PRELIMINARY SITE ASSESSMENT
FOR
PARCEL 106, STATE OF NORTH CAROLINA
FORMER AMOCO GAS STATION
101 EAST 10TH STREET
GREENVILLE, PITT COUNTY, NORTH CAROLINA

STATE PROJECT: U-3315
WBS ELEMENT: 35781.1.2

PREPARED FOR:

NCDOT GEOTECHNICAL ENGINEERING UNIT
GEOENVIRONMENTAL SECTION
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DECEMBER 21, 2012

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CORPORATE GEOLOGY LICENSE CERTIFICATION NO. C-118
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TABLE OF CONTENTS

		Page
1.0	PURPOSE OF INVESTIGATION AND DESCRIPTION	1
2.0	METHODS	2
2.1	FIELD METHODS	3
2.2	LABORATORY TESTING	4
2.3	CONTAMINATED SOIL VOLUME	5
3.0	RESULTS	6
4.0	SUMMARY AND RECOMMENDATIONS	8
5.0	LIMITATIONS	9
6.0	SIGNATURES	9

TABLES

TABLE 1	SUMMARY OF SOIL LABORATORY RESULTS – TPH DRO AND GRO
TABLE 2	SUMMARY OF SOIL LABORATORY RESULTS – EPA METHODS 8260B AND 8270D BASE NEUTRAL
TABLE 3	SUMMARY OF GROUNDWATER LABORATORY RESULTS – EPA METHODS 8260B AND 8270D BASE NEUTRAL

SHEETS

SHEET 1	GENERAL LOCATION
SHEET 1A	CONVENTIONAL PLAN SHEET SYMBOLS
SHEET 2	BORING LOCATIONS AND SUMMARIZED LABORATORY ANALYTICAL RESULTS

APPENDICES

APPENDIX A	FILE REVIEW INFORMATION
APPENDIX B	SCHNABEL GEOPHYSICAL REPORT
APPENDIX C	BORING LOGS
APPENDIX D	LABORATORY REPORT AND CHAIN OF CUSTODY RECORD
APPENDIX E	PHOTOGRAPHS

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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 June 29, 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 106, State of North Carolina property. The parcel/property is located at 101 East 10th 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:

> *Currently this site operates as a parking lot. Historically, the site operated as a gas station. The site is located in the northeast quadrant of West 10th Street and East Evans Street. According to NCDENR's UST Section Registry three (3) USTs were removed in 1989 and six (6) USTs were removed in 2004. Groundwater incident 31429 has been assigned to this facility.*

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 106). A site investigation is requested before ROW acquisition and roadway construction. Contamination from the former underground storage tank (UST) system(s) 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 106, State of North Carolina property (currently a parking lot), 101 East 10th 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. Slope stake cuts were identified on the cross-section provided by NCDOT within the subject site along alignment -L- near Stations 83.5 and 84. Per NCDOT request, borings (soil samples) were located near known or suspect UST systems and 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 1102.

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. NCDENR file review information is provided in Appendix A.

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 B. 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 12, 2012 and concluded on August 2, 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 106 followed by "DPT" and consecutive numbers starting with "01" (example: 106DPT-01). A boring was located at proposed catch basin number 1102, along associated proposed piping, and near/along the proposed easement(s). The borings were 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. Borings for soil sample collection were terminated near the approximate proposed drainage feature installation elevation or six (6) to 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 field logs and have been transferred to the Boring Logs provided in Appendix C. As illustrated on Sheet 2, eight (8) borings were 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 [example: 106DPT-01(2-4 ft)]. The sample identifications are included on the Boring Logs in Appendix C and the laboratory analytical Chain of Custody in Appendix D.

Seven (7) of the eight (8) PowerProbe borings were terminated at approximately six (6) to eight (8) feet BLS. The 106DPT-01 boring was 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.

Samples from borings 106DPT-01 through 106DPT-03 were collected on July 12, 2012. Following review of analytical results and file review information additional borings (106DPT-04 through 106DPT-08) were advanced for soil sample collection.

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 D.

Boreholes were abandoned to just below the surface using three-eighth inch bentonite chips. Bentonite and water were poured into the borehole simultaneously to facilitate hydration. Borings located in asphalt were topped with asphalt cold patch. 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 contamination in samples from borings 106DPT-01 through 106DPT-03 on July 12, 2012 were submitted for total petroleum hydrocarbon (TPH) diesel and gasoline range organics (DRO and GRO) laboratory analysis per Environmental Protection Agency (EPA) Method 8015. The sample collected from boring 106DPT-01 was also analyzed for petroleum and/or dry cleaning solvent impact to soils per EPA Methods 8260B and 8270D Base Neutral (BN). A groundwater sample was also collected and analyzed for volatile and semi-volatile organics per EPA Methods 8260B and 8270D BN.

Following review of analytical results and file review information additional borings (106DPT-04 through 106DPT-08) were advanced for soil sample collection. The 106DPT-04 through 106DPT-08 soil samples were submitted for TPH DRO and GRO analysis per EPA Method 8015.

A total of eight (8) soil samples and one (1) groundwater sample were submitted to SGS Analytical Perspectives (NC Certification #481). Chain of Custody documentation is included in Appendix D.

2.3 CONTAMINATED SOIL VOLUME

Four (4) soil volume calculations are provided as requested, the total contaminated soil volume across the site, the contaminated soil volume to be excavated for drainage feature installation, the contaminated soil volume to be excavated for water line and gas line installation, and the contaminated soil volume in the cut section. The calculated contaminated soil volumes are generally based on one (1) discrete sample depth per boring. The total volume calculation assumes the contamination extends vertically from the surface to the water table. The volume calculation for drainage feature installation assumes a vertical walled excavation two (2) feet wider than the drainage pipe width to one (1) foot below the final drainage feature installation invert elevation. The volume calculation for water line and gas line installation assumes an excavation 10 feet wide by five (5) feet deep as indicated by NCDOT. The cut soil volume is calculated using the average end-area method based on the estimated contaminated soil area within the cut area identified in the cross-section. Where the excavation areas for utility and/or drainage features may be in a cut section area, no consideration is taken to allow for overlapping soil volume calculations.

An Action Level of 10 milligrams per kilogram (mg/kg) TPH is utilized for contaminated soil determination. Sample results greater than 10 mg/kg TPH are considered contaminated. Sample results greater than the lowest Risk-Based Maximum Soil Contaminant Concentration (MSCC) are also considered contaminated. Contaminated soil volume is estimated from the midpoint distance between a "clean" sample location and contaminated sample location or to the property line or ROW/easement. As requested by NCDOT, the volume estimate will only include soils within parcel property limits, NCDOT ROW, and/or easement. Where soil samples are collected at, near, or below the water table and contaminant concentrations are revealed, contamination may not exist above the seasonal high water table capillary fringe and near the surface. The installation/construction contractor may be able to reduce the soil volume requiring disposal by screening soils during excavation.

3.0 RESULTS

NCDENR Interview and File Review

The NCDENR UST database does not list any tanks currently registered at the site. NCDENR Washington Regional Office personnel indicated two UST releases from gas stations previously operated at the site were on record. The first release was reported from the previous Sutton's Service Center/Buck's AMOCO in October 1985 and was assigned Incident Number 3143. Select information regarding the incident is provided in Appendix A and the complete NCDENR UST Incident file has been provided electronically. The release was reported following discovery of gasoline on the water in an excavation adjacent to the site. It was determined that the source of the leak was a gasoline supply line. Free-phase product recovery and assessment activities occurred for a number of years before the tanks were removed and replaced in February/March 1988. NCDENR determined no further action was required in November 1998. The associated monitoring wells (18) were properly abandoned in January 1999.

The replacement tanks were utilized at the site until removal in December 2004. The tank closure report concluded that a new release had not occurred; however, a new UST Groundwater Incident Number was assigned to the site (31429). The Groundwater Incident Number was subsequently closed and after NCDENR determined no further action was required in March 2005.

NCDENR DSCA Program personnel were also interviewed. The site does not appear on the NCDENR DSCA site list. There is a DSCA site adjacent to the subject site. The DSCA site is identified as DSCA Number 74-0007, Former One Hour Martinizing Cleaners, 111 East 10th Street. A groundwater monitoring well (MW-4) was installed at Parcel 106 during the DSCA investigation. The NCDENR DSCA Project Manager (Mr. Jay King) provided copies of pertinent assessment reports and they are provided in Appendix A. The estimated extent of soil and groundwater impacts as illustrated on the provided figures indicates groundwater on the eastern portion of Parcel 106 may contain Tetrachloroethylene/Perchloroethylene ("Perc") concentrations above the North Carolina Administrative Code (NCAC) Title 15A Subchapter 02L Groundwater Quality Standards (2L GWQS) of 0.7 micrograms per liter (ug/L) and the Inactive Hazardous Site Branch Protection of Groundwater Preliminary Soil Remediation Goal (SRG) of five (5) micrograms per kilogram (ug/kg). The eastern portion of the property is beyond the easements and scope of this investigation.

Groundwater flow direction is generally towards the northeast, away from the subject site. Pertinent file review information including figures showing

groundwater flow contours and recent and historical groundwater contaminant concentrations are provided in Appendix A.

Geophysical Investigation

The complete geophysical investigation report by Schnabel is included in Appendix B. As summarized in the geophysical report, 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 E. Additional photographs are included in the Schnabel report provided in Appendix B.

Soil and Groundwater

Sandy soils near the surface underlain by clayey soils were encountered in borings advanced at the site. Petroleum hydrocarbon odor was noted in samples collected from borings 106DPT-01, -02, -03, -04, -06, and -08. Complete boring logs including OVA/PID results are provided in Appendix C.

Summarized TPH DRO and GRO soil sample analytical results are provided on Table 1. Summarized semi-volatile and volatile organics analytical results are summarized on Table 2. Soil sample locations and summarized soil analytical results are illustrated on Sheet 2. As indicated on Table 1 and Sheet 2, detectable TPH GRO and/or DRO concentrations were reported in samples collected from all borings except 106DPT-05. The sample collected from 106DPT-01 also revealed petroleum compounds above the lowest MSCCs, refer to Table 2. No chlorinated solvent (dry-cleaning) compounds were revealed in sample 106DPT-01 (4-6ft).

Summarized groundwater sample analytical results are provided on Table 3 and Sheet 2. As indicated on Table 3 and Sheet 2, Benzene, Naphthalene and Tert-Butyl Methyl Ether (MTBE) concentrations per EPA Method 8260B were revealed above the corresponding 2L GWQS. No EPA Method 8270D BN parameters were detected above the laboratory reporting limits except Naphthalene, which was also revealed above the 2L GWQS per EPA Method 8260B. Depth to groundwater was measured at approximately nine (9) feet BLS in the 106DPT-01 boring at the proposed catch basin number 1102 location. The complete laboratory analytical report is provided in Appendix D.

Contaminated Soil Volume

In the event a cut is required for roadway construction or utility installation, any soil samples revealing detectable TPH concentrations or Risk-Based

analysis parameters above the lowest MSCC will be considered impacted for handling and disposal purposes. The estimated extent of contaminated soil greater than 10 mg/kg TPH and the lowest MSCC is illustrated on Sheet 2 within the red dashed line and skull symbols. The extent of potentially impacted soil beyond the proposed ROW and/or easement and property line(s) is not considered for volume estimating purposes. While discreet soil samples were collected from soils that may be below the seasonal high water table, soil volume estimate is based on the assumption that impacted soils exist from just below the surface to the assumed water table at roughly 9 feet BLS.

The area illustrated with a red dashed line and skull symbols on Sheet 2 is roughly 6,190 square feet. If all soils within this area were excavated to nine (9) feet deep, the volume would be approximately 2,063 cubic yards. However, it should be noted that this area includes soils that are likely clean backfill from the previous UST removals.

The estimated contaminated soil volume to be removed for installation of the proposed drainage piping is based on an assumed excavation width of four (4) feet for installation of a 24 inch wide pipe west of proposed Catch Basin 1102 and 39 inches (3.25 feet) for installation of a 15 inch wide pipe east of proposed Catch Basin 1102. Also, it is assumed, (based on information provided by NCDOT) that the current surface elevation along the proposed drainage piping and catch basin is approximately 48.2 feet and the bottom of the excavation necessary for proposed drainage feature construction will be approximately 40.9 feet near proposed catch basin 1102. Therefore, an excavation for drainage feature installation from west of proposed Catch Basin 1102 to the western property line, (62 linear feet long by 4 feet wide and roughly 7.3 feet deep) and east of proposed Catch Basin 1102 to the eastern property line (40 linear feet by 3.25 feet wide and roughly 7.3 feet deep) would be roughly 103 cubic yards.

The estimated contaminated soil volume to be removed for gas line and water line installation includes approximately 119 linear feet from the western property line to the eastern property line. Therefore, an excavation from the western property line to the eastern property line, 10 feet wide by five (5) feet deep equals roughly 220 cubic yards.

The proposed cut sections near Alignment -L- Station 83.5 and 84 that is within the estimated extent of contaminated soil is approximately 3.5 cubic yards.

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.

Petroleum impacted soils and groundwater were revealed in samples collected from within the proposed ROW and easement. A rough volume estimate of the contaminated soil volume is 2,063 cubic yards; however, this estimate includes soils assumed to be clean backfill from a previous UST closure. The approximate contaminated soil volume to be removed for drainage feature installation within the property at the proposed catch basin number 1102 and associated piping is 103 cubic yards. The approximate contaminated soil volume to be removed for gas line and water line installation is 220 cubic yards. The cut section within the estimated extent of contaminated soil is roughly 3.5 cubic yards. These volume estimates include soils from near the surface to the water table or bottom of proposed excavation. It may be possible to reduce the soil volume requiring treatment/disposal by screening soils during excavation activities.

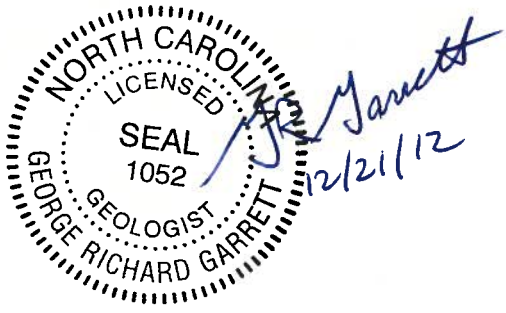
Based on site reconnaissance and NCDENR file review information, there are two UST Groundwater Incident Numbers at the site; both of which have received No Further Action status. No USTs are currently suspected at the site. There is a DSCA site adjacent (to the east) with dry cleaning solvent impacts to soil and groundwater however, solvent impacts were not detected in soil or groundwater analyses.

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 - TPH DRO AND GRO

Parcel 106, State of North Carolina – Former Amoco Gas Station
101 E. 10th Street

Sample ID	Contaminant of Concern →		Diesel Range Organics (DRO)	Gasoline Range Organics (GRO)
	Date Collected	Location		
106DPT-01 (2-4ft)	7/12/12	@ CB 1102	**10.8**	**52**
106DPT-02 (2-3ft)	7/12/12	≈ 25' West of DPT-01 and CB 1102	**717**	**731**
106DPT-03 (4-5ft)	7/12/12	≈ 25' East of DPT-01 and CB 1102	**73.4**	**1,330**
106DPT-04 (4-5ft)	8/2/12	Along proposed drainage ≈ 55' West of DPT-01 and CB 1102	**80.9**	**677**
106DPT-05 (1.5-2ft)	8/2/12	Along proposed drainage ≈ 50' East of DPT-01 and CB 1102	<8.04	<3.54
106DPT-06 (4-5ft)	8/2/12	Along proposed construction easement ≈ 45' North-northeast of DPT-01 and CB 1102	**10.4**	<4.58
106DPT-07 (4-5ft)	8/2/12	@ proposed easement corner ≈ 40' Northwest of DPT-01 and CB 1102	**18.2**	**1,090**
106DPT-08 (4-5ft)	8/2/12	@ proposed construction easement corner ≈ 70' Northwest of DPT-01 and CB 1102	**29.3**	**633**
		State Action Level (mg/kg)	**10**	**10**

TPH = Total Petroleum Hydrocarbon
All results in milligrams per kilogram (mg/kg).
Sample depth below land surface provided in parenthesis as part of the sample identification.
< = Less than method detection limit
CB = Proposed Catch Basin
Bold results exceed the State Action Level of 10 mg/kg.

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

Parcel 106, State of North Carolina -- Former Amoco Gas Station
101 E. 10th Street

Sample ID	Method →		EPA Method 8260B								EPA Method 8270D Base Neutral		
	Contaminant of Concern →		1,2,4-Trimethylbenzene	4-Isopropyltoluene	Ethyl Benzene	Isopropylbenzene (Cumene)	Naphthalene	n-Propylbenzene	Xylene (total)	All other EPA Method 8260B Parameters	2-Methylnaphthalene	Naphthalene	All other EPA Method 8270D Base Neutral Parameters
	Date Collected	Location											
106DPT-01 (4-6ft)	7/12/12	@ CB 1102	7.83 J	18.6 J	1,420	388	**785**	**1,930**	**26.0 J**	BMDL	162 J	**170 J**	BMDL
Residential MSCC (ug/kg)			782,000	100,000	1,560,000	1,564,000	313,000	626,000	3,129	Varies	63,000	313,000	Varies
Industrial/Commercial MSCC (ug/kg)			20,440,000	4,000,000	40,000,000	40,880,000	8,176,000	16,350,000	81,760	Varies	1,635,000	8,176,000	Varies
STGW MSCC (ug/kg)			8,500	120	4,900	1,700	160	1,700	4.6	Varies	3,600	160	Varies

All results in micrograms per kilogram (ug/kg).
Sample depth below land surface provided in parenthesis as part of the sample identification.
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
Bold results indicate concentrations above the lowest Maximum Soil Contaminant Concentration (MSCC).

TABLE 3
SUMMARY OF GROUNDWATER LABORATORY RESULTS - EPA METHODS 8260B AND 8270D BASE NEUTRAL

Parcel 106, State of North Carolina – Former Amoco Gas Station
101 E. 10th Street

Sample ID	Method →		EPA Method 8260B															EPA Method 8270D BN			
	Contaminant of Concern →		1,2,4-Trimethylbenzene	1,3,5-Trimethylbenzene	2-Butanone	Acetone	Benzene	Diisopropyl Ether	Ethyl Benzene	Isopropylbenzene (Cumene)	Naphthalene	n-Propylbenzene	sec-Butylbenzene	tert-Butyl methyl ether (MTBE)	Toluene	Xylene (total)	All other EPA Method 8260B Parameters	2-Methylnaphthalene	Benzoic acid	Naphthalene	All other EPA Method 8270D Base Neutral (BN) Parameters
	Date Collected	Location																			
106DPT-01B	7/16/12	@ CB 1102	24.9	7	11.0 J	41.2 J	**4.48**	1.44 J	90.2	9.76	**17.3**	21.1	5.92	**37.3**	1.44 J	12.6	BMDL	9.77	6.85	**40.2**	BMDL
2L GWQS (ug/L)			400	400	4,000	6,000	1	70	600	70	6	70	70	20	600	500	Varies	30	30,000	6	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
Bold results indicate concentrations above the NCAC T15A:02L Groundwater Quality Standards (2L GWQS).
CB = Proposed Catch Basin

SHEETS

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

GeoEnvironmental

0 2,000 4,000

FEET

PARCEL 106

GREENVILLE

GREENVILLE

Mill Run

Harris Mill Run

TAR RIVER

Parker Creek

Schoolhouse Branch

Greens Mill Run

Bells Branch

Brock Creek

PITT - GREENVILLE AIRPORT

Gravel Pit

Calvary Ch

Drive-in Theater

Carson Memorial Ch

Trailer Park

Substa.

Sandpit

6.1 KM TO N.C. 43

Rehabilitation Center

Allens Chapel

County Mem Hospital

Filtration Plant

Third St Sch

Mt Calvary Ch

St Gabriel Sch

Fire Sta

Jarvis Memorial Ch

Library

Saulter Sch

Philippi Ch

Faithful Sch

Park

South Greenville Sch

Middle Sch

Lake Ellsworth

Golf Course

Radio Tower

Boat Ramp

Fire Sta

Courthouse

Federal Bldg

City Hall

EAST CAROLINA UNIVERSITY

Greenwood Cem

St Peters Sch

Wahl-Coates Sch

Sewage Disposal

Redbank Landing

W. Arthur Tripp Bridge

Rose High Sch

Minges Coliseum

Ficklen Stadium

Elmhurst Sch

Eastern Sch

St Paul Ch

Harrington Field

Shopping Center

Aycock Jr High Sch

2.7 KM TO N.C. 11

PROJECT REFERENCE NO.	SHEET NO.
U-3425	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
- Buffer Zone 1
- Buffer Zone 2
- Flow Arrow
- Disappearing Stream
- Spring
- Wetland
- Proposed Lateral, Tail, Head Ditch
- False Sump

RAILROADS:

- Standard Gauge
- RR Signal Milepost
- 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
- Proposed Temporary Construction Easement
- Proposed Temporary Drainage Easement
- Proposed Permanent Drainage Easement
- Proposed Permanent Drainage / Utility Easement
- Proposed Permanent Utility Easement
- Proposed Temporary Utility Easement
- Proposed Aerial Utility Easement
- 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

EXISTING STRUCTURES:

MAJOR:
- Bridge, Tunnel or Box Culvert
- Bridge Wing Wall, Head Wall and End Wall

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

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

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

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

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.
- 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 20 40
FEET

SUMMARY OF SOIL LABORATORY RESULTS - TPH DRO AND GRO

Parcel 106, State of North Carolina – Former Amoco Gas Station
101 E. 10th Street

Sample ID	Contaminant of Concern → Date Collected	Location	Diesel Range Organics (DRO)	Gasoline Range Organics (GRO)
106DPT-01 (2-4ft)	7/12/12	@ CB 1102	**10.8**	**52**
106DPT-02 (2-3ft)	7/12/12	≈ 25' West of DPT-01 and CB 1102	**717**	**731**
106DPT-03 (4-5ft)	7/12/12	≈ 25' East of DPT-01 and CB 1102	**73.4**	**1,330**
106DPT-04 (4-5ft)	8/2/12	Along proposed drainage ≈ 55' West of DPT-01 and CB 1102	**80.9**	**677**
106DPT-05 (1.5-2ft)	8/2/12	Along proposed drainage ≈ 50' East of DPT-01 and CB 1102	<8.04	<3.54
106DPT-06 (4-5ft)	8/2/12	Along proposed construction easement ≈ 45' North-northeast of DPT-01 and CB 1102	**10.4**	<4.58
106DPT-07 (4-5ft)	8/2/12	@ proposed easement corner ≈ 40' Northwest of DPT-01 and CB 1102	**18.2**	**1,090**
106DPT-08 (4-5ft)	8/2/12	@ proposed construction easement corner ≈ 70' Northwest of DPT-01 and CB 1102	**29.3**	**633**
		State Action Level (mg/kg)	**10**	**10**

TPH = Total Petroleum Hydrocarbon
All results in milligrams per kilogram (mg/kg).
Sample depth below land surface provided in parenthesis as part of the sample identification.
< = Less than method detection limit
CB = Proposed Catch Basin
Bold results exceed the State Action Level of 10 mg/kg.

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

Parcel 106, State of North Carolina – Former Amoco Gas Station
101 E. 10th Street

Sample ID	Method → Contaminant of Concern → Date Collected	Location	EPA Method 8260B: 1,2,4-Trimethylbenzene	1,3,5-Trimethylbenzene	2-Butanone	Acetone	Benzene	Diisopropyl Ether	Ethyl Benzene	Isopropylbenzene (Cumene)	Naphthalene	n-Propylbenzene	sec-Butylbenzene	tert-Butyl methyl ether (MTBE)	Toluene	Xylene (total)	All other EPA Method 8260B Parameters	EPA Method 8270D BN: 2-Methylnaphthalene	Benzoic acid	Naphthalene	All other EPA Method 8270D Base Neutral (BN) Parameters
106DPT-01B	7/16/12	@ CB 1102	24.9	7	11.0 J	41.2 J	**4.48**	1.44 J	90.2	9.76	**17.3**	21.1	5.92	**37.3**	1.44 J	12.6	BMDL	9.77	6.85	**40.2**	BMDL
		2L GWQS (ug/L)	400	400	4,000	6,000	1	70	600	70	6	70	70	20	600	500	Varies	30	30,000	6	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
Bold results indicate concentrations above the NCAC T15A:02L Groundwater Quality Standards (2L GWQS).
CB = Proposed Catch Basin

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

Parcel 106, State of North Carolina – Former Amoco Gas Station
101 E. 10th Street

Sample ID	Method → Contaminant of Concern → Date Collected	Location	EPA Method 8260B: 1,2,4-Trimethylbenzene	4-Isopropyltoluene	Ethyl Benzene	Isopropylbenzene (Cumene)	Naphthalene	n-Propylbenzene	Xylene (total)	All other EPA Method 8260B Parameters	EPA Method 8270D Base Neutral: 2-Methylnaphthalene	Naphthalene	All other EPA Method 8270D Base Neutral Parameters
106DPT-01 (4-6ft)	7/12/12	@ CB 1102	7.83 J	18.6 J	1,420	388	**785**	**1,930**	**26.0 J**	BMDL	162 J	**170 J**	BMDL
		Residential MSCC (ug/kg)	782,000	100,000	1,560,000	1,564,000	313,000	626,000	3,129	Varies	63,000	313,000	Varies
		Industrial/Commercial MSCC (ug/kg)	20,440,000	4,000,000	40,000,000	40,880,000	8,176,000	16,350,000	81,760	Varies	1,635,000	8,176,000	Varies
		STQW MSCC (ug/kg)	8,500	120	4,900	1,700	160	1,700	4.6	Varies	3,600	160	Varies

All results in micrograms per kilogram (ug/kg).
Sample depth below land surface provided in parenthesis as part of the sample identification.
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
Bold results indicate concentrations above the lowest Maximum Soil Contaminant Concentration (MSCC).

LEGEND

- ID. SOIL BORING/SAMPLE
- ID. SOIL BORING/SAMPLE & GROUNDWATER SAMPLE
- ID. "HOT" SAMPLE

STATE OF NORTH CAROLINA C/O STATE PROPERTY OFFICE

101 E 10TH ST

106

104DPT-01 104DPT-02 104DPT-03 DPT-01 DPT-02 DPT-03 DPT-04 DPT-05 DPT-06 DPT-07 DPT-08

S. EVANS ST. W. 10TH ST. E. 10TH ST. E. 10TH ST.

18+00 84+00

NOTES:
- BORING ID'S PREFACED WITH "106" UNLESS OTHERWISE NOTED
- DARK GRAYSCALE BORINGS ASSOCIATED WITH NEARBY PROJECTS
- AERIAL PHOTOGRAPHS OBTAINED FROM NCDOT
- PROPOSED DETAILS OBTAINED FROM NCDOT

APPENDICES

APPENDIX A

FILE REVIEW INFORMATION

WITHERS & RAVENEL
ENGINEERS | PLANNERS | SURVEYORS

Revisions			
No.	Description	Date	By

DSCA # 74-0007
FORMER ONE HOUR MARTINIZING FACILITY
GREENVILLE, PITT COUNTY, NORTH CAROLINA

PROPOSED ADDITIONAL MONITORING WELLS WITH PCE PLUME AND GROUNDWATER CONTOURS

Drawn By	Scale
CF	1" = 80'
Checked By	Date
BJB	1/12/11

Job No.	02050498.42
Sheet No.	X

Soil and Groundwater Delineation Report Forms
for
North Carolina Dry-Cleaning Solvent Cleanup Act Program

Facility Name:	Former One-Hour Martinizing
	111 East Tenth Street, Greenville, NC
DSCA ID No.:	74-0007
Submittal Date:	5/12/2011
Prepared By:	Withers & Ravenel
	1410 Commonwealth Drive, Unit 101 Wilmington, North Carolina 28403

Reporting Period: _____ to _____

Type of Report:

One-Time Event	☑	Quaterly	☐
Semi-Annual	☐	Annual	☐

Table of Contents GWMR TOC

DSCA ID No.: 74-0007

Form/Att. No.	Description	Check box if included
	Groundwater Monitoring Report Forms	
Form 1	Report Summary	☑
Form 2	Quality Assurance/Quality Control Procedures	☑
Form 3	Results, Conclusions and Recommendations	☑
	Grooundwater Monitoring Report Attachments	
Att. 1	Disposal of IDW receipts from receiving facilities, or any required harzardous waste	☑
Att. 2	Analytcial Report	☑
Att. 3	Photo Documentation	☑
Att. 4		☐
Att. 5		☐

Report Summary GWMR Form 1

DSCA ID No.: 74-0007

Dates samples were collected:	13-Apr-11
Number of existing monitoring wells:	13
List the sampled monitoring wells:	MW-10 through MW-12
List the sampled water supply wells:	N/A
List surface water samples collected:	N/A
Date analyses were performed:	25-Apr-11
Were any holding times exceeded?	○ Yes ◉ No
Dates monitoring/supply wells were gauged:	13-Apr-11
Does investigation derived waste (IDW) generated during these activities still remain at the site pending disposal?	○ Yes ◉ No
Average depth to groundwater:	11.3
Groundwater flow direction:	Perched: converging to the SW-Unconfined:NE
Was the static groundwater level above the top of the well screen in any wells?	◉ Yes ○ No
If Yes, indicate which wells:	MW-1 through MW-4, MW-1D, MW-9 through MW-11
Is the aquifer:	○ Confined ◉ Unconfined ○ Perched
Were any existing monitoring wells damaged?	○ Yes ◉ No
If Yes, indicate which wells:	
Has the groundwater plume been defined?	○ Yes ◉ No
Any ongoing assessment activities?	○ Yes ◉ No

If Yes, provide details in the space below:

Any ongoing remediation activites? ○ Yes ◉ No

If Yes, provide details in the space below:

Any significant changes in the subsurface conditions? ◉ Yes ○ No

If Yes, provide details in the space below:

W&R installed 3 down-gradient wells (MW-10 through MW-12). MW-10 did not contain chlorinated ethenes above their respective 2L Standards. However, MW-12 contain PCE and TCE , while MW-11 contained PCE only above their respective 2L Standards.

Quality Assurance/Quality Control Procedures GWMR Form 2

DSCA ID No.: 74-0007

Describe the standard quality assurance/quality control (QA/QC) procedures which are practiced in order to ensure that the samples are representative of actual conditions and that analytical results are valid.

Prior to purging, each well was opened to allow water levels to equilibrate to atmospheric pressure. After a sufficient equilibration period, water levels were measured with respect to the top of the well casing using a properly decontaminated electronic water level meter. Each well was sampled using low flow sampling techniques using pre-cleaned disposable polyethylene tubing connected to a peristaltic pump. Measurements of groundwater pH, specific conductance, ORP, DO, turbidity and temperature were obtained using calibrated field instruments during the purging process. After field parameters had stabilized over three consecutive recording intervals, groundwater samples were collected using the same tubing that was used to purge the well. The samples were decanted into laboratory prepared containers containing appropriate amounts of hydrochloric acid preservative. The filled and sealed containers were labeled with appropriate sampling information and were then placed into ice-filled coolers along with a laboratory prepared trip blank and shipped under proper chain of custody to the analytical laboratory for analysis.

Describe the specific sampling technicque employed during the collection of all ground water samples.

W&R utilized low flow/low stress sampling procedures described in the EPA Region IV "Environmental Investigations Standard Operating Procedures Quality Assurance Manual" dated November 2001 for the collection of groundwater samples from the monitoring wells. Each monitoring well was purged and sampled using a peristaltic pump attached to new polyethylene tubing. Measurements of groundwater pH, specific conductance, ORP, DO, turbidity and temperature were obtained using calibrated field instruments during the purging process. After field parameters had stabilized over three consecutive recording intervals, groundwater samples were collected using the same tubing that was used to purge the well. The samples were decanted directly into laboratory prepared containers for shipment to the laboratory as described in the preceding paragraph.

Describe the EPA approved methods used to extract and analyze the samples submitted the laboratory. Reference the maximum holding time for each type of analysis performed.

The samples were submitted to Environmental Science Corps, Inc for analysis of volatile organic compounds (VOCs) by EPA SW-846 Method 8260B. The maximum hold time for aqueous samples undergoing this particular analysis is two weeks for samples preserved with hydrochloric acid, as were all of the samples from this site. Method 8260 is used to determine and quantify the presence or absence of VOCs in a variety of matrices. Volatile compounds within a given sample are introduced into a gas chromatograph by the purge-and-trap method (EPA SW-846 Method 5030). "The analytes are introduced directly to a wide-bore capillary column or cryofocussed on a capillary pre-column before being flash evaporated to a narrow-bore capillary for analysis. The column is temperature-programmed to separate the analytes, which are then detected with a mass spectrometer interfaced to the gas chromatograph" (excerpt from section 2.1 of EPA SW-846 Method 8260B).

Results, Conclusions and Recommendations | GWMR Form 3

DSCA ID No.:

Results

Maximum Concentration Detected in Groundwater

Chemical	Most Recent Event			Detected at Site To-date		
	Sampling Date	Sample ID	Concentration [mg/L]	Sampling Date	Sample ID	Concentration [mg/L]
Tetrachloroethylene	4/13/2011	MW-12	0.0086	7/27/2010	MW-2	9.2
Trichloroethylene	4/13/2011	MW-12	0.0533	7/27/2010	MW-2	4
Vinyl Chloride	4/13/2011	NA	NA	7/27/2010	MW-3	0.064
cis-1,2-DCE	4/13/2011	MW-12	0.0029	7/27/2010	MW-1	4.5
trans-1,2-DCE	4/13/2011	NA	NA	12/10/2008	TW-5	0.032

Conclusions

Instructions: Discuss any trends or changes noted in analytical results.

See attached page.

Recommendations

W&R recommends the installation of three additional monitoirng wells at locations hydraulically down-gradient from MW-11 and MW-12. The attached map shows the proposed locations of the additional monitoring wells.

Conclusions

On April 12, 2011, Withers and Ravenel (W&R) supervised the installation of three additional off-site groundwater monitoring wells in an attempt to delineate the lateral extent of PCE and its daughter products in groundwater. Previous assessment work has defined the extent of groundwater contamination to the west, south, and east of the site. However, the extent of contamination to the north and northeast of monitoring wells MW-6 and MW-7 had not been defined. Therefore, three additional wells (MW-10, MW-11, MW-12) were installed at locations hydraulically down-gradient of MW-6 and MW-7.

The three additional off-site monitoring wells were installed by Quantex under W&R supervision. The monitoring well borings were advanced to the top of the Yorktown Formation, which is a regional confining unit that underlies the undifferentiated sedimentary deposits of Quaternary Age that comprise the surficial unconfined aquifer in the area. Copies of the boring logs and well completion reports are attached.

Groundwater samples were collected from well MW-10, -11 and -12 on April 13, 2011 and the samples were submitted for laboratory analysis by EPA Method 8260. The analytical results for the sample from MW-10 did not indicate the presence of PCE or its daughter products at concentrations that exceeded their respective North Carolina Groundwater Standards. However, the analytical results for the samples from wells MW-11 and MW-12 indicated the presence of chlorinated ethenes at concentrations above their respective North Carolina Groundwater Standards. PCE was identified at a concentration of 0.0073 mg/L in the sample from MW-11, and at a concentration of 0.0086 mg/L in the sample from MW-12, both of which exceed the North Carolina Groundwater Standard of 0.0007 mg/L for PCE. Additionally, TCE was identified at a concentration of 0.0533 mg/L in the sample from MW-12, which exceeds the North Carolina Groundwater Standard of 0.003 mg/L for TCE by a relatively small margin. No other chlorinated ethenes were identified at concentrations that exceed their respective North Carolina Groundwater Standards.

Low concentrations of petroleum-related constituents benzene (0.0087 mg/L) and MTBE (0.0013 mg/L) were detected in the sample from MW-10. The presence of these compounds in groundwater at this location does not appear to be related to the former dry cleaning activities at DSCA site #74-0007. These two compounds were not identified in the samples from wells MW-11 and MW-12.

Groundwater levels were measured in all new and existing monitoring wells on April 13, 2011. The data for wells MW-1 through MW-4 and MW-9 suggest the presence of a perched water table of relatively limited extent that occurs under the former dry-cleaners and continues relatively short distances to the south and west. Consistent with previous data, depth to water measurements in monitoring wells MW-1 through MW-4 and MW-9 were relatively shallow, ranging from about three to seven feet

below ground at these well locations. Groundwater levels within the remaining wells to the northwest, north, and northeast of the site range between about 8 and 25 feet below ground. Elevation contours for the perched water table suggest a convergent flow pattern and an overall flow direction to the south-southwest. Elevation contours for the underlying water table indicate a northeast flow direction, which is consistent with more regional topographic inference and the distribution of PCE and its daughter products identified within the surficial aquifer near DSCA site #74-0007.

Due to the presence of PCE and TCE at concentrations above their respective North Carolina Groundwater Standards in the samples from off-site wells MW-11 and MW-12, additional assessment of the extent of these compounds in groundwater to the northeast is warranted.

ATTACHMENT 1
IDW Disposal Receipts

WITHERS & RAVENEL

ENGINEERS | PLANNERS | SURVEYORS

LETTER OF TRANSMITTAL

Investigation Derived Waste Profiles and Hazardous Waste Manifest

Date: April 25, 2011

Hazardous Waste Manifest Tracking Nos. **002472813 FLE**

Submitted To: North Carolina Dry-Cleaning Solvent Cleanup Program
Department of Environment and Natural Resources
Division of Waste Management
Superfund Section
401 Oberlin Road, Suite 150
Raleigh, North Carolina 27605-1350

DSCA Project Manager Name: Jay King

DSCA Site Name and Number: 1-Hour Martinizing – 111 E Tenth Street, Greenville, Pitt County – DSCA #74-0007

Description of Waste Generating Activities: Monitoring well installation, decon & groundwater sampling

DSCA SLAW Number that waste was generated under: 005

Date(s) that waste was generated: April 11 & 12, 2011

Quantities of waste generated:

Solid: ~1,200 **lb (non-haz)**

Liquid: ~1,250 **lb** ~150 **gal**

Date that waste was picked up by waste transporter: April 21, 2010

Destination of the waste: Ecoflo, Inc. 2750 Patterson Street Greensboro for subsequent transport to EI Dupont Waste Treatment Plant in Deepwater NJ (liquid), and Republic Services East Coast Environmental – 1922 Republican Road Aulander, NC 27805 (soil)

Name of W&R Project Manager: Brian Bellis

Brian J. Bellis

Signature

Attachments: IDW Profiles, Hazardous Waste Manifest

ECOFLO

ECOFLO, Inc.
2750 Patterson St.
Greensboro, NC 27407
Phone: 336 855-7925
Fax: 336 855-4139

TO BE COMPLETED BY ECOFLO
Facility No:
Sales Rep:
Sample ☐ Yes ☐ No

MATERIAL CHARACTERIZATION FORM

SECTION A: GENERATOR INFORMATION

1) Name: Petitioner for DSCA Site # 74-0007 SLAW 005
2) Mailing Address: c/o Jay King NCDENR DSCA Program
401 Oberlin Road, Suite 150, Raleigh, NC 27605
3) Facility Address: One-Hour Martinizing
111 East Tenth Street, Greenville, NC Pitt County
4) Technical Contact: Brian Bellis (Withers & Ravenel)
5) Title: Agent for Petitioner
6) Phone: 910-256-9277
7) Fax: 910-256-2584
8) EPA ID #: NCR000146589

SECTION B: WASTE IDENTIFICATION

1) Waste Name: IDW Liquid
2) Process Generating Waste: Sampling of Groundwater and Decon of Drilling Equipment
3) Waste Codes(s): EPA F002, D039 State NA
4) Source Code: A69 5) Form Code: B301 6) SIC Code:

SECTION C: WASTE CHARACTERISTICS

1) Physical State at 70°F: Solid ☐ Liquid x Gas ☐ Describe: Purge and Decon Water
2) Layers: Multilayered ☐ Bilayered ☐ None [X] 3) Viscosity @ 70°F: Low [x] Med. ☐ High ☐
4) % Total solids: 0 % Describe:
5) BTU/LB: <1000 6) pH: 5-10 7) Color: Brown
8) Flash point (CC): <73 °F ☐ 73-100 °F ☐ 101-140 °F ☐ 141-200 °F ☐ >200 °F [X] Exact: ☐
9) Boiling point: <95 °F ☐ >95 °F [X] 10) Reactive: Yes ☐ No [X] Describe:
11) % Total organic halogens: <0.1 % Cl [X] I ☐ F ☐ Br ☐ (check one or more halogens)
12) Cyanides: 0 ppm 13) PCB: 0 ppm
14) Metals: TCLP ☐ Total ☐ Below Regulatory Limits [X] (check one)

As	0	ppm	Ba	0	ppm	Cd	0	ppm	Cr	0	ppm	Pb	0	ppm	Hg	0	ppm
Se	0	ppm	Ag	0	ppm	Sb	0	ppm	Tl	0	ppm	Ni	0	ppm	Be	0	ppm

SECTION D: CHEMICAL CONSTITUENTS

Constituent	Conc.		Constituent	Conc.	
IDW Liquids	99-100	%			%
Trichloroethene	<0.001	%			%
		%			%
		%			%
		%			%
		%			%
		%			%
	100	%		100	%

Please provide MSDS if available.

SECTION E: SAFETY DATA

1) Hazard Alert Symbol
[1] Health
[0] Flammability
[0] Reactivity

2) Rated Toxicity
[1] Ingestion
[0] Inhalation
[0] Skin Absorption

3) Incompatibilities Describe:

SECTION F: RECERTIFICATION

I certify that this waste stream has not changed.
Signature: Brian J. Bellis
Title: Project Manager, Agent for Petitioner
Date: April 19, 2011

SECTION G: WASTE VOLUME

1) Anticipated volume or container count: One Drum ☐ Gal ☐ LBS ☐ Drums [X] Cu. Yd. ☐ (check one)
per One Time ☐ Wk ☐ Month ☐ Quarter [X] Year ☐ Other:
2) Size of container: 5 ☐ 10 ☐ 20 ☐ 30 ☐ 40 ☐ 55 [x] Other:
3) Container Spec:
3) Type of Container:

Open Head Drum	[x]	Closed Head Drum	☐	Lever Lock	☐	Roll-Off	☐
Pallet	☐	Tanker	☐	Tote Tank	☐	Super Sac	☐
Metal Drum	[x]	Poly Lined Metal Drum	☐	Fiber Drum	☐	Poly Lined Fiber Drum	☐
Poly Drum	☐	Wooden Box	☐	Fiber Box	☐	Cylinder	☐

SECTION H: SHIPPING INFORMATION (To be completed by ECOFLO)

PSN: RI: Hazardous Waste Liquid, NOS (Tetrachlorethene)
CLASS/DIV: 9 UN/NA #: NA-3077 PG: III Unspecified Labels:
RQ: 100 pounds PIH: Yes ☐ No [x] Hazard Zone:

SECTION I: CERTIFICATION

I hereby certify that the material described above is non-radioactive and non-etiological/noninfectious. I further certify that all information submitted in this and all attached documents is complete and accurate and that all known or suspected hazards have been disclosed. In addition, I authorize ECOFLO, Inc. to make corrections to this material characterization form, such that corrections being consistent with the results of sample characterization, and/or regulatory requirements. I understand that a corrected copy will be sent to me.

Authorized Signature: Brian J. Bellis
On behalf of Petitioner for DSCA Site #74-0007
Title: Brian J. Bellis, Project Manager, Agent for Petitioner
Date: April 19, 2011

ECOFLO, Inc.
2750 Patterson St.
Greensboro, NC 27407
Phone: 336 855-7925
Fax: 336 855-4139

TO BE COMPLETED BY ECOFLO
E-Code No.
Sales Rep.
Sample ☐ Yes ☐ No

MATERIAL CHARACTERIZATION FORM

SECTION A: GENERATOR INFORMATION

1) Name: Petitioner for DSCA Site # 74-0007 SLAW 005
2) Mailing Address: c/o Jay King NCDENR DSCA Program
401 Oberlin Road, Suite 150, Raleigh, NC 27605
3) Facility Address: One-Hour Martinizing
111 East Tenth Street, Greenville, NC Pitt County
4) Technical Contact: Brian Bellis (Withers & Ravenel)
5) Title: Agent for Petitioner
6) Phone: 910-256-9277
7) Fax: 910-256-2584
8) EPA ID #: NCR000146589

SECTION B: WASTE IDENTIFICATION

1) Waste Name: IDW Liquid
2) Process Generating Waste: Drilling of soil borings for well installation
3) Waste Codes(s): EPA State NA
4) Source Code: A69 5) Form Code: B301 6) SIC Code:

SECTION C: WASTE CHARACTERISTICS

1) Physical State at 70°F: Solid X Liquid Gas Describe: Soil Cuttings
2) Layers: Multilayered ☐ Bilayered ☐ None [X] 3) Viscosity @ 70°F: Low ☐ Med. ☐ High [X]
4) % Total solids: 0 % Describe:
5) BTU/LB: <1000 6) pH: 5-10 7) Color: Brown
8) Flash point (CC): <73 °F ☐ 73-100 °F ☐ 101-140 °F ☐ 141-200 °F ☐ >200 °F [X] Exact:
9) Boiling point: <95 °F ☐ >95 °F [X] 10) Reactive: Yes ☐ No [X] Describe:
11) % Total organic halogens: <0.1 % Cl [X] I ☐ F ☐ Br ☐ (check one or more halogens)
12) Cyanides: 0 ppm 13) PCB: 0 ppm
14) Metals: TCLP ☐ Total ☐ Below Regulatory Limits [X] (check one)

As	0	ppm	Ba	0	ppm	Cd	0	ppm	Cr	0	ppm	Pb	0	ppm	Hg	0	ppm
Se	0	ppm	Ag	0	ppm	Sb	0	ppm	Tl	0	ppm	Ni	0	ppm	Be	0	ppm

SECTION D: CHEMICAL CONSTITUENTS

Constituent	Conc.		Constituent	Conc.	
Soil Cuttings	99-100	%			%
		%			%
		%			%
		%			%
	100	%			%
		%			%

Please provide MSDS if available.

SECTION E: SAFETY DATA

1) Hazard Alert Symbol 2) Rated Toxicity 3) Incompatibilities Describe:

1	Health	1	Ingestion
0	Flammability	0	Inhalation
0	Reactivity	0	Skin Absorption

SECTION F: RECERTIFICATION

I certify that this waste stream has not changed.
Signature: Brian J. Bellis
Title: Project Manager, Agent for Petitioner
Date: April 19, 2011

SECTION G: WASTE VOLUME

1) Anticipated volume or container count: Two Drums Gal ☐ LBS ☐ Drums [X] Cu. Yd. ☐ (check one)
per One Time [X] Wk ☐ Month ☐ Quarter ☐ Year ☐ Other:
2) Size of container: 5 ☐ 10 ☐ 20 ☐ 30 ☐ 40 ☐ 55 [X] Other:
3) Container Spec:
3) Type of Container:

Open Head Drum	[X]	Closed Head Drum	☐	Lever Lock	☐	Roll-Off	☐
Pallet	☐	Tanker	☐	Tote Tank	☐	Super Sac	☐
Metal Drum	[X]	Poly Lined Metal Drum	☐	Fiber Drum	☐	Poly Lined Fiber Drum	☐
Poly Drum	☐	Wooden Box	☐	Fiber Box	☐	Cylinder	☐

SECTION H: SHIPPING INFORMATION (To be completed by ECOFLO)

PSN: RQ: Non-RCRA and Non-DOT Solids NOS (soil cuttings)
CLASS/DIV: UN/NA # PG: Unspecified Labels:
RQ: PIH: Yes ☐ No [X] Hazard Zone:

SECTION I: CERTIFICATION

I hereby certify that the material described above is non-radioactive and non-etiological/noninfectious. I further certify that all information submitted in this and all attached documents is complete and accurate and that all known or suspected hazards have been disclosed.
In addition, I authorize ECOFLO, Inc. to make corrections to this material characterization form, such that corrections being consistent with the results of sample characterization, and/or regulatory requirements. I understand that a corrected copy will be sent to me.

Authorized Signature: Brian J. Bellis
On behalf of Petitioner for DSCA Site #74-0007
Title: Brian J. Bellis, Project Manager, Agent for Petitioner
Date: April 19, 2011

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST	1. Generator ID Number	2. Page 1 of	3. Emergency Response Phone	4. Manifest Tracking Number
	NCR000146589	1	800-577-4557	002472813 FLE

GENERATOR

5. Generator's Name and Mailing Address
Petitioner for DSCA Site # 74-0007 SLAW 005
Jay King DSCA Program
401 Oberlin Rd Ste 150 Raleigh NC 27605
Generator's Phone: 910 256-9277

Generator's Site Address (if different than mailing address)
111 E. Tenth Street
Greenville, NC 27858

6. Transporter 1 Company Name
Environmental Prod & Svcs of VT, Inc.

U.S. EPA ID Number
NYR000115733

7. Transporter 2 Company Name

U.S. EPA ID Number

8. Designated Facility Name and Site Address
Ecoflo, Inc.
2750 PATTERSON STREET
GREENSBORO NC 27407
Facility's Phone: (336) 855-7925

U.S. EPA ID Number
NCD980842132

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes		
X	RQ, Hazardous waste, liquid, n.o.s. (Tetrachloroethene) 9, NA3082, III	03	DM	150	G	D039	F002	
	NON-RCRA, NON-DOT SOLIDS, N.O.S. (SOIL CUTTINGS)	03	DM	1200	P			
	3.							
	4.							

14. Special Handling Instructions and Additional Information
1. ERG# 171 (03 X 55 gal.) APPROVAL# 160ALI-001
2. (03 X 55 gal.) APPROVAL# 160ALI-003
3.
4. Job# m1070 PO# 4109 MK

15. GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: [illegible] DSCA [illegible] | Signature: | Month: 4 | Day: 20 | Year: 11

INT'L

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

TRANSPORTER

17. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: Justin Chappell | Signature: | Month: 04 | Day: 21 | Year: 11

Transporter 2 Printed/Typed Name | Signature | Month | Day | Year

DESIGNATED FACILITY

18. Discrepancy

18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

18b. Alternate Facility (or Generator) | U.S. EPA ID Number

Facility's Phone:

18c. Signature of Alternate Facility (or Generator) | Month | Day | Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems).

1.	2.	3.	4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a

Printed/Typed Name | Signature | Month | Day | Year

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

GENERATOR'S INITIAL COPY

ATTACHMENT 2
Photograph Documentation

Photo 1. Looking west at MW-10 located at 813 Evans Street

Photo 2. Looking east at MW-10 located at 813 Evans Street

Photo 3. Looking northwest at MW-11 located at 802 Forbes Street

Photo 4. Looking southwest at MW-11 located at 802 Forbes Street

Photo 5. Looking southeast at MW-12 located at 206 East Eighth Street

Photo 6. Looking northwest at MW-12 located at 206 East Eighth Street.

ATTACHMENT 2
Analytical Data Tables

Analytical Data Tables
for
North Carolina Dry-Cleaning Solvent Cleanup Act Program

Facility Name:	One Hour Martinizing
	111 East 10th Street, Greenville, NC
DSCA ID No.:	74-0007
Submittal Date:	May 6, 2011
Prepared By:	Withers & Ravenel
	1410 Commonwelath Dr. Suite 101, Wilmington, NC 28403

Table of Contents		ADT TOC
DSCA ID No.: 74-0007		
Table/ Att. No.	**Description**	**Check box if included**
	Tables	
Table 1	Site Chronology	
Table 2	Analytical Data for Soil	
Table 3	Monitoring Well Construction Data	x
Table 4	Groundwater Elevation Data	x
Table 5	Analytical Data for Groundwater	x
Table 6	Analytical Data for Surface Water	
Table 7	Water Well(s) Survey Data	
Table 8	Analytical Data for Water Supply Well(s)	
Table 9	Analytical Data for Natural Attenuation Parameters	
	Attachments	
Att. 1	Site map showing location(s) of soil boring(s).	
Att. 2	Soil contaminant concentration maps showing the concentration at each sampling point.	
Att. 3	Soil isoconcentration maps.	
Att. 4	Site map showing location(s) of monitoring well(s).	x
Att. 5	Well completion diagrams and records of construction submitted to state.	x
Att. 6	Groundwater gradient map for each sampling event.	x
Att. 7	PCE concentration map showing the concentration at each sampling point and isoconcentration map. However, if there are significant plumes for other dry-cleaning contaminants, contaminant concentration maps for each chemical of concern should be included.	x
Att. 8	Groundwater concentration trend plots.	
Att. 9	Map showing location(s) of surface water sample(s) (if applicable).	
Att. 10	Surface water concentratin map showing the concentration at each sampling point (if applicable).	
Att. 11	USGS Quad map with plotted water well location(s) within the 1,500 foot and 0.5 mile radii of the site (if applicable).	
Att. 12	Signed laboratory analytical reports including chain-of custody and quality assurance/quality control (QA/QC) documentation (only if not previously submitted).	x
Att. 13	Site map showing location(s) of monitoring well(s) for natural attenuation	
Att. 14	Geological Cross Sections	
Att. 15		
Att. 16		
Att. 17		
Att. 18		
Att. 19		
Att. 20		

Note:
1. All maps must include a bar scale, north arrow, site name, DSCA ID No., and date.

Table 3: Monitoring Well Construction Data ADT 3

DSCA ID No.: 74-0007

Well ID	Date Installed (mm/dd/yy)	Number of Samples	Well Depth [feet]	Well Diameter [inch]	Screen Interval [feet]	Status (Active/Inactive)
MW-1	1/15/08	2	15	2	5-15	Active
MW-2	1/15/08	2	15	2	5-15	Active
MW-3	1/15/08	2	15	2	5-15	Active
TW-1	12/10/08	1	8	1	3-8	Inactive
TW-2	12/10/08	1	8	1	3-8	Inactive
TW-3	12/10/08	1	8	1	3-8	Inactive
TW-4	12/10/08	1	8	1	3-8	Inactive
TW-5	12/10/08	1	8	1	3-8	Inactive
TW-6	12/10/08	1	8	1	3-8	Inactive
TW-7	12/10/08	1	22	1	17-22	Inactive
TW-8	12/10/08	1	22	1	17-22	Inactive
TW-9	12/10/08	1	18	1	13-18	Inactive
TW-10	12/10/08	1	18	1	13-18	Inactive
TW-11	12/10/08	1	16.5	1	11.5-16.5	Inactive
TW-12	12/11/08	1	20	1	15-20	Inactive
TW-16	12/11/08	1	18	1	13-18	Inactive
TW-17	12/11/08	1	20	1	15-20	Inactive
TW-18	12/11/08	1	20	1	15-20	Inactive
TW-19	12/11/08	1	20	1	15-20	Inactive
TW-D	12/10/08	1	30	1	25-30	Inactive
GP-18	12/10/09	1	24	1	20-24	Inactive
GP-19	12/10/09	1	24	1	20-24	Inactive
GP-20	12/10/09	1	28	1	24-28	Inactive
GP-21	12/10/09	1	28	1	24-28	Inactive
GP-22	12/10/09	1	26	1	22-26	Inactive
GP-23	12/10/09	1	32	1	28-32	Inactive
GP-24	12/10/09	1	32	1	28-32	Inactive
GP-25	12/10/09	1	32	1	28-32	Inactive
GP-26	12/10/09	1	30	1	26-30	Inactive
GP-27	12/10/09	1	20	1	16-20	Inactive
GP-28	12/10/09	1	26	1	22-26	Inactive
GP-29	12/10/09	1	26	1	22-26	Inactive
GP-30	12/10/09	1	24	1	20-24	Inactive
GP-31	12/10/09	1	24	1	20-24	Inactive
GP-32	12/10/09	1	32	1	28-32	Inactive
GP-33	12/10/09	1	26	1	22-26	Inactive
GP-34	12/10/09	1	30	1	26-30	Inactive
MW-1D	7/26/10	1	39	1.5	29-39	Active
MW-4	7/26/10	1	20	1.5	10-20	Active
MW-5	7/26/10	1	20	1.5	10-20	Active
MW-6	7/26/10	1	20	1.5	10-20	Active
MW-7	7/26/10	1	22	1.5	12-22	Active
MW-8	7/26/10	1	24	1.5	14-24	Active
MW-9	7/26/10	1	20	1.5	10-20	Active
MW-10	4/11/11	1	29	2	14-29	Active
MW-11	4/11/11	1	20	2	10-20	Active
MW-12	4/11/11	1	30	2	20-30	Active

Table 4: Groundwater Elevation Data ADT

DSCA ID No.: 74-0007

Groundwater Sampling Point	Sampling Date (mm/dd/yy)	TOC Elevation [feet]	Depth to Water [feet bgs]	Groundwater Elevation [feet]	Depth to NAPL [feet bgs]	NAPL Thickness [feet]	Corrected* Groundwater Elevation [feet]
MW-1	N/A	100.79	6.17	94.62	N/A	N/A	N/A
	8/19/10	100.79	6.30	94.49	N/A	N/A	N/A
	4/12/11	100.79	3.94	96.85	N/A	N/A	N/A
MW-2	N/A	99.58	3.79	95.79	N/A	N/A	N/A
	8/19/10	99.58	3.71	95.87	N/A	N/A	N/A
	4/12/11	99.58	2.35	97.23	N/A	N/A	N/A
MW-3	N/A	100.00	4.68	95.32	N/A	N/A	N/A
	8/19/10	100.00	4.78	95.22	N/A	N/A	N/A
	4/12/11	100.00	3.10	96.90	N/A	N/A	N/A
TW-1	12/10/08	100.37	4.17	96.2	N/A	N/A	N/A
TW-2	12/10/08	99.97	3.8	96.17	N/A	N/A	N/A
TW-3	12/10/08	100.4	4.05	96.35	N/A	N/A	N/A
TW-4	12/10/08	99.51	3.15	96.36	N/A	N/A	N/A
TW-5	12/10/08	100.24	6.51	93.73	N/A	N/A	N/A
TW-6	12/10/08	N/A	5.99	N/A	N/A	N/A	N/A
TW-7	12/10/08	101.28	18.32	82.96	N/A	N/A	N/A
TW-8	12/10/08	102.36	19.28	83.08	N/A	N/A	N/A
TW-9	12/10/08	101.76	14.66	87.1	N/A	N/A	N/A
TW-10	12/10/08	101.36	17.38	83.98	N/A	N/A	N/A
TW-11	12/10/08	100.25	16.5	83.75	N/A	N/A	N/A
TW-12	12/11/08	99.52	16.58	82.94	N/A	N/A	N/A
TW-16	12/11/08	N/A	N/A	N/A	N/A	N/A	N/A
TW-17	12/11/08	98.35	13.45	84.9	N/A	N/A	N/A
TW-18	12/11/08	98.41	15.16	83.25	N/A	N/A	N/A
TW-19	12/11/08	97.02	11.96	85.06	N/A	N/A	N/A
TW-D	12/10/08	100.74	17.65	83.09	N/A	N/A	N/A
MW-1D	8/19/10	100.99	21.13	79.86	N/A	N/A	N/A
	4/12/11	100.99	20.28	80.71	N/A	N/A	N/A
MW-4	8/19/10	99.05	5.03	94.02	N/A	N/A	N/A
	4/12/11	99.05	5.90	93.15	N/A	N/A	N/A
MW-5	8/19/10	96.47	11.44	85.03	N/A	N/A	N/A
	4/12/11	96.47	10.89	85.58	N/A	N/A	N/A
MW-6	8/19/10	96.69	12.9	83.79	N/A	N/A	N/A
	4/12/11	96.69	13.02	83.67	N/A	N/A	N/A
MW-7	8/19/10	101.70	17.15	84.55	N/A	N/A	N/A
	4/12/11	101.70	17.01	84.69	N/A	N/A	N/A
MW-8	8/19/10	105.81	21.05	84.76	N/A	N/A	N/A
	4/12/11	105.81	20.89	84.92	N/A	N/A	N/A
MW-9	8/19/10	103.05	7.09	95.96	N/A	N/A	N/A
	4/12/11	103.05	6.97	96.08	N/A	N/A	N/A
MW-10	4/12/11	NA	9.98	#VALUE!	N/A	N/A	N/A
MW-11	4/12/11	NA	8.11	#VALUE!	N/A	N/A	N/A
MW-12	4/12/11	NA	24.45	#VALUE!	N/A	N/A	N/A

Table 5: Analytical Data for Groundwater ADT 5

DSCA ID No.: 74-0007

Groundwater Sampling Point	Sampling Date (mm/dd/yy)	1,1,1-Trichloroethane	1,1,2,2-Tetrachloroethane	1,1,2-Trichloroethanae	1,1-Dichloroethane	1,1-Dichloroethylene	1,2-Dichloroethane (EDC)	Benzene	Benzo(a)pyrene	Carbon tetrachloride	Chloroform	cis-1,2-Dichloroethylene	Ethylbenzene	Methyl tert-butyl ether (MTBE)	Naphthalene	Tetrachloroethylene	Toluene	trans-1,2-Dichloroethylene	Trichloroethylene	Vinyl chloride	Xylenes (total)	Bromodichloromethane	n-Butylbenzene	sec-Butylbenzene	Chlorobenzene	1,2 Dichlorobenzene	1,4 Dichlorobenzene	Isopropylbenzene	p-Isopropyltoluene	n-Propylbezene	1,2,4 Trimethylbenzene	1,2,3 Trimethylbenzene	1,3,5 Trimethylbenzene
		[mg/L]																															
TW-1	12/10/08	NA	NA	NA	NA	<0.001	NA	0.2274	NA	NA	NA	<0.001	2.2649	NA	NA	0.0082	3.6986	<0.001	0.0035	<0.001	4.7813	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TW-2	12/10/08	NA	NA	NA	NA	<0.001	NA	0.0419	NA	NA	NA	<0.001	0.045	NA	NA	<0.0007	0.0271	<0.001	<0.001	<0.001	0.0706	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TW-3	12/10/08	NA	NA	NA	NA	<0.001	NA	0.1128	NA	NA	NA	0.0012	0.065	NA	NA	<0.0007	0.0313	<0.001	<0.001	<0.001	0.0509	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TW-4	12/10/08	NA	NA	NA	NA	<0.001	NA	0.1209	NA	NA	NA	0.0014	0.055	NA	NA	<0.0007	0.014	<0.001	<0.001	<0.001	0.0257	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TW-5	12/10/08	NA	NA	NA	NA	0.0031	NA	0.0108	NA	NA	NA	0.9492	0.0115	NA	NA	2.4214	0.0695	0.0318	0.4391	0.3082	0.0301	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TW-6	12/10/08	NA	NA	NA	NA	<0.001	NA	0.0016	NA	NA	NA	0.027	<0.001	NA	NA	0.0359	<0.001	<0.001	0.0071	<0.001	<0.003	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TW-7	12/10/08	NA	NA	NA	NA	<0.001	NA	0.0017	NA	NA	NA	0.0086	0.002	NA	NA	0.6286	0.0023	<0.001	0.035	<0.001	0.0062	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TW-8	12/10/08	NA	NA	NA	NA	<0.001	NA	0.0019	NA	NA	NA	0.0116	<0.001	NA	NA	2.1756	<0.001	<0.001	0.1126	<0.001	<0.003	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TW-9	12/10/08	NA	NA	NA	NA	0.0066	NA	0.507	NA	NA	NA	1.3501	<0.001	NA	NA	0.7039	0.0093	0.0299	0.1982	0.0742	0.0053	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TW-10	12/10/08	NA	NA	NA	NA	0.0052	NA	0.3036	NA	NA	NA	1.1537	<0.001	NA	NA	1.0822	0.0042	0.0214	0.5312	0.0398	<0.003	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TW-11	12/10/08	NA	NA	NA	NA	0.0041	NA	0.2733	NA	NA	NA	0.8915	0.0011	NA	NA	2.1856	0.0023	0.0076	0.3257	0.0152	0.0036	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TW-12	12/11/08	NA	NA	NA	NA	<0.001	NA	0.0028	NA	NA	NA	0.0047	0.0016	NA	NA	0.0755	0.0213	<0.001	0.0252	<0.001	0.005	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TW-16	12/10/08	NA	NA	NA	NA	<0.001	NA	0.0078	NA	NA	NA	0.0486	0.0082	NA	NA	0.8486	0.0377	<0.001	0.1865	<0.001	0.019	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TW-17	12/11/08	NA	NA	NA	NA	<0.001	NA	2.1396	NA	NA	NA	0.3917	0.329	NA	NA	0.0475	0.5773	<0.001	0.0371	<0.001	1.0882	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TW-18	12/11/08	NA	NA	NA	NA	<0.001	NA	0.0027	NA	NA	NA	0.0065	<0.001	NA	NA	0.1677	0.0046	<0.001	0.0294	<0.001	0.0023	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TW-19	12/11/08	NA	NA	NA	NA	<0.001	NA	0.0387	NA	NA	NA	<0.001	0.0012	NA	NA	0.0037	0.0358	<0.001	0.0089	<0.001	0.0036	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TW-D	12/10/08	NA	NA	NA	NA	0.0067	NA	0.2875	NA	NA	NA	2.9098	0.0783	NA	NA	3.2875	0.0269	0.029	0.4506	0.1528	0.0157	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TW-D2	12/10/08	NA	NA	NA	NA	0.00695	NA	0.2845	NA	NA	NA	2.9712	0.1031	NA	NA	3.5858	0.028	0.0308	0.4436	0.14965	0.0169	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
GP-18(S)	12/10/09	NA	NA	NA	NA	<0.001	NA	<0.001	NA	NA	NA	<0.001	<0.001	NA	NA	<0.0007	<0.001	<0.001	<0.001	<0.001	<0.003	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
GP-18(D)	12/10/09	NA	NA	NA	NA	<0.001	NA	<0.001	NA	NA	NA	<0.001	<0.001	NA	NA	<0.0007	<0.001	<0.001	<0.001	<0.001	<0.003	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
GP-19(S)	12/10/09	NA	NA	NA	NA	<0.001	NA	<0.001	NA	NA	NA	<0.001	<0.001	NA	NA	<0.0007	<0.001	<0.001	<0.001	<0.001	<0.003	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
GP-19(D)	12/10/09	NA	NA	NA	NA	<0.001	NA	<0.001	NA	NA	NA	<0.001	<0.001	NA	NA	<0.0007	<0.001	<0.001	<0.001	<0.001	<0.003	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
GP-20(D)	12/11/09	NA	NA	NA	NA	<0.001	NA	<0.001	NA	NA	NA	<0.001	<0.001	NA	NA	<0.0007	<0.001	<0.001	<0.001	<0.001	<0.003	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
GP-21(D)	12/11/09	NA	NA	NA	NA	<0.001	NA	<0.001	NA	NA	NA	<0.001	<0.001	NA	NA	<0.0007	<0.001	<0.001	<0.001	<0.001	<0.003	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
GP-22(D)	12/11/09	NA	NA	NA	NA	<0.001	NA	<0.001	NA	NA	NA	<0.001	<0.001	NA	NA	<0.0007	<0.001	<0.001	<0.001	<0.001	<0.003	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
GP-23(I)	12/11/09	NA	NA	NA	NA	<0.001	NA	<0.001	NA	NA	NA	<0.001	<0.001	NA	NA	<0.0007	<0.001	<0.001	<0.001	<0.001	<0.003	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
GP-23(D)	12/11/09	NA	NA	NA	NA	<0.001	NA	<0.001	NA	NA	NA	<0.001	<0.001	NA	NA	<0.0007	<0.001	<0.001	<0.001	<0.001	<0.003	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
GP-24(D)	12/10/09	NA	NA	NA	NA	<0.001	NA	<0.001	NA	NA	NA	<0.001	<0.001	NA	NA	<0.0007	<0.001	<0.001	<0.001	<0.001	<0.003	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
GP-25(S)	12/10/09	NA	NA	NA	NA	<0.001	NA	<0.001	NA	NA	NA	<0.001	<0.001	NA	NA	<0.0007	<0.001	<0.001	<0.001	<0.001	<0.003	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
GP-25(D)	12/10/09	NA	NA	NA	NA	<0.001	NA	<0.001	NA	NA	NA	<0.001	<0.001	NA	NA	<0.0007	<0.001	<0.001	<0.001	<0.001	<0.003	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
GP-26	12/10/09	NA	NA	NA	NA	<0.001	NA	<0.001	NA	NA	NA	<0.001	<0.001	NA	NA	<0.0007	<0.001	<0.001	<0.001	<0.001	<0.003	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
GP-27(D)	12/10/09	NA	NA	NA	NA	<0.001	NA	<0.001	NA	NA	NA	0.0025	<0.001	NA	NA	0.0495	<0.001	<0.001	0.011	<0.001	<0.003	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
GP-28(D)	12/10/09	NA	NA	NA	NA	<0.001	NA	<0.001	NA	NA	NA	0.00043 J	<0.001	NA	NA	0.83J	<0.001	<0.001	0.00048 J	<0.001	<0.003	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
GP-29(D)	12/10/09	NA	NA	NA	NA	<0.001	NA	<0.001	NA	NA	NA	<0.001	<0.001	NA	NA	0.09	<0.001	<0.001	0.0015 J	<0.001	<0.003	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
GP-30(D)	12/11/09	NA	NA	NA	NA	<0.001	NA	<0.001	NA	NA	NA	<0.001	<0.001	NA	NA	0.0116	0.00046 J	<0.001	<0.001	<0.001	<0.003	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
GP-31	12/10/09	NA	NA	NA	NA	<0.001	NA	<0.001	NA	NA	NA	0.011	<0.001	NA	NA	0.27	<0.001	<0.001	0.014	<0.001	<0.003	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
GP-32(D)	12/10/09	NA	NA	NA	NA	<0.001	NA	<0.001	NA	NA	NA	0.0079	<0.001	NA	NA	0.1	<0.001	<0.001	0.0093	<0.001	<0.003	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
GP-33(S)	12/10/09	NA	NA	NA	NA	<0.001	NA	<0.001	NA	NA	NA	<0.001	<0.001	NA	NA	<0.0007	<0.001	<0.001	<0.001	<0.001	<0.003	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
GP-33(D)	12/10/09	NA	NA	NA	NA	<0.001	NA	<0.001	NA	NA	NA	<0.001	<0.001	NA	NA	<0.0007	<0.001	<0.001	<0.001	<0.001	<0.003	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
GP-34(D)	12/11/09	NA	NA	NA	NA	<0.001	NA	<0.001	NA	NA	NA	<0.001	<0.001	NA	NA	0.23	<0.001	<0.001	0.012	<0.001	<0.003	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-1	7/27/10	<0.001	<0.001	<0.001	<0.001	0.0064	<0.001	0.410	NA	<0.001	<0.005	4.500	0.110	0.170	0.032	<0.001	0.010	0.020	<0.001	<0.001	0.099	<0.001	0.0095	0.0082	0.002	0.0014	0.0011	0.038	<0.001	0.053	<0.001	<0.001	0.0024
MW-1D	7/27/10	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	NA	<0.001	0.026	<0.001	<0.001	<0.001	<0.005	<0.001	<0.005	<0.001	<0.001	<0.001	<0.003	0.002	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
MW-2	7/27/10	<0.001	<0.001	<0.001	<0.001	0.0013	<0.001	0.031	NA	<0.001	<0.005	1.300	0.036	0.032	0.0086	9.2	0.028	0.0087	4.0	0.031	0.014	<0.001	0.0054	0.0049	<0.001	<0.001	<0.001	0.011	0.0014	0.018	0.0061	0.0017	0.0029
MW-3	7/27/10	<0.001	<0.001	<0.001	<0.001	0.0028	<0.001	0.049	NA	<0.001	<0.005	2.900	0.200	0.018	0.079	0.560	<0.005	0.0095	0.400	0.064	<0.003	<0.001	0.013	0.013	<0.001	0.0012	<0.001	0.062	0.0055	0.150	0.0021	<0.001	0.013
MW-4	7/27/10	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.032	NA	<0.001	<0.005	<0.001	0.010	0.014	<0.005	<0.001	0.069	<0.001	<0.001	<0.001	0.021	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.001	<0.001	0.0022	0.0063	0.0012	0.0026
MW-5	7/27/10	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	3.200	NA	<0.500	<2.500	0.780	1.000	<0.500	<2.500	<0.500	29.000	<0.500	<0.500	<0.500	2.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	0.690	<0.500	<0.500
MW-6	7/27/10	<0.001	<0.001	<0.001	<0.001	0.0015	<0.001	0.013	NA	<0.001	<0.005	0.068	<0.001	0.0031	<0.005	1.900	<0.001	<0.001	0.300	<0.001	<0.003	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
MW-7	7/27/10	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.0012	NA	<0.001	<0.005	0.210	<0.001	0.002	<0.005	1.500	<0.001	0.0019	0.240	0.002	<0.003	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
MW-8	7/27/10	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	NA	<0.001	<0.005	<0.001	<0.001	<0.001	<0.005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.003	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
MW-9	7/27/10	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	NA	<0.001	<0.005	<0.001	<0.001	<0.001	<0.005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.003	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
MW-10	4/13/11	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.0087	NA	<0.001	<0.005	<0.001	<0.001	0.0013	<0.005	<0.001	<0.001	<0.001	0.0025	<0.001	<0.003	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
MW-11	4/13/11	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	NA	<0.001	<0.005	<0.001	<0.001	<0.001	<0.005	0.0073	<0.001	<0.001	<0.001	<0.001	<0.003	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
MW-12	4/13/11	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	NA	<0.001	<0.005	0.0029	<0.001	<0.001	<0.005	0.0086	<0.001	<0.001	0.0533	<0.001	<0.003	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001

ATTACHMENTS

WITHERS & RAVENEL
ENGINEERS | PLANNERS | SURVEYORS
115 Commonwealth Drive, Suite 101, North Carolina 28403 www.withersravenel.com
tel: 910-256-2177 fax: 910-256-2184

Revisions			
No.	Description	Date	By

DSCA # 74-0007
FORMER ONE HOUR MARTINIZING FACILITY
GREENVILLE, PITT COUNTY, NORTH CAROLINA

SITE MAP

Drawn By	Scale	Job No.
CE	1"=80'	0208048.42
Checked By	Date	Sheet No.
BJB	8/12/10	4

LEGEND

PARCEL BOUNDARIES

MW-3 TYPE II GROUNDWATER MONITORING WELL LOCATION

MW-1D TYPE III GROUNDWATER MONITORING WELL LOCATION

NOTES: LOCATIONS OF EXISTING INTERNAL BUILDING WALLS ARE APPROXIMATE.

MONITORING WELLS MW-1, MW-2 and MW-3 LOCATIONS & BUILDING CORNERS DETERMINED BY W&R R.L.S.

ATTACHMENT 5
Well Completion Diagrams

WITHERS & RAVENEL
ENGINEERS | PLANNERS | SURVEYORS
111 MacKenan Drive Cary, North Carolina 27511
tel: 919-469-3340 fax: 919-535-4545
www.withersravenel.com

FIELD BORING LOG

BOREHOLE NO.:MW-10

PROJECT INFORMATION

PROJECT NAME:	One Hour Martinizing
DSCA NO.:	074-0007
JOB NO.:	02060496.42
SITE LOCATION:	111 East 10th Street Greenville, NC
LOGGED BY:	Chris Fay

DRILLING INFORMATION

DRILLING COMPANY:	Quantex
METHOD OF DRILLING:	Hollow Stem Augers
SAMPLING METHOD:	Macro-core
HOLE DIAMETER:	6.25 in
DATES DRILLED:	4/11/11
TOTAL DEPTH:	29

NORTHING COORD.: 679915.2851 EASTING COORD.: 2483441.4969

DEPTH (FEET)	GRAPHIC	SOIL DESCRIPTION	PID (ppm)	WELL DESCRIPTION	REMARKS
0		CL: Tan orange mottled fine sandy CLAY, moist, high plasticity, wet at 13' BGS			TOTAL WELL DEPTH: 29' SCREEN Interval: 14' - 29' Opening: 0.010"-slotted CASING Interval: 0 -14' Material: Sch. 40 PVC Joints: Threaded GROUT INTERVAL: 0 - 10' SAND PACK INTERVAL: 12' - 29' SEAL Interval: 10' - 12' Seal: Bentonite Well Completed with Flush-Mount Protective Cover
5					
10					
15		SC: Blue gray clayey fine SAND, well sorted, sub-angular grains, soft, saturated, intermittent sand and clay layers from 14 to15 feet BGS			
20					
25					
30		CL: Blue gray CLAY, soft, moist, low plasticity			

NOTES: Boring Terminated at 30 ft bls

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www.withersravenel.com

FIELD BORING LOG

BOREHOLE NO.:MW-11

PROJECT INFORMATION		DRILLING INFORMATION	
PROJECT NAME:	One Hour Martinizing	**DRILLING COMPANY:**	Quantex
DSCA NO.:	074-0007	**METHOD OF DRILLING:**	Hollow Stem Augers
JOB NO.:	02060496.42	**SAMPLING METHOD:**	Macro-core
SITE LOCATION:	111 East 10th Street	**HOLE DIAMETER:**	6.25 in
	Greenville, NC	**DATES DRILLED:**	4/11/11
LOGGED BY:	Chris Fay	**TOTAL DEPTH:**	20

NORTHING COORD.: 679988.9276 EASTING COORD.: 2483574.7069

DEPTH (FEET)	GRAPHIC	SOIL DESCRIPTION	PID (ppm)	WELL DESCRIPTION	REMARKS
0		CH: Tan and orange mottled fine sandy CLAY, dry, firm, high plasticity			TOTAL WELL DEPTH: 20'
5					SCREEN
					Interval: 10' - 20'
					Opening: 0.010"-slotted
					CASING
					Interval: 0 -10'
					Material: Sch. 40 PVC
					Joints: Threaded
					GROUT INTERVAL: 0 - 6'
10					SAND PACK INTERVAL: 8' - 20'
					SEAL
					Interval: 6' - 8'
					Seal: Bentonite
					Well Completed with Flush-Mount Protective Cover
15		SM: Tan silty fine to medium SAND, well sorted, angular grains, soft, saturated			
		CL: Blue gray CLAY, low plasticity, soft , moist			
20					
25					

NOTES: Boring Terminated at 25 ft bls

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FIELD BORING LOG

BOREHOLE NO.:MW-12

PROJECT INFORMATION		DRILLING INFORMATION	
PROJECT NAME:	One Hour Martinizing	**DRILLING COMPANY:**	Quantex
DSCA NO.:	074-0007	**METHOD OF DRILLING:**	Hollow Stem Augers
JOB NO.:	02060496.42	**SAMPLING METHOD:**	Macro-core
SITE LOCATION:	111 East 10th Street	**HOLE DIAMETER:**	6.25 in
	Greenville, NC	**DATES DRILLED:**	4/11/11
LOGGED BY:	Chris Fay	**TOTAL DEPTH:**	30

NORTHING COORD.: 679929.9288 EASTING COORD.: 2483824.3402

DEPTH (FEET)	GRAPHIC	SOIL DESCRIPTION	PID (ppm)	WELL DESCRIPTION	REMARKS
0		SM: Orange clayey fine SAND, dry, well sorted, rounded grains, firm			TOTAL WELL DEPTH: 30'
5		CL: Brown and orange mottled fine sandy CLAY, dry, firm, high plasticity			SCREEN Interval: 20' - 30' Opening: 0.010"-slotted CASING Interval: 0 -20' Material: Sch. 40 PVC Joints: Threaded GROUT INTERVAL: 0 - 16' SAND PACK INTERVAL: 18' - 30' SEAL Interval: 16' - 18' Seal: Bentonite Well Completed with Flush-Mount Protective Cover
10					
15		CH: Grayish brown CLAY, very fine white sand present (<5% of matrix), dry, hard, high plasticity, moist at 19 feet, interbedded rust color coarse sand at 14 feet			
20					
25		SM: Orange and white mottled silty medium SAND, well sorted, angular grains, firm, saturated			
30		CL: Blue gray CLAY, low plasticity, soft , moist			
35					

NOTES: Boring Terminated at 35 ft bls

NON RESIDENTIAL WELL CONSTRUCTION RECORD

North Carolina Department of Environment and Natural Resources- Division of Water Quality

WELL CONTRACTOR CERTIFICATION # 3468-A

1. WELL CONTRACTOR:
Stephen W. Keener
Well Contractor (Individual) Name
Quantex, Inc.
Well Contractor Company Name
P.O. Box 41673
Street Address
Raleigh NC 27629
City or Town State Zip Code
(919) 219-9604
Area code Phone number

2. WELL INFORMATION:
WELL CONSTRUCTION PERMIT# WM0701019
OTHER ASSOCIATED PERMIT#(if applicable) NA
SITE WELL ID #(if applicable) MW-12

3. WELL USE (Check One Box) Monitoring ☑ Municipal/Public ☐
Industrial/Commercial ☐ Agricultural ☐ Recovery ☐ Injection ☐
Irrigation ☐ Other ☐ (list use)
DATE DRILLED 4-11-11

4. WELL LOCATION:
206 EAST EIGHTH STREET 27858
(Street Name, Numbers, Community, Subdivision, Lot No., Parcel, Zip Code)
CITY Greenville COUNTY Pitt
TOPOGRAPHIC / LAND SETTING (check appropriate box)
☐ Slope ☐ Valley ☑ Flat ☐ Ridge ☐ Other
LATITUDE 36 ° ' " DMS N 35.607566 DD
LONGITUDE 79 ° ' " DMS W 77.372214 DD
Latitude/longitude source: ☑ GPS ☐ Topographic map
(location of well must be shown on a USGS topo map and attached to this form if not using GPS)

5. FACILITY (Name of the business where the well is located.)
Former 1-Hour Martinizing DSCA 74-0007
Facility Name Facility ID# (if applicable)
100 East Tenth Street
Street Address
Greenville NC 27858
City or Town State Zip Code
Preston Cannon Petitioner for DSCA 74-0007
Contact Name
312 Rutledge Road
Mailing Address
Greenville NC 27858
City or Town State Zip Code
( ) NA
Area code Phone number

6. WELL DETAILS:
a. TOTAL DEPTH: 30
b. DOES WELL REPLACE EXISTING WELL? YES ☐ NO ☑
c. WATER LEVEL Below Top of Casing: NA FT.
(Use "+" if Above Top of Casing)

d. TOP OF CASING IS (-0.25') FT. Above Land Surface*
*Top of casing terminated at/or below land surface may require a variance in accordance with 15A NCAC 2C .0118.
e. YIELD (gpm): NA METHOD OF TEST NA
f. DISINFECTION: Type NA Amount NA
g. WATER ZONES (depth):
Top 9' Bottom 12' Top ____ Bottom ____
Top ____ Bottom ____ Top ____ Bottom ____
Top ____ Bottom ____ Top ____ Bottom ____

7. CASING:

	Depth		Diameter	Thickness/ Weight	Material
Top 0'	Bottom 20'	Ft.	2"	sch40	PVC
Top ____	Bottom ____	Ft.			
Top ____	Bottom ____	Ft.			

8. GROUT:

	Depth		Material	Method
Top 0'	Bottom 16'	Ft.	Neat Cement	Pour
Top 16'	Bottom 18'	Ft.	Bentonite	Pour
Top ____	Bottom ____	Ft.		

9. SCREEN:

	Depth		Diameter	Slot Size	Material
Top 20'	Bottom 30'	Ft.	2 in.	0.010 in.	PVC
Top ____	Bottom ____	Ft.	____ in.	____ in.	
Top ____	Bottom ____	Ft.	____ in.	____ in.	

10. SAND/GRAVEL PACK:

	Depth		Size	Material
Top 18'	Bottom 30'	Ft.	#2	Silica Sand
Top ____	Bottom ____	Ft.		
Top ____	Bottom ____	Ft.		

11. DRILLING LOG

Top	Bottom	Formation Description
0	1'	OVERBURDEN/Grass
1'	8'	Clayey Sands
8'	30'	fine to med Sands

12. REMARKS:

I DO HEREBY CERTIFY THAT THIS WELL WAS CONSTRUCTED IN ACCORDANCE WITH 15A NCAC 2C, WELL CONSTRUCTION STANDARDS, AND THAT A COPY OF THIS RECORD HAS BEEN PROVIDED TO THE WELL OWNER.

Stephen Keener — 4-26-11
SIGNATURE OF CERTIFIED WELL CONTRACTOR DATE

Stephen W. Keener
PRINTED NAME OF PERSON CONSTRUCTING THE WELL

Submit within 30 days of completion to: Division of Water Quality - Information Processing,

Form GW-1b
Rev. 2/09

NON RESIDENTIAL WELL CONSTRUCTION RECORD

North Carolina Department of Environment and Natural Resources - Division of Water Quality

WELL CONTRACTOR CERTIFICATION # 3468-A

1. WELL CONTRACTOR:
Stephen W. Keener
Well Contractor (Individual) Name
Quantex, Inc.
Well Contractor Company Name
P.O. Box 41673
Street Address
Raleigh NC 27629
City or Town State Zip Code
(919) 219-9604
Area code Phone number

2. WELL INFORMATION:
WELL CONSTRUCTION PERMIT# WM0701019
OTHER ASSOCIATED PERMIT#(if applicable) NA
SITE WELL ID #(if applicable) MW-11

3. WELL USE (Check One Box) Monitoring ☑ Municipal/Public ☐
Industrial/Commercial ☐ Agricultural ☐ Recovery ☐ Injection ☐
Irrigation ☐ Other ☐ (list use)
DATE DRILLED 4-11-11

4. WELL LOCATION:
602 FORBES STREET 27858
(Street Name, Numbers, Community, Subdivision, Lot No., Parcel, Zip Code)
CITY: Greenville COUNTY Pitt
TOPOGRAPHIC / LAND SETTING: (check appropriate box)
☑ Slope ☐ Valley ☑ Flat ☐ Ridge ☐ Other
LATITUDE 36 ° ' " DMS N 35.607591 DD
LONGITUDE 79 ° ' DMS W 77.372151 DD
Latitude/longitude source: ☑ GPS ☐ Topographic map
(location of well must be shown on a USGS topo map and attached to this form if not using GPS)

5. FACILITY (Name of the business where the well is located.)
Former 1-Hour Martinizing DSCA 74-0007
Facility Name Facility ID# (if applicable)
100 East Tenth Street
Street Address
Greenville NC 27858
City or Town State Zip Code
Preston Cannon Petitioner for DSCA 74-0007
Contact Name
312 Rutledge Road
Mailing Address
Greenville NC 27858
City or Town State Zip Code
( ) NA
Area code Phone number

6. WELL DETAILS:
a. TOTAL DEPTH: 20'
b. DOES WELL REPLACE EXISTING WELL? YES ☐ NO ☑
c. WATER LEVEL Below Top of Casing: NA FT.
(Use "+" if Above Top of Casing)

d. TOP OF CASING IS (-0.25') FT. Above Land Surface*
*Top of casing terminated at/or below land surface may require a variance in accordance with 15A NCAC 2C .0118.
e. YIELD (gpm): NA METHOD OF TEST NA
f. DISINFECTION: Type NA Amount NA
g. WATER ZONES (depth):
Top 12 Bottom 13 Top Bottom
Top Bottom Top Bottom
Top Bottom Top Bottom

7. CASING:

	Depth		Diameter	Thickness/ Weight	Material
Top 0'	Bottom 10'	Ft.	2"	sch40	PVC
Top	Bottom	Ft.			
Top	Bottom	Ft.			

8. GROUT:

	Depth		Material	Method
Top 0'	Bottom 6'	Ft.	Neat Cement	Pour
Top 6'	Bottom 8'	Ft.	Bentonite	Pour
Top	Bottom	Ft.		

9. SCREEN:

	Depth		Diameter	Slot Size	Material
Top 10'	Bottom 20'	Ft.	2 in.	0.010 in.	PVC
Top	Bottom	Ft.	in	in.	
Top	Bottom	Ft.	in	in.	

10. SAND/GRAVEL PACK:

	Depth		Size	Material
Top 8'	Bottom 20'	Ft.	#2	Silica Sand
Top	Bottom	Ft.		
Top	Bottom	Ft.		

11. DRILLING LOG

Top	Bottom	Formation Description
0'	1'	OVERBURDEN / Grass
1'	6'	Clayey Sands
6'	20'	Sands

12. REMARKS:

I DO HEREBY CERTIFY THAT THIS WELL WAS CONSTRUCTED IN ACCORDANCE WITH 15A NCAC 2C, WELL CONSTRUCTION STANDARDS, AND THAT A COPY OF THIS RECORD HAS BEEN PROVIDED TO THE WELL OWNER.

Stephen Keener 4-26-11
SIGNATURE OF CERTIFIED WELL CONTRACTOR DATE

Stephen W. Keener
PRINTED NAME OF PERSON CONSTRUCTING THE WELL

Submit within 30 days of completion to: Division of Water Quality - Information Processing,

Form GW-1b
Rev. 2/09

NON RESIDENTIAL WELL CONSTRUCTION RECORD

North Carolina Department of Environment and Natural Resources- Division of Water Quality

WELL CONTRACTOR CERTIFICATION # 3468-A

1. WELL CONTRACTOR:
Stephen W. Keener
Well Contractor (Individual) Name
Quantex, Inc.
Well Contractor Company Name
P.O. Box 41673
Street Address
Raleigh NC 27629
City or Town State Zip Code
(919) 219-9604
Area code Phone number

2. WELL INFORMATION:
WELL CONSTRUCTION PERMIT# WM0701019
OTHER ASSOCIATED PERMIT#(if applicable) NA
SITE WELL ID #(if applicable) MW-10

3. WELL USE (Check One Box) Monitoring ☑ Municipal/Public ☐
Industrial/Commercial ☐ Agricultural ☐ Recovery ☐ Injection ☐
Irrigation ☐ Other ☐ (list use)
DATE DRILLED 4-11-11

4. WELL LOCATION:
813 EVANS STREET 27858
(Street Name, Numbers, Community, Subdivision, Lot No., Parcel, Zip Code)
CITY: Greenville COUNTY Pitt
TOPOGRAPHIC / LAND SETTING: (check appropriate box)
☐ Slope ☐ Valley ☑ Flat ☐ Ridge ☐ Other
LATITUDE 36 ° ' " DMS N 35.607339 DD
LONGITUDE 79 ° ' " DMS W 77.373796 DD
Latitude/longitude source: ☑ GPS ☐ Topographic map
(location of well must be shown on a USGS topo map and attached to this form if not using GPS)

5. FACILITY (Name of the business where the well is located.)
Former 1-Hour Martinizing DSCA 74-0007
Facility Name Facility ID# (if applicable)
100 East Tenth Street
Street Address
Greenville NC 27858
City or Town State Zip Code
Preston Cannon Petitioner for DSCA 74-0007
Contact Name
312 Rutledge Road
Mailing Address
Greenville NC 27858
City or Town State Zip Code
( ) NA
Area code Phone number

6. WELL DETAILS:
a. TOTAL DEPTH: 29'
b. DOES WELL REPLACE EXISTING WELL? YES ☐ NO ☑
c. WATER LEVEL Below Top of Casing: NA FT.
(Use "+" if Above Top of Casing)

d. TOP OF CASING IS (-0.25') FT. Above Land Surface*
*Top of casing terminated at/or below land surface may require a variance in accordance with 15A NCAC 2C .0118.
e. YIELD (gpm): NA METHOD OF TEST NA
f. DISINFECTION: Type NA Amount NA
g. WATER ZONES (depth):
Top 16' Bottom 18' Top ____ Bottom ____
Top ____ Bottom ____ Top ____ Bottom ____
Top ____ Bottom ____ Top ____ Bottom ____

7. CASING:

Depth	Diameter	Thickness/ Weight	Material
Top 0' Bottom 14' Ft.	2"	sch40	PVC
Top ____ Bottom ____ Ft.			
Top ____ Bottom ____ Ft.			

8. GROUT:

Depth	Material	Method
Top 0' Bottom 10' Ft.	Neat Cement	Pour
Top 10' Bottom 12' Ft.	Bentonite	Pour
Top ____ Bottom ____ Ft.		

9. SCREEN:

Depth	Diameter	Slot Size	Material
Top 14' Bottom 29' Ft.	2 in.	0.010 in.	PVC
Top ____ Bottom ____ Ft.	____ in.	____ in.	
Top ____ Bottom ____ Ft.	____ in.	____ in.	

10. SAND/GRAVEL PACK:

Depth	Size	Material
Top 12' Bottom 29' Ft.	#2	Silica Sand
Top ____ Bottom ____ Ft.		
Top ____ Bottom ____ Ft.		

11. DRILLING LOG

Top	Bottom	Formation Description
0'	1'	OVERBURDEN / GRASS
1'	15'	Clayey Sands
15'	29'	Sand - MED

12. REMARKS:

I DO HEREBY CERTIFY THAT THIS WELL WAS CONSTRUCTED IN ACCORDANCE WITH 15A NCAC 2C, WELL CONSTRUCTION STANDARDS, AND THAT A COPY OF THIS RECORD HAS BEEN PROVIDED TO THE WELL OWNER.

Stephen Keener 4-26-11
SIGNATURE OF CERTIFIED WELL CONTRACTOR DATE

Stephen W. Keener
PRINTED NAME OF PERSON CONSTRUCTING THE WELL

Submit within 30 days of completion to: Division of Water Quality - Information Processing,

Form GW-1b
Rev. 2/09

Assessment Report Forms
for
North Carolina Dry-Cleaning Solvent Cleanup Act Program

Facility Name:	One Hour Martinizing
	111 East Tenth Street Greenville, Pitt County, North Carolina
DSCA ID No.:	74-0007
Submittal Date:	1/27/2009
Prepared By:	Withers & Ravenel
	1410 Commonwealth Drive, Unit 101 Wilmington, North Carolina 28403

Table of Contents		AR TOC
DSCA ID No.: 74-0007		
Form/Att. No.	**Description**	**Check box if included**
	Assessment Report Forms (Page 1 of 2)	
Form 1	Facility Information	☑
Form 2	Site History	☑
Form 3	Land Use and Receptor Survey	☑
Form 4	Groundwater Use, Surface Water Use, and Ecological Survey	☑
Form 5	Site Stratigraphy and Hydrogeology	☑
Form 6	Non-Aqueous Phase Liquid (NAPL) Information	☑
Form 7	Prioritization Ranking	☑
	Assessment Report Attachments	
Att. 1	Site location map.	☑
Att. 2	Historical aerial photograph.	☐
Att. 3	Historical maps and fire insurance records.	☐
Att. 4	Facilty as-building drawings.	☐
Att. 5	Facility layout diagram indicating the following (if applicable): (i) Service doors, (ii) current and historic location of drycleaning equipment, (iii) solvent/waste storage areas (including ASTs and USTs), (iv) distillation unit, (v) location of septic tank/drainfield or sanitary sewer lateral line, (vi) floor drains, (vii) storm sewer, (viii) expansion joints and cracks in floor, (ix) location of utilities, and (x) location of dumpsters.	☐
Att. 6	Utility records, including videos of sewer lines and pressure testing.	☐
Att. 7	Scaled vicinity map illustrating surrounding land use within 500 foot and 0.5 mile radii of the site.	☐
Att. 8	USGS Quad map with plotted water well location(s) within the 1,500 foot and 0.5 mile radii of the site.	☐
Att. 9	Area geologic map/relevant cross-sections.	☑
Att. 10	Soil boring logs which must include the following: (i) OVA or other field screening readings, (ii) depth of samples collect, (iii) odor, (iv) staining, (v) blow counts (if applicable), (vi) interval recovery, (vii) structures and/or bedding, (viii) moisture content, and (ix) borhole disposition (abandonment or conversion to monitor well).	☐
Att. 11	Site map showing location(s) of soil sample(s).	☑
Att. 12	Soil contaminant concentration maps showing the concentration at each sampling point.	☑
Att. 13	Soil isoconcentration maps.	☑
Att. 14	Site map showing location(s) of monitoring well(s).	☑
Att. 15	Well completion diagrams and records of construction submitted to state.	☐
Att. 16	Groundwater gradient map.	☐
Att. 17	Groundwater contaminant concentration maps showing the concentration at each sampling point and isoconcentration maps.	☑
Att. 18	Map showing location(s) of surface water sample(s) (if applicable).	☐
Att. 19	Surface water concentratin map showing the concentration at each sampling point (if applicable).	☐

Table of Contents		AR TOC
DSCA ID No.: 74-0007		
Form/Att. No.	**Description**	**Check box if included**
	Assessment Report Attachments continued (Page 2 of 2)	
Att. 20	Map showing location(s) of water supply well(s) (if applicable).	☐
Att. 21	Laboratory analytical reports including chain-of custody and quality assurance/quality control (QA/QC) documentation.	☑
Att. 22		☐
Att. 23		☐
Att. 24		☐
Att. 25		☐

Note:
1. All maps must include a bar scale, north arrow, site name, DSCA ID No., and date.

Facility Information AR Form 1

DSCA ID No.: 74-0007

☐ Currently operating facility since	
☑ Previously operating facility since	1960-1968
☐ Temporarily out of service from	to
☑ Permanently out of service since	1968

Provide the name, address and telephone number of the current dry-cleaning business and the dry-cleaning business owner. If no current business at the facility, provide the name and address of the last dry-cleaner doing business at the site.

Facility name:	One Hour Martinizing
Facility address (include name of shopping centre and the county where facility is located):	111 East 10th Street Greenville, North Carolina 27834
Facility telephone number (if applicable):	
Facility Owner's Name:	Preston Cannon, Jr.
Owner's Mailing Address:	315 Queen Anne's Road Greenville, North Carolina 27858
Owner's Telephone number:	(252) 355-2117

Provide the earliest known date of the facility use for dry-cleaning buisness and the name of the dry-cleaning buisness (if applicable).

According to Petitioner the site operated as "One Hour Martinizing" between 1960 and 1968.

Provide information on businesses that occupied the facility that may use or have used solvents and other chemicals. Identify solvents and chemicals used at the facility (if applicable).

Based on the levels of Perchloroethene (PCE) detected in site soils and groundwater proximal to the former dry cleaning business, PCE was the primary dry cleaning solvent used at this site.

Report Prepared By

I certify that the prioritization assessment as stated in this report was prepared under my supervision.

Brian J. Bellis — Contractor

NORTH CAROLINA LICENSED SEAL 980 GEOLOGIST BRIAN J. BELLIS

1/27/2008 — Date

Brian J. Bellis — Printed Name

Withers & Ravenel — Company Name

Number of dry-cleaning machines used at current or former facility: **N/A**

Type of dry-cleaning machines used at current or former facility (e.g., transfer, dry-to-dry with vented exhaust, etc.).

The property owner and petitioner was not involved in the dry cleaning business and leased the building to the dry cleaning operator who is now deceased. Given the timeframe of operation (1960 to 1968) we expect that old style transfer type machines were in use at the time.

Type of dry-cleaning solvents used by each type of machine.

Based on subsurface sample analysis results, Perchloroethene was the main dry-cleaning solvent in use at this site.

Where are/were the dry-cleaning solvents stored at the facility site? (Machine base tanks, UST(s), AST(s), etc.)

nknown: Based on extent of soil contamination, dry cleaning solvents were likely stored inside the facility

Are chlorinated dry cleaning solvents delivered to the facility by means of a closed, direct-coupled delivery system?

No. Dry cleaning is no longer performed at the site and the building is vacant.

Are virgin (new) solvents stored in containers other than the dry-cleaning machine?	○ Yes	◉ No
Are or were any USTs or ASTs used to store any petroleum or hazardous substances other than dry-cleaning solvents at the facility	○ Yes	◉ No

If yes, provide information about the substance stored, year taken out of service, virgin solvent or waste solvent, etc.

The adjacent property to the west operated as a gasoline service station for many years and had been listed as a leaking underground storage tank (LUST) location.

What methods of disposal are used or have been used for separator water?

Unknown

Provide information about the current/historical waste management practices, including types of wastes that are/were generated and how the waste are/were stored and managed.

No information regarding waste handling and disposal at the dry cleaning facility while active could be obtained. The petitioner/site owner was not involved in the dry cleaning business and the former operator of the dry cleaning business is deceased.

DSCA ID No.: 74-0007

Ground Surface Conditions

☐ Unpaved
☑ Paved % area paved:
Any visible cracks in pavement? ◉ Yes ○ No

Subsurface Utilities

In the space provided for additional notes, please indicate the location and distance from soil and/or groundwater contamination to the nearest subsurface utility line and access point (e.g., manhole).

Have the utilities been screened for vapor levels? ○ Yes ◉ No

If YES, attach documentation of vapor monitoring results.

Indicate which of the following utilities currently act as conduits, or are likely to become conduits, under the columns entitled "Impacted by Release," and "Potentially Impacted by Release," respectively.

	Depth [feet]	Type of Material	Flow Direction	Impacted by Release	Potentially Impacted by Release
☑ Sanitary sewer	~3 ft	PVC	South?	Possibly	Trench around pi
☐ Septic drainfields					
☐ Covered storm sewer					
☐ Open ditch					
☑ Water line	~3 ft	Steel	Unknown	Possibly	Trench around pi
☑ Gas line	~3 ft	Steel	Unknown	Possibly	Trench around pi
☑ Electric line	~3 ft	Wire/Steel	N/A	Possibly	Trench around pi
☐ Telephone line					
☐ Other					

Release Characterization

Date the release was discovered	January 15, 2008	
Date the release was reported	March 1, 2008	
Type of release (explain)	Subsurface contamination by PCE from the site, and petroleum from the adjacent former LUST site was documented in a subsurface investigation report prepared by Allied Environmental Services, PLLC.	
Has the release been abated?	◉ Yes ○ No	
Is native soil impacted?	◉ Yes ○ No	
Is groundwater impacted?	◉ Yes ○ No	
Is surface water impacted?	○ Yes ◉ No	

Release Discovery

☑ UST(s)/AST(s) removal
☐ Inventory control
☐ Facility remodeling/Construction activity
☑ Environmental assessment
☐ Other (specifiy) Preliminary investigation performed by Allied Environmental Services, PLLC.
☑ Known spill incident
☐ Citizen complaint
☐ Assessment on adjacent property
☐ Unknown

Site History AR Form 2

DSCA ID No.: 74-0007

Source(s) of Release

- [x] Spills/Overfills
- [ ] Piping
- [ ] Other (specifiy) The adjacent property was reported as a LUST location. The on-site building is currently vacant and all former cleaning machinery has been removed.
- [x] Tanks
- [x] Unknown

Chemicals of Concern

- [ ] 1,1,1-Trichloroethane
- [ ] 1,1,2,2-Tetrachloroethane
- [ ] 1,1,2-Trichloroethanae
- [ ] 1,1-Dichloroethane
- [ ] 1,1-Dichloroethylene
- [ ] 1,2-Dichloroethane (EDC)
- [x] Benzene
- [ ] Benzo(a)pyrene
- [ ] Carbon tetrachloride
- [ ] Chloroform
- [x] Others
  - TPH-Gasoline
- [x] cis-1,2-Dichloroethylene
- [x] Ethylbenzene
- [x] Methyl tert-butyl ether (MTBE)
- [x] Naphthalene
- [x] Tetrachloroethylene
- [x] Toluene
- [x] trans-1,2-Dichloroethylene
- [x] Trichloroethylene
- [x] Vinyl chloride
- [x] Xylenes (total)

Additional Notes

In addition to the above chemicals of concern, the petroleum product contaminants Isopropyl Ether, n-Butylbenzene, sec-Butylbenzene, tert-Butlybenzene, Isopropylbenzene, p-Isopropyltoluene, n-propylbenzene, 1,2,4-trimethylbenzene, and 1,3,5-Trimethylbenzene were detected in groundwater samples. The presence of these petroleum related compounds is most likely related to the former UST release at the adjacent site to the east.

Land Use and Receptor Survey AR Form 3

DSCA ID No.: 74-0007

Land Use

On-site Land Use	Current	Future
Residential	○	○
Commercial/Industrial	◉	◉
Other	○	○

Justify the choice for future land use:

Site is currently zoned as Commercial.

Immediate Off-site Land Use (within 500 feet - at a minimum, state whether, residential, commercial/industrial, agricultural, or ecologically sensitive area). Indicate distances to residential/commercial/industrial buildings having basements which are occupied.

North:	Single Family Residential, 75feet
Northeast:	Single Family Residential, 75feet
Northwest:	Schezuan Garden Restaurant (currently out of business), 50 feet
South:	Commercial Shopping Center, 100 feet
Southeast:	Sheetz Convenience Store, 150
Southwest:	Commercial Building, 150 feet
West:	Former Service Station (LUST site) now a ECU parking lot, 75 feet
East:	Parking Lot and Abandoned Chuch, 20 and 100 feet

Receptor Survey

List the distance and the direction (downgradient, upgradient, or crossgradient) to these facilites within 0.5 mile radius of the site (If necessary provide details in additional notes).

	Distance [feet]	Direction
Nearest residential site:	75	Crossgradient
Nearest commercial/industrial site:	75	Upgradient
If site is vacant, nearest inhabited building:	75	Crossgradient
Nearest ecologically sensitive area (agricultural areas, parks/recreational areas, widlife sanctuaries, wetlands):	1,000 feet	Downgradient
Nearest school, hospital, day care, nursing home etc.:	500 (ECU)	Crossgradient
Nearest public supply well:	<1/2 mile	Crossgradient
Nearest private supply well:	>1,500 feet	Unkown
Nearest point of exposure (current or potential) for groundwater ingestion:	1,000 feet	Downgradient
Nearest surface water body:	1,000 feet	Downgradient

Additional Notes

Greens Mill Run, located about 1,000 feet southeast is the closest exposed surface water body and point of exposure to groundwater.

Groundwater Use, Surface Water Use, and Ecological Survey AR Form 4

DSCA ID No.: 74-0007

Groundwater Use

Is the groundwater used on-site? ○ Yes ◉ No

If yes, specify the use:

- Potable domestic supply ☐
- Non-potable domestic supply ☐
- Public/Municipal supply ☐
- Industrial supply ☐
- Agriculture ☐
- Other (explain in space provided below)

Surface Water Use

Is a surface water body present in 500 feet radius of the site? ○ Yes ◉ No

If yes, specify the following:

Type of water body ○ River ○ Wet weather creek ○ Drain ditch ○ Regular creek ◉ Other:

North Carolina classification of water body N/A

Does the water discharges into lake or reservoir? ○ Yes ◉ No

Surface water use:

- Potable domestic supply ☐
- Non-potable domestic supply ☐
- Public/Municipal supply ☐
- Industrial supply ☐
- Agriculture ☐
- Other (explain in space provided below)

Ecological Receptors and Habitats

1. Are there any ecological receptors or habitats present within 500 feet radius from the site? ○ Yes ◉ No
2. Are there visible indications of stressed receptors or habitats on or near the site that may be a result of chemical release? ○ Yes ◉ No

Water Well(s) Information

1. Are there public/municipal water supply wells within 0.5 mile radius from the ◉ Yes ○ No
2. Are there private water supply wells within 1500 feet radius from the site? ○ Yes ◉ No

Additional Notes

The Washington Street Water Supply Well is located within 1/2 mile of the former dry cleaning site.

Site Stratigraphy and Hydrogeology AR Form 5

DSCA ID No.: 74-0007

Stratigraphy of Site

Depth [feet]	Description of Soil
0 to 0.5	Surficial sand and gravel (construction fill)
Varies	Clay and Sandy Clay
Varies	Fine sand, silty and clayey sand
>10 feet	Fine to medium glauconitic sand
Predominent Soil Type:	Sand

Depth [feet]	Type of Bedrock and Geological Formation
25 feet (assumed)	Yorktown Formation

Hydrogeology of the Saturated Impacted Zone

Type of Aquifer? ○ Confined ◉ Unconfined ○ Perched

Underlying predominent aquifer name:	Unconfined surfical aquifer
Aquifer classification (if applicable):	None
Range of groundwater level fluctuations [feet bgs]:	~6 to ~10 feet
Average depth to water table/static water level:	6.42
Flow direction:	Southeast
Hydraulic gradient (i) [--]:	~0.02
Hydraulic conductivity (K) [cm/year]:	3154 cm/year
Darcy velocity (K x i) [cm/year-calculated]:	
Annual precipitation (average for last 30 years) [inches/year]:	49.34

Additional Notes

General information on subsurface conditions was contained in the report prepared by Allied Environmental Services. Based on soil boring information obtained during W&R's investigation, a clayey layer capable of creating perched water table conditions exists in the southern portion of the area of investigation, and beneath the former dry cleaning facility. Perched water conditions cease to the east and north of the former dry cleaning facility and the depth to the water table increases by about ten feet in these areas. It appears that contaminated groundwater beneath the former dry cleaning building has flowed off of the shallow clay towards the north, east and south, has reached the lower perennial water table, and has migrated further downgradient to the east and southeast.

Non-Aqueous Phase Liquid (NAPL) Information AR Form 6

DSCA ID No.: 74-0007

Was NAPL discovered at the site: ○ Yes ◉ No

If Yes, type of NAPL discovered: LNAPL ☐ DNAPL ☐

Summary of LNAPL

Date LNAPL was discovered?

Type of LNAPL discovered (if known):

Number of monitoring wells/points currently at site:

Number of monitoring wells/points containing LNAPL (Note if any, list the monitoring wells/points containing NAPL):

Has LNAPL removal started?

If No, cite reason:

If Yes, specify method of removal (bailer, pump, etc.):

Removal points (MW #, Boring #, etc.):

Total number of recovery events to date:

Total amount of purge-water recovered:

Total amount of LNAPL recovered:

Date of latest LNAPL removal report submitted:

Summary of DNAPL

Date DNAPL was discovered?

Type of DNAPL discovered (if known):

Number of monitoring wells/points currently at site:

Number of monitoring wells/points containing DNAPL (Note if any, list the monitoring wells/points containing

Has DNAPL removal started?

If No, cite reason:

If Yes, specify method of removal (bailer, pump, etc.):

Removal points (MW #, Boring #, etc.):

Total number of recovery events to date:

Total amount of purge-water recovered:

Total amount of DNAPL recovered:

Date of latest DNAPL removal report submitted:

Additonal Notes

The highest concentrations of PCE and its daughter products occur in close proximity to the former dry cleaning building. The highest PCE concentration (5,892 ug/L) was detected in existing well MW-2. This concentration is less than 10% of the solubility of PCE. Therefore, we do not expect the presence of DNAPL.

Prioritization Ranking	AR Form 7
DSCA ID No.: 74-0007	

Please complete the site prioritization by checking all boxes that apply to the site. You may have multiple boxes checked in different categories. The highest number checked will be the assigned current priority ranking. For example, if a 1.1 box is checked and a 2.3 box is checked, the assigned priority will be 1.1.

Public or Municipal Supply Wells (Check all that apply)

1.1 ☐	An active municpal/ public water supply well, public water supply line, or public surface water intake is impacted or immediately threatened by the release. (Ensure the public authority and the local DENR Regional Office have been notified.)
2.4 ☐	A non-active municipal/public water supply well is impacted or immediately threatened. (Do not consider monitor wells.) (Ensure the user and the local DENR Regional Office have been notified.) Examples of an inactive well include a well with no power supply, no pump, has not been used for more than 1 year, etc.
2.5[1] ☐	Groundwater is impacted above 2L standards and an active or non-active municipal/public water supply well is located within 500 feet of the source area. (Check if a well is present, but the well use is unknown). **(See footnote 1 before responding.)**
3.1[1] ☑	Groundwater is impacted above 2L standards and an active or non-active municipal/ public water supply well is located between 500 and 1500 feet from the source area. **OR** Impacted groundwater is located within a designated wellhead protection area. (Check if a well is present in this interval, but the well use is unknown.) **(See footnote 1 before responding.)**

Domestic (Private) Drinking Water Wells (Check all that apply)

1.2 ☐	An active domestic drinking water supply well is impacted or immediately threatened by the release. The user has no access to another public or private water supply. (Ensure the well user and the local DENR Regional Office have been notified.)
2.3 ☐	An active domestic drinking water supply well is impacted or immediately threatened by the release, but the user has access to another public or private water supply. (Ensure the user and the local DENR Regional Office have been notified.)
2.4 ☐	An non-active domestic drinking water supply well is impacted or immediately threatened. (Do not consider monitor wells.) (Ensure the user and the local DENR Regional Office have been notified.)
2.5[1] ☐	Groundwater is impacted above 2L standards and an active or non-active domestic drinking water supply well is located within 500 feet of the source area. (Check if a well is present, but the well use is unknown). **(See footnote 1 before responding.)**
3.1[1] ☐	Groundwater is impacted above 2L standards and an active domestic drinking water supply well is located between 500 and 1500 feet from the source area. **OR** Impacted groundwater is located within a desiganated wellhead protection area. (Check if a well is present in this interval, but the well use is unknown.) **(See footnote 1 before responding.)**

Domestic (Private) Non-Drinking Water Wells (Check all that apply)
(Examples of these types of wells are those used used for irrigation, swimming pools, etc.)

1.5 ☐	An active domestic non-drinking water supply well is impacted or immediately threatened by the release. Do not consider monitor wells. (Ensure the well user and the local DENR Regional Office have been notified.)
3.3[1] ☐	Groundwater is impacted above 2L standards and an active or non-active domestic non-drinking water supply well is located within 1500 feet of the source area. **(See footnote 1 before responding.)**

Prioritization Ranking AR Form 7

DSCA ID No.: 74-0007

Please complete the site prioritization by checking all boxes that apply to the site. You may have multiple boxes checked in different categories. The highest number checked will be the assigned current priority ranking. For example, if a 1.1 box is checked and a 2.3 box is checked, the assigned priority will be 1.1.

Vapor Impacts (Check all that apply)

1.3	☐	Concentrations of vapors that could cause acute health effects are present in a residence or other building. (Ensure the building owners, tenants and the local DENR Regional Office have been notified.)
2.1	☐	A former vapor impact is associated with this site, or DNAPL is present in close proximity to subsurface utilities or other natural or man-made conduit and there is potential for the accumulation of vapors that could cause acute effects in a building or other structure.

Surface Water Impacts (Check all that apply)

1.4	☐	Surface water is impacted above the Division of Water Quality's surface water standards or criteria established in Section 15A N.C.A.C. 2B (see Table 1) or has been designated by the Division of Water Quality as High Quality Waters (HQW), Outstanding Resource Waters (ORW) , Trout Waters (Tr) or Uniquie Wetlands (UWL). To view water classifications, go to: http://h2o.enr.state.nc.us/csu/swc.html (Ensure the local DENR Regional Office has been notified.)
2.6	☐	Groundwater is impacted above 2L standards and the impacted groundwater zone may discharge within 500 feet of the source area to a surface water body. Groundwater must be expected to be hydrologically connected to the surface water body.
3.2	☐	Groundwater is impacted above 2L standards and the impacted groundwater zone may discharge between 500 and 1500 feet of the source area to a surface water body. Groundwater must be expected to be hydrologically connected to the surface water body.

Groundwater Impacts

4.1	☑	Groundwater is impacted above 2L standards (see Table 2).

Soil Impacts (Check all that apply)

1.6	☐	Soils contaminated by the release are exposed and unsecured from public access and dwellings, playgrounds, parks, day care centers, schools, or similar use facilities.
4.2	☐	Soils only (not groundwater) impacted above the Superfund Inactive Hazardous Sites Branch Section's health-based Soil Remediation Goals (see Table 3).

DNAPL or LNAPL

2.2	☐	DNAPL is observed at the site in an amount greater than 0.25 inch or the maximum dissolved-phase groundwater concentration at the site exceeds 10% of the solubility of the contaminants. (The DSCA Program curently uses a solubility of 150 ppm for PCE.) LNAPL observed at the site in an amount greater than 0.1 inch.

Notes:

1. Consider only wells producing from the same interval as the affected groundwater zone at the release site, wells which may provide a cross-contamination pathway, or wells where completion details are unknown.
2. Reference Tables - Table 1, Table 2, and Table 3.

Reference Tables for AR Form 7

Table 1
Division of Water Quality's Surface Water Standards or Criteria Established in Section 15A NCAC 2B

Constituent	CAS #	Standard/Criteria (ppb)
Chloroethane	75-00-3	860
1,1 – Dichloroethane	75-34-3	3400
1,1 Dichloroethylene	75-35-4	0.057
1,2-trans-Dichloroethylene	156-60-5	680
1,2-cis-Dichloroethylene	156-59-2	340
Tetrachloroethylene	127-18-4	0.8
Trichloroethylene	79-01-6	3.08
Vinyl Chloride	75-01-4	2

Note:
The standards/criteria listed above are the most conservative values for freshwater. For saltwater impacts, contact the appropriate DSCA project manager. The entire Division of Water Quality's surface water standards/criteria table can be found on the web at: http://h2o.enr.state.nc.us/csu/critable100603.pdf

Table 2
Subchapter 2L Groundwater Standards

Constituent	CAS #	2L Standard (ppm)
Chloroethane	75-00-3	2.8
1,1 – Dichloroethane	75-34-3	0.7
1,1 Dichloroethylene	75-35-4	0.007
1,2-trans-Dichloroethylene	156-60-5	0.07
Tetrachloroethylene	127-18-4	0.0007
Trichloroethylene	79-01-6	0.0028
Vinyl Chloride	75-01-4	0.000015

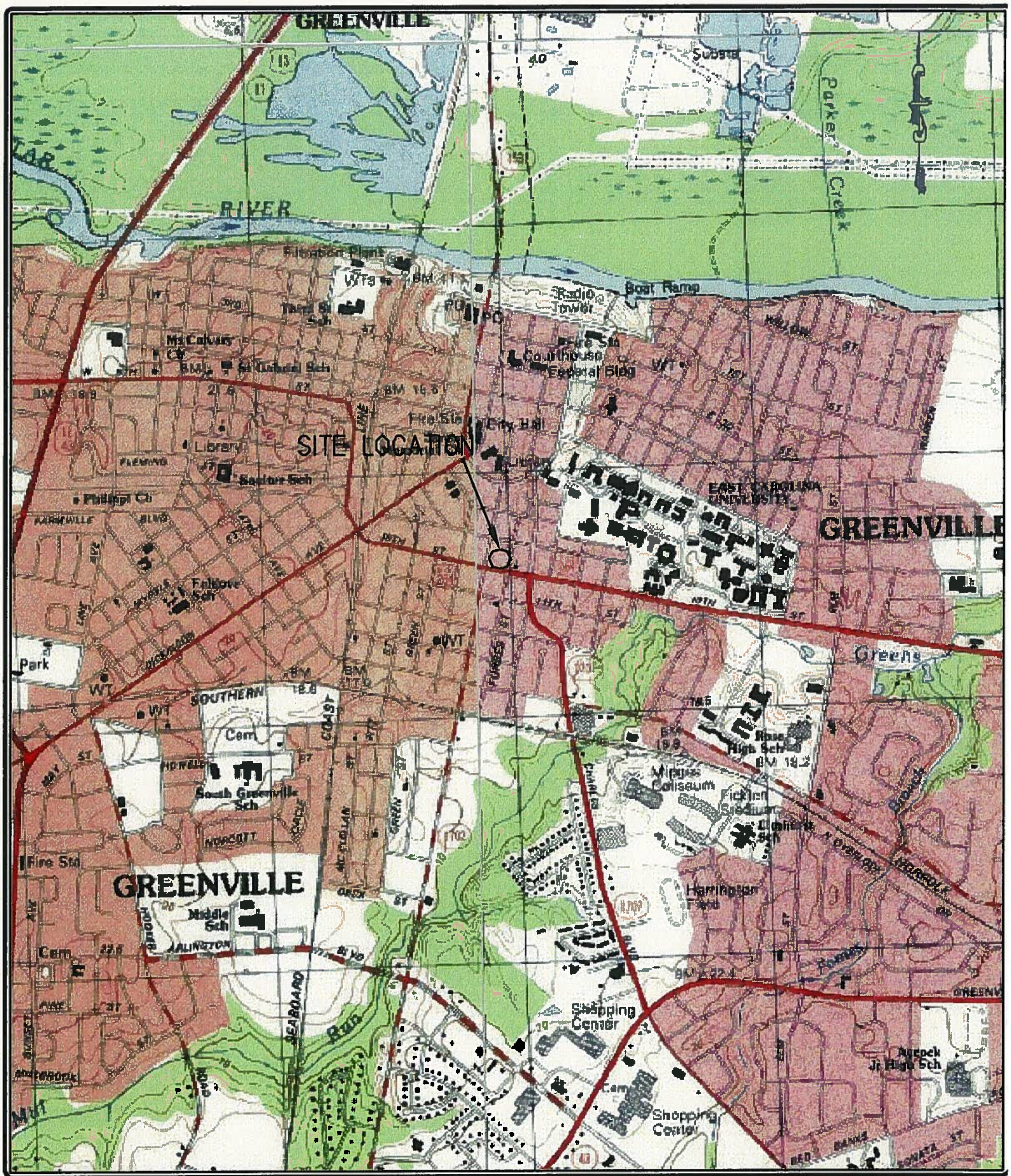
Note:
The entire 2L standards and interim standards can be found at:
http://gw.ehnr.state.nc.us/gwstand_frame.htm and http://gw.ehnr.state.nc.us/interim.htm

Reference Tables for AR Form 7

Table 3
Inactive Hazardous Sites Branch Soil Remediation Goals (January 2005)

Constituent	CAS #	Soil Remediation Goal (ppm)
Chloroethane	75-00-3	3
1,1 – Dichloroethane	75-34-3	102
1,1 Dichloroethylene	75-35-4	24
1,2-trans-Dichloroethylene	156-60-5	13.8
1,2-cis-Dichloroethylene	156-59-2	8.6
Tetrachloroethylene	127-18-4	0.48
Trichloroethylene	79-01-6	0.053
Vinyl Chloride	75-01-4	0.079

Note:
The entire Inactive Hazardous Sites Branch's soil remediation goal table can be found at:
http://www.wastenotnc.org/soiltable.pdf



WITHERS & RAVENEL

Site Location Map

One Hour Martinizing
111 East Tenth Street
Greenville, North Carolina

DRAWN BY:	SCALE:	ATT NO.
MJM	1"=1000'	1
APPROVED BY:	DATE:	JOB NO:
BJB	08/18/06	[illegible]

South Evans Street

East 10th Street

Forbes Street

B-42
B-41
B-40
B-44
B-4
B-3
B-5
B-2
B-8
B-13
B-9
B-14
B-15
B-16
B-17
B-18
B-19
B-20
B-21
B-22
B-23
B-24
B-10
B-6
B-7
B-11
B-12
B-36
B-37
B-38
B-39
B-33
B-34
B-35
B-27
B-28
B-29
B-30
B-31
B-32
B-26
B-25
B-43

Former One-Hour
Martinizing Facility

ASPHALT

ASPHALT

LEGEND

B-1	SOIL BORING LOCATION
———	Exterior Building Walls (approximate location)
— · —	Parcel Boundary
—E—	Electric Line
—G—	Gas Line
—SS—	Stormwater Line
—W—	Water Line

NOTES SAMPLING LOCATIONS & BUILDING CORNERS DETERMINED BY W&R R.L.S.

GRAPHIC SCALE

30 0 15 30 60

1 inch = 30 ft.

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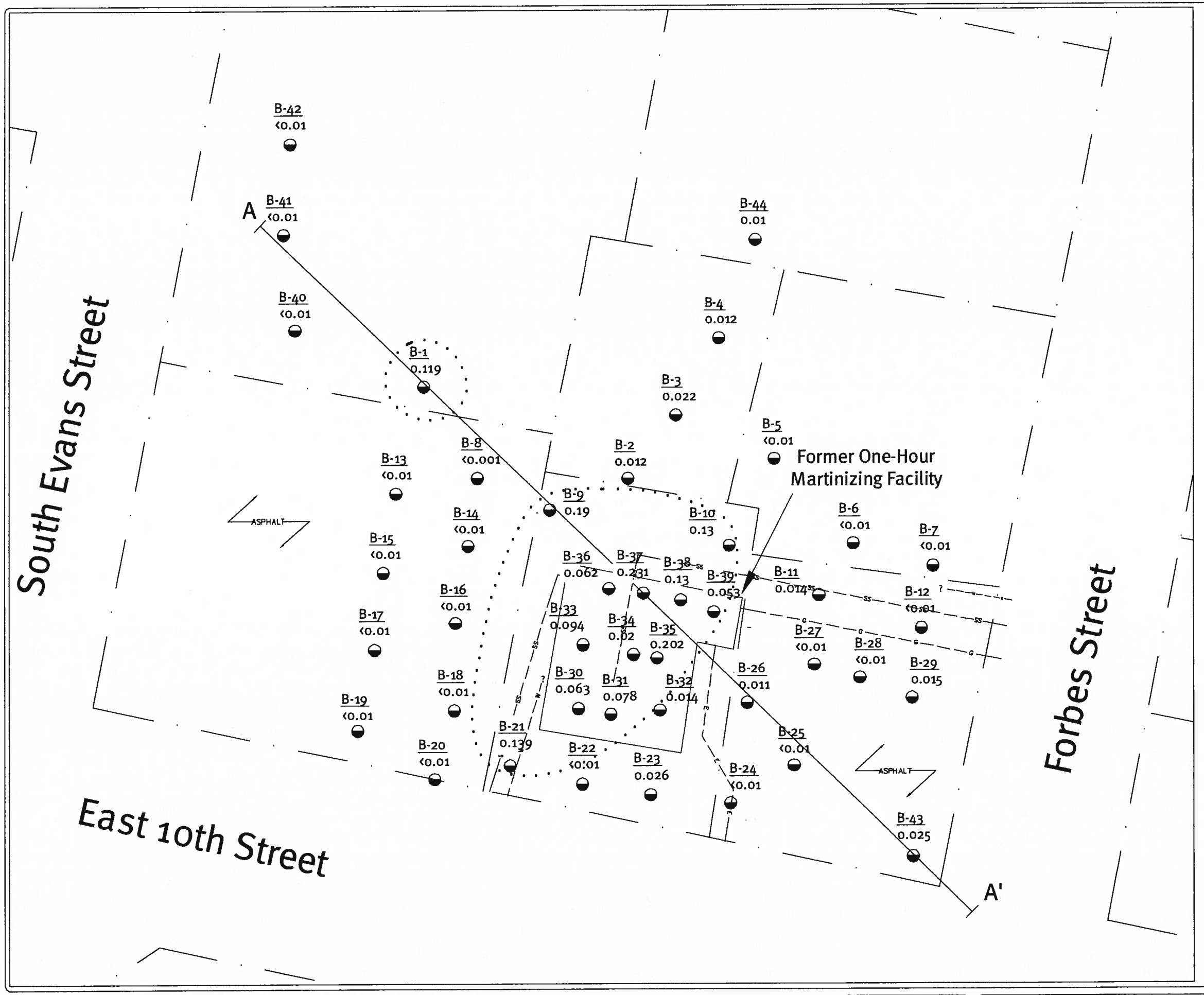
Revisions			
No.	Description	Date	By

DSCA #74-0007
Former One Hour Martinizing Facility
Greenville, Pitt County, North Carolina

Soil Sampling Locations

Drawn By	MJM	Scale	1"=30'
Checked By	BJB	Date	1/26/09

Job No. 02050498.42
Att. No. 1



LEGEND

B-1
0.036
SOIL BORING LOCATION
(PCE CONCENTRATION IN MG/L)

APPROXIMATE EXTENT OF PCE CONCENTRATIONS
≥ 0.0342 MG/KG IN UNSATURATED SOILS

A — A' LOCATION OF GEOLOGIC CROSS SECTION

Exterior Building Walls (approximate location)

Parcel Boundary

—E— Electric Line

—G— Gas Line

—SS— Stormwater Line

NOTES:
ALL ANALYTICAL RESULTS IN mg/kg.
ONLY PCE CONCENTRATION DETECTED IN INDIVIDUAL SAMPLES ARE SHOWN; SEE REPORT FOR COMPLETE ANALYTICAL RESULTS.

LOCATIONS OF EXISTING INTERNAL BUILDING WALLS ARE APPROXIMATE.

SOIL BORING LOCATIONS & BUILDING CORNERS DETERMINED BY W&R R.L.S.

GRAPHIC SCALE
30 0 15 30 60
1 inch = 30 ft.

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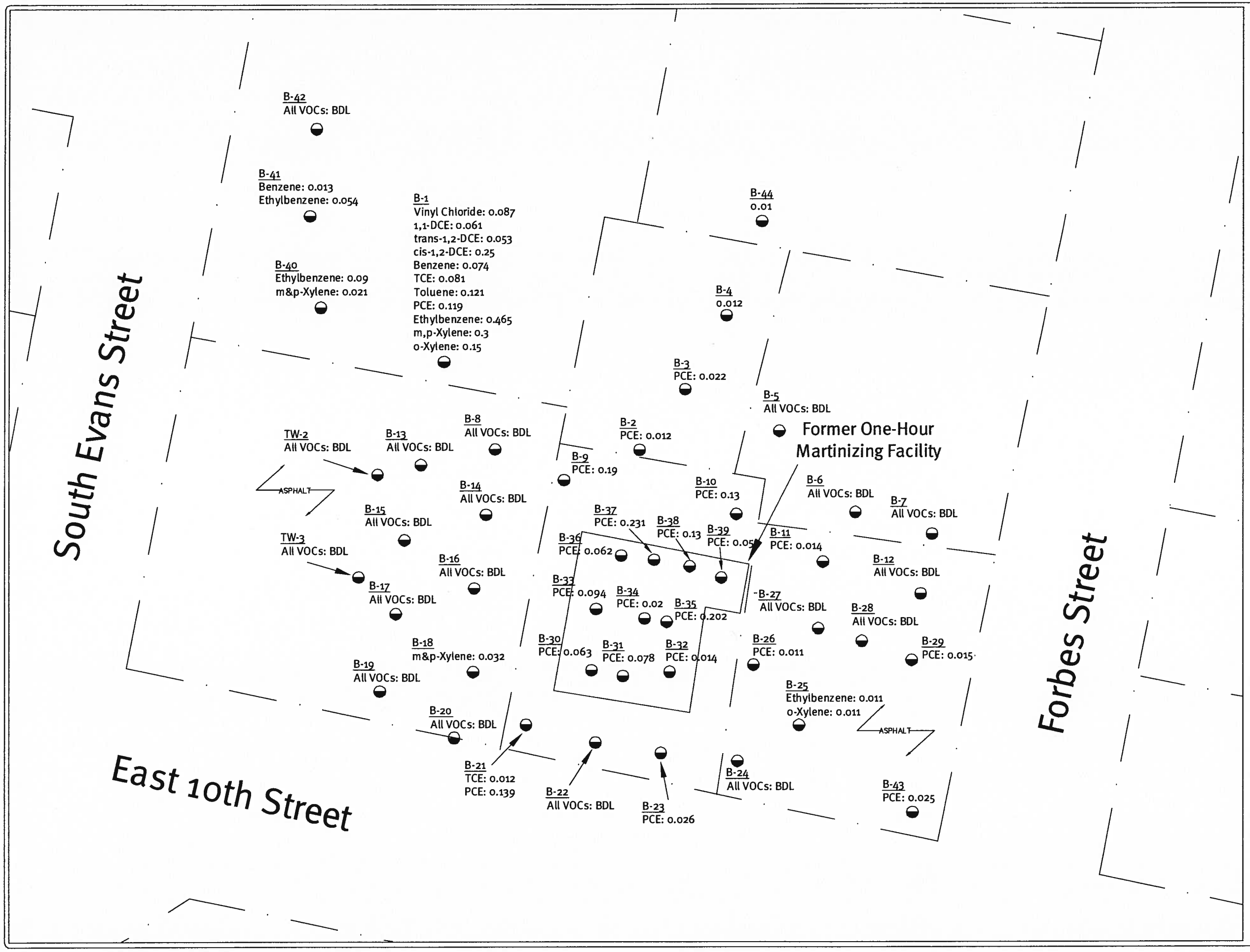
Revisions			
No.	Description	Date	By

DSCA #74-0007
Former One Hour Martinizing Facility
Greenville, Pitt County, North Carolina

PCE Concentrations in Surficial Soils (0'-3')

Drawn By: MJM	Scale: 1"=30'
Checked By: BJB	Date: 01/26/09

Job No. 02060498.42
Sheet No. 2a



LEGEND

B-1
TCE: 0.036

SOIL BORING LOCATION
(VOC Concentration in mg/L)

Exterior Building Walls (approximate location)

Parcel Boundary

NOTES:
ALL ANALYTICAL RESULTS IN mg/kg. SEE REPORT FOR COMPLETE ANALYTICAL RESULTS.

LOCATIONS OF EXISTING INTERNAL BUILDING WALLS ARE APPROXIMATE.

MONITORING WELL LOCATIONS & BUILDING CORNERS DETERMINED BY W&R R.L.S.

GRAPHIC SCALE

30 0 15 30 60

1 inch = 30 ft.

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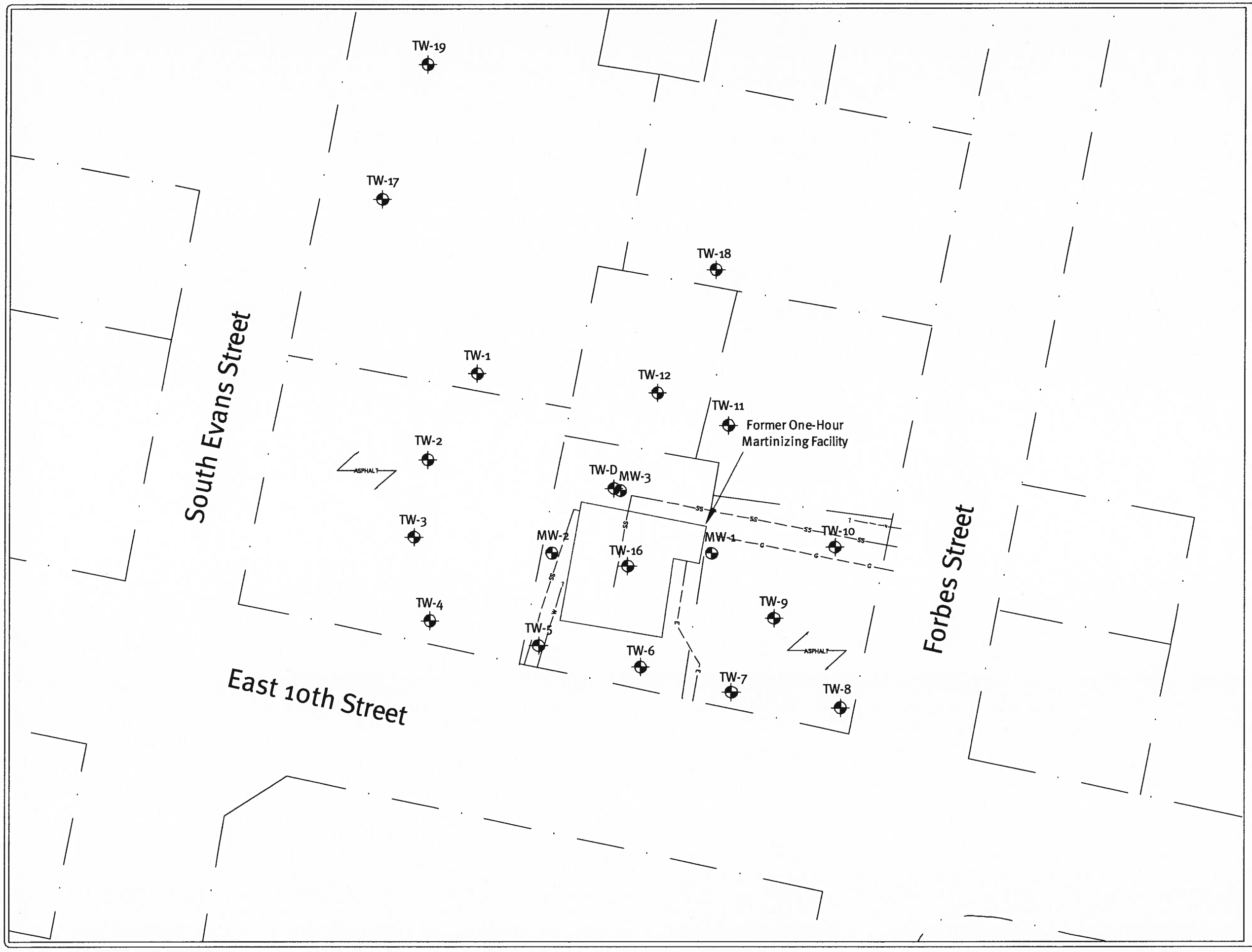
Revisions			
No.	Description	Date	By

DSCA #74-0007
Former One Hour Martinizing Facility
Greenville, Pitt County, North Carolina

VOC Concentrations in Soil

Drawn By: MJM	Scale: 1"=30'
Checked By: BJB	Date: 1/26/09

Job No. 02060498.42
Att. No. 2b



LEGEND

- TW-6 — Temporary Monitoring Well Location
- MW-1 — Type II Monitoring Well Location
- Exterior Building Walls (approximate location)
- Parcel Boundary
- E — Electric Line
- G — Gas Line
- SS — Stormwater Line
- W — Water Line

NOTES SAMPLING LOCATIONS & BUILDING CORNERS DETERMINED BY W&R R.L.S.

GRAPHIC SCALE

40 0 20 40 80

1 inch = 40 ft.

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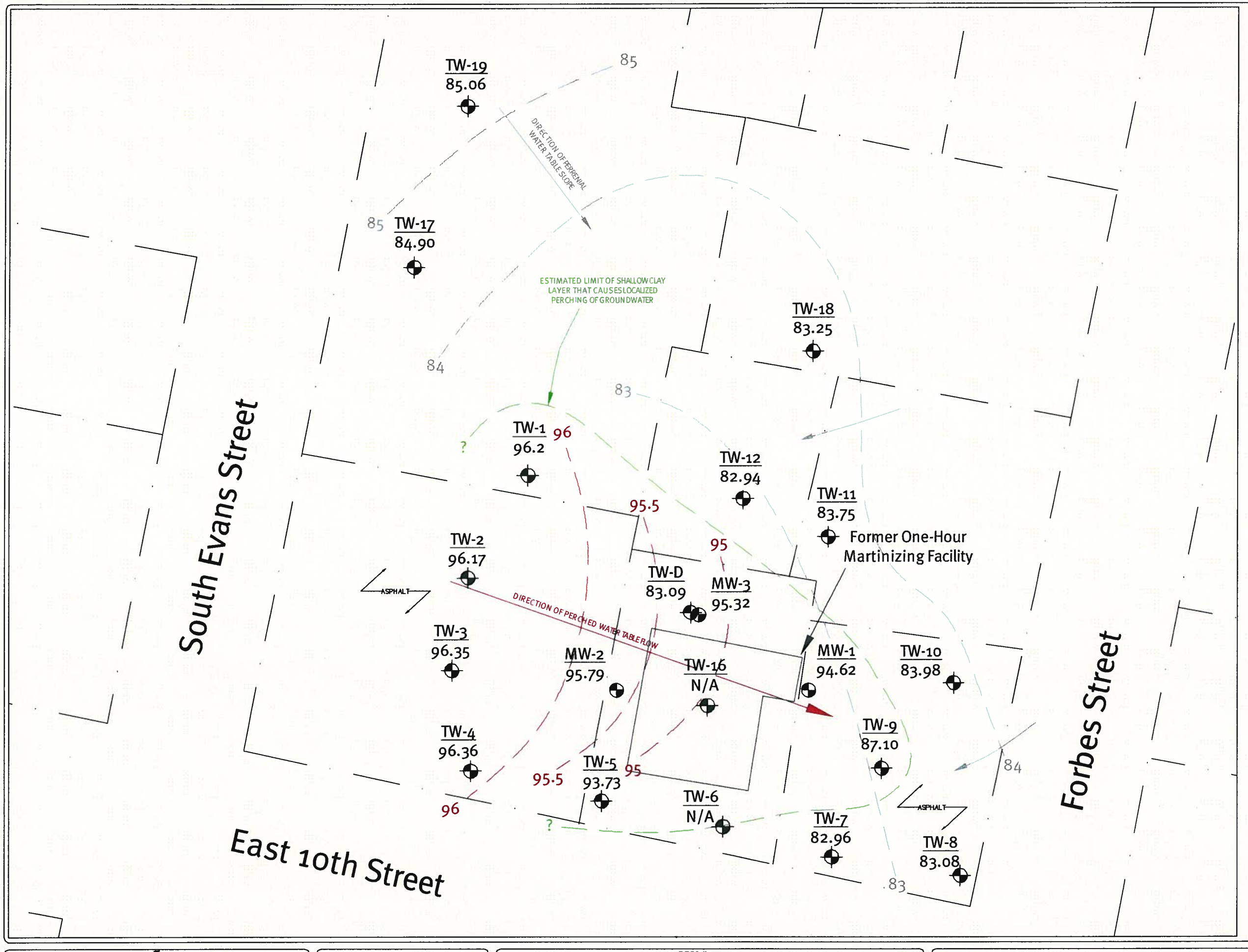
Revisions			
No.	Description	Date	By

DSCA #74-0007
Former One Hour Martinizing Facility
Greenville, Pitt County, North Carolina

Groundwater Sampling Locations

Drawn By: MJM	Scale: 1"=40'
Checked By: BJB	Date: 1/26/09

Job No. 02080406.42
Att. No. 4



LEGEND

TW-5
93.73
Monitoring Well Location
(Relative Elevation with respect to MW-3 = 100 feet AMSL)

MW-1
94.62
Type II Monitoring Well Location

Groundwater Elevation Contour

Groundwater Flow Direction

Exterior Building Walls
(approximate location)

Parcel Boundary

NOTES

SAMPLING LOCATIONS & BUILDING CORNERS DETERMINED BY W&R R.L.S.

N/A: NOT AVAILABLE. DRILLER INADVERTENTLY ABANDONED TEMP WELL BEFORE TOC ELEVATION WAS MEASURED.

LOCATIONS TW-13, -14 AND -15 WERE PLANNED TO BE INSTALLED ON THE SOUTH SIDE OF 10TH STREET. HOWEVER, ACCESS TO THE PROPERTY WAS NOT GRANTED BY OWNER.

GRAPHIC SCALE

30 0 15 30 60

1 inch = 30 ft.

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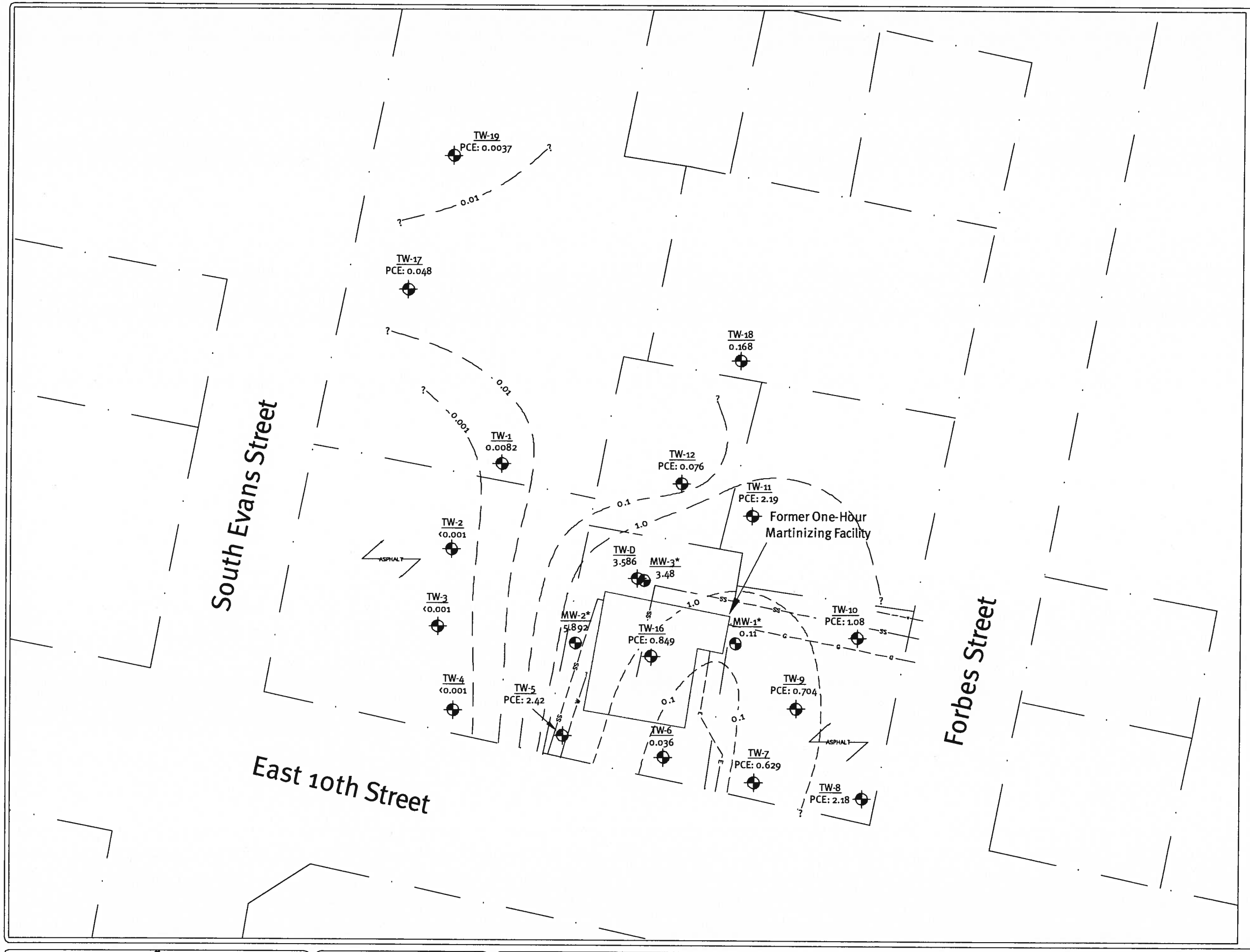
Revisions			
No.	Description	Date	By

DSCA #74-0007
Former One Hour Martinizing Facility
Greenville, Pitt County, North Carolina

Groundwater Flow Map

Drawn By: MJM	Scale: 1:30
Checked By: BJB	Date: 1/26/09

Job No. 02060496.42
Att. No. 6



LEGEND

- TW-6 / 0.619 — Temporary Monitoring Well Location (PCE Concentrations in mg/L)
- MW-1 — Type II Monitoring Well Location (PCE Concentrations in mg/L)
- 10 mg/L — PCE Isopleth
- Exterior Building Walls (approximate location)
- Parcel Boundary
- E — Electric Line
- G — Gas Line
- SS — Stormwater Line
- W — Water Line

NOTES:

ALL ANALYTICAL RESULTS IN mg/L. ONLY CONCENTRATIONS FOR PCE IN INDIVIDUAL SAMPLES ARE SHOWN; SEE REPORT FOR COMPLETE ANALYTICAL RESULTS.

ANALYTICAL RESULTS FROM MW-1*, MW-2* AND MW-3 COLLECTED BY AES IN MARCH 2008

LOCATIONS OF EXISTING INTERNAL BUILDING WALLS ARE APPROXIMATE.

MONITORING WELL LOCATIONS & BUILDING CORNERS DETERMINED BY W&R R.L.S.

NS = NOT SAMPLED

GRAPHIC SCALE

40 0 20 40 80

1 inch = 40 ft.

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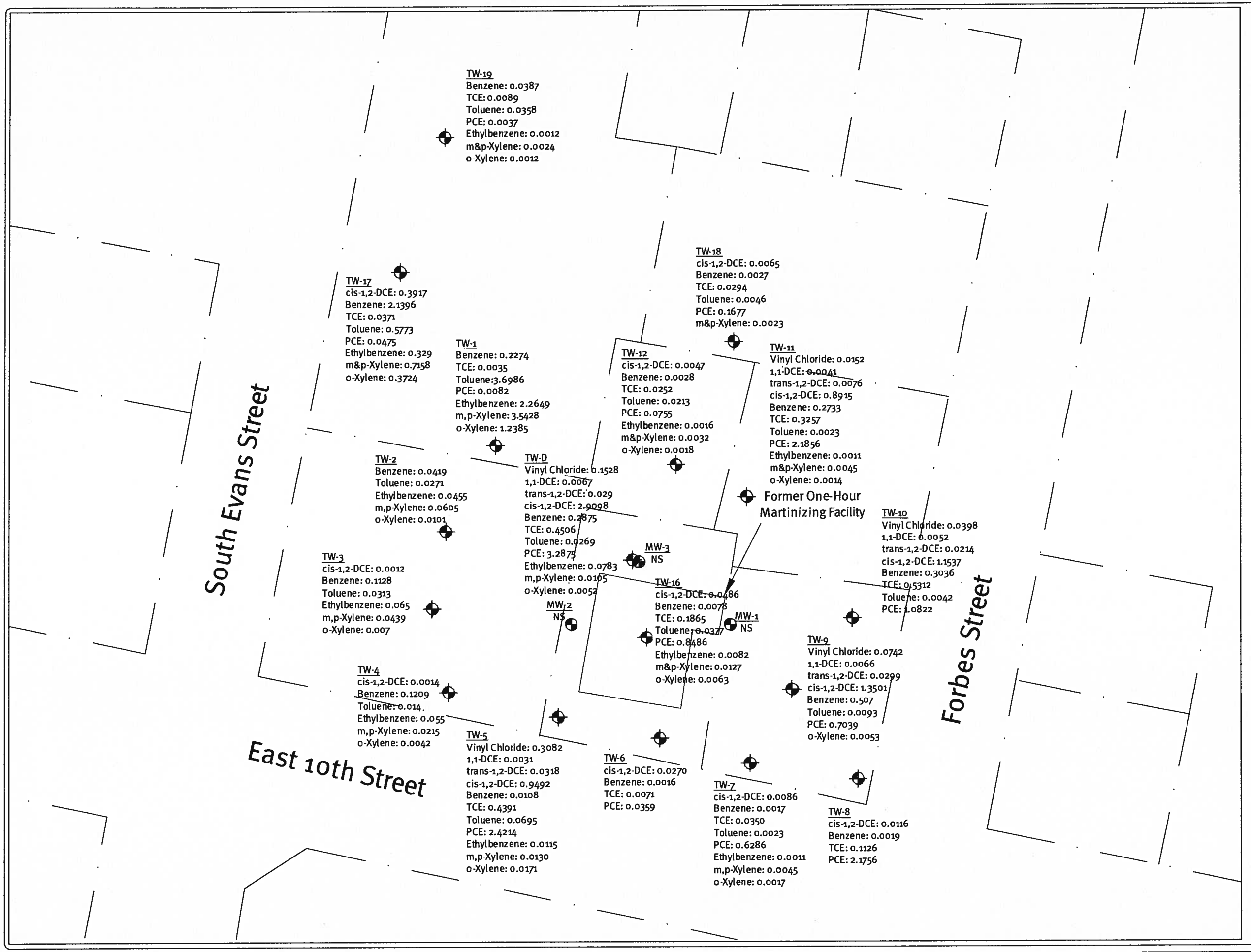
Revisions			
No.	Description	Date	By

DSCA #74-0007
Former One Hour Martinizing Facility
Greenville, Pitt County, North Carolina

PCE Concentrations in Groundwater

Drawn By	Scale
MJM	1: 30
Checked By	Date
BJB	1/26/09

Job No. 02060496.42
Sheet No. 7a



LEGEND

TW-1: 1.0 — ONE-TIME GROUNDWATER SAMPLe LOCATION (VOC CONCENTRATIONS IN MG/L)

MW-1R: NS — TYPE II MONITORING WELL LOCATION (NS=NOT SAMPLED)

NOTES:

ALL ANALYTICAL RESULTS IN mg/L.
ONLY CHLORINATED COMPOUNDS DETECTED IN INDIVIDUAL SAMPLES ARE SHOWN; SEE REPORT FOR COMPLETE ANALYTICAL RESULTS.

LOCATIONS OF EXISTING INTERNAL BUILDING WALLS ARE APPROXIMATE.

MONITORING WELL LOCATIONS & BUILDING CORNERS DETERMINED BY W&R R.L.S.

NS = NOT SAMPLED

GRAPHIC SCALE

40 0 20 40 80

1 inch = 40 ft.

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Revisions

No.	Description	Date	By

DSCA #74-0007
Former One Hour Martinizing Facility
Greenville, Pitt County, North Carolina

VOC Concentrations in Groundwater

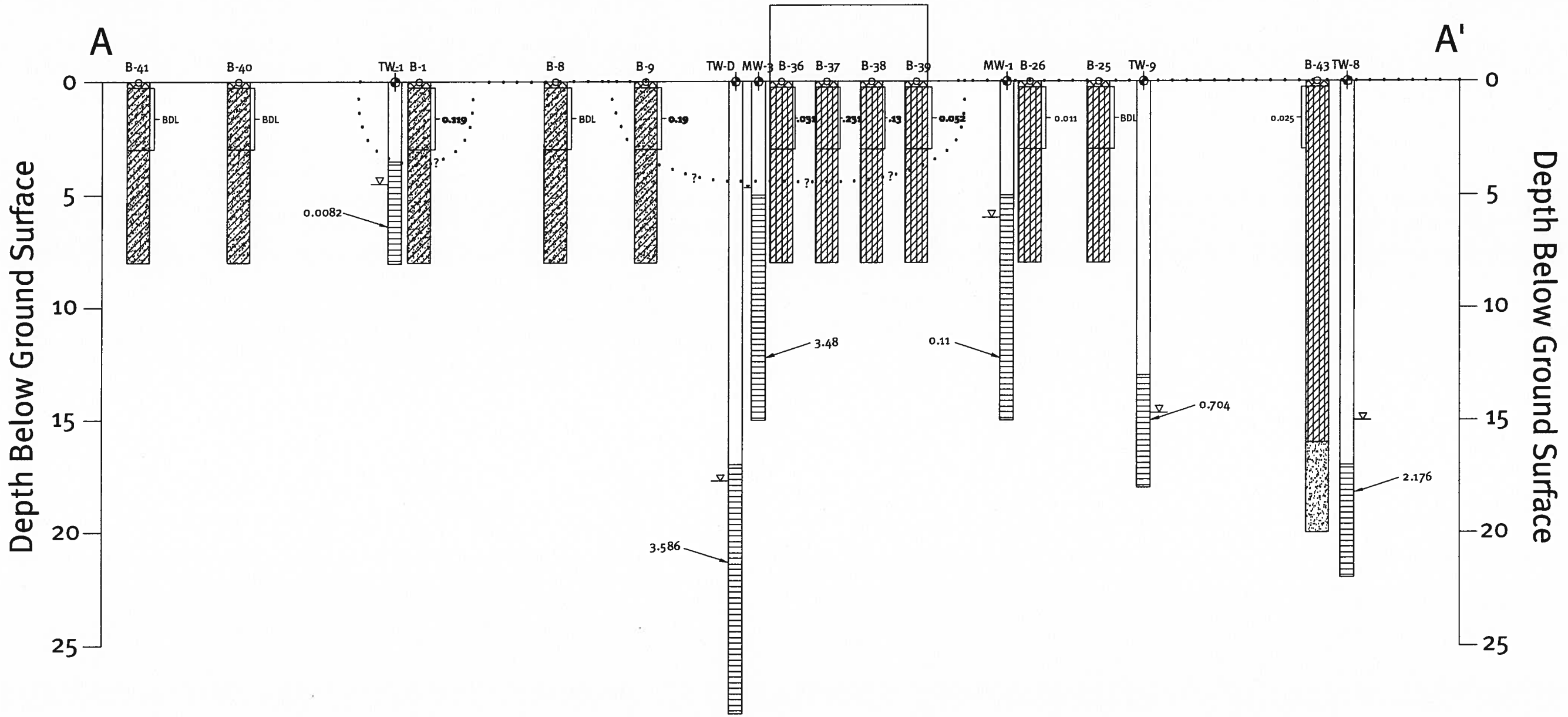
Drawn By	Scale
MJM	1:40
Checked By	Date
BJB	1/26/09

Job No. 02080498.4
Sheet No. 7b

W:\ENVIRONMENTAL\DSCA\080498.42--1 HR MARTINIZING ID74--0007\PROJ\ASSESSMENT\FIGURE.DWG 1/26/2009 3:08 PM MICHAEL MURPHY 1:1

Northeast

Southwest



LEGEND

- SOIL BORING LOCATION (SAMPLE DEPTHS IN FEET BELOW LAND SURFACE)
- APPROXIMATE WATER TABLE POSTION
- APPROXIMATE EXTENT OF PCE CONCENTRATIONS ≥ 0.0342 MG/KG IN UNSATURATED SOILS
- SAND
- CLAYEY SAND
- SILTY CLAY

HORIZONTAL SCALE

25 0 12.5 25 50

1 inch = 25 ft.

V.E. = 5x

NOTES:

ALL SOIL ANALYTICAL RESULTS IN MG/KG.

ALL GROUNDWATER ANALYTICAL RESULTS IN MG/L.

PCE RESULTS IN **BOLD** EXCEED 0.0342 MG/KG DRAFT SOIL CONCENTRATION PROTECTIVE OF GROUNDWATER.

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DSCA #74-0007

Former One Hour Martinizing Facility

Greenville, Pitt County, North Carolina

Geologic Cross Section A-A'

DRAWN BY:	SCALE:	ATT. NO.
MJM	1"=100'	9
APPROVED BY:	DATE:	JOB NO:
BJB	1/26/09	02060496.42

ATTACHMENT 12
Laboratory Report

Pace Analytical
www.pacelabs.com

Pace Analytical Services, Inc.
205 East Meadow Road - Suite A
Eden, NC 27288
(336)623-8921

Pace Analytical Services, Inc.
2225 Riverside Dr.
Asheville, NC 28804
(828)254-7176

Pace Analytical Services, Inc.
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

April 26, 2011

Chris Fay
Withers & Ravenel_Wilimington
1410 Commonwealth Dr
Suite 101
Wilmington, NC 28403

RE: Project: 1 HR Koretizing
Pace Project No.: 9291969

Dear Chris Fay:
Enclosed are the analytical results for sample(s) received by the laboratory on April 14, 2011. The results relate only to the samples included in this report. Results reported herein conform to the most current NELAC standards, where applicable, unless otherwise narrated in the body of the report.

Analyses were performed at the Pace Analytical Services location indicated on the sample analyte page for analysis unless otherwise footnoted.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Ashley Nifong

Ashley Nifong

ashley.nifong@pacelabs.com
Project Manager

Enclosures

REPORT OF LABORATORY ANALYSIS

Pace Analytical®
www.pacelabs.com

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Asheville, NC 28804
(828)254-7176

Pace Analytical Services, Inc.
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

CERTIFICATIONS

Project: 1 HR Koretizing
Pace Project No.: 9291969

Charlotte Certification IDs
9800 Kincey Ave. Ste 100, Huntersville, NC 28078
Louisiana/LELAP Certification #: 04034
New Jersey Certification #: NC012
North Carolina Drinking Water Certification #: 37706
North Carolina Field Services Certification #: 5342
North Carolina Wastewater Certification #: 12
Pennsylvania Certification #: 68-00784
South Carolina Certification #: 99006001
South Carolina Drinking Water Cert. #: 99006003
Virginia Certification #: 00213
Connecticut Certification #: PH-0104
Florida/NELAP Certification #: E87627
Kentucky UST Certification #: 84
Louisiana DHH Drinking Water # LA 100031
West Virginia Certification #: 357

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9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

SAMPLE ANALYTE COUNT

Project: 1 HR Koretizing
Pace Project No.: 9291969

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
9291969001	**MW-10**	EPA 8260	MCK	63	PASI-C
9291969002	**MW-11**	EPA 8260	MCK	63	PASI-C
9291969003	**MW-12**	EPA 8260	MCK	63	PASI-C

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ANALYTICAL RESULTS

Project: 1 HR Koretizing
Pace Project No.: 9291969

Sample: MW-10 **Lab ID: 9291969001** Collected: 04/12/11 12:00 Received: 04/14/11 09:45 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level	Analytical Method: EPA 8260							
Acetone	ND	ug/L	25.0	1		04/25/11 15:15	67-64-1	
Benzene	**8.7**	ug/L	1.0	1		04/25/11 15:15	71-43-2	
Bromobenzene	ND	ug/L	1.0	1		04/25/11 15:15	108-86-1	
Bromochloromethane	ND	ug/L	1.0	1		04/25/11 15:15	74-97-5	
Bromodichloromethane	ND	ug/L	1.0	1		04/25/11 15:15	75-27-4	
Bromoform	ND	ug/L	1.0	1		04/25/11 15:15	75-25-2	
Bromomethane	ND	ug/L	2.0	1		04/25/11 15:15	74-83-9	
2-Butanone (MEK)	ND	ug/L	5.0	1		04/25/11 15:15	78-93-3	
Carbon tetrachloride	ND	ug/L	1.0	1		04/25/11 15:15	56-23-5	
Chlorobenzene	ND	ug/L	1.0	1		04/25/11 15:15	108-90-7	
Chloroethane	ND	ug/L	1.0	1		04/25/11 15:15	75-00-3	
Chloroform	ND	ug/L	1.0	1		04/25/11 15:15	67-66-3	
Chloromethane	ND	ug/L	1.0	1		04/25/11 15:15	74-87-3	
2-Chlorotoluene	ND	ug/L	1.0	1		04/25/11 15:15	95-49-8	
4-Chlorotoluene	ND	ug/L	1.0	1		04/25/11 15:15	106-43-4	
1,2-Dibromo-3-chloropropane	ND	ug/L	5.0	1		04/25/11 15:15	96-12-8	
Dibromochloromethane	ND	ug/L	1.0	1		04/25/11 15:15	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	1		04/25/11 15:15	106-93-4	
Dibromomethane	ND	ug/L	1.0	1		04/25/11 15:15	74-95-3	
1,2-Dichlorobenzene	ND	ug/L	1.0	1		04/25/11 15:15	95-50-1	
1,3-Dichlorobenzene	ND	ug/L	1.0	1		04/25/11 15:15	541-73-1	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		04/25/11 15:15	106-46-7	
Dichlorodifluoromethane	ND	ug/L	1.0	1		04/25/11 15:15	75-71-8	
1,1-Dichloroethane	ND	ug/L	1.0	1		04/25/11 15:15	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	1		04/25/11 15:15	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	1		04/25/11 15:15	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		04/25/11 15:15	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		04/25/11 15:15	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	1		04/25/11 15:15	78-87-5	
1,3-Dichloropropane	ND	ug/L	1.0	1		04/25/11 15:15	142-28-9	
2,2-Dichloropropane	ND	ug/L	1.0	1		04/25/11 15:15	594-20-7	
1,1-Dichloropropene	ND	ug/L	1.0	1		04/25/11 15:15	563-58-6	
cis-1,3-Dichloropropene	ND	ug/L	1.0	1		04/25/11 15:15	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	1		04/25/11 15:15	10061-02-6	
Diisopropyl ether	ND	ug/L	1.0	1		04/25/11 15:15	108-20-3	
Ethylbenzene	ND	ug/L	1.0	1		04/25/11 15:15	100-41-4	
Hexachloro-1,3-butadiene	ND	ug/L	1.0	1		04/25/11 15:15	87-68-3	
2-Hexanone	ND	ug/L	5.0	1		04/25/11 15:15	591-78-6	
p-Isopropyltoluene	ND	ug/L	1.0	1		04/25/11 15:15	99-87-6	
Methylene Chloride	ND	ug/L	2.0	1		04/25/11 15:15	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.0	1		04/25/11 15:15	108-10-1	
Methyl-tert-butyl ether	**1.3**	ug/L	1.0	1		04/25/11 15:15	1634-04-4	
Naphthalene	ND	ug/L	1.0	1		04/25/11 15:15	91-20-3	
Styrene	ND	ug/L	1.0	1		04/25/11 15:15	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	1.0	1		04/25/11 15:15	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		04/25/11 15:15	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	1		04/25/11 15:15	127-18-4	

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ANALYTICAL RESULTS

Project: 1 HR Koretizing
Pace Project No.: 9291969

Sample: MW-10 **Lab ID: 9291969001** Collected: 04/12/11 12:00 Received: 04/14/11 09:45 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level	Analytical Method: EPA 8260							
Toluene	ND	ug/L	1.0	1		04/25/11 15:15	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/L	1.0	1		04/25/11 15:15	87-61-6	
1,2,4-Trichlorobenzene	ND	ug/L	1.0	1		04/25/11 15:15	120-82-1	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		04/25/11 15:15	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		04/25/11 15:15	79-00-5	
Trichloroethene	**2.5**	ug/L	1.0	1		04/25/11 15:15	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	1		04/25/11 15:15	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	1.0	1		04/25/11 15:15	96-18-4	
Vinyl acetate	ND	ug/L	2.0	1		04/25/11 15:15	108-05-4	
Vinyl chloride	ND	ug/L	1.0	1		04/25/11 15:15	75-01-4	
m&p-Xylene	ND	ug/L	2.0	1		04/25/11 15:15	179601-23-1	
o-Xylene	ND	ug/L	1.0	1		04/25/11 15:15	95-47-6	
4-Bromofluorobenzene (S)	93	%	70-130	1		04/25/11 15:15	460-00-4	
Dibromofluoromethane (S)	108	%	70-130	1		04/25/11 15:15	1868-53-7	
1,2-Dichloroethane-d4 (S)	108	%	70-130	1		04/25/11 15:15	17060-07-0	
Toluene-d8 (S)	98	%	70-130	1		04/25/11 15:15	2037-26-5	

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ANALYTICAL RESULTS

Project: 1 HR Koretizing
Pace Project No.: 9291969

Sample: MW-11 **Lab ID: 9291969002** Collected: 04/12/11 13:10 Received: 04/14/11 09:45 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level	Analytical Method: EPA 8260							
Acetone	ND	ug/L	25.0	1		04/25/11 15:41	67-64-1	
Benzene	ND	ug/L	1.0	1		04/25/11 15:41	71-43-2	
Bromobenzene	ND	ug/L	1.0	1		04/25/11 15:41	108-86-1	
Bromochloromethane	ND	ug/L	1.0	1		04/25/11 15:41	74-97-5	
Bromodichloromethane	ND	ug/L	1.0	1		04/25/11 15:41	75-27-4	
Bromoform	ND	ug/L	1.0	1		04/25/11 15:41	75-25-2	
Bromomethane	ND	ug/L	2.0	1		04/25/11 15:41	74-83-9	
2-Butanone (MEK)	ND	ug/L	5.0	1		04/25/11 15:41	78-93-3	
Carbon tetrachloride	ND	ug/L	1.0	1		04/25/11 15:41	56-23-5	
Chlorobenzene	ND	ug/L	1.0	1		04/25/11 15:41	108-90-7	
Chloroethane	ND	ug/L	1.0	1		04/25/11 15:41	75-00-3	
Chloroform	ND	ug/L	1.0	1		04/25/11 15:41	67-66-3	
Chloromethane	ND	ug/L	1.0	1		04/25/11 15:41	74-87-3	
2-Chlorotoluene	ND	ug/L	1.0	1		04/25/11 15:41	95-49-8	
4-Chlorotoluene	ND	ug/L	1.0	1		04/25/11 15:41	106-43-4	
1,2-Dibromo-3-chloropropane	ND	ug/L	5.0	1		04/25/11 15:41	96-12-8	
Dibromochloromethane	ND	ug/L	1.0	1		04/25/11 15:41	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	1		04/25/11 15:41	106-93-4	
Dibromomethane	ND	ug/L	1.0	1		04/25/11 15:41	74-95-3	
1,2-Dichlorobenzene	ND	ug/L	1.0	1		04/25/11 15:41	95-50-1	
1,3-Dichlorobenzene	ND	ug/L	1.0	1		04/25/11 15:41	541-73-1	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		04/25/11 15:41	106-46-7	
Dichlorodifluoromethane	ND	ug/L	1.0	1		04/25/11 15:41	75-71-8	
1,1-Dichloroethane	ND	ug/L	1.0	1		04/25/11 15:41	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	1		04/25/11 15:41	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	1		04/25/11 15:41	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		04/25/11 15:41	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		04/25/11 15:41	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	1		04/25/11 15:41	78-87-5	
1,3-Dichloropropane	ND	ug/L	1.0	1		04/25/11 15:41	142-28-9	
2,2-Dichloropropane	ND	ug/L	1.0	1		04/25/11 15:41	594-20-7	
1,1-Dichloropropene	ND	ug/L	1.0	1		04/25/11 15:41	563-58-6	
cis-1,3-Dichloropropene	ND	ug/L	1.0	1		04/25/11 15:41	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	1		04/25/11 15:41	10061-02-6	
Diisopropyl ether	ND	ug/L	1.0	1		04/25/11 15:41	108-20-3	
Ethylbenzene	ND	ug/L	1.0	1		04/25/11 15:41	100-41-4	
Hexachloro-1,3-butadiene	ND	ug/L	1.0	1		04/25/11 15:41	87-68-3	
2-Hexanone	ND	ug/L	5.0	1		04/25/11 15:41	591-78-6	
p-Isopropyltoluene	ND	ug/L	1.0	1		04/25/11 15:41	99-87-6	
Methylene Chloride	ND	ug/L	2.0	1		04/25/11 15:41	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.0	1		04/25/11 15:41	108-10-1	
Methyl-tert-butyl ether	ND	ug/L	1.0	1		04/25/11 15:41	1634-04-4	
Naphthalene	ND	ug/L	1.0	1		04/25/11 15:41	91-20-3	
Styrene	ND	ug/L	1.0	1		04/25/11 15:41	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	1.0	1		04/25/11 15:41	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		04/25/11 15:41	79-34-5	
Tetrachloroethene	7.3	ug/L	1.0	1		04/25/11 15:41	127-18-4	

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ANALYTICAL RESULTS

Project: 1 HR Koretizing
Pace Project No.: 9291969

Sample: MW-11 **Lab ID: 9291969002** Collected: 04/12/11 13:10 Received: 04/14/11 09:45 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level	Analytical Method: EPA 8260							
Toluene	ND	ug/L	1.0	1		04/25/11 15:41	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/L	1.0	1		04/25/11 15:41	87-61-6	
1,2,4-Trichlorobenzene	ND	ug/L	1.0	1		04/25/11 15:41	120-82-1	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		04/25/11 15:41	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		04/25/11 15:41	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		04/25/11 15:41	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	1		04/25/11 15:41	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	1.0	1		04/25/11 15:41	96-18-4	
Vinyl acetate	ND	ug/L	2.0	1		04/25/11 15:41	108-05-4	
Vinyl chloride	ND	ug/L	1.0	1		04/25/11 15:41	75-01-4	
m&p-Xylene	ND	ug/L	2.0	1		04/25/11 15:41	179601-23-1	
o-Xylene	ND	ug/L	1.0	1		04/25/11 15:41	95-47-6	
4-Bromofluorobenzene (S)	92	%	70-130	1		04/25/11 15:41	460-00-4	
Dibromofluoromethane (S)	109	%	70-130	1		04/25/11 15:41	1868-53-7	
1,2-Dichloroethane-d4 (S)	109	%	70-130	1		04/25/11 15:41	17060-07-0	
Toluene-d8 (S)	97	%	70-130	1		04/25/11 15:41	2037-26-5	

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ANALYTICAL RESULTS

Project: 1 HR Koretizing
Pace Project No.: 9291969

Sample: MW-12 **Lab ID: 9291969003** Collected: 04/12/11 12:35 Received: 04/14/11 09:45 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level	Analytical Method: EPA 8260							
Acetone	ND	ug/L	25.0	1		04/25/11 16:06	67-64-1	
Benzene	ND	ug/L	1.0	1		04/25/11 16:06	71-43-2	
Bromobenzene	ND	ug/L	1.0	1		04/25/11 16:06	108-86-1	
Bromochloromethane	ND	ug/L	1.0	1		04/25/11 16:06	74-97-5	
Bromodichloromethane	ND	ug/L	1.0	1		04/25/11 16:06	75-27-4	
Bromoform	ND	ug/L	1.0	1		04/25/11 16:06	75-25-2	
Bromomethane	ND	ug/L	2.0	1		04/25/11 16:06	74-83-9	
2-Butanone (MEK)	ND	ug/L	5.0	1		04/25/11 16:06	78-93-3	
Carbon tetrachloride	ND	ug/L	1.0	1		04/25/11 16:06	56-23-5	
Chlorobenzene	ND	ug/L	1.0	1		04/25/11 16:06	108-90-7	
Chloroethane	ND	ug/L	1.0	1		04/25/11 16:06	75-00-3	
Chloroform	ND	ug/L	1.0	1		04/25/11 16:06	67-66-3	
Chloromethane	ND	ug/L	1.0	1		04/25/11 16:06	74-87-3	
2-Chlorotoluene	ND	ug/L	1.0	1		04/25/11 16:06	95-49-8	
4-Chlorotoluene	ND	ug/L	1.0	1		04/25/11 16:06	106-43-4	
1,2-Dibromo-3-chloropropane	ND	ug/L	5.0	1		04/25/11 16:06	96-12-8	
Dibromochloromethane	ND	ug/L	1.0	1		04/25/11 16:06	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	1		04/25/11 16:06	106-93-4	
Dibromomethane	ND	ug/L	1.0	1		04/25/11 16:06	74-95-3	
1,2-Dichlorobenzene	ND	ug/L	1.0	1		04/25/11 16:06	95-50-1	
1,3-Dichlorobenzene	ND	ug/L	1.0	1		04/25/11 16:06	541-73-1	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		04/25/11 16:06	106-46-7	
Dichlorodifluoromethane	ND	ug/L	1.0	1		04/25/11 16:06	75-71-8	
1,1-Dichloroethane	ND	ug/L	1.0	1		04/25/11 16:06	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	1		04/25/11 16:06	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	1		04/25/11 16:06	75-35-4	
cis-1,2-Dichloroethene	**2.9**	ug/L	1.0	1		04/25/11 16:06	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		04/25/11 16:06	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	1		04/25/11 16:06	78-87-5	
1,3-Dichloropropane	ND	ug/L	1.0	1		04/25/11 16:06	142-28-9	
2,2-Dichloropropane	ND	ug/L	1.0	1		04/25/11 16:06	594-20-7	
1,1-Dichloropropene	ND	ug/L	1.0	1		04/25/11 16:06	563-58-6	
cis-1,3-Dichloropropene	ND	ug/L	1.0	1		04/25/11 16:06	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	1		04/25/11 16:06	10061-02-6	
Diisopropyl ether	ND	ug/L	1.0	1		04/25/11 16:06	108-20-3	
Ethylbenzene	ND	ug/L	1.0	1		04/25/11 16:06	100-41-4	
Hexachloro-1,3-butadiene	ND	ug/L	1.0	1		04/25/11 16:06	87-68-3	
2-Hexanone	ND	ug/L	5.0	1		04/25/11 16:06	591-78-6	
p-Isopropyltoluene	ND	ug/L	1.0	1		04/25/11 16:06	99-87-6	
Methylene Chloride	ND	ug/L	2.0	1		04/25/11 16:06	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.0	1		04/25/11 16:06	108-10-1	
Methyl-tert-butyl ether	ND	ug/L	1.0	1		04/25/11 16:06	1634-04-4	
Naphthalene	ND	ug/L	1.0	1		04/25/11 16:06	91-20-3	
Styrene	ND	ug/L	1.0	1		04/25/11 16:06	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	1.0	1		04/25/11 16:06	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		04/25/11 16:06	79-34-5	
Tetrachloroethene	**8.6**	ug/L	1.0	1		04/25/11 16:06	127-18-4	

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ANALYTICAL RESULTS

Project: 1 HR Koretizing
Pace Project No.: 9291969

Sample: MW-12 **Lab ID: 9291969003** Collected: 04/12/11 12:35 Received: 04/14/11 09:45 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level	Analytical Method: EPA 8260							
Toluene	ND	ug/L	1.0	1		04/25/11 16:06	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/L	1.0	1		04/25/11 16:06	87-61-6	
1,2,4-Trichlorobenzene	ND	ug/L	1.0	1		04/25/11 16:06	120-82-1	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		04/25/11 16:06	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		04/25/11 16:06	79-00-5	
Trichloroethene	**53.3**	ug/L	1.0	1		04/25/11 16:06	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	1		04/25/11 16:06	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	1.0	1		04/25/11 16:06	96-18-4	
Vinyl acetate	ND	ug/L	2.0	1		04/25/11 16:06	108-05-4	
Vinyl chloride	ND	ug/L	1.0	1		04/25/11 16:06	75-01-4	
m&p-Xylene	ND	ug/L	2.0	1		04/25/11 16:06	179601-23-1	
o-Xylene	ND	ug/L	1.0	1		04/25/11 16:06	95-47-6	
4-Bromofluorobenzene (S)	92	%	70-130	1		04/25/11 16:06	460-00-4	
Dibromofluoromethane (S)	109	%	70-130	1		04/25/11 16:06	1868-53-7	
1,2-Dichloroethane-d4 (S)	110	%	70-130	1		04/25/11 16:06	17060-07-0	
Toluene-d8 (S)	96	%	70-130	1		04/25/11 16:06	2037-26-5	

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QUALITY CONTROL DATA

Project: 1 HR Koretizing
Pace Project No.: 9291969

QC Batch: MSV/14923 Analysis Method: EPA 8260
QC Batch Method: EPA 8260 Analysis Description: 8260 MSV Low Level
Associated Lab Samples: 9291969001, 9291969002, 9291969003

METHOD BLANK: 595858 Matrix: Water
Associated Lab Samples: 9291969001, 9291969002, 9291969003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	ND	1.0	04/25/11 11:26	
1,1,1-Trichloroethane	ug/L	ND	1.0	04/25/11 11:26	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	04/25/11 11:26	
1,1,2-Trichloroethane	ug/L	ND	1.0	04/25/11 11:26	
1,1-Dichloroethane	ug/L	ND	1.0	04/25/11 11:26	
1,1-Dichloroethene	ug/L	ND	1.0	04/25/11 11:26	
1,1-Dichloropropene	ug/L	ND	1.0	04/25/11 11:26	
1,2,3-Trichlorobenzene	ug/L	ND	1.0	04/25/11 11:26	
1,2,3-Trichloropropane	ug/L	ND	1.0	04/25/11 11:26	
1,2,4-Trichlorobenzene	ug/L	ND	1.0	04/25/11 11:26	
1,2-Dibromo-3-chloropropane	ug/L	ND	5.0	04/25/11 11:26	
1,2-Dibromoethane (EDB)	ug/L	ND	1.0	04/25/11 11:26	
1,2-Dichlorobenzene	ug/L	ND	1.0	04/25/11 11:26	
1,2-Dichloroethane	ug/L	ND	1.0	04/25/11 11:26	
1,2-Dichloropropane	ug/L	ND	1.0	04/25/11 11:26	
1,3-Dichlorobenzene	ug/L	ND	1.0	04/25/11 11:26	
1,3-Dichloropropane	ug/L	ND	1.0	04/25/11 11:26	
1,4-Dichlorobenzene	ug/L	ND	1.0	04/25/11 11:26	
2,2-Dichloropropane	ug/L	ND	1.0	04/25/11 11:26	
2-Butanone (MEK)	ug/L	ND	5.0	04/25/11 11:26	
2-Chlorotoluene	ug/L	ND	1.0	04/25/11 11:26	
2-Hexanone	ug/L	ND	5.0	04/25/11 11:26	
4-Chlorotoluene	ug/L	ND	1.0	04/25/11 11:26	
4-Methyl-2-pentanone (MIBK)	ug/L	ND	5.0	04/25/11 11:26	
Acetone	ug/L	ND	25.0	04/25/11 11:26	
Benzene	ug/L	ND	1.0	04/25/11 11:26	
Bromobenzene	ug/L	ND	1.0	04/25/11 11:26	
Bromochloromethane	ug/L	ND	1.0	04/25/11 11:26	
Bromodichloromethane	ug/L	ND	1.0	04/25/11 11:26	
Bromoform	ug/L	ND	1.0	04/25/11 11:26	
Bromomethane	ug/L	ND	2.0	04/25/11 11:26	
Carbon tetrachloride	ug/L	ND	1.0	04/25/11 11:26	
Chlorobenzene	ug/L	ND	1.0	04/25/11 11:26	
Chloroethane	ug/L	ND	1.0	04/25/11 11:26	
Chloroform	ug/L	ND	1.0	04/25/11 11:26	
Chloromethane	ug/L	ND	1.0	04/25/11 11:26	
cis-1,2-Dichloroethene	ug/L	ND	1.0	04/25/11 11:26	
cis-1,3-Dichloropropene	ug/L	ND	1.0	04/25/11 11:26	
Dibromochloromethane	ug/L	ND	1.0	04/25/11 11:26	
Dibromomethane	ug/L	ND	1.0	04/25/11 11:26	
Dichlorodifluoromethane	ug/L	ND	1.0	04/25/11 11:26	
Diisopropyl ether	ug/L	ND	1.0	04/25/11 11:26	
Ethylbenzene	ug/L	ND	1.0	04/25/11 11:26	

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QUALITY CONTROL DATA

Project: 1 HR Koretizing
Pace Project No.: 9291969

METHOD BLANK: 595858 Matrix: Water

Associated Lab Samples: 9291969001, 9291969002, 9291969003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Hexachloro-1,3-butadiene	ug/L	ND	1.0	04/25/11 11:26	
m&p-Xylene	ug/L	ND	2.0	04/25/11 11:26	
Methyl-tert-butyl ether	ug/L	ND	1.0	04/25/11 11:26	
Methylene Chloride	ug/L	ND	2.0	04/25/11 11:26	
Naphthalene	ug/L	ND	1.0	04/25/11 11:26	
o-Xylene	ug/L	ND	1.0	04/25/11 11:26	
p-Isopropyltoluene	ug/L	ND	1.0	04/25/11 11:26	
Styrene	ug/L	ND	1.0	04/25/11 11:26	
Tetrachloroethene	ug/L	ND	1.0	04/25/11 11:26	
Toluene	ug/L	ND	1.0	04/25/11 11:26	
trans-1,2-Dichloroethene	ug/L	ND	1.0	04/25/11 11:26	
trans-1,3-Dichloropropene	ug/L	ND	1.0	04/25/11 11:26	
Trichloroethene	ug/L	ND	1.0	04/25/11 11:26	
Trichlorofluoromethane	ug/L	ND	1.0	04/25/11 11:26	
Vinyl acetate	ug/L	ND	2.0	04/25/11 11:26	
Vinyl chloride	ug/L	ND	1.0	04/25/11 11:26	
1,2-Dichloroethane-d4 (S)	%	105	70-130	04/25/11 11:26	
4-Bromofluorobenzene (S)	%	94	70-130	04/25/11 11:26	
Dibromofluoromethane (S)	%	107	70-130	04/25/11 11:26	
Toluene-d8 (S)	%	97	70-130	04/25/11 11:26	

LABORATORY CONTROL SAMPLE: 595859

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	50	51.1	102	70-130	
1,1,1-Trichloroethane	ug/L	50	52.1	104	70-130	
1,1,2,2-Tetrachloroethane	ug/L	50	49.9	100	70-130	
1,1,2-Trichloroethane	ug/L	50	50.5	101	70-130	
1,1-Dichloroethane	ug/L	50	49.3	99	70-130	
1,1-Dichloroethene	ug/L	50	50.1	100	70-132	
1,1-Dichloropropene	ug/L	50	46.0	92	70-130	
1,2,3-Trichlorobenzene	ug/L	50	49.3	99	70-135	
1,2,3-Trichloropropane	ug/L	50	50.2	100	70-130	
1,2,4-Trichlorobenzene	ug/L	50	48.9	98	70-134	
1,2-Dibromo-3-chloropropane	ug/L	50	46.6	93	70-130	
1,2-Dibromoethane (EDB)	ug/L	50	50.8	102	70-130	
1,2-Dichlorobenzene	ug/L	50	49.0	98	70-130	
1,2-Dichloroethane	ug/L	50	50.7	101	70-130	
1,2-Dichloropropane	ug/L	50	46.3	93	70-130	
1,3-Dichlorobenzene	ug/L	50	49.4	99	70-130	
1,3-Dichloropropane	ug/L	50	48.8	98	70-130	
1,4-Dichlorobenzene	ug/L	50	49.2	98	70-130	
2,2-Dichloropropane	ug/L	50	55.8	112	58-145	
2-Butanone (MEK)	ug/L	100	103	103	70-145	
2-Chlorotoluene	ug/L	50	49.1	98	70-130	

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QUALITY CONTROL DATA

Project: 1 HR Koretizing
Pace Project No.: 9291969

LABORATORY CONTROL SAMPLE: 595859

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
2-Hexanone	ug/L	100	97.0	97	70-144	
4-Chlorotoluene	ug/L	50	49.9	100	70-130	
4-Methyl-2-pentanone (MIBK)	ug/L	100	97.5	97	70-140	
Acetone	ug/L	100	100	100	50-175	
Benzene	ug/L	50	47.0	94	70-130	
Bromobenzene	ug/L	50	49.5	99	70-130	
Bromochloromethane	ug/L	50	49.4	99	70-130	
Bromodichloromethane	ug/L	50	49.8	100	70-130	
Bromoform	ug/L	50	49.3	99	70-130	
Bromomethane	ug/L	50	42.1	84	54-130	
Carbon tetrachloride	ug/L	50	50.3	101	70-132	
Chlorobenzene	ug/L	50	48.8	98	70-130	
Chloroethane	ug/L	50	43.2	86	64-134	
Chloroform	ug/L	50	51.8	104	70-130	
Chloromethane	ug/L	50	48.5	97	64-130	
cis-1,2-Dichloroethene	ug/L	50	48.5	97	70-131	
cis-1,3-Dichloropropene	ug/L	50	48.9	98	70-130	
Dibromochloromethane	ug/L	50	49.9	100	70-130	
Dibromomethane	ug/L	50	49.9	100	70-131	
Dichlorodifluoromethane	ug/L	50	56.9	114	56-130	
Diisopropyl ether	ug/L	50	48.0	96	70-130	
Ethylbenzene	ug/L	50	49.6	99	70-130	
Hexachloro-1,3-butadiene	ug/L	50	49.3	99	70-130	
m&p-Xylene	ug/L	100	101	101	70-130	
Methyl-tert-butyl ether	ug/L	50	51.3	103	70-130	
Methylene Chloride	ug/L	50	48.0	96	63-130	
Naphthalene	ug/L	50	49.5	99	70-138	
o-Xylene	ug/L	50	49.8	100	70-130	
p-Isopropyltoluene	ug/L	50	51.5	103	70-130	
Styrene	ug/L	50	50.9	102	70-130	
Tetrachloroethene	ug/L	50	52.4	105	70-130	
Toluene	ug/L	50	48.7	97	70-130	
trans-1,2-Dichloroethene	ug/L	50	47.8	96	70-130	
trans-1,3-Dichloropropene	ug/L	50	49.2	98	70-132	
Trichloroethene	ug/L	50	49.9	100	70-130	
Trichlorofluoromethane	ug/L	50	56.2	112	62-133	
Vinyl acetate	ug/L	100	113	113	66-157	
Vinyl chloride	ug/L	50	49.9	100	69-130	
1,2-Dichloroethane-d4 (S)	%			103	70-130	
4-Bromofluorobenzene (S)	%			99	70-130	
Dibromofluoromethane (S)	%			104	70-130	
Toluene-d8 (S)	%			100	70-130	

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QUALITY CONTROL DATA

Project: 1 HR Koretizing
Pace Project No.: 9291969

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 595860 595861

Parameter	Units	9292366002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Qual
1,1-Dichloroethene	ug/L	ND	50	50	56.8	56.3	114	113	70-166	1	
Benzene	ug/L	ND	50	50	52.6	52.6	105	105	70-148	0	
Chlorobenzene	ug/L	ND	50	50	52.1	52.3	104	105	70-146	0	
Toluene	ug/L	ND	50	50	53.7	53.4	107	107	70-155	0	
Trichloroethene	ug/L	ND	50	50	52.9	52.2	106	104	69-151	1	
1,2-Dichloroethane-d4 (S)	%						116	115	70-130		
4-Bromofluorobenzene (S)	%						89	90	70-130		
Dibromofluoromethane (S)	%						112	111	70-130		
Toluene-d8 (S)	%						96	97	70-130		

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QUALIFIERS

Project: 1 HR Koretizing
Pace Project No.: 9291969

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Anaiytical is NELAP accredited. Contact your Pace PM for the current list of accredited analytes.

LABORATORIES

PASI-C Pace Analytical Services - Charlotte

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 1 HR Koretizing
Pace Project No.: 9291969

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
9291969001	**MW-10**	EPA 8260	MSV/14923		
9291969002	**MW-11**	EPA 8260	MSV/14923		
9291969003	**MW-12**	EPA 8260	MSV/14923		

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CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Page: 1 of 1

1432750

Section A Required Client Information:
Company: W&R
Address: 1910 Commonwealth
Wilmington, NC
Email To: Cfay@wrines.ravenel.com
Phone: 9192569277 Fax:
Requested Due Date/TAT:

Section B Required Project Information:
Report To: Chris Fay
Copy To:
Purchase Order No.:
Project Name: 1 Hr Monitoring
Project Number: 070604960.42

Section C Invoice Information:
Attention:
Company Name:
Address:
Pace Quote Reference:
Pace Project Manager:
Pace Profile #: 4018-1

REGULATORY AGENCY
☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER
☐ UST ☐ RCRA ☒ OTHER DSCA

Site Location STATE: NC

Section D Required Client Information

SAMPLE ID (A-Z, 0-9 / ,-) Sample IDs MUST BE UNIQUE

Matrix Codes (MATRIX / CODE): Drinking Water DW; Water WT; Waste Water WW; Product P; Soil/Solid SL; Oil OL; Wipe WP; Air AR; Tissue TS; Other OT

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED COMPOSITE START DATE	COLLECTED COMPOSITE START TIME	COLLECTED COMPOSITE END/GRAB DATE	COLLECTED COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test Y/N	Requested Analysis Filtered (Y/N): 8260	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	MW-10	WT	G			4/12	1200	19	3				3						X		001
2	MW-11	WT	G				1310	19	3				3						X		002
3	MW-12	WT	G				1235	21	3				3						X		003
4																					
5																					
6																					
7																					
8																					
9																					
10																					
11																					
12																					

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS: Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
	CF / sampler	4/13		Nate SG / Pace	4/13/11	1300		Y		
				Jamell Cloud / Pace	4/14/11	945	5C	Y	N	Y
					4/14/11		3.0			

ORIGINAL

SAMPLER NAME AND SIGNATURE
PRINT Name of SAMPLER: Chris Fay
SIGNATURE of SAMPLER:
DATE Signed

Analytical Data Tables
for
North Carolina Dry-Cleaning Solvent Cleanup Act Program

Facility Name:	Former One-Hour Martinizing
	111 East Tenth Street, Greenville, NC
DSCA ID No.:	74-0007
Submittal Date:	1/27/2009
Prepared By:	Withers & Ravenel
	1410 Commonwealth Drive, Unit 101 Wilmington, North Carolina 28403

Table of Contents		ADT TOC
DSCA ID No.: 74-0007		
Table/ Att. No.	**Description**	**Check box if included**
	Tables	
Table 1	Site Chronology	☐
Table 2	Analytical Data for Soil	☑
Table 3	Monitoring Well Construction Data	☑
Table 4	Groundwater Elevation Data	☑
Table 5	Analytical Data for Groundwater	☑
Table 6	Analytical Data for Surface Water	☐
Table 7	Water Well(s) Survey Data	☐
Table 8	Analytical Data for Water Supply Well(s)	☐
Table 9	Analytical Data for Natural Attenuation Parameters	☐
	Attachments	
Att. 1	Site map showing location(s) of soil boring(s).	☑
Att. 2	Soil contaminant concentration maps showing the concentration at each sampling point.	☑
Att. 3	Soil isoconcentration maps.	☐
Att. 4	Site map showing location(s) of monitoring well(s).	☑
Att. 5	Well completion diagrams and records of construction submitted to state.	☐
Att. 6	Groundwater gradient map for each sampling event.	☑
Att. 7	PCE concentration map showing the concentration at each sampling point and isoconcentration map. However, if there are significant plumes for other dry-cleaning contaminants, contaminant concentration maps for each chemical of concern should be included.	☑
Att. 8	Groundwater concentration trend plots.	☐
Att. 9	Map showing location(s) of surface water sample(s) (if applicable).	☐
Att. 10	Surface water concentratin map showing the concentration at each sampling point (if applicable).	☐
Att. 11	USGS Quad map with plotted water well location(s) within the 1,500 foot and 0.5 mile radii of the site (if applicable).	☐
Att. 12	Signed laboratory analytical reports including chain-of custody and quality assurance/quality control (QA/QC) documentation (only if not previously submitted).	☐
Att. 13	Site map showing location(s) of monitoring well(s) for natural attenuation paramete	☐
Att. 14		☐
Att. 15		☐
Att. 16		☐
Att. 17		☐
Att. 18		☐
Att. 19		☐
Att. 20		☐

Note:
1. All maps must include a bar scale, north arrow, site name, DSCA ID No., and date.

Table 2: Analytical Data for Soil ADT 2

DSCA ID No.: 74-0007

Sample ID	Depth [feet bgs]	Sampling Date (mm/dd/yy)	1,1,1-Trichloroethane	1,1,2,2-Tetrachloroethane	1,1,2-Trichloroethanae	1,1-Dichloroethane	1,1-Dichloroethylene	1,2-Dichloroethane (EDC)	Benzene	Benzo(a)pyrene	Carbon tetrachloride	Chloroform	cis-1,2-Dichloroethylene	Ethylbenzene	Methyl tert-butyl ether (MTBE)	Naphthalene	Tetrachloroethylene	Toluene	trans-1,2-Dichloroethylene	Trichloroethylene	Vinyl chloride	Xylenes (total)
			[mg/kg]																			
BLANK		12/8/08	NA	NA	NA	<0.010	NA	NA	<0.007	NA	NA	NA	<0.010	<0.010	NA	NA	<0.010	<0.010	<0.010	<0.010	<0.007	<0.030
B-1	0-3	12/8/08	NA	NA	NA	**0.061**	NA	NA	**0.074**	NA	NA	NA	**0.25**	**0.465**	NA	NA	**0.119**	**0.121**	**0.053**	**0.081**	**0.087**	**0.45**
B-5	0-3	12/8/08	NA	NA	NA	<0.010	NA	NA	<0.007	NA	NA	NA	<0.010	<0.010	NA	NA	<0.010	<0.010	<0.010	<0.010	<0.007	<0.030
B-6	0-3	12/8/08	NA	NA	NA	<0.010	NA	NA	<0.007	NA	NA	NA	<0.010	<0.010	NA	NA	<0.010	<0.010	<0.010	<0.010	<0.007	<0.030
B-7	0-3	12/8/08	NA	NA	NA	<0.010	NA	NA	<0.007	NA	NA	NA	<0.010	<0.010	NA	NA	<0.010	<0.010	<0.010	<0.010	<0.007	<0.030
B-8	0-3	12/8/08	NA	NA	NA	<0.010	NA	NA	<0.007	NA	NA	NA	<0.010	<0.010	NA	NA	<0.010	<0.010	<0.010	<0.010	<0.007	<0.030
B-9	0-3	12/8/08	NA	NA	NA	<0.010	NA	NA	<0.007	NA	NA	NA	<0.010	<0.010	NA	NA	**0.19**	<0.010	<0.010	<0.010	<0.007	<0.030
B-10	0-3	12/8/08	NA	NA	NA	<0.010	NA	NA	<0.007	NA	NA	NA	<0.010	<0.010	NA	NA	**0.13**	<0.010	<0.010	<0.010	<0.007	<0.030
B-11	0-3	12/8/08	NA	NA	NA	<0.010	NA	NA	<0.007	NA	NA	NA	<0.010	<0.010	NA	NA	**0.014**	<0.010	<0.010	<0.010	<0.007	<0.030
B-12	0-3	12/8/08	NA	NA	NA	<0.010	NA	NA	<0.007	NA	NA	NA	<0.010	<0.010	NA	NA	<0.010	<0.010	<0.010	<0.010	<0.007	<0.030
B-13	0-3	12/8/08	NA	NA	NA	<0.010	NA	NA	<0.007	NA	NA	NA	<0.010	<0.010	NA	NA	<0.010	<0.010	<0.010	<0.010	<0.007	<0.030
B-14	0-3	12/8/08	NA	NA	NA	<0.010	NA	NA	<0.007	NA	NA	NA	<0.010	<0.010	NA	NA	<0.010	<0.010	<0.010	<0.010	<0.007	<0.030
B-15	0-3	12/8/08	NA	NA	NA	<0.010	NA	NA	<0.007	NA	NA	NA	<0.010	<0.010	NA	NA	<0.010	<0.010	<0.010	<0.010	<0.007	<0.030
B-16	0-3	12/8/08	NA	NA	NA	<0.010	NA	NA	<0.007	NA	NA	NA	<0.010	<0.010	NA	NA	<0.010	<0.010	<0.010	<0.010	<0.007	<0.030
B-17	0-3	12/8/08	NA	NA	NA	<0.010	NA	NA	<0.007	NA	NA	NA	<0.010	<0.010	NA	NA	<0.010	<0.010	<0.010	<0.010	<0.007	<0.030
B-18	0-3	12/8/08	NA	NA	NA	<0.010	NA	NA	<0.007	NA	NA	NA	<0.010	<0.010	NA	NA	<0.010	<0.010	<0.010	<0.010	<0.007	**0.032**
B-19	0-3	12/9/08	NA	NA	NA	<0.010	NA	NA	<0.007	NA	NA	NA	<0.010	<0.010	NA	NA	<0.010	<0.010	<0.010	<0.010	<0.007	<0.030
B-20	0-3	12/9/08	NA	NA	NA	<0.010	NA	NA	<0.007	NA	NA	NA	<0.010	<0.010	NA	NA	<0.010	<0.010	<0.010	<0.010	<0.007	<0.030
BLANK		12/9/08	NA	NA	NA	<0.010	NA	NA	<0.007	NA	NA	NA	<0.010	<0.010	NA	NA	<0.010	<0.010	<0.010	<0.010	<0.007	<0.030
B-21	0-3	12/9/08	NA	NA	NA	<0.010	NA	NA	<0.007	NA	NA	NA	<0.010	<0.010	NA	NA	**0.139**	<0.010	<0.010	**0.012**	<0.007	<0.030
B-22	0-3	12/9/08	NA	NA	NA	<0.010	NA	NA	<0.007	NA	NA	NA	<0.010	<0.010	NA	NA	<0.010	<0.010	<0.010	<0.010	<0.007	<0.030
B-23	0-3	12/9/08	NA	NA	NA	<0.010	NA	NA	<0.007	NA	NA	NA	<0.010	<0.010	NA	NA	**0.026**	<0.010	<0.010	<0.010	<0.007	<0.030
B-24	0-3	12/9/08	NA	NA	NA	<0.010	NA	NA	<0.007	NA	NA	NA	<0.010	<0.010	NA	NA	<0.010	<0.010	<0.010	<0.010	<0.007	<0.030
B-25	0-3	12/9/08	NA	NA	NA	<0.010	NA	NA	<0.007	NA	NA	NA	<0.010	**0.011**	NA	NA	<0.010	<0.010	<0.010	<0.010	<0.007	**0.011**
B-26	0-3	12/9/08	NA	NA	NA	<0.010	NA	NA	<0.007	NA	NA	NA	<0.010	**0.011**	NA	NA	**0.011**	<0.010	<0.010	<0.010	<0.007	<0.030
B-27	0-3	12/9/08	NA	NA	NA	<0.010	NA	NA	<0.007	NA	NA	NA	<0.010	<0.010	NA	NA	<0.010	<0.010	<0.010	<0.010	<0.007	<0.030
B-28	0-3	12/9/08	NA	NA	NA	<0.010	NA	NA	<0.007	NA	NA	NA	<0.010	<0.010	NA	NA	<0.010	<0.010	<0.010	<0.010	<0.007	<0.030
B-29	0-3	12/9/08	NA	NA	NA	<0.010	NA	NA	<0.007	NA	NA	NA	<0.010	<0.010	NA	NA	**0.015**	<0.010	<0.010	<0.010	<0.007	<0.030

Table 2: Analytical Data for Soil ADT 2

DSCA ID No.: 74-0007

Sample ID	Depth [feet bgs]	Sampling Date (mm/dd/yy)	1,1,1-Trichloroethane	1,1,2,2-Tetrachloroethane	1,1,2-Trichloroethanae	1,1-Dichloroethane	1,1-Dichloroethylene	1,2-Dichloroethane (EDC)	Benzene	Benzo(a)pyrene	Carbon tetrachloride	Chloroform	cis-1,2-Dichloroethylene	Ethylbenzene	Methyl tert-butyl ether (MTBE)	Naphthalene	Tetrachloroethylene	Toluene	trans-1,2-Dichloroethylene	Trichloroethylene	Vinyl chloride	Xylenes (total)
			[mg/kg]																			
TW-2	0-3	12/10/08	NA	NA	NA	<0.010	NA	NA	<0.007	NA	NA	NA	<0.010	<0.010	NA	NA	<0.010	<0.010	<0.010	<0.010	<0.007	<0.030
TW-3	0-3	12/10/08	NA	NA	NA	<0.010	NA	NA	<0.007	NA	NA	NA	<0.010	<0.010	NA	NA	<0.010	<0.010	<0.010	<0.010	<0.007	<0.030
BLANK		12/10/08	NA	NA	NA	<0.010	NA	NA	<0.007	NA	NA	NA	<0.010	<0.010	NA	NA	**0.045**	<0.010	<0.010	<0.010	<0.007	<0.030
B-30	0-3	12/10/08	NA	NA	NA	<0.010	NA	NA	<0.007	NA	NA	NA	<0.010	<0.010	NA	NA	**0.16**	<0.010	<0.010	<0.010	<0.007	<0.030
B-31	0-3	12/10/08	NA	NA	NA	<0.010	NA	NA	<0.007	NA	NA	NA	<0.010	<0.010	NA	NA	**0.078**	<0.010	<0.010	<0.010	<0.007	<0.030
B-32	0-3	12/10/08	NA	NA	NA	<0.010	NA	NA	<0.007	NA	NA	NA	<0.010	<0.010	NA	NA	**0.034**	<0.010	<0.010	<0.010	<0.007	<0.030
B-33	0-3	12/10/08	NA	NA	NA	<0.010	NA	NA	<0.007	NA	NA	NA	<0.010	<0.010	NA	NA	**0.094**	<0.010	<0.010	<0.010	<0.007	<0.030
B-34	0-3	12/10/08	NA	NA	NA	<0.010	NA	NA	<0.007	NA	NA	NA	<0.010	<0.010	NA	NA	**0.023**	<0.010	<0.010	<0.010	<0.007	<0.030
B-35	0-3	12/10/08	NA	NA	NA	<0.010	NA	NA	<0.007	NA	NA	NA	<0.010	<0.010	NA	NA	**0.202**	<0.010	<0.010	<0.010	<0.007	<0.030
B-36	0-3	12/10/08	NA	NA	NA	<0.010	NA	NA	<0.007	NA	NA	NA	<0.010	<0.010	NA	NA	**0.031**	<0.010	<0.010	<0.010	<0.007	<0.030
B-37	0-3	12/10/08	NA	NA	NA	<0.010	NA	NA	<0.007	NA	NA	NA	<0.010	<0.010	NA	NA	**0.231**	<0.010	<0.010	<0.010	<0.007	<0.030
B-38	0-3	12/10/08	NA	NA	NA	<0.010	NA	NA	<0.007	NA	NA	NA	<0.010	<0.010	NA	NA	**0.13**	<0.010	<0.010	<0.010	<0.007	<0.030
B-39	0-3	12/11/08	NA	NA	NA	<0.010	NA	NA	<0.007	NA	NA	NA	<0.010	<0.010	NA	NA	**0.052**	<0.010	<0.010	<0.010	<0.007	<0.030
B-2	0-3	12/11/08	NA	NA	NA	<0.010	NA	NA	<0.010	NA	NA	NA	<0.010	<0.010	NA	NA	**0.013**	<0.010	<0.010	<0.010	<0.007	<0.030
B-3	0-3	12/11/08	NA	NA	NA	<0.010	NA	NA	<0.007	NA	NA	NA	<0.010	**0.01**	NA	NA	**0.022**	<0.010	<0.010	<0.010	<0.007	**0.039**
B-4	0-3	12/11/08	NA	NA	NA	<0.010	NA	NA	<0.007	NA	NA	NA	<0.010	<0.010	NA	NA	**0.012**	<0.010	<0.010	<0.010	<0.007	<0.030
B-30 RERUN	0-3	12/11/08	NA	NA	NA	<0.010	NA	NA	<0.007	NA	NA	NA	<0.010	<0.010	NA	NA	**0.063**	<0.010	<0.010	<0.010	<0.007	<0.030
B-2 RERUN	0-3	12/11/08	NA	NA	NA	<0.010	NA	NA	<0.007	NA	NA	NA	<0.010	<0.010	NA	NA	**0.012**	<0.010	<0.010	<0.010	<0.007	<0.030
B-32 RERUN	0-3	12/11/08	NA	NA	NA	<0.010	NA	NA	<0.007	NA	NA	NA	<0.010	<0.010	NA	NA	**0.014**	<0.010	<0.010	<0.010	<0.007	<0.030
B-34 RERUN	0-3	12/11/08	NA	NA	NA	<0.010	NA	NA	<0.007	NA	NA	NA	<0.010	<0.010	NA	NA	**0.02**	**0.47**	<0.010	<0.010	<0.007	<0.030
B-36 RERUN	0-3	12/11/08	NA	NA	NA	<0.010	NA	NA	<0.007	NA	NA	NA	<0.010	<0.010	NA	NA	**0.062**	**0.024**	<0.010	<0.010	<0.007	<0.030
B-40	0-3	12/9/08	NA	NA	NA	<0.010	NA	NA	<0.007	NA	NA	NA	<0.010	**0.09**	NA	NA	<0.010	<0.010	<0.010	<0.010	<0.007	**0.021**
B-41	0-3	12/9/08	NA	NA	NA	<0.010	NA	NA	**0.013**	NA	NA	NA	<0.010	**0.054**	NA	NA	<0.010	<0.010	<0.010	<0.010	<0.007	<0.030
B-42	0-3	12/9/08	NA	NA	NA	<0.010	NA	NA	<0.007	NA	NA	NA	<0.010	<0.010	NA	NA	<0.010	<0.010	<0.010	<0.010	<0.007	<0.030
B-43	0-3	12/11/08	NA	NA	NA	<0.010	NA	NA	<0.007	NA	NA	NA	<0.010	<0.010	NA	NA	**0.025**	<0.010	<0.010	<0.010	<0.007	<0.030
B-44	0-3	12/11/08	NA	NA	NA	<0.010	NA	NA	<0.007	NA	NA	NA	<0.010	<0.010	NA	NA	**0.01**	<0.010	<0.010	<0.010	<0.007	<0.030

Table 3: Monitoring Well Construction Data ADT 3

DSCA ID No.: 74-0007

Well ID	Date Installed (mm/dd/yy)	Number of Samples	Well Depth [feet]	Well Diameter [inch]	Screen Interval [feet]	Status (Active/Inactive)
MW-1	1/15/08	1	15	2	5-15	Active
MW-2	1/15/08	1	15	2	5-15	Active
MW-3	1/15/08	1	15	2	5-15	Active
TW-1	12/10/08	1	8	1	3-8	Inactive
TW-2	12/10/08	1	8	1	3-8	Inactive
TW-3	12/10/08	1	8	1	3-8	Inactive
TW-4	12/10/08	1	8	1	3-8	Inactive
TW-5	12/10/08	1	8	1	3-8	Inactive
TW-6	12/10/08	1	8	1	3-8	Inactive
TW-7	12/10/08	1	22	1	17-22	Inactive
TW-8	12/10/08	1	22	1	17-22	Inactive
TW-9	12/10/08	1	18	1	13-18	Inactive
TW-10	12/10/08	1	18	1	13-18	Inactive
TW-11	12/10/08	1	16.5	1	11.5-16.5	Inactive
TW-12	12/11/08	1	20	1	15-20	Inactive
TW-16	12/11/08	1	18	1	13-18	Inactive
TW-17	12/11/08	1	20	1	15-20	Inactive
TW-18	12/11/08	1	20	1	15-20	Inactive
TW-19	12/11/08	1	20	1	15-20	Inactive
TW-D	12/10/08	1	30	1	25-30	Inactive

Table 4: Groundwater Elevation Data ADT 4

DSCA ID No.: 74-0007

Groundwater Sampling Point	Sampling Date (mm/dd/yy)	TOC Elevation [feet]	Depth to Water [feet bgs]	Groundwater Elevation [feet]	Depth to NAPL [feet bgs]	NAPL Thickness [feet]	Corrected* Groundwater Elevation [feet]
MW-1	N/A	100.79	6.17	94.62	N/A	N/A	94.62
MW-2	N/A	99.58	3.79	95.79	N/A	N/A	95.79
MW-3	N/A	100	4.68	95.32	N/A	N/A	95.32
TW-1	12/10/08	100.37	4.17	96.2	N/A	N/A	96.2
TW-2	12/10/08	99.97	3.8	96.17	N/A	N/A	96.17
TW-3	12/10/08	100.4	4.05	96.35	N/A	N/A	96.35
TW-4	12/10/08	99.51	3.15	96.36	N/A	N/A	96.36
TW-5	12/10/08	100.24	6.51	93.73	N/A	N/A	93.73
TW-6	12/10/08	N/A	5.99	N/A	N/A	N/A	N/A
TW-7	12/10/08	101.28	18.32	82.96	N/A	N/A	82.96
TW-8	12/10/08	102.36	19.28	83.08	N/A	N/A	83.08
TW-9	12/10/08	101.76	14.66	87.1	N/A	N/A	87.1
TW-10	12/10/08	101.36	17.38	83.98	N/A	N/A	83.98
TW-11	12/10/08	100.25	16.5	83.75	N/A	N/A	83.75
TW-12	12/11/08	99.52	16.58	82.94	N/A	N/A	82.94
TW-16	12/11/08	N/A	N/A	N/A	N/A	N/A	N/A
TW-17	12/11/08	98.35	13.45	84.9	N/A	N/A	84.9
TW-18	12/11/08	98.41	15.16	83.25	N/A	N/A	83.25
TW-19	12/11/08	97.02	11.96	85.06	N/A	N/A	85.06
TW-D	12/10/08	100.74	17.65	83.09	N/A	N/A	83.09

Table 5: Analytical Data for Groundwater ADT 5

DSCA ID No.: 74-0007

Groundwater Sampling Point	Sampling Date (mm/dd/yy)	1,1,1-Trichloroethane	1,1,2,2-Tetrachloroethane	1,1,2-Trichloroethanae	1,1-Dichloroethane	1,1-Dichloroethylene	1,2-Dichloroethane (EDC)	Benzene	Benzo(a)pyrene	Carbon tetrachloride	Chloroform	cis-1,2-Dichloroethylene	Ethylbenzene	Methyl tert-butyl ether (MTBE)	Naphthalene	Tetrachloroethylene	Toluene	trans-1,2-Dichloroethylene	Trichloroethylene	Vinyl chloride	Xylenes (total)
		[mg/L]																			
Blank Water	12/10/08	NA	NA	NA	NA	<0.001	NA	<0.001	NA	NA	NA	<0.001	<0.001	NA	NA	<0.0007	<0.001	<0.001	<0.001	<0.001	<0.003
TW-1	12/10/08	NA	NA	NA	NA	<0.001	NA	0.2274	NA	NA	NA	<0.001	2.2649	NA	NA	0.0082	3.6986	<0.001	0.0035	<0.001	4.7813
TW-2	12/10/08	NA	NA	NA	NA	<0.001	NA	0.0419	NA	NA	NA	<0.001	0.045	NA	NA	<0.0007	0.0271	<0.001	<0.001	<0.001	0.0706
TW-3	12/10/08	NA	NA	NA	NA	<0.001	NA	0.1128	NA	NA	NA	0.0012	0.065	NA	NA	<0.0007	0.0313	<0.001	<0.001	<0.001	0.0509
TW-4	12/10/08	NA	NA	NA	NA	<0.001	NA	0.1209	NA	NA	NA	0.0014	0.055	NA	NA	<0.0007	0.014	<0.001	<0.001	<0.001	0.0257
TW-5	12/10/08	NA	NA	NA	NA	0.0031	NA	0.0108	NA	NA	NA	0.9492	0.0115	NA	NA	2.4214	0.0695	0.0318	0.4391	0.3082	0.0301
TW-6	12/10/08	NA	NA	NA	NA	<0.001	NA	0.0016	NA	NA	NA	0.027	<0.001	NA	NA	0.0359	<0.001	<0.001	0.0071	<0.001	<0.003
TW-7	12/10/08	NA	NA	NA	NA	<0.001	NA	0.0017	NA	NA	NA	0.0086	0.002	NA	NA	0.6286	0.0023	<0.001	0.035	<0.001	0.0062
TW-8	12/10/08	NA	NA	NA	NA	<0.001	NA	0.0019	NA	NA	NA	0.0116	<0.001	NA	NA	2.1756	<0.001	<0.001	0.1126	<0.001	<0.003
TW-9	12/10/08	NA	NA	NA	NA	0.0066	NA	0.507	NA	NA	NA	1.3501	<0.001	NA	NA	0.7039	0.0093	0.0299	0.1982	0.0742	0.0053
TW-10	12/10/08	NA	NA	NA	NA	0.0052	NA	0.3036	NA	NA	NA	1.1537	<0.001	NA	NA	1.0822	0.0042	0.0214	0.5312	0.0398	<0.003
TW-11	12/10/08	NA	NA	NA	NA	0.0041	NA	0.2733	NA	NA	NA	0.8915	0.0011	NA	NA	2.1856	0.0023	0.0076	0.3257	0.0152	0.0036
TW-12	12/11/08	NA	NA	NA	NA	<0.001	NA	0.0028	NA	NA	NA	0.0047	0.0016	NA	NA	0.0755	0.0213	<0.001	0.0252	<0.001	0.005
TW-16	12/10/08	NA	NA	NA	NA	<0.001	NA	0.0078	NA	NA	NA	0.0486	0.0082	NA	NA	0.8486	0.0377	<0.001	0.1865	<0.001	0.019
TW-17	12/11/08	NA	NA	NA	NA	<0.001	NA	2.1396	NA	NA	NA	0.3917	0.329	NA	NA	0.0475	0.5773	<0.001	0.0371	<0.001	1.0882
TW-18	12/11/08	NA	NA	NA	NA	<0.001	NA	0.0027	NA	NA	NA	0.0065	<0.001	NA	NA	0.1677	0.0046	<0.001	0.0294	<0.001	0.0023
TW-19	12/11/08	NA	NA	NA	NA	<0.001	NA	0.0387	NA	NA	NA	<0.001	0.0012	NA	NA	0.0037	0.0358	<0.001	0.0089	<0.001	0.0036
TW-D	12/10/08	NA	NA	NA	NA	0.0067	NA	0.2875	NA	NA	NA	2.9098	0.0783	NA	NA	3.2875	0.0269	0.029	0.4506	0.1528	0.0157
TW-D2	12/10/08	NA	NA	NA	NA	0.00695	NA	0.2845	NA	NA	NA	2.9712	0.1031	NA	NA	3.5858	0.028	0.0308	0.4436	0.14965	0.0169

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Preliminary Sample Results
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12/17/2008

KB LABS	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID
	Blank	B-1(0-3')	B-5 (0-3')	B-6 (0-3')	B-7 (0-3')	B-8 (0-3')	B-9 (0-3')	B-10 (0-3')	B-11 (0-3')	B-12 (0-3')	B-13 (0-3')
Analysis Date	12/8/2008	12/8/2008	12/8/2008	12/8/2008	12/8/2008	12/8/2008	12/8/2008	12/8/2008	12/8/2008	12/8/2008	12/8/2008
Matrix	soil	soil	soil	soil	soil	soil	soil	soil	soil	soil	soil
Dilution	1	50	1	1	1	1	1	1	1	1	1
Vinyl Chloride	< 0.007	0.087	< 0.007	< 0.007	< 0.007	< 0.007	< 0.007	< 0.007	< 0.007	< 0.007	< 0.007
1,1-Dichloroethene	< 0.010	0.061	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
t-1,2-Dichloroethene	< 0.010	0.053	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
c-1,2-Dichloroethene	< 0.010	0.250	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Benzene	< 0.007	0.074	< 0.007	< 0.007	< 0.007	< 0.007	< 0.007	< 0.007	< 0.007	< 0.007	< 0.007
Trichloroethene	< 0.010	0.081	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Toluene	< 0.010	0.121	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Tetrachloroethene	< 0.010	0.119	< 0.010	< 0.010	< 0.010	< 0.010	0.190	0.130	0.014	< 0.010	< 0.010
Ethylbenzene	< 0.010	0.465	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
m&p-Xylene	< 0.020	0.300	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020
o-Xylene	< 0.010	0.150	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010

KB LABS	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID
	B-14 (0-3')	B-15 (0-3')	B-16 (0-3')	B-17 (0-3')	B-18 (0-3')	B-19 (0-3')	B-20 (0-3')	Blank 2	B-21(0-3')	B-22 (0-3')	B-23 (0-3')
Analysis Date	12/8/2008	12/8/2008	12/8/2008	12/8/2008	12/8/2008	12/9/2008	12/9/2008	12/9/2008	12/9/2008	12/9/2008	12/9/2008
Matrix	soil	soil	soil	soil	soil	soil	soil	soil	soil	soil	soil
Dilution	1	1	1	1	1	1	1	1	1	1	1
Vinyl Chloride	< 0.007	< 0.007	< 0.007	< 0.007	< 0.007	< 0.007	< 0.007	< 0.007	< 0.007	< 0.007	< 0.007
1,1-Dichloroethene	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
t-1,2-Dichloroethene	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
c-1,2-Dichloroethene	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Benzene	< 0.007	< 0.007	< 0.007	< 0.007	< 0.007	< 0.007	< 0.007	< 0.007	< 0.007	< 0.007	< 0.007
Trichloroethene	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	0.012	< 0.010	< 0.010
Toluene	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Tetrachloroethene	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	0.139	< 0.010	0.026
Ethylbenzene	< 0.010	< 0.010	< 0.010	< 0.010	< 0.020	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
m&p-Xylene	< 0.020	< 0.020	< 0.020	< 0.020	0.032	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020
o-Xylene	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID

Units: ug/L for waters
mg/kg for soils

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Preliminary Sample Results
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12/17/2008

KB LABS	B-24 (0-3')	B-25 (0-3')	B-26 (0-3')	B-27 (0-3')	B-28 (0-3')	B-29 (0-3')	B-40 (0-3')	B-41 (0-3')	B-42 (0-3')	TW-2 (0-3')	TW-3 (0-3')
Analysis Date	12/9/2008	12/9/2008	12/9/2008	12/9/2008	12/9/2008	12/9/2008	12/9/2008	12/9/2008	12/9/2008	12/10/2008	12/10/2008
Matrix	soil	soil	soil	soil	soil	soil	soil	soil	soil	soil	soil
Dilution	1	1	1	1	1	1	1	1	1, 10	1	1
Vinyl Chloride	< 0.007	< 0.007	< 0.007	< 0.007	< 0.007	< 0.007	< 0.007	< 0.007	< 0.007	< 0.007	< 0.007
1,1-Dichloroethene	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
t-1,2-Dichloroethene	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
c-1,2-Dichloroethene	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Benzene	< 0.007	< 0.007	< 0.007	< 0.007	< 0.007	< 0.007	< 0.007	0.013	< 0.007	< 0.007	< 0.007
Trichloroethene	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Toluene	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Tetrachloroethene	< 0.010	< 0.010	0.011	< 0.010	< 0.010	0.015	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Ethylbenzene	< 0.010	0.011	< 0.010	< 0.010	< 0.010	< 0.010	0.090	0.054	< 0.010	< 0.010	< 0.010
m&p-Xylene	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	0.021	< 0.020	< 0.020	< 0.020	< 0.020
o-Xylene	< 0.010	0.011	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010

KB LABS	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID
	BLANK	B-10 (0-3')	B-31 (0-3')	B-32 (0-3')	B-33 (0-3')	B-34 (0-3')	B-35 (0-3')	B-36 (0-3')	B-37 (0-3')	B-38 (0-3')	B-39 (0-3') cprrected pt
Analysis Date	12/10/2008	12/10/2008	12/10/2008	12/10/2008	12/10/2008	12/10/2008	12/10/2008	12/10/2008	12/10/2008	12/10/2008	12/11/2008
Matrix	soil	soil	soil	soil	soil	soil	soil	soil	soil	soil	soil
Dilution	1	1	1	1	1	1	1	1	1	1	1
Vinyl Chloride	< 0.007	< 0.007	< 0.007	< 0.007	< 0.007	< 0.007	< 0.007	< 0.007	< 0.007	< 0.007	< 0.007
1,1-Dichloroethene	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
t-1,2-Dichloroethene	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
c-1,2-Dichloroethene	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Benzene	< 0.010	< 0.010	< 0.007	< 0.007	< 0.007	< 0.007	< 0.007	< 0.007	< 0.007	< 0.007	< 0.007
Trichloroethene	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Toluene	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Tetrachloroethene	0.045	0.160	0.078	0.034	0.094	0.023	0.202	0.031	0.231	0.130	0.052
Ethylbenzene	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
m&p-Xylene	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020
o-Xylene	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010

Units: ug/L for waters
mg/kg for soils

KB Labs, Inc.
6821 SW Archer Road
Gainesville, FL 32608
P: 352-367-0073

Preliminary Sample Results
W+R
One-Hour Martinizing
Greenville, NC

12/17/2008

KB LABS	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID
	B-2 (0-3')	B-4 (0-3')	B-3 (0-3') corrected pt	B-10 RERUN	B-2 RERUN	B-32 RERUN	B-43 (0-3')	B-36 RERUN	B-34 RERUN	B-44 (0-3')	B-43 (0-3')
Analysis Date	12/11/2008	12/11/2008	12/11/2008	12/11/2008	12/11/2008	12/11/2008	12/11/2008	12/11/2008	12/11/2008	12/11/2008	12/11/2008
Matrix	soil	soil	soil	soil	soil	soil	soil	soil	soil	soil	soil
Dilution	1	1	1	1	1	1	1	1	1	1	1
Vinyl Chloride	< 0.007	< 0.007	< 0.007	< 0.007	< 0.007	< 0.007	< 0.007	< 0.007	< 0.007	< 0.007	< 0.007
1,1-Dichloroethene	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
t-1,2-Dichloroethene	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
c-1,2-Dichloroethene	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Benzene	< 0.010	< 0.010	< 0.007	< 0.007	< 0.007	< 0.007	< 0.007	< 0.007	< 0.007	< 0.007	< 0.007
Trichloroethene	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Toluene	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	0.024	0.047	< 0.010	< 0.010
Tetrachloroethene	0.013	0.012	0.022	0.063	0.012	0.014	0.025	0.062	0.020	0.010	0.025
Ethylbenzene	< 0.010	< 0.010	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
m&p-Xylene	< 0.020	< 0.020	0.025	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020
o-Xylene	< 0.010	< 0.010	0.014	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010

Units: ug/L for waters
mg/kg for soils

KB Labs, Inc.
6821 SW Archer Road
Gainesville, FL 32608
P: 352-367-0073

Preliminary Sample Results
W+R
One-Hour Martinizing
Greenville, NC

12/17/2008

KB LABS	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID
	Blank Water	TW-1	TW-2	TW-3	TW-4	TW-5	TW-6	TW-10	TW-9
Analysis Date	**12/10/2008**	**12/10/2008**	**12/10/2008**	**12/10/2008**	**12/10/2008**	**12/10/2008**	**12/10/2008**	**12/10/2008**	**12/10/2008**
Matrix	Water	Water	Water	Water	Water	Water	Water	Water	Water
Dilution	1	1	1	1	1	1	1	1	1
Vinyl Chloride	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	308.2	< 1.0	39.8	74.2
1,1-Dichloroethene	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	3.1	< 1.0	5.2	6.6
t-1,2-Dichloroethene	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	31.8	< 1.0	21.4	29.9
c-1,2-Dichloroethene	< 1.0	< 1.0	< 1.0	1.2	1.4	949.2	27.0	1153.7	1350.1
Benzene	< 1.0	227.4	41.9	112.8	120.9	10.8	1.6	303.6	507.0
Trichloroethene	< 1.0	3.5	< 1.0	< 1.0	< 1.0	439.1	7.1	531.2	198.2
Toluene	< 1.0	3698.6	27.1	31.3	14.0	69.5	< 1.0	4.2	9.3
Tetrachloroethene	<0.7	8.2	<0.7	<0.7	<0.7	2421.4	35.9	1082.2	703.9
Ethylbenzene	< 1.0	2264.9	45.5	65.0	55.0	11.5	< 1.0	< 1.0	< 1.0
m&p-Xylene	< 2.0	3542.8	60.5	43.9	21.5	13.0	< 2.0	< 2.0	< 2.0
o-Xylene	< 1.0	1238.5	10.1	7.0	4.2	17.1	< 1.0	< 1.0	5.3

KB LABS	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID
	TW-D	TW-D2	TW-16	TW-11	TW-7	TW-8	TW-17	TWW-12	TW-18	TW-19
Analysis Date	**12/10/2008**	**12/10/2008**	**12/10/2008**	**12/10/2008**	**12/10/2008**	**12/10/2008**	12/11/2008	12/11/2008	12/11/2008	12/11/2008
Matrix	Water	Water	Water	Water	Water	Water	Water	Water	Water	Water
Dilution	1	1	1	1	1	1	1	1	1	1
Vinyl Chloride	152.8	149.65	< 1.0	15.2	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloroethene	6.7	6.95	< 1.0	4.1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
t-1,2-Dichloroethene	29.0	30.8	< 1.0	7.6	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
c-1,2-Dichloroethene	2909.8	2971.2	48.6	891.5	8.6	11.6	391.7	4.7	6.5	< 1.0
Benzene	287.5	284.5	7.8	273.3	1.7	1.9	2139.6	2.8	2.7	38.7
Trichloroethene	450.6	443.6	186.5	325.7	35.0	112.6	37.1	25.2	29.4	8.9
Toluene	26.9	28.0	37.7	2.3	2.3	< 1.0	577.3	21.3	4.6	35.8
Tetrachloroethene	3287.5	3585.8	848.6	2185.6	628.6	2175.6	47.5	75.5	167.7	3.7
Ethylbenzene	78.3	103.1	8.2	1.1	2.0	< 1.0	329.0	1.6	< 1.0	1.2
m&p-Xylene	10.5	11.0	12.7	2.2	4.5	< 2.0	715.8	3.2	2.3	2.4
o-Xylene	5.2	5.9	6.3	1.4	1.7	< 1.0	372.4	1.8	< 1.0	1.2

Units: ug/L for waters

1014

UNDERGROUND STORAGE TANK CLOSURE REPORT

2-09-05

I. General Information

A. Ownership of UST(s)

1. Name of UST owner:
   Sutton's Service Center

#31429

2. Owner address and telephone number:
   1205 Dickinson Ave.
   Greenville, NC 27834
   (252) 752-7200

B. Facility Information

1. Facility name:
   University Amoco

2. Facility ID #:
   0-018150

3. Facility address, telephone number and county:
   101 E. 10th Street
   Greenville, NC
   Pitt County

C. Contacts

1. Name, address, telephone number and job title of primary contact person:
   Mert Sutton
   Sutton's Service Center
   1205 Dickinson Ave.
   Greenville, NC 27834
   (252) 752-7200

2. Name, address and telephone number of closure contractor:
   Anderson & Associates
   P.O. Box 1217
   Tarboro, NC 27886
   (252) 813-9983

3. Name, address and telephone number of primary consultant:
   Allied Environmental Services, PLLC
   2411-B S. Charles Blvd.
   Greenville, NC 27858
   252-758-3311

4. Name, address, telephone number, and State certification number of laboratory:
Blue Ridge Labs
P.O. Box 2940
Lenoir, NC 28645
828-728-0149
NC DENR #275

D. UST Information

Tank no.	Installation dates	Size in Gallons	Tank Dimensions	Last Contents	Previous Contents (if any)
1	01/10/89	10,000	8' x 27'	Gasoline	None known
2	01/10/89	10,000	8' x 27'	Gasoline	None known
3	01/10/89	10,000	8' x 27'	Gasoline	None known
4	01/10/89	2,000	10'-6" x 5'-6"	Kerosene	None known
5	01/10/89	2,000	10'-6" x 5'-6"	Diesel	None known
6	01/10/89	550	5'-6" x 48"	Waste Oil	None known

E. Site Characteristics

1. Describe any past releases at this site:
This site had a release in 1985 (#3143). Two sets of tanks were removed (1964 set and older set). Reported 10/17/85. A large amount of soil was removed from the site. The current set of USTs was installed in 1989. This incident was closed out on 11/20/98.

2. Is the facility active or inactive at this time? If the facility is inactive note the last time the USTs were in operation:
The facility was inactive at the time of sampling. The facility has been out of operation for approximately 5 years.

3. Describe surrounding property use (for example, residential, commercial, farming, etc.)
Commercial.

4. Describe site geology/hydrogeology
Native soils at the subject site are sandy to silty, hard, fractured clays.

II. Closure Procedures

A. Describe preparations for closure including the steps taken to notify authorities, permits obtained and the steps taken to clean and purge the tanks
A UST-3 form was submitted to UST Section prior to UST closure. A tank removal permit (#159899) was obtained from the City of Greenville Fire/Rescue Department.

B. Note the amount of residual material pumped from the tank(s):
Approximately 1,000 gallons of fuel/waste oil was removed from the tanks. This material was transported to Sutton's Service Center for future disposal.

C. Describe the storage, sampling and disposal of the residual material:
Approximately 1,000 gallons of fuel/waste oil was removed from the tanks. This material was transported to Sutton's Service Center for future disposal.

D. Excavation

1. Describe excavation procedures noting the condition of the soils and the dimensions of the excavation in relation to the tanks, piping and/or pumps:
The tank pit and the piping dispenser/areas were backfilled with crushed rock as the tanks were fiberglass reinforced plastic (FRP), as per manufacturers recommendations. The tank pit area was sloped as per OSHA regulations, making most of the site backfilled with crushed rock.

The tank pit (backfilled with crushed rock) was saturated with ground water. To facilitate excavation of tanks, the ground water was removed with a vacuum truck. Approximately 6,958 gallons of water was removed from the pit (2 vac events).

The only native soil encountered was along the east property line and along the front of the building. Obviously contaminated soil was detected from 2-8 feet deep, below this the silty clay did not seem to be contaminated. Approximately 150-200 tons of soil was removed and stockpiled on-site to be disposed at a later time.

As the crushed rock was caving badly and all of the contaminated soil that could be removed was removed, it was decided to backfill the excavation

2. Note the depth of tank burial(s) (from land surface to top of tank):
The tanks were buried at a depth of approximately 3 feet below surface.

3. Quantity of soil removed:
The only native soil encountered was along the east property line and along the front of the building. Obviously contaminated soil was detected from 2-8 feet deep, below this the silty clay did not seem to be contaminated. Approximately 150-200 tons of soil was removed and stockpiled on-site. This soil will be removed in the future.

4. Describe soil type(s):
Native soils at the subject site are sandy to silty clay and underlain by gray, silty, hard fractured clays.

5. Type and source of backfill used:
Clean fill sand.

E. Contaminated Soil

1. Describe how it was determined to what extent to excavate the soil:
The only native soil encountered was along the east property line and along the front of the building. Obviously contaminated soil was detected from 2-8 feet deep, below this the silty clay did not seem to be contaminated. Approximately 150-200 tons of soil was removed and stockpiled on-site.

2. Describe method of temporary storage, sampling and treatment/disposal of soil:
The contaminated soil was placed under the canopy, on concrete, and covered with plastic for future disposal.

III. Site investigation

A. Provide information on field screening and observations, include methods used to calibrate field screening instrument(s):

The tank pit contained contaminated soil from 2-8 feet deep. Below this, the soils appear to be uncontaminated. OVA readings ranged from 0 to approximately 100 parts per million (ppm).

B. Describe soil sampling points and sampling procedures used.

As the pit area was filled with crushed rock and saturated with groundwater, it was decided (with consent of the Washington Regional Office) to conduct perimeter soil sampling and ground water sampling as per the high ground water rule. Two (2) stockpile samples were also collected. Samples collected for laboratory analysis were submitted to Blue Ridge Labs in Lenoir, NC for analysis by EPA Methods 5030, 3550, and Lead/Chromium as required.

Six (6) over-excavation soil samples (2-6 ft. and 6-8 ft.) were obtained from the two pit walls and along Tenth Street in native soils. These samples were submitted to Blue Ridge Labs in Lenoir, NC for analysis by Method 8260 and MADEP VPH.

C. Describe groundwater or surface water sampling procedures used.

A permanent monitoring well (MW-1) was installed on 12/30/01 and sampled on 01/03/05. The monitoring wells from the prior investigation (#3143) had been previously abandoned. A ground water sample was obtained and analyzed by Methods 601, 602 extended, 504.1 (EDB), 625 BN, Lead (3030C), and MADEP Methods VPH and EPH.

D. Quality control measures

Soil and ground water samples were placed within laboratory prepared containers, then immediately sealed.

The samples were labeled, chain of custody filled out, and samples were placed on ice and kept refrigerated until delivery to the laboratory.

Sampling proceedings took place on 12/23/04, 12/30/04/, and 01/03/05. Soil and water samples were submitted to Blue Ridge Labs on 12/27/04 and 01/03/05 for analysis. Chains of custody for the samples are given in Appendix E.

E. Investigation results

Laboratory results from the soil samples showed less than laboratory detection method to 1,045 ppm Total Petroleum Hydrocarbons (TPH) by EPA Method 5030.

Laboratory results from the soil samples showed less than laboratory detection method to 6.5 ppm Total Petroleum Hydrocarbons (TPH) by EPA Method 3550.

Laboratory results from the waste oil soil samples showed 4.46 ppm Lead and 1.56 ppm Chromium, both less than the MSCC for these.

Laboratory analyses for the ground water sample showed only Benzene and C9-C22 Aromatics exceeded the NCAC 2L .0202 standards, but no target compound exceeded the Gross Contaminant Level (GCL).

Laboratory analyses are included in Appendix F.

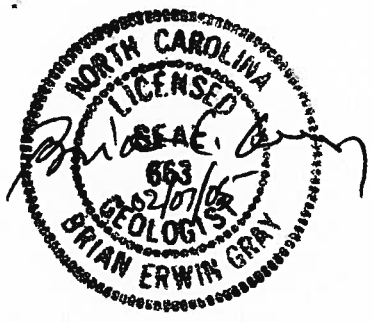
IV. Conclusions and Recommendations

The regulatory limits for EPA Method 3050 GRO is 10 ppm. All but three samples were below this 10 ppm threshold.

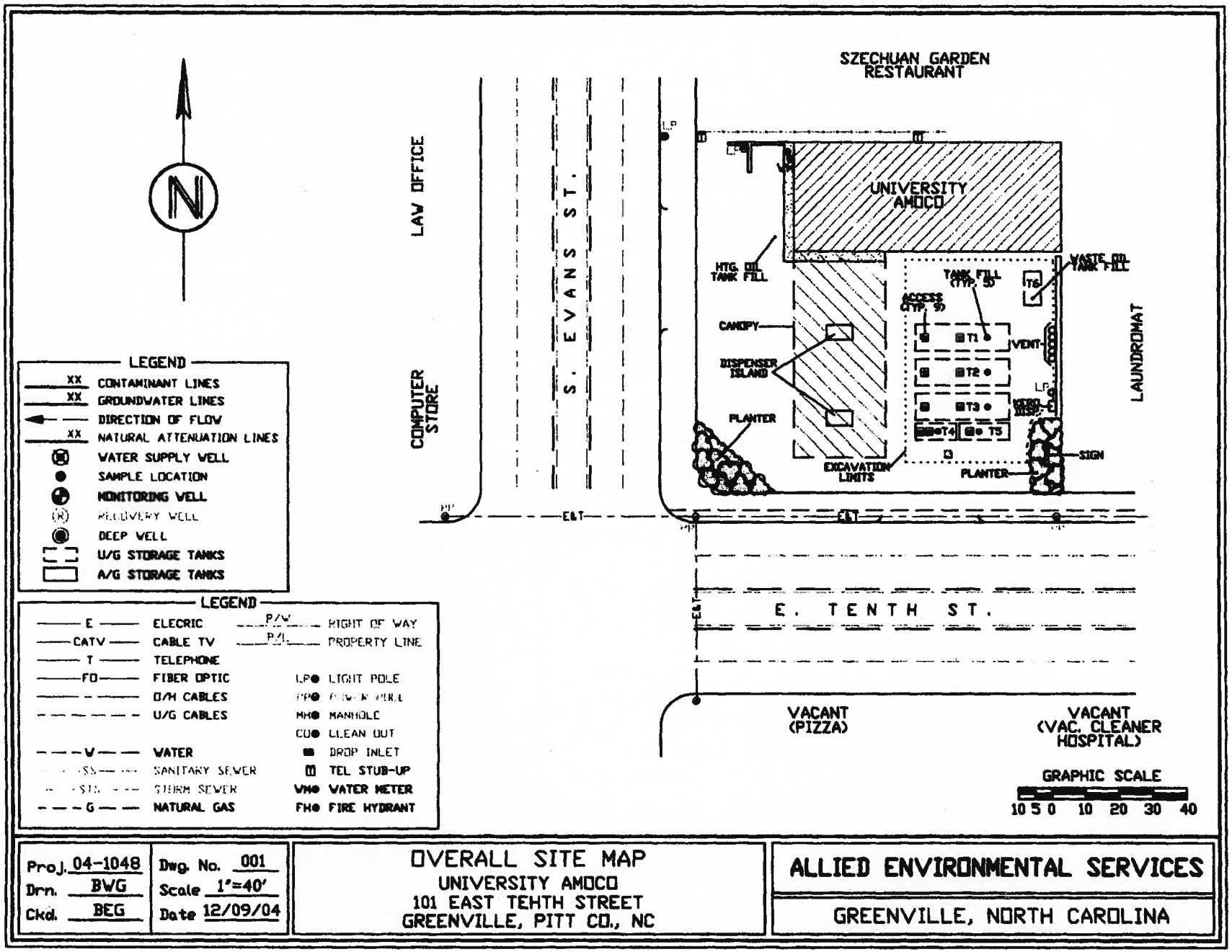
The regulatory limits for EPA Method 3550 GRO is 10 ppm. All samples were below this 10 ppm threshold.

Based on the laboratory results, there does not appear to have been a release from the current tanks at the subject site. Rather, the soil contamination appears to be the result of the previous incident (#3143) as soil that was not previously removed. The previous incident was closed out in 1998.

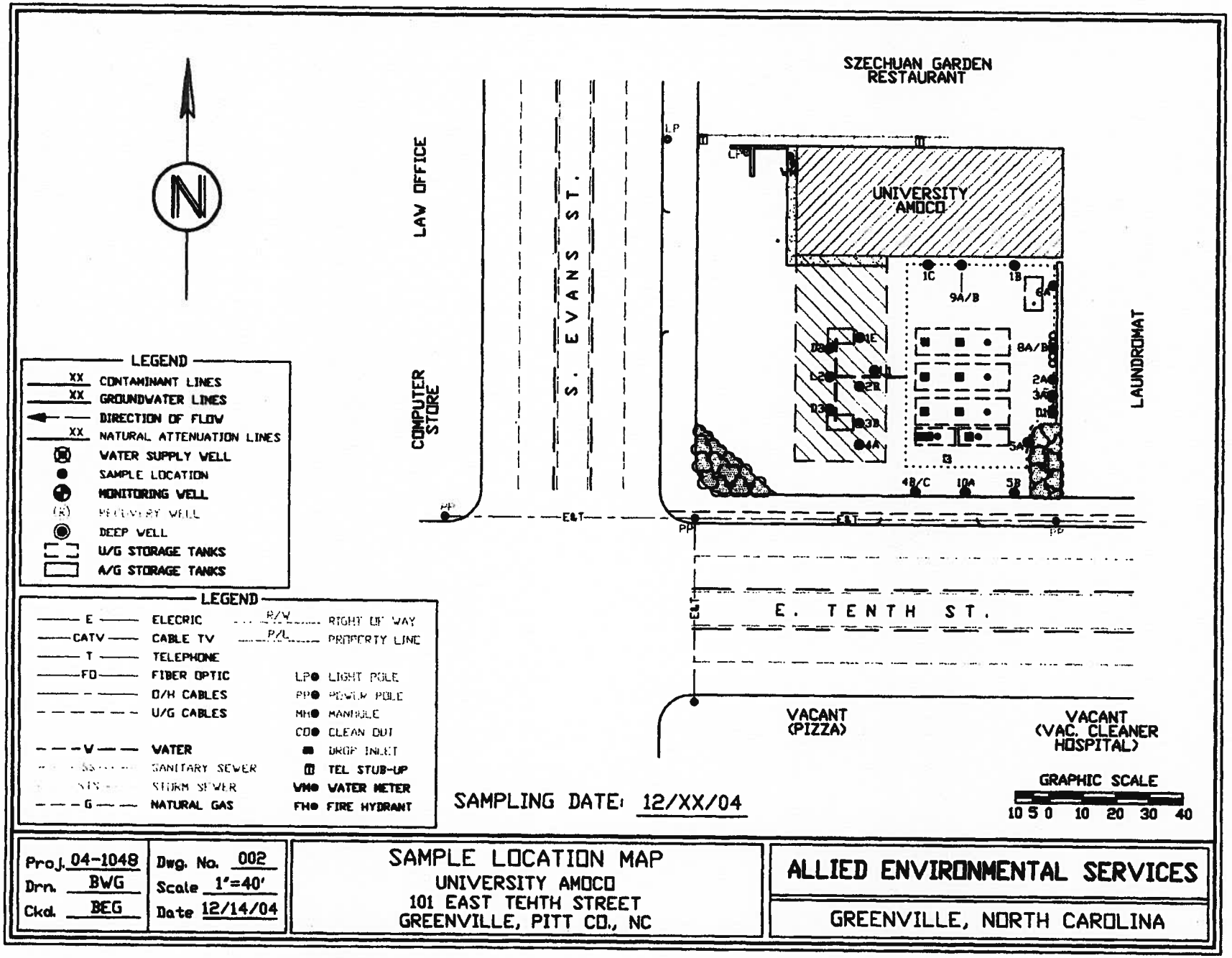
V. Signature of Professional Engineer or Licensed Geologist



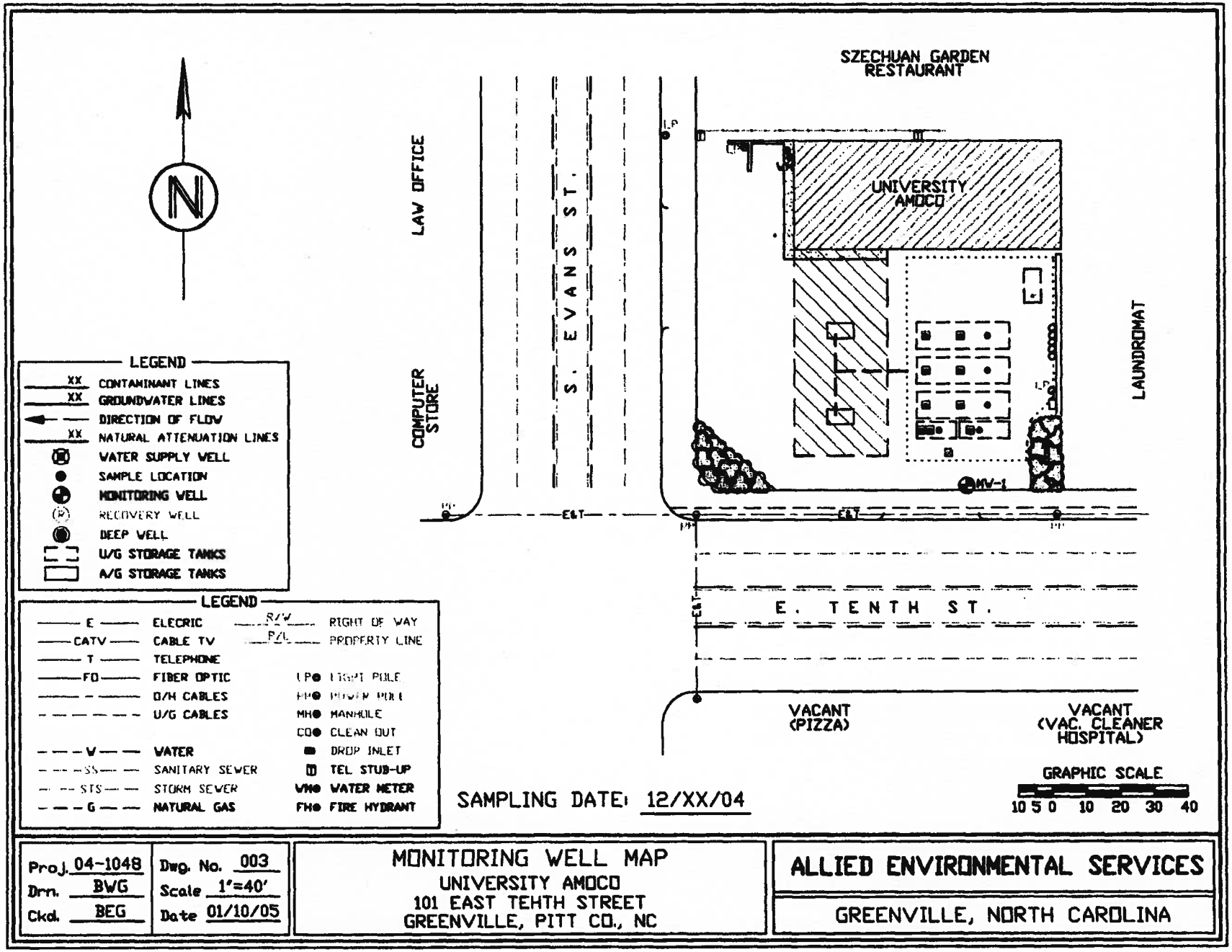
☐ **Professional Engineer Registration #:**
☒ **Licensed Geologist License #: 663**



Proj. 04-1048 Drn. BWG Ckd. BEG	Dwg. No. 001 Scale 1"=40' Date 12/09/04	OVERALL SITE MAP UNIVERSITY AMOCO 101 EAST TEHTH STREET GREENVILLE, PITT CO., NC	ALLIED ENVIRONMENTAL SERVICES GREENVILLE, NORTH CAROLINA



Proj. 04-1048 Drn. BWG Ckd. BEG	Dwg. No. 002 Scale 1"=40' Date 12/14/04	SAMPLE LOCATION MAP UNIVERSITY AMOCO 101 EAST TEHTH STREET GREENVILLE, PITT CO., NC	ALLIED ENVIRONMENTAL SERVICES GREENVILLE, NORTH CAROLINA



Proj. 04-1048 Drn. BWG Ckd. BEG	Dwg. No. 003 Scale 1"=40' Date 01/10/05	MONITORING WELL MAP UNIVERSITY AMOCO 101 EAST TEHTH STREET GREENVILLE, PITT CO., NC	ALLIED ENVIRONMENTAL SERVICES GREENVILLE, NORTH CAROLINA

TABLE 1

SAMPLE IDENTIFICATION AND RESULTS

SAMPLE #	EPA METHOD 5030	EPA METHOD 3550	LEAD	CHROMIUM
1A	<2	N/A	N/A	N/A
1B	**31.4**	N/A	N/A	N/A
1C	5.3	N/A	N/A	N/A
1E	5.6	N/A	N/A	N/A
2A	<2	N/A	N/A	N/A
2B	<2	N/A	N/A	N/A
3A	5.2	N/A	N/A	N/A
3B	<2	N/A	N/A	N/A
4A	<2	N/A	N/A	N/A
4B	<2	N/A	N/A	N/A
4C	<2	N/A	N/A	N/A
5A	<2	N/A	N/A	N/A
5B	**593**	N/A	N/A	N/A
6A	4.4	6.2	4.46	1.56
8A	<2	N/A	N/A	N/A
8B	6.1	N/A	N/A	N/A
9A	<2	N/A	N/A	N/A
9B	5.4	N/A	N/A	N/A
10A	**1,043**	<5	N/A	N/A
L-1	<2	<10	N/A	N/A
L-2	<2	<10	N/A	N/A
D-1	<2	<5	N/A	N/A
D-2	<2	N/A	N/A	N/A
D-3	<2	<5	N/A	N/A
Stockpile 1	**90.5**	N/A	N/A	N/A
Stockpile 2	**40.3**	N/A	N/A	N/A
State Action Level	10 mg/kg	10 mg/kg	270 mg/kg	27 mg/kg

TABLE 2
SUMMARY OF SOIL SAMPLING RESULTS

Date: 02/05/05 **Incident Number and Name:** University Amoco **Facility ID#:** 0-018150

Analytical Method (e.g., VOC by EPA 8260) →			8260	8260	8260	8260	8260	8260	8260	8260	8260	8260
Sample ID	Contaminant of Concern →		Benzene	Toluene	Ethylbenzene	Xylenes (Total)	MTBE	IPE	EDB	Naphthalene	n-Butylbenzene	sec-Butylbenzene
	Date Collected (m/dd/yy)	Sample Depth (ft. BGS)										
8B	12/23/04	2-6'	**0.0359**	<0.005	<0.005	<0.015	<0.005	0.0326	<0.005	<0.005	<0.005	<0.005
8A	12/23/04	6-8'	**0.0129**	0.0285	<0.005	<0.015	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
9B	12/23/04	2-6'	<0.005	0.052	<0.005	<0.015	<0.005	<0.005	<0.005	<0.005	0.0178	<0.005
9A	12/23/04	6-8'	**0.386**	0.156	**2.686**	**7.71**	<0.106	0.271	<0.106	**0.694**	**4.674**	1.282
4B	12/30/04	2-6'	**0.475**	0.336	**3.085**	**7.004**	**1.256**	**0.431**	<0.0735	**5.862**	**12.88**	0.811
4C	12/30/04	6-8'	**0.961**	0.074	**1.418**	2.496	<0.074	**0.536**	<0.074	**2.26**	**4.407**	<0.074
Soil-to-Groundwater(mg/kg)			0.0056	7	0.24	5	0.92	0.37	0.00000197	0.58	4	3
Residential MSCC (mg/kg)			22	3,200	1,560	32,000	156	156	0.0075	63	156	156
Industrial/Commercial MSCC (mg/kg)			200	82,000	40,000	200,000	4,088	4,088	0.067	1,635	4,088	4,088

TABLE 2 (cont'd)

Analytical Method (e.g., VOC by EPA 8260) →			8260	8260	8260	8260	8260	8260				
Sample ID	Contaminant of Concern →		tert-Butylbenzene	Isopropyl benzene	p-Isopropyl toluene	n-Propylbenzene	1,2,4-Trimethylbenzene	1,3,5-Trimethylbenzene				
	Date Collected (m/dd/yy)	Sample Depth (ft. BGS)										
8B	12/23/04	2-6'	<0.005	<0.005	<0.005	0.0192	<0.005	<0.005				
8A	12/23/04	6-8'	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005				
9B	12/23/04	2-6'	<0.005	<0.005	0.0086	0.009	0.0474	0.0174				
9A	12/23/04	6-8'	**3.682**	0.89	7.445	**4.763**	**13.69**	5.644				
4B	12/30/04	2-6'	**8.039**	1.659	6.35	**6.889**	**25.61**	**10.012**				
4C	12/30/04	6-8'	0.074	0.319	2.01	**2.3**	**10.360**	3.346				
Soil-to-Groundwater(mg/kg)			3	2	NE	2	8	7				
Residential MSCC (mg/kg)			156	1,564	NE	156	782	782				
Industrial/Commercial MSCC (mg/kg)			4,088	40,880	NE	4,088	20,440	20,440				

TABLE 2 (cont'd)

Analytical Method (e.g., VOC by EPA 8260) →			VPH	VPH/EPH	EPH	VPH/EPH						
Sample ID	Contaminant of Concern →		C5-C8 Aliphatics	C9-C18 Aliphatics	C19-C36 Aliphatics	C9-C22 Aromatics						
	Date Collected (m/dd/yy)	Sample Depth (ft. BGS)										
8B	12/23/04	2-6'	15.4	<2.8	—	4.2						
8A	12/23/04	6-8'	<2.9	<2.8	—	<2.8						
9B	12/23/04	2-6'	<2.9	<2.8	—	17.2						
9A	12/23/04	6-8'	**298**	<28	—	**1,194**						
4B	12/30/04	2-6'	<2.9	<10.1	<7.3	<10.1						
4C	12/30/04	6-8'										
Soil-to-Groundwater(mg/kg)			72	3,255	##	34						
Residential MSCC (mg/kg)			939	9,386	93,860	469						
Industrial/Commercial MSCC (mg/kg)			24,528	245,280	#	12,264						

- ND = Not Detected above the method detection limit
- MSCC = maximum soil contaminant concentration
- Ft. BGS = feet below ground surface
- Results must be reported in mg/kg
- mg/kg = milligrams per kilogram
- Contaminant levels in bold exceed the MSCC
- # = Health based level >100%
- ## = Considered immobile
- N/A = Not Analyzed

TABLE 3
SUMMARY OF GROUND WATER SAMPLING RESULTS

Date: 02/05/05 Incident Number and Name: University Amoco Facility ID#: 0-018150

Analytical Method (e.g., VOC by EPA 8260) →			602	602	602	602	602	602	602	504.1	3030C
Contaminant of Concern →			Benzene	Toluene	Ethylbenzene	Xylenes	MTBE	IPE	Naphthalene	EDB	Lead
Well ID	Sample ID	Date Collected (m/dd/yy)									
MW-1	MW-1	01/03/05	131	112	23.1	91.2	11.7	22.1	0.8	<0.01	25
2L Standard (µg/l)			1	1,000	29	530	200	70	21	4E-4	15
GCL (µg/l)			5,000	257,500	29,000	87,500	200,000	70,000	21,000	50	15,000

TABLE 3 (CONTINUED)

Analytical Method (e.g., VOC by EPA 8260) →			625	625	625	625	625	625	
Contaminant of Concern →			Acenaphthene	Acenapthylene	Pyrene	Fluoranthene	Fluorene	Phenanthrene	
Well ID	Sample ID	Date Collected (m/dd/yy)							
MW-1	MW-1	01/03/05	<10	<10	<10	<10	<10	<10	
2L Standard (µg/l)			80	210	210	280	280	210	
GCL (µg/l)			2,120	1,965	210	280	950	410	

TABLE 3 (CONTINUED)

Analytical Method (e.g., VOC by EPA 8260) →			VPH	VPH/EPH	EPH	VPH/EPH			
Contaminant of Concern →			C5-C8 Aliphatics	C9-C18 Aliphatics	C19-C36 Aliphatics	C9-C22 Aromatics			
Well ID	Sample ID	Date Collected (m/dd/yy)							
MW-1	MW-1	01/03/05	417	<168	<100	**1,251**			
2L Standard (µg/l)			420	4,200	42,000	210			
GCL (µg/l)			N/A	N/A	N/A	N/A			

- List any contaminant detected above the method detection limit
- µg/l = micrograms per liter
- GCL = gross contamination level
- Contaminant levels in bold exceed the NCAC 2L .0202 standard

UST-3 Notice of Intent: UST Permanent Closure of Change-in-Service

FOR TANKS IN NC

Return completed form to: The DWM Regional Office located in the area where the facility is located. SEE MAP ON THE BACK OF THIS FORM FOR REGIONAL OFFICE ADDRESSES.

STATE USE ONLY
I.D. #
Date Received

Complete and return at least five (5) working days prior to closure or change-in-service if a Professional Engineer (P.E.) or a Licensed Geologist (L.G.) provides supervision for closure or change-in-service site assessment activities and signs and seals all closure reports. Otherwise, a thirty (30) day notice is required.

SUTTONS SERVICE CENTER — Owner Name (Corporation, Individual, Public Agency, or Other Entity)	UNIVERSITY AMOCO — Facility Name or Company
1205 DICKINSON AVE. — Street Address	B-018150 — Facility ID # (If known)
GREENVILLE — City	101 E. 10TH STREET — Street Address
NC — State	GREENVILLE — City
PITT — County	PITT — County
27834 — Zip Code	N/A — Area Code
252-752-7200 — Area Code Phone Number	27834 — Zip Code
	Phone Number

Name MERF SUTTON Job Title PRESIDENT Phone Number 252-752-7200

1. Contact local fire marshal.
2. Plan entire closure event.
3. Conduct Site Soil Assessment.
4. If removing tanks or closing in place, refer to API Publication 2015 *Cleaning Petroleum Storage Tanks* and 1604 *Removal and Disposal of Used Underground Petroleum Storage Tanks.*
5. Provide a sketch locating piping, tanks and soil sampling locations.
6. Submit a closure report in the format of UST-12 (including the form UST-2) within thirty (30) days following the site investigation.
7. If a release from the tanks has occurred, the site assessment portion of the tank closure must be conducted under the supervision of a P.E. or L.G., with all closure site assessment reports bearing the signature and seal of the P.E. or L.G. If a release has not occurred, the supervision, signature or seal of a P.E. or L.G. is not required.
8. Keep closure records for three (3) years.

Contractor Name ALLIED ENVIRONMENTAL SERVICES, PLLC
Address 2411-B S. CHARLES BLVD., GREENVILLE State NC Zip Code 27858
Contact Person BRIAN GRAY Phone No. 252-758-3311
Primary Consultant ALLIED ENV. SVCS. Phone No. 252-758-3311

Tank ID #	Tank Capacity	Last Contents	Proposed Activity: Closure – Removal	Closure – Abandonment in Place	Change-in-Service – New Contents Stored
1	10,000	GASOLINE	X	☐	
2	10,000	GASOLINE	X	☐	
3	10,000	GASOLINE	X	☐	
4	2,000	KEROSENE	X	☐	
5	2,000	DIESEL	X	☐	
6	550	WASTE OIL	X	☐	
7	550	HEATING OIL	X		

I understand that I can be held responsible for environmental damage resulting from the improper disposal of my USTs. Read note on the back of this form before signing.
Print name and official title BRIAN E. GRAY

Signature	Date Signed	SCHEDULED REMOVAL DATE	Notify your DWM Regional Office 48 hours before this date if scheduled removal date changes
Brian E. Gray	11/29/04	12/06/04	

UST-3 Rev 02/2001 White copy – Regional Office Yellow Copy – Central Office Pink Copy - Owner

UST-2 Site Investigation Report for Permanent Closure or Change-in-Service of UST

FOR TANKS IN NC

Return completed form to:
The DWM Regional office in the area the facility is located. SEE MAP ON THE BACK OF THIS FORM FOR REGIONAL OFFICE ADDRESSES. Return the yellow copy to the Central Office in Raleigh so that the status of the tank may be changed to "PERMANENTLY CLOSED".

STATE USE ONLY:
I.D. #
Date Received

I. OWNERSHIP OF TANKS

SUTTONS SERVICE CENTER
Owner Name (Corporation, Individual, Public Agency, or Other Entity)
1205 DICKINSON AVE.
Street Address
GREENVILLE — PITT — 27834
City — County — Zip Code
NC
State
252-752-7200
Area Code — Phone Number

II. LOCATION OF TANKS

UNIVERSITY AMOCO
Facility Name or Company
0-018150
Facility ID # (If known)
101 E. TENTH ST.
Street Address
GREENVILLE — PITT Co. — 27834
City — County — Zip Code
N/A
Area Code — Phone Number

III. CONTACT PERSONNEL

Name MERT SUTTON — Job Title PRESIDENT — Tel. No. 252-752-7200
Closure Contractor ANDERSON & ASSOC. — Address PO BOX 1217 TARBORO, NC — Tel. No. 252-813-9983
Primary Consultant ALLIED ENV. SVCS. — Address 2418 S. CHARLES BLVD. GREENVILLE, NC 27858 — Tel. No. 252-758-3311
Lab BLUE RIDGE LABS — Address PO BOX 2940 LENOIR, NC 28645 — Tel. No. 828-728-0149

IV. UST INFORMATION / V. EXCAVATION CONDITION

Tank No.	Size in Gallons	Tank Dimensions	Last Contents	Water in excavation Yes	Water in excavation No	Free product Yes	Free product No	Notable odor or visible soil contamination Yes	Notable odor or visible soil contamination No
1	10,000	8'X27'	GASOLINE	✓			✓	✓	
2	10,000	8'X27'	GASOLINE	✓			✓	✓	
3	10,000	8'X27'	GASOLINE	✓			✓	✓	
4	1,000	106"X5'-6"	KEROSENE	✓			✓	✓	
5	2,000	106"X5'-6"	DIESEL	✓			✓	✓	
6	550	48"X5'-6"	W.O.	✓			✓	✓	

VI. ADDITIONAL INFORMATION

See reverse side of pink copy (owner's copy) for additional information required by NC DWM in the written report and sketch.

NOTE: If a release from the tank(s) has occurred, the site assessment portion of the tank closure must be conducted under the supervision of a P.E. or L.G., with all closure site assessment reports bearing the signature and seal of the P.E. or L.G.

VII. CHECKLIST (CHECK THE ACTIVITIES COMPLETED)

PERMANENT CLOSURE
(For Removal or Abandonment-in-Place)

- ☑ Contact local fire marshal
- ☑ Notify DWM Regional Office before abandonment
- ☑ Drain and flush piping into tank
- ☑ Remove all product and residuals from tank
- ☑ Excavate down to tank
- ☑ Clean and inspect tank
- ☑ Remove drop tube, fill pipe, gauge pipe, vapor recovery tank connections, submersible pumps, and all other tank fixtures
- ☑ Cap or plug all lines except the vent and fill lines
- ☑ Purge the tank of all product and flammable vapors
- ☐ Cut one or more large holes in the tank
- ☑ Backfill the area

Date tank(s) Permanently Closed: 12/23/04

Date of Change In-service:

ABANDONMENT IN PLACE

- ☐ Fill tank until material overflows tank opening
- ☐ Plug or cap all openings
- ☐ Disconnect and cap or remove vent line
- ☐ Solid inert material used –specify

REMOVAL

- ☑ Create vent hole
- ☑ Label tank
- ☐ Dispose of tank in approved manner. Final tank destination:

TANKS TAKEN TO SUTTON'S SERVICE CENTER FOR FUTURE DISPOSAL

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this and all attached documents and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true accurate and complete

Print name and official title of owner or owner's authorized representative	Signature	Date Signed
BRIAN E. GRAY PRES. ALLIED ENV. SVCS.	Brian E. Gray	01/05/05

POLLUTION INCIDENT REPORTING FORM

1. Incident # 343
2. Tabulate only _____

Division of Environmental Management
GROUNDWATER SECTION

TYPE OF ACTION

A

(1.) Emergency response 3. Compliance investigation 5. Routine inventory 7. Re-evaluation : # _____
2. Remedial action 4. Complaint investigation 6. Fish kill 8. Other : _____

POTENTIAL HAZARDS : (1.) Toxic chemicals 2. Radioactivity 3. Air emissions 4. Explosives 5. Fire

REGIONAL OFFICE CONTACT

B

Incident Name: 10th & EVANS SPILL, POSSIBLE LUST

Inhouse Contact for this Incident: DICK DENTON / R. THORPE / R. POWERS

Telephone: 946-6481

Department: NRCD | Division: DEM | Section: W.Q. | Region: N.E.

TYPE INCIDENT: (3.) Major 2. Moderate 1. Minor

PERSON REPORTING INCIDENT

C

Name: MICHAEL BRANCH | Date: 10-17-85 | Telephone: 752-2554 | Time: 09:00

Company/Agency: GREENVILLE FIRE MARSHAL | City: GREENVILLE | County: PITT

Briefly Describe Incident:
DENTON ARRIVED AT SCENE @ 11:00 HRS, VIEWED LARGE OPEN EXCAVATION W/GASOLINE ON WATER TABLE, 4 TO 6' DEEP. INCIDENT IS IN CLOSE PROXIMITY TO REAR OF BUCK'S AMOCO (NORTH SIDE) ON EAST SIDE OF EVANS ST. MR. SUTTON IS OWNER OF AMOCO, FORMERLY CANNON'S GULF STATION.

REPORTED BY: 1. Responsible party (2.) Government agency 3. Private party

RECOMMENDED ACTION

D

1. Investigation complete 3. Initiate/complete cleanup 5. Technical support 7. Enforcement action
(2.) Continue investigation 4. Long-term remedial action 6. Drill crew 8. Monitoring plan

Comments: ROGER THORPE, REG. ENGINEER, ASKED FOR INVOLVEMENT OF GWS @ 15:00 10-17-85 TO HUMPHREY IN OFFICE, BRIEFED BY DENTON @ 15:30

LAB SAMPLES: 1. Yes (2.) No | Signature: D. L. H. | Date: 10-17-85

Incident # 3143
County: PITT

POLLUTION INCIDENT REPORTING FORM

POLLUTANTS INVOLVED

E

MATERIALS INVOLVED	AMOUNT STORED	AMOUNT LOST	AMOUNT RECOVERED
PETROLEUM (GASOLINE)	16,000	UNKOWN	0 (NONE)
WASTE MOTOR OIL	280	0	0
HEATING OIL	280	0	0

UNKNOWN
Amount Infiltrating Land

REPORTABLE QUANTITY: (1.) Yes 2. No 3. Unknown

IMPACT ON SURFACE WATERS

F

WATERS EFFECTED 1. Yes (2.) No No 3. Potentially | Distance to Stream (ft): N/A | Amount in Water (gal): N/A

FISH KILL: 1. Yes (2.) No | Name of Stream: NONE | Stream Class:

RISK ASSESSMENT

G

Use these codes: High=3 Low=1 Default=2 None=0 Unknown=?

HUMAN HEALTH: 1 Inhalation (breathing) 1 Absorption (touching) 1 Ingestion (eating)

COMMUNITY: 3 Population density 1 Drinking water 3 Property

ENVIRONMENT: 0 Sensitive areas 0 Wildlife 0 Fish

RESOURCE THREAT	GROUNDWATER	SURFACE WATER	AIR
Probability of violations	3	1	0
Overall regional concern	3	1	0
Remedial action priority	3	1	0
Extent of contamination	3	1	0
Seriousness of threat	2	1	0
Need to designate RS	2	NA	NA

Sources of Information: DICK DENTON

POTENTIAL SOURCE OF POLLUTION

H

SOURCE OF POTENTIAL POLLUTION
1. Intentional discharge
2. Pit, pond, lagoon
(3.) Leak—underground
4. Spray irrigation
5. Land application
6. Nonpoint source
7. Animal feedlot
8. Source unknown
9. Dredge spoil
10. Septic tank
11. Sewer line
12. Stockpile
13. Landfill
14. Bypass
15. Spill
16. Well

MULTIPLE SOURCES AT SITE: 1. Yes (2.) No

TYPE OF POLLUTANT
0. Pesticide/herbicide
1. Radioactive waste
(2.) Gasoline/diesel
3. Sewage/septage
4. Other chemical
5. Other organic
6. Fertilizers
7. Solid waste
8. Other oil
9. Sludge

LOCATION
(1.) Facility
2. Railroad
3. Waterway
4. Pipeline
5. Dumpsite
6. Highway
7. Other

SETTING
1. Residential
2. Industrial
(3.) Urban
4. Rural

POLLUTION CONFIRMED (1.) Yes 2. No

Incident # 3143
County: PITT

POLLUTION INCIDENT REPORTING FORM

RESPONSIBLE PARTY

I

Responsible Party/Names: JIM SUTTON SR.				Telephone: 919-752-6121
Company: SUTTON'S SERVICE CENTER			Street Address: 1105 DICKINSON AVE.	
City: GREENVILLE		County: PITT	State: N.C.	Zip Code: 27889

SOURCE IN USE	SOURCE OF SIA LIST	PERMIT TYPE	OWNERSHIP	OPERATION TYPE
0. N/A	0. N/A	0. N/A	0. N/A	0. N/A
(1) Yes	1. Yes #: ____	1. Nondischarge	1. Municipal	1. Public Service
2. No	2. No	2. Oil terminal	2. Military	2. Agricultural
		3. Landfill	3. Unknown	3. Other Source
SOURCE PERMITTED	SOURCE ON ERRIS LIST	4. Mining	(4) Private	4. Educational
1. Yes	1. Yes	5. NPDES	5. Federal	5. Industrial
2. No	2. No	6. RCRA	6. County	(6) Commercial
Permit Number	ERRIS Number	7. Air	7. State	7. Mining

INITIAL SITUATION

J

REASON FOR INCIDENT
1. Transportation accident
(2.) Mechanical failure
3. Facility design
4. Invenotry only
5. Human error
6. Vandalism
7. Unknown

Describe Any Injuries: NO INJURIES

People/Agencies On-site: FIRE MARSHAL, FIRE CHIEF, MR. EDWARDS MR BOYD W/D.O.T., DEM.-DENTON

People/Agencies Enroute: GROUNDWATER SECTION WILL VISIT SITE WITHIN 24 HRS. ETA 12 HRS

Detailed Explanation of Incident:
A MRS. WHITAKER REPORTED TO F.D. THAT GASOLINE ODOR WAS BECOMING NOTICABLE IN HER HOME. THE HOUSE IS ADJACENT TO A NEW CONSTRUCTION SITE CONVERSATION WITH CONTRCTR. REVEALED THAT GASOLINE WAS UNEARTHED ON THE SITE A FEW DAYS PRIOR TO WHITAKER REPORT. MRS WHITAKER HAS BEEN EVACUATED

Containment Cleanup/Actions Taken:
SOME GAS IN STORM SEWER HAS BEEN CONTAINED WITH ABSORBANTS, EXCAVATION HAS BEEN COVERED DUE TO FIRE HAZARD. DENTON REFERRED F.D. TO GWS (RICHARD POWERS) TO INVESTIGATE JOLEM-

Direction Wind From	Wind Speed	Air Temperature	Precipitation	Weather/Precipitation
SW	5	83°	0	CLEAR

Nearest Populated Buildings—Type: HOUSE, AMOCO STATION
Distance to Buildings: 50' TO 75'

Incident # 3143
County PITT

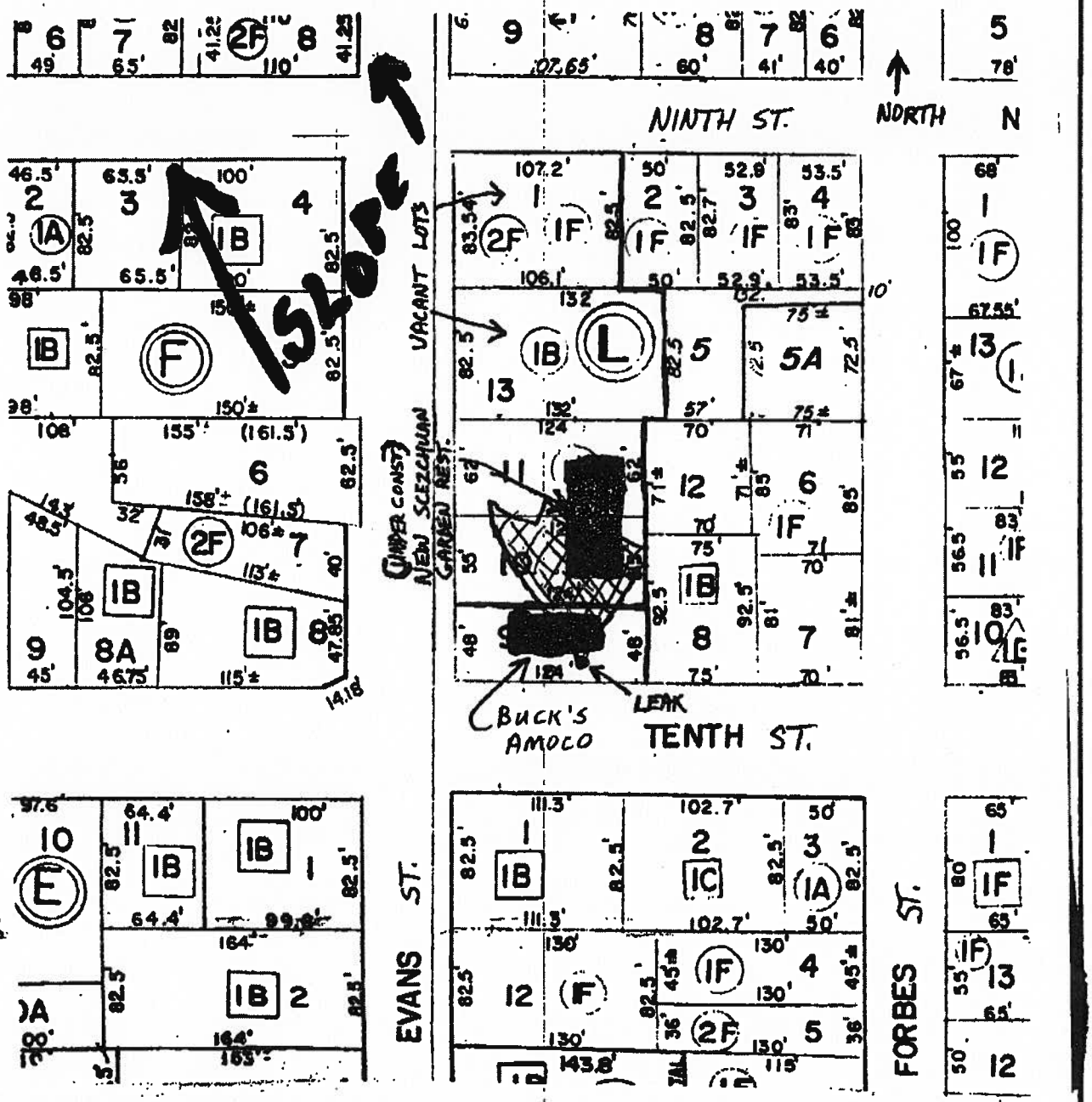
POLLUTION INCIDENT REPORTING FORM

LOCATION OF INCIDENT

Street Address, Road	City/Town	County
10TH ST AND EVANS ST. (N.E. CORNER)	GREENVILLE	PITT

Date Incident Occurred	Time Incident Occurred	7 1/2 Quad Name	Lat. : Deg: Min: Sec: / Long. : Deg: Min: Sec:
UNKNOWN	N/A		35° 36' 22" / 77° 22' 28"

Draw Sketch of Area



ATTACH PHOTOCOPY OF MAP SHOWING: 1. Pollutant Source 2. Threatened Water Supplies 3. Direction of Overland Flow

Incident # 3143
County: PITT

POLLUTION INCIDENT REPORTING FORM

SOIL TYPES

COASTAL PLAIN REGION

(1) Middle Coastal Plain
2. Upper Coastal Plain/Piedmont
3. Sandhills
4. Lower Coastal/Wicomico, Talbot
5. Lower Coastal Plain/Pamlico
6. Organic Soil
7. Brackish and Freshwater Marsh
8. Outer Banks
9. Large River Valleys/Flood Plain

PIEDMONT SOIL REGION

10. Felsic Crystalline
11. Carolina Slate Belt
12. Triassic Basin
13. Mixed Felsic and Matic

MOUNTAIN SOIL REGION

14. Low and Intermediate Mountain
15. Basins/Terraces/Flood Plain
16. High Mountain

LANDFORM

(1) River ~~coastal~~ terrace
2. Coastal (flat) plain
3. Mountain range
4. Sandhills
5. Swamp
6. Linear (valley) slope
7. Head slope (concave)
8. Nose slope (convex)
9. Foot slope
10. Barrier island
11. Barrier system
12. Beach ridge
13. Tidal marsh
14. Floodplain
15. Upland: 0-5% slope (interstream divide)

OBSERVED AVERAGE GRADIENTS

To nearest water supply: N/A %
Water table gradient: 3 %
To nearest stream: 10 %
Stream gradient: 5 %

ESTIMATED DEPTHS

To uppermost confining bed: 8 ft.
To water table: 6 ft.
To bedrock: 1100 ft.

ESTIMATE HYDRAULIC CONDUCTIVITIES

Soil	Unsaturated zone	Water Table	Upper confined aquifer
1. high	1. high	1. high	1. high
2. medium	(2) medium	(2) medium	(2) medium
(3) low	3. low	3. low	3. low
4. unknown	4. unknown	4. unknown	4. unknown

AQUIFER USE

1. Little or no use
2. Moderate uses
3. Heavily used

DISTANCE TO NEAREST WATER SUPPLY: N/A ft.

DISTANCE TO NEAREST BUILDING: 75' ft.

Describe general lithology of soil and unsaturated zone

Provide map showing: 1. Pollutant source 2. Threatened water supplies 3. Direction of overland flow

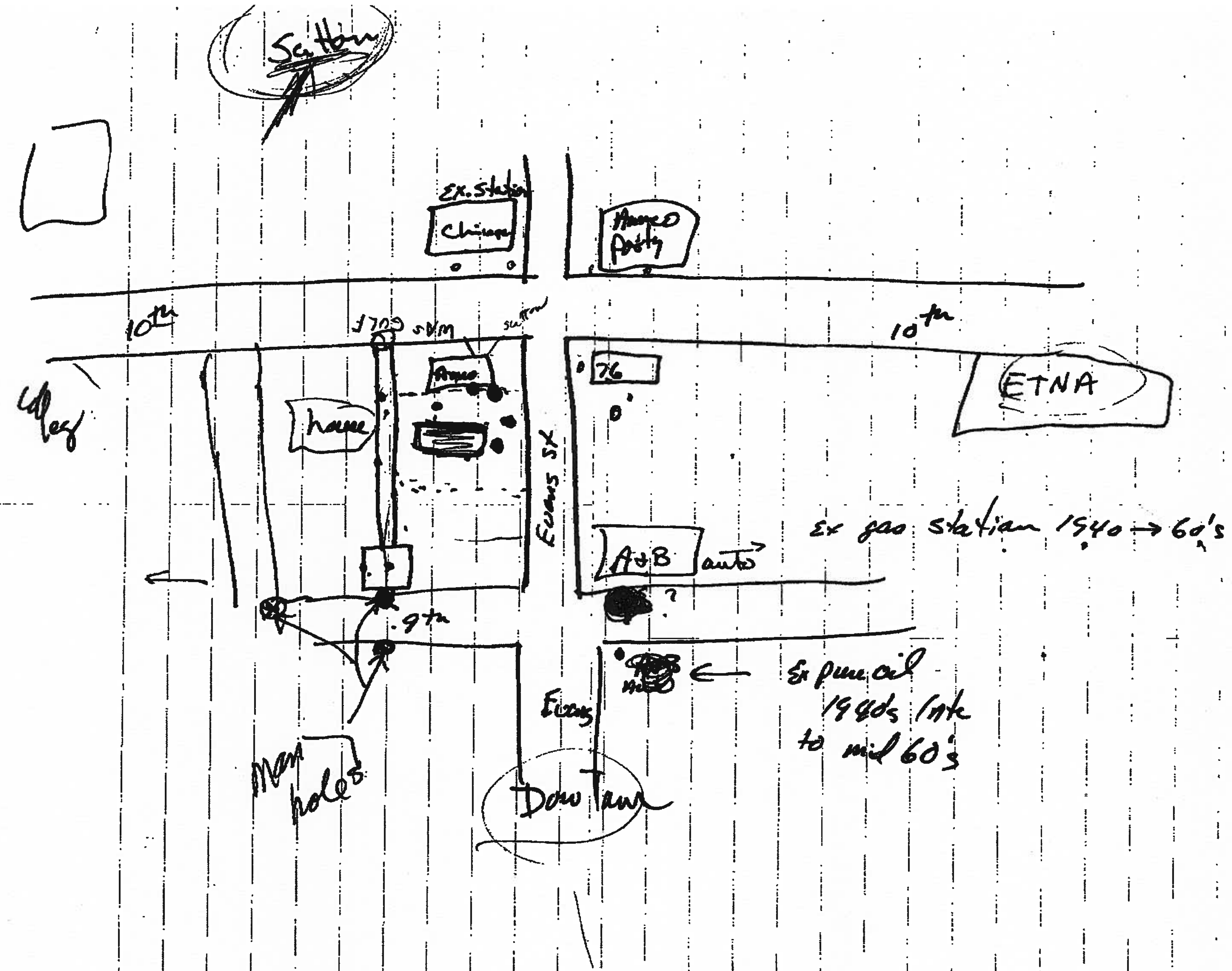
TO: ______________________ SUBJECT: ______________________

Michael Branch Fire Marshall
752-2554
752-4137 ext 237 ask to page

10 th of Evans Gulf station in
Greenville NC

Mr. Suton owns ~~truck~~ station

Mrs whitaker lives next door
and has gas fumes in her house
and yard. The gulf station
had a leaking underground tank
awhile back that was repaired.


Sutton
Ex. Station
10th
Evans st
76
ETNA
10th
A+B auto
Ex gas station 1940 → 60's
9th
Evans
Ex pure oil
1940s late
to mid 60's
man holes
Down town

752-4137 } Public Works
Inspections - Ginger } Glenn Whistler
D.O.T.

Fred Edwards - 752-3713
Otis Potter

Michael Branch - fire Marshal 752-2554
Chief Allen - Fire

House owner - Thelma Whiteka

Bucks Amoco 752-3228
James E Sutton - Suttons Service Cntr 752-6121
SZECHUAN GARDENS - 1970
Car Wash - 1980

10-18-85

Dick Paul - Sutton Oil - Amoco

Captain M. Branch - GFD

last Sept loss not shown on inventory

last Oct tree removal showed odor of gas

this year middle tank - regular (?)

some pits, maybe pin-holes

Homeowner - drain under house

Thelma Whitaker -

1st noticed 1st Sept; this week strong

State of North Carolina
Department of Natural Resources and Community Development
Northeastern Region
1424 Carolina Avenue, Washington, North Carolina 27889

James G. Martin, Governor
S. Thomas Rhodes, Secretary

Howard D. Moye, Jr.
Regional Manager

DIVISION OF ENVIRONMENTAL MANAGEMENT

October 25, 1985

Mr. Jim Sutton, President
Sutton's Service Center
1105 Dickinson Avenue
Greenville, North Carolina 27834

Dear Mr. Sutton:

Thank you for your time on October 24th and your cooperation in the matter of the possible gasoline leakage at Buck's Amoco on Tenth Street in Greenville.

This letter is to summarize our investigation to this point and to outline the Department's position of future action required at this site. The Division of Environmental Management's Groundwater Section (DEM/GWS) is the primary agency in this incident and will work with you and any of your authorized agents to bring the remedial action at Buck's Amoco to a successful end.

On October 17, 1985, Captain Michael Branch of the Greenville Fire Department contacted Roger Thorpe in the Washington office to report gasoline in two excavations behind Buck's Amoco. Captain Branch explained that his department had responded to a complaint from Mrs. Whittaker of gasoline fumes in her home on Ninth Street. They found a partially opened drainline was emanating fumes to the underpinnings and foundation of her house. They traced the line from a street drain on Ninth Street to one on Tenth Street. During the investigation, the contractor of the new Szechuan Gardens restaurant told them that he had discovered gasoline in the ground while removing trees and other work. The City of Greenville Public Work Department was called, and two excavations were dug behind the station. In a short period of time, these two holes accumulated about one to two feet of fresh raw gasoline in them.

The next day (10-18-85), I responded to investigate the incident. I located all the potential sources in the immediate area and all utility lines and pipes so that subsurface investigation could start on Monday, October 21. In all, there were six possible sources, with fourteen unused, abandoned tanks and eleven active tanks. Ten of the abandoned tanks were eliminated when

investigation revealed that eight of them had not been used since 1971 and the other two, since about 1980. The freshness of the gasoline in the excavations ruled out leakage from them. The remaining four tanks are at Buck's Amoco.

On October 22, David Humphrey, a co-worker, and I dug several boreholes around the potential sources and determined that the gasoline was indeed coming from Buck's Amoco. We also determined the approximate areal extent of the contamination. In the meantime, the storm drain which ran under Mrs. Whittaker's house was abandoned by the N.C. Department of Transportation and the City of Greenville in order to eliminate any future fumes from entering her house.

The North Carolina Division of Environmental Management has an interest in the groundwater quality and has been authorized by the Environmental Management Commission (EMC) to require the collection and removal of any unauthorized discharge of petroleum products into the waters (including groundwater) of the state. General Statute 143-215.75 (Oil Pollution and Hazardous Substance Control Act of 1978) contains several relevant passages to this situation (copy left for your use 10-23-85). I would like to draw your attention to a few of these clauses for clarification.

First, 143-215.83 outlaws discharges of oil including those deemed accidental. The following section, 143-215.84, places the burden of removal and restoration on the party who discharges the oil. It also states that the Department is authorized and empowered to initiate any action deemed necessary for restoration, and to bill the responsible party or parties. Section 143-215.91 provides guidelines for civil penalties of up to five thousand dollars ($5,000) for accidental discharges, and up to ten thousand dollars ($10,000) for willful or intentional discharges. In addition, 143-215.93 defines who is liable for violation of the Oil Pollution and Hazardous Substance Control Act.

Since Sutton's Service Center has control over the gasoline product at this facility, you are advised that the company is responsible for the removal of prohibited discharges. The Division of Environmental Management is informing Sutton's Service Center to initiate the following actions:

1. Contact a commercial oil recovery company, or use your own resources, to recover the lost product and restore the site. As we discussed, the Groundwater Section strongly recommends that you enlist the services of a professional spill recovery consultant to assist you during the pollution recovery operation.

2. Prior to recovery efforts, you or your consultant are requested to submit a remedial plan of action for approval by DEM that will address the proposed method for recovery and disposal of waste products. The plan should also show the location of the disposal site and indicate an approximate time table for each phase of the job.

3. Action plans submitted to our office for approval must be accompanied by all documentations, maps, letter of agreement (disposal site agreement, for example), etc.

If it is determined that recovery wells are needed to recover the product, please understand that a special permit will be necessary from the Groundwater Section prior to the construction of the well(s).

Although the area of impact appears to be confined to the area adjacent to the underground tanks, there is another concern because of the location of underground utilities (sewer and water lines, telephone lines). These lines could provide conduits for the gasoline to migrate farther and faster, causing recovery efforts to be hampered and other increased costs.

The tank and piping testing company that you told me would be on site on Monday, October 28th, may be able to assist you in locating an oil recovery company. The list that I gave you on the 23rd is by no means complete. We will inform you of any others as we learn of them. Please remember that the testing company must supply us with certified results of their tests.

Thank you again for your cooperation, and we look forward to hearing from you concerning this matter by November 12, 1985. Please contact Willie Hardison at my office if you have any questions or require any assistance, as I will be on vacation through that date.

Sincerely,

RRP

Richard R. Powers
Hydrogeological Technician II

RRP:mgr
Enclosure (Recovery Well Permit Application)
cc: Bill Jeter, Incident Management Unit
Files ✓

APPENDIX B
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 106, State of North Carolina 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 12 and 25, 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 is located on the northeast quadrant of Evans Street and W 10th 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 106 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 reinforced concrete and surface metal. 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 106\SCHNABEL GEOPHYSICAL REPORT ON PARCEL 106 (U-3315).DOCX

Parcel 106 (State of North Carolina Property), looking east

Parcel 106 (State of North Carolina Property), looking north

Schnabel ENGINEERING	STATE PROJECT U-3315 NC DEPT. OF TRANSPORTATION PITT COUNTY, NORTH CAROLINA PROJECT NO. 11821014.17	PARCEL 106 SITE PHOTOS FIGURE 1

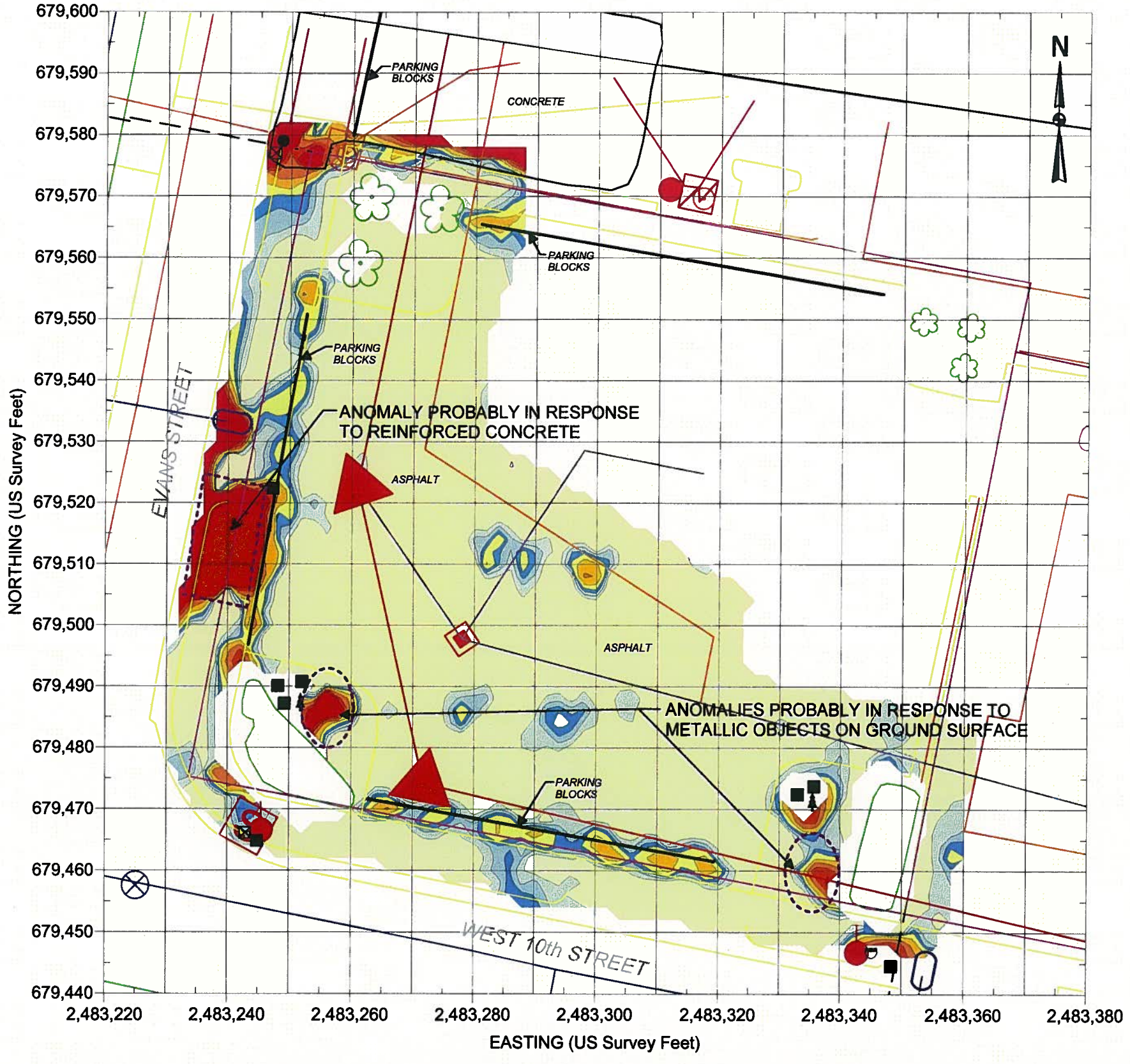
Geonics EM61-MK2 Metal Detector with Trimble DGPS Unit

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 106



EXPLANATION

- SIGN
- 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 20 40 60

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 12, 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 25, 2012, using a Geophysical Survey Systems SIR 3000 equipped with a 400 MHz antenna.

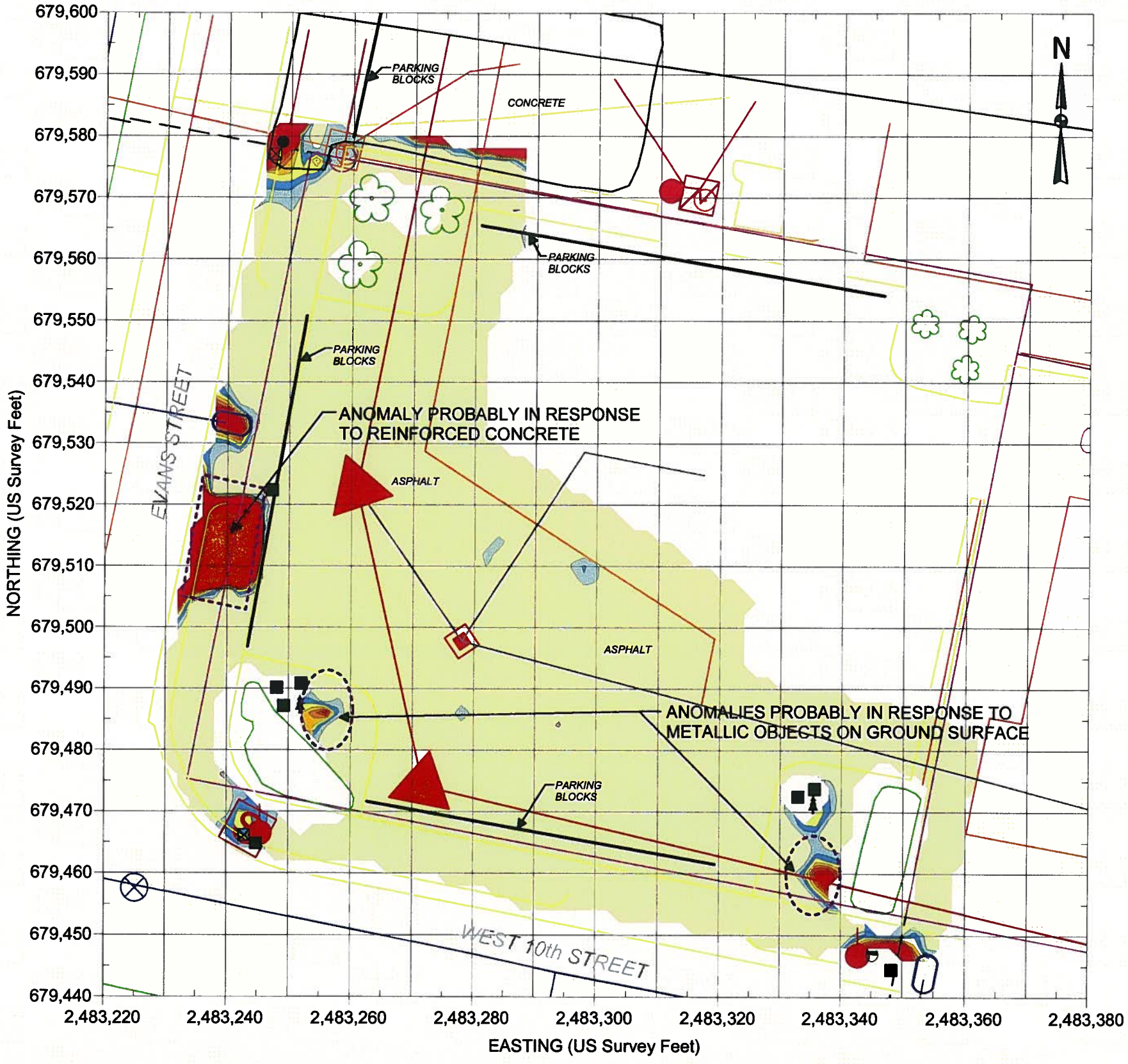
Schnabel ENGINEERING

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

EM61
EARLY TIME GATE
RESPONSE

FIGURE 3

PARCEL 106



EXPLANATION

- SIGN
- 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 20 40 60

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 12, 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 25, 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 C
BORING LOGS

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 106 - State of North Carolina - Former Amoco Gas Station.		LOGGED BY: Ben Ashba		BORING ID: 106DPT-01	
		DRILLER: Steven V. Hudson			
NORTHING: 679,460.00	EASTING: 2,483,293.00	CREW:			
SYSTEM: NCSP NAD 83 (USft)	BORING LOCATION: In concrete.			LAND ELEV.: NM	
DRILL MACHINE: Power Probe	METHOD: CPT/DPT		0 HOUR DTW: N/A	BORING DEPTH: 16.0	
START DATE: 7/12/12	FINISH DATE: 7/12/12		24 HOUR DTW: N/A	ROCK DEPTH: --	

DEPTH	BLOW COUNT 0.5 0.5 0.5 0.5	MOI.	PID RESULTS (ppm) 0 1000 2000 3000 4000	LAB.	USCS	LOG	DEPTH	SOIL AND ROCK DESCRIPTION	ELEVATION
							0.0	LAND SURFACE	
0.0		D	▲2		SC			Varying browns Clayey f.SAND grading to Sandy CLAY at depth.	
2.0		D	▲34		SC		2.0	S.A.A. with HCO at 3-4'	
4.0		D	▲57		CH		4.0	Gray and orange with slight mottling. Fat CLAY stiff to v. stiff. High plasticity with strong HCO.	
6.0		D	▲16		CH		6.0	S.A.A.	
8.0		D	▲7		CH		8.0	S.A.A. Wet very soft at 9'. At 10' S.A.A. no petro odor grading from stiff to soft at depth.	
10.0		D	▲6		CH		10.0	S.A.A.	
12.0		D	▲6		CH		12.0	S.A.A.	
14.0		D	▲5		CH		14.0	S.A.A.	
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 8/28/12

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 106 - State of North Carolina - Former Amoco Gas Station.		**LOGGED BY:** Ben Ashba		**BORING ID:** 106DPT-02	
		DRILLER: Steven V. Hudson			
NORTHING: 679,468.00	**EASTING:** 2,483,268.00	**CREW:**			
SYSTEM: NCSP NAD 83 (USft)	**BORING LOCATION:** Edge of asphalt and concrete. 25' W of CB 1102			**LAND ELEV.:** NM	
DRILL MACHINE: Power Probe	**METHOD:** CPT / DPT		**0 HOUR DTW:** N/A	**BORING DEPTH:** 8.0	
START DATE: 7/12/12	**FINISH DATE:** 7/12/12		**24 HOUR DTW:** N/A	**ROCK DEPTH:** --	

DEPTH	BLOW COUNT 0.5 0.5 0.5 0.5	MOI.	PID RESULTS (ppm) 0 1000 2000 3000 4000	LAB.	USCS	LOG	DEPTH	SOIL AND ROCK DESCRIPTION	ELEVATION
							0.0	LAND SURFACE	
0.0		D	▲792				2.0		
2.0		D	▲1,000+		SC/CL		2.5	Brown Clayey SAND and gravel grading to Sandy CLAY w/ depth Black at 2' w/ strong HCO.	
4.0		M	▲786		SC/CL		4.0	S.A.A. gray in color. Damp.	
6.0		M	▲368		CH			Slight gray and brown mottling fat CLAY. Strong HCO through out	
8.0							8.0	Boring Terminated at Depth 8.0 ft	

▽ = 0hr. DTW ▼ = 24hr. DTW

CATLIN ENVIRO_LOG 212077 GREENVILLE-PSAS_U3315.GPJ CATLIN.GDT 8/28/12

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 106 - State of North Carolina - Former Amoco Gas Station.		**LOGGED BY:** Ben Ashba	**BORING ID:** 106DPT-03
		DRILLER: Steven V. Hudson	
NORTHING: 679,455.00	**EASTING:** 2,483,318.00	**CREW:**	
SYSTEM: NCSP NAD 83 (USft)	**BORING LOCATION:** Edge of asphalt and concrete. 25' E of CB 1102		**LAND ELEV.:** NM
DRILL MACHINE: Power Probe	**METHOD:** CPT / DPT	**0 HOUR DTW:** N/A	**BORING DEPTH:** 8.0
START DATE: 7/12/12	**FINISH DATE:** 7/12/12	**24 HOUR DTW:** N/A	**ROCK DEPTH:** --

DEPTH	BLOW COUNT 0.5 0.5 0.5 0.5	MOI.	PID RESULTS (ppm) 0 1000 2000 3000 4000	LAB.	USCS	LOG	SOIL AND ROCK DESCRIPTION	DEPTH	ELEVATION
							LAND SURFACE	0.0	
0.0		D	▲4		SC/ CH		Brown Clayey SAND and gravel grading to Sandy CLAY w/ depth Black at 3' w/ strong HCO.	3.0	
2.0		D	▲407						
4.0		M	▲1000+		CL		S.A.A. damp		
6.0		M	▲154					8.0	
8.0							Boring Terminated at Depth 8.0 ft		

▽ = 0hr. DTW ▼ = 24hr. DTW

CATLIN ENVIRO.LOG 212077 GREENVILLE-PSAS U3315.GPJ CATLIN.GDT 8/28/12

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 106 - State of North Carolina - Former Amoco Gas Station.		LOGGED BY: Ben Ashba DRILLER: William J. Miller	BORING ID: 106DPT-04
NORTHING: 679,477.00	EASTING: 2,483,242.00	CREW: Corey Futral	
SYSTEM: NCSP NAD 83 (USft)	BORING LOCATION: SW corner of parcel.		LAND ELEV.: NM
DRILL MACHINE: Power Probe	METHOD: CPT / DPT	0 HOUR DTW: N/A	BORING DEPTH: 8.0
START DATE: 8/2/12	FINISH DATE: 8/2/12	24 HOUR DTW: N/A	ROCK DEPTH: --

DEPTH	BLOW COUNT 0.5 0.5 0.5 0.5	MOI.	PID RESULTS (ppm) 0 1000 2000 3000 4000	LAB.	USCS	LOG	DEPTH	SOIL AND ROCK DESCRIPTION	ELEVATION
							0.0	LAND SURFACE	
0.0			▲0.0		PT			MULCH and TOPSOIL w/ interlayering rock.	
2.0		W	▲5.0		SM		2.0	Lt tan grading to dk gray, Silty f. to med. SAND.	
4.0		M	▲1,000+	106DPT-04 (4-5') @ 1250	CL		4.0	Dk gray w/ orange mottling, Sandy CLAY. Strong HCO.	
6.0			▲1,000+		CH		7.0	Dk gray w/ orange mottling, CLAY. Strong HCO.	
8.0							8.0	Boring Terminated at Depth 8.0 ft	

▽ = 0hr. DTW ▼ = 24hr. DTW

CATLIN ENVIRO_LOG_212077_GREENVILLE-PSAS_U3315.GPJ_CATLIN.GDT_8/28/12

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 106 - State of North Carolina - Former Amoco Gas Station.		LOGGED BY: Ben Ashba		BORING ID: 106DPT-05	
		DRILLER: William J. Miller			
NORTHING: 679,449.00	EASTING: 2,483,343.00	CREW: Corey Futral			
SYSTEM: NCSP NAD 83 (USft)	BORING LOCATION: 25' E. of 106DPT-03			LAND ELEV.: NM	
DRILL MACHINE: Power Probe	METHOD: CPT / DPT		0 HOUR DTW: N/A	BORING DEPTH: 6.0	
START DATE: 8/2/12	FINISH DATE: 8/2/12		24 HOUR DTW: N/A	ROCK DEPTH: --	

DEPTH	BLOW COUNT 0.5 0.5 0.5 0.5	MOI.	PID RESULTS (ppm) 0 1000 2000 3000 4000	LAB.	USCS	LOG	DEPTH	SOIL AND ROCK DESCRIPTION	ELEVATION
							0.0	LAND SURFACE	
0.0					GW			GRAVEL. Fill.	
			▲7.0	106DPT-05 (1.5-2') @ 1310			1.5		
					SM			Brown, Silty SAND.	
2.0							2.0		
			▲3.0						
4.0					CL			Med. gray to dk gray, Silty CLAY. Soft.	
			▲3.2						
6.0							6.0		
								Boring Terminated at Depth 6.0 ft	

▽ = 0hr. DTW ▼ = 24hr. DTW

CATLIN ENVIRO LOG 212077 GREENVILLE-PSAS U3315.GPJ CATLIN.GDT 8/28/12

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 106 - State of North Carolina - Former Amoco Gas Station.		**LOGGED BY:** Ben Ashba		**BORING ID:** 106DPT-06	
		DRILLER: William J. Miller			
NORTHING: 679,498.00	**EASTING:** 2,483,319.00	**CREW:** Corey Futral			
SYSTEM: NCSP NAD 83 (USft)	**BORING LOCATION:** NE corner of Easment.			**LAND ELEV.:** NM	
DRILL MACHINE: Power Probe	**METHOD:** CPT / DPT		**0 HOUR DTW:** N/A	**BORING DEPTH:** 6.0	
START DATE: 8/2/12	**FINISH DATE:** 8/2/12		**24 HOUR DTW:** N/A	**ROCK DEPTH:** --	

DEPTH	BLOW COUNT 0.5 0.5 0.5 0.5	MOI.	PID RESULTS (ppm) 0 1000 2000 3000 4000	LAB.	USCS	LOG	DEPTH	SOIL AND ROCK DESCRIPTION	ELEVATION
							0.0	LAND SURFACE	
0.0					GW		0.5	ASPHALT and GRAVEL.	
			▲2.0						
2.0					SW			Lt gray to lt brown, f. to med. SAND. Well-graded. Strong HCO.	
			▲3.0						
4.0							4.0		
			▲13.0	106DPT-06 (4-5') @ 1330	CL			Med. gray, Sandy to Silty CLAY. Gap-graded. Rocks throughout sample.	
6.0							6.0		
								Boring Terminated at Depth 6.0 ft	

▽ = 0hr. DTW ▼ = 24hr. DTW

CATLIN ENVIRO_LOG_212077_GREENVILLE-PSAS_U3315.GPJ_CATLIN.GDT_8/28/12

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 106 - State of North Carolina - Former Amoco Gas Station.			**LOGGED BY:**	Ben Ashba	**BORING ID:**	106DPT-07
				DRILLER:	William J. Miller		
NORTHING:	679,498.00	**EASTING:**	2,483,278.00	**CREW:**	Corey Futral		
SYSTEM:	NCSP NAD 83 (USft)	**BORING LOCATION:**	25' NW of CB 1102			**LAND ELEV.:**	NM
DRILL MACHINE:	Power Probe	**METHOD:**	CPT / DPT	**0 HOUR DTW:**	N/A	**BORING DEPTH:**	6.0
START DATE:	8/2/12	**FINISH DATE:**	8/2/12	**24 HOUR DTW:**	N/A	**ROCK DEPTH:**	--

DEPTH	BLOW COUNT 0.5 0.5 0.5 0.5	MOI.	PID RESULTS (ppm) 0 1000 2000 3000 4000	LAB.	USCS	LOG	DEPTH	SOIL AND ROCK DESCRIPTION	ELEVATION
							0.0	LAND SURFACE	
0.0			▲5.0		GW			GRAVEL.	
2.0			▲11.0						
4.0			▲97.0	106DPT-07 (4-5') @ 1340	CL		4.0	Dk gray grading to med. gray w/ orange mottling, Sandy CLAY. Sand is fine to medium. Silty CLAY to CLAY ~4.5-5' BLS.	
6.0							6.0	Boring Terminated at Depth 6.0 ft	

▽ = 0hr. DTW ▼ = 24hr. DTW

CATLIN ENVIRO_LOG_212077_GREENVILLE-PSAS_U3315.GPJ_CATLIN.GDT_8/28/12

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 106 - State of North Carolina - Former Amoco Gas Station.		**LOGGED BY:** Ben Ashba		**BORING ID:** 106DPT-08	
		DRILLER: William J. Miller			
NORTHING: 679,529.00	**EASTING:** 2,483,272.00	**CREW:** Corey Futral			
SYSTEM: NCSP NAD 83 (USft)	**BORING LOCATION:** NW corner of easment.			**LAND ELEV.:** NM	
DRILL MACHINE: Power Probe	**METHOD:** CPT / DPT		**0 HOUR DTW:** N/A	**BORING DEPTH:** 6.0	
START DATE: 8/2/12	**FINISH DATE:** 8/2/12		**24 HOUR DTW:** N/A	**ROCK DEPTH:** --	

DEPTH	BLOW COUNT 0.5 0.5 0.5 0.5	MOI.	PID RESULTS (ppm) 0 1000 2000 3000 4000	LAB.	USCS	LOG	DEPTH	SOIL AND ROCK DESCRIPTION	ELEVATION
							0.0	LAND SURFACE	
0.0			▲10.0		GW		2.0	ASPHALT and GRAVEL.	
2.0			▲70.0		SW		3.0	Dk gray, f. to med. SAND w/ tr. silt. Strong HCO.	
4.0			▲663.0		CL		4.0	Dk gray w/ orange mottling, Silty CLAY.	
					CH		6.0	Med. to dk gray w/ orange mottling, CLAY. Strong HCO.	
6.0								Boring Terminated at Depth 6.0 ft	

▽ = 0hr. DTW ▼ = 24hr. DTW

CATLIN ENVIRO.LOG 212077 GREENVILLE-PSAS U3315.GPJ CATLIN.GDT 8/29/12

APPENDIX D

LABORATORY REPORT AND CHAIN OF CUSTODY RECORD

CATLIN
Engineers and Scientists

220 Old Dairy Road
Wilmington, NC 28405

Phone (910) 452-5861
Fax (910) 452-7563

www.catlinusa.com

December 21, 2012

Pender County Department of
Planning and Community Development
Attn: Ms. Dee Turner, Planner II
Office 144
805 South Walker Street
Burgaw, North Carolina 28425

Re: Statement of Qualifications
Millers Pond Park
Professional Design & Engineering
Pender County, North Carolina
CATLIN Proposal No. 212152.P

Dear Ms. Turner:

Please find enclosed five bound copies containing CATLIN Engineers and Scientists' (CATLIN) qualifications to provide consultant services for the above referenced project. CATLIN is a local Wilmington engineering firm that specializes in civil, environmental and geotechnical engineering.

As you will see within our qualifications, CATLIN has been providing these services for the past 27 years to local municipalities, state and federal government agencies, universities, industries and a variety of private sector clients. Our extensive experience with these clients has helped us gain the necessary knowledge to handle any of your projects that involve civil engineering, environmental engineering and geotechnical investigation.

We appreciate the opportunity to provide Pender County with our qualifications and look forward to working with you on this project. Please feel free to contact us if we can provide any additional information to aid in your evaluation process.

Sincerely,

Paul E. Skidmore, PE
Project Manager

Jeffery K. Becken, PE, RSM
Vice-President

SGS ANALYTICAL PERSPECTIVES

Laboratory Report of Analysis

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

Report Number: **31202201**

Client Project: **DOT G-Ville PSA Parcel 106**

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
2012.07.24 16:16:08 -05'00'

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

Print Date: 07/24/2012 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: 07/24/2012

N.C. Certification # 481

Sample Summary

Client Sample ID	Lab Sample ID	Collected	Received	Matrix
106DPT-01 (2-4ft)	31202201001	07/12/2012 14:45	07/16/2012 10:47	Soil-Solid as dry weight
106DPT-01 (4-6ft)	31202201002	07/12/2012 14:50	07/16/2012 10:47	Soil-Solid as dry weight
106DPT-02 (2-3ft)	31202201003	07/12/2012 15:45	07/16/2012 10:47	Soil-Solid as dry weight
106DPT-03 (4-5ft)	31202201004	07/12/2012 16:45	07/16/2012 10:47	Soil-Solid as dry weight

Print Date: 07/24/2012

N.C. Certification # 481

Detectable Results Summary

Client Sample ID: **106DPT-01 (2-4ft)**
Lab Sample ID: 31202201001-C

	Parameter	Result	Units	
SW-846 8015C DRO	Diesel Range Organics (DRO)	10.8	mg/kg	
SW-846 8015C GRO	Gasoline Range Organics (GRO)	52.0	mg/kg	

Client Sample ID: **106DPT-01 (4-6ft)**
Lab Sample ID: 31202201002-D

	Parameter	Result	Units	
SW-846 8260B	1,2,4-Trimethylbenzene	7.83	ug/Kg	J
	4-Isopropyltoluene	18.6	ug/Kg	J
	Ethyl Benzene	1420	ug/Kg	
	Isopropylbenzene (Cumene)	388	ug/Kg	
	Naphthalene	785	ug/Kg	
	Xylene (total)	26.0	ug/Kg	J
	m,p-Xylene	21.5	ug/Kg	J
	n-Propylbenzene	1930	ug/Kg	
	o-Xylene	4.41	ug/Kg	J
SW-846 8270D	2-Methylnaphthalene	162	ug/Kg	J
	Naphthalene	170	ug/Kg	J

Client Sample ID: **106DPT-02 (2-3ft)**
Lab Sample ID: 31202201003-C

	Parameter	Result	Units
SW-846 8015C DRO	Diesel Range Organics (DRO)	717	mg/kg
SW-846 8015C GRO	Gasoline Range Organics (GRO)	731	mg/kg

Client Sample ID: **106DPT-03 (4-5ft)**
Lab Sample ID: 31202201004-C

	Parameter	Result	Units
SW-846 8015C DRO	Diesel Range Organics (DRO)	73.4	mg/kg
SW-846 8015C GRO	Gasoline Range Organics (GRO)	1330	mg/kg

SGS ANALYTICAL PERSPECTIVES

Results of 106DPT-01 (2-4ft)

Client Sample ID: **106DPT-01 (2-4ft)**
Client Project ID: **DOT G-Ville PSA Parcel 106**
Lab Sample ID: 31202201001-A
Lab Project ID: 31202201

Collection Date: 07/12/2012 14:45
Received Date: 07/16/2012 10:47
Matrix: Soil-Solid as dry weight
Solids (%): 83.40

Results by SW-846 8015C GRO

Parameter	Result	Qual	DL	LOQ/CL	Units	DF	Date Analyzed
Gasoline Range Organics (GRO)	**52.0**		14.2	14.2	mg/kg	4	07/17/2012 13:12
Surrogates							
4-Bromofluorobenzene	108			70.0-130	%	4	07/17/2012 13:12

Batch Information

Analytical Batch: **VGC2018**
Analytical Method: **SW-846 8015C GRO**
Instrument: **GC7**
Analyst: **MDY**
Analytical Date/Time: **07/17/2012 13:12**

Prep Batch: **VXX3644**
Prep Method: **SW-846 5035**
Prep Date/Time: **07/16/2012 11:58**
Prep Initial Wt./Vol.: **6.77 g**
Prep Extract Vol: **5 mL**

Print Date: 07/24/2012

N.C. Certification # 481

SGS ANALYTICAL PERSPECTIVES

Results of 106DPT-01 (2-4ft)

Client Sample ID: **106DPT-01 (2-4ft)**
Client Project ID: **DOT G-Ville PSA Parcel 106**
Lab Sample ID: 31202201001-C
Lab Project ID: 31202201

Collection Date: 07/12/2012 14:45
Received Date: 07/16/2012 10:47
Matrix: Soil-Solid as dry weight
Solids (%): 83.40

Results by SW-846 8015C DRO

Parameter	Result	Qual	DL	LOQ/CL	Units	DF	Date Analyzed
Diesel Range Organics (DRO)	**10.8**		7.51	7.51	mg/kg	1	07/17/2012 15:26
Surrogates							
o-Terphenyl	86.1			40.0-140	%	1	07/17/2012 15:26

Batch Information

Analytical Batch: **XGC2378**
Analytical Method: **SW-846 8015C DRO**
Instrument: **GC6**
Analyst: **DTF**
Analytical Date/Time: **07/17/2012 15:26**

Prep Batch: **XXX2822**
Prep Method: **SW-846 3541**
Prep Date/Time: **07/16/2012 08:04**
Prep Initial Wt./Vol.: **31.97 g**
Prep Extract Vol: **10 mL**

Print Date: 07/24/2012

N.C. Certification # 481

SGS ANALYTICAL PERSPECTIVES

Results of **106DPT-01 (4-6ft)**

Client Sample ID: **106DPT-01 (4-6ft)**
Client Project ID: **DOT G-Ville PSA Parcel 106**
Lab Sample ID: 31202201002-D
Lab Project ID: 31202201

Collection Date: 07/12/2012 14:50
Received Date: 07/16/2012 10:47
Matrix: Soil-Solid as dry weight
Solids (%): 75.50

Results by **SW-846 8260B**

Parameter	Result	Qual	DL	LOQ/CL	Units	DF	Date Analyzed
1,1,1,2-Tetrachloroethane	ND	U	5.09	49.0	ug/Kg	50	07/20/2012 18:48
1,1,1-Trichloroethane	ND	U	6.02	49.0	ug/Kg	50	07/20/2012 18:48
1,1,2,2-Tetrachloroethane	ND	U	7.64	49.0	ug/Kg	50	07/20/2012 18:48
1,1,2-Trichloroethane	ND	U	6.17	49.0	ug/Kg	50	07/20/2012 18:48
1,1-Dichloroethane	ND	U	8.08	49.0	ug/Kg	50	07/20/2012 18:48
1,1-Dichloroethene	ND	U	10.4	49.0	ug/Kg	50	07/20/2012 18:48
1,1-Dichloropropene	ND	U	4.23	49.0	ug/Kg	50	07/20/2012 18:48
1,2,3-Trichlorobenzene	ND	U	5.39	49.0	ug/Kg	50	07/20/2012 18:48
1,2,3-Trichloropropane	ND	U	10.4	49.0	ug/Kg	50	07/20/2012 18:48
1,2,4-Trichlorobenzene	ND	U	4.47	49.0	ug/Kg	50	07/20/2012 18:48
1,2,4-Trimethylbenzene	**7.83**	J	4.71	49.0	ug/Kg	50	07/20/2012 18:48
1,2-Dibromo-3-chloropropane	ND	U	36.6	245	ug/Kg	50	07/20/2012 18:48
1,2-Dibromoethane	ND	U	5.88	49.0	ug/Kg	50	07/20/2012 18:48
1,2-Dichlorobenzene	ND	U	6.71	49.0	ug/Kg	50	07/20/2012 18:48
1,2-Dichloroethane	ND	U	8.18	49.0	ug/Kg	50	07/20/2012 18:48
1,2-Dichloropropane	ND	U	7.98	49.0	ug/Kg	50	07/20/2012 18:48
1,3,5-Trimethylbenzene	ND	U	5.53	49.0	ug/Kg	50	07/20/2012 18:48
1,3-Dichlorobenzene	ND	U	5.04	49.0	ug/Kg	50	07/20/2012 18:48
1,3-Dichloropropane	ND	U	6.37	49.0	ug/Kg	50	07/20/2012 18:48
1,4-Dichlorobenzene	ND	U	6.37	49.0	ug/Kg	50	07/20/2012 18:48
2,2-Dichloropropane	ND	U	19.2	49.0	ug/Kg	50	07/20/2012 18:48
2-Butanone	ND	U	35.4	1220	ug/Kg	50	07/20/2012 18:48
2-Chlorotoluene	ND	U	5.53	49.0	ug/Kg	50	07/20/2012 18:48
2-Hexanone	ND	U	35.6	245	ug/Kg	50	07/20/2012 18:48
4-Chlorotoluene	ND	U	6.12	49.0	ug/Kg	50	07/20/2012 18:48
4-Isopropyltoluene	**18.6**	J	3.77	49.0	ug/Kg	50	07/20/2012 18:48
4-Methyl-2-pentanone	ND	U	27.3	245	ug/Kg	50	07/20/2012 18:48
Acetone	ND	U	42.3	1220	ug/Kg	50	07/20/2012 18:48
Benzene	ND	U	5.53	49.0	ug/Kg	50	07/20/2012 18:48
Bromobenzene	ND	U	5.39	49.0	ug/Kg	50	07/20/2012 18:48
Bromochloromethane	ND	U	10.3	49.0	ug/Kg	50	07/20/2012 18:48
Bromodichloromethane	ND	U	5.39	49.0	ug/Kg	50	07/20/2012 18:48
Bromoform	ND	U	4.77	49.0	ug/Kg	50	07/20/2012 18:48
Bromomethane	ND	U	11.6	49.0	ug/Kg	50	07/20/2012 18:48
n-Butylbenzene	ND	U	3.77	49.0	ug/Kg	50	07/20/2012 18:48
Carbon disulfide	ND	U	5.19	49.0	ug/Kg	50	07/20/2012 18:48
Carbon tetrachloride	ND	U	4.95	49.0	ug/Kg	50	07/20/2012 18:48
Chlorobenzene	ND	U	5.68	49.0	ug/Kg	50	07/20/2012 18:48
Chloroethane	ND	U	15.2	49.0	ug/Kg	50	07/20/2012 18:48
Chloroform	ND	U	6.81	49.0	ug/Kg	50	07/20/2012 18:48
Chloromethane	ND	U	21.9	49.0	ug/Kg	50	07/20/2012 18:48
Dibromochloromethane	ND	U	6.56	49.0	ug/Kg	50	07/20/2012 18:48
Dibromomethane	ND	U	8.23	49.0	ug/Kg	50	07/20/2012 18:48
Dichlorodifluoromethane	ND	U	8.37	245	ug/Kg	50	07/20/2012 18:48

Print Date: 07/24/2012

N.C. Certification # 481

SGS ANALYTICAL PERSPECTIVES

Results of 106DPT-01 (4-6ft)

Client Sample ID: **106DPT-01 (4-6ft)**
Client Project ID: **DOT G-Ville PSA Parcel 106**
Lab Sample ID: 31202201002-D
Lab Project ID: 31202201

Collection Date: 07/12/2012 14:50
Received Date: 07/16/2012 10:47
Matrix: Soil-Solid as dry weight
Solids (%): 75.50

Results by SW-846 8260B

Parameter	Result	Qual	DL	LOQ/CL	Units	DF	Date Analyzed
cis-1,3-Dichloropropene	ND	U	3.76	49.0	ug/Kg	50	07/20/2012 18:48
trans-1,3-Dichloropropene	ND	U	4.22	49.0	ug/Kg	50	07/20/2012 18:48
Diisopropyl Ether	ND	U	14.4	49.0	ug/Kg	50	07/20/2012 18:48
Ethyl Benzene	**1420**		4.29	49.0	ug/Kg	50	07/20/2012 18:48
Hexachlorobutadiene	ND	U	3.88	49.0	ug/Kg	50	07/20/2012 18:48
Isopropylbenzene (Cumene)	**388**		4.25	49.0	ug/Kg	50	07/20/2012 18:48
Methyl iodide	ND	U	5.63	49.0	ug/Kg	50	07/20/2012 18:48
Methylene chloride	ND	U	7.44	245	ug/Kg	50	07/20/2012 18:48
Naphthalene	**785**		4.19	49.0	ug/Kg	50	07/20/2012 18:48
Styrene	ND	U	4.99	49.0	ug/Kg	50	07/20/2012 18:48
Tetrachloroethene	ND	U	7.59	49.0	ug/Kg	50	07/20/2012 18:48
Toluene	ND	U	6.51	49.0	ug/Kg	50	07/20/2012 18:48
Trichloroethene	ND	U	6.12	49.0	ug/Kg	50	07/20/2012 18:48
Trichlorofluoromethane	ND	U	6.71	49.0	ug/Kg	50	07/20/2012 18:48
Vinyl chloride	ND	U	6.07	49.0	ug/Kg	50	07/20/2012 18:48
Xylene (total)	**26.0**	J	8.91	97.9	ug/Kg	50	07/20/2012 18:48
cis-1,2-Dichloroethene	ND	U	6.66	49.0	ug/Kg	50	07/20/2012 18:48
m,p-Xylene	**21.5**	J	8.91	97.9	ug/Kg	50	07/20/2012 18:48
n-Propylbenzene	**1930**		5.53	49.0	ug/Kg	50	07/20/2012 18:48
o-Xylene	**4.41**	J	4.28	49.0	ug/Kg	50	07/20/2012 18:48
sec-Butylbenzene	ND	U	5.48	49.0	ug/Kg	50	07/20/2012 18:48
tert-Butyl methyl ether (MTBE)	ND	U	7.05	49.0	ug/Kg	50	07/20/2012 18:48
tert-Butylbenzene	ND	U	4.19	49.0	ug/Kg	50	07/20/2012 18:48
trans-1,2-Dichloroethene	ND	U	10.9	49.0	ug/Kg	50	07/20/2012 18:48
trans-1,4-Dichloro-2-butene	ND	U	20.3	245	ug/Kg	50	07/20/2012 18:48
Surrogates							
1,2-Dichloroethane-d4	102			55.0-173	%	50	07/20/2012 18:48
4-Bromofluorobenzene	93.0			23.0-141	%	50	07/20/2012 18:48
Toluene d8	99.0			57.0-134	%	50	07/20/2012 18:48

Batch Information

Analytical Batch: **VMS2396**
Analytical Method: **SW-846 8260B**
Instrument: **MSD4**
Analyst: **DVO**
Analytical Date/Time: **07/20/2012 18:48**

Prep Batch: **VXX3688**
Prep Method: **SW-846 5035 SM**
Prep Date/Time: **07/16/2012 12:00**
Prep Initial Wt./Vol.: **6.76 g**
Prep Extract Vol: **5 mL**

Print Date: 07/24/2012

N.C. Certification # 481

SGS ANALYTICAL PERSPECTIVES

Results of **106DPT-01 (4-6ft)**

Client Sample ID: **106DPT-01 (4-6ft)**
Client Project ID: **DOT G-Ville PSA Parcel 106**
Lab Sample ID: 31202201002-E
Lab Project ID: 31202201

Collection Date: 07/12/2012 14:50
Received Date: 07/16/2012 10:47
Matrix: Soil-Solid as dry weight
Solids (%): 75.50

Results by **SW-846 8270D**

Parameter	Result	Qual	DL	LOQ/CL	Units	DF	Date Analyzed
1,2,4-Trichlorobenzene	ND	U	36.8	417	ug/Kg	1	07/18/2012 17:36
1,2-Dichlorobenzene	ND	U	20.8	417	ug/Kg	1	07/18/2012 17:36
1,3-Dichlorobenzene	ND	U	28.1	417	ug/Kg	1	07/18/2012 17:36
1,4-Dichlorobenzene	ND	U	29.4	417	ug/Kg	1	07/18/2012 17:36
2,4,5-Trichlorophenol	ND	U	27.8	417	ug/Kg	1	07/18/2012 17:36
2,4,6-Trichlorophenol	ND	U	28.2	417	ug/Kg	1	07/18/2012 17:36
2,4-Dichlorophenol	ND	U	24.1	417	ug/Kg	1	07/18/2012 17:36
2,4-Dinitrophenol	ND	U	38.6	832	ug/Kg	1	07/18/2012 17:36
2,4-Dinitrotoluene	ND	U	21.0	417	ug/Kg	1	07/18/2012 17:36
2,6-Dinitrotoluene	ND	U	29.8	417	ug/Kg	1	07/18/2012 17:36
2-Chloronaphthalene	ND	U	24.5	417	ug/Kg	1	07/18/2012 17:36
2-Chlorophenol	ND	U	22.1	417	ug/Kg	1	07/18/2012 17:36
2-Methylnaphthalene	**162**	J	33.7	417	ug/Kg	1	07/18/2012 17:36
2-Methylphenol	ND	U	23.0	417	ug/Kg	1	07/18/2012 17:36
2-Nitroaniline	ND	U	27.4	417	ug/Kg	1	07/18/2012 17:36
2-Nitrophenol	ND	U	20.0	417	ug/Kg	1	07/18/2012 17:36
3 and/or 4-Methylphenol	ND	U	27.0	417	ug/Kg	1	07/18/2012 17:36
3,3'-Dichlorobenzidine	ND	U	20.0	417	ug/Kg	1	07/18/2012 17:36
3-Nitroaniline	ND	U	18.8	417	ug/Kg	1	07/18/2012 17:36
4,6-Dinitro-2-methylphenol	ND	U	19.6	417	ug/Kg	1	07/18/2012 17:36
4-Chloro-3-methylphenol	ND	U	20.8	417	ug/Kg	1	07/18/2012 17:36
4-Chloroaniline	ND	U	33.3	417	ug/Kg	1	07/18/2012 17:36
4-Chlorophenyl phenyl ether	ND	U	44.5	417	ug/Kg	1	07/18/2012 17:36
Acenaphthene	ND	U	18.9	417	ug/Kg	1	07/18/2012 17:36
Acenaphthylene	ND	U	17.6	417	ug/Kg	1	07/18/2012 17:36
Anthracene	ND	U	18.5	417	ug/Kg	1	07/18/2012 17:36
Benzo(a)anthracene	ND	U	22.9	417	ug/Kg	1	07/18/2012 17:36
Benzo(a)pyrene	ND	U	23.6	417	ug/Kg	1	07/18/2012 17:36
Benzo(b)fluoranthene	ND	U	24.0	417	ug/Kg	1	07/18/2012 17:36
Benzo(g,h,i)perylene	ND	U	66.3	417	ug/Kg	1	07/18/2012 17:36
Benzo(k)fluoranthene	ND	U	49.9	417	ug/Kg	1	07/18/2012 17:36
Benzoic acid	ND	U	9.24	417	ug/Kg	1	07/18/2012 17:36
Bis(2-Chloroethoxy)methane	ND	U	18.8	417	ug/Kg	1	07/18/2012 17:36
Bis(2-Chloroethyl)ether	ND	U	38.9	417	ug/Kg	1	07/18/2012 17:36
Bis(2-Chloroisopropyl)ether	ND	U	36.4	417	ug/Kg	1	07/18/2012 17:36
Bis(2-Ethylhexyl)phthalate	ND	U	20.0	417	ug/Kg	1	07/18/2012 17:36
4-Bromophenyl phenyl ether	ND	U	27.4	417	ug/Kg	1	07/18/2012 17:36
Butyl benzyl phthalate	ND	U	36.2	417	ug/Kg	1	07/18/2012 17:36
Chrysene	ND	U	48.5	417	ug/Kg	1	07/18/2012 17:36
Di-n-butyl phthalate	ND	U	19.7	417	ug/Kg	1	07/18/2012 17:36
Di-n-octyl phthalate	ND	U	23.0	417	ug/Kg	1	07/18/2012 17:36
Dibenz(a,h)anthracene	ND	U	18.8	417	ug/Kg	1	07/18/2012 17:36
Dibenzofuran	ND	U	32.6	417	ug/Kg	1	07/18/2012 17:36
Diethyl phthalate	ND	U	22.5	417	ug/Kg	1	07/18/2012 17:36

Print Date: 07/24/2012

N.C. Certification # 481

SGS ANALYTICAL PERSPECTIVES

Results of 106DPT-01 (4-6ft)

Client Sample ID: **106DPT-01 (4-6ft)**
Client Project ID: **DOT G-Ville PSA Parcel 106**
Lab Sample ID: 31202201002-E
Lab Project ID: 31202201

Collection Date: 07/12/2012 14:50
Received Date: 07/16/2012 10:47
Matrix: Soil-Solid as dry weight
Solids (%): 75.50

Results by SW-846 8270D

Parameter	Result	Qual	DL	LOQ/CL	Units	DF	Date Analyzed
Dimethyl phthalate	ND	U	32.0	417	ug/Kg	1	07/18/2012 17:36
2,4-Dimethylphenol	ND	U	30.5	417	ug/Kg	1	07/18/2012 17:36
Diphenylamine	ND	U	18.8	417	ug/Kg	1	07/18/2012 17:36
Fluoranthene	ND	U	39.2	417	ug/Kg	1	07/18/2012 17:36
Fluorene	ND	U	22.1	417	ug/Kg	1	07/18/2012 17:36
Hexachlorobenzene	ND	U	39.4	417	ug/Kg	1	07/18/2012 17:36
Hexachlorobutadiene	ND	U	24.9	417	ug/Kg	1	07/18/2012 17:36
Hexachlorocyclopentadiene	ND	U	126	417	ug/Kg	1	07/18/2012 17:36
Hexachloroethane	ND	U	24.0	417	ug/Kg	1	07/18/2012 17:36
Indeno(1,2,3-cd)pyrene	ND	U	32.5	417	ug/Kg	1	07/18/2012 17:36
Isophorone	ND	U	18.9	417	ug/Kg	1	07/18/2012 17:36
Naphthalene	170	J	36.0	417	ug/Kg	1	07/18/2012 17:36
4-Nitroaniline	ND	U	24.0	417	ug/Kg	1	07/18/2012 17:36
Nitrobenzene	ND	U	24.0	417	ug/Kg	1	07/18/2012 17:36
4-Nitrophenol	ND	U	41.0	417	ug/Kg	1	07/18/2012 17:36
Pentachlorophenol	ND	U	33.3	417	ug/Kg	1	07/18/2012 17:36
Phenanthrene	ND	U	27.4	417	ug/Kg	1	07/18/2012 17:36
Phenol	ND	U	38.9	417	ug/Kg	1	07/18/2012 17:36
Pyrene	ND	U	17.6	417	ug/Kg	1	07/18/2012 17:36
n-Nitrosodi-n-propylamine	ND	U	119	417	ug/Kg	1	07/18/2012 17:36
Surrogates							
2,4,6-Tribromophenol	78.0			41.0-129	%	1	07/18/2012 17:36
2-Fluorobiphenyl	88.0			48.0-123	%	1	07/18/2012 17:36
2-Fluorophenol	85.0			42.0-123	%	1	07/18/2012 17:36
Nitrobenzene-d5	89.0			46.0-117	%	1	07/18/2012 17:36
Phenol-d6	97.0			48.0-125	%	1	07/18/2012 17:36
Terphenyl-d14	99.0			44.0-140	%	1	07/18/2012 17:36

Batch Information

Analytical Batch: **XMS1605**
Analytical Method: **SW-846 8270D**
Instrument: **MSD10**
Analyst: **CMP**
Analytical Date/Time: **07/18/2012 17:36**

Prep Batch: **XXX2827**
Prep Method: **SW-846 3541**
Prep Date/Time: **07/17/2012 17:56**
Prep Initial Wt./Vol.: **31.81 g**
Prep Extract Vol: **10 mL**

Print Date: 07/24/2012

N.C. Certification # 481

SGS ANALYTICAL PERSPECTIVES

Results of 106DPT-02 (2-3ft)

Client Sample ID: **106DPT-02 (2-3ft)**
Client Project ID: **DOT G-Ville PSA Parcel 106**
Lab Sample ID: 31202201003-A
Lab Project ID: 31202201

Collection Date: 07/12/2012 15:45
Received Date: 07/16/2012 10:47
Matrix: Soil-Solid as dry weight
Solids (%): 85.90

Results by SW-846 8015C GRO

Parameter	Result	Qual	DL	LOQ/CL	Units	DF	Date Analyzed
Gasoline Range Organics (GRO)	731		80.0	80.0	mg/kg	25	07/17/2012 12:47
Surrogates							
4-Bromofluorobenzene	116			70.0-130	%	25	07/17/2012 12:47

Batch Information

Analytical Batch: **VGC2018**
Analytical Method: **SW-846 8015C GRO**
Instrument: **GC7**
Analyst: **MDY**
Analytical Date/Time: **07/17/2012 12:47**

Prep Batch: **VXX3644**
Prep Method: **SW-846 5035**
Prep Date/Time: **07/16/2012 12:01**
Prep Initial Wt./Vol.: **7.28 g**
Prep Extract Vol: **5 mL**

N.C. Certification # 481

Print Date: 07/24/2012

SGS ANALYTICAL PERSPECTIVES

Results of 106DPT-02 (2-3ft)

Client Sample ID: **106DPT-02 (2-3ft)**
Client Project ID: **DOT G-VIlle PSA Parcel 106**
Lab Sample ID: **31202201003-C**
Lab Project ID: **31202201**

Collection Date: **07/12/2012 15:45**
Received Date: **07/16/2012 10:47**
Matrix: **Soil-Solid as dry weight**
Solids (%): **85.90**

Results by SW-846 8015C DRO

Parameter	Result	Qual	DL	LOQ/CL	Units	DF	Date Analyzed
Diesel Range Organics (DRO)	717		38.6	38.6	mg/kg	5	07/18/2012 11:32
Surrogates							
o-Terphenyl	86.3			40.0-140	%	5	07/18/2012 11:32

Batch Information

Analytical Batch: **XGC2380**
Analytical Method: **SW-846 8015C DRO**
Instrument: **GC6**
Analyst: **DTF**
Analytical Date/Time: **07/18/2012 11:32**

Prep Batch: **XXX2822**
Prep Method: **SW-846 3541**
Prep Date/Time: **07/16/2012 08:04**
Prep Initial Wt./Vol.: **30.18 g**
Prep Extract Vol: **10 mL**

Print Date: 07/24/2012

N.C. Certification # 481

Batch Summary

Analytical Method: SW-846 8260B

Prep Method: SW-846 5035 SM
Prep Batch: VXX3688
Prep Date: 07/20/2012 08:00

Client Sample ID	Lab Sample ID	Analysis Date	Analytical Batch	Instrument	Analyst
LCS-S for HBN 25979 [VXX/3688]	81829	07/20/2012 09:32	VMS2396	MSD4	DVO
LCSD-S for HBN 25979 [VXX/3688	81830	07/20/2012 09:56	VMS2396	MSD4	DVO
MB-S for HBN 25979 [VXX/3688]	81831	07/20/2012 11:28	VMS2396	MSD4	DVO
106DPT-01 (4-6ft)	31202201002	07/20/2012 18:48	VMS2396	MSD4	DVO

Print Date: 07/24/2012

N.C. Certification # 481

Method Blank

Blank ID: MB-S for HBN 25979 [VXX/3688]
Blank Lab ID: 81831
QC for Samples:
31202201002

Matrix: Soil-Solid as dry weight

Results by **SW-846 8260B**

Parameter	Result	Qual	DL	LOQ/CL	Units	DF
Dichlorodifluoromethane	ND	U	8.55	250	ug/Kg	50
Chloromethane	ND	U	22.4	50.0	ug/Kg	50
Vinyl chloride	ND	U	6.20	50.0	ug/Kg	50
Bromomethane	ND	U	11.9	50.0	ug/Kg	50
Chloroethane	ND	U	15.6	50.0	ug/Kg	50
Trichlorofluoromethane	ND	U	6.85	50.0	ug/Kg	50
1,1-Dichloroethene	ND	U	10.6	50.0	ug/Kg	50
Acetone	ND	U	43.2	1250	ug/Kg	50
Methylene chloride	ND	U	7.60	250	ug/Kg	50
trans-1,2-Dichloroethene	ND	U	11.2	50.0	ug/Kg	50
tert-Butyl methyl ether (MTBE)	ND	U	7.20	50.0	ug/Kg	50
1,1-Dichloroethane	ND	U	8.25	50.0	ug/Kg	50
Diisopropyl Ether	ND	U	14.7	50.0	ug/Kg	50
2,2-Dichloropropane	ND	U	19.7	50.0	ug/Kg	50
cis-1,2-Dichloroethene	ND	U	6.80	50.0	ug/Kg	50
2-Butanone	ND	U	36.2	1250	ug/Kg	50
Bromochloromethane	ND	U	10.6	50.0	ug/Kg	50
Chloroform	ND	U	6.95	50.0	ug/Kg	50
1,1,1-Trichloroethane	ND	U	6.15	50.0	ug/Kg	50
Carbon tetrachloride	ND	U	5.05	50.0	ug/Kg	50
1,1-Dichloropropene	ND	U	4.32	50.0	ug/Kg	50
Benzene	ND	U	5.65	50.0	ug/Kg	50
1,2-Dichloroethane	ND	U	8.35	50.0	ug/Kg	50
Trichloroethene	ND	U	6.25	50.0	ug/Kg	50
1,2-Dichloropropane	ND	U	8.15	50.0	ug/Kg	50
Dibromomethane	ND	U	8.40	50.0	ug/Kg	50
Bromodichloromethane	ND	U	5.50	50.0	ug/Kg	50
cis-1,3-Dichloropropene	ND	U	3.84	50.0	ug/Kg	50
4-Methyl-2-pentanone	ND	U	27.9	250	ug/Kg	50
Toluene	ND	U	6.65	50.0	ug/Kg	50
Methyl iodide	ND	U	5.75	50.0	ug/Kg	50
trans-1,3-Dichloropropene	ND	U	4.31	50.0	ug/Kg	50
Carbon disulfide	ND	U	5.30	50.0	ug/Kg	50
1,1,2-Trichloroethane	ND	U	6.30	50.0	ug/Kg	50
Tetrachloroethene	ND	U	7.75	50.0	ug/Kg	50
1,3-Dichloropropane	ND	U	6.50	50.0	ug/Kg	50
2-Hexanone	ND	U	36.4	250	ug/Kg	50
Dibromochloromethane	ND	U	6.70	50.0	ug/Kg	50
1,2-Dibromoethane	ND	U	6.00	50.0	ug/Kg	50
Chlorobenzene	ND	U	5.80	50.0	ug/Kg	50
1,1,1,2-Tetrachloroethane	ND	U	5.20	50.0	ug/Kg	50
Bromoform	ND	U	4.87	50.0	ug/Kg	50

Print Date: 07/24/2012

N.C. Certification # 481

Method Blank

Blank ID: MB-S for HBN 25979 [VXX/3688]
Blank Lab ID: 81831
QC for Samples:
31202201002

Matrix: Soil-Solid as dry weight

Results by **SW-846 8260B**

Parameter	Result	Qual	DL	LOQ/CL	Units	DF
Bromobenzene	ND	U	5.50	50.0	ug/Kg	50
1,1,2,2-Tetrachloroethane	ND	U	7.80	50.0	ug/Kg	50
1,2,3-Trichloropropane	ND	U	10.6	50.0	ug/Kg	50
Ethyl Benzene	ND	U	4.39	50.0	ug/Kg	50
m,p-Xylene	ND	U	9.10	100	ug/Kg	50
Styrene	ND	U	5.10	50.0	ug/Kg	50
o-Xylene	ND	U	4.37	50.0	ug/Kg	50
Xylene (total)	ND	U	9.10	100	ug/Kg	50
Isopropylbenzene (Cumene)	ND	U	4.35	50.0	ug/Kg	50
n-Propylbenzene	ND	U	5.65	50.0	ug/Kg	50
2-Chlorotoluene	ND	U	5.65	50.0	ug/Kg	50
4-Chlorotoluene	ND	U	6.25	50.0	ug/Kg	50
1,3,5-Trimethylbenzene	ND	U	5.65	50.0	ug/Kg	50
tert-Butylbenzene	ND	U	4.28	50.0	ug/Kg	50
1,2,4-Trimethylbenzene	ND	U	4.81	50.0	ug/Kg	50
sec-Butylbenzene	ND	U	5.60	50.0	ug/Kg	50
1,3-Dichlorobenzene	ND	U	5.15	50.0	ug/Kg	50
4-Isopropyltoluene	ND	U	3.85	50.0	ug/Kg	50
1,4-Dichlorobenzene	ND	U	6.50	50.0	ug/Kg	50
1,2-Dichlorobenzene	ND	U	6.85	50.0	ug/Kg	50
n-Butylbenzene	ND	U	3.85	50.0	ug/Kg	50
1,2-Dibromo-3-chloropropane	ND	U	37.4	250	ug/Kg	50
1,2,4-Trichlorobenzene	ND	U	4.57	50.0	ug/Kg	50
Hexachlorobutadiene	ND	U	3.96	50.0	ug/Kg	50
Naphthalene	ND	U	4.28	50.0	ug/Kg	50
trans-1,4-Dichloro-2-butene	ND	U	20.7	250	ug/Kg	50
1,2,3-Trichlorobenzene	ND	U	5.50	50.0	ug/Kg	50
Surrogates						
1,2-Dichloroethane-d4	96.0			55.0-173	%	50
Toluene d8	95.0			57.0-134	%	50
4-Bromofluorobenzene	90.0			23.0-141	%	50

Batch Information

Analytical Batch: VMS2396
Analytical Method: SW-846 8260B
Instrument: MSD4
Analyst: DVO
Analytical Date/Time: 7/20/2012 11:28:00AM

Prep Batch: VXX3688
Prep Method: SW-846 5035 SM
Prep Date/Time: 7/20/2012 8:00:00AM
Prep Initial Wt./Vol.: 5 g
Prep Extract Vol: 5 mL

Print Date: 07/24/2012

N.C. Certification # 481

SGS ANALYTICAL PERSPECTIVES

Blank Spike Summary

Blank Spike ID: LCS-S for HBN 25979 [VXX/3688]
Blank Spike Lab ID: 81829
Date Analyzed: 07/20/2012 09:32

Spike Duplicate ID: LCSD-S for HBN 25979 [VXX/3688
Spike Duplicate Lab ID: 81830
Matrix: Soil-Solid as dry weight

QC for Samples: 31202201002

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	250	187	75	250	214	85	70.0-130	13	30.00
Chloromethane	250	217	87	250	231	92	70.0-130	6.3	30.00
Vinyl chloride	250	191	76	250	216	86	70.0-130	12	30.00
Bromomethane	250	255	102	250	277	111	70.0-130	8.3	30.00
Chloroethane	250	254	102	250	272	109	70.0-130	6.8	30.00
Trichlorofluoromethane	250	202	81	250	229	91	70.0-130	13	30.00
1,1-Dichloroethene	250	261	104	250	251	100	70.0-130	3.9	30.00
Acetone	1250	1200	96	1250	1190	95	70.0-130	0.84	30.00
Methylene chloride	250	273	109	250	281	112	70.0-130	2.9	30.00
trans-1,2-Dichloroethene	250	261	104	250	248	99	70.0-130	5.1	30.00
tert-Butyl methyl ether (MTBE)	250	240	96	250	233	93	70.0-130	3.0	30.00
1,1-Dichloroethane	250	247	99	250	241	96	70.0-130	2.5	30.00
Diisopropyl Ether	250	243	97	250	233	93	70.0-130	4.2	30.00
2,2-Dichloropropane	250	258	103	250	245	98	70.0-130	5.2	30.00
cis-1,2-Dichloroethene	250	253	101	250	243	97	70.0-130	4.0	30.00
2-Butanone	1250	1110	89	1250	1120	90	70.0-130	0.90	30.00
Bromochloromethane	250	268	107	250	252	101	70.0-130	6.2	30.00
Chloroform	250	245	98	250	237	95	70.0-130	3.3	30.00
1,1,1-Trichloroethane	250	216	86	250	219	87	70.0-130	1.4	30.00
Carbon tetrachloride	250	217	87	250	219	87	70.0-130	0.92	30.00
1,1-Dichloropropene	250	230	92	250	233	93	70.0-130	1.3	30.00
Benzene	250	235	94	250	230	92	70.0-130	2.2	30.00
1,2-Dichloroethane	250	234	94	250	229	91	70.0-130	2.2	30.00
Trichloroethene	250	236	94	250	228	91	70.0-130	3.4	30.00
1,2-Dichloropropane	250	233	93	250	227	91	70.0-130	2.6	30.00
Dibromomethane	250	231	92	250	227	91	70.0-130	1.7	30.00
Bromodichloromethane	250	230	92	250	223	89	70.0-130	3.1	30.00
cis-1,3-Dichloropropene	250	243	97	250	241	96	70.0-130	0.83	30.00
4-Methyl-2-pentanone	1250	1140	91	1250	1110	89	70.0-130	2.7	30.00
Toluene	250	244	98	250	240	96	70.0-130	1.7	30.00
Methyl iodide	250	208	83	250	205	82	70.0-130	1.5	30.00
trans-1,3-Dichloropropene	250	218	87	250	211	84	70.0-130	3.3	30.00
Carbon disulfide	250	247	99	250	233	93	70.0-130	5.8	30.00
1,1,2-Trichloroethane	250	241	96	250	232	93	70.0-130	3.8	30.00

Print Date: 07/24/2012

N.C. Certification # 481

SGS ANALYTICAL PERSPECTIVES

Blank Spike Summary

Blank Spike ID: LCS-S for HBN 25979 [VXX/3688]
Blank Spike Lab ID: 81829
Date Analyzed: 07/20/2012 09:32

Spike Duplicate ID: LCSD-S for HBN 25979 [VXX/3688
Spike Duplicate Lab ID: 81830
Matrix: Soil-Solid as dry weight

QC for Samples: 31202201002

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	250	236	94	250	237	95	70.0-130	0.42	30.00
1,3-Dichloropropane	250	236	94	250	228	91	70.0-130	3.4	30.00
2-Hexanone	1250	1130	91	1250	1110	89	70.0-130	1.8	30.00
Dibromochloromethane	250	220	88	250	222	89	70.0-130	0.90	30.00
1,2-Dibromoethane	250	224	89	250	221	88	70.0-130	1.3	30.00
Chlorobenzene	250	242	97	250	236	94	70.0-130	2.5	30.00
1,1,1,2-Tetrachloroethane	250	207	83	250	210	84	70.0-130	1.4	30.00
Bromoform	250	217	87	250	216	86	70.0-130	0.46	30.00
Bromobenzene	250	238	95	250	230	92	70.0-130	3.4	30.00
1,1,2,2-Tetrachloroethane	250	239	95	250	232	93	70.0-130	3.0	30.00
1,2,3-Trichloropropane	250	226	90	250	225	90	70.0-130	0.44	30.00
Ethyl Benzene	250	235	94	250	235	94	70.0-130	0.0	30.00
m,p-Xylene	500	479	96	500	479	96	70.0-130	0.0	30.00
Styrene	250	237	95	250	232	93	70.0-130	2.1	30.00
o-Xylene	250	241	96	250	238	95	70.0-130	1.3	30.00
Isopropylbenzene (Cumene)	250	245	98	250	243	97	70.0-130	0.82	30.00
n-Propylbenzene	250	241	96	250	242	97	70.0-130	0.41	30.00
2-Chlorotoluene	250	243	97	250	242	97	70.0-130	0.41	30.00
4-Chlorotoluene	250	230	92	250	229	92	70.0-130	0.44	30.00
1,3,5-Trimethylbenzene	250	238	95	250	236	94	70.0-130	0.84	30.00
tert-Butylbenzene	250	242	97	250	231	92	70.0-130	4.7	30.00
1,2,4-Trimethylbenzene	250	246	98	250	238	95	70.0-130	3.3	30.00
sec-Butylbenzene	250	238	95	250	235	94	70.0-130	1.3	30.00
1,3-Dichlorobenzene	250	240	96	250	235	94	70.0-130	2.1	30.00
4-Isopropyltoluene	250	238	95	250	235	94	70.0-130	1.3	30.00
1,4-Dichlorobenzene	250	245	98	250	239	96	70.0-130	2.5	30.00
1,2-Dichlorobenzene	250	238	95	250	238	95	70.0-130	0.0	30.00
n-Butylbenzene	250	246	98	250	244	97	70.0-130	0.82	30.00
1,2-Dibromo-3-chloropropane	1500	1170	78	1500	1200	80	70.0-130	2.5	30.00
1,2,4-Trichlorobenzene	250	223	89	250	215	86	70.0-130	3.7	30.00
Hexachlorobutadiene	250	248	99	250	237	95	70.0-130	4.5	30.00
Naphthalene	250	230	92	250	228	91	70.0-130	0.87	30.00
trans-1,4-Dichloro-2-butene	1250	1090	87	1250	1110	89	70.0-130	1.8	30.00
1,2,3-Trichlorobenzene	250	236	94	250	228	91	70.0-130	3.4	30.00

Print Date: 07/24/2012

N.C. Certification # 481

Blank Spike Summary

Blank Spike ID: LCS-S for HBN 25979 [VXX/3688]
Blank Spike Lab ID: 81829
Date Analyzed: 07/20/2012 09:32

Spike Duplicate ID: LCSD-S for HBN 25979 [VXX/3688
Spike Duplicate Lab ID: 81830
Matrix: Soil-Solid as dry weight

QC for Samples: 31202201002

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			99			97	55.0-173		
Toluene d8			102			100	57.0-134		
4-Bromofluorobenzene			101			100	23.0-141		

Batch Information

Analytical Batch: **VMS2396**
Analytical Method: **SW-846 8260B**
Instrument: **MSD4**
Analyst: **DVO**

Prep Batch: **VXX3688**
Prep Method: **SW-846 5035 SM**
Prep Date/Time: **07/20/2012 08:00**
Spike Init Wt./Vol.: **5 g** Extract Vol: **5 mL**
Dupe Init Wt./Vol.: **5 g** Extract Vol: **5 mL**

Print Date: 07/24/2012

N.C. Certification # 481

Batch Summary

Analytical Method: SW-846 8015C GRO

Prep Method: SW-846 5035
Prep Batch: VXX3644
Prep Date: 07/17/2012 09:02

Client Sample ID	Lab Sample ID	Analysis Date	Analytical Batch	Instrument	Analyst
LCS for HBN 25702 [VXX/3644]	80694	07/17/2012 11:06	VGC2018	GC7	MDY
LCSD for HBN 25702 [VXX/3644]	80695	07/17/2012 11:31	VGC2018	GC7	MDY
MB for HBN 25702 [VXX/3644]	80696	07/17/2012 11:56	VGC2018	GC7	MDY
106DPT-03 (4-5ft)	31202201004	07/17/2012 12:21	VGC2018	GC7	MDY
106DPT-02 (2-3ft)	31202201003	07/17/2012 12:47	VGC2018	GC7	MDY
106DPT-01 (2-4ft)	31202201001	07/17/2012 13:12	VGC2018	GC7	MDY
106DPT-01 (2-4ft)(80588MS)	81240	07/17/2012 13:37	VGC2018	GC7	MDY
106DPT-01 (2-4ft)(80588MSD)	81241	07/17/2012 14:03	VGC2018	GC7	MDY

Print Date: 07/24/2012

N.C. Certification # 481

Method Blank

Blank ID: MB for HBN 25702 [VXX/3644]
Blank Lab ID: 80696
QC for Samples:
31202201001, 31202201003, 31202201004

Matrix: Soil-Solid as dry weight

Results by SW-846 8015C GRO

Parameter	Result	Qual	DL	LOQ/CL	Units	DF
Gasoline Range Organics (GRO)	ND	U	4.00	4.00	mg/kg	1
Surrogates						
4-Bromofluorobenzene	105			70.0-130	%	1

Batch Information

Analytical Batch: VGC2018
Analytical Method: SW-846 8015C GRO
Instrument: GC7
Analyst: MDY
Analytical Date/Time: 7/17/2012 11:56:00AM

Prep Batch: VXX3644
Prep Method: SW-846 5035
Prep Date/Time: 7/17/2012 9:02:18AM
Prep Initial Wt./Vol.: 5 g
Prep Extract Vol: 5 mL

Print Date: 07/24/2012

N.C. Certification # 481

Blank Spike Summary

Blank Spike ID: LCS for HBN 25702 [VXX/3644]
Blank Spike Lab ID: 80694
Date Analyzed: 07/17/2012 11:06

Spike Duplicate ID: LCSD for HBN 25702 [VXX/3644]
Spike Duplicate Lab ID: 80695
Date Analyzed: 07/17/2012 11:31
Matrix: Soil-Solid as dry weight

QC for Samples: 31202201001, 31202201003, 31202201004

Results by SW-846 8015C GRO

	Blank Spike (mg/kg)			Spike Duplicate (mg/kg)					
Parameter	Spike	Result	Rec (%)	Spike	Result	Rec (%)	CL	RPD (%)	RPD CL
Gasoline Range Organics (GRO)	16.0	16.5	103	16.0	17.5	109	70.0-130	5.9	30.00
Surrogates									
4-Bromofluorobenzene			105			105	70.0-130		

Batch Information

Analytical Batch: **VGC2018**
Analytical Method: **SW-846 8015C GRO**
Instrument: **GC7**
Analyst: **MDY**

Prep Batch: **VXX3644**
Prep Method: **SW-846 5035**
Prep Date/Time: **07/17/2012 09:02**
Spike Init Wt./Vol.: **5 g** Extract Vol: **5 mL**
Dupe Init Wt./Vol.: **5 g** Extract Vol: **5 mL**

Matrix Spike Summary

Original Sample ID: 31202201001 (106DPT-01 (2-4ft))
MS Sample ID: 81240
MSD Sample ID: 81241

Analysis Date: 07/17/2012 13:12
Analysis Date: 07/17/2012 13:37
Analysis Date: 07/17/2012 14:03
Matrix: Soil-Solid as dry weight

QC for Samples: 31202201001, 31202201003, 31202201004

Results by SW-846 8015C GRO

		Matrix Spike (mg/kg)			Spike Duplicate (mg/kg)					
Parameter	Sample	Spike	Result	Rec (%)	Spike	Result	Rec (%)	CL	RPD (%)	RPD CL
Gasoline Range Organics (GRO)	52.0	56.7	104	92	56.7	109	101	70.0-130	4.6	30.00

Batch Information

Analytical Batch: **VGC2018**
Analytical Method: **SW-846 8015C GRO**
Instrument: **GC7**
Analyst: **MDY**

Prep Batch: **VXX3644**
Prep Method: **SW-846 5035**
Prep Date/Time: **07/16/2012 11:58**
MS Init Wt./Vol.: **6.77 g** Extract Vol.: **5 mL**
MSD Init Wt./Vol.: **6.77 g** Extract Vol.: **5 mL**

Print Date: 07/24/2012

N.C. Certification # 481

Batch Summary

Analytical Method: SW-846 8270D

Prep Method: SW-846 3541
Prep Batch: XXX2827
Prep Date: 07/17/2012 17:56

Client Sample ID	Lab Sample ID	Analysis Date	Analytical Batch	Instrument	Analyst
MB for HBN 25739 [XXX/2827]	80915	07/18/2012 11:52	XMS1605	MSD10	CMP
LCS for HBN 25739 [XXX/2827]	80916	07/18/2012 12:15	XMS1605	MSD10	CMP
TB2-S001-2(80874MS)	80917	07/18/2012 13:01	XMS1605	MSD10	CMP
TB2-S001-2(80874MSD)	80918	07/18/2012 13:24	XMS1605	MSD10	CMP
106DPT-01 (4-6ft)	31202201002	07/18/2012 17:36	XMS1605	MSD10	CMP

Method Blank

Blank ID: MB for HBN 25739 [XXX/2827]
Blank Lab ID: 80915
QC for Samples:
31202201002

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: 07/24/2012

N.C. Certification # 481

Method Blank

Blank ID: MB for HBN 25739 [XXX/2827]
Blank Lab ID: 80915
QC for Samples:
31202201002

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	80.0			42.0-123	%	1
Phenol-d6	95.0			48.0-125	%	1
Nitrobenzene-d5	92.0			46.0-117	%	1
2-Fluorobiphenyl	97.0			48.0-123	%	1
2,4,6-Tribromophenol	94.0			41.0-129	%	1
Terphenyl-d14	102			44.0-140	%	1

Batch Information

Analytical Batch: XMS1605
Analytical Method: SW-846 8270D
Instrument: MSD10
Analyst: CMP
Analytical Date/Time: 7/18/2012 11:52:00AM

Prep Batch: XXX2827
Prep Method: SW-846 3541
Prep Date/Time: 7/17/2012 5:56:30PM
Prep Initial Wt./Vol.: 32 g
Prep Extract Vol: 10 mL

Print Date: 07/24/2012

N.C. Certification # 481

SGS ANALYTICAL PERSPECTIVES

Blank Spike Summary

Blank Spike ID: LCS for HBN 25739 [XXX/2827]
Blank Spike Lab ID: 80916
Date Analyzed: 07/18/2012 12:15

Matrix: Soil-Solid as dry weight

QC for Samples: 31202201002

Results by SW-846 8270D

Blank Spike (ug/Kg)

Parameter	Spike	Result	Rec (%)	CL
Phenol	3130	3080	99	67.0-112
Bis(2-Chloroethyl)ether	3130	3050	97	63.0-116
2-Chlorophenol	3130	3100	99	67.0-109
1,3-Dichlorobenzene	3130	3090	99	66.0-109
1,4-Dichlorobenzene	3130	3120	100	65.0-112
1,2-Dichlorobenzene	3130	3130	100	67.0-110
2-Methylphenol	3130	3100	99	68.0-110
3 and/or 4-Methylphenol	6250	6600	106	66.0-113
Bis(2-Chloroisopropyl)ether	3130	2930	94	64.0-114
n-Nitrosodi-n-propylamine	3130	3040	97	66.0-111
Hexachloroethane	3130	3080	99	64.0-110
Nitrobenzene	3130	3040	97	69.0-112
Isophorone	3130	3160	101	69.0-108
2-Nitrophenol	3130	3240	104	65.0-117
2,4-Dimethylphenol	3130	3050	98	69.0-112
Bis(2-Chloroethoxy)methane	3130	3110	100	68.0-112
Benzoic acid	3130	1460	47	0.00-203
2,4-Dichlorophenol	3130	3190	102	67.0-118
1,2,4-Trichlorobenzene	3130	3270	105	65.0-114
Naphthalene	3130	3250	104	70.0-111
4-Chloroaniline	3130	2670	85	41.0-93.0
Hexachlorobutadiene	3130	3120	100	63.0-124
4-Chloro-3-methylphenol	3130	3210	103	70.0-114
2-Methylnaphthalene	3130	3220	103	69.0-110
Hexachlorocyclopentadiene	3130	3420	110	0.00-1080
2,4,5-Trichlorophenol	3130	3410	109	66.0-119
2,4,6-Trichlorophenol	3130	3170	102	67.0-119
2-Chloronaphthalene	3130	3040	97*	57.0-96.0
2-Nitroaniline	3130	2740	88	61.0-100
3-Nitroaniline	3130	2860	91	48.0-103
Dimethyl phthalate	3130	3180	102	69.0-118
2,6-Dinitrotoluene	3130	3260	104	69.0-122
Acenaphthene	3130	3280	105	68.0-111
2,4-Dinitrophenol	3130	2200	71	12.0-125

Print Date: 07/24/2012

N.C. Certification # 481

SGS ANALYTICAL PERSPECTIVES

Blank Spike Summary

Blank Spike ID: LCS for HBN 25739 [XXX/2827]
Blank Spike Lab ID: 80916
Date Analyzed: 07/18/2012 12:15

Matrix: Soil-Solid as dry weight

QC for Samples: 31202201002

Results by SW-846 8270D

Blank Spike (ug/Kg)

Parameter	Spike	Result	Rec (%)	CL
4-Nitrophenol	3130	3080	99	45.0-120
Dibenzofuran	3130	3250	104	71.0-114
2,4-Dinitrotoluene	3130	3260	104	68.0-123
Fluorene	3130	3380	108	66.0-116
Diethyl phthalate	3130	3260	104	68.0-114
4-Chlorophenyl phenyl ether	3130	3300	106	66.0-120
4-Nitroaniline	3130	3140	100	66.0-114
4,6-Dinitro-2-methylphenol	3130	3000	96	24.0-123
Diphenylamine	3130	3330	106	60.0-118
4-Bromophenyl phenyl ether	3130	3280	105	63.0-118
Hexachlorobenzene	3130	3090	99	62.0-112
Pentachlorophenol	3130	2930	94	34.0-125
Phenanthrene	3130	3370	108	60.0-122
Anthracene	3130	3370	108	63.0-113
Di-n-butyl phthalate	3130	3510	112	64.0-121
Fluoranthene	3130	3420	110	64.0-118
Pyrene	3130	3280	105	67.0-116
Butyl benzyl phthalate	3130	3180	102	68.0-118
Benzo(a)anthracene	3130	3240	104	65.0-118
3,3'-Dichlorobenzidine	3130	3220	103	54.0-118
Chrysene	3130	3290	105	66.0-118
Bis(2-Ethylhexyl)phthalate	3130	3230	103	67.0-123
Di-n-octyl phthalate	3130	3260	104	62.0-131
Benzo(b)fluoranthene	3130	2950	94	63.0-119
Benzo(k)fluoranthene	3130	3370	108	69.0-118
Benzo(a)pyrene	3130	3320	106	69.0-113
Indeno(1,2,3-cd)pyrene	3130	3450	110	64.0-123
Dibenz(a,h)anthracene	3130	3410	109	64.0-123
Benzo(g,h,i)perylene	3130	3540	113	57.0-128
Acenaphthylene	3130	3400	109	72.0-115
Surrogates				
2-Fluorophenol			88	42.0-123
Phenol-d6			103	48.0-125
Nitrobenzene-d5			99	46.0-117

Print Date: 07/24/2012

N.C. Certification # 481

Blank Spike Summary

Blank Spike ID: LCS for HBN 25739 [XXX/2827]
Blank Spike Lab ID: 80916
Date Analyzed: 07/18/2012 12:15

Matrix: Soil-Solid as dry weight

QC for Samples: 31202201002

Results by SW-846 8270D

		Blank Spike (%)		
Parameter	Spike	Result	Rec (%)	CL
2-Fluorobiphenyl			107	48.0-123
2,4,6-Tribromophenol			112	41.0-129
Terphenyl-d14			102	44.0-140

Batch Information

Analytical Batch: **XMS1605**
Analytical Method: **SW-846 8270D**
Instrument: **MSD10**
Analyst: **CMP**

Prep Batch: **XXX2827**
Prep Method: **SW-846 3541**
Prep Date/Time: **07/17/2012 17:56**
Spike Init Wt./Vol.: **32 g** Extract Vol: **10 mL**
Dupe Init Wt./Vol.: Extract Vol:

Batch Summary

Analytical Method: SW-846 8015C DRO

Prep Method: SW-846 3541
Prep Batch: XXX2822
Prep Date: 07/16/2012 08:04

Client Sample ID	Lab Sample ID	Analysis Date	Analytical Batch	Instrument	Analyst
MB for HBN 25688 [XXX/2822]	80653	07/17/2012 11:43	XGC2378	GC6	DTF
LCS for HBN 25688 [XXX/2822]	80654	07/17/2012 12:10	XGC2378	GC6	DTF
S-1(80281MS)	80655	07/17/2012 13:06	XGC2378	GC6	DTF
S-1(80281MSD)	80656	07/17/2012 13:34	XGC2378	GC6	DTF
106DPT-01 (2-4ft)	31202201001	07/17/2012 15:26	XGC2378	GC6	DTF
106DPT-03 (4-5ft)	31202201004	07/17/2012 16:22	XGC2378	GC6	DTF
106DPT-02 (2-3ft)	31202201003	07/18/2012 11:32	XGC2380	GC6	DTF

Print Date: 07/24/2012

N.C. Certification # 481

Method Blank

Blank ID: MB for HBN 25688 [XXX/2822]
Blank Lab ID: 80653
QC for Samples:
31202201001, 31202201003, 31202201004

Matrix: Soil-Solid as dry weight

Results by SW-846 8015C DRO

Parameter	Result	Qual	DL	LOQ/CL	Units	DF
Diesel Range Organics (DRO)	ND	U	6.25	6.25	mg/kg	1
Surrogates						
o-Terphenyl	101			40.0-140	%	1

Batch Information

Analytical Batch: XGC2378
Analytical Method: SW-846 8015C DRO
Instrument: GC6
Analyst: DTF
Analytical Date/Time: 7/17/2012 11:43:00AM

Prep Batch: XXX2822
Prep Method: SW-846 3541
Prep Date/Time: 7/16/2012 8:04:58AM
Prep Initial Wt./Vol.: 32 g
Prep Extract Vol: 10 mL

Print Date: 07/24/2012

N.C. Certification # 481

Blank Spike Summary

Blank Spike ID: LCS for HBN 25688 [XXX/2822]
Blank Spike Lab ID: 80654
Date Analyzed: 07/17/2012 12:10

Matrix: Soil-Solid as dry weight

QC for Samples: 31202201001, 31202201003, 31202201004

Results by SW-846 8015C DRO

Blank Spike (mg/kg)

Parameter	Spike	Result	Rec (%)	CL
Diesel Range Organics (DRO)	62.5	64.5	103	55.0-137
Surrogates				
o-Terphenyl			104	40.0-140

Batch Information

Analytical Batch: **XGC2378**
Analytical Method: **SW-846 8015C DRO**
Instrument: **GC6**
Analyst: **DTF**

Prep Batch: **XXX2822**
Prep Method: **SW-846 3541**
Prep Date/Time: **07/16/2012 08:04**
Spike Init Wt./Vol.: **32 g** Extract Vol: **10 mL**
Dupe Init Wt./Vol.: Extract Vol:

Print Date: 07/24/2012

N.C. Certification # 481

CHAIN OF CUSTODY

3120220 1

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

CLIENT: CATLIN / NCDOT		**SGS Reference #:**	
CONTACT: Ben Ashba	**PHONE NO:** 910 452-5861		
PROJECT: DOT G-ville PSA	**SITE / PWSID / WBS #:** Parcel 106 35781.1.2 U-3315		
REPORTS TO: Ben Ashbae CATLIN			
EMAIL: ben.ashbae catlinusa.com			
INVOICE TO: NCDOT	**QUOTE #** NCDOT		
	P.O. NUMBER Pitt County		

LAB NO.	SAMPLE IDENTIFICATION	DATE	TIME	MATRIX	# CONTAINERS	SAMPLE TYPE (C=COMP, G=GRAB)	PRESERVATIVES USED	ANALYSES REQUIRED: PRO & GRO	8260	8270	Metals	Metals #5	REMARKS
	106DPT-01 (2-4')	7-12-12	1445	SOIL	3	G		✓					
	106DPT-01 (4-6')	7-12-12	1450		5	G			✓	✓			
	106DPT-02 (2-3')	7-12-12	1545		3	G		✓					HOT
	106DPT-03 (4-5')	7-12-12	1645	↓	3	G		✓					HOT

PAGE 1 OF 1

COLLECTED/RELINQUISHED BY: (1) Ben Ashba	**DATE** 7-16-12	**TIME** 1025	**RECEIVED BY:**	**REPORT LEVEL:** ☐ Level I ☒ Level II ☐ Level IV	**REQUESTED TURNAROUND TIME:** ☐ Rush: ☐ Standard
Relinquished By: (2)	**Date** 7/16/12	**Time** 1047	**Received By:** Alex Vest	**SPECIAL DELIVERABLES:** State of Origin: NC ☐ DoD ☒ EDD: ☐ Trust Fund Other: DOT	
Relinquished By: (3)	**Date**	**Time**	**Received By:**	**SPECIAL INSTRUCTIONS:**	
Received For Laboratory By:	**Date**	**Time**	**CoC Seal:** INTACT BROKEN (ABSENT) **Sample Receipt Temp:** C on ice 2.6 AV 7/16/12 3.5°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.: **31202201**

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: 3.5
   ___ 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: Mon-7/16/12 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: **31202274**

Client Project: **DOT Parcel 106**

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
2012.07.26 16:04:51 -05'00'

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

Date

Print Date: 07/26/2012

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
106DOT-01B	31202274001	07/16/2012 19:00	07/19/2012 12:35	Water

Print Date: 07/26/2012

N.C. Certification # 481

Case Narrative

106DOT-01B

8260 - A batch MS/MSD was not reported with batch VMS2401 as the parent sample required a different dilution profile.

J - The quantitation is an estimation.

LCS for HBN 25955 [VXX/3684]

8260 - A batch MS/MSD was not reported with batch VMS2401 as the parent sample required a different dilution profile.

LCSD for HBN 25955 [VXX/3684]

8260 - A batch MS/MSD was not reported with batch VMS2401 as the parent sample required a different dilution profile.

MB for HBN 25955 [VXX/3684]

8260 - A batch MS/MSD was not reported with batch VMS2401 as the parent sample required a different dilution profile.

Detectable Results Summary

Client Sample ID: **106DOT-01B**
Lab Sample ID: 31202274001-A

	Parameter	Result	Units	
SW-846 8260B	1,2,4-Trimethylbenzene	24.9	ug/L	
	1,3,5-Trimethylbenzene	7.00	ug/L	
	2-Butanone	11.0	ug/L	J
	Acetone	41.2	ug/L	J
	Benzene	4.48	ug/L	
	Diisopropyl Ether	1.44	ug/L	J
	Ethyl Benzene	90.2	ug/L	
	Isopropylbenzene (Cumene)	9.76	ug/L	
	Naphthalene	17.3	ug/L	
	Toluene	1.44	ug/L	J
	Xylene (total)	12.6	ug/L	
	m,p-Xylene	12.6	ug/L	
	n-Propylbenzene	21.1	ug/L	
	sec-Butylbenzene	5.92	ug/L	
	tert-Butyl methyl ether (MTBE)	37.3	ug/L	
SW-846 8270D	2-Methylnaphthalene	9.77	ug/L	
	Benzoic acid	6.85	ug/L	
	Naphthalene	40.2	ug/L	

Print Date: 07/26/2012

N.C. Certification # 481

SGS ANALYTICAL PERSPECTIVES

Results of **106DOT-01B**

Client Sample ID: **106DOT-01B**
Client Project ID: **DOT Parcel 106**
Lab Sample ID: 31202274001-A
Lab Project ID: 31202274

Collection Date: 07/16/2012 19:00
Received Date: 07/19/2012 12:35
Matrix: Water

Results by **SW-846 8260B**

Parameter	Result	Qual	DL	LOQ/CL	Units	DF	Date Analyzed
1,1,1,2-Tetrachloroethane	ND	U	0.416	4.00	ug/L	4	07/23/2012 16:11
1,1,1-Trichloroethane	ND	U	0.492	4.00	ug/L	4	07/23/2012 16:11
1,1,2,2-Tetrachloroethane	ND	U	0.624	4.00	ug/L	4	07/23/2012 16:11
1,1,2-Trichloroethane	ND	U	0.504	4.00	ug/L	4	07/23/2012 16:11
1,1-Dichloroethane	ND	U	0.660	4.00	ug/L	4	07/23/2012 16:11
1,1-Dichloroethene	ND	U	0.848	4.00	ug/L	4	07/23/2012 16:11
1,1-Dichloropropene	ND	U	0.345	4.00	ug/L	4	07/23/2012 16:11
1,2,3-Trichlorobenzene	ND	U	0.440	4.00	ug/L	4	07/23/2012 16:11
1,2,3-Trichloropropane	ND	U	0.848	4.00	ug/L	4	07/23/2012 16:11
1,2,4-Trichlorobenzene	ND	U	0.365	4.00	ug/L	4	07/23/2012 16:11
1,2,4-Trimethylbenzene	**24.9**		0.384	4.00	ug/L	4	07/23/2012 16:11
1,2-Dibromo-3-chloropropane	ND	U	2.99	20.0	ug/L	4	07/23/2012 16:11
1,2-Dibromoethane	ND	U	0.480	4.00	ug/L	4	07/23/2012 16:11
1,2-Dichlorobenzene	ND	U	0.548	4.00	ug/L	4	07/23/2012 16:11
1,2-Dichloroethane	ND	U	0.668	4.00	ug/L	4	07/23/2012 16:11
1,2-Dichloropropane	ND	U	0.652	4.00	ug/L	4	07/23/2012 16:11
1,3,5-Trimethylbenzene	**7.00**		0.452	4.00	ug/L	4	07/23/2012 16:11
1,3-Dichlorobenzene	ND	U	0.412	4.00	ug/L	4	07/23/2012 16:11
1,3-Dichloropropane	ND	U	0.520	4.00	ug/L	4	07/23/2012 16:11
1,4-Dichlorobenzene	ND	U	0.520	4.00	ug/L	4	07/23/2012 16:11
2,2-Dichloropropane	ND	U	1.57	4.00	ug/L	4	07/23/2012 16:11
2-Butanone	**11.0**	J	2.89	100	ug/L	4	07/23/2012 16:11
2-Chlorotoluene	ND	U	0.452	4.00	ug/L	4	07/23/2012 16:11
2-Hexanone	ND	U	2.91	20.0	ug/L	4	07/23/2012 16:11
4-Chlorotoluene	ND	U	0.500	4.00	ug/L	4	07/23/2012 16:11
4-Isopropyltoluene	ND	U	0.308	4.00	ug/L	4	07/23/2012 16:11
4-Methyl-2-pentanone	ND	U	2.23	20.0	ug/L	4	07/23/2012 16:11
Acetone	**41.2**	J	3.46	100	ug/L	4	07/23/2012 16:11
Benzene	**4.48**		0.452	4.00	ug/L	4	07/23/2012 16:11
Bromobenzene	ND	U	0.440	4.00	ug/L	4	07/23/2012 16:11
Bromochloromethane	ND	U	0.844	4.00	ug/L	4	07/23/2012 16:11
Bromodichloromethane	ND	U	0.440	4.00	ug/L	4	07/23/2012 16:11
Bromoform	ND	U	0.390	4.00	ug/L	4	07/23/2012 16:11
Bromomethane	ND	U	0.948	4.00	ug/L	4	07/23/2012 16:11
n-Butylbenzene	ND	U	0.308	4.00	ug/L	4	07/23/2012 16:11
Carbon disulfide	ND	U	0.424	4.00	ug/L	4	07/23/2012 16:11
Carbon tetrachloride	ND	U	0.404	4.00	ug/L	4	07/23/2012 16:11
Chlorobenzene	ND	U	0.464	4.00	ug/L	4	07/23/2012 16:11
Chloroethane	ND	U	1.24	4.00	ug/L	4	07/23/2012 16:11
Chloroform	ND	U	0.556	4.00	ug/L	4	07/23/2012 16:11
Chloromethane	ND	U	1.79	4.00	ug/L	4	07/23/2012 16:11
Dibromochloromethane	ND	U	0.536	4.00	ug/L	4	07/23/2012 16:11
Dibromomethane	ND	U	0.672	4.00	ug/L	4	07/23/2012 16:11
Dichlorodifluoromethane	ND	U	0.684	20.0	ug/L	4	07/23/2012 16:11

Print Date: 07/26/2012

N.C. Certification # 481

SGS ANALYTICAL PERSPECTIVES

Results of 106DOT-01B

Client Sample ID: **106DOT-01B**
Client Project ID: **DOT Parcel 106**
Lab Sample ID: 31202274001-A
Lab Project ID: 31202274

Collection Date: 07/16/2012 19:00
Received Date: 07/19/2012 12:35
Matrix: Water

Results by SW-846 8260B

Parameter	Result	Qual	DL	LOQ/CL	Units	DF	Date Analyzed
cis-1,3-Dichloropropene	ND	U	0.307	4.00	ug/L	4	07/23/2012 16:11
trans-1,3-Dichloropropene	ND	U	0.345	4.00	ug/L	4	07/23/2012 16:11
Diisopropyl Ether	**1.44**	J	1.18	4.00	ug/L	4	07/23/2012 16:11
Ethyl Benzene	**90.2**		0.351	4.00	ug/L	4	07/23/2012 16:11
Hexachlorobutadiene	ND	U	0.317	4.00	ug/L	4	07/23/2012 16:11
Isopropylbenzene (Cumene)	**9.76**		0.348	4.00	ug/L	4	07/23/2012 16:11
Methyl iodide	ND	U	0.460	4.00	ug/L	4	07/23/2012 16:11
Methylene chloride	ND	U	0.608	20.0	ug/L	4	07/23/2012 16:11
Naphthalene	**17.3**		0.342	4.00	ug/L	4	07/23/2012 16:11
Styrene	ND	U	0.408	4.00	ug/L	4	07/23/2012 16:11
Tetrachloroethene	ND	U	0.620	4.00	ug/L	4	07/23/2012 16:11
Toluene	**1.44**	J	0.532	4.00	ug/L	4	07/23/2012 16:11
Trichloroethene	ND	U	0.500	4.00	ug/L	4	07/23/2012 16:11
Trichlorofluoromethane	ND	U	0.548	4.00	ug/L	4	07/23/2012 16:11
Vinyl chloride	ND	U	0.496	4.00	ug/L	4	07/23/2012 16:11
Xylene (total)	**12.6**		0.728	8.00	ug/L	4	07/23/2012 16:11
cis-1,2-Dichloroethene	ND	U	0.544	4.00	ug/L	4	07/23/2012 16:11
m,p-Xylene	**12.6**		0.728	8.00	ug/L	4	07/23/2012 16:11
n-Propylbenzene	**21.1**		0.452	4.00	ug/L	4	07/23/2012 16:11
o-Xylene	ND	U	0.350	4.00	ug/L	4	07/23/2012 16:11
sec-Butylbenzene	**5.92**		0.448	4.00	ug/L	4	07/23/2012 16:11
tert-Butyl methyl ether (MTBE)	**37.3**		0.576	4.00	ug/L	4	07/23/2012 16:11
tert-Butylbenzene	ND	U	0.342	4.00	ug/L	4	07/23/2012 16:11
trans-1,2-Dichloroethene	ND	U	0.892	4.00	ug/L	4	07/23/2012 16:11
trans-1,4-Dichloro-2-butene	ND	U	1.66	20.0	ug/L	4	07/23/2012 16:11
Surrogates							
1,2-Dichloroethane-d4	107			64.0-140	%	4	07/23/2012 16:11
4-Bromofluorobenzene	99.0			85.0-115	%	4	07/23/2012 16:11
Toluene d8	101			82.0-117	%	4	07/23/2012 16:11

Batch Information

Analytical Batch: **VMS2401**
Analytical Method: **SW-846 8260B**
Instrument: **MSD3**
Analyst: **BWS**
Analytical Date/Time: **07/23/2012 16:11**

Prep Batch: **VXX3684**
Prep Method: **SW-846 5030B**
Prep Date/Time: **07/23/2012 09:01**
Prep Initial Wt./Vol.: **40 mL**
Prep Extract Vol: **40 mL**

Print Date: 07/26/2012

N.C. Certification # 481

SGS ANALYTICAL PERSPECTIVES

Results of 106DOT-01B

Client Sample ID: **106DOT-01B**
Client Project ID: **DOT Parcel 106**
Lab Sample ID: 31202274001-D
Lab Project ID: 31202274

Collection Date: 07/16/2012 19:00
Received Date: 07/19/2012 12:35
Matrix: Water

Results by SW-846 8270D

Parameter	Result	Qual	DL	LOQ/CL	Units	DF	Date Analyzed
1,2,4-Trichlorobenzene	ND	U	1.74	5.04	ug/L	1	07/25/2012 13:37
1,2-Dichlorobenzene	ND	U	1.72	5.04	ug/L	1	07/25/2012 13:37
1,3-Dichlorobenzene	ND	U	1.66	5.04	ug/L	1	07/25/2012 13:37
1,4-Dichlorobenzene	ND	U	1.64	5.04	ug/L	1	07/25/2012 13:37
2,4,5-Trichlorophenol	ND	U	2.09	5.04	ug/L	1	07/25/2012 13:37
2,4,6-Trichlorophenol	ND	U	2.04	5.04	ug/L	1	07/25/2012 13:37
2,4-Dichlorophenol	ND	U	2.07	5.04	ug/L	1	07/25/2012 13:37
2,4-Dinitrophenol	ND	U	0.673	25.2	ug/L	1	07/25/2012 13:37
2,4-Dinitrotoluene	ND	U	1.85	5.04	ug/L	1	07/25/2012 13:37
2,6-Dinitrotoluene	ND	U	1.89	5.04	ug/L	1	07/25/2012 13:37
2-Chloronaphthalene	ND	U	2.01	5.04	ug/L	1	07/25/2012 13:37
2-Chlorophenol	ND	U	2.83	5.04	ug/L	1	07/25/2012 13:37
2-Methylnaphthalene	**9.77**		1.95	5.04	ug/L	1	07/25/2012 13:37
2-Methylphenol	ND	U	2.08	5.04	ug/L	1	07/25/2012 13:37
2-Nitroaniline	ND	U	1.70	5.04	ug/L	1	07/25/2012 13:37
2-Nitrophenol	ND	U	1.98	5.04	ug/L	1	07/25/2012 13:37
3 and/or 4-Methylphenol	ND	U	2.26	5.04	ug/L	1	07/25/2012 13:37
3,3'-Dichlorobenzidine	ND	U	1.76	10.1	ug/L	1	07/25/2012 13:37
3-Nitroaniline	ND	U	1.66	25.2	ug/L	1	07/25/2012 13:37
4,6-Dinitro-2-methylphenol	ND	U	0.497	25.2	ug/L	1	07/25/2012 13:37
4-Chloro-3-methylphenol	ND	U	1.99	5.04	ug/L	1	07/25/2012 13:37
4-Chloroaniline	ND	U	1.89	25.2	ug/L	1	07/25/2012 13:37
4-Chlorophenyl phenyl ether	ND	U	2.48	5.04	ug/L	1	07/25/2012 13:37
Acenaphthene	ND	U	2.07	5.04	ug/L	1	07/25/2012 13:37
Acenaphthylene	ND	U	2.01	5.04	ug/L	1	07/25/2012 13:37
Anthracene	ND	U	1.94	5.04	ug/L	1	07/25/2012 13:37
Benzo(a)anthracene	ND	U	1.97	5.04	ug/L	1	07/25/2012 13:37
Benzo(a)pyrene	ND	U	1.87	5.04	ug/L	1	07/25/2012 13:37
Benzo(b)fluoranthene	ND	U	1.97	5.04	ug/L	1	07/25/2012 13:37
Benzo(g,h,i)perylene	ND	U	2.17	5.04	ug/L	1	07/25/2012 13:37
Benzo(k)fluoranthene	ND	U	2.33	5.04	ug/L	1	07/25/2012 13:37
Benzoic acid	**6.85**		2.30	5.04	ug/L	1	07/25/2012 13:37
Bis(2-Chloroethoxy)methane	ND	U	2.13	5.04	ug/L	1	07/25/2012 13:37
Bis(2-Chloroethyl)ether	ND	U	2.23	5.04	ug/L	1	07/25/2012 13:37
Bis(2-Chloroisopropyl)ether	ND	U	2.05	5.04	ug/L	1	07/25/2012 13:37
Bis(2-Ethylhexyl)phthalate	ND	U	1.96	5.04	ug/L	1	07/25/2012 13:37
4-Bromophenyl phenyl ether	ND	U	2.05	5.04	ug/L	1	07/25/2012 13:37
Butyl benzyl phthalate	ND	U	1.90	5.04	ug/L	1	07/25/2012 13:37
Chrysene	ND	U	2.22	5.04	ug/L	1	07/25/2012 13:37
Di-n-butyl phthalate	ND	U	1.92	5.04	ug/L	1	07/25/2012 13:37
Di-n-octyl phthalate	ND	U	1.47	5.04	ug/L	1	07/25/2012 13:37
Dibenz(a,h)anthracene	ND	U	2.03	5.04	ug/L	1	07/25/2012 13:37
Dibenzofuran	ND	U	2.24	5.04	ug/L	1	07/25/2012 13:37
Diethyl phthalate	ND	U	2.11	5.04	ug/L	1	07/25/2012 13:37

Print Date: 07/26/2012

N.C. Certification # 481

SGS ANALYTICAL PERSPECTIVES

Results of 106DOT-01B

Client Sample ID: **106DOT-01B**
Client Project ID: **DOT Parcel 106**
Lab Sample ID: 31202274001-D
Lab Project ID: 31202274

Collection Date: 07/16/2012 19:00
Received Date: 07/19/2012 12:35
Matrix: Water

Results by SW-846 8270D

Parameter	Result	Qual	DL	LOQ/CL	Units	DF	Date Analyzed
Dimethyl phthalate	ND	U	2.16	5.04	ug/L	1	07/25/2012 13:37
2,4-Dimethylphenol	ND	U J	2.23	5.04	ug/L	1	07/25/2012 13:37
Diphenylamine	ND	U	2.03	5.04	ug/L	1	07/25/2012 13:37
Fluoranthene	ND	U	2.03	5.04	ug/L	1	07/25/2012 13:37
Fluorene	ND	U	2.46	5.04	ug/L	1	07/25/2012 13:37
Hexachlorobenzene	ND	U	1.94	5.04	ug/L	1	07/25/2012 13:37
Hexachlorobutadiene	ND	U	1.53	5.04	ug/L	1	07/25/2012 13:37
Hexachlorocyclopentadiene	ND	U	0.794	10.1	ug/L	1	07/25/2012 13:37
Hexachloroethane	ND	U	1.41	5.04	ug/L	1	07/25/2012 13:37
Indeno(1,2,3-cd)pyrene	ND	U	2.03	5.04	ug/L	1	07/25/2012 13:37
Isophorone	ND	U	2.10	5.04	ug/L	1	07/25/2012 13:37
Naphthalene	**40.2**		1.95	5.04	ug/L	1	07/25/2012 13:37
4-Nitroaniline	ND	U	1.69	25.2	ug/L	1	07/25/2012 13:37
Nitrobenzene	ND	U	2.21	5.04	ug/L	1	07/25/2012 13:37
4-Nitrophenol	ND	U	1.28	25.2	ug/L	1	07/25/2012 13:37
Pentachlorophenol	ND	U	1.56	25.2	ug/L	1	07/25/2012 13:37
Phenanthrene	ND	U	2.00	5.04	ug/L	1	07/25/2012 13:37
Phenol	ND	U	2.38	5.04	ug/L	1	07/25/2012 13:37
Pyrene	ND	U	2.02	5.04	ug/L	1	07/25/2012 13:37
n-Nitrosodi-n-propylamine	ND	U	2.25	5.04	ug/L	1	07/25/2012 13:37
Surrogates							
2,4,6-Tribromophenol	93.0			29.3-152	%	1	07/25/2012 13:37
2-Fluorobiphenyl	60.0			50.0-107	%	1	07/25/2012 13:37
2-Fluorophenol	68.0			33.1-118	%	1	07/25/2012 13:37
Nitrobenzene-d5	72.0			46.0-118	%	1	07/25/2012 13:37
Phenol-d6	77.0			49.0-120	%	1	07/25/2012 13:37
Terphenyl-d14	20.0*			22.1-142	%	1	07/25/2012 13:37

Batch Information

Analytical Batch: **XMS1610**
Analytical Method: **SW-846 8270D**
Instrument: **MSD10**
Analyst: **CMP**
Analytical Date/Time: **07/25/2012 13:37**

Prep Batch: **XXX2838**
Prep Method: **SW-846 3520C**
Prep Date/Time: **07/19/2012 16:40**
Prep Initial Wt./Vol.: **993 mL**
Prep Extract Vol: **5 mL**

Print Date: 07/26/2012

N.C. Certification # 481

Batch Summary

Analytical Method: SW-846 8260B

Prep Method: SW-846 5030B
Prep Batch: VXX3684
Prep Date: 07/23/2012 08:53

Client Sample ID	Lab Sample ID	Analysis Date	Analytical Batch	Instrument	Analyst
LCSD for HBN 25955 [VXX/3684]	81690	07/23/2012 10:42	VMS2401	MSD3	BWS
LCS for HBN 25955 [VXX/3684]	81689	07/23/2012 11:32	VMS2401	MSD3	BWS
MB for HBN 25955 [VXX/3684]	81691	07/23/2012 12:23	VMS2401	MSD3	BWS
106DOT-01B	31202274001	07/23/2012 16:11	VMS2401	MSD3	BWS

Method Blank

Blank ID: MB for HBN 25955 [VXX/3684]
Blank Lab ID: 81691
QC for Samples:
31202274001

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: 07/26/2012

N.C. Certification # 481

Method Blank

Blank ID: MB for HBN 25955 [VXX/3684]
Blank Lab ID: 81691
QC for Samples:
31202274001

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	102			64.0-140	%	1
Toluene d8	99.0			82.0-117	%	1
4-Bromofluorobenzene	96.0			85.0-115	%	1

Batch Information

Analytical Batch: VMS2401
Analytical Method: SW-846 8260B
Instrument: MSD3
Analyst: BWS
Analytical Date/Time: 7/23/2012 12:23:00PM

Prep Batch: VXX3684
Prep Method: SW-846 5030B
Prep Date/Time: 7/23/2012 8:53:27AM
Prep Initial Wt./Vol.: 40 mL
Prep Extract Vol: 40 mL

Print Date: 07/26/2012

N.C. Certification # 481

Blank Spike Summary

Blank Spike ID: LCS for HBN 25955 [VXX/3684]
Blank Spike Lab ID: 81689
Date Analyzed: 07/23/2012 11:32

Spike Duplicate ID: LCSD for HBN 25955 [VXX/3684]
Spike Duplicate Lab ID: 81690
Date Analyzed: 07/23/2012 10:42
Matrix: Water

QC for Samples: 31202274001

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	3.40	68	5.00	4.89	98	33.0-170	**36***	30.00
Chloromethane	5.00	3.89	78	5.00	5.72	114	57.0-132	**38***	30.00
Vinyl chloride	5.00	4.03	81	5.00	5.40	108	59.0-138	29	30.00
Bromomethane	5.00	8.75	**175***	5.00	9.99	**200***	51.0-134	13	30.00
Chloroethane	5.00	3.73	75	5.00	6.17	123	64.0-145	**49***	30.00
Trichlorofluoromethane	5.00	3.86	77	5.00	5.22	104	64.0-133	30	30.00
1,1-Dichloroethene	5.00	4.94	99	5.00	5.45	109	71.0-128	9.8	30.00
Acetone	25.0	23.8	95	25.0	25.9	103	52.0-140	8.5	30.00
Methylene chloride	5.00	4.51	90	5.00	5.44	109	70.0-113	19	30.00
trans-1,2-Dichloroethene	5.00	4.99	100	5.00	5.66	113	57.0-138	13	30.00
tert-Butyl methyl ether (MTBE)	5.00	4.61	92	5.00	5.35	107	47.0-142	15	30.00
1,1-Dichloroethane	5.00	4.56	91	5.00	5.36	107	68.0-133	16	30.00
Diisopropyl Ether	5.00	4.38	88	5.00	5.03	101	66.0-132	14	30.00
2,2-Dichloropropane	5.00	5.11	102	5.00	5.88	118	74.0-125	14	30.00
cis-1,2-Dichloroethene	5.00	4.63	93	5.00	5.61	112	73.0-128	19	30.00
2-Butanone	25.0	21.5	86	25.0	25.1	100	58.0-134	15	30.00
Bromochloromethane	5.00	4.96	99	5.00	5.09	102	73.0-128	2.6	30.00
Chloroform	5.00	4.60	92	5.00	5.12	102	74.0-124	11	30.00
1,1,1-Trichloroethane	5.00	4.86	97	5.00	5.43	109	76.0-119	11	30.00
Carbon tetrachloride	5.00	4.82	96	5.00	5.55	111	75.0-120	14	30.00
1,1-Dichloropropene	5.00	4.59	92	5.00	5.10	102	76.0-124	11	30.00
Benzene	5.00	4.55	91	5.00	5.23	105	76.0-124	14	30.00
1,2-Dichloroethane	5.00	4.21	84	5.00	5.35	107	76.0-119	24	30.00
Trichloroethene	5.00	4.56	91	5.00	5.31	106	74.0-121	15	30.00
1,2-Dichloropropane	5.00	4.39	88	5.00	4.91	98	74.0-124	11	30.00
Dibromomethane	5.00	4.17	83	5.00	5.23	105	71.0-128	23	30.00
Bromodichloromethane	5.00	4.57	91	5.00	5.04	101	72.0-120	9.8	30.00
cis-1,3-Dichloropropene	5.00	4.79	96	5.00	5.43	109	73.0-122	13	30.00
4-Methyl-2-pentanone	25.0	20.9	83	25.0	24.7	99	65.0-124	17	30.00
Toluene	5.00	4.58	92	5.00	5.14	103	75.0-123	12	30.00
Methyl iodide	5.00	5.41	108	5.00	6.15	123	55.0-123	13	30.00
trans-1,3-Dichloropropene	5.00	4.62	92	5.00	5.31	106	70.0-125	14	30.00
Carbon disulfide	5.00	4.75	95	5.00	5.30	106	65.0-132	11	30.00
1,1,2-Trichloroethane	5.00	4.55	91	5.00	4.99	100	76.0-121	9.2	30.00

Print Date: 07/26/2012

N.C. Certification # 481

Blank Spike Summary

Blank Spike ID: LCS for HBN 25955 [VXX/3684]
Blank Spike Lab ID: 81689
Date Analyzed: 07/23/2012 11:32

Spike Duplicate ID: LCSD for HBN 25955 [VXX/3684]
Spike Duplicate Lab ID: 81690
Date Analyzed: 07/23/2012 10:42
Matrix: Water

QC for Samples: 31202274001

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	4.94	99	5.00	5.40	108	59.0-112	8.9	30.00
1,3-Dichloropropane	5.00	4.22	84	5.00	5.09	102	74.0-120	19	30.00
2-Hexanone	25.0	20.2	81	25.0	23.8	95	56.0-133	16	30.00
Dibromochloromethane	5.00	4.81	96	5.00	5.45	109	67.0-122	12	30.00
1,2-Dibromoethane	5.00	4.23	85	5.00	5.02	100	74.0-119	17	30.00
Chlorobenzene	5.00	4.22	84	5.00	5.08	102	74.0-120	18	30.00
1,1,1,2-Tetrachloroethane	5.00	4.59	92	5.00	5.28	106	73.0-119	14	30.00
Bromoform	5.00	5.00	100	5.00	5.83	117	62.0-127	15	30.00
Bromobenzene	5.00	4.38	88	5.00	4.95	99	75.0-120	12	30.00
1,1,2,2-Tetrachloroethane	5.00	4.31	86	5.00	5.15	103	68.0-129	18	30.00
1,2,3-Trichloropropane	5.00	4.70	94	5.00	5.47	109	67.0-126	15	30.00
Ethyl Benzene	5.00	4.34	87	5.00	5.03	101	76.0-123	15	30.00
m,p-Xylene	10.0	9.26	93	10.0	10.1	101	76.0-124	8.7	30.00
Styrene	5.00	4.25	85	5.00	4.83	97	76.0-121	13	30.00
o-Xylene	5.00	4.20	84	5.00	5.09	102	75.0-124	19	30.00
Isopropylbenzene (Cumene)	5.00	4.64	93	5.00	5.12	102	77.0-120	9.8	30.00
n-Propylbenzene	5.00	4.49	90	5.00	4.90	98	77.0-123	8.7	30.00
2-Chlorotoluene	5.00	4.37	87	5.00	4.87	97	74.0-127	11	30.00
4-Chlorotoluene	5.00	4.44	89	5.00	5.05	101	77.0-123	13	30.00
1,3,5-Trimethylbenzene	5.00	4.57	91	5.00	5.10	102	76.0-122	11	30.00
tert-Butylbenzene	5.00	4.56	91	5.00	4.87	97	67.0-122	6.6	30.00
1,2,4-Trimethylbenzene	5.00	4.66	93	5.00	5.18	104	76.0-124	11	30.00
sec-Butylbenzene	5.00	4.69	94	5.00	5.07	101	78.0-121	7.8	30.00
1,3-Dichlorobenzene	5.00	4.23	85	5.00	4.84	97	75.0-120	13	30.00
4-Isopropyltoluene	5.00	4.56	91	5.00	5.03	101	77.0-120	9.8	30.00
1,4-Dichlorobenzene	5.00	4.16	83	5.00	4.94	99	70.0-125	17	30.00
1,2-Dichlorobenzene	5.00	4.32	86	5.00	5.14	103	76.0-118	17	30.00
n-Butylbenzene	5.00	4.71	94	5.00	4.97	99	78.0-118	5.4	30.00
1,2-Dibromo-3-chloropropane	30.0	24.8	83	30.0	29.0	97	62.0-130	16	30.00
1,2,4-Trichlorobenzene	5.00	4.56	91	5.00	5.06	101	72.0-119	10	30.00
Hexachlorobutadiene	5.00	4.71	94	5.00	5.27	105	69.0-121	11	30.00
Naphthalene	5.00	4.50	90	5.00	5.30	106	67.0-122	16	30.00
trans-1,4-Dichloro-2-butene	25.0	23.6	95	25.0	27.1	108	61.0-132	14	30.00
1,2,3-Trichlorobenzene	5.00	4.57	91	5.00	5.06	101	68.0-123	10	30.00

Print Date: 07/26/2012

N.C. Certification # 481

Blank Spike Summary

Blank Spike ID: LCS for HBN 25955 [VXX/3684]
Blank Spike Lab ID: 81689
Date Analyzed: 07/23/2012 11:32

Spike Duplicate ID: LCSD for HBN 25955 [VXX/3684]
Spike Duplicate Lab ID: 81690
Date Analyzed: 07/23/2012 10:42
Matrix: Water

QC for Samples: 31202274001

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			101			104	64.0-140		
Toluene d8			101			101	82.0-117		
4-Bromofluorobenzene			100			99	85.0-115		

Batch Information

Analytical Batch: VMS2401
Analytical Method: SW-846 8260B
Instrument: MSD3
Analyst: BWS

Prep Batch: VXX3684
Prep Method: SW-846 5030B
Prep Date/Time: 07/23/2012 08:53
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 8270D

Prep Method: SW-846 3520C
Prep Batch: XXX2838
Prep Date: 07/19/2012 16:40

Client Sample ID	Lab Sample ID	Analysis Date	Analytical Batch	Instrument	Analyst
MB for HBN 25845 [XXX/2838]	81426	07/24/2012 12:25	XMS1609	MSD10	CMP
LCS for HBN 25845 [XXX/2838]	81427	07/24/2012 13:34	XMS1609	MSD10	CMP
LCSD for HBN 25845 [XXX/2838]	81428	07/24/2012 13:57	XMS1609	MSD10	CMP
106DOT-01B	31202274001	07/25/2012 13:37	XMS1610	MSD10	CMP

Print Date: 07/26/2012

N.C. Certification # 481

Method Blank

Blank ID: MB for HBN 25845 [XXX/2838]
Blank Lab ID: 81426
QC for Samples:
31202274001

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: 07/26/2012

N.C. Certification # 481

Method Blank

Blank ID: MB for HBN 25845 [XXX/2838]
Blank Lab ID: 81426
QC for Samples:
31202274001

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	72.0			33.1-118	%	1
Phenol-d6	88.0			49.0-120	%	1
Nitrobenzene-d5	90.0			46.0-118	%	1
2-Fluorobiphenyl	96.0			50.0-107	%	1
2,4,6-Tribromophenol	94.0			29.3-152	%	1
Terphenyl-d14	106			22.1-142	%	1

Batch Information

Analytical Batch: XMS1609
Analytical Method: SW-846 8270D
Instrument: MSD10
Analyst: CMP
Analytical Date/Time: 7/24/2012 12:25:00PM

Prep Batch: XXX2838
Prep Method: SW-846 3520C
Prep Date/Time: 7/19/2012 4:40:38PM
Prep Initial Wt./Vol.: 1000 mL
Prep Extract Vol: 5 mL

Print Date: 07/26/2012

N.C. Certification # 481

Blank Spike Summary

Blank Spike ID: LCS for HBN 25845 [XXX/2838]
Blank Spike Lab ID: 81427
Date Analyzed: 07/24/2012 13:34

Spike Duplicate ID: LCSD for HBN 25845 [XXX/2838]
Spike Duplicate Lab ID: 81428
Date Analyzed: 07/24/2012 13:57
Matrix: Water

QC for Samples: 31202274001

Results by SW-846 8270D

	Blank Spike (ug/L)			Spike Duplicate (ug/L)					
Parameter	Spike	Result	Rec (%)	Spike	Result	Rec (%)	CL	RPD (%)	RPD CL
Phenol	50.0	45.7	91	50.0	46.6	93	57.0-113	2.0	30.00
Bis(2-Chloroethyl)ether	50.0	45.6	91	50.0	45.6	91	61.0-117	0.0	30.00
2-Chlorophenol	50.0	47.1	94	50.0	47.9	96	57.0-110	1.7	30.00
1,3-Dichlorobenzene	50.0	32.1	64	50.0	32.5	65	22.0-101	1.2	30.00
1,4-Dichlorobenzene	50.0	33.3	67	50.0	33.8	68	25.0-102	1.5	30.00
1,2-Dichlorobenzene	50.0	35.1	70	50.0	35.6	71	29.0-102	1.4	30.00
2-Methylphenol	50.0	41.8	84	50.0	42.6	85	55.0-110	1.9	30.00
3 and/or 4-Methylphenol	100	92.3	92	100	92.6	93	53.0-118	0.32	30.00
Bis(2-Chloroisopropyl)ether	50.0	43.0	86	50.0	43.4	87	56.0-112	0.93	30.00
n-Nitrosodi-n-propylamine	50.0	39.0	78	50.0	40.1	80	53.0-115	2.8	30.00
Hexachloroethane	50.0	30.4	61	50.0	30.3	61	11.0-104	0.33	30.00
Nitrobenzene	50.0	44.8	90	50.0	45.5	91	63.0-115	1.6	30.00
Isophorone	50.0	46.9	94	50.0	47.9	96	64.0-121	2.1	30.00
2-Nitrophenol	50.0	49.6	99	50.0	49.7	99	58.0-115	0.20	30.00
2,4-Dimethylphenol	50.0	15.5	31*	50.0	14.8	30*	40.0-104	4.6	30.00
Bis(2-Chloroethoxy)methane	50.0	46.9	94	50.0	47.9	96	62.0-107	2.1	30.00
Benzoic acid	50.0	42.7	85	50.0	44.3	89	8.00-186	3.7	30.00
2,4-Dichlorophenol	50.0	47.3	95	50.0	48.0	96	58.0-118	1.5	30.00
1,2,4-Trichlorobenzene	50.0	43.1	86	50.0	43.3	87	45.0-108	0.46	30.00
Naphthalene	50.0	44.5	89	50.0	45.0	90	52.0-110	1.1	30.00
4-Chloroaniline	50.0	38.2	76	50.0	38.3	77	44.0-115	0.26	30.00
Hexachlorobutadiene	50.0	37.9	76	50.0	37.8	76	25.0-115	0.26	30.00
4-Chloro-3-methylphenol	50.0	45.6	91	50.0	47.0	94	56.0-119	3.0	30.00
2-Methylnaphthalene	50.0	47.6	95	50.0	48.2	96	55.0-112	1.3	30.00
Hexachlorocyclopentadiene	50.0	51.1	102	50.0	52.8	106	0.00-1430	3.3	30.00
2,4,5-Trichlorophenol	50.0	50.5	101	50.0	51.7	103	59.0-119	2.3	30.00
2,4,6-Trichlorophenol	50.0	45.3	91	50.0	47.3	95	58.0-116	4.3	30.00
2-Chloronaphthalene	50.0	45.0	90	50.0	45.5	91	57.0-105	1.1	30.00
2-Nitroaniline	50.0	39.6	79	50.0	41.2	82	53.0-108	4.0	30.00
3-Nitroaniline	50.0	42.5	85	50.0	43.3	87	54.0-116	1.9	30.00
Dimethyl phthalate	50.0	49.3	99	50.0	51.2	102	66.0-119	3.8	30.00
2,6-Dinitrotoluene	50.0	50.4	101	50.0	51.6	103	65.0-121	2.4	30.00
Acenaphthene	50.0	48.1	96	50.0	48.7	97	60.0-114	1.2	30.00
2,4-Dinitrophenol	50.0	40.1	80	50.0	44.7	89	1.00-157	11	30.00

Print Date: 07/26/2012

N.C. Certification # 481

Blank Spike Summary

Blank Spike ID: LCS for HBN 25845 [XXX/2838]
Blank Spike Lab ID: 81427
Date Analyzed: 07/24/2012 13:34

Spike Duplicate ID: LCSD for HBN 25845 [XXX/2838]
Spike Duplicate Lab ID: 81428
Date Analyzed: 07/24/2012 13:57
Matrix: Water

QC for Samples: 31202274001

Results by SW-846 8270D

	Blank Spike (ug/L)			Spike Duplicate (ug/L)					
Parameter	Spike	Result	Rec (%)	Spike	Result	Rec (%)	CL	RPD (%)	RPD CL
4-Nitrophenol	50.0	40.9	82	50.0	43.0	86	38.0-123	5.0	30.00
Dibenzofuran	50.0	49.7	99	50.0	50.7	101	64.0-120	2.0	30.00
2,4-Dinitrotoluene	50.0	49.4	99	50.0	51.7	103	65.0-125	4.5	30.00
Fluorene	50.0	51.6	103	50.0	53.7	107	52.0-120	4.0	30.00
Diethyl phthalate	50.0	49.2	98	50.0	51.4	103	59.0-122	4.4	30.00
4-Chlorophenyl phenyl ether	50.0	50.6	101	50.0	53.0	106	61.0-113	4.6	30.00
4-Nitroaniline	50.0	44.9	90	50.0	46.5	93	53.0-123	3.5	30.00
4,6-Dinitro-2-methylphenol	50.0	52.0	104	50.0	56.2	112	30.0-128	7.8	30.00
Diphenylamine	50.0	48.5	97	50.0	50.7	101	51.0-114	4.4	30.00
4-Bromophenyl phenyl ether	50.0	51.2	102	50.0	53.3	107	61.0-109	4.0	30.00
Hexachlorobenzene	50.0	48.5	97	50.0	50.5	101	53.0-110	4.0	30.00
Pentachlorophenol	50.0	46.5	93	50.0	48.0	96	32.0-132	3.2	30.00
Phenanthrene	50.0	50.9	102	50.0	53.4	107	53.0-115	4.8	30.00
Anthracene	50.0	46.1	92	50.0	47.7	95	50.0-113	3.4	30.00
Di-n-butyl phthalate	50.0	53.2	106	50.0	55.1	110	59.0-123	3.5	30.00
Fluoranthene	50.0	52.2	104	50.0	53.8	108	54.0-119	3.0	30.00
Pyrene	50.0	50.3	101	50.0	51.8	104	60.0-120	2.9	30.00
Butyl benzyl phthalate	50.0	49.5	99	50.0	50.8	102	61.0-128	2.6	30.00
Benzo(a)anthracene	50.0	49.0	98	50.0	50.9	102	57.0-119	3.8	30.00
3,3'-Dichlorobenzidine	50.0	43.5	87	50.0	43.7	87	37.0-136	0.46	30.00
Chrysene	50.0	51.2	102	50.0	52.7	105	59.0-117	2.9	30.00
Bis(2-Ethylhexyl)phthalate	50.0	50.1	100	50.0	52.3	105	63.0-122	4.3	30.00
Di-n-octyl phthalate	50.0	50.2	100	50.0	53.0	106	62.0-129	5.4	30.00
Benzo(b)fluoranthene	50.0	45.9	92	50.0	47.7	95	59.0-120	3.8	30.00
Benzo(k)fluoranthene	50.0	49.4	99	50.0	52.0	104	62.0-124	5.1	30.00
Benzo(a)pyrene	50.0	44.2	88	50.0	47.0	94	54.0-123	6.1	30.00
Indeno(1,2,3-cd)pyrene	50.0	51.0	102	50.0	53.0	106	59.0-127	3.8	30.00
Dibenz(a,h)anthracene	50.0	50.4	101	50.0	53.5	107	59.0-129	6.0	30.00
Benzo(g,h,i)perylene	50.0	51.7	103	50.0	53.2	106	60.0-126	2.9	30.00
Acenaphthylene	50.0	47.1	94	50.0	48.1	96	58.0-117	2.1	30.00
Surrogates									
2-Fluorophenol			80			80	33.1-118		
Phenol-d6			96			98	49.0-120		
Nitrobenzene-d5			93			94	46.0-118		

Print Date: 07/26/2012

N.C. Certification # 481

Blank Spike Summary

Blank Spike ID: LCS for HBN 25845 [XXX/2838]
Blank Spike Lab ID: 81427
Date Analyzed: 07/24/2012 13:34

Spike Duplicate ID: LCSD for HBN 25845 [XXX/2838]
Spike Duplicate Lab ID: 81428
Date Analyzed: 07/24/2012 13:57
Matrix: Water

QC for Samples: 31202274001

Results by SW-846 8270D

	Blank Spike (%)			Spike Duplicate (%)					
Parameter	Spike	Result	Rec (%)	Spike	Result	Rec (%)	CL	RPD (%)	RPD CL
2-Fluorobiphenyl			99			102	50.0-107		
2,4,6-Tribromophenol			105			109	29.3-152		
Terphenyl-d14			99			101	22.1-142		

Batch Information

Analytical Batch: XMS1609
Analytical Method: SW-846 8270D
Instrument: MSD10
Analyst: CMP

Prep Batch: XXX2838
Prep Method: SW-846 3520C
Prep Date/Time: 07/19/2012 16:40
Spike Init Wt./Vol.: 1000 mL Extract Vol: 5 mL
Dupe Init Wt./Vol.: 1000 mL Extract Vol: 5 mL

CHAIN OF CUSTODY

3120274

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

CLIENT: CATLIN/NCDOT		**SGS Reference #:**	
CONTACT: Ben Ashba	**PHONE NO:** 910 452-5861		
PROJECT: DOT Parcel 106	**SITE / PWSID / WBS #:** 35781.1.2		
REPORTS TO: Ben @ CATLIN	Piff County U-3315		
EMAIL: ben.ashba@catlinusa.com			
INVOICE TO: NCDOT	**QUOTE #**		
	P.O. NUMBER NCDOT		

PAGE 1 OF 1

LAB NO.	SAMPLE IDENTIFICATION	DATE	TIME	MATRIX	# CONTAINERS	SAMPLE TYPE (C= COMP, G= GRAB)	PRESERVATIVES USED: MeOH	ANALYSIS REQUIRED: 8260	8270								REMARKS
	106DPT-01B	7/19/12	1900	H2O	5	G		X	X								

COLLECTED/RELINQUISHED BY: (1) Ben Ashba	**DATE** 7/19/12	**TIME** 1235	**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 1.3	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.: **31202274**

1. ___ Shipped
   X Hand Delivered
   Notes:

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: 1.3
   ___ 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

Comments:

Inspected and Logged in by: JJ

Date: Thu-7/19/12 00:00

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

Laboratory Report of Analysis

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

Report Number: **31202484**

Client Project: **NCDOT Parcel 106**

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
2012.08.17 14:25:08 -05'00'

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

Print Date: 08/17/2012

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
106DPT-04 (4-5ft)	31202484001	08/02/2012 12:50	08/03/2012 15:00	Soil-Solid as dry weight
106DPT-05 (1.5-2ft)	31202484002	08/02/2012 13:10	08/03/2012 15:00	Soil-Solid as dry weight
106DPT-06 (4-5ft)	31202484003	08/02/2012 13:30	08/03/2012 15:00	Soil-Solid as dry weight
106DPT-07 (4-5ft)	31202484004	08/02/2012 13:40	08/03/2012 15:00	Soil-Solid as dry weight
106DPT-08 (4-5ft)	31202484005	08/02/2012 13:50	08/03/2012 15:00	Soil-Solid as dry weight

Detectable Results Summary

Client Sample ID: **106DPT-04 (4-5ft)**
Lab Sample ID: 31202484001-C

	Parameter	Result	Units
SW-846 8015C DRO	Diesel Range Organics (DRO)	80.9	mg/kg
SW-846 8015C GRO	Gasoline Range Organics (GRO)	677	mg/kg

Client Sample ID: **106DPT-06 (4-5ft)**
Lab Sample ID: 31202484003-C

	Parameter	Result	Units
SW-846 8015C DRO	Diesel Range Organics (DRO)	10.4	mg/kg

Client Sample ID: **106DPT-07 (4-5ft)**
Lab Sample ID: 31202484004-C

	Parameter	Result	Units
SW-846 8015C DRO	Diesel Range Organics (DRO)	18.2	mg/kg
SW-846 8015C GRO	Gasoline Range Organics (GRO)	1090	mg/kg

Client Sample ID: **106DPT-08 (4-5ft)**
Lab Sample ID: 31202484005-C

	Parameter	Result	Units
SW-846 8015C DRO	Diesel Range Organics (DRO)	29.3	mg/kg
SW-846 8015C GRO	Gasoline Range Organics (GRO)	633	mg/kg

SGS ANALYTICAL PERSPECTIVES

Results of 106DPT-04 (4-5ft)

Client Sample ID: **106DPT-04 (4-5ft)**
Client Project ID: **NCDOT Parcel 106**
Lab Sample ID: 31202484001-A
Lab Project ID: 31202484

Collection Date: 08/02/2012 12:50
Received Date: 08/03/2012 15:00
Matrix: Soil-Solid as dry weight
Solids (%): 73.10

Results by SW-846 8015C GRO

Parameter	Result	Qual	DL	LOQ/CL	Units	DF	Date Analyzed
Gasoline Range Organics (GRO)	**677**		159	159	mg/kg	40	08/15/2012 14:36
Surrogates							
4-Bromofluorobenzene	101			70.0-130	%	40	08/15/2012 14:36

Batch Information

Analytical Batch: **VGC2069**
Analytical Method: **SW-846 8015C GRO**
Instrument: **GC7**
Analyst: **MDY**
Analytical Date/Time: **08/15/2012 14:36**

Prep Batch: **VXX3829**
Prep Method: **SW-846 5035**
Prep Date/Time: **08/06/2012 16:09**
Prep Initial Wt./Vol.: **6.89 g**
Prep Extract Vol: **5 mL**

Print Date: 08/17/2012

N.C. Certification # 481

Results of 106DPT-04 (4-5ft)

Client Sample ID: **106DPT-04 (4-5ft)**
Client Project ID: **NCDOT Parcel 106**
Lab Sample ID: 31202484001-C
Lab Project ID: 31202484

Collection Date: 08/02/2012 12:50
Received Date: 08/03/2012 15:00
Matrix: Soil-Solid as dry weight
Solids (%): 73.10

Results by SW-846 8015C DRO

Parameter	Result	Qual	DL	LOQ/CL	Units	DF	Date Analyzed
Diesel Range Organics (DRO)	**80.9**		8.15	8.15	mg/kg	1	08/10/2012 21:09
Surrogates							
o-Terphenyl	75.1			40.0-140	%	1	08/10/2012 21:09

Batch Information

Analytical Batch: **XGC2437**
Analytical Method: **SW-846 8015C DRO**
Instrument: **GC6**
Analyst: **DTF**
Analytical Date/Time: **08/10/2012 21:09**

Prep Batch: **XXX2905**
Prep Method: **SW-846 3541**
Prep Date/Time: **08/09/2012 10:17**
Prep Initial Wt./Vol.: **33.56 g**
Prep Extract Vol: **10 mL**

Print Date: 08/17/2012

N.C. Certification # 481

Results of 106DPT-05 (1.5-2ft)

Client Sample ID: **106DPT-05 (1.5-2ft)**
Client Project ID: **NCDOT Parcel 106**
Lab Sample ID: 31202484002-A
Lab Project ID: 31202484

Collection Date: 08/02/2012 13:10
Received Date: 08/03/2012 15:00
Matrix: Soil-Solid as dry weight
Solids (%): 77.30

Results by SW-846 8015C GRO

Parameter	Result	Qual	DL	LOQ/CL	Units	DF	Date Analyzed
Gasoline Range Organics (GRO)	ND	U	3.54	3.54	mg/kg	1	08/14/2012 17:44
Surrogates							
4-Bromofluorobenzene	110			70.0-130	%	1	08/14/2012 17:44

Batch Information

Analytical Batch: **VGC2067**
Analytical Method: **SW-846 8015C GRO**
Instrument: **GC7**
Analyst: **MDY**
Analytical Date/Time: **08/14/2012 17:44**

Prep Batch: **VXX3822**
Prep Method: **SW-846 5035**
Prep Date/Time: **08/06/2012 16:09**
Prep Initial Wt./Vol.: **7.31 g**
Prep Extract Vol: **5 mL**

Print Date: 08/17/2012

N.C. Certification # 481

SGS ANALYTICAL PERSPECTIVES

Results of 106DPT-05 (1.5-2ft)

Client Sample ID: **106DPT-05 (1.5-2ft)**
Client Project ID: **NCDOT Parcel 106**
Lab Sample ID: 31202484002-C
Lab Project ID: 31202484

Collection Date: 08/02/2012 13:10
Received Date: 08/03/2012 15:00
Matrix: Soil-Solid as dry weight
Solids (%): 77.30

Results by SW-846 8015C DRO

Parameter	Result	Qual	DL	LOQ/CL	Units	DF	Date Analyzed
Diesel Range Organics (DRO)	ND	U	8.04	8.04	mg/kg	1	08/10/2012 21:37
Surrogates							
o-Terphenyl	88.9			40.0-140	%	1	08/10/2012 21:37

Batch Information

Analytical Batch: **XGC2437**
Analytical Method: **SW-846 8015C DRO**
Instrument: **GC6**
Analyst: **DTF**
Analytical Date/Time: **08/10/2012 21:37**

Prep Batch: **XXX2905**
Prep Method: **SW-846 3541**
Prep Date/Time: **08/09/2012 10:17**
Prep Initial Wt./Vol.: **32.16 g**
Prep Extract Vol: **10 mL**

Print Date: 08/17/2012

N.C. Certification # 481

Results of 106DPT-06 (4-5ft)

Client Sample ID: **106DPT-06 (4-5ft)**
Client Project ID: **NCDOT Parcel 106**
Lab Sample ID: 31202484003-A
Lab Project ID: 31202484

Collection Date: 08/02/2012 13:30
Received Date: 08/03/2012 15:00
Matrix: Soil-Solid as dry weight
Solids (%): 78.90

Results by SW-846 8015C GRO

Parameter	Result	Qual	DL	LOQ/CL	Units	DF	Date Analyzed
Gasoline Range Organics (GRO)	ND	U	4.58	4.58	mg/kg	1	08/14/2012 18:10
Surrogates							
4-Bromofluorobenzene	107			70.0-130	%	1	08/14/2012 18:10

Batch Information

Analytical Batch: **VGC2067**
Analytical Method: **SW-846 8015C GRO**
Instrument: **GC7**
Analyst: **MDY**
Analytical Date/Time: **08/14/2012 18:10**

Prep Batch: **VXX3822**
Prep Method: **SW-846 5035**
Prep Date/Time: **08/06/2012 16:10**
Prep Initial Wt./Vol.: **5.54 g**
Prep Extract Vol: **5 mL**

Print Date: 08/17/2012

N.C. Certification # 481

Results of 106DPT-06 (4-5ft)

Client Sample ID: **106DPT-06 (4-5ft)**
Client Project ID: **NCDOT Parcel 106**
Lab Sample ID: 31202484003-C
Lab Project ID: 31202484

Collection Date: 08/02/2012 13:30
Received Date: 08/03/2012 15:00
Matrix: Soil-Solid as dry weight
Solids (%): 78.90

Results by SW-846 8015C DRO

Parameter	Result	Qual	DL	LOQ/CL	Units	DF	Date Analyzed
Diesel Range Organics (DRO)	**10.4**		7.66	7.66	mg/kg	1	08/10/2012 22:05
Surrogates							
o-Terphenyl	81.1			40.0-140	%	1	08/10/2012 22:05

Batch Information

Analytical Batch: **XGC2437**
Analytical Method: **SW-846 8015C DRO**
Instrument: **GC6**
Analyst: **DTF**
Analytical Date/Time: **08/10/2012 22:05**

Prep Batch: **XXX2905**
Prep Method: **SW-846 3541**
Prep Date/Time: **08/09/2012 10:17**
Prep Initial Wt./Vol.: **33.12 g**
Prep Extract Vol: **10 mL**

Print Date: 08/17/2012

N.C. Certification # 481

Results of 106DPT-07 (4-5ft)

Client Sample ID: **106DPT-07 (4-5ft)**
Client Project ID: **NCDOT Parcel 106**
Lab Sample ID: 31202484004-A
Lab Project ID: 31202484

Collection Date: 08/02/2012 13:40
Received Date: 08/03/2012 15:00
Matrix: Soil-Solid as dry weight
Solids (%): 77.70

Results by SW-846 8015C GRO

Parameter	Result	Qual	DL	LOQ/CL	Units	DF	Date Analyzed
Gasoline Range Organics (GRO)	**1090**		184	184	mg/kg	50	08/15/2012 13:46
Surrogates							
4-Bromofluorobenzene	103			70.0-130	%	50	08/15/2012 13:46

Batch Information

Analytical Batch: **VGC2069**
Analytical Method: **SW-846 8015C GRO**
Instrument: **GC7**
Analyst: **MDY**
Analytical Date/Time: **08/15/2012 13:46**

Prep Batch: **VXX3829**
Prep Method: **SW-846 5035**
Prep Date/Time: **08/06/2012 16:10**
Prep Initial Wt./Vol.: **6.98 g**
Prep Extract Vol: **5 mL**

Print Date: 08/17/2012

N.C. Certification # 481

SGS ANALYTICAL PERSPECTIVES

Results of 106DPT-07 (4-5ft)

Client Sample ID: **106DPT-07 (4-5ft)**
Client Project ID: **NCDOT Parcel 106**
Lab Sample ID: 31202484004-C
Lab Project ID: 31202484

Collection Date: 08/02/2012 13:40
Received Date: 08/03/2012 15:00
Matrix: Soil-Solid as dry weight
Solids (%): 77.70

Results by SW-846 8015C DRO

Parameter	Result	Qual	DL	LOQ/CL	Units	DF	Date Analyzed
Diesel Range Organics (DRO)	**18.2**		8.26	8.26	mg/kg	1	08/10/2012 22:34
Surrogates							
o-Terphenyl	73.7			40.0-140	%	1	08/10/2012 22:34

Batch Information

Analytical Batch: **XGC2437**
Analytical Method: **SW-846 8015C DRO**
Instrument: **GC6**
Analyst: **DTF**
Analytical Date/Time: **08/10/2012 22:34**

Prep Batch: **XXX2905**
Prep Method: **SW-846 3541**
Prep Date/Time: **08/09/2012 10:17**
Prep Initial Wt./Vol.: **31.15 g**
Prep Extract Vol: **10 mL**

Print Date: 08/17/2012

N.C. Certification # 481

Results of 106DPT-08 (4-5ft)

Client Sample ID: **106DPT-08 (4-5ft)**
Client Project ID: **NCDOT Parcel 106**
Lab Sample ID: 31202484005-A
Lab Project ID: 31202484

Collection Date: 08/02/2012 13:50
Received Date: 08/03/2012 15:00
Matrix: Soil-Solid as dry weight
Solids (%): 80.70

Results by SW-846 8015C GRO

Parameter	Result	Qual	DL	LOQ/CL	Units	DF	Date Analyzed
Gasoline Range Organics (GRO)	**633**		144	144	mg/kg	40	08/15/2012 14:11
Surrogates							
4-Bromofluorobenzene	103			70.0-130	%	40	08/15/2012 14:11

Batch Information

Analytical Batch: **VGC2069**
Analytical Method: **SW-846 8015C GRO**
Instrument: **GC7**
Analyst: **MDY**
Analytical Date/Time: **08/15/2012 14:11**

Prep Batch: **VXX3829**
Prep Method: **SW-846 5035**
Prep Date/Time: **08/06/2012 16:10**
Prep Initial Wt./Vol.: **6.91 g**
Prep Extract Vol: **5 mL**

Print Date: 08/17/2012

N.C. Certification # 481

Results of 106DPT-08 (4-5ft)

Client Sample ID: **106DPT-08 (4-5ft)**
Client Project ID: **NCDOT Parcel 106**
Lab Sample ID: 31202484005-C
Lab Project ID: 31202484

Collection Date: 08/02/2012 13:50
Received Date: 08/03/2012 15:00
Matrix: Soil-Solid as dry weight
Solids (%): 80.70

Results by SW-846 8015C DRO

Parameter	Result	Qual	DL	LOQ/CL	Units	DF	Date Analyzed
Diesel Range Organics (DRO)	**29.3**		7.08	7.08	mg/kg	1	08/13/2012 21:54
Surrogates							
o-Terphenyl	67.8			40.0-140	%	1	08/13/2012 21:54

Batch Information

Analytical Batch: **XGC2443**
Analytical Method: **SW-846 8015C DRO**
Instrument: **GC6**
Analyst: **DTF**
Analytical Date/Time: **08/13/2012 21:54**

Prep Batch: **XXX2914**
Prep Method: **SW-846 3541**
Prep Date/Time: **08/13/2012 10:02**
Prep Initial Wt./Vol.: **35.01 g**
Prep Extract Vol: **10 mL**

Print Date: 08/17/2012

N.C. Certification # 481

Batch Summary

Analytical Method: SW-846 8015C GRO

Prep Method: SW-846 5035
Prep Batch: VXX3822
Prep Date: 08/14/2012 08:34

Client Sample ID	Lab Sample ID	Analysis Date	Analytical Batch	Instrument	Analyst
LCS for HBN 27203 [VXX/3822]	85032	08/14/2012 10:36	VGC2067	GC7	MDY
LCSD for HBN 27203 [VXX/3822]	85033	08/14/2012 11:01	VGC2067	GC7	MDY
MB for HBN 27203 [VXX/3822]	85034	08/14/2012 11:26	VGC2067	GC7	MDY
HPFF-B(84990MS)	85152	08/14/2012 12:42	VGC2067	GC7	MDY
HPFF-B(84990MSD)	85153	08/14/2012 13:07	VGC2067	GC7	MDY
106DPT-05 (1.5-2ft)	31202484002	08/14/2012 17:44	VGC2067	GC7	MDY
106DPT-06 (4-5ft)	31202484003	08/14/2012 18:10	VGC2067	GC7	MDY

Print Date: 08/17/2012

N.C. Certification # 481

Method Blank

Blank ID: MB for HBN 27203 [VXX/3822]
Blank Lab ID: 85034
QC for Samples:
31202484002, 31202484003

Matrix: Soil-Solid as dry weight

Results by SW-846 8015C GRO

Parameter	Result	Qual	DL	LOQ/CL	Units	DF
Gasoline Range Organics (GRO)	ND	U	4.00	4.00	mg/kg	1
Surrogates						
4-Bromofluorobenzene	101			70.0-130	%	1

Batch Information

Analytical Batch: VGC2067
Analytical Method: SW-846 8015C GRO
Instrument: GC7
Analyst: MDY
Analytical Date/Time: 8/14/2012 11:26:00AM

Prep Batch: VXX3822
Prep Method: SW-846 5035
Prep Date/Time: 8/14/2012 8:34:58AM
Prep Initial Wt./Vol.: 5 g
Prep Extract Vol: 5 mL

Print Date: 08/17/2012

N.C. Certification # 481

Blank Spike Summary

Blank Spike ID: LCS for HBN 27203 [VXX/3822]
Blank Spike Lab ID: 85032
Date Analyzed: 08/14/2012 10:36

Spike Duplicate ID: LCSD for HBN 27203 [VXX/3822]
Spike Duplicate Lab ID: 85033
Date Analyzed: 08/14/2012 11:01
Matrix: Soil-Solid as dry weight

QC for Samples: 31202484002, 31202484003

Results by SW-846 8015C GRO

	Blank Spike (mg/kg)			Spike Duplicate (mg/kg)					
Parameter	Spike	Result	Rec (%)	Spike	Result	Rec (%)	CL	RPD (%)	RPD CL
Gasoline Range Organics (GRO)	16.0	16.8	105	16.0	16.8	105	70.0-130	0.0	30.00
Surrogates									
4-Bromofluorobenzene			100			100	70.0-130		

Batch Information

Analytical Batch: VGC2067
Analytical Method: SW-846 8015C GRO
Instrument: GC7
Analyst: MDY

Prep Batch: VXX3822
Prep Method: SW-846 5035
Prep Date/Time: 08/14/2012 08:34
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 8015C GRO

Prep Method: SW-846 5035
Prep Batch: VXX3829
Prep Date: 08/15/2012 08:44

Client Sample ID	Lab Sample ID	Analysis Date	Analytical Batch	Instrument	Analyst
LCS for HBN 27247 [VXX/3829]	85204	08/15/2012 10:46	VGC2069	GC7	MDY
LCSD for HBN 27247 [VXX/3829]	85205	08/15/2012 11:11	VGC2069	GC7	MDY
MB for HBN 27247 [VXX/3829]	85206	08/15/2012 11:36	VGC2069	GC7	MDY
106DPT-07 (4-5ft)	31202484004	08/15/2012 13:46	VGC2069	GC7	MDY
106DPT-08 (4-5ft)	31202484005	08/15/2012 14:11	VGC2069	GC7	MDY
106DPT-04 (4-5ft)	31202484001	08/15/2012 14:36	VGC2069	GC7	MDY
B4(84028MS)	85480	08/15/2012 20:30	VGC2069	GC7	MDY
B4(84028MSD)	85481	08/15/2012 20:55	VGC2069	GC7	MDY

Print Date: 08/17/2012

N.C. Certification # 481

Method Blank

Blank ID: MB for HBN 27247 [VXX/3829]
Blank Lab ID: 85206
QC for Samples:
31202484001, 31202484004, 31202484005

Matrix: Soil-Solid as dry weight

Results by SW-846 8015C GRO

Parameter	Result	Qual	DL	LOQ/CL	Units	DF
Gasoline Range Organics (GRO)	ND	U	4.00	4.00	mg/kg	1
Surrogates						
4-Bromofluorobenzene	99.7			70.0-130	%	1

Batch Information

Analytical Batch: VGC2069
Analytical Method: SW-846 8015C GRO
Instrument: GC7
Analyst: MDY
Analytical Date/Time: 8/15/2012 11:36:00AM

Prep Batch: VXX3829
Prep Method: SW-846 5035
Prep Date/Time: 8/15/2012 8:44:16AM
Prep Initial Wt./Vol.: 5 g
Prep Extract Vol: 5 mL

Print Date: 08/17/2012

N.C. Certification # 481

Blank Spike Summary

Blank Spike ID: LCS for HBN 27247 [VXX/3829]
Blank Spike Lab ID: 85204
Date Analyzed: 08/15/2012 10:46

Spike Duplicate ID: LCSD for HBN 27247 [VXX/3829]
Spike Duplicate Lab ID: 85205
Date Analyzed: 08/15/2012 11:11
Matrix: Soil-Solid as dry weight

QC for Samples: 31202484001, 31202484004, 31202484005

Results by SW-846 8015C GRO

	Blank Spike (mg/kg)			Spike Duplicate (mg/kg)					
Parameter	Spike	Result	Rec (%)	Spike	Result	Rec (%)	CL	RPD (%)	RPD CL
Gasoline Range Organics (GRO)	16.0	17.6	110	16.0	16.8	105	70.0-130	4.7	30.00
Surrogates									
4-Bromofluorobenzene			103			99.6	70.0-130		

Batch Information

Analytical Batch: VGC2069
Analytical Method: SW-846 8015C GRO
Instrument: GC7
Analyst: MDY

Prep Batch: VXX3829
Prep Method: SW-846 5035
Prep Date/Time: 08/15/2012 08:44
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 8015C DRO

Prep Method: SW-846 3541
Prep Batch: XXX2905
Prep Date: 08/09/2012 10:17

Client Sample ID	Lab Sample ID	Analysis Date	Analytical Batch	Instrument	Analyst
MB for HBN 26903 [XXX/2905]	84477	08/09/2012 22:18	XGC2435	GC6	DTF
LCS for HBN 26903 [XXX/2905]	84478	08/09/2012 22:46	XGC2435	GC6	DTF
99DPT-06 (6-7ft)(83228MS)	84479	08/10/2012 02:05	XGC2435	GC6	DTF
99DPT-06 (6-7ft)(83228MSD)	84480	08/10/2012 02:33	XGC2435	GC6	DTF
106DPT-04 (4-5ft)	31202484001	08/10/2012 21:09	XGC2437	GC6	DTF
106DPT-05 (1.5-2ft)	31202484002	08/10/2012 21:37	XGC2437	GC6	DTF
106DPT-06 (4-5ft)	31202484003	08/10/2012 22:05	XGC2437	GC6	DTF
106DPT-07 (4-5ft)	31202484004	08/10/2012 22:34	XGC2437	GC6	DTF

Print Date: 08/17/2012

N.C. Certification # 481

Method Blank

Blank ID: MB for HBN 26903 [XXX/2905]
Blank Lab ID: 84477
QC for Samples:
31202484001, 31202484002, 31202484003, 31202484004

Matrix: Soil-Solid as dry weight

Results by SW-846 8015C DRO

Parameter	Result	Qual	DL	LOQ/CL	Units	DF
Diesel Range Organics (DRO)	ND	U	6.25	6.25	mg/kg	1
Surrogates						
o-Terphenyl	95.4			40.0-140	%	1

Batch Information

Analytical Batch: XGC2435
Analytical Method: SW-846 8015C DRO
Instrument: GC6
Analyst: DTF
Analytical Date/Time: 8/9/2012 10:18:00PM

Prep Batch: XXX2905
Prep Method: SW-846 3541
Prep Date/Time: 8/9/2012 10:17:35AM
Prep Initial Wt./Vol.: 32 g
Prep Extract Vol: 10 mL

Print Date: 08/17/2012

N.C. Certification # 481

Blank Spike Summary

Blank Spike ID: LCS for HBN 26903 [XXX/2905]
Blank Spike Lab ID: 84478
Date Analyzed: 08/09/2012 22:46

Matrix: Soil-Solid as dry weight

QC for Samples: 31202484001, 31202484002, 31202484003, 31202484004

Results by SW-846 8015C DRO

Blank Spike (mg/kg)

Parameter	Spike	Result	Rec (%)	CL
Diesel Range Organics (DRO)	62.5	66.6	107	55.0-137
Surrogates				
o-Terphenyl			101	40.0-140

Batch Information

Analytical Batch: XGC2435
Analytical Method: SW-846 8015C DRO
Instrument: GC6
Analyst: DTF

Prep Batch: XXX2905
Prep Method: SW-846 3541
Prep Date/Time: 08/09/2012 10:17
Spike Init Wt./Vol.: 32 g Extract Vol: 10 mL
Dupe Init Wt./Vol.: Extract Vol:

Batch Summary

Analytical Method: SW-846 8015C DRO

Prep Method: SW-846 3541
Prep Batch: XXX2914
Prep Date: 08/13/2012 10:02

Client Sample ID	Lab Sample ID	Analysis Date	Analytical Batch	Instrument	Analyst
MB for HBN 27169 [XXX/2914]	84888	08/13/2012 18:09	XGC2443	GC6	DTF
LCS for HBN 27169 [XXX/2914]	84889	08/13/2012 19:05	XGC2443	GC6	DTF
106DPT-08 (4-5ft)	31202484005	08/13/2012 21:54	XGC2443	GC6	DTF
106DPT-08 (4-5ft)(83814MS)	84890	08/13/2012 22:23	XGC2443	GC6	DTF
106DPT-08 (4-5ft)(83814MSD)	84891	08/13/2012 22:51	XGC2443	GC6	DTF

Print Date: 08/17/2012

N.C. Certification # 481

Method Blank

Blank ID: MB for HBN 27169 [XXX/2914]
Blank Lab ID: 84888
QC for Samples:
31202484005

Matrix: Soil-Solid as dry weight

Results by SW-846 8015C DRO

Parameter	Result	Qual	DL	LOQ/CL	Units	DF
Diesel Range Organics (DRO)	ND	U	6.25	6.25	mg/kg	1
Surrogates						
o-Terphenyl	93.4			40.0-140	%	1

Batch Information

Analytical Batch: XGC2443
Analytical Method: SW-846 8015C DRO
Instrument: GC6
Analyst: DTF
Analytical Date/Time: 8/13/2012 6:09:00PM

Prep Batch: XXX2914
Prep Method: SW-846 3541
Prep Date/Time: 8/13/2012 10:02:43AM
Prep Initial Wt./Vol.: 32 g
Prep Extract Vol: 10 mL

Print Date: 08/17/2012

N.C. Certification # 481

Blank Spike Summary

Blank Spike ID: LCS for HBN 27169 [XXX/2914]
Blank Spike Lab ID: 84889
Date Analyzed: 08/13/2012 19:05

Matrix: Soil-Solid as dry weight

QC for Samples: 31202484005

Results by SW-846 8015C DRO

Blank Spike (mg/kg)

Parameter	Spike	Result	Rec (%)	CL
Diesel Range Organics (DRO)	62.5	54.3	87	55.0-137
Surrogates				
o-Terphenyl			98.9	40.0-140

Batch Information

Analytical Batch: XGC2443
Analytical Method: SW-846 8015C DRO
Instrument: GC6
Analyst: DTF

Prep Batch: XXX2914
Prep Method: SW-846 3541
Prep Date/Time: 08/13/2012 10:02
Spike Init Wt./Vol.: 32 g Extract Vol: 10 mL
Dupe Init Wt./Vol.: Extract Vol:

Matrix Spike Summary

Original Sample ID: 31202484005 (106DPT-08 (4-5ft))
MS Sample ID: 84890
MSD Sample ID: 84891

QC for Samples: 31202484005

Analysis Date: 08/13/2012 21:54
Analysis Date: 08/13/2012 22:23
Analysis Date: 08/13/2012 22:51
Matrix: Soil-Solid as dry weight

Results by SW-846 8015C DRO

		Matrix Spike (mg/kg)			Spike Duplicate (mg/kg)					
Parameter	Sample	Spike	Result	Rec (%)	Spike	Result	Rec (%)	CL	RPD (%)	RPD CL
Diesel Range Organics (DRO)	29.3	72.7	97.6	94	76.3	96.6	88	40.0-140	1.0	30.00
Surrogates										
o-Terphenyl				93			91.9	40.0-140		

Batch Information

Analytical Batch: XGC2443
Analytical Method: SW-846 8015C DRO
Instrument: GC6
Analyst: DTF

Prep Batch: XXX2914
Prep Method: SW-846 3541
Prep Date/Time: 08/13/2012 10:02
MS Init Wt./Vol.: 34.05 g Extract Vol.: 10 mL
MSD Init Wt./Vol.: 32.46 g Extract Vol.: 10 mL

Print Date: 08/17/2012

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: BenAshby@CATLIN PHONE NO: 910 452-5861
PROJECT: NCDOT Parcel 106 SITE / PWSID WBS #: 35731.1.2
REPORTS TO: U-3315 Pitt County
EMAIL: benashby@catlinusa.com
INVOICE TO: QUOTE #
P.O. NUMBER

SGS Reference #: 3120484

PAGE 1 OF 1

LAB NO.	SAMPLE IDENTIFICATION	DATE	TIME	MATRIX	# CONTAINERS	SAMPLE TYPE (C=COMP, G=GRAB)	PRESERVATIVES USED	ANALYSIS REQUIRED: TPH GRO DRO MEOH	REMARKS
	106DPT-04 (4-5')	8.2.12	1250	Soil	3	G		✓	HOT
	106DPT-05 (1.5-2')		1310						
	106DPT-06 (4-5')		1330						
	106DPT-07 (4-5')		1340						
	106DPT-08 (4-5')		1350						HOT

COLLECTED/RELINQUISHED BY: (1)	DATE	TIME	RECEIVED BY:
Ben Ashby	8.3.12	1500	
Relinquished By: (2)	Date	Time	Received By:
Relinquished By: (3)	Date	Time	Received By:
Received For Laboratory By:	Date	Time	CoC Seal: INTACT BROKEN ABSENT Sample Receipt Temp: C 5-20C

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:

Page 28 of 29

SGS-00055 (06/12)

White - Retained by Lab
Yellow - Retained by Client

SGS North America Inc.

Sample Receipt Checklist (SRC)

Client: **NCDOT-Catlin** Work Order No.: **3120484**

1. ___ Shipped
   X Hand Delivered
   Notes:

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: 5.2
   ___ Ambient on Receipt
   ___ Walk-in on Ice; Coming down to temp.
   ___ Received Outside of Temperature Specifications

6. X Sufficient Sample Submitted
   ___ Insufficient Sample Submitted

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

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

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

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

Comments:

Inspected and Logged in by: AV
Date: Mon-8/6/12 00:00

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

APPENDIX E
PHOTOGRAPHS

PARCEL 106, STATE OF NORTH CAROLINA
101 EAST 10TH STREET

From across East 10th Street looking North.

From near Evans Street looking South-southeast.

PARCEL 106, STATE OF NORTH CAROLINA
101 EAST 10TH STREET

From Eastern portion of property looking West.

East of Southeast corner of property looking West.