481

Blank Spike Summary

Blank Spike ID: LCS for HBN 26126 [XXX/2863]
Blank Spike Lab ID: 82375
Date Analyzed: 07/30/2012 15:55

Matrix: Soil-Solid as dry weight

QC for Samples: 31202362001

Results by SW-846 8270D

Blank Spike (ug/Kg)

Parameter	Spike	Result	Rec (%)	CL
Phenol	3130	2870	92	67.0-112
Bis(2-Chloroethyl)ether	3130	2690	86	63.0-116
2-Chlorophenol	3130	2850	91	67.0-109
1,3-Dichlorobenzene	3130	2770	89	66.0-109
1,4-Dichlorobenzene	3130	2790	89	65.0-112
1,2-Dichlorobenzene	3130	2820	90	67.0-110
2-Methylphenol	3130	2890	93	68.0-110
3 and/or 4-Methylphenol	6250	6020	96	66.0-113
Bis(2-Chloroisopropyl)ether	3130	2610	84	64.0-114
n-Nitrosodi-n-propylamine	3130	2720	87	66.0-111
Hexachloroethane	3130	2680	86	64.0-110
Nitrobenzene	3130	2770	88	69.0-112
Isophorone	3130	2990	96	69.0-108
2-Nitrophenol	3130	3060	98	65.0-117
2,4-Dimethylphenol	3130	2880	92	69.0-112
Bis(2-Chloroethoxy)methane	3130	2970	95	68.0-112
Benzoic acid	3130	1550	50	0.00-203
2,4-Dichlorophenol	3130	3080	99	67.0-118
1,2,4-Trichlorobenzene	3130	3030	97	65.0-114
Naphthalene	3130	3060	98	70.0-111
4-Chloroaniline	3130	2340	75	41.0-93.0
Hexachlorobutadiene	3130	2970	95	63.0-124
4-Chloro-3-methylphenol	3130	2990	96	70.0-114
2-Methylnaphthalene	3130	3080	98	69.0-110
Hexachlorocyclopentadiene	3130	3070	98	0.00-1080
2,4,5-Trichlorophenol	3130	3340	107	66.0-119
2,4,6-Trichlorophenol	3130	3250	104	67.0-119
2-Chloronaphthalene	3130	2810	90	57.0-96.0
2-Nitroaniline	3130	2380	76	61.0-100
3-Nitroaniline	3130	2520	81	48.0-103
Dimethyl phthalate	3130	2990	96	69.0-118
2,6-Dinitrotoluene	3130	3070	98	69.0-122
Acenaphthene	3130	3010	96	68.0-111
2,4-Dinitrophenol	3130	3070	98	12.0-125

Print Date: 07/31/2012

N.C. Certification # 481

Blank Spike Summary

Blank Spike ID: LCS for HBN 26126 [XXX/2863]
Blank Spike Lab ID: 82375
Date Analyzed: 07/30/2012 15:55

Matrix: Soil-Solid as dry weight

QC for Samples: 31202362001

Results by SW-846 8270D

Blank Spike (ug/Kg)

Parameter	Spike	Result	Rec (%)	CL
4-Nitrophenol	3130	2330	75	45.0-120
Dibenzofuran	3130	3080	98	71.0-114
2,4-Dinitrotoluene	3130	3140	101	68.0-123
Fluorene	3130	3020	97	66.0-116
Diethyl phthalate	3130	2990	96	68.0-114
4-Chlorophenyl phenyl ether	3130	3060	98	66.0-120
4-Nitroaniline	3130	2730	87	66.0-114
4,6-Dinitro-2-methylphenol	3130	4020	129*	24.0-123
Diphenylamine	3130	3340	107	60.0-118
4-Bromophenyl phenyl ether	3130	3420	110	63.0-118
Hexachlorobenzene	3130	3090	99	62.0-112
Pentachlorophenol	3130	4030	129*	34.0-125
Phenanthrene	3130	3450	110	60.0-122
Anthracene	3130	3440	110	63.0-113
Di-n-butyl phthalate	3130	3490	112	64.0-121
Fluoranthene	3130	3500	112	64.0-118
Pyrene	3130	3200	102	67.0-116
Butyl benzyl phthalate	3130	2900	93	68.0-118
Benzo(a)anthracene	3130	3150	101	65.0-118
3,3'-Dichlorobenzidine	3130	2720	87	54.0-118
Chrysene	3130	3200	102	66.0-118
Bis(2-Ethylhexyl)phthalate	3130	2900	93	67.0-123
Di-n-octyl phthalate	3130	3020	97	62.0-131
Benzo(b)fluoranthene	3130	2790	89	63.0-119
Benzo(k)fluoranthene	3130	3360	107	69.0-118
Benzo(a)pyrene	3130	3230	103	69.0-113
Indeno(1,2,3-cd)pyrene	3130	3310	106	64.0-123
Dibenz(a,h)anthracene	3130	3250	104	64.0-123
Benzo(g,h,i)perylene	3130	3390	108	57.0-128
Acenaphthylene	3130	3200	102	72.0-115
Surrogates				
2-Fluorophenol			78	42.0-123
Phenol-d6			93	48.0-125
Nitrobenzene-d5			89	46.0-117

Print Date: 07/31/2012

N.C. Certification # 481

Blank Spike Summary

Blank Spike ID: LCS for HBN 26126 [XXX/2863]
Blank Spike Lab ID: 82375
Date Analyzed: 07/30/2012 15:55

Matrix: Soil-Solid as dry weight

QC for Samples: 31202362001

Results by SW-846 8270D

		Blank Spike (%)		
Parameter	Spike	Result	Rec (%)	CL
2-Fluorobiphenyl			98	48.0-123
2,4,6-Tribromophenol			119	41.0-129
Terphenyl-d14			98	44.0-140

Batch Information

Analytical Batch: XMS1614
Analytical Method: SW-846 8270D
Instrument: MSD10
Analyst: CMP

Prep Batch: XXX2863
Prep Method: SW-846 3541
Prep Date/Time: 07/27/2012 10:01
Spike Init Wt./Vol.: 32 g Extract Vol: 10 mL
Dupe Init Wt./Vol.: Extract Vol:

Print Date: 07/31/2012

N.C. Certification # 481

CHAIN OF CUSTODY

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

CLIENT: CATLIN / NCDOT
CONTACT: Ben Ashbee CATLIN PHONE NO: (910) 452-5861
PROJECT: NCDOT Parcel 197 SITE / PWSID / WBS #: 35781.1.2 U-3515 Pitt County
REPORTS TO: Ben e CATLIN
EMAIL: ben.ashbee@catlinusa.com
INVOICE TO: NCDOT QUOTE # P.O. NUMBER NCDOT

SGS Reference #: 3120236 2

PAGE 1 OF 1

LAB NO.	SAMPLE IDENTIFICATION	DATE	TIME	MATRIX	# CONTAINERS	SAMPLE TYPE (C=COMP, G=GRAB)	PRESERVATIVES USED: Std. Basic, HNO3, HCl	ANALYSIS REQUIRED: 8260 8270	8260 [illegible]	REMARKS
	197 DPT-01 (5.5-6.1')	7-25-12	1000	SOIL	5	G		✓		eCB1105
	197 DPT-01	7-26-12	1305	H2O	2	G			✓	

COLLECTED/RELINQUISHED BY: (1) Ben Ashbee — **DATE** 7-26-12 — **TIME** 1642 — **RECEIVED BY:**

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

REQUESTED TURNAROUND TIME: ☐ Rush: _____ ☒ Standard

Relinquished By: (2) | Date | Time | Received By:

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

Relinquished By: (3) | Date | Time | Received By:

SPECIAL INSTRUCTIONS:

Received For Laboratory By: | Date | Time | CoC Seal: INTACT BROKEN ABSENT | Sample Receipt Temp: C: 0.8°C | Shipping Carrier: | Shipping Ticket No: | Notes:

White - Retained by Lab
Yellow - Retained by Client

SGS North America Inc.

Sample Receipt Checklist (SRC)

Client: **NCDOT-Catlin** Work Order No.: **31202362**

1. ___ Shipped
   X Hand Delivered
2. X COC Present on Receipt
   ___ No COC
   ___ Additional Transmittal Forms
3. ___ Custody Tape on Container
   X No Custody Tape
4. X Samples Intact
   ___ Samples Broken / Leaking
5. X Chilled on Receipt Actual Temp.(s) in °C: 0.8
   ___ Ambient on Receipt
   ___ Walk-in on Ice; Coming down to temp.
   ___ Received Outside of Temperature Specifications
6. X Sufficient Sample Submitted
   ___ Insufficient Sample Submitted
7. ___ Chlorine absent
   ___ HNO3 < 2
   ___ HCL < 2
   ___ Additional Preservatives verified (see notes)
8. X Received Within Holding Time
   ___ Not Received Within Holding Time
9. X No Discrepancies Noted
   ___ Discrepancies Noted
   ___ NCDENR notified of Discrepancies*
10. X No Headspace present in VOC vials
    ___ Headspace present in VOC vials >6mm

Notes:

Comments:

Inspected and Logged in by: JJ

Date: Fri-7/27/12 00:00

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

SGS ANALYTICAL PERSPECTIVES

Laboratory Report of Analysis

To: Ben Ashba
RICHARD CATLIN & ASSOCIATES
P.O. Box 10279
Wilmington, NC 28404

Report Number: **31202434**

Client Project: **NCDOT Parcel 197**

Dear Ben Ashba,

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 Barbara A. Hager 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.

Barbara A. Hager
2012.08.09 10:45:50 -05'00'

Barbara A. Hager — Date
Project Manager
barbara.hager@sgs.com

Print Date: 08/09/2012 N.C. Certification # 481

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
M2	Software did not integrate peak
M3	Incorrect baseline construction (i.e. not all of peak included; two peaks integrated as one)
M4	Pattern integration required (i.e. DRO, GRO, PCB, Toxaphene and Technical Chlordane)
M5	Other - Explained in case narrative

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

Print Date: 08/09/2012 N.C. Certification # 481

Sample Summary

Client Sample ID	Lab Sample ID	Collected	Received	Matrix
197 DPT-01	31202434001	07/31/2012 13:00	08/01/2012 16:55	Water

Print Date: 08/09/2012

N.C. Certification # 481

Detectable Results Summary

Client Sample ID: **197 DPT-01**
Lab Sample ID: 31202434001-A
SW-846 8270D

Parameter	Result	Units	
Dimethyl phthalate	3.33	ug/L	J

Print Date: 08/09/2012

N.C. Certification # 481

SGS ANALYTICAL PERSPECTIVES

Results of 197 DPT-01

Client Sample ID: **197 DPT-01**
Client Project ID: **NCDOT Parcel 197**
Lab Sample ID: 31202434001-A
Lab Project ID: 31202434

Collection Date: 07/31/2012 13:00
Received Date: 08/01/2012 16:55
Matrix: Water

Results by SW-846 8270D

Parameter	Result	Qual	DL	LOQ/CL	Units	DF	Date Analyzed
1,2,4-Trichlorobenzene	ND	U	1.77	5.12	ug/L	1	08/3/2012 16:54
1,2-Dichlorobenzene	ND	U	1.75	5.12	ug/L	1	08/3/2012 16:54
1,3-Dichlorobenzene	ND	U	1.69	5.12	ug/L	1	08/3/2012 16:54
1,4-Dichlorobenzene	ND	U	1.67	5.12	ug/L	1	08/3/2012 16:54
2,4,5-Trichlorophenol	ND	U	2.13	5.12	ug/L	1	08/3/2012 16:54
2,4,6-Trichlorophenol	ND	U	2.08	5.12	ug/L	1	08/3/2012 16:54
2,4-Dichlorophenol	ND	U	2.11	5.12	ug/L	1	08/3/2012 16:54
2,4-Dinitrophenol	ND	U	0.684	25.6	ug/L	1	08/3/2012 16:54
2,4-Dinitrotoluene	ND	U	1.89	5.12	ug/L	1	08/3/2012 16:54
2,6-Dinitrotoluene	ND	U	1.93	5.12	ug/L	1	08/3/2012 16:54
2-Chloronaphthalene	ND	U	2.05	5.12	ug/L	1	08/3/2012 16:54
2-Chlorophenol	ND	U	2.88	5.12	ug/L	1	08/3/2012 16:54
2-Methylnaphthalene	ND	U	1.99	5.12	ug/L	1	08/3/2012 16:54
2-Methylphenol	ND	U	2.12	5.12	ug/L	1	08/3/2012 16:54
2-Nitroaniline	ND	U	1.73	5.12	ug/L	1	08/3/2012 16:54
2-Nitrophenol	ND	U	2.02	5.12	ug/L	1	08/3/2012 16:54
3 and/or 4-Methylphenol	ND	U	2.30	5.12	ug/L	1	08/3/2012 16:54
3,3'-Dichlorobenzidine	ND	U	1.79	10.2	ug/L	1	08/3/2012 16:54
3-Nitroaniline	ND	U	1.69	25.6	ug/L	1	08/3/2012 16:54
4,6-Dinitro-2-methylphenol	ND	U	0.506	25.6	ug/L	1	08/3/2012 16:54
4-Chloro-3-methylphenol	ND	U	2.03	5.12	ug/L	1	08/3/2012 16:54
4-Chloroaniline	ND	U	1.93	25.6	ug/L	1	08/3/2012 16:54
4-Chlorophenyl phenyl ether	ND	U	2.52	5.12	ug/L	1	08/3/2012 16:54
Acenaphthene	ND	U	2.11	5.12	ug/L	1	08/3/2012 16:54
Acenaphthylene	ND	U	2.05	5.12	ug/L	1	08/3/2012 16:54
Anthracene	ND	U	1.98	5.12	ug/L	1	08/3/2012 16:54
Benzo(a)anthracene	ND	U	2.01	5.12	ug/L	1	08/3/2012 16:54
Benzo(a)pyrene	ND	U	1.91	5.12	ug/L	1	08/3/2012 16:54
Benzo(b)fluoranthene	ND	U	2.01	5.12	ug/L	1	08/3/2012 16:54
Benzo(g,h,i)perylene	ND	U	2.20	5.12	ug/L	1	08/3/2012 16:54
Benzo(k)fluoranthene	ND	U	2.37	5.12	ug/L	1	08/3/2012 16:54
Benzoic acid	ND	U	2.34	5.12	ug/L	1	08/3/2012 16:54
Bis(2-Chloroethoxy)methane	ND	U	2.17	5.12	ug/L	1	08/3/2012 16:54
Bis(2-Chloroethyl)ether	ND	U	2.26	5.12	ug/L	1	08/3/2012 16:54
Bis(2-Chloroisopropyl)ether	ND	U	2.09	5.12	ug/L	1	08/3/2012 16:54
Bis(2-Ethylhexyl)phthalate	ND	U	2.00	5.12	ug/L	1	08/3/2012 16:54
4-Bromophenyl phenyl ether	ND	U	2.09	5.12	ug/L	1	08/3/2012 16:54
Butyl benzyl phthalate	ND	U	1.94	5.12	ug/L	1	08/3/2012 16:54
Chrysene	ND	U	2.25	5.12	ug/L	1	08/3/2012 16:54
Di-n-butyl phthalate	ND	U	1.96	5.12	ug/L	1	08/3/2012 16:54
Di-n-octyl phthalate	ND	U	1.50	5.12	ug/L	1	08/3/2012 16:54
Dibenz(a,h)anthracene	ND	U	2.07	5.12	ug/L	1	08/3/2012 16:54
Dibenzofuran	ND	U	2.27	5.12	ug/L	1	08/3/2012 16:54
Diethyl phthalate	ND	U	2.15	5.12	ug/L	1	08/3/2012 16:54

Print Date: 08/09/2012

N.C. Certification # 481

Results of 197 DPT-01

Client Sample ID: **197 DPT-01**
Client Project ID: **NCDOT Parcel 197**
Lab Sample ID: 31202434001-A
Lab Project ID: 31202434

Collection Date: 07/31/2012 13:00
Received Date: 08/01/2012 16:55
Matrix: Water

Results by SW-846 8270D

Parameter	Result	Qual	DL	LOQ/CL	Units	DF	Date Analyzed
Dimethyl phthalate	3.33	J	2.19	5.12	ug/L	1	08/3/2012 16:54
2,4-Dimethylphenol	ND	U	2.26	5.12	ug/L	1	08/3/2012 16:54
Diphenylamine	ND	U	2.07	5.12	ug/L	1	08/3/2012 16:54
Fluoranthene	ND	U	2.07	5.12	ug/L	1	08/3/2012 16:54
Fluorene	ND	U	2.50	5.12	ug/L	1	08/3/2012 16:54
Hexachlorobenzene	ND	U	1.98	5.12	ug/L	1	08/3/2012 16:54
Hexachlorobutadiene	ND	U	1.56	5.12	ug/L	1	08/3/2012 16:54
Hexachlorocyclopentadiene	ND	U	0.807	10.2	ug/L	1	08/3/2012 16:54
Hexachloroethane	ND	U	1.43	5.12	ug/L	1	08/3/2012 16:54
Indeno(1,2,3-cd)pyrene	ND	U	2.07	5.12	ug/L	1	08/3/2012 16:54
Isophorone	ND	U	2.14	5.12	ug/L	1	08/3/2012 16:54
Naphthalene	ND	U	1.99	5.12	ug/L	1	08/3/2012 16:54
4-Nitroaniline	ND	U	1.72	25.6	ug/L	1	08/3/2012 16:54
Nitrobenzene	ND	U	2.24	5.12	ug/L	1	08/3/2012 16:54
4-Nitrophenol	ND	U	1.30	25.6	ug/L	1	08/3/2012 16:54
Pentachlorophenol	ND	U	1.59	25.6	ug/L	1	08/3/2012 16:54
Phenanthrene	ND	U	2.04	5.12	ug/L	1	08/3/2012 16:54
Phenol	ND	U	2.42	5.12	ug/L	1	08/3/2012 16:54
Pyrene	ND	U	2.06	5.12	ug/L	1	08/3/2012 16:54
n-Nitrosodi-n-propylamine	ND	U	2.28	5.12	ug/L	1	08/3/2012 16:54
Surrogates							
2,4,6-Tribromophenol	100			29.3-152	%	1	08/3/2012 16:54
2-Fluorobiphenyl	82.0			50.0-107	%	1	08/3/2012 16:54
2-Fluorophenol	82.0			33.1-118	%	1	08/3/2012 16:54
Nitrobenzene-d5	96.0			46.0-118	%	1	08/3/2012 16:54
Phenol-d6	98.0			49.0-120	%	1	08/3/2012 16:54
Terphenyl-d14	100			22.1-142	%	1	08/3/2012 16:54

Batch Information

Analytical Batch: **XMS1622**
Analytical Method: **SW-846 8270D**
Instrument: **MSD10**
Analyst: **CMP**
Analytical Date/Time: **08/03/2012 16:54**

Prep Batch: **XXX2883**
Prep Method: **SW-846 3520C**
Prep Date/Time: **08/02/2012 16:51**
Prep Initial Wt./Vol.: **976 mL**
Prep Extract Vol: **5 mL**

Print Date: 08/09/2012

N.C. Certification # 481

Batch Summary

Analytical Method: SW-846 8270D

Prep Method: SW-846 3520C
Prep Batch: XXX2883
Prep Date: 08/02/2012 16:51

Client Sample ID	Lab Sample ID	Analysis Date	Analytical Batch	Instrument	Analyst
MB for HBN 26413 [XXX/2883]	83388	08/03/2012 14:37	XMS1622	MSD10	CMP
LCS for HBN 26413 [XXX/2883]	83389	08/03/2012 15:23	XMS1622	MSD10	CMP
Sludge Sample(82676MS)	83390	08/03/2012 16:08	XMS1622	MSD10	CMP
Sludge Sample(82676MSD)	83391	08/03/2012 16:31	XMS1622	MSD10	CMP
197 DPT-01	31202434001	08/03/2012 16:54	XMS1622	MSD10	CMP

Method Blank

Blank ID: MB for HBN 26413 [XXX/2883]
Blank Lab ID: 83388
QC for Samples:
31202434001

Matrix: Water

Results by **SW-846 8270D**

Parameter	Result	Qual	DL	LOQ/CL	Units	DF
Phenol	ND	U	2.36	5.00	ug/L	1
Bis(2-Chloroethyl)ether	ND	U	2.21	5.00	ug/L	1
2-Chlorophenol	ND	U	2.81	5.00	ug/L	1
1,3-Dichlorobenzene	ND	U	1.65	5.00	ug/L	1
1,4-Dichlorobenzene	ND	U	1.63	5.00	ug/L	1
1,2-Dichlorobenzene	ND	U	1.71	5.00	ug/L	1
2-Methylphenol	ND	U	2.07	5.00	ug/L	1
3 and/or 4-Methylphenol	ND	U	2.24	5.00	ug/L	1
Bis(2-Chloroisopropyl)ether	ND	U	2.04	5.00	ug/L	1
n-Nitrosodi-n-propylamine	ND	U	2.23	5.00	ug/L	1
Hexachloroethane	ND	U	1.40	5.00	ug/L	1
Nitrobenzene	ND	U	2.19	5.00	ug/L	1
Isophorone	ND	U	2.09	5.00	ug/L	1
2-Nitrophenol	ND	U	1.97	5.00	ug/L	1
2,4-Dimethylphenol	ND	U	2.21	5.00	ug/L	1
Bis(2-Chloroethoxy)methane	ND	U	2.12	5.00	ug/L	1
2,4-Dichlorophenol	ND	U	2.06	5.00	ug/L	1
1,2,4-Trichlorobenzene	ND	U	1.73	5.00	ug/L	1
Naphthalene	ND	U	1.94	5.00	ug/L	1
4-Chloroaniline	ND	U	1.88	25.0	ug/L	1
Hexachlorobutadiene	ND	U	1.52	5.00	ug/L	1
4-Chloro-3-methylphenol	ND	U	1.98	5.00	ug/L	1
2-Methylnaphthalene	ND	U	1.94	5.00	ug/L	1
Hexachlorocyclopentadiene	ND	U	0.788	10.0	ug/L	1
2,4,5-Trichlorophenol	ND	U	2.08	5.00	ug/L	1
2,4,6-Trichlorophenol	ND	U	2.03	5.00	ug/L	1
2-Chloronaphthalene	ND	U	2.00	5.00	ug/L	1
2-Nitroaniline	ND	U	1.69	5.00	ug/L	1
3-Nitroaniline	ND	U	1.65	25.0	ug/L	1
Dimethyl phthalate	ND	U	2.14	5.00	ug/L	1
2,6-Dinitrotoluene	ND	U	1.88	5.00	ug/L	1
Acenaphthene	ND	U	2.06	5.00	ug/L	1
2,4-Dinitrophenol	ND	U	0.668	25.0	ug/L	1
4-Nitrophenol	ND	U	1.27	25.0	ug/L	1
Dibenzofuran	ND	U	2.22	5.00	ug/L	1
2,4-Dinitrotoluene	ND	U	1.84	5.00	ug/L	1
Fluorene	ND	U	2.44	5.00	ug/L	1
Diethyl phthalate	ND	U	2.10	5.00	ug/L	1
4-Chlorophenyl phenyl ether	ND	U	2.46	5.00	ug/L	1
4-Nitroaniline	ND	U	1.68	25.0	ug/L	1
4,6-Dinitro-2-methylphenol	ND	U	0.494	25.0	ug/L	1
Diphenylamine	ND	U	2.02	5.00	ug/L	1

Print Date: 08/09/2012

N.C. Certification # 481

Method Blank

Blank ID: MB for HBN 26413 [XXX/2883]
Blank Lab ID: 83388
QC for Samples:
31202434001

Matrix: Water

Results by SW-846 8270D

Parameter	Result	Qual	DL	LOQ/CL	Units	DF
4-Bromophenyl phenyl ether	ND	U	2.04	5.00	ug/L	1
Hexachlorobenzene	ND	U	1.93	5.00	ug/L	1
Pentachlorophenol	ND	U	1.55	25.0	ug/L	1
Phenanthrene	ND	U	1.99	5.00	ug/L	1
Anthracene	ND	U	1.93	5.00	ug/L	1
Di-n-butyl phthalate	ND	U	1.91	5.00	ug/L	1
Fluoranthene	ND	U	2.02	5.00	ug/L	1
Pyrene	ND	U	2.01	5.00	ug/L	1
Butyl benzyl phthalate	ND	U	1.89	5.00	ug/L	1
Benzo(a)anthracene	ND	U	1.96	5.00	ug/L	1
3,3'-Dichlorobenzidine	ND	U	1.75	10.0	ug/L	1
Chrysene	ND	U	2.20	5.00	ug/L	1
Bis(2-Ethylhexyl)phthalate	ND	U	1.95	5.00	ug/L	1
Di-n-octyl phthalate	ND	U	1.46	5.00	ug/L	1
Benzo(b)fluoranthene	ND	U	1.96	5.00	ug/L	1
Benzo(k)fluoranthene	ND	U	2.31	5.00	ug/L	1
Benzo(a)pyrene	ND	U	1.86	5.00	ug/L	1
Indeno(1,2,3-cd)pyrene	ND	U	2.02	5.00	ug/L	1
Dibenz(a,h)anthracene	ND	U	2.02	5.00	ug/L	1
Benzo(g,h,i)perylene	ND	U	2.15	5.00	ug/L	1
Benzoic acid	ND	U	2.28	5.00	ug/L	1
Acenaphthylene	ND	U	2.00	5.00	ug/L	1
Surrogates						
2-Fluorophenol	82.0			33.1-118	%	1
Phenol-d6	99.0			49.0-120	%	1
Nitrobenzene-d5	98.0			46.0-118	%	1
2-Fluorobiphenyl	93.0			50.0-107	%	1
2,4,6-Tribromophenol	93.0			29.3-152	%	1
Terphenyl-d14	107			22.1-142	%	1

Batch Information

Analytical Batch: XMS1622
Analytical Method: SW-846 8270D
Instrument: MSD10
Analyst: CMP
Analytical Date/Time: 8/3/2012 2:37:00PM

Prep Batch: XXX2883
Prep Method: SW-846 3520C
Prep Date/Time: 8/2/2012 4:51:01PM
Prep Initial Wt./Vol.: 1000 mL
Prep Extract Vol: 5 mL

Print Date: 08/09/2012

N.C. Certification # 481

Blank Spike Summary

Blank Spike ID: LCS for HBN 26413 [XXX/2883]
Blank Spike Lab ID: 83389
Date Analyzed: 08/03/2012 15:23

Matrix: Water

QC for Samples: 31202434001

Results by SW-846 8270D

Blank Spike (ug/L)

Parameter	Spike	Result	Rec (%)	CL
Phenol	50.0	48.4	97	57.0-113
Bis(2-Chloroethyl)ether	50.0	44.8	90	61.0-117
2-Chlorophenol	50.0	45.3	91	57.0-110
1,3-Dichlorobenzene	50.0	26.8	54	22.0-101
1,4-Dichlorobenzene	50.0	28.1	56	25.0-102
1,2-Dichlorobenzene	50.0	30.0	60	29.0-102
2-Methylphenol	50.0	42.3	85	55.0-110
3 and/or 4-Methylphenol	100	96.6	97	53.0-118
Bis(2-Chloroisopropyl)ether	50.0	45.2	90	56.0-112
n-Nitrosodi-n-propylamine	50.0	44.5	89	53.0-115
Hexachloroethane	50.0	25.4	51	11.0-104
Nitrobenzene	50.0	45.7	91	63.0-115
Isophorone	50.0	48.1	96	64.0-121
2-Nitrophenol	50.0	44.3	89	58.0-115
2,4-Dimethylphenol	50.0	36.1	72	40.0-104
Bis(2-Chloroethoxy)methane	50.0	48.3	97	62.0-107
Benzoic acid	50.0	38.4	77	8.00-186
2,4-Dichlorophenol	50.0	46.0	92	58.0-118
1,2,4-Trichlorobenzene	50.0	37.1	74	45.0-108
Naphthalene	50.0	41.7	83	52.0-110
4-Chloroaniline	50.0	41.1	82	44.0-115
Hexachlorobutadiene	50.0	32.7	65	25.0-115
4-Chloro-3-methylphenol	50.0	48.4	97	56.0-119
2-Methylnaphthalene	50.0	45.1	90	55.0-112
Hexachlorocyclopentadiene	50.0	49.9	100	0.00-1430
2,4,5-Trichlorophenol	50.0	51.1	102	59.0-119
2,4,6-Trichlorophenol	50.0	47.0	94	58.0-116
2-Chloronaphthalene	50.0	41.9	84	57.0-105
2-Nitroaniline	50.0	42.5	85	53.0-108
3-Nitroaniline	50.0	43.5	87	54.0-116
Dimethyl phthalate	50.0	48.4	97	66.0-119
2,6-Dinitrotoluene	50.0	48.1	96	65.0-121
Acenaphthene	50.0	47.0	94	60.0-114
2,4-Dinitrophenol	50.0	43.1	86	1.00-157

Print Date: 08/09/2012

N.C. Certification # 481

Blank Spike Summary

Blank Spike ID: LCS for HBN 26413 [XXX/2883]
Blank Spike Lab ID: 83389
Date Analyzed: 08/03/2012 15:23

Matrix: Water

QC for Samples: 31202434001

Results by SW-846 8270D

Blank Spike (ug/L)

Parameter	Spike	Result	Rec (%)	CL
4-Nitrophenol	50.0	48.1	96	38.0-123
Dibenzofuran	50.0	47.8	96	64.0-120
2,4-Dinitrotoluene	50.0	48.4	97	65.0-125
Fluorene	50.0	49.9	100	52.0-120
Diethyl phthalate	50.0	49.0	98	59.0-122
4-Chlorophenyl phenyl ether	50.0	49.4	99	61.0-113
4-Nitroaniline	50.0	44.6	89	53.0-123
4,6-Dinitro-2-methylphenol	50.0	44.4	89	30.0-128
Diphenylamine	50.0	45.9	92	51.0-114
4-Bromophenyl phenyl ether	50.0	47.6	95	61.0-109
Hexachlorobenzene	50.0	47.7	95	53.0-110
Pentachlorophenol	50.0	45.6	91	32.0-132
Phenanthrene	50.0	49.5	99	53.0-115
Anthracene	50.0	46.2	92	50.0-113
Di-n-butyl phthalate	50.0	52.7	105	59.0-123
Fluoranthene	50.0	50.2	100	54.0-119
Pyrene	50.0	47.5	95	60.0-120
Butyl benzyl phthalate	50.0	47.5	95	61.0-128
Benzo(a)anthracene	50.0	46.6	93	57.0-119
3,3'-Dichlorobenzidine	50.0	37.5	75	37.0-136
Chrysene	50.0	47.6	95	59.0-117
Bis(2-Ethylhexyl)phthalate	50.0	48.1	96	63.0-122
Di-n-octyl phthalate	50.0	53.4	107	62.0-129
Benzo(b)fluoranthene	50.0	48.0	96	59.0-120
Benzo(k)fluoranthene	50.0	48.6	97	62.0-124
Benzo(a)pyrene	50.0	46.1	92	54.0-123
Indeno(1,2,3-cd)pyrene	50.0	50.8	102	59.0-127
Dibenz(a,h)anthracene	50.0	50.3	101	59.0-129
Benzo(g,h,i)perylene	50.0	51.7	103	60.0-126
Acenaphthylene	50.0	47.0	94	58.0-117
Surrogates				
2-Fluorophenol			74	33.1-118
Phenol-d6			95	49.0-120
Nitrobenzene-d5			93	46.0-118

Print Date: 08/09/2012

N.C. Certification # 481

Blank Spike Summary

Blank Spike ID: LCS for HBN 26413 [XXX/2883]
Blank Spike Lab ID: 83389
Date Analyzed: 08/03/2012 15:23

Matrix: Water

QC for Samples: 31202434001

Results by SW-846 8270D

	Blank Spike (%)			
Parameter	Spike	Result	Rec (%)	CL
2-Fluorobiphenyl			92	50.0-107
2,4,6-Tribromophenol			98	29.3-152
Terphenyl-d14			91	22.1-142

Batch Information

Analytical Batch: **XMS1622**
Analytical Method: **SW-846 8270D**
Instrument: **MSD10**
Analyst: **CMP**

Prep Batch: **XXX2883**
Prep Method: **SW-846 3520C**
Prep Date/Time: **08/02/2012 16:51**
Spike Init Wt./Vol.: **1000 mL** Extract Vol: **5 mL**
Dupe Init Wt./Vol.: Extract Vol:

Print Date: 08/09/2012

N.C. Certification # 481

CHAIN OF CUSTODY

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

CLIENT: CATLIN / NCDOT
CONTACT: Ben Ashley @ CATLIN PHONE NO: (910) 452-5861
PROJECT: NCDOT Parcel 197 SITE / PWSID / WBS #: 35781.1.2
REPORTS TO: ben.ashley@catlinusa.com U-3315
EMAIL: Pitt County
INVOICE TO: NCDOT QUOTE # P.O. NUMBER NCDOT

SGS Reference #: 3120243 4

PAGE 1 OF 1

LAB NO.	SAMPLE IDENTIFICATION	DATE	TIME	MATRIX	# CONTAINERS	SAMPLE TYPE (C=COMP, G=GRAB)	PRESERVATIVES USED	ANALYSIS REQUIRED: 8270	REMARKS
	197 DPT-01	7/31/12	1300	H2O	1	G		✓	

COLLECTED/RELINQUISHED BY: (1) Ben Ashley — DATE: 8.1.12 — TIME: 1409 — RECEIVED BY: Alan Vest

Relinquished By: (2) Alan Vest — Date: 8/1/12 — Time: 1655 — Received By:

Relinquished By: (3) — Date — Time — Received By:

Received For Laboratory By: — Date — Time — CoC Seal: INTACT BROKEN ABSENT — Sample Receipt Temp: C 1.5 ± 0.5

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

REQUESTED TURNAROUND TIME: ☐ Rush: ☒ Standard

SPECIAL DELIVERABLES: State of Origin: NC ☐ Trust Fund ☐ DoD ☒ EDD: Summary Other:

SPECIAL INSTRUCTIONS:

Shipping Carrier: Shipping Ticket No:

Notes:

White - Retained by Lab
Yellow - Retained by Client

SGS North America Inc.

Sample Receipt Checklist (SRC)

Client: **NCDOT-Catlin** Work Order No.: **31202434**

1. ___ Shipped
   X Hand Delivered

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

3. ___ Custody Tape on Container
   X No Custody Tape

4. X Samples Intact
   ___ Samples Broken / Leaking

5. X Chilled on Receipt Actual Temp.(s) in °C: 1.5, 0.5
   ___ Ambient on Receipt
   X Walk-in on Ice; Coming down to temp.
   ___ Received Outside of Temperature Specifications

6. X Sufficient Sample Submitted
   ___ Insufficient Sample Submitted

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

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

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

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

Notes:

Comments:

Inspected and Logged in by: JJ

Date: Thu-8/2/12 00:00

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

APPENDIX D

PHOTOGRAPHS

PARCEL 197, WARD HOLDINGS, LLC
1008 EVANS STREET

From Evans Street looking South, boring 195DPT-01 near proposed catch basin number 1105.

From Evans Street looking North along proposed drainage.